



2024 IECC Construction Vernacular (a.k.a. Vocabulary or Slang)



Building
Code
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This is a beginner's
guide



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What is Construction Vernacular?



Construction Vernacular refers to the specialized language, vocabulary, and communication style used by people within the construction industry. It serves as a "verbal shorthand" that allows professionals to communicate complex ideas quickly and precisely without needing long explanations. Many of us started as newbies in the construction field without a lot of knowledge about the vocabulary used to construct a building. Trying to understand the different terms that are used to describe the parts and pieces of the building can be a steep learning curve.

The purpose of this technical document is to clarify the common language of the construction industry with an emphasis on the 2024 International Energy Conservation Code (IECC) vocabulary.



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Let's get started with terms and vocabulary for the construction documents.



Blueprints: A blueprint is a detailed, scaled technical drawing that illustrates how a structure is to be constructed. It communicates critical information about the building's design, including floor plans (room layouts), elevations (exterior views), and internal systems such as electrical, plumbing, mechanical, and structural components. These documents serve as the construction team's instruction manual, guiding the proper installation and coordination of all building elements and systems throughout the construction process.





Title page: The “Table of Contents” for the plans. The title page contains general information for the project such as:

- The Codes and Code Cycle the project is designed to (e.g. 2024 IECC, 2023 National Electric Code, etc.)
- The Project Address
- The project Architects, Engineers, Contractors, and Owner
- The Jurisdiction that the project is being constructed in
- The Index for the plan sheets in the plan set (e.g. Architectural, Energy, Electrical, Mechanical, Plumbing, Site Plan, Structural, etc.)
- Occupancy, and Occupant load
- Type of Construction
- Energy Compliance Path
- Code Analysis- suggest adding design criteria etc.

Architectural plans: A specific set of technical drawings that focus on the design, layout, and functionality of a building. These plans illustrate the appearance of the space and how occupants will move through it, including elements such as walls, doors, windows, room dimensions, accessibility features, and interior circulation paths.

Electrical plans: These are schematic drawings that show exactly where the power flows, how it’s controlled, and where it connects, by use of symbols and lines instead of a literal depiction of the wires and outlets.

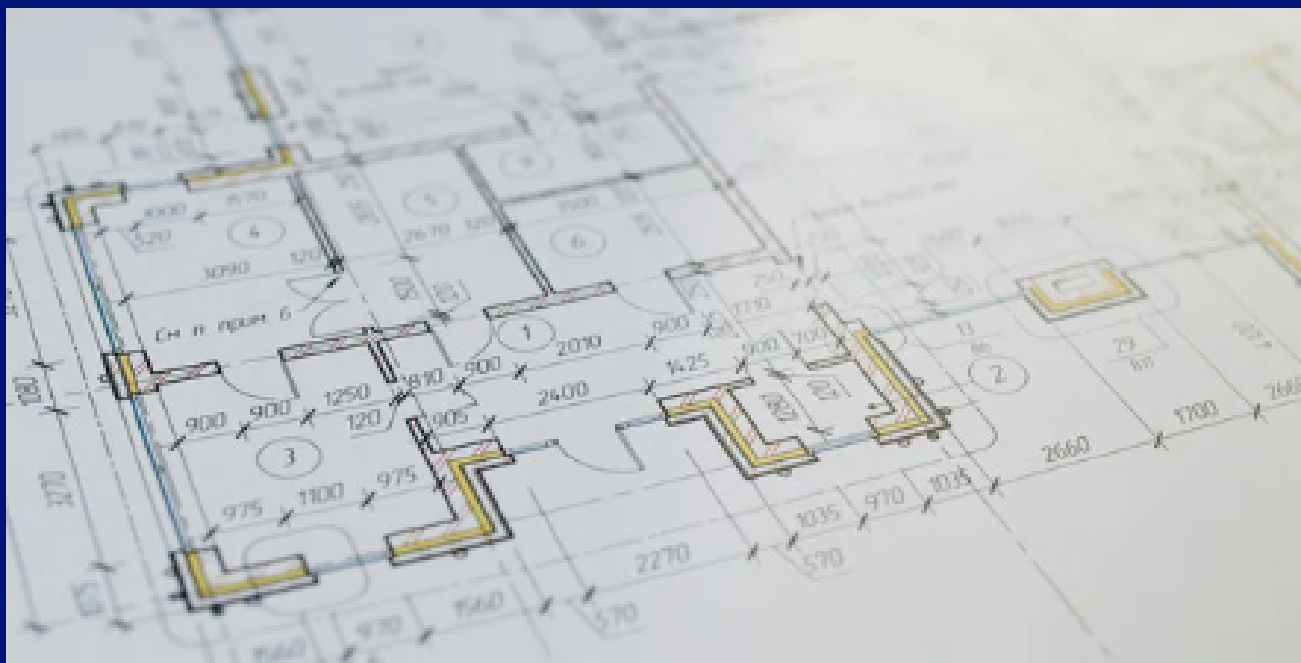
Energy Plans: Technical design documents used for the construction of a building. This document shows the details and assemblies that manage a structure's energy consumption.

