Certification Worksheets

Users of Residential Construction Certified™, Certified New Home Specialist™, or Residential Remodeling Specialist™ courses and related materials agree to:

1. Accept full responsibility for their use, including compliance with all applicable laws and regulations.
2. Indemnify and hold harmless Dennis and Teresa Walsh from any claims arising from such use.

Dennis J. Walsh / Certified New Home Specialist™

sellnewhomes.com | 800.428.1122 | 949.706.3500 | Newport Beach, CA 92660

Table of Contents

Table of Contents

Architectural Drawing Process

Steps in the drawing process:

1._____

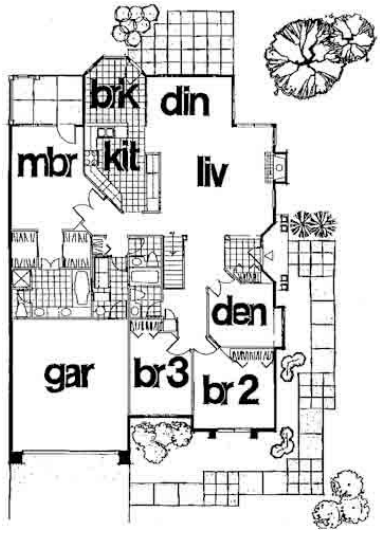
2._____

3._____

4._____

Orthographic Projection

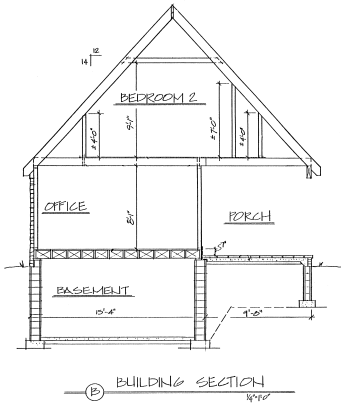
1._____



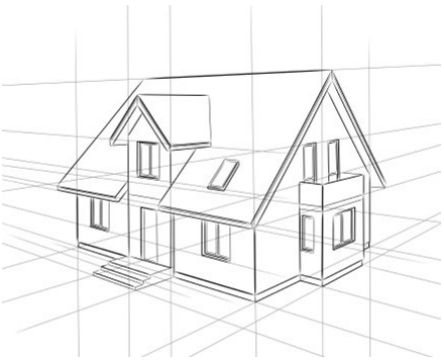
2._____

3._____

4._____



5._____



Architectural Scales

Architectural Scale Rulers

1._____

2._____

Examples of Scales

1/8” scale means _____

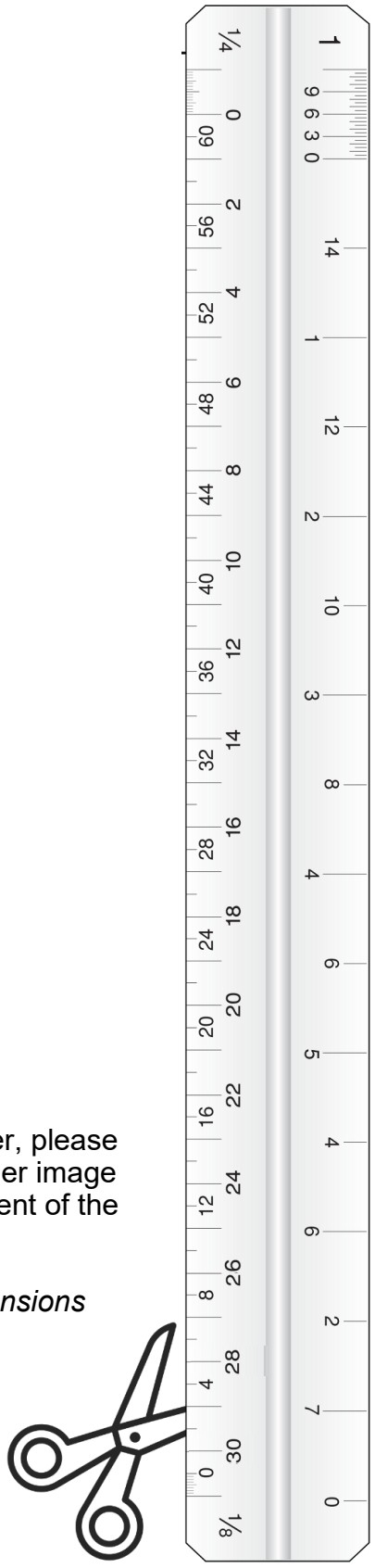
1/4” scale means _____

30’ scale means _____

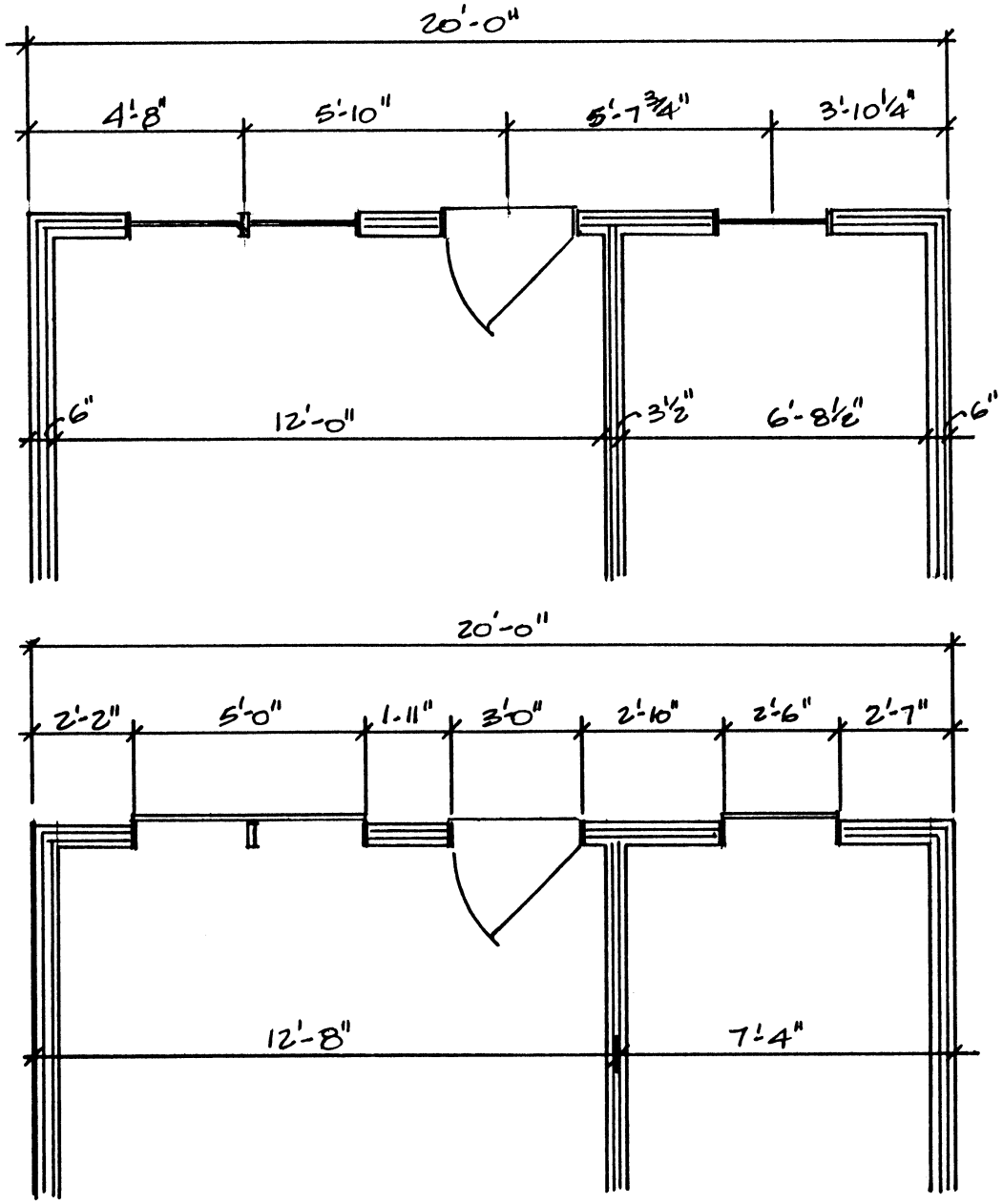
50’ scale means _____

If you do not have access to an architectural scale ruler, please print an additional copy of this page and cut out the ruler image to work along with the “Dimensions and Scales” segment of the course.

Please note: Due to variations when printing, the dimensions on this image may not be exact.



Using an Architectural Scale Ruler



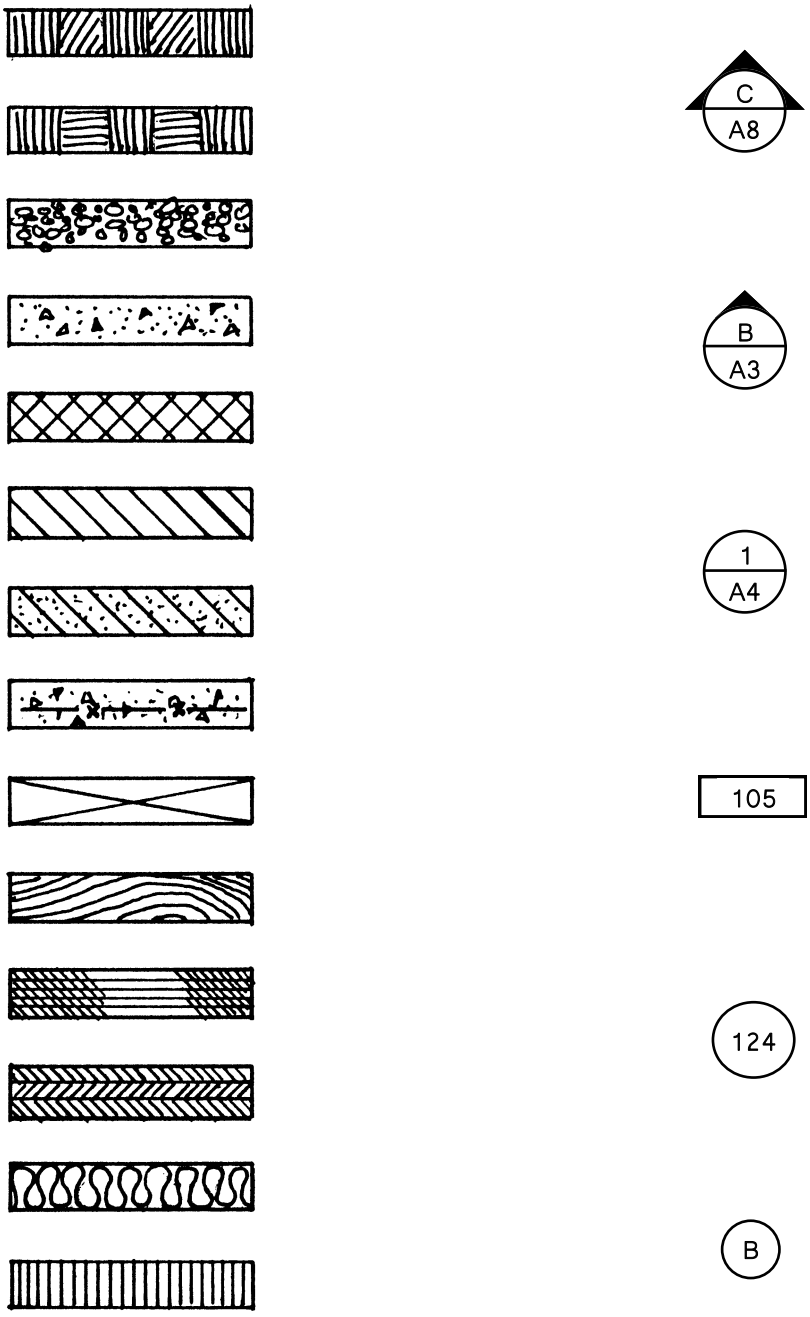
The Golden Rule of Dimensioning:

_____ takes precedence over _____.

Unit Dimenson: _____

Rough Opening: _____

Material and Plan Symbols



Site Design & Evaluation

The building site impacts the home in three areas:

1._____

2._____

3._____

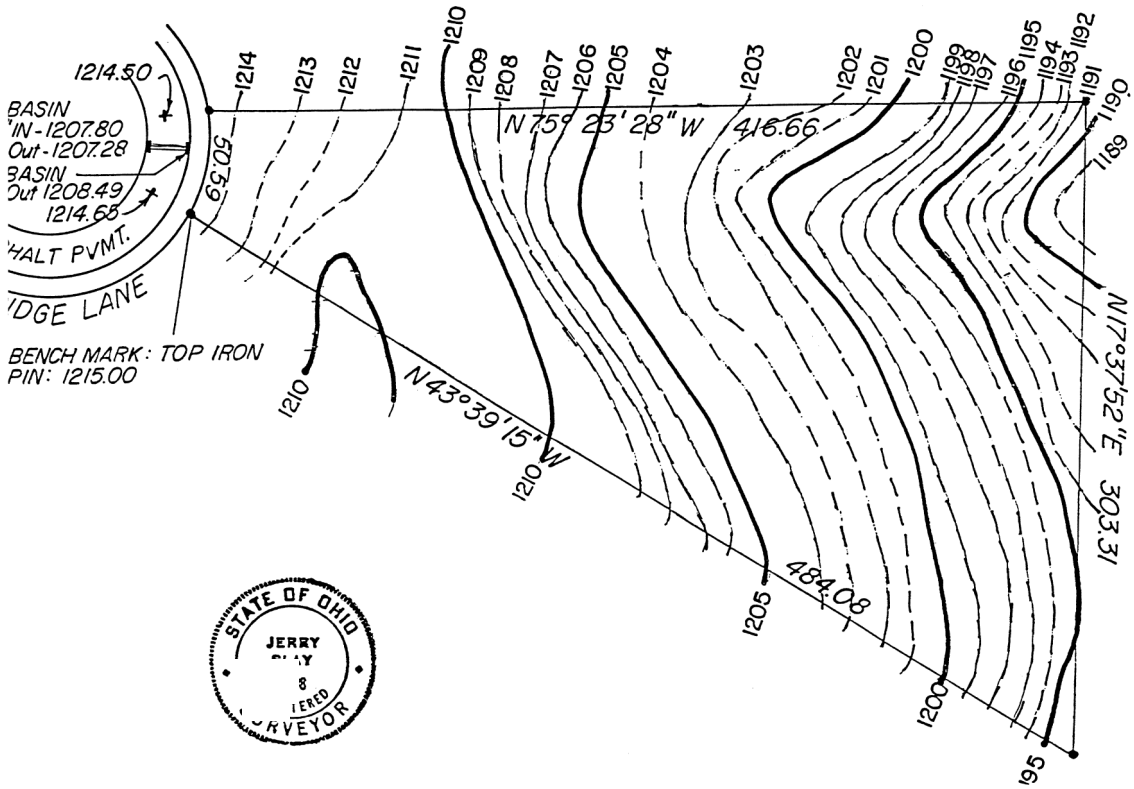
Typical home site design drawings:

