

# Instructional Terminology

## CONSTRUCTION TECHNOLOGIES 46.0415.00



This Instructional Terminology is aligned to both the Program Blueprint for Instruction and Assessment and the Instructional Framework. It corresponds with the technical standards adopted on October 9, 2019. Use of content-specific terminology is provided to help identify consistent definitions.

## 1, 2, 3

**15# Building Paper** - A type of asphalt-saturated organic roofing felt that is used as an underlayment for roofs.

**3-Way Switch** - A switch that has (2) brass, (1) black, and (1) green set of screws; two switches that control one light from two different locations

## A

**Access** - Routes in and out of an area or building; ingress or egress

**Acrylonitrile Butadiene Styrene (ABS) piping** - A black pipe used to install DWV Systems

**Adapter:** A connector used to join two different parts, such as pipes made from different materials or with varying thread sizes

**Admixture:** A substance added to concrete before or during mixing, aside from water, aggregates, cementitious materials, and fiber reinforcement, to modify its properties

**Adobe:** Bricks made from molded clay that has been dried in the sun

**Aggregate:** An essential component of concrete, combined with water and cement, providing strength, thermal and elastic properties, and helping to reduce cracking and shrinkage

**Air Return:** A network of ducts in an air conditioning system that recycles air back to the air handler for reconditioning

**Align** - To arrange in a straight line; adjust according to a line

**Alternating Current (AC)** - Flow of electricity that constantly changes direction between positive and negative sides

**Amendment** - A change or addition to a legal or statutory document

**American Society for Testing and Materials (ASTM):** An organization responsible for developing and publishing international standards for a wide range of materials, products, systems, and services

**Ampacity** - The current, in amperes, that a conductor can carry continuously under the conditions of use without exceeding its temperature rating

**Ampere** - The unit of measure for electric current; measures the number of electrically charged particles that flow past a given point on a circuit (per second)

**Anchor Bolts (J-Bolts):** Bolts embedded in concrete foundations that secure sills in place

**Anchor Straps:** Straps set into a concrete foundation to secure sills in place

**Appliance:** A device, usually electrical, used in homes for various tasks, such as stoves or washing machines

**Apron:** The section of a driveway located between the sidewalk and the curb

**Arc Fault Circuit Interrupt (AFCI)** - A device intended to protect from the effects of arc faults by recognizing characteristics unique to arcing and by functioning to deenergize the circuit when an arc fault is detected

**Architect's Scale** - A specialized ruler used to make or measure from a reduced scale drawing and is marked in a range of calibrated scales measured in fractions of an inch; characterized by a triangular cross-section and different measurement scales on each side and each end

**Architectural Drawings - "A-1, A-2..."** - Include the layout of the building and its use of space

**Asphalt shingles** - Affordable and widely used material that is typically a thin shingle nailed to a roof in overlapping rows

**Assemble** – To fit together the separate component parts of an object

**Attach** - To connect, join, or fasten

**Auger Drill Bit** - A bit with a lead screw that pulls the bit into the hole

## **B**

**Back fill** - The process of backfilling against a form, retaining wall, bulkhead, etc. Normally done to provide support for the form or retaining wall. Toward the end of a project, the backfilling is done to bring the soil up to final grade

**Backing (Blocking):** Non-structural support, typically double-framed, used for mounting drywall, cabinets, handrails, and similar applications

**Balloon Framing:** A construction technique using long, straight studs that extend from the foundation to the roof

**Ball-Peen Hammer** - Used for bending and forming metal

**Bandwidth** - The amount of data that can be sent on a given cable, as measured in megahertz (MHz) and gigahertz (GHz)

**Bathroom Branch Circuits** - A type of branch circuit that supplies electrical power to a bathroom

**Bay:** The space between two parallel framing members, such as trusses

**Beam:** A horizontal structural element that spans between posts, columns, or walls

**Bearing Wall:** A wall that supports a vertical load in addition to its own weight

**Belt Sander** - A sander that uses an abrasive belt driven by a motor

**Benchmark** - A mark on a permanent object fixed to the ground from which grade levels and elevations are taken for construction of a building

**Bevel** - An angle of a line that meets another at any angle but 90 degrees

**Bird Block:** An attic vent installed between the tails of trusses

**Bird's Mouth Cuts** - A notch in a roof rafter that allows the rafter to sit and be nailed securely to the top plate of the wall

**Blade Guard** - A device, either fixed or moveable that protects the operator from a moving blade

**Blocking** - A small piece of wood attached to a structural member that provides a surface to attach (nail or screw) other materials to

**Blue Prints** - A type of copying method often used for architectural drawings. Usually used to describe the drawing of a structure which is prepared by an architect or designer for the purpose of design and planning, estimating, securing permits and actual construction

**Blueprint** - A reproduction of a technical drawing used especially for copying architectural and mechanical drawings. Usually used to describe the drawing of a structure which is prepared by an architect or designer for the purpose of design and planning, estimating, securing permits and actual construction.