Exterior Elevation Plans:



Exterior elevation drawings are straight-on, two-dimensional scaled views of one side of a building. They show the structure from ground grade up to the roofline, providing a flat, head-on perspective of the exterior appearance. Elevation plans depict exterior finishes and architectural features such as siding materials, window and door sizes and locations, roofing materials, roof slope, chimneys, parapets, balconies, decks, and other exterior elements.

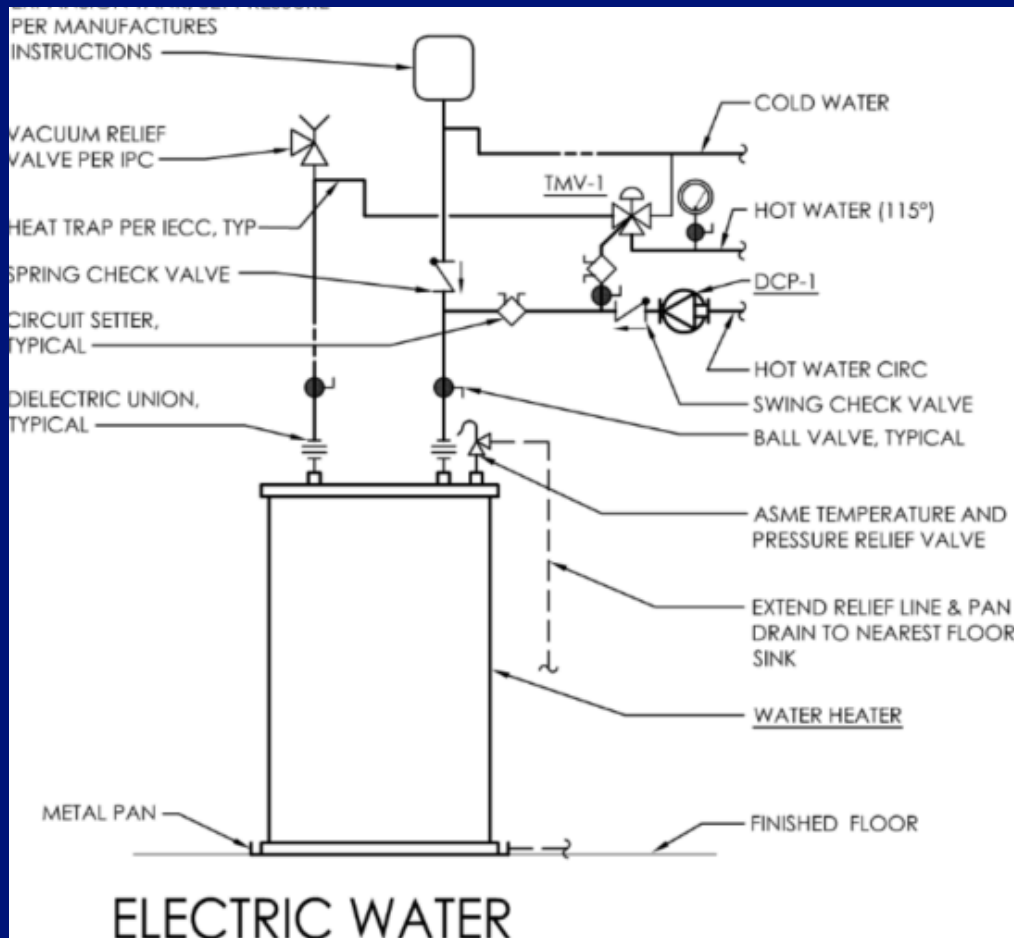
Floor Plan: A scaled and dimensioned bird's-eye view drawing of a single level of a structure that allows you to see the layout of rooms, the thickness of walls, and the exact placement of doors and windows. Generally the view is "cut" 4'-5' above the floor level.