1._____

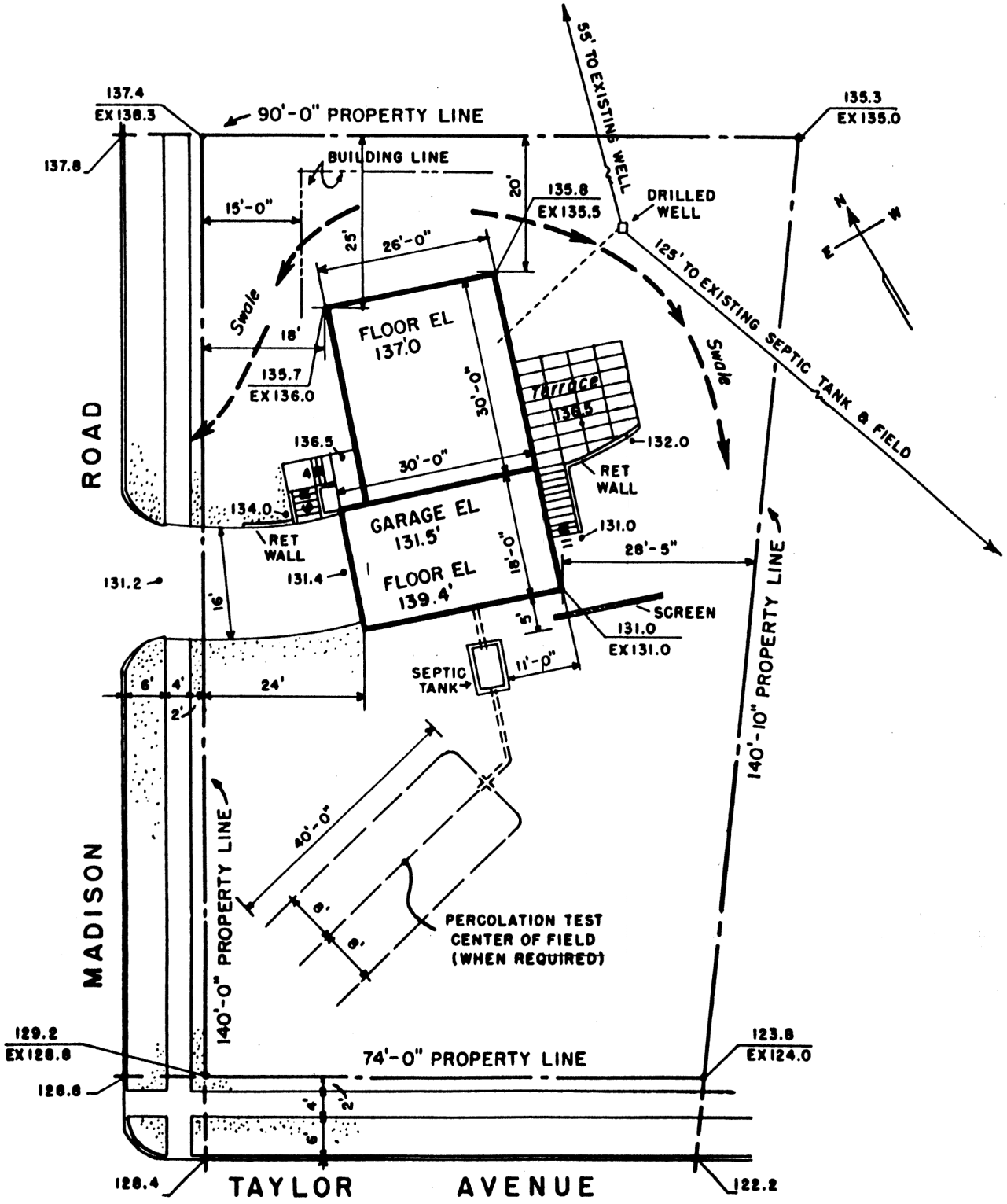
2._____

3._____

4._____



Site Development Plan



Residential Construction CERTIFIED

SITE EVALUATION CHECKLIST

Customer _____ Phone _____

Site Location _____ Size _____

Site Owner _____ Phone _____

Sales Agent _____ Phone _____

Price _____ Utilities _____

Amenities _____

Notes _____

_____

_____

_____

_____

STATUS

- [+] Positive
- [–] Negative
- [?] Needs Follow-up

STATUS		STATUS	
☐	Accessory Buildings	☐	Impact Fees
☐	Amenities	☐	Liens
☐	Architectural Review	☐	Neighboring Properties
☐	Assessments	☐	Prestige
☐	Building Design	☐	Privacy
☐	Character	☐	Security
☐	Clearing	☐	Setbacks
☐	Community Features	☐	Septic System
☐	Convenience	☐	Sewers
☐	Deed Restrictions	☐	Soil Conditions
☐	Drainage	☐	Trees
☐	Driveway	☐	Views
☐	Easements	☐	Water Service
☐	Electric Service	☐	Well
☐	Flood Plain	☐	Wetlands
☐	Gas Service	☐	Zoning Restrictions
☐	Grading Requirements	☐	_____

Dynamics of Scheduling

Construction scheduling is a dynamic process impacted by:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

Residential Construction Scheduling Flow Chart

INSPECTIONS		CATEGORIES	WEEK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	1																											
	2																											
	3																											
	4																											
	5																											
	6																											
	7																											
	8																											
	9																											
	10																											
	11																											
	12																											
	13																											
	14																											
	15																											
	16																											
	17																											
	18																											
	19																											
	20																											
	21																											
	22																											
	23																											
	24																											
	25																											
	26																											
	27																											
	28																											
	29																											
	30																											
	31																											
	32																											
	33																											
	34																											
	35																											
	36																											
	37																											
	38																											
	39																											
	40																											
	41																											

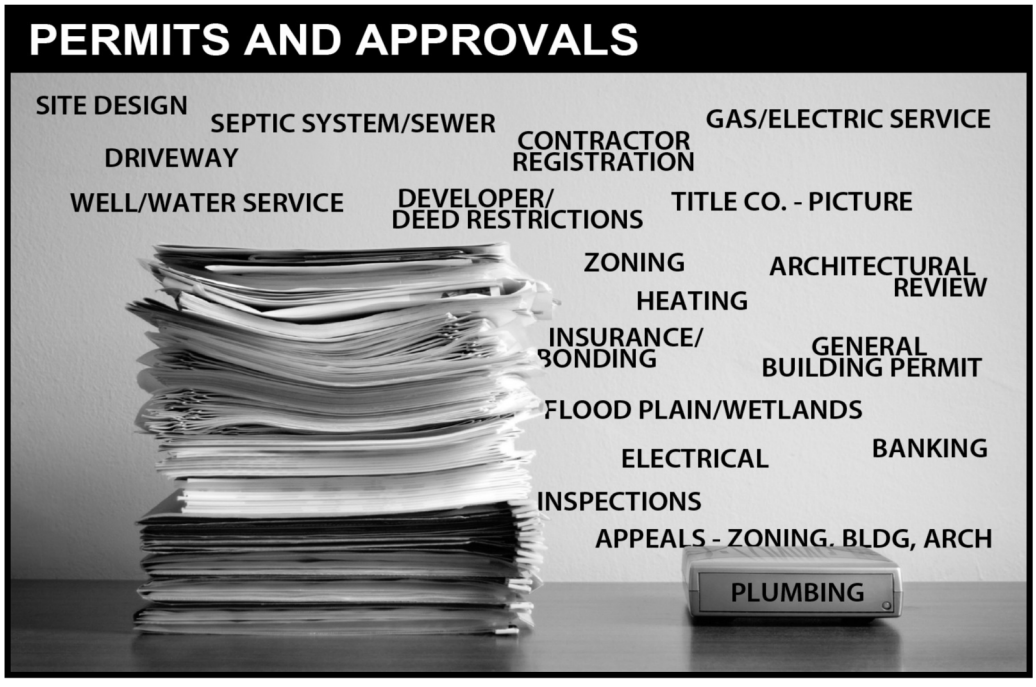
Residential Construction Scheduling Flow Chart

INSPECTIONS		CATEGORIES	WEEK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	1																											
	2																											
	3																											
	4																											
	5																											
	6																											
	7																											
	8																											
	9																											
	10																											
	11																											
	12																											
	13																											
	14																											
	15																											
	16																											
	17																											
	18																											
	19																											
	20																											
	21																											
	22																											
	23																											
	24																											
	25																											
	26																											
	27																											
	28																											
	29																											
	30																											
	31																											
	32																											
	33																											
	34																											
	35																											
	36																											
	37																											
	38																											
	39																											
	40																											
	41																											

Construction Scheduling Worksheet

The following list includes major activities necessary for scheduling the construction of a new home. These activities are in mixed order… can you number them according to their normal sequence during construction? Give it a try!

____SEWER LINES
____CLEAN UP
____FINISH SPECIAL MECHANICALS
____FRAMING
____FINAL GRADING
____CABINETS / TOPS
____ROUGH PLUMBING
____HARD SURFACE FLOOR
____CARPETING
____EXCAVATION
____GUTTERS/DOWNSPOUTS
____ELECTRIC SERVICE
____SURVEY / STAKEOUT
____LIGHT FIXTURES
____APPLIANCES
____FOUNDATION
____PAINTING
____LOCKSETS / HARDWARE
____WALKS/DRIVEWAY
____CLEARING
____FINISH ELECTRICAL
____UNDERGROUND PLUMBING
____BACKFILL
____CONCRETE FLOOR
____MIRRORS
____BATH ACCESSORIES
____WATER SERVICE / WELL
____CHIMNEYS/FIREPLACE
____FINISH PLUMBING
____ROOFING
____PHONE SERVICE
____EXTERIOR FINISH
____LANDSCAPING
____SPECIAL MECHANICALS
____ROUGH HEATING
____FINAL CLEAN-UP
____FINISH CARPENTRY
____GAS SERVICE
____INSULATION
____ROUGH ELECTRICAL
____DRYWALL
____WINDOWS/DOORS
____SEPTIC
____FINISH HEATING



Foundations, Materials, and Considerations

Types of residential foundations:

1._____

2._____

3._____

4._____

Foundation materials:

1._____

2._____

3._____

4._____

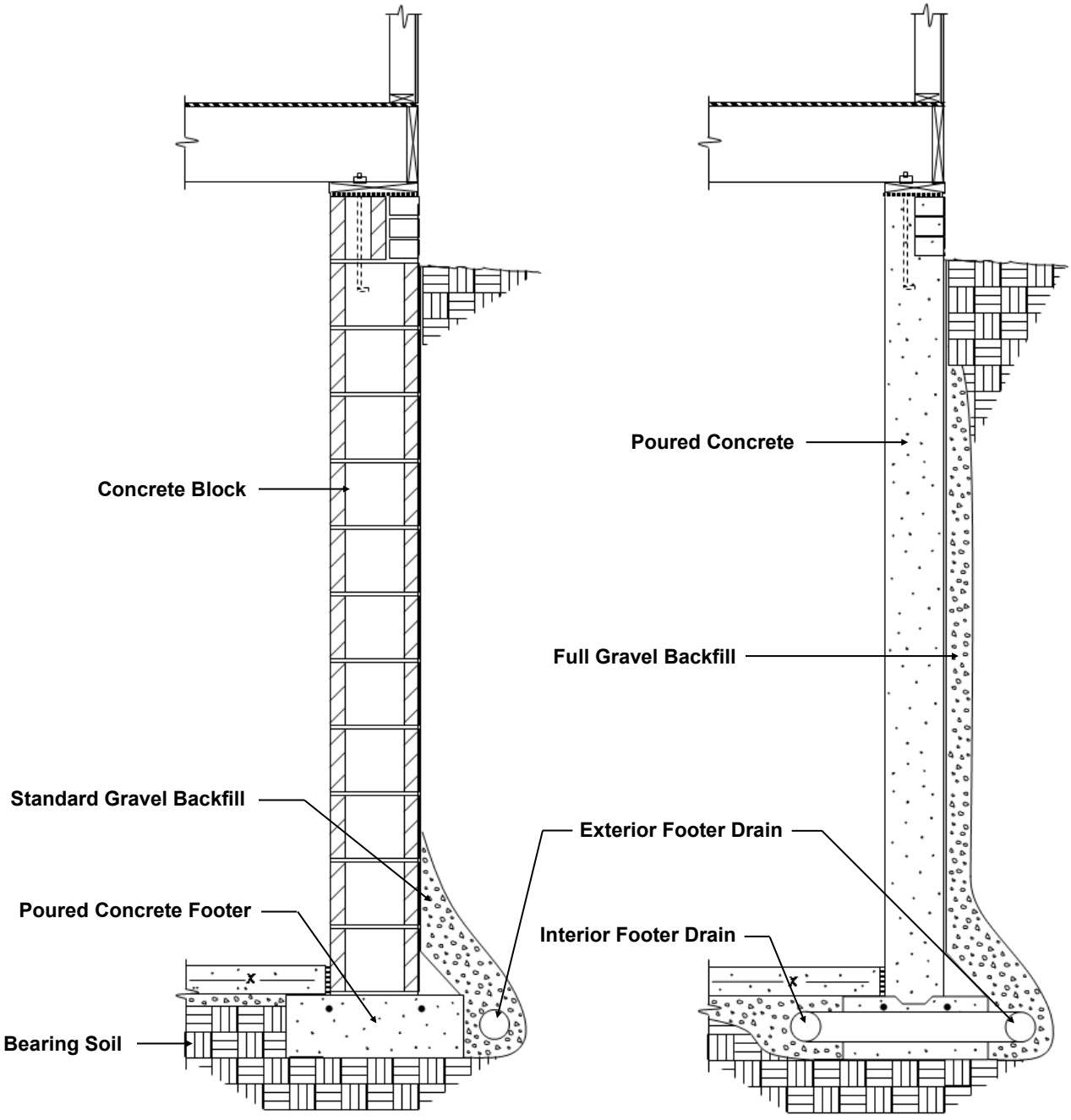
Primary foundation considerations:

1._____

2._____

3._____

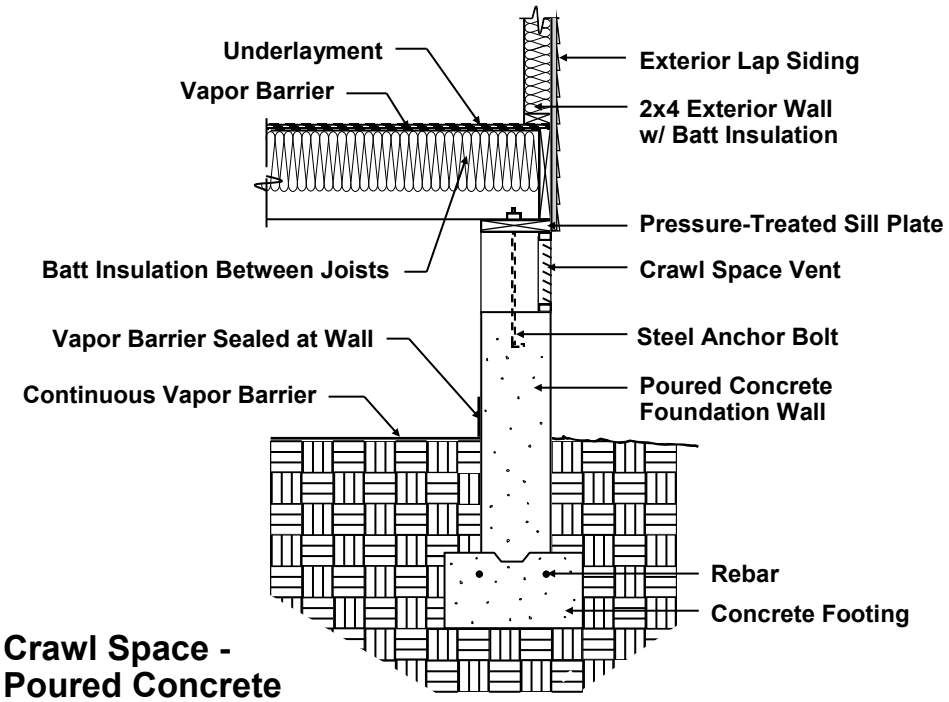
Foundation Details



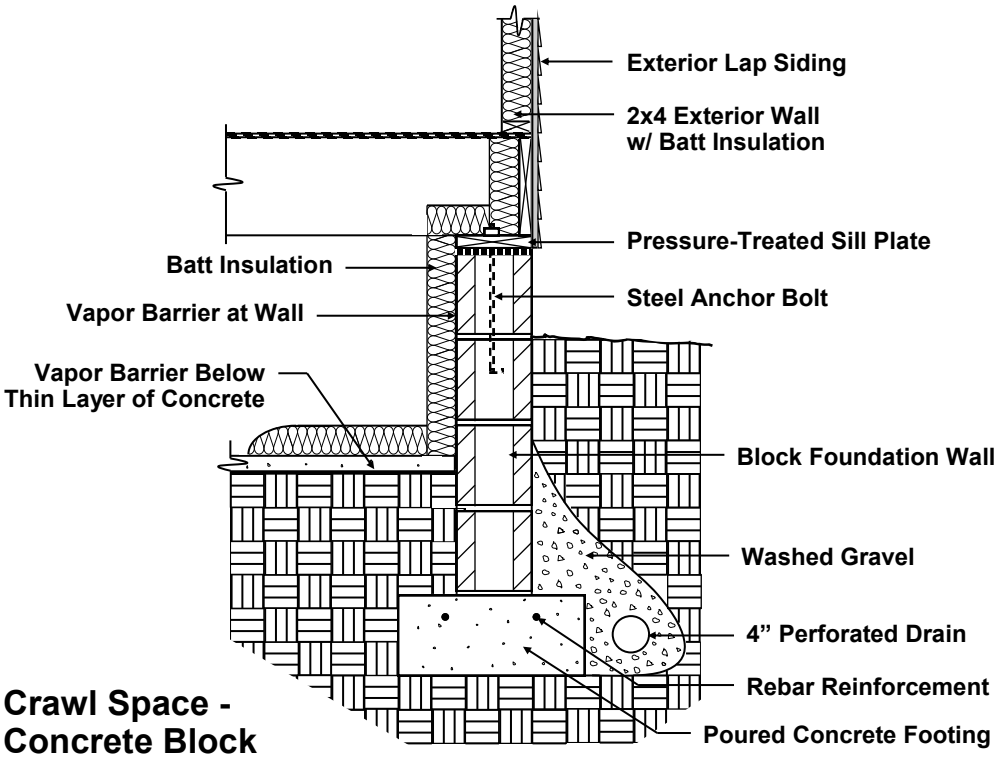
Full Basement - Concrete Block

Full Basement - Poured Concrete

Foundation Details

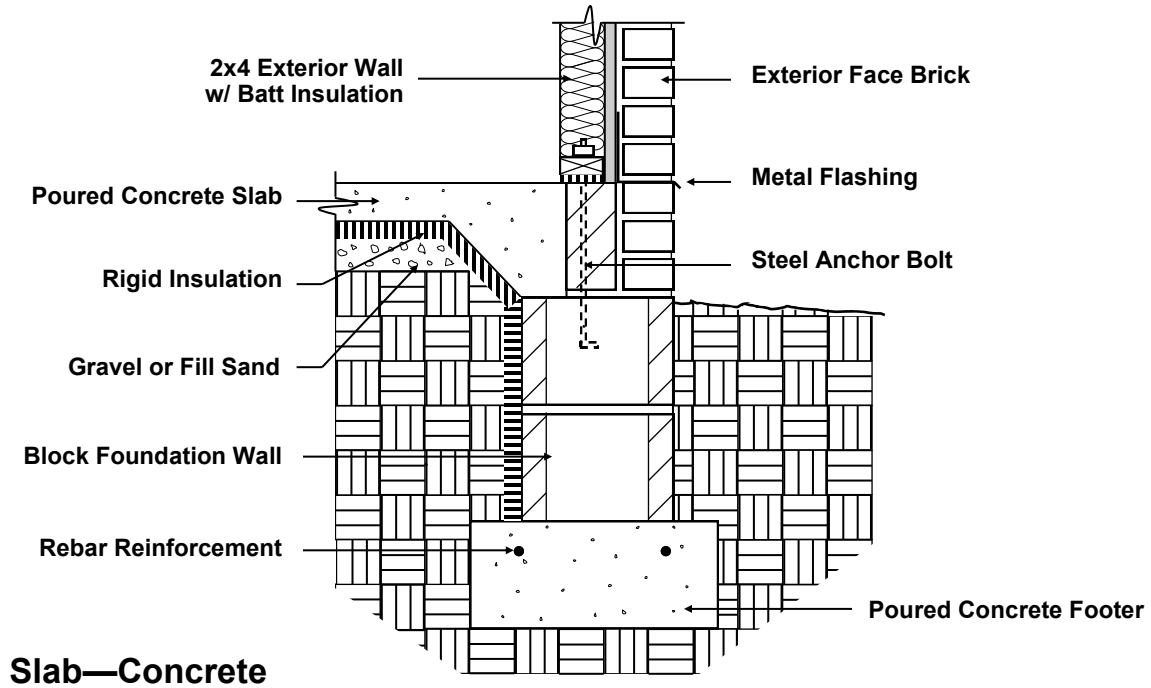


Crawl Space -
Poured Concrete

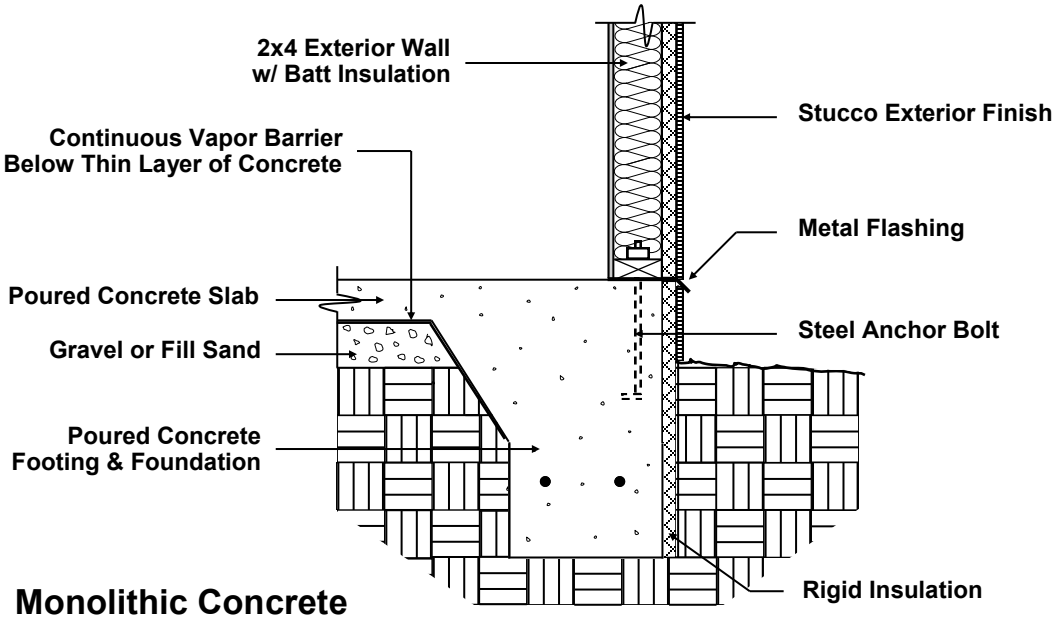


Crawl Space -
Concrete Block

Foundation Details

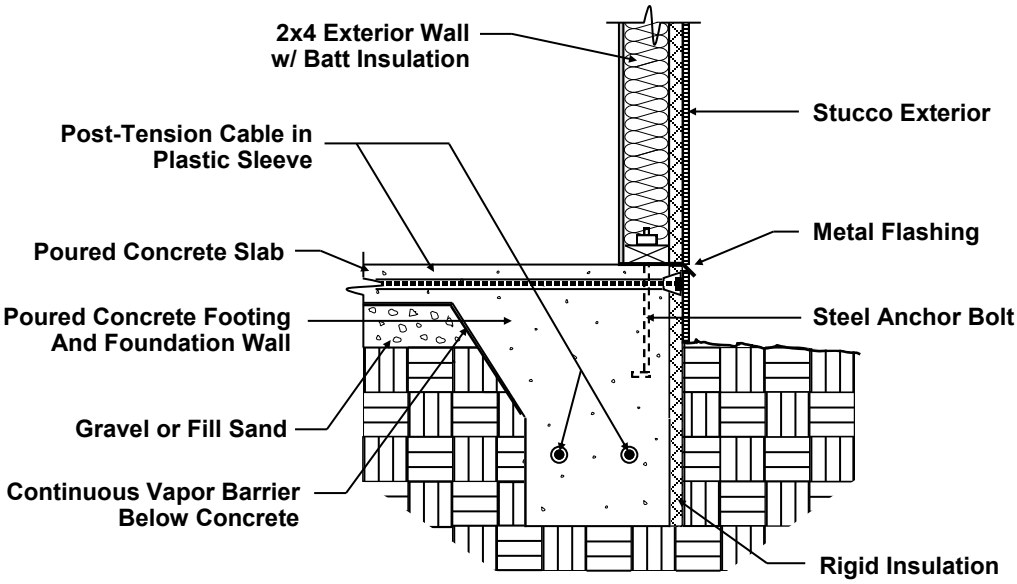


Slab—Concrete Footer w/Block

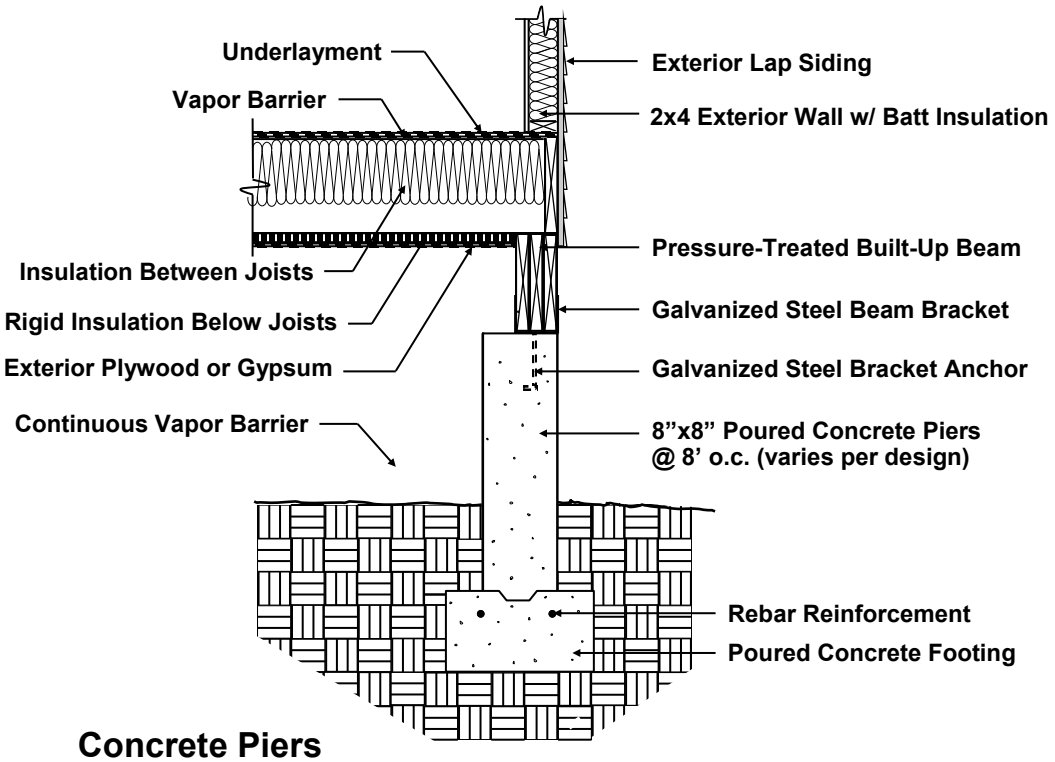


Monolithic Concrete Slab & Footer

Foundation Details

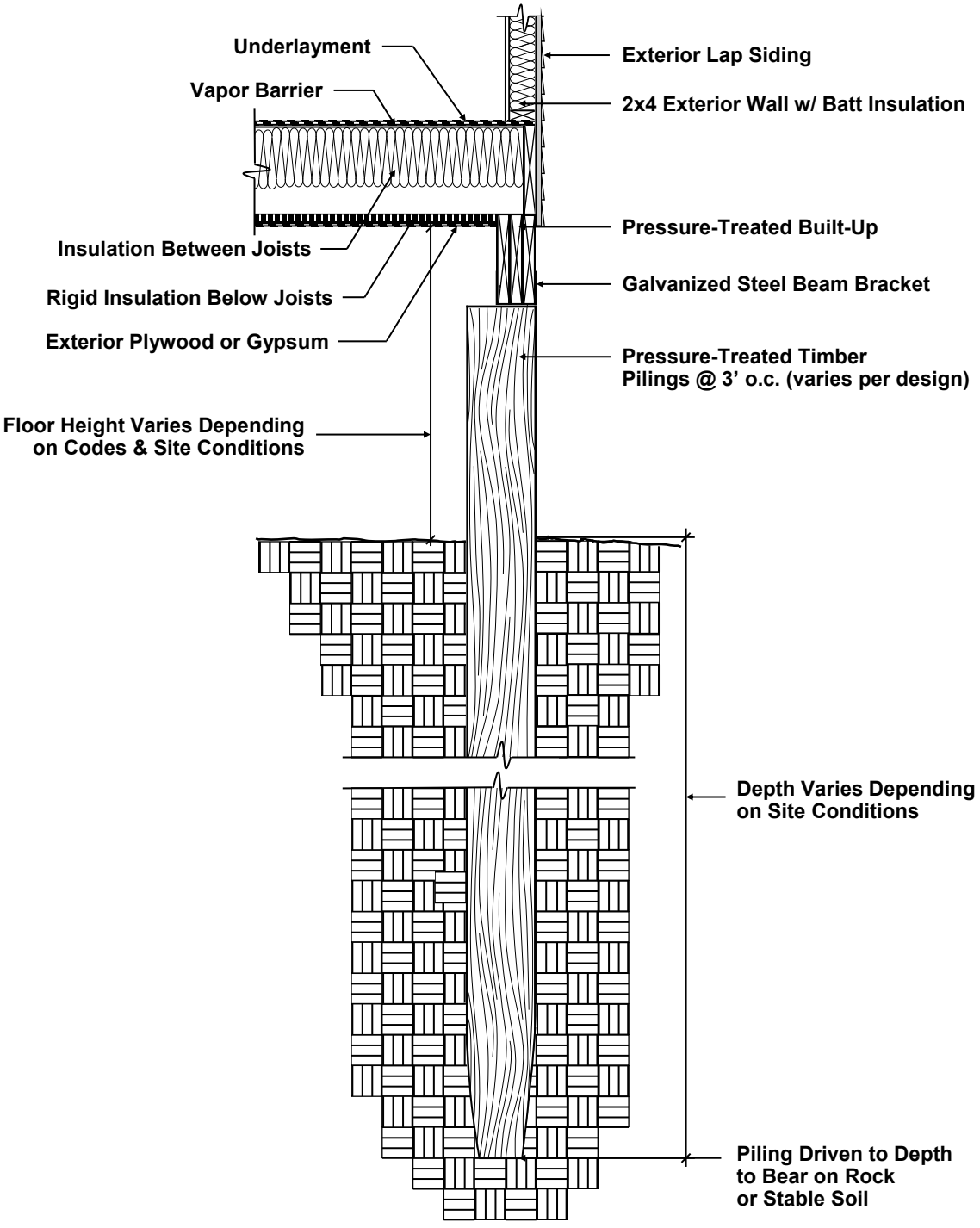


Post-Tension Concrete Slab



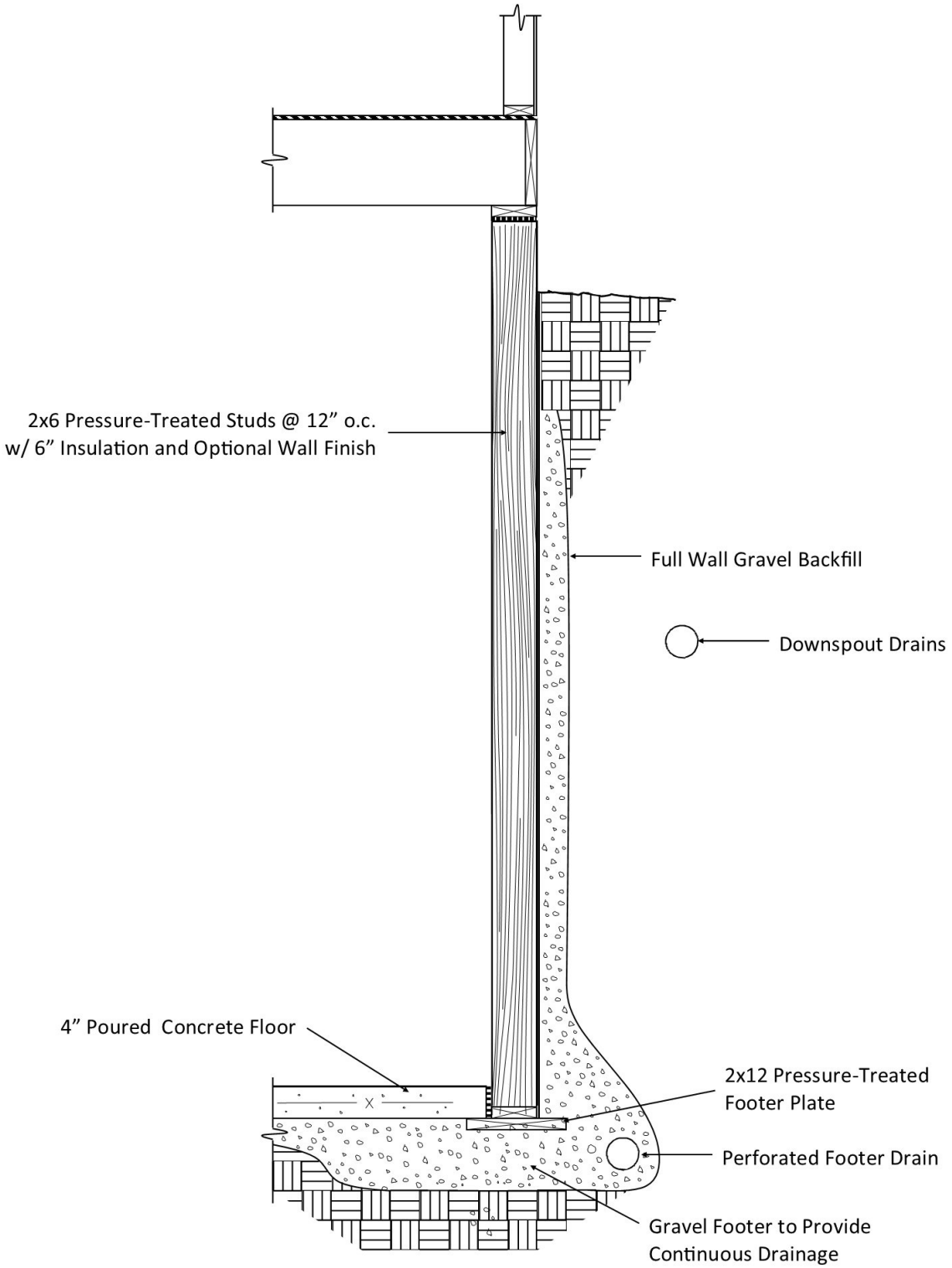
Concrete Piers

Foundation Details



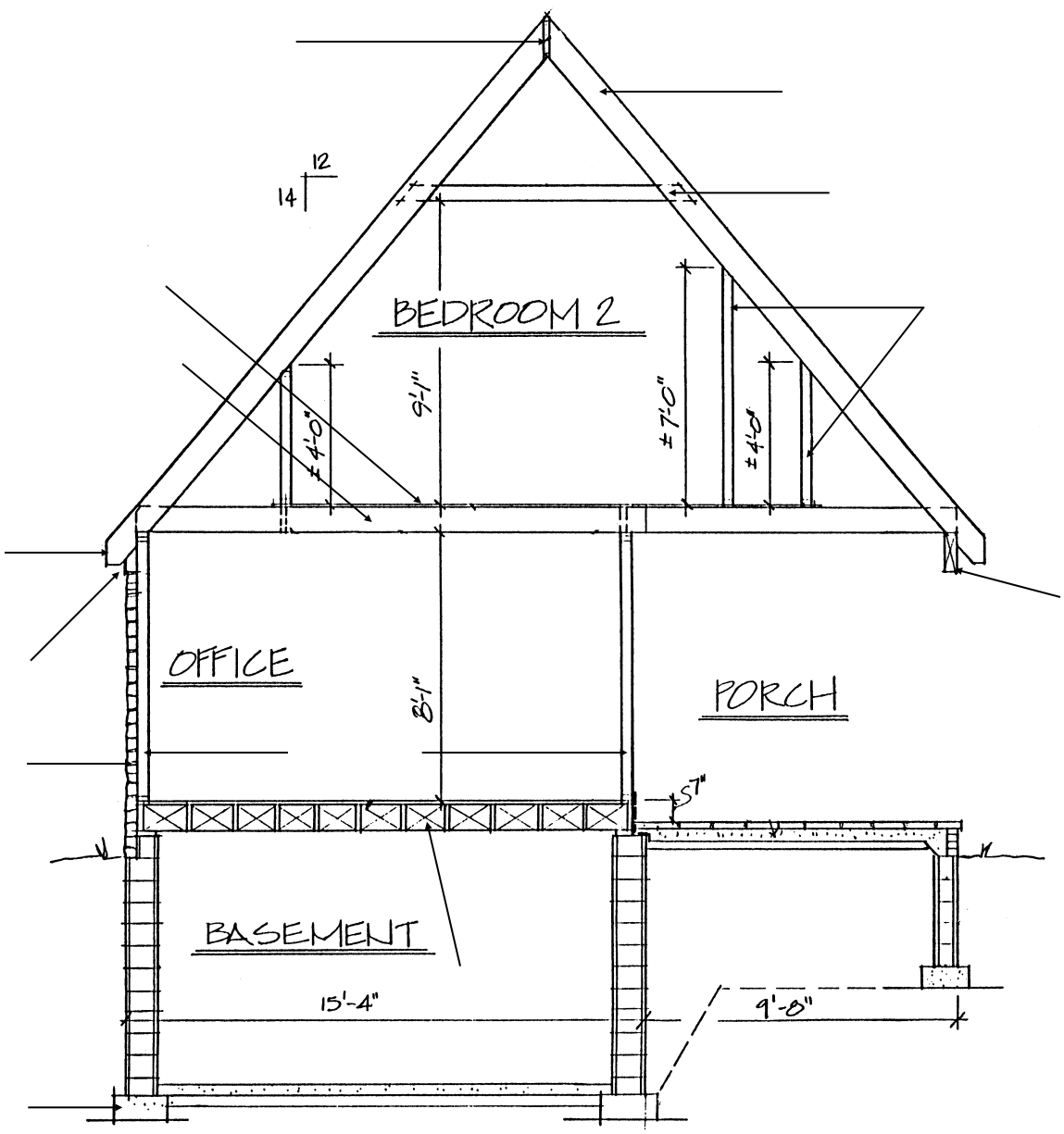
Pressure-Treated Wood Pilings

Foundation Details



Permanent Wood Foundation

Permanent Wood Foundation



B BUILDING SECTION
1/4"=1'-0"

Dimensional Lumber & Structural Loads

Nominal Dimensions	Actual Dimensions
1 x 2	3/4" x 1-1/2"
1 x 3	3/4" x 2-1/2"
1 x 4	3/4" x 3-1/2"
1 x 5	3/4" x 4-1/2"
1 x 6	3/4" x 5-1/2"
1 x 7	3/4" x 6-1/4"
1 x 8	3/4" x 7-1/4"
1 x 10	3/4" x 9-1/4"
1 x 12	3/4" x 11-1/4"
5/4 x 4	1" x 3-1/2"
5/4 x 6	1" x 5-1/2"
5/4 x 8	1" x 7-1/4"
5/4 x 10	1" x 9-1/4"
5/4 x 12	1" x 11-1/4"
2 x 4	1-1/2" x 3-1/2"
2 x 6	1-1/2" x 5-1/2"
2 x 8	1-1/2" x 7-1/4"
2 x 10	1-1/2" x 9-1/4"
2 x 12	1-1/2" x 11-1/4"
4 x 4	3-1/2" x 3-1/2"
4 x 6	3-1/2" x 5-1/2"
6 x 6	5-1/2” x 5-1/2”
8 x 8	7-1/4” x 7-1/4”

Dead Loads:_____

Live Loads:_____

Joists and rafters are designed to limit

_____

Panel Materials

Wood structural panels:

1._____

2._____