**Board:** Lumber that is less than 2 inches thick

**Board Foot:** A unit of measure equal to a board that is 1 foot square and 1 inch thick

**Bottom Plate** - The bottom board in a wall, usually a 2x4 or 2x6, depending on the wall thickness. On a concrete foundation the bottom plate will be pressure treated lumber. The bottom plate will be regular lumber on a wood floor system

**Box Header:** A horizontal structural element above an opening, characterized by a rectangular cross-section with a hollow center

**Brace** - Bracing can be temporarily run diagonally across studs and plates to hold a wall square during framing. Permanent braces are not usually needed if rated panel wall sheathing is used

**Branch** - Piping of a DWV System that connects to main portions of a system

**Branch Circuit** - A circuit conductor between the final overcurrent device (fuse or circuit breaker) and the power and/or lighting outlets

**Branch-Circuit Rating** - The rating based on the size of the fuse or circuit breaker protecting the circuit. The standard ratings for receptacle and lighting circuits are 15, 20, 30, 40 and 50 amps

**Bricklayer's Hammer** - A hammer with a square face and a chisel-like cutting edge opposite the face for cutting bricks

**Builder's level** - An optical device used to determine grade levels for laying out buildings on a site

**Building Code:** A set of construction regulations and standards, developed by organizations through experience and experimentation, and enforced by local governments

**Building Collapse** - The unexpected and complete or partial failure of a structure, posing a serious risk to human life and safety

**Building Construction** - Includes all Residential and Commercial new construction and remodeling

**Building Drain** - The lowest horizontal portion of a drainage system that receives discharge from waste stacks and horizontal branches

**Building Sewer** - The main pipe conveying sewage and wastewater from a DWV system to a point of disposal or termination

**Bull Float:** A tool designed for smoothing and spreading concrete, as well as correcting surface imperfections after the initial leveling with a screed

**Burnishing** - Polishing the copper surface that will contact another copper surface

## **C**

**Cable Ripper** - A tool used to strip/remove the outer Romex covering (sheathing)

**CAD** - The use of computer programs and systems to design detailed two- or three-dimensional models of physical objects, such as mechanical parts, buildings, and modules

**Camber:** A slight upward curve in a beam or truss designed to prevent sagging under normal loads

**Cant Strip:** A triangular strip placed beneath the edges of roofing along walls on flat roofs

**Cantilevered:** Extending horizontally beyond its supporting structure

**Cartridge Fuse** - A fuse enclosed in an insulating tube that confines the arc when the fuse blows; this fuse may be either a ferrule or a blade type

**Cased Opening:** An interior opening, finished with jamb and trim, which does not include a door

**Cast iron piping** - Often used in residential DWV Systems for vertical installations to allow a quieter draining process in walls

**Category (Cat)** - The rating, based on the bandwidth performance, of UTP cable

**Caught-in/caught-between hazards** - injuries that happen when a person is squeezed, crushed, pinched, or compressed between two objects or parts of an object

**Caulking:** A flexible material used to seal joints and gaps

**Ceiling Joist:** One of a series of parallel framing members, not part of a truss, which supports ceiling loads and is itself supported by larger beams or bearing walls

**Cement:** A binding substance used in construction that sets, hardens, and adheres to other materials to hold them together

**Chalk Line** - A tool for making long, straight lines using colored chalk to mark the lines

**Chase:** A framed, enclosed space or channel within a wall or ceiling, typically used for running ductwork or plumbing

**Chuck** - A device for holding a bit

**Chuck Key** - A tool designed specifically to tighten or loosen the jaws of a chuck

**Circuit** - All wiring controlled by one fuse or circuit breaker; An arrangement consisting of a power source, conductors, and a load; A complete path of electrical parts, components for the supply and return of electricity

**Circuit Board** - A flat, rigid board that contains an electric circuit, typically in the form of a printed circuit

**Circuit Breaker** - Protective device for each circuit which automatically cuts off power from the main breaker in the event of an overload or short. Only a regulated amount of current can pass through the breaker before it will “trip”

**Civil Drawings-“C-1, C-2...”** - Site drawings that indicate the location of the structure and elevation grade

**Claw Hammer** - A hammer that has a curved claw, generally weighting less than 22 ounces, designed to drive or pull 6d nails or less

**Cleanout** - A required access at the base of every waste stack and at the transition from a building drain and building sewer

**Coaxial cable** - A cable in which the center signal carrying conductor is centered within an outer shield and separated from the conductor by dielectric (insulator polarized by an applied electric field). Used for residential video signal wiring and for some high-speed Internet signals.