Isometric Plan: A drawing of a building or building system that shows three sides at once (top, front, and side) in a single view, but without the "fading" or distortion you see in a regular perspective drawing.

Mechanical Plans: Drawings that detail how the building is heated, cooled, and vented to create a comfortable interior environment. This is accomplished by a combination of scaled and dimensioned plans and schematic plans that show the heating/cooling equipment size and location along with the supply and return ductwork.

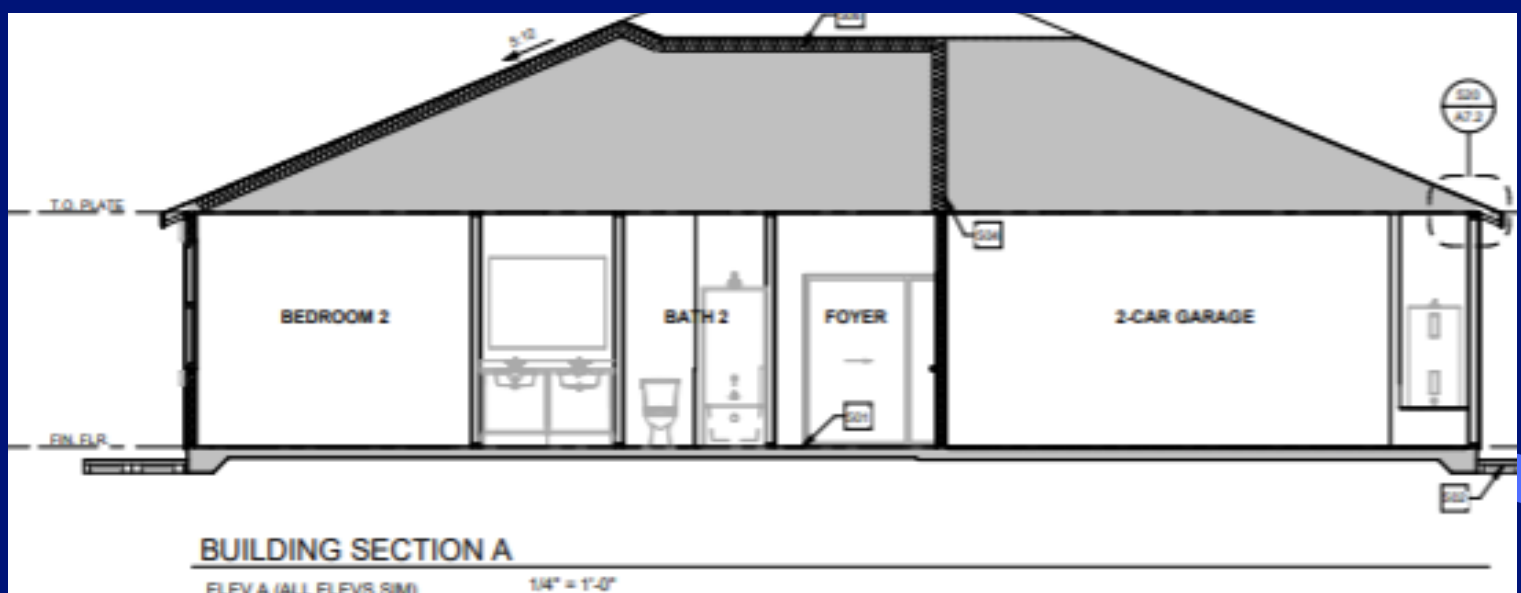
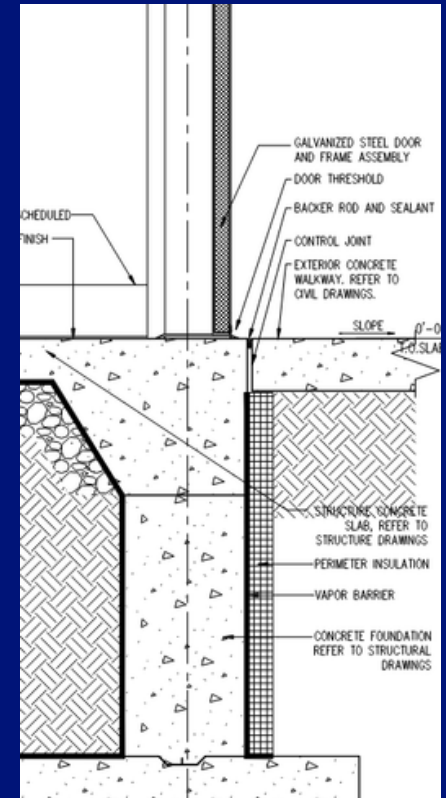
Plumbing Plans: Drawings that detail the water supply and the drain/waste/vent (DWV) systems. The plans show the sizing of the pipes for both systems and detail the location of plumbing fixtures for the building.