3._____

Additional panel materials:

1._____

2._____

3._____

4._____

5._____

6._____

Framing Systems & Alternative Structural Components

Framing systems:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

Alternative structural components:

1. _____

2. _____

3. _____

Earthquake & Wind Resistance

Earthquake and wind resistance details

1. _____

2. _____

3. _____

4. _____

5. _____

Earthquake specific details

1. _____

2. _____

3. _____

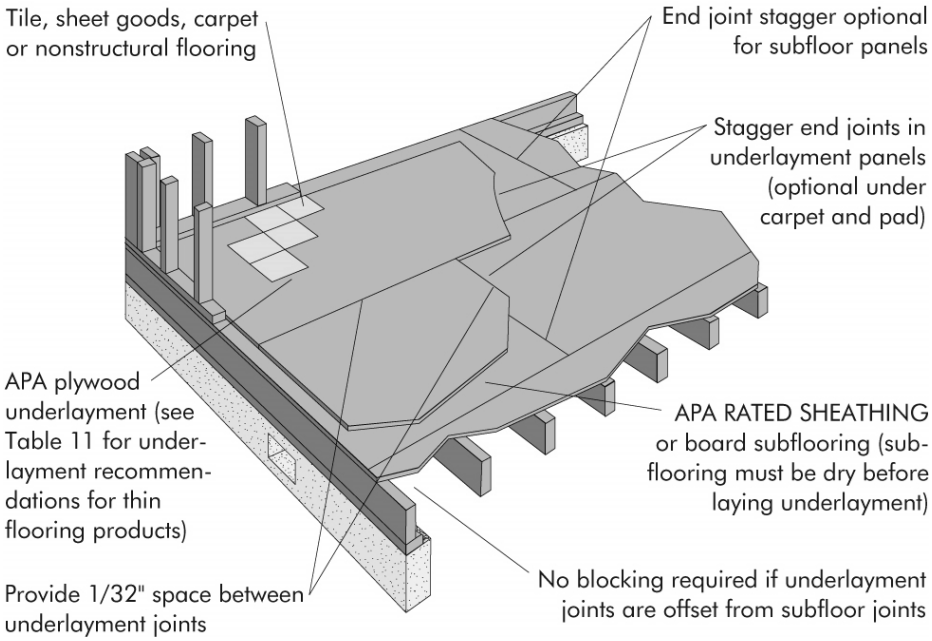
High wind resistance details

1. _____

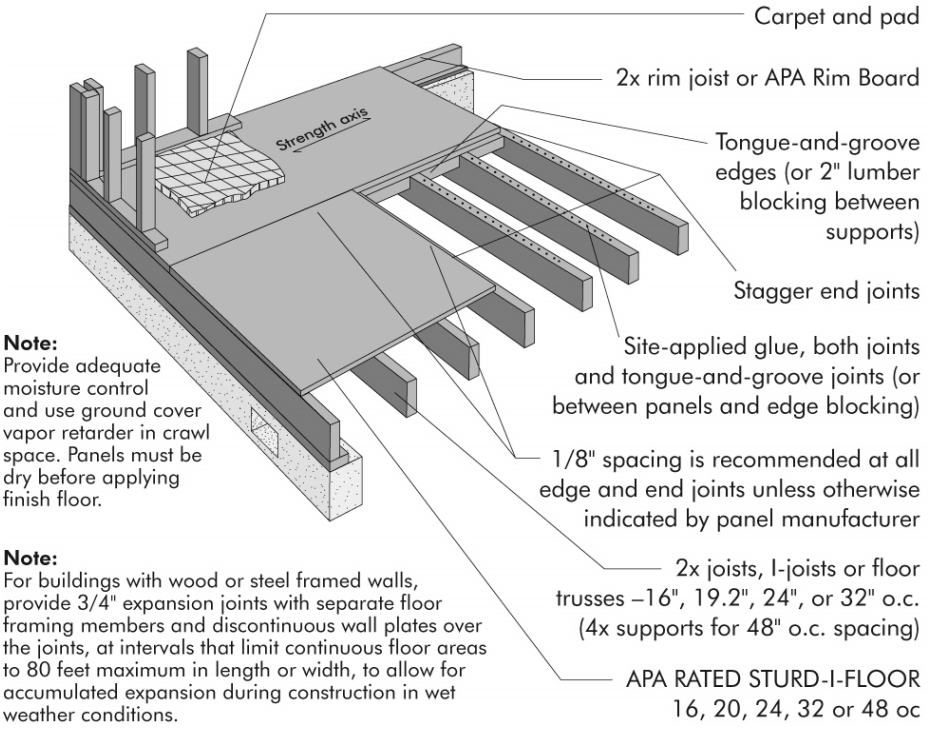
2. _____

Floor Construction

Double Layer Floor System



Single Layer Floor System



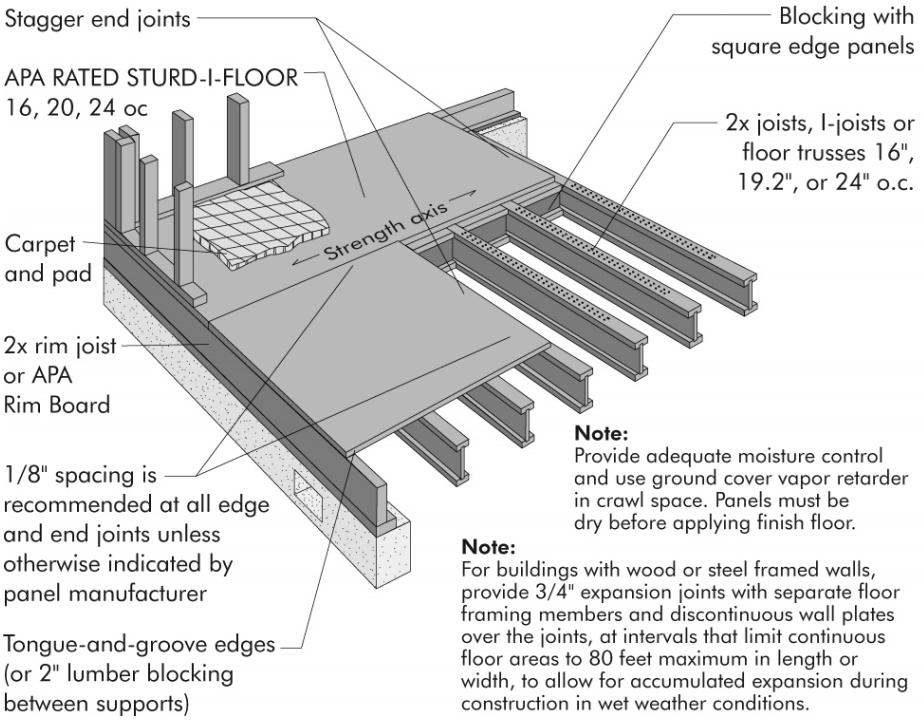
Note:
Provide adequate moisture control and use ground cover vapor retarder in crawl space. Panels must be dry before applying finish floor.

Note:
For buildings with wood or steel framed walls, provide 3/4" expansion joints with separate floor framing members and discontinuous wall plates over the joints, at intervals that limit continuous floor areas to 80 feet maximum in length or width, to allow for accumulated expansion during construction in wet weather conditions.

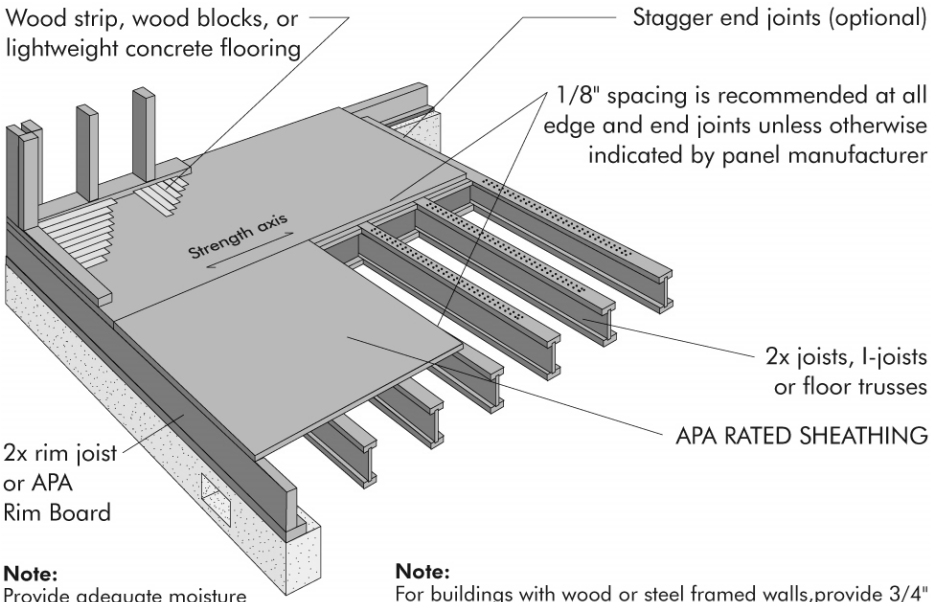
Images used with permission of the American Plywood Association

Floor Construction

Single Layer Wooden I-joist Construction



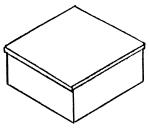
Double Layer Wooden I-joist Construction

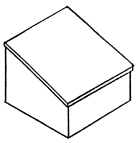


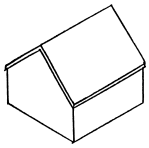
Images used with permission of the American Plywood Association