**Column:** A vertical structural member that supports loads through compression

**Commercial Construction** - Construction of stores and offices

**Common Rafters** - A rafter which runs square with the plate and extends to the ridge

**Compactable** - Capable of being compacted or closely and firmly packed together, i.e., gravel

**Competent Person** - A person who has the training or experience to be able to identify hazards or dangerous situations

**Compressor (Air):** A device that provides compressed air to power tools

**Compressor (HVAC):** A mechanical device that pressurizes gas to convert it into a liquid, enabling heat transfer in heat pumps and air conditioners

**Concrete** - A composite material made from cement, sand, gravel, and water

**Condenser** - The part of an air conditioning system that houses the compressor and a large fan, usually found outside, responsible for transferring heat to and from the cooling medium, such as Freon

**Conductor** - A material that allows electricity to flow through it, ex. copper, aluminum, and silver

**Construction Professions** - The areas of construction that generally require college degrees like engineers, architects, and management (does not always require a degree)

**Construction Trades** - The variety of areas of skilled workers required to build construction project

**Control Joint** - Straight, tooled grooves made in concrete flatwork to guide where the concrete will crack

**Copper Pipe** - Copper metal tubing in rigid and flexible pipe used for hot and cold water distribution

**Copper Pipe Cutter** - Used to cut copper tubing quickly and accurately by rotating the tool around the tube several times; also known as a copper tube cutter

**Corded** - Any tool that must be plugged in

**Cordless** - Any tool that operates using a battery

**Core Drill** - A drill with a diamond-tipped bit designed for cutting large holes in concrete

**Corner Bead** - A strip of sheet metal or plastic placed on the outside corners of drywall before applying drywall compound, available in square or rounded (bullnose) profiles

**Corner Brace** - Braces that are normally put on corners of the houses which can either be a solid sheet of plywood, let-in braces, or some type of metal straps

**Corner Post** - Built to support corners, exterior paneling, and wallboard

**Corner Stake** - A wood stake used to give reference to an elevation or to place a tack for pinpoint location

**Counter Flashing (also known as “Z” Flashing)** - A type of galvanized sheet metal flashing installed at the roofline to cover shingle flashing (“L” flashing) and prevent moisture penetration

**Course (Masonry)** - A single row of bricks or blocks in a wall

**Course (Roofing)** - A single row of shingles or roll roofing extending the length of the roof

**Cricket** - An additional roof structure built on top of the primary roof to increase its slope, designed to direct water toward a drainage point on a flat roof

**Cripple Studs** - A vertical member normally above a header or below a window seal that is used to create an opening; aka On-center studs that must be cut to allow for an opening are called cripple studs

**Crosscut** - Cutting wood against the grain

**Crosscut Saw (a.k.a. hand saw)** - A saw with teeth shaped like knives to cut across the wood fibers and grain of the wood

**Crowning** - Placing any acceptable bow in your framing lumber upward in the layout of a wall

**Cut Out Bottom Plate** - When the bottom plate is cut halfway through at the inside edges of the trimmer studs; this holds the wall secure while it is framed, but allows for an easy cut to remove it when the door is ready to be installed

# **D**

**Darby Float:** A concrete finishing tool that resembles a hand float but has an extended reach, making it easier to cover larger areas. These floats are available in wood, composite, or magnesium and come in various blade styles, lengths, and handle designs

**Deadbolt** - A lock with a tongue-like bolt that must be manually retracted to open or close the door

**Deck, Decked** - The process of installing plywood or OSB sheathing on floor joists, rafters, or trusses

**Deck Screws** - Screws designed to resist corrosion and used on exterior wood structures

**Deconstruction** - The act of carefully taking down a structure to preserve valuable elements for re-use

**Delamination** - The separation of layers in a panel due to adhesive failure, often caused by excessive moisture

**Demolition** - The act of tearing down a building or structure

**Demolition Hammer** - A power chisel used for breaking up hard materials

**Denominator** - The bottom number in a fraction which designates the number of parts in the whole

**Design** - A plan for the construction of an object or a system (as in architectural blueprints, engineering drawing) while “to design” refers to making this plan

**Design Technology** - The study or application of the production of man-made objects

**Detail Drawings** - Detailed drawings that include unusual components of a construction project

**Details** - A scaled plan, elevation or section drawn to a larger scale to show special features

**Device** - Any piece of equipment made for a particular purpose, especially a mechanical or electrical one

**Device Box** - A box that is designed for the mounting of a receptacle or a lighting fixture

**Diaphragm** - A structural component that transfers lateral loads to vertical resisting elements like shear walls or frames, usually horizontal but sometimes sloped, as in a gable roof