Plot/Site Plan: A to-scale map of an entire property that includes property lines, easements, and location of the building on the property.



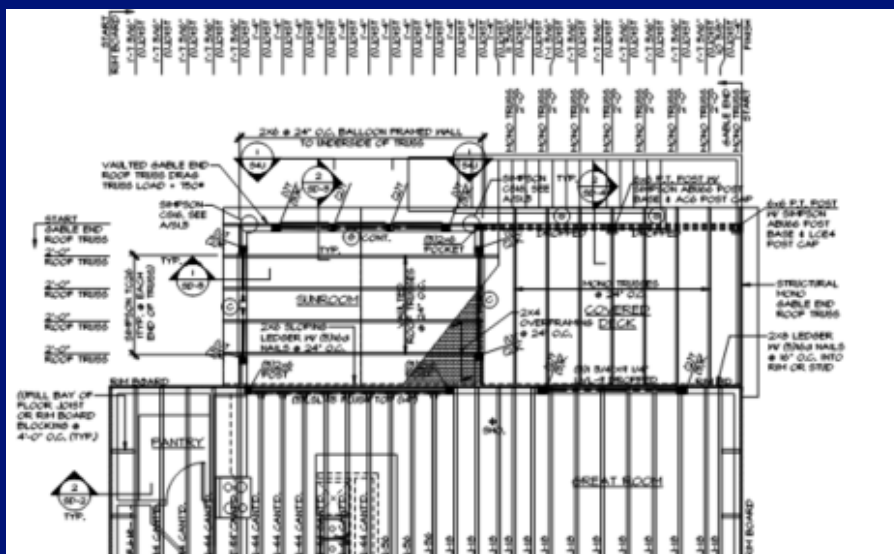
Section View Plan: A section view is a scaled drawing that illustrates a vertical cut through a building at a specific location. This view reveals internal components that are not visible in plan or elevation drawings, including structural elements, architectural features, energy assemblies, exterior wall systems, and roof assemblies. Similar to an MRI image of the human body, a section view allows inspectors and contractors to see how building components are layered and connected at a particular point within the structure.