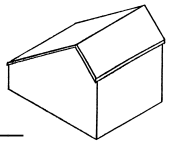
Roof Construction

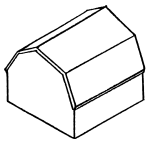
Roof Types

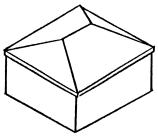
1._____ 

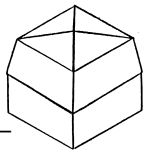
2._____ 

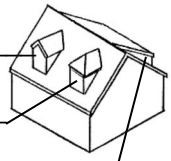
3._____ 

4._____ 

5._____ 

6._____ 

7._____ 

8._____ 

_____

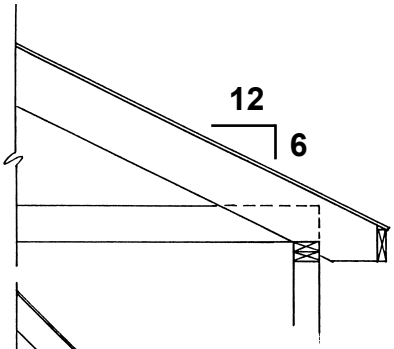
_____

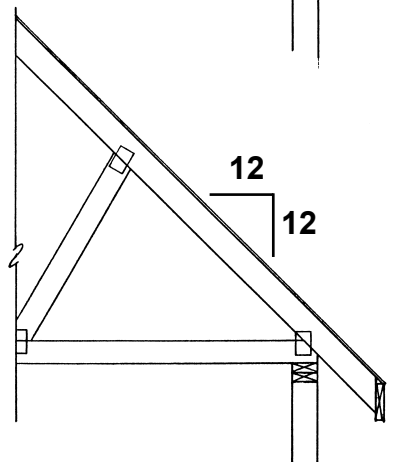
_____

Roof Pitches

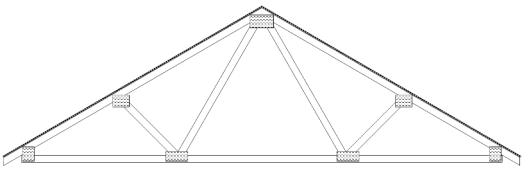
Roof pitches are described as a ratio between

_____&_____.

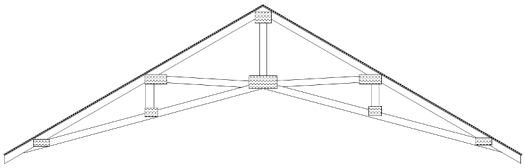




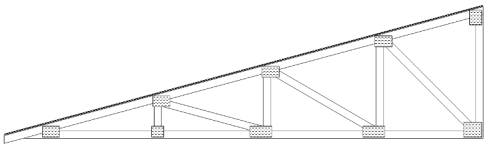
Roof Construction



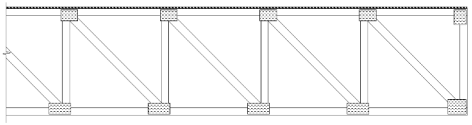
1._____



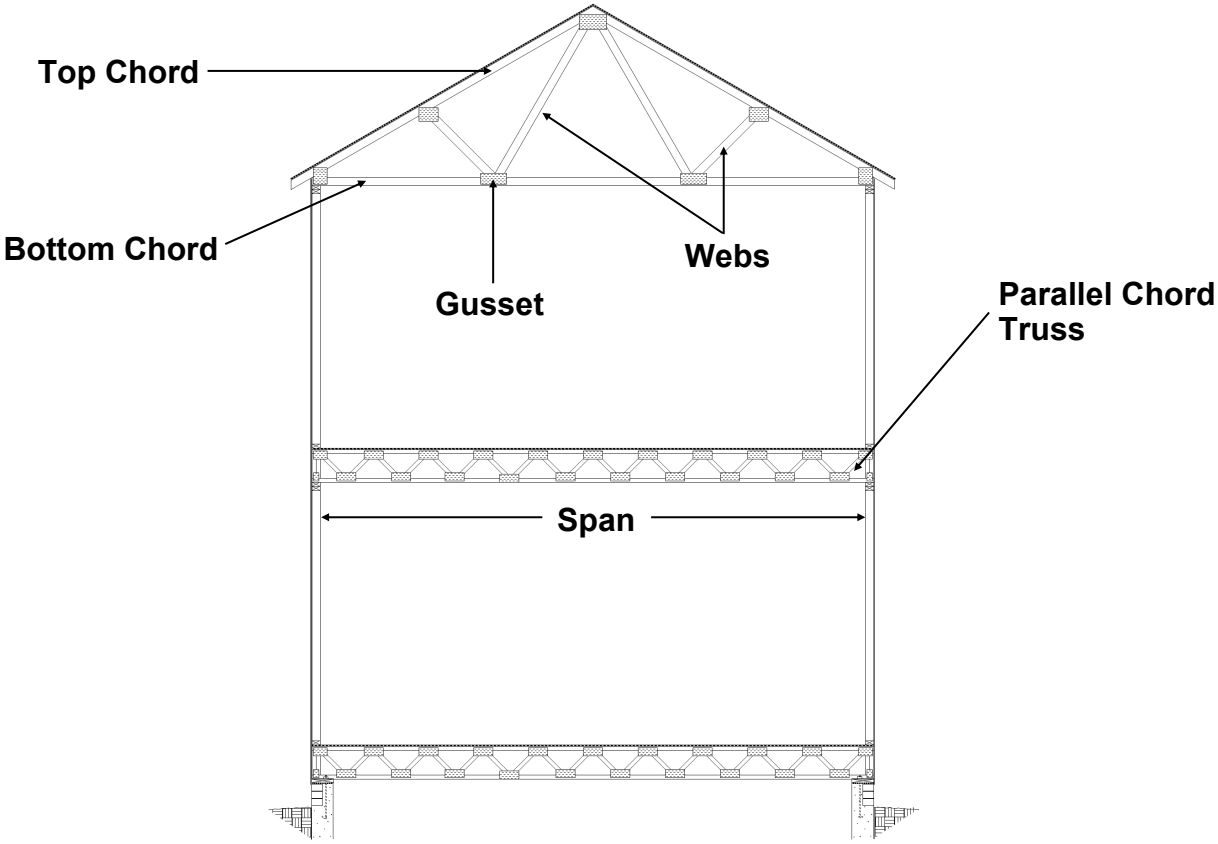
2._____



3._____

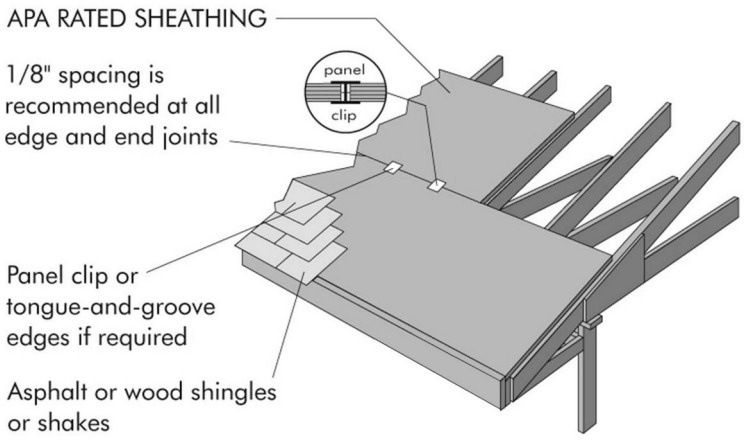


4._____

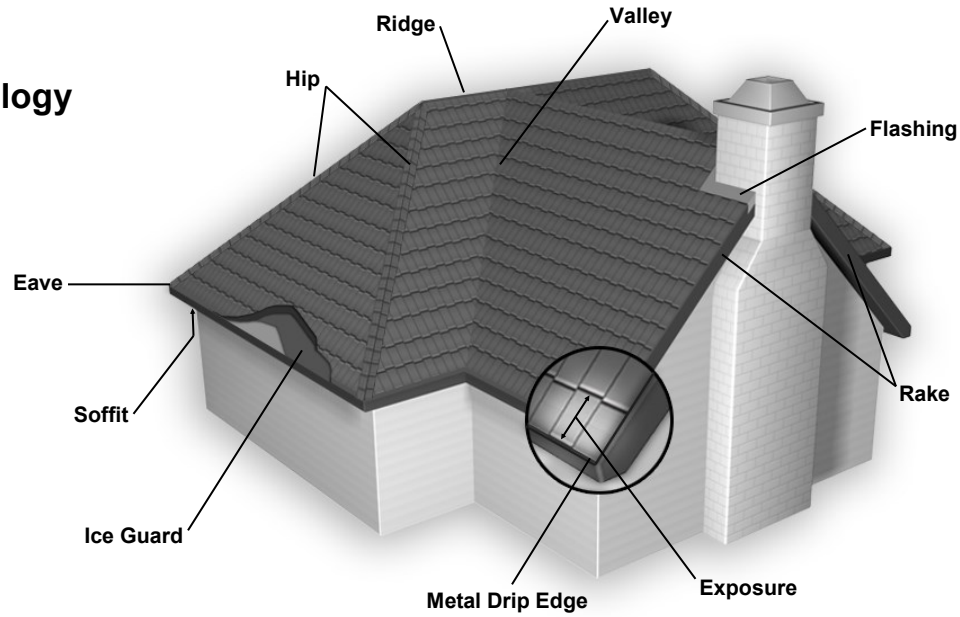


Roof Construction

Roof Sheathing



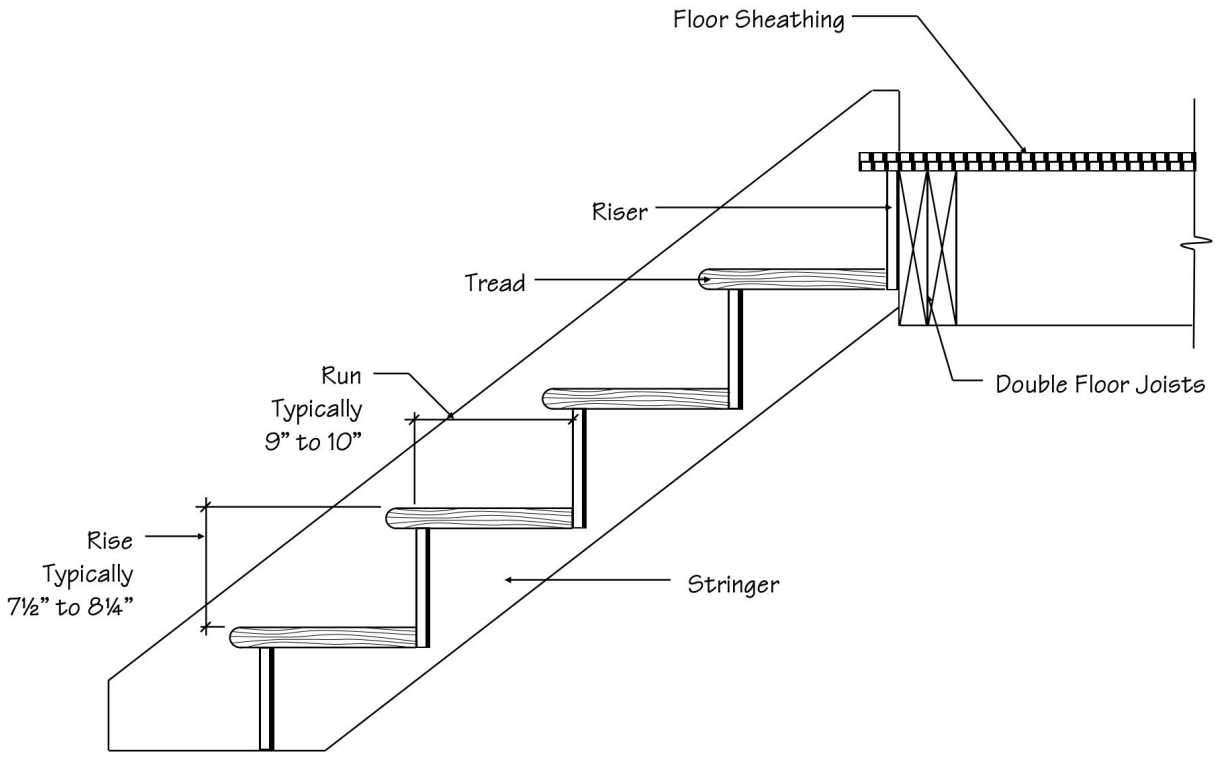
Roof Terminology

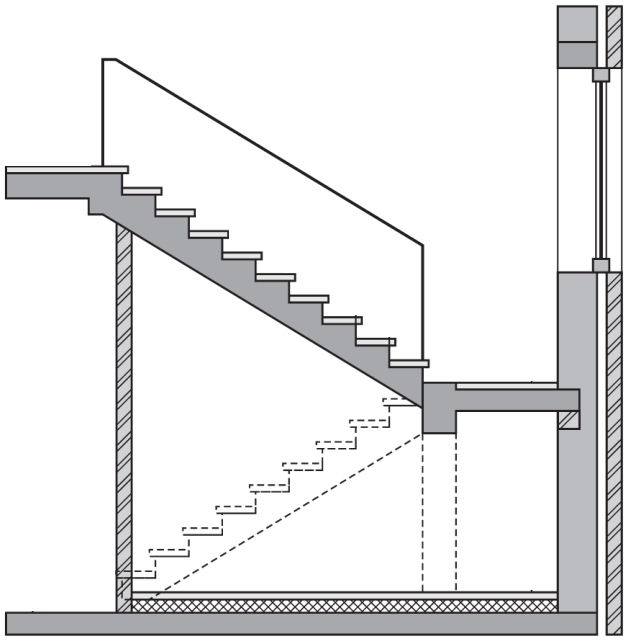


Roofing materials

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Stair Construction





Pressure-Treated Lumber

For rot to occur in wood

1. _____ 2. _____

3. _____ 4. _____

Pressure-treating eliminates _____

Pressure-treated lumber considerations

1. _____ 2. _____

3. _____ 4. _____

Factory-Built Housing

Types of Factory-Built Housing

1. _____ 2. _____

3. _____ 4. _____

Factory-Built Advantages

1. _____ 2. _____

3. _____ 4. _____

Concrete Materials & Quality

Concrete is a mixture of

1. _____ 2. _____

3. _____ 4. _____

5. _____

Concrete Reinforcing

1. _____ 2. _____

Joint in Slabs

1. _____ 2. _____

Concrete Quality is Relative to

1. _____ 2. _____

3. _____ 4. _____

Words of Wisdom

"We provide a lifetime guarantee on concrete —
It's guaranteed to crack sometime in its lifetime."

— Dennis Walsh

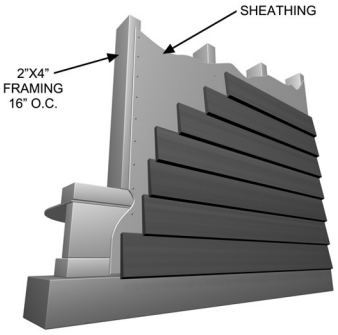
Exterior Finish Materials

Exterior siding/finish materials

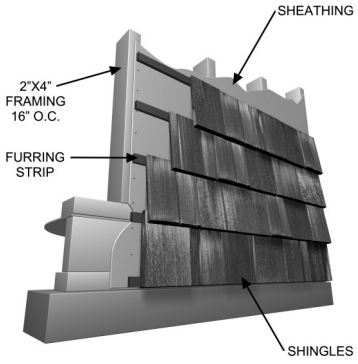
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