**Difference** - The answer to a subtraction problem

**Dimension lines** - A thin, solid line that indicates the extent and direction of a dimension

**Dimensions** - A numerical value that defines the size, shape, position, surface texture, or geometric characteristic of an object or feature

**Direct Current (DC)** - A flow of electricity from a positively charged terminal to a negatively charged terminal

**Disconnect** - A large electrical switch, often located near the water heater or AC condenser unit, used to turn power on or off

**Doorjamb** - Consists of two vertical pieces (side jambs) and a horizontal piece (head jamb). For a hinged door, these jambs include the door stop molding

**Doorstops** - The piece of molding that runs vertically on the jamb that keeps the door from opening the opposite way

**Double-Hung Window** - A window with two sashes that slide vertically, allowing both to move up and down

**Double Insulated Tool** - A handheld tool encased in a non-metallic shell featuring dual layers of electrical insulation to safeguard against electric shock

**Double Top Plates** - A second plate attached above the top plate of a wall partition that extends over intersecting walls to secure the two walls together

**Drafting** - The systematic representation and dimensional specifications of mechanical and architectural structures

**Drain-Waste-Vent System (DWV)** - The section of a plumbing system that carries water and sewer gases out of a home

**Drill** - A tool engineered to create holes in diverse materials utilizing a range of bits

**Drill Bit** - A cutting tool used for drilling holes

**Drip Edge** - A narrow strip of non-corrosive, non-staining, finishing material installed along the eaves and rakes to allow water run-off and drip clear of underlying construction

**Dry-In** - The process of installing roofing underlayment (such as 15# or 30# paper or Feltex) on the roof and stucco paper on the walls in preparation for sheet rocking

**Drywall (also known as Gypsum Wallboard or Sheetrock)** - A construction material made from gypsum plaster sandwiched between thin layers of paper. It typically comes in 1/2" thick panels, available in 4' x 8' or 4' x 12' sizes, and is attached to framing using nails or screws, with seams covered by tape and joint compound. Specialized types include moisture-resistant panels for wet areas and soffits, as well as fire-rated 5/8" Type X boards for separating living spaces from areas prone to fire hazards, such as garage

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**Drywall Gun** - Used to install drywall screws to a specific depth

**Drywall Hammer** - Specialty tool used for putting up or taking down drywall. Has a serrated front face for connecting and driving nails

**Drywall Square** - A 48" tall metal T-shaped device with measurements marked along all sides used to draw straight square lines

**Ducts** - Air conditioning ducts are round or rectangular metal or flexible pipes that distribute heated or cooled air from the air handler to various rooms in a building

**Duplex Receptacle** - A type of electrical outlet that is commonly used in residential and commercial settings. It has two outlets, which are used to power electrical devices simultaneously

# E

**Eave** - The projecting overhang at the lower edge of a roof

**Edge nailing** - Nailing the outside perimeter of the subfloor or roof

**Edison-base Plug Fuse** - A fuse type that uses the same standard screw base as an ordinary light bulb; different fuse sizes are interchangeable with each other; this fuse type may only be used as a replacement for an existing Edison-based plug fuse

**Effluent** - Wastewater that has been separated from solids, but may contain dissolved sewage solids

**Egress** - Building codes require that each bedroom have an egress window, typically at least 4' x 4' for a sliding window or 3' x 5' for a single or double-hung window, with the sill no more than 44 inches from the floor, to ensure a safe exit in case of emergency

**EIA/TIA 570-A** - The current standard for generic cabling system standards

**Elbow (ELL)** - A plumbing or electrical fitting (usually 45 or 90 degrees) that lets you change directions in runs of pipe or conduit

**Electrical Devices** - A piece of electrical equipment that is intended to carry but not use electrical energy; examples include switches, lamp holders, and receptacles

**Electrical Hazards** - A dangerous condition such that contact or equipment failure can result in. electric shock, arc-flash burn, thermal burn, or blast

**Electrical Panel** - Houses the circuit breakers or fuses, distributes power to various parts of your house

**Electrical Plans** - Engineered "E" Drawings outlining the electrical requirements

**Electrical Shock** - Any time a person comes into contact with an electrical energy source

**Electrical Trim** - Nearing the end of a construction project, the electrician installs essential components such as plugs, switches, plates, light fixtures, smoke detectors, and ventilation fans, and finalizes the electric panel to prepare the home for municipal inspection

**Electronic Industry Association (EIA)** - The other association that jointly develops installation standards for structured cabling systems in residential applications

**Elevation** - The height of an object above or below grade

**Elevation Drawings** - A scaled view looking directly at walls; Drawings that indicate the elevations or straight-on views

**Emergency Procedures** - A set of actions to take in a specific order in response to a situation that poses an immediate risk to life, health, property, or the environment. They are designed to minimize harm, mitigate risks, and maintain order during unexpected events or crises.