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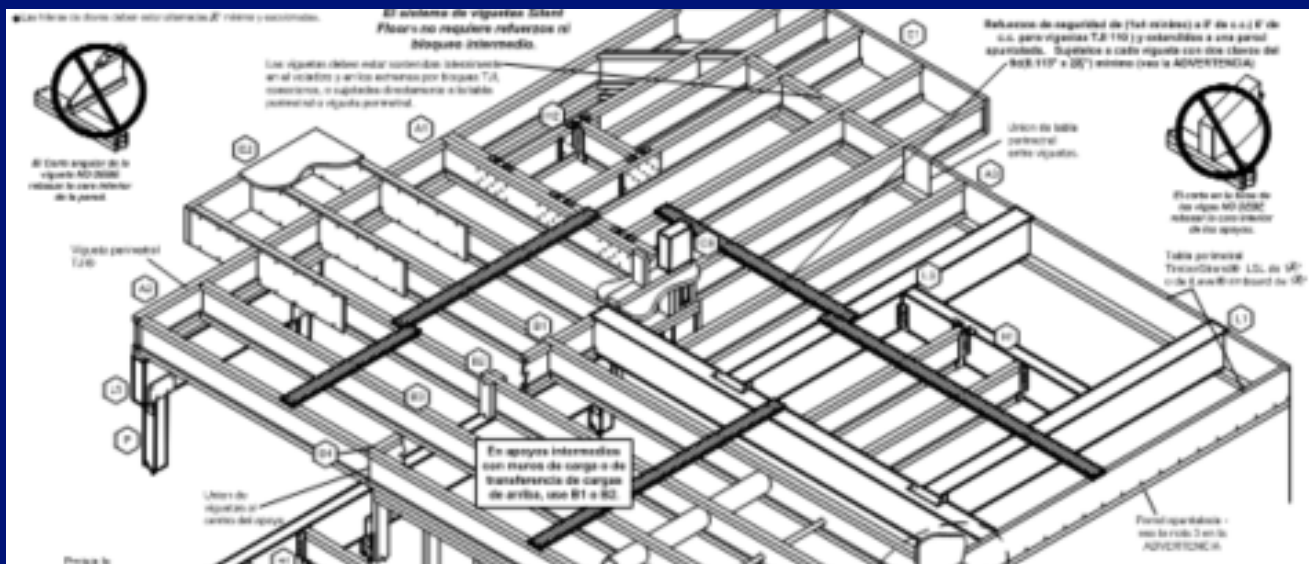
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Structural Plan: Drawings show how the building is constructed. These drawings are scaled and dimensioned depictions that detail the structural/framing members of the building. The structural plans include but are not limited to the following:

- Footing and Foundation Components/Systems
- Wall Framing Components/Systems
- Floor Framing Components/Systems
- Roof Framing Components/Systems
- Sheathing and Siding Components/Systems

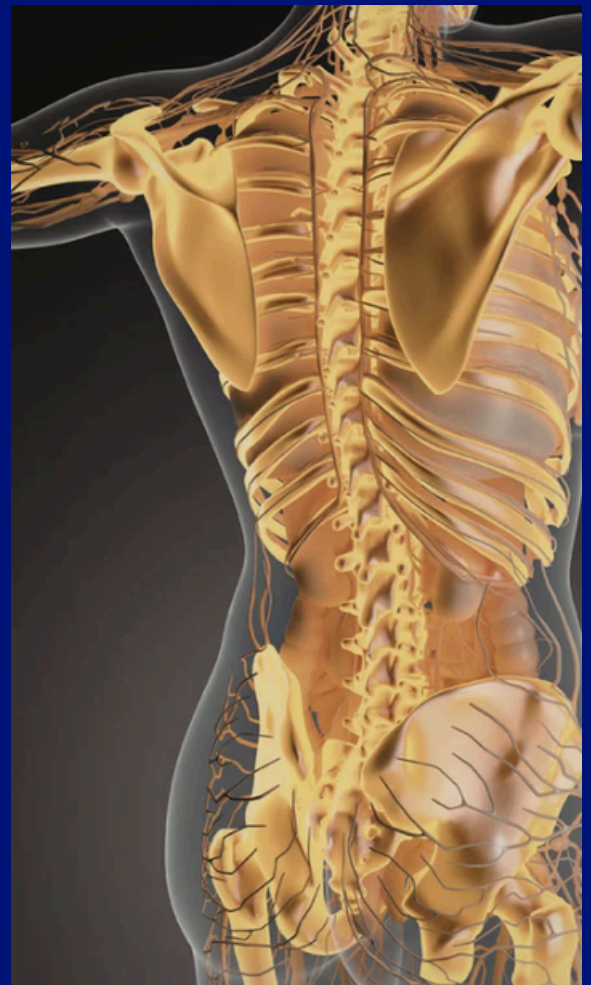


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One way to better understand building plans and systems is to think of a building like the human body. The architectural plans and details represent the skin, defining the building's appearance and enclosing its interior spaces. The energy plans function like the body's regulatory system, helping control heating and cooling to maintain efficiency. The electrical system acts as the building's nervous system, distributing power and communication throughout. The mechanical system serves as the respiratory system by managing air movement, heating, and cooling. The plumbing system operates like the circulatory and waste systems, supplying clean water and removing wastewater. Finally, the structural system is the skeleton, providing the framework that supports and connects all other building systems.