A square of roofing or siding covers _____

Horizontally Applied Siding

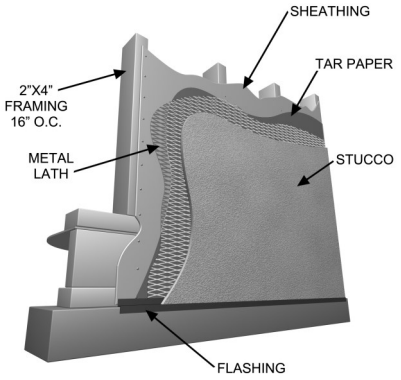


Wood Shingle & Shakes

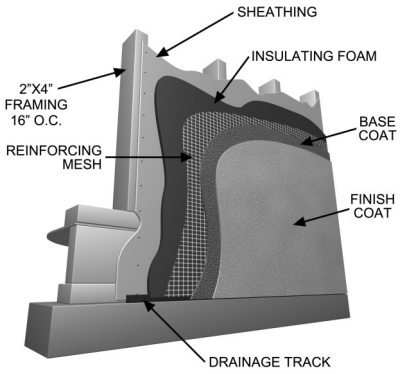


Siding Materials

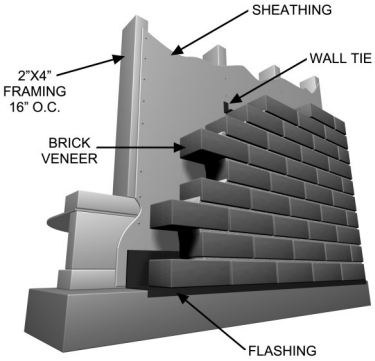
Cement Stucco



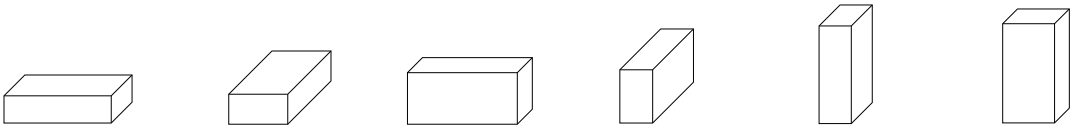
Synthetic Stucco — EIFS



Brick Veneer

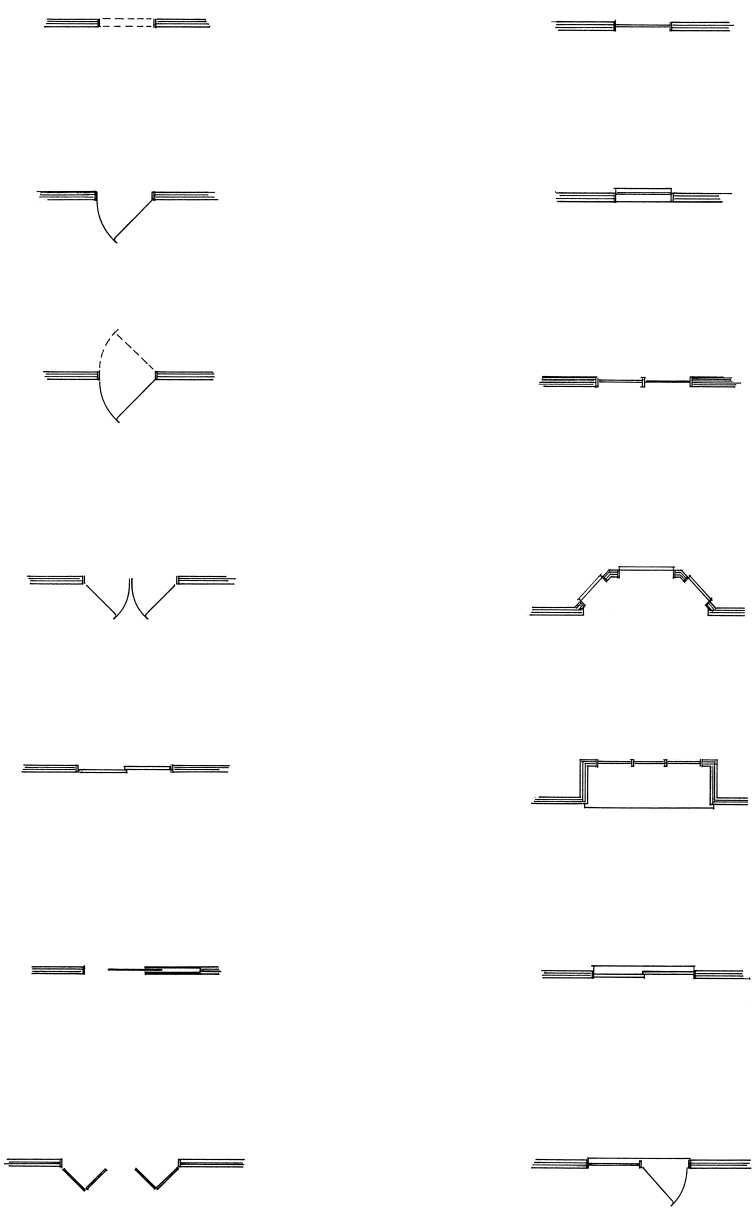


Terms applied to various brick positions:



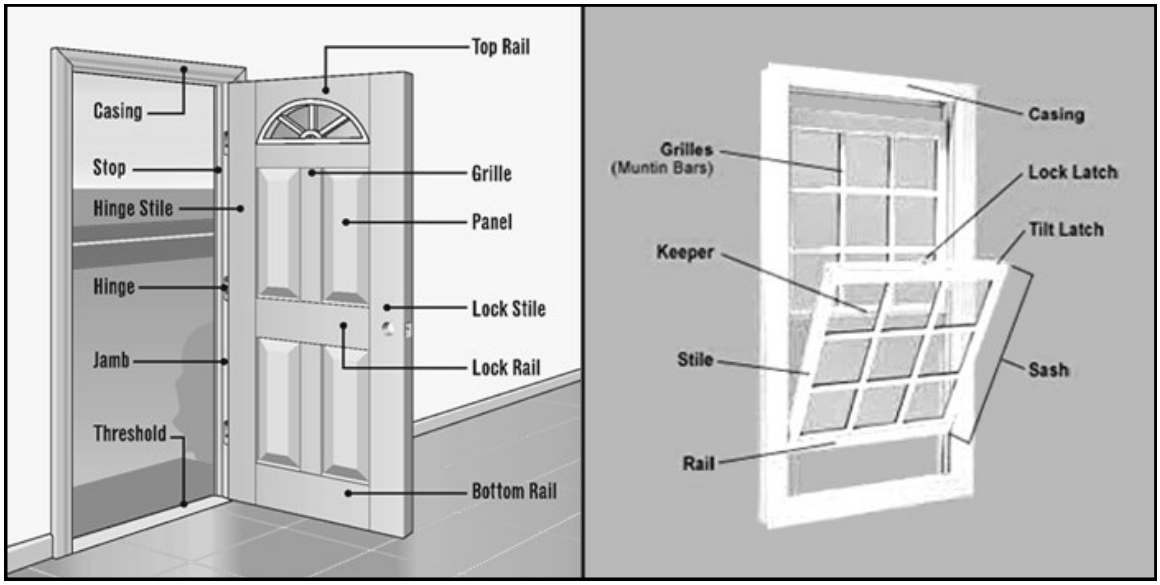
Doors & Windows

Door and window blueprint symbols



Doors & Windows

Door & Window Components



Exterior doors

1. _____

2. _____

3. _____

Interior doors

1. _____

2. _____

3. _____

Doors & Windows

Window frame and sash options

1. _____
2. _____
3. _____
4. _____

Window glazing options

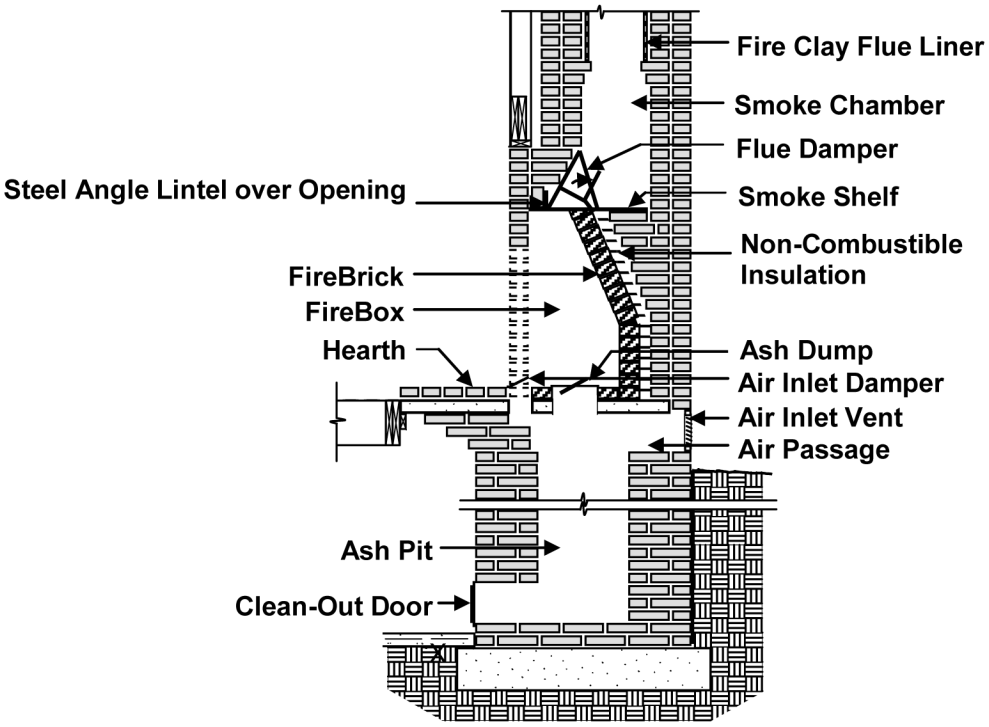
1. _____
2. _____
3. _____
4. _____
    - _____
    - _____
    - _____

Energy Performance Ratings

Window Types

Window Types

Masonry Fireplace Construction



Factory-Built Fireplaces

Zero-clearance

_____

_____

Factory-built fireplace types:

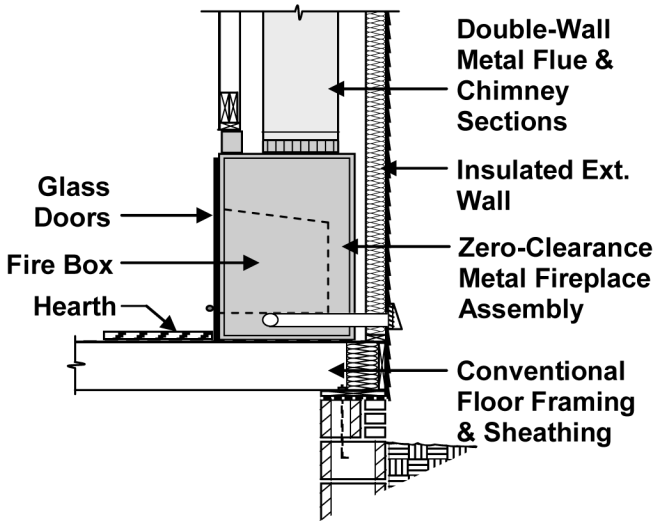
1._____

2._____

- _____
- _____
- _____

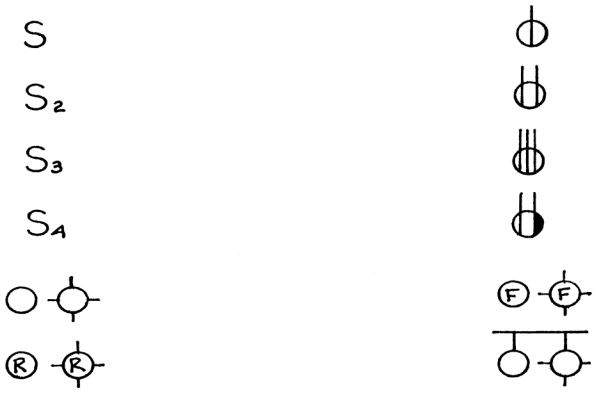
3._____

4._____



Zero-Clearance Fireplace / Section

Electrical Symbols



Solar Systems

Primary components

1. _____

2. _____

3. _____

Types of solar systems

1. _____

2. _____

3. _____

Heating and Cooling Systems

Types of heating systems:

1. _____

2. _____

   - _____
   - _____

3. _____

4. _____

5. _____

HVAC _____

AFUE _____

SEER _____

Water Heaters

Types of water heaters

1. _____

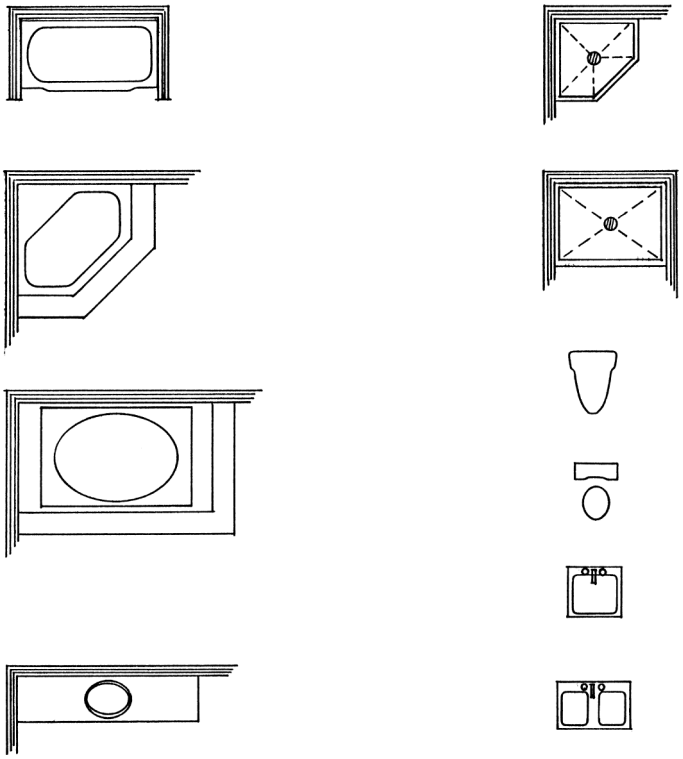
2. _____

3. _____

4. _____

5. _____

Plumbing Symbols

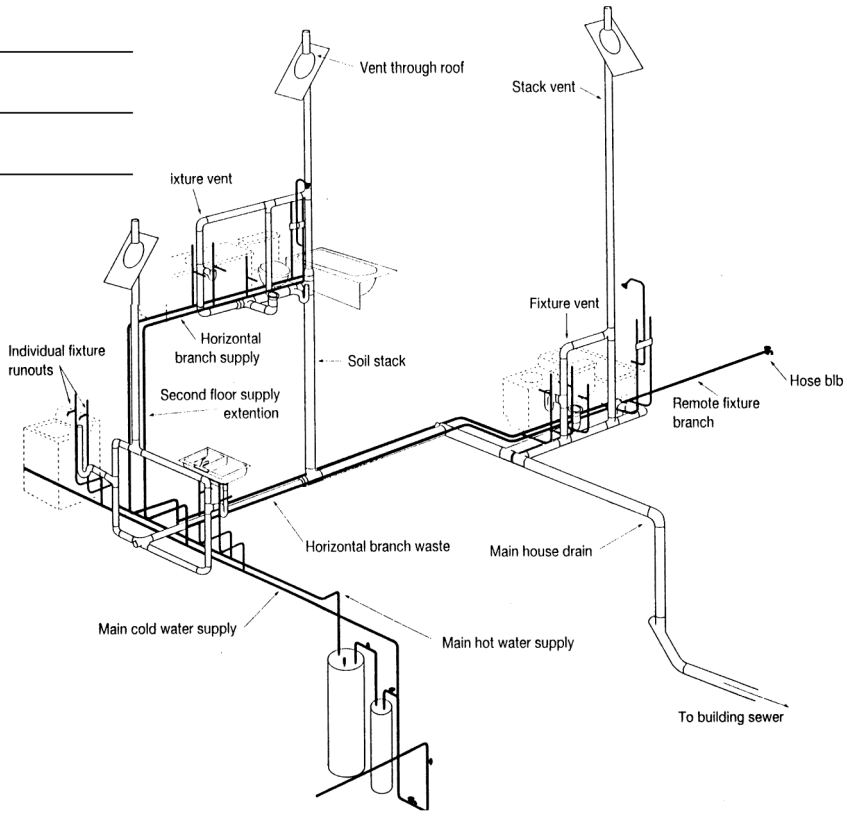


Three major components of the plumbing system:

1._____

2._____

3._____



Energy Efficient Construction

We minimize the transfer of heat energy

1. _____
    - _____
    - _____
    - _____
    - _____
2. _____
    - _____
    - _____
    - _____
3. _____
    - _____
    - _____
    - _____

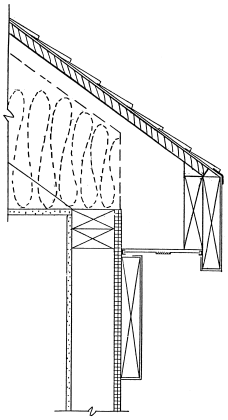
Insulation Materials

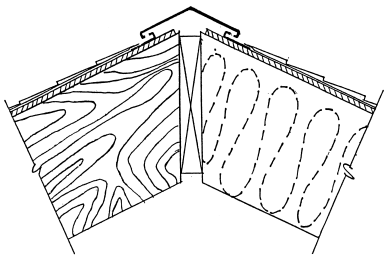
1. _____
2. _____
3. _____
4. _____
5. _____

Insulation R-Values & Roof Ventilation

Insulation Material	Thickness	R-Value
Blankets or Batts		
Fiberglass/Rockwool	3½”	11 to 13
	5½”	19 to 21
	9”	30
	12”	38
Loose Fill		
Fiberglass/Rockwool	5”	11
	7-8”	19
	10-13”	30
Vermiculite	1”	2.27
Cellulose	1”	3.33
Rigid Boards		
Fiberglass	1”	4
Fiberboard	1”	1.5 to 2.5
Expanded Polystyrene	1”	3.6
Extruded Polystyrene	1”	5.4
Polyisocyanurate	1”	7.4
Expanding Spray Foam		
Closed-Cell	1”	6 to 7
Open-Cell	1”	3.6 to 3.9