**Emery Cloth** - A type of abrasive that has emery glued to a cloth backing that is commonly used in metalworking to clean rough edges from a workpiece

**Engineer's Scale** - A ruler having a triangular cross-section and a marked range of calibrated scales on each side and each end, usually calibrated in tenths of an inch, i.e., 10 feet to an inch, 20 feet to an inch, 50 feet to an inch, etc.

**Entry** - A place of entrance, such as a door

**Evaporator Coil** - A key part of a cooling system, the evaporator coil absorbs heat from indoor air and is typically housed in the compressor unit

**Excavation** - Any man-made cut into the soil that results in a form made in the soil

**Expansion Joint** - A flexible, half-inch-thick material is placed in and around concrete slabs to allow for seasonal movement and is also used between a house and adjacent flatwork like driveways and sidewalks



**Expansive Soils** - In areas like Arizona, certain soils expand and contract with moisture changes, requiring specialized foundations, such as post-tensioned slabs, to mitigate potential damage

**Exploded View** - A drawing is a diagram, picture or technical drawing of an object which shows the relationship or order of assembly of various parts

**Extension lines** - Lines used to visually connect the ends of a dimension line to the relevant feature on the part of a drawing

**Exterior (outside) Wall** - A wall that has one of its surfaces on the outside and one on the inside

## **F**

**F-type connector** - A connector for two-wire coaxial cables, commonly used to link devices such as TVs, VCRs, DVDs, and projectors to antennas or set-top boxes

**Face nail** - Nailing of facing wood to a base and leaving the nail heads exposed

**Fall Protection (fall arrest, fall restraint)** - Fall prevention systems are designed to stop a fall before it occurs, while fall restraint systems prevent a person from reaching an edge or drop-off. Fall arrest systems are intended to halt a fall that has already started

**Fascia** - A piece of lumber, typically a 2x6, that is attached to the ends of rafters

**Fasteners** - Nails or screws that are used to connect (fasten) items together

**Faucet** - A device for regulating the flow of water from a water distribution system

**Feeder Line** - The circuit conductors (wiring) between the service equipment and the final branch-circuit overcurrent protection device (breaker); carries power from the main circuit breaker panel to the first electrical box, plug, or switch in the circuit

**Felt** - A material like tar paper or Feltex that is installed under roof shingles for additional protection

**Female** - A component, such as a nut or fitting, designed to receive a male part, characterized by internal threads

**Field Measure** - The process of taking actual measurements for items like cabinets, countertops, and stairs directly in the home rather than relying solely on blueprints

**Field nailing** - Nailing the inside area of the subfloor

**File** - A metalworking tool used to cut fine amounts of material from a workpiece

**Finger Joint** - A manufacturing technique where two shorter pieces of wood are interlocked end-to-end to create a longer piece, often used for jambs, casings, and moldings that will be painted rather than stained

**Fire extinguisher types (Class A, B, C, D, K)** – Fire extinguisher classifications based on what the end need is. Class A puts out ordinary combustible fires (wood, paper, plastic, etc.) Class B puts out flammable liquid fires (oil, gas, petroleum, etc.) Class C puts out electrical fires. Class D puts out combustible metal fires (magnesium, titanium, potassium, sodium, etc.)

**Fire-Resistive or Fire-Rated** - Materials that are non-combustible and can withstand typical fire temperatures for at least one hour, such as the 5/8-inch Type X drywall used in garages and party walls

**Fire Stop** - A barrier within a concealed space designed to prevent the spread of fire and smoke, ensuring the space is tightly sealed

**First aid** - Immediate medical care given right after an injury occurs, usually at the site of the incident

**Fish Tape** - A long, flexible strip of spring steel used to pull wires and cables through conduits or concealed spaces within walls, ceilings, or floors

**Fittings** - An item in a plumbing system that connects to piping or another fitting to achieve a desired offset or specific connection

**Fixture** - Any of several devices that supply water or sanitary disposal of liquid or solid wastes, i.e., tubs, showers, sinks, and toilets

**Fixture box** - A metal or plastic box mounted on the framing structure wired for electrical fixtures

**Flashing** - Materials like sheet metal are employed in roof and wall construction to protect buildings from water penetration

**Flatwork** - A term for concrete surfaces such as floors, driveways, basements, and sidewalks

**Flat Bar** - Smaller bar also designed for taking things apart and pulling nails

**Floating** - A stage in concrete finishing where the surface is smoothed, and excess water is brought to the surface using a hand or bull float