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Let's talk about some of the specific vernaculars that is associated with the building during construction.

Air Barrier: A system of materials designed to stop air from leaking in or out of the building's thermal envelope. Think of the air barrier acting like a wind breaker or shell. It prevents air movement through the structure.

Baffles/Eave Baffles/Roof Baffles: A plastic, cardboard, or other solid material channel installed against the underside of the roof sheathing to accommodate ventilation for the attic/roof. It is installed to prevent wind from blowing through the insulation and to prevent the insulation from blocking the roof ventilation air passage.



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Building Thermal Envelope: This is the combination of the air barrier, insulation, and vapor barrier systems working together to separate the conditioned air inside a building (the air you pay to heat or cool) from the unconditioned air outside.



Continuous Insulation/Blanket Insulation: A layer of insulation that wraps around the exterior or interior of the building's frame without being interrupted by framing members or thermal bridges.



Fenestration: An architectural term for the design and arrangement of all the openings in a building's shell. Doors, windows, and skylights are examples of different types of fenestrations.





Floor System: The structural network of horizontal elements that supports a floor's weight. It acts as a rigid, level platform for the rest of a building's construction while transferring the weight of people, furniture, and the building itself down to the foundation. The floor system framing includes but is not limited to the following:

- **Floor Joist:** Floor joists are horizontal framing members that span between supporting walls or beams to form the structural framework of a floor system. They carry the weight of the floor finish, furniture, occupants, and any other live or dead loads, transferring those forces to the supporting walls or beams below. Floor joists also provide attachment points for subflooring and help maintain the overall structural integrity of the building.
- **Joist:** Framing members that span across open spaces and distribute the weight of furniture, people, and the building itself to the larger beams and walls.
- **Beam/Girder:** Horizontal structural members that carry significant loads from the floor, ceiling, or roof above. Beams are often positioned between supports, such as walls or columns, and may run across the middle of a room to support smaller framing members like joists or rafters. Girders transfer these loads to vertical supports, helping maintain the structural integrity of the building.
- **Rim Joist:** The board that runs around the entire perimeter of the floor system, capping off the ends of the floor joists to keep them from twisting.