Roof Ventilation





Green Building

Green building principles

1. _____

2. _____

3. _____

4. _____

5. _____

LEED - Leadership in Energy and Environmental Design
ENERGY STAR - U.S. Environmental Protection Agency
NGBS - National Green Building Standard

Interior Wall Finishes

1. _____
    - _____
    - _____
    - _____
2. _____
    - _____
    - _____
    - _____
    - _____
    - _____
    - _____
3. _____
4. _____
5. _____

Cabinet Types

1. _____
2. _____
3. _____
4. _____

Cabinet Quality

1. _____
   - _____ • _____ • _____
2. _____
   - _____ • _____ • _____
3. _____
   - _____ • _____ • _____
4. _____
   - _____ • _____ • _____
5. _____
   - _____ • _____ • _____
   - _____ • _____ • _____

Countertops

1. _____

2. _____

3. _____

4. _____

    - _____
    - _____
    - _____
    - _____
    - _____
    - _____

5. _____

6. _____

7. _____

Flooring

1. _____
    - _____
    - _____
    - _____
    - _____
2. _____
3. _____
    - _____
    - _____
4. _____
    - _____
    - _____
    - _____
    - _____
5. _____
    - _____
    - _____
    - _____
    - _____
    - _____
6. _____

Moldings & Trim

Paint Types & Quality

Paint components

1._____

2._____

3._____

Paint types

1._____

2._____

- _____
- _____
- _____

Paint sheens

1._____

2. _____

3._____

4._____

Quality considerations

1._____

2._____

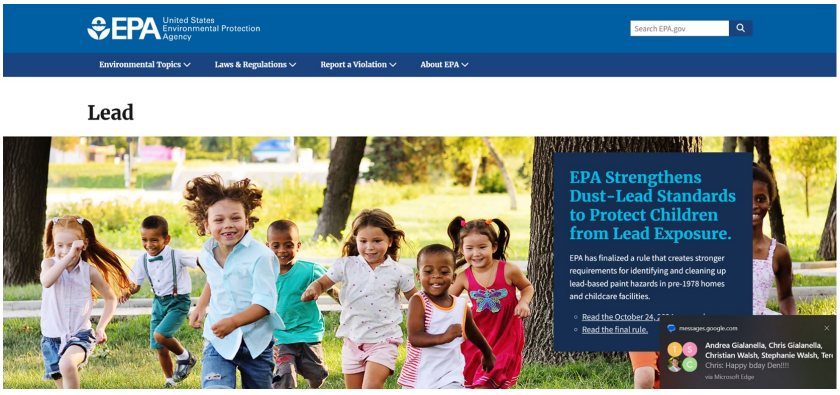
3._____

4._____

5._____

6._____

Primers _____



Stains & Finishes

Stain types

1._____

2._____

Transparency

1._____

2._____

3._____

Clear finishes

1._____

2._____

Wood sealers

Wood preservatives

Building & Zoning Codes

Building code concerns

1._____

2._____

3._____

4._____

5._____

6._____

7._____

Zoning code concerns

1._____

2._____

3._____

4._____

5._____

6._____

Congratulations!

You've completed the Residential Construction Certified™ professional designation training program. We wish you success in your real estate endeavors!

Your friends Dennis, Teresa and the Dennis Walsh and Associates team.

Glossary of Construction Terms

A

Access panel
Removable panel that allows access to plumbing or electrical connections, such as below a platform tub.

Acoustical ceiling
Ceiling made up of materials that absorb sound to reduce the transfer of noise in a building

Admixtures
Materials that are mixed into concrete to somehow change the nature of the mix, such as color or a curing accelerator used in cold weather.

Adobe
Clay soil used to create bricks that are sun-dried and used for constructing walls.

Aggregate
Gravel, stones, shells or other solid materials that are added to the concrete mix for strength or aesthetic purposes.

Air quality
Measurement of the level of contamination of air in the building due to the buildup of chemicals and odors from building materials and occupants.

Air-vapor barrier
Material used to eliminate the passage of air and moisture through walls, floors and ceilings, most commonly a layer of polyethylene plastic installed behind the drywall or below a concrete slab.

Anchor bolts
Treaded metal bolts that are installed in the concrete at the top of a foundation used to secure the wood plates that connect to floors and walls.

APA rated
Rating given by the American Plywood Association that established the correct use of panel materials such as plywood and waferboard.

Apron
Interior trim molding applied below a window stool.

Architect
Individual who designs and oversees building construction, usually used to refer to someone who is registered and licensed by the American Institute of Architects.

Ash dump
Metal door that opens in the bottom of a fireplace to allow ashes to be "dumped" to a hollow ashpit below.

Asphalt shingles
Roofing material made up of a mineral fiber mat that is impregnated with asphalt for waterproofing and covered with a decorative aggregate material.

Glossary of Construction Terms

Astragal
Narrow wood molding usually installed vertically between double doors.

Azimuth
Horizontal angle used in surveying to layout the boundaries of a parcel of land relative to the directions of the compass.

B

Back band
Separate, outermost trim piece that is used outside the casing around an interior window or door opening. This is a traditional colonial detail.

Backfill
Material such as dirt or gravel used to fill in the open area around a foundation, also the act of filling in this area.

Backsplash
Material applied to the vertical area above a sink or countertop to protect the wall finish from moisture.

Baffles, insulation
Treated cardboard or light plastic pieces installed between rafters directly below the roof sheathing to maintain an airspace for ventilation above the ceiling insulation.

Balloon Framing
Framing method where exterior studs run continuously from the sill plate at the foundation to the top wall plate at the eaves of the roof, very seldom used today.

Baluster
One of the vertical components repeated underneath a stair or porch railing.

Balustrade
Stair or porch railing.

Barrel vault
Upside-down U-shaped design used at a vaulted ceiling.

Base board
The interior molding installed at the bottom of a wall.

Base molding
Another term used to describe the baseboard.

Base shoe
Strip of molding installed along the bottom of the baseboard, used most often in areas with hardwood, ceramic tile or marble floors.

Battens
Thin strips of wood applied over seams in wider boards, usually in a vertical application to create board and batten siding.

Glossary of Construction Terms

Batts
Insulation material manufactured in varying widths and thickness to allow for easy installations between rafters and studs, also called blankets.

Bay window
Three-sided, angled window configuration that projects from the walls of a building.

Beam
Large piece of built up lumber, timber, metal, stone or other structural material installed horizontally in a building to support structural loads.

Bearing wall
Wall supporting loads from above, including joists, rafters or other walls.

Beltboard
An exterior trim board installed horizontally directly below the soffit area.

Bevel siding
Siding material that is triangular in shape and installed horizontally with each piece overlapping the piece below.

Bid drawings
Architectural drawings created for the purpose of securing bids or cost estimates from contractors and suppliers.

Blind nailing
Nail installed so that the head of the nail is covered by another piece of finish material and therefore not visible after completion.

Blocking
Short lengths of wood installed perpendicular to studs, joists and rafters to provide additional structural strength or to provide support for the installation of hardware during the finish.

Board & Batten
Vertical wood siding consisting of wide boards placed side-by-side with narrow batten strips that cover the joints.

Boiler heating
Heating system that uses boilers to heat water that is then pumped through pipes and radiators to heat the air.

Boundary survey
Survey that establishes the corners of a property and often includes stakes and ribbons to clearly identify property lines.

Brick veneer
Full-thick brick that is used as the exterior finish on a wood frame building.

Bridging
Solid or crisscrossed boards used between joists to add additional strength to a floor system.

Brown coat
Layer of coarse plaster applied beneath the finish coat in interior plaster work or exterior stucco.

Glossary of Construction Terms

Building orientation
Placement of the building on the site relative to the weather, sunlight, views or other considerations.

Building permits
Series of documents and approvals issued by various government offices that are required prior the start of construction.

Building systems
Various combinations and methods of utilizing materials and labor, often using factory-built components, to create a building, such as panelized or modular construction.

Built-up roofing
Combination of sheet materials, adhesives, waterproofing membranes and sometimes aggregates to create a roofing system, most often used on flat or low slope roofs.

Bulkheads
Another term used for interior soffits built above wall cabinets or vanity areas.

Bull nose
Finish material applied to an edge such as a countertop or step.

Butyl
Type of caulk used to ensure waterproof seams between building materials

C

CAD
"Computer-aided-drafting" systems used by builders and designers to create architectural drawings.

Cantilever
Beam or section of floor that extends beyond the wall below.

Cased opening
Opening between rooms without a door that is trimmed with wood jambs and casing, considered an upgrade from a drywall-wrapped opening.

Casement window
Window hinged along one vertical side that opens and closes similar to a door.

Casing
The molding installed around a door or window opening.

Cathedral Ceiling
Ceiling with 2 sides sloping towards the center of the room.

Cedar
Reddish-brown wood that is used as exterior siding and roofing due to its ability to resist decay and rot in exposed conditions.

Cement
Material made by grinding limestone and clay to a fine powder, usually mixed with water and sand to make mortar or by adding aggregates to make concrete.

Glossary of Construction Terms

Ceramic tile
Durable, but brittle tiles used for walls, floors and roofs that are created from clay heated to very high temperatures.

Check valve
Valve used in a pipe that carries fluids to allow movement of the fluid in only one direction.

Chemically treated
Usually refers to wood products that are treated with chemicals to resist decay or to slow fire damage.

Chimney
Vertical structure or flue that allows the passage of smoke and gases from a furnace or fire-place into the air safely above a roof.

Chimney cap
Metal or masonry material used at the top of a chimney or flue to prevent water from leaking into the chimney structure.

Cladding
Material applied to another material to change its appearance or ability to resist wear or decay, such as in vinyl or aluminum clad doors and windows.

Clapboard
Narrow, beveled boards applied overlapping horizontally as exterior siding, also called bevel or lap siding.

Clay tile
Roofing or floor tiles created by heating natural clay materials, also sometimes used to describe drainage pipes or "drain tiles" made of this material.

Cleanout
Opening that allows access to pipes, drain lines or an ashdump for cleaning.

Clerestory
Vertical wall that rises above a section of roof with windows installed to bring natural light into a building.

Closed valley
Valley construction where shingles are overlapped at the center of the valley.

Collar tie
Horizontal framing member installed above the ceiling joists between rafters to strengthen the roof system.

Column
Vertical component of a structure, usually made of wood, concrete or metal, used to support loads above or for aesthetic purposes.

Concrete
Building material created by mixing cement, sand, gravel, water and other admixtures that is poured in place wet and then through a chemical reaction, cures or hardens to a solid.

Control joints
Small cuts or joints trowelled into the surface of a concrete slab in a decorative pattern to attempt to "control" the direction of cracks that appear over time.

Glossary of Construction Terms

Corner bead
Metal or plastic piece applied where drywall meets at a right angle to provide a rigid, straight line behind the joint compound.

Corner braces
Diagonal lengths of wood or metal applied at the corners of exterior walls behind the sheathing to provide structural reinforcement.

Cornice
Horizontal moldings that project from the face of a wall to create a crown or cap.

Cove molding
Molding with a concave curve used for various trim purposes.

Crawl space
A foundation system that raises a wood floor several feet above grade, providing a low space beneath the floor for access to mechanicals.

Creosote
Oily, brownish liquid from coal tar that is applied to wood to act as a preservative.

Cricket
Small, gable roof-shaped structure that is installed above a chimney to divert rainwater around the chimney.

Cripple studs
Short studs installed below a window sill or above a header to provide backing for the wall finish material.

Crown molding
Molding typically used at the intersection of a wall and a ceiling. Simpler crowns are single strips of wood molded in a decorative shape. More ornate crown moldings are built-up of several separate molding pieces.

Cupola
Small structure, usually rectangular with a peaked roof, built on top of the roof of a building, sometimes for ventilation, sometimes for decorative purposes.

Curtain drain
French drain installed at an elevation above the leach field area of a septic system to collect surface water before it runs over the leach field and carries effluent to neighboring properties.

Cut and fill computation
Calculations made to determine the proper amount of soil to excavate from a basement and the corresponding placement of soil around the basement on the finished site.

D

Damper
Adjustable metal plate in the flue of a furnace, fireplace or ductwork to contol the flow of air or exhaust.

Dead bolt
Lock installed above the handset with a solid bolt for additional security.

Glossary of Construction Terms

Dead load
Engineering calculation that measures the average weight of the structural components in a floor or roof system.

Dentil
Molding that consists of repeated tooth-like blocks usually applied below an overhang or as a component of a built-up crown molding.

Distribution panel
Electrical panel that distributes electricity from the main to various circuits throughout the building, typically holds banks of circuit breakers.

Dormer
Smaller structure made up of three walls, a window and a roof that projects through the main roof of a building.

Double glazing
Assembly of two panels of glass with a narrow air space between them installed in a door or a window to provide increased energy efficiency over a single-pane design.

Double-hung window
Window with both an upper and lower sash that can be slid vertically to open and close.

Drain tile
Term used to describe perforated plastic or clay pipes installed below grade to collect water in the soil and carry it away to a storm sewer or surface runoff.

Drip edge
Thin metal flashing applied to the edges of the roof sheathing to direct rain water down to the gutters or siding.

Dropped ceiling
False ceiling installed below an existing ceiling, often used to hide exposed pipes or ductwork.

Drywall
Paper-covered gypsum board used for the finish interior wall surface. Joints are concealed with paper tape and plaster-like joint compound.

Ducts
Manufactured in galvanized metal, fiberglass board and flexible plastic, ducts are used to distribute conditioned air from heating and air-conditioning systems, and to vent exhaust fans in kitchens and bathrooms.

E

Eaves
Lowest edge of a roof, typically above an exterior wall.

Efflorescence
White, powdery substance that sometimes appears on brick walls.

Elevations
Describes architectural drawings that provide a representation of a vertical surface such as the exterior of a building.

Glossary of Construction Terms

Excavation
Process of using heavy earth-moving equipment to dig areas for foundations and other site work.

Expansion joint
Joint constructed in concrete slabs filled with a flexible, compressible material to allow for the expansion and contraction of the concrete relative to changes in temperature.

Exterior elevation
Describes the finished exterior of a building or architectural drawing that shows these finished exterior views.

F

Face brick
Brick applied to create a finish over a structural wall or chimney.

Fascia
Collectively describes the various finish materials and trims that occur along the edges of a roof.

Fiber glass
Material typically used in a loose or batt configuration for insulation purposes.

Filter fabric
Heavy fabric sheet installed below base stone in a driveway or over the gravel around a foundation to minimize contamination from fine soil and mud.

Finish carpentry
Process of installing interior doors, cabinets, moldings and finish hardware.

Finish nails
Fine nails with small heads used to apply finish moldings and trim materials.

Firebox
Opening inside of a fireplace, lined with fire brick, where the fire burns.

Firebrick
Light-colored brick used inside the firebox.

Fire-rated
Rating established for building materials that represents their performance during a fire, required for certain materials by building codes.

Firestopping
Horizontal framing installed between studs to minimize the possibility that fire can pass quickly up the wall cavities.

Fixed glass
Glazing installed in a door or window without a moveable sash.

Flashing
Materials used to eliminate the passage of water at roof areas, sidewalls, windows and doors, usually made of metal.

Glossary of Construction Terms

Flight
Uninterrupted series of steps between floors or between a floor and a landing.

Flood plain
Geographic area designated by the Army Corps of Engineers as being potentially subject to flooding at some time in the future.

Floor joists
Horizontal framing members, usually 2x8's or 2x10's, used to create the structural framework of a floor.

Flue
Terra cotta or metal lining for a chimney or furnace vent.

Fluting
Vertical decorative grooves in a column typically used at fireplaces or entry doors.

Footing (Or Footers)
Structural component at the base of the foundation that transfers the loads of the building to the soil below. Footings (or footers) are usually constructed of concrete poured directly on stable, bearing soils.

Forced air system
System of plenums and ductwork where fans move conditioned air through a building.

Forms
Wood, plastic or metal assembled to support wet concrete before it cures.

Foundation
Combination of components below grade, including footings, basement walls, crawl space walls, columns, piers, pilings, etc., that supports the structure.

Framing
Term applied to the process and materials used to create the rough structure of the building.

French drain
Trench filled with gravel with some form of drain pipes installed at the bottom to collect surface water away from a building.

Furring
Wood strips applied to provide either an air space or to provide a nailing material for the installation of sidings and finishes over concrete, block, or foam materials.