**Floor Joist** - A horizontal structural element that supports the weight of a floor and any load above it

**Floor Plan** - A scaled view of the various floors in a set of plans looking directly down from a horizontal cutting plane

**Fluorescent Lighting** - A type of lighting where a gas-filled glass tube with a phosphor coating glows when electricity ionizes the gas inside

**Flush** - To be even without any hang over or discrepancy

**Flux** - A chemical compound that facilitates soldering, brazing, and welding by removing oxidation from the metals to be joined

**Flux brush** - A small steel-handled brush used to spread flux

**Footer/Footing** - A thick, continuous concrete pad that supports the stem wall or posts before the foundation is built

**Forced Air Heating/Cooling** - A common HVAC system where air is conditioned in an air handler and distributed through ducts to various parts of a building

**Form** - A temporary structure used to shape and contain concrete until it sets and hardens

**Foundation** - The structural base of a building, including the footings, located below the first floor or ground level

**Fractions** - a numerical representation (as  $\frac{3}{4}$ ,  $\frac{5}{8}$ , or 3.234) indicating the quotient of two numbers

**Framing** - The construction of a structural frame involves the assembly of lumber or metal components, including studs, joists, rafters, and trusses, which form the essential support for a building

**Framer** - A carpenter who fabricates and installs the lumber or metal components and erects the frame, flooring system, interior walls, backing, trusses, rafters, decking, installs all beams, stairs, soffits, and all work related to the wood structure of the home in compliance with local codes and regulations

**Framing Hammer** - Heavier for driving large nails

**Framing Plans** - Drawings outlining how the structure is built including concrete and wood framing

**Framing Square** - A 16" x 24" L-shaped metal device that is used to mark square or straight lines

**Frieze Board** - A horizontal trim installed on the exterior of a home, positioned between the top of the siding and the soffit, just below the roofline

## **G**

**Gable End** - The end of a wall of a building on the side which is topped by a gable

**Gable-wall Plate** - The top plate of a wall beneath a gable; gable studs attach to the plate and extend to the rafter above

**Garage Door Buck** - A wood or metal frame installed in a partition to support the hardware for a garage door

**Gauge** - A measure of the thickness or size of materials like metal sheets, wires, or pipes

**General Purpose Branch Circuits or General Lighting Branch Circuits** - A lighting or receptacle branch circuit that supplies power to two or more lighting devices or receptacles wired to switches

**Gigahertz (GHz)** - The upper-frequency band on the ratings of a cabling system; "Giga" refers to "one billion" and "Hertz" is the number of cycles per second of the specific signal

**Girder Truss** - A large, primary truss engineered to support concentrated loads at specific points along its length

**Glazing** - The act of installing glass in a window and what the glass is called for a window

**Global Positioning System (GPS)** - A satellite-based radio navigation system that delivers positioning, navigation, and timing data to users

**Glulam (Glued Laminated Beam)** - A structural beam composed of wood laminations bonded together under pressure to form a standard thickness, resembling several 2x boards glued together. The beam must be installed with the TOP side facing upwards

**Grade** - Refers to the ground level at a specific point or the process of leveling the ground

**Grade Beam** - Interior beams in a foundation normally under interior walls; may or may not be weight-bearing

**Grain** - The pattern, direction, and quality of wood fibers

**Green Board (Pressure-Treated Lumber)** - Lumber treated with chemicals to resist decay and insect damage

**Green Plumbing** - Ways to reduce, reuse, and recycle water in plumbing

**Grid** - Decorative slats, or muntins, positioned between glass panels

**Grit** - The size of the sand particles on sandpaper

**Ground Fault Circuit Interrupt (GFCI) Circuit Breaker** - A device that detects minor imbalances in an electrical circuit resulting from current leakage to the ground. In the event of such an imbalance, the GFCI rapidly cuts off the electricity within 1/40th of a second. It is an extremely sensitive plug that interrupts all electric current. Commonly installed in bathrooms, kitchens, outdoor waterproof outlets, garage outlets, and other "wet areas," it features a small reset button on the main outlet

**Ground Wire** - A bare copper wire is used to conduct electricity back to the ground, serving as a safety mechanism

**Grounding Electrode** - A conducting object through which a direct connection to earth is established

**Gusset** - A flat plate used to strengthen the connection between intersecting wood members, often in wood trusses

## **H**

**Hacksaw** - A hand saw designed to cut through metal

**Hammer Drill** - A drill designed for drilling into stone or masonry

**Hand Tools** - A tool that is operated manually instead of being powered by a motor

**Hazard Communication/Reporting** - A series of procedures that employers and employees must adhere to, ensuring that workers are informed about and comprehend the dangers associated with chemicals in the workplace

**Header** - A structural component positioned horizontally across the top of an opening, such as a door or window

**Headers** - Run at a right angle to studs and sits on top of a Jack stud; must be strong enough to support the load above the opening