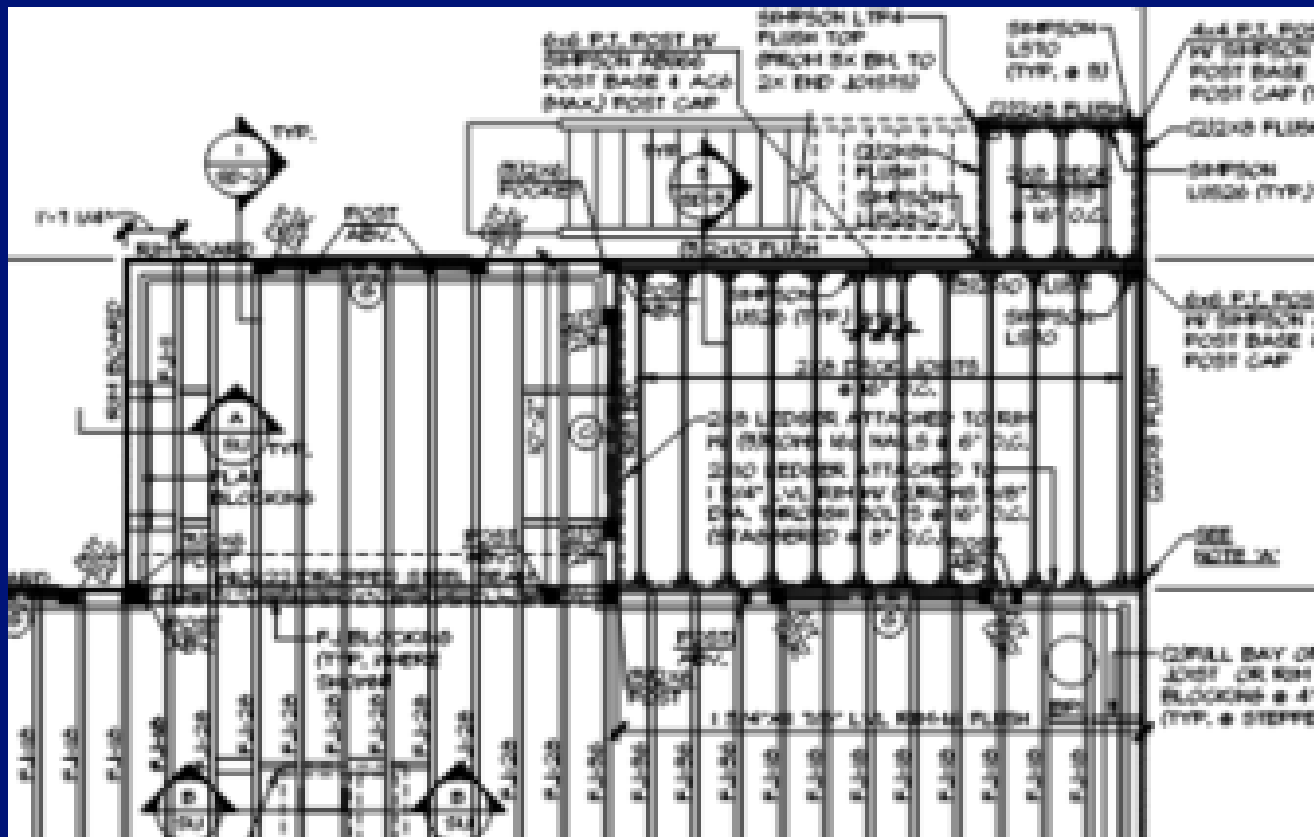


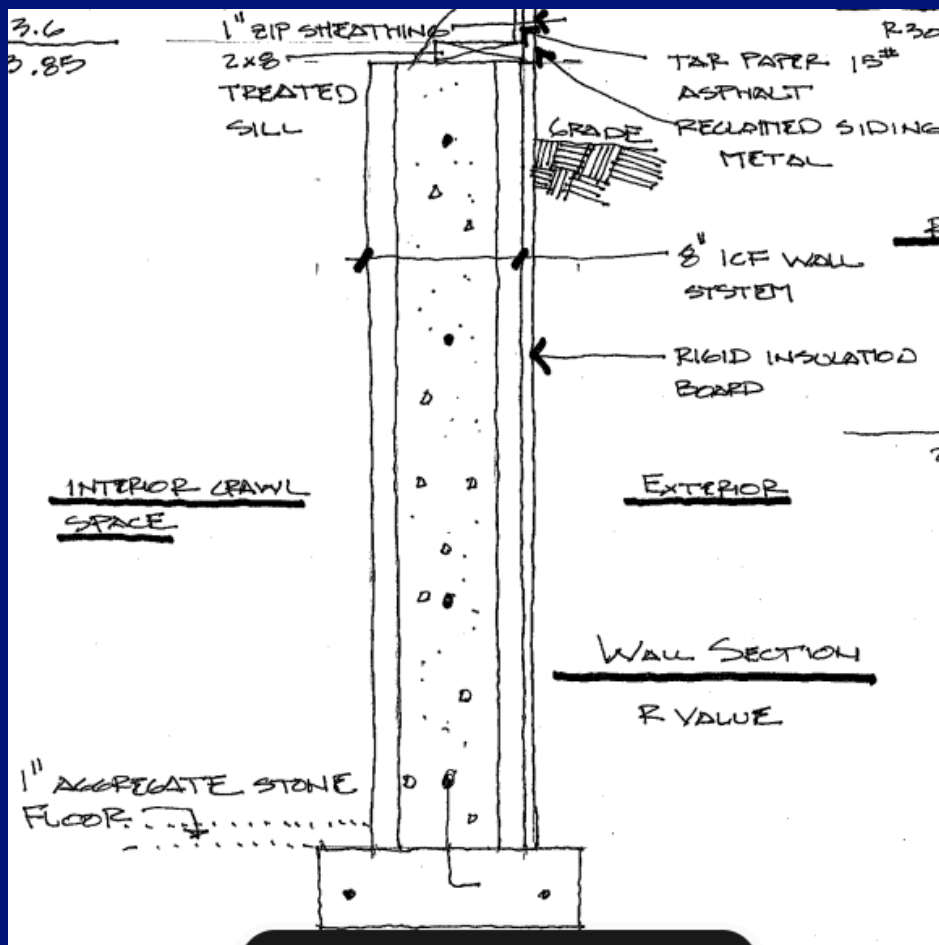
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- **Sill Plate:** The first piece of the framing that is bolted directly to the foundation and has the floor joists attached to it. The sill/sole plate is directly fastened to the foundation system and it anchors the entire house.
- **Subfloor:** Large sheets of plywood or OSB nailed on top of the floor joists. This creates the flat "deck" that you walk on before the carpet, hard wood flooring, or other floor coverings are installed.