G

Gable
Vertical, triangular-shaped area of wall that occurs where the ridge of a roof meets the end of the structure.

Gable roof
Triangular-shaped roof that results when two sloping roof planes meet along a horizontal edge.

Galvanized
Metal coated with rust-resistant zinc.

Glossary of Construction Terms

Gambrel roof
Ridged roof with dual slopes on each side of the ridge, the lower slope being of a higher pitch.

Glazing
Term used to describe various types and combinations of glass used in a window, door or sky-light.

Glue-lam
Short for "glue-laminated," describes structural components, most often beams, made up of pieces of dimension lumber glued together.

Grout
Mortar-like material, usually colored, used to fill space between floor and wall tiles.

Gypsum
White material used in the production of plaster, joint compounds and drywall which is sometimes referred to as gypsum board.

H

Header
Structural component that carries loads across an opening, typically constructed of standard lumber, laminated wood products or steel.

Hearth
Horizontal, non-flammable finish surface installed at the front of the fireplace below the firebox opening.

Heat pump
Device that utilizes a compressor system to heat and cool a building.

Hip roof
Roof shape that results from triangular roof surfaces that slope upward, away from the eaves.

Hollow-core door
Door used most often at interior locations constructed with a relatively thin layer of veneer on each face and a lightly reinforced hollow core.

Hose bib
Exterior water faucet.

House wrap
Fabric like materials that are wrapped around the exterior sheathing of a building to eliminate air infiltration while still allowing moisture to escape from the wall cavity, can significantly reduce energy costs.

Hurricane clips
Various types of metal anchors and connectors that are used to securely connect structural components in a building to increase resistance to damage from storms and wind.

Hydrostatic Pressure
Moisture in the soil that builds up, creating pressure against foundation walls.

Glossary of Construction Terms

I

Infiltration
Movement or leaking of air through the exterior shell of a building, often measured in "air changes" which represent the complete replacement of interior, conditioned air with air from outside the structure.

Insulating sheathing
Various types of exterior sheathing materials that are designed to reduce energy loss.

J

Jack stud
Stud at each side of an opening that is cut short to support the header above.

Jamb
Finish material applied around the inside of a door or window opening.

Joist
Horizontal framing members that support a floor or ceiling joists, headers and beams.

K

Knee wall
Low wall in an attic or half-story space.

L

Laminated veneer lumber
Sometimes called a "micro-lam", structural components, usually used as beams or headers, made up of thin veneer layers much the same as plywood.

Lap siding
Exterior siding applied horizontally and "lapped" over the board below such as clapboard siding.

Lath
Material installed as a backing material for plaster, stucco and sometimes tile installation, lath is usually a metal mesh, but sometimes rough wood strips or gypsum board.

Lintel
Used interchangeably with the term "header," a lintel is a horizontal component that carries loads from above across an opening, such as a steel angle in brick work.

Live load
Engineering term that describes changeable loads in a structure, usually calculated on a square foot basis, such as loads from people, snow, or winds.

Low-E glazing
Various types and combinations of glazing that utilize glass, reflective films, suspended films and gas injected in the space between the glass to reduce energy loss.

Glossary of Construction Terms

M

Mansard roof
Roof shape with two slopes on each side, the upper slope being a very flat pitch, and the lower slope, which often covers the side wall of the upper floor area, being a very steep pitch.

Mantel
Shelf assembly, usually with a crown mold below it, that is constructed above a door, window, or most commonly, a fireplace opening.

Marine plywood
Plywood panels constructed with special waterproof adhesives to allow material to stand up to extremely wet applications.

Masonry
Any construction that involves the use of stone, brick or block materials such as exterior veneer, foundations, or fireplaces.

Mechanicals
Term used to describe the trades or work involved in the installation of plumbing, electrical, and HVAC systems.

Metal door
Refers to a door constructed with a thin metal skin, usually embossed with decorative panels, over a core of insulating foam.

Metal lath
Metal mesh material that is attached to walls, floors and ceilings as base for plaster, mortar for stone work or thinset for tile and marble installation.

Mini Splits
Mini-split HVAC systems are energy-efficient, ductless heating and cooling units that consist of an outdoor compressor and one or more indoor air-handling units, providing zoned climate control.

Miter joints
Joints in lumber or moldings where diagonals are cut to fit the pieces around an angle such as at the corners of windows and doors.

Modular construction
The construction of a building using sections that are built in a factory and then assembled together in the field to complete the structure. Modules usually include finished interior and exterior components as well as mechanicals that are spliced where modules meet.

Mortar
Various materials that are used to bond masonry materials together such as brick and stone, normally a mixture of cement, sand and water.

Mortise
Rectangular hole cut into wood that receives a tenon from another piece to make a connection, used in furniture and post and beam framing.

Mullions
Vertical strips that separate panes of glass in a door or window, also used to describe removable grills or grids to create the appearance of separate panes.

Glossary of Construction Terms

N

Newel post
Post that supports a hand rail at the landing or starting step of a staircase.

Nominal dimensions
Used to describe various sizes of lumber typically used in construction, although actual dimensions are different, i.e. a 2x4 is actually 1 1/2" x 3 1/2".

Nosing
Projecting edge that trims a step.

O

Open riser
Stair construction that uses no riser between treads for an open appearance.

Open soffit
Exterior soffit construction where no finish material is installed to cover the overhang area, leaving the tails of the rafters exposed.

Open stringer
Staircase construction where stair treads extend with a nosing over the decorative stringer, balusters are then installed directly into the treads.

Open valley
Valley construction at the roof where shingles are cut back at each side of the valley to expose the metal flashing material.

Oriented Strand Board
Waferboard type panel that uses longer wafers or strands, that are oriented to the length of the panel, creating a directional panel that offers more strength than conventional waferboard.

P

Panel clips
Small metal clips installed at the edges of roof sheathing panels between roof trusses to eliminate misalignment of the edges and provide an expansion space.

Panelized construction
Building construction system that utilizes panels, or wall sections, that are assembled in a factory for quicker, more accurate assembly in the field.

Panels
Term used to describe materials manufactured in 4x8 and 4x9 sizes such as plywood, waferboard, oriented strand board and particle board.

Particle board
Panel material constructed from fine wood particles, like sawdust, and glue, typically used as a structural backing material for laminate cabinets and countertops.

Glossary of Construction Terms

Passive solar heating
Building design that maximizes heat absorption from the sun without active or powered systems.

Pediment
Ornamental triangular trim assembly or gable typically used above doors and windows and as decorative elements at the front of buildings.

Pier
Masonry or concrete column used to support a floor or porch.

Pilaster
Rectangular column, most often structural, that projects slightly from a wall.

Piling
Vertical structural component buried below a building as foundational support, usually pressure treated wood posts, steel columns or concrete.

Pitch
Slope of a roof, usually described as a ratio between rise and run.

Plaster
Mixture of lime or cement with sand and water that is applied in a wet paste and then dries hard as a finish for walls and ceilings.

Plat
Parcel of land, or a drawing showing dimensions and details of a parcel or group of parcels.

Plate
Horizontal framing members at the top and bottom of a wall. Plate height is often used to refer to the ceiling height of a room.

Platform framing
Most popular system of frame construction, first floor platform is constructed, then walls are built on this, then second floor platform followed by second floor walls, differs from balloon framing.

Plinth
Square block used as a trim at the base of a column or a casing.

Plywood
Structural panel material constructed of thin layers, or veneers, of wood glued together, typically with alternating grain direction between layers.

Porch
Covered area attached to a building, open to the outside on at lease one side.

Porte Cochere
Exterior area covered by roof that allows vehicles to drive through or park under, allows people to enter or exit vehicles protected from the rain.

Post-tension concrete
Concrete slab construction used in areas with extreme expansive soils, involves the installation of metal cables at opposite directions in the slab which are then put in tension to eliminate cracking and separation due to soil movement.

Glossary of Construction Terms

Pre-cast concrete
Building construction that uses concrete components for walls, floor and roof structure that are pre-cast in sections in a factory.

Preengineered trusses
Structural components assembled in a factory used for floor and roof construction that utilize lumber or steel along with bracing and steel connector plates.

Preliminary drawings
Architectural drawings used for the purpose of establishing the general design of a building before detailed, or working drawings are finalized, usually used to determine preliminary cost estimates and secure owners approval for final design.

Pressure treated wood
Lumber and plywood that is treated with a chemical preservative for exterior or extreme moisture conditions, most commonly used in residential construction for exterior decks and sill plates at grade.

Protection board
Various types of sheet materials used around a foundation to protect waterproofing membranes from damage, often also provide additional insulation to the foundation.

PVC
Common plastic material (poly-vinyl-chloride) used for drain pipes such as footer drains and waste lines.

Q

Quarry Tile
Machine-made, unglazed tile often used for floors.

Quoin
Decorative square or rectangular-shaped blocks that project slightly at the corners of a building, commonly made of stone, brick, or stucco.

R

R-value
Measure of the resistance of a material to the passage of energy - the higher the R-value, the greater the insulating capability of the material.

Rafters
Structural components that create the shape of a roof, typically cut and assembled piece-by piece on site.

Raised Slab
Flat concrete foundation elevated with concrete blocks or poured walls and filled with compacted dirt before pouring the slab.

Rake
Edge of the roof that runs along the slope.

Glossary of Construction Terms

Rebar
Short for "reinforcing bar." Steel rod used to strengthen concrete and support connections between slabs and other parts of the structure.

Reglet
Slit cut into masonry material, such as a chimney, to allow the installation of flashing.

Ridge
Horizontal line created at the juncture of two sloping roof planes.

Ridge board
Framing member running along the ridge of the roof. Rafters are nailed to this component.

Ridge cap
Shingles installed as finish course at the ridge.

Ridge vent
Vent system installed along the ridge of the roof to provide ventilation for the roof area.

Rise
Vertical distance measured from the base of a stairway to the top, from tread to tread, or from the eave of a roof to the ridge.

Riser
Vertical finish surface of a stair between two treads.

Roof window
Similar to a skylight, but with an opening sash.

Rough in
Preliminary stage of installation of plumbing, HVAC, electrical wiring, etc. prior to the application of finish surfaces and materials.

Rough Opening
Opening that must be framed in a wall to allow for the installation and shimming of a door, window or other components.

Run
Horizontal distance covered by a stair or roof.

S

Sash
Framework that holds the panes of glass in a window, which moves in a window that opens.

Scale
Mathematical relationship between one thing and another, such between the architectural drawings and the actual structure itself.

Scissor truss
Roof truss that creates a cathedral ceiling with an interior slope.

Sconce
Wall-mounted light fixture.

Glossary of Construction Terms

Section drawing
Architectural drawing that provides a view of the structure or a component as a vertical slice.

SEER rating
"Seasonal energy efficiency ratio" used to rate the efficiency of cooling equipment.

Shakes
Hand-split wood shingles of varying thickness with an irregular surface.

Sheathing
Various building materials applied to floors, walls, and roofs that create the surface for application of finish materials.

Shed roof
Roof shape with only a single slope, usually attached to the side of a structure.

Sheetrock
A brand of drywall manufactured by U.S. Gypsum, commonly used to describe the material.

Shim
Slim, beveled piece of wood used to fill small spaces in framing and trim, such as around windows and doors.

Shingles
Thin, usually rectangular pieces of material, such as wood, slate or asphalt roofing, overlapped to create a weatherproof layer over a roof or a side wall.

Shiplap
Shape milled into the edge of material, such as wood siding, that allows an edge to overlap another.

Shoe
See "base shoe".

Sill
Horizontal member at the base of windows or the lowest member of the framework of a wall, sometimes called the mudsill.

Sill plate
Piece of lumber applied over the top edge of a foundation used to secure floor framing above.

Single-hung Window
Window that resembles a double-hung, but only the lower sash is operable.

Sleeper
Wood member resting on a concrete slab, used to support and raise a finished floor.

Soffit
Underside of an overhang at the eaves of a roof or the ceiling bulkhead constructed above cabinets or vanity areas.

Soil bearing capacity
Measurement of the ability of a soil to support structural loads from a structure.

Glossary of Construction Terms

Soil pipe
System of pipes, usually PVC, used to carry water and sewage from the fixtures to the sewer or septic.

Soil stack
Main vertical plumbing pipe that collects drainage and waste materials from sinks, toilets, tubs and showers.

Sound attenuation blanket
Fiberglas insulation type material used to deaden the transfer of sound through areas of a building.

Span
Horizontal distance between bearing points supporting rafters, trusses and joists.

Splash block
Flat material, usually concrete or wood, placed on grade below a downspout to direct water away from the building.

Square
Term used to describe the quantity of roofing or siding material needed to cover 100 square feet.

Stakeout
Act of measuring and driving stakes in the ground to indicate the location of a building, driveway, septic system or other improvement prior to excavation and construction.

Steel door
Another term used to describe metal door.

Stile
Vertical framing members of a paneled door.

Stool
Interior trim sometimes installed at the sill of a window that creates a narrow shelf.

Stringer
Boards at the side of stairs that slope up the wall at an angle.

Stucco
Plaster, made with portland cement, sand and water that is sometimes used as an exterior finish, synthetic stucco, also known as EIFS, is more commonly used in residential and commercial construction today.

Stud
Vertical framing components of a wall, usually a 2 x 4 spaced 16 inches on center.

Subfloor
First layer of sheathing applied over the joists in a double-layer floor construction.

Sturdi-floor
American Plywood Association designation for a single-layer, glued floor system.

Sump pump
Pump installed below grade, usually in a basement, to pump ground water up and away from a building.

Suspended ceiling
See "dropped ceiling"

T

Tankless Water Heater
Tankless water heaters, also known as on-demand water heaters, heat water directly without the use of a storage tank, providing a continuous supply of hot water while saving energy by heating water only as needed.

Terra cotta
Reddish-brown, fired clay often used for flowerpots, floor tiles, and ornaments.

Terrace
Paved outdoor area, sometimes raised.

Thinset
Mortar-like setting material used for the installation of ceramic tile and marble.

Toenail
Nail driven at an angle to the framing member.

Tongue and groove
Shape milled into the edge of board that allows for an overlapping connection, as in T&G flooring.

Topographic survey
Survey that measures the relative elevations or grades on a site, typically based on the relationship to mean sea level.

Transom
Window installed above other windows or doors.

Trap
U-shaped bend in a drain or waste line that holds a small amount of water to prevent sewer gases from entering the house.

Tray (Trey) Ceiling
Flat ceiling with the center portion raised and the vertical areas surrounding usually sloped.

Tread
Horizontal part of a stair upon which you step.

Treated wood
See "pressure-treated wood."

Trim
Decorative molding, the act of installing moldings and finish materials.

Glossary of Construction Terms

Truss
Engineered structural component, assembled from wood members, metal connectors, designed to carry structural loads such as in a roof or a floor system.

U

Underlayment
A layer of panel material, such as plywood, installed just below the finish floor.

Utilities
Describes gas, electric, telephone and other such services brought to the building.

V

Valley
Internal angle formed by two sloping planes of a roof.

Vapor barrier
Paper or plastic material installed directly behind the interior wall finish used to prevent moisture from moving through a wall.

Vaulted Ceiling
Ceiling that rises above the wall height with one or more slopes or angles.

Veneer
Thin sheets of wood, such as the layers in a piece of plywood.

Ventilation
Movement of air through roof cavities important to controlling moisture, elimination of stale air from inside the building.

Veranda
Long covered porch.

Vestibule
Entry foyer.

W

Waferboard
Structural panels manufactured using chips or wafers of wood glued together and sealed, used primarily for floor, wall and roof sheathing.

Wainscot
Wood paneling, usually on the lower part of an interior wall.

Wall tie
Small corrugated metal strap bent and nailed in place to connect brick and stone fascia to a side wall.

Glossary of Construction Terms

Wallboard
Term usually used to describe drywall.

Waste pipes
See "soil pipes."

Weep hole
Small drain holes installed at the base of brick veneer walls to allow moisture to escape.

Wind load
Measurement calculated by engineers to determine the structural design necessary to stand up to the force of severe weather gales.

Wire mesh
Metal wire manufactured in a grid work, usually 6" x 6", installed in a concrete slab to minimize the separation of concrete due to cracking and settling.

Wolmanized wood
Brand name of pressure-treated wood.

Wood Floor System
Floor system constructed of wood framing including floor joists and floor sheathing typically suspended over a crawl space, basement or other area of the structure.

Working drawings
Final version of the architectural drawings approved and used for the actual construction.

Z

Zoned heating system
System that separates the building into areas, or zones, to allow for separate control of levels of heating and cooling to maximize comfort and energy efficiency.