**Heat Pump** - A device that heats or cools a home by compressing and decompressing gas

**Heating, Ventilating, and Air Conditioning (HVAC)** - Systems designed to control the temperature and airflow within buildings, maintaining a comfortable indoor atmosphere

**Heavy/Highway Construction** - Construction requiring the use of large machinery for infrastructure-type projects contracted by the government

**Heel Cut** - A notch in the end of a rafter that allows it to sit flat on a wall and the top exterior wall plate

**Hip** - The external angle created where two sloping sides of a roof meet

**Hip Roof** - A roof that slopes upward from all four sides of a building

**Hole Saw** - Used for cutting circular holes with a drill

**Home Run (Electrical)** - The cable that runs from the main circuit breaker panel to the first electrical outlet or switch in a circuit

**Horizontal cabling** - The cables running from a service center that serves as the "hub" for the structured cabling systems to the work area outlets

**Hose Bib** - An outdoor water faucet, also known as a sill cock

**Hot Wire** - An electrical conductor that transmits power from the breaker panel to a switch or light fixture

**Housekeeping (5S)** - The "5S" management approach involves five key principles for maintaining an organized and efficient workplace: sorting, setting in order, shining, standardizing, and sustaining discipline

**Hub and Tack** - The process of a surveyor determining points by placing wood hubs. Once the hub is driven into the ground, a metal tack is placed on the top of the hub to give a pinpoint location of a point

**Hurricane Clip or Tie** - Metal connectors used to secure roof rafters or trusses to the top wall plate

**I-Beam** - A structural component shaped like an "I," used for floor joists and rafters, with flanges made of laminated veneer or dimensional lumber and a web made of plywood or OSB. The web may have holes for ducts and plumbing and can be produced up to 60 feet in length

**Illustration** - A drawing that clarifies or explains an object in detail

**Impact Driver** - A drill engineered for driving fasteners, particularly those that are long or thick and demand substantial torque

**Imperial Units of Measurement:** A measurement system that utilizes units such as feet, inches, pounds, and tons

**Improper fraction** - A fraction where the numerator is larger than the denominator

**Individual Branch Circuits** - A type of branch circuit that supplies electrical power to a single appliance such as a dryer, a range, a cooktop

**Industrial Construction** - The smallest segment within the construction industry, focusing on large-scale projects for profit-driven companies, including factories, power plants, and large hospitals.

**Insulation** - A material that resists heat flow, installed in walls, ceilings, or floors to reduce heat transmission

**Insulation Displacement Connections (IDC)** - A type of termination where the wire is "punched down" into a metal holder with a punch-down tool without stripping the wire

**Insulator** - A material that surrounds electrical wires to prevent the flow of electricity, supporting and separating conductors without allowing current to pass through

**Interior Corner Post** - Used to support partition walls coming off an exterior or another partition wall

**Interior Walls** - Divide the inside area of a structure into separate rooms; also referred to as "partitions"

**Interrupting Rating** - The highest level of current that an overcurrent protective device, like a circuit breaker or fuse, can safely stop under standardized test conditions

## **J**

**J Channel (Weep Screed)** - Metal trim used on stucco to improve edge finishing and allow for water drainage

**Jack** - The term given to the receptacle device that accepts an RJ-11 or RJ-45 plug

**Jack or Trimmer Studs** - Studs that support headers and that are attached to king studs

**Jambs** - The vertical side members that make up the sides of door or window frames

**Jig Saw** - a saw designed for making straight as well as curved cuts using a reciprocating blade

**Joint:** In construction, a joint refers to the gap or space between the surfaces of two connected elements, which are held together using nails, glue, cement, mortar, or other bonding techniques

**Joint Compound (Drywall Mud)** - A powder mixed with water, used to seal joints in gypsum wallboard

**Joist** - Wooden 2 X 8's, 10's, or 12's that run parallel to one another and support a floor or ceiling, and supported in turn by larger beams, girders, or bearing walls

**Joist Hanger** - A metal bracket shaped like a "U" that supports the end of a joist or truss, fastened with nails to another structural member

## **K**

**Key Notes:** A standardized method for labeling drawings to indicate materials, give instructions, or provide explanations

**Keyless Chuck** - A chuck that is tightened by hand A chuck that is tightened by hand

**Kilowatt (kW)** - A unit of power equal to 1,000 watts. Kilowatt-hours measure electrical energy usage

**King Stud** - A full-length stud, typically accompanied by a Jack or Trimmer Stud, is often situated adjacent to window and door openings