Footings: The very bottom part of a foundation that makes direct contact with the ground. Think of it like a snowshoe for a building: it spreads out the heavy weight of the walls and columns over a larger area so the structure doesn't sink into the soil.

Foundation: The complete structural system located below the ground that holds the building up and keeps it from sinking, tilting, or being blown away.

Roof Assembly: It is a system designed to provide weather protection, fire resistance, and structural support against wind and snow loads. The roof assembly may or may not include insulation, air barriers, and vapor retarders.



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- **Ceiling Joist:** A series of parallel wooden or metal beams running from one wall to the other located at the top of the wall. Used to hold the ceiling up and sometimes to provide structural stability to the building.
- **Roof Rafter:** The sloped boards that run from the very top peak of the roof (the ridge) down to the tops of the exterior walls.
- **Truss (Roof or Floor):** An engineered prefabricated structural framing member that uses a series of interconnected triangles to support a roof or floor.

Wall Sheathing: Sheathing is the first layer of boards nailed directly to the wall studs. It is usually made of Plywood or Oriented Strand Board (OSB). It acts as structural support by stabilizing the wall studs and as a nailing base for the siding.

Siding Systems: Assemblies and materials that prevent weather and moisture from entering the building. This is accomplished with the installation of weather barriers, flashing, and siding materials. Some of the most common siding materials are listed below:

- Brick
- Fiber Cement
- Stucco
- Wood
- Vinyl

Vapor Retarder: A barrier that stops individual water molecules from slowly soaking through solid materials like wood and drywall. Vapor Retarders are rated in perms and classes 1 - 3. Examples of vapor retarder materials are polyethylene plastic sheets, foam insulations, aluminum foil, etc.



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Wall Framing: Wall framing is the structural support system that helps carry vertical and lateral loads throughout the building. It provides the framework that supports floors, ceilings, and roof assemblies, while also serving as the attachment surface for interior finishes such as drywall and exterior finishes such as siding.



Wall framing also creates the rough openings necessary for the installation of doors and windows. Wall framing components include, but are not limited to, the following:

- **Studs:** Wood or steel structural members (e.g. 2X4's, 16 gauge steel stud's etc.), that are installed on end to create the wall and give it the required height for the building. Studs transfer the loads from the roof and floors above to the foundation below.
- **Header:** A structural beam, either solid or laminated, installed above wall openings such as doors and windows. Its purpose is to transfer loads from the roof, floors, or other structural elements above around the opening and safely distribute those loads down through the supporting jack studs to the foundation below.
- **Top plate:** A horizontal member at the top of the wall that supports the ceiling or the floor above and connects the studs together at the top of the wall.
- **Bottom plate/sole plate:** A horizontal member at the very bottom that anchors the wall to the floor and connects the studs together at the bottom of the wall.
- **Trimmers/Jack studs:** Trimmers, also called jack studs, are shorter vertical framing members installed beneath a header at a wall opening, such as a door or window. Their purpose is to support the header and transfer the load from the header down to the bottom plate and ultimately to the foundation. Jack studs work together with king studs to properly frame and reinforce wall openings.