## **L**

**L Flashing** - L-shaped galvanized metal used to flash shingles

**Ladder Blocking** - Cross pieces used to connect building members, typically installed every 24 inches

**Laminated Shingles (Architectural or 3-Dimensional Shingles)** - Shingles with multiple layers or tabs for a textured, shake-like appearance

**Laminating** - The process of bonding multiple layers of material together

**Landing** - The flat area at each level of a staircase

**Lap** - Overlapping one piece of material over another, such as with shingles

**Latch** - A spring-loaded metal mechanism that secures a door without needing a key, unlike a deadbolt

**Lath** - Metal wire used as a base for stucco or plaster, attached to the building frame

**Latitude** - Angular distance from some specified circle or plane of reference: as an angular distance north or south from the earth's equator measured through 90 degrees

**Laundry Branch Circuits** - A type of branch circuit that supplies electrical power to a laundry room, supplying power to washing machines, dryers, and other laundry-related items such as a clothing-iron

**Layout** - How the parts of something are arranged or laid out, an arrangement or plan, especially the schematic arrangement of parts or areas

**Ledger** - A horizontal structural member attached to a wall to support joists or trusses

**Let-in Bracing** - A continuous diagonal board notched into the face of studs, top plate, and bottom plate at each corner of the building as a permanent component of the wall

**Level** - True horizontal alignment

**Level (Spirit Level)** - A tool for checking if a surface is horizontal or vertical, using a bubble in a liquid-filled vial

**Leveling rod** - A long rod marked off with numbered graduations that is used, along with a builder's/laser level or transit to sight differences in elevation

**Lifetime Earnings** - The amount of money a person generally earns between the years of 25 and 64 years of age

**Lifting procedures (proper lifting techniques)** - Using the body from a posed position to movement to lift heavier to heavy objects.

**Lighting Branch Circuit** - A circuit with only lighting outlets on it

**Lighting Fixtures** - Fixtures designed to produce artificial light such as a chandelier, pendant, branched fixture

**Lineman Pliers** - Hand Tool used to both hold & cut cables, wires, and small screws

**Load-Bearing Wall** - A wall that supports structural weight, usually featuring a double-top plate

**Loads/Stress** - The forces that are exerted upon a structure

**Lockout/Tagout (LOTO)**: A safety procedure designed to prevent the accidental release of hazardous energy from equipment or machinery while it is being maintained or repaired

**Long Nose (Needle Nose) Pliers** - Hand Tool used to hold, cut, or bend electrical wire

**Longitude** - The arc or portion of the earth's equator intersected between the meridian of a given place and the prime meridian and expressed either in degrees or in time

**Lookout (Outrigger)** - A wooden support extending from the wall to support the overhanging part of a rake roof

**Lot** - Small tracts of land broken up into smaller parcels

**Low Voltage Systems** - Infrastructure systems that provide risk management, security, communications, data storage, and entertainment that generally operate on 12 volts rather than 120 volts

**Low Voltage Systems or Structured Cabling Systems** - A residential Low Voltage System or Structured Cabling System may include an audio system, a monitoring system, and a data system

## **M**

**Male** - A component, such as a bolt, designed to fit into a corresponding part known as female, characterized by external threads

**Manifold** - A system for moving fluids or gases in a junction of pipes or channels, typically bringing one into many or many into one

**Manufactured Wood** - Wood products like glulam or microlam, and sheet goods such as OSB, MDF, particle board, or finger-jointed trim, created by bonding smaller wood pieces together

**Masonry** - Construction materials like stone, brick, concrete, hollow tile, and concrete blocks, bonded with mortar to form structural elements

**MDF (Medium Density Fiberboard)** - A type of engineered wood panel made from fine wood fibers and resin

**Mechanical** - "M" Drawings of both the HVAC and Plumbing layout

**Megahertz (MHz)** - The upper-frequency band on the ratings of a cabling system; "Mega" refers to "one million" and "Hertz" is the number of cycles per second of the specific signal

**Mending Plates (Fascia Gusset)** - Metal plates with teeth used to join two sections of fascia

**Metal Roof Panels:** Roofing made from aluminum or steel, typically offering a 50-year warranty. These panels are available in various styles, including flush panels, standing seam panels, or sheets designed to mimic shingles or tiles

**Metal Anchors** - A metal device for joining elements such as studs, joists, and rafters in wood-frame

**Meter** - The kilowatt-hour measurement device housed in a weather-proof enclosure

**Metric** - A system of measurement not like standard measurement used by the United States

**Microlam (Laminated Veneered Lumber [LVL])** - A structural wood beam made from bonded wood strands with adhesive, offering higher strength than solid lumber, typically available in 1 ½" thickness and depths of 9 ½", 11 ½", and 14"

**Millwork** - Finished wood products from millwork plants, including doors, windows, moldings, and interior trim

**Miter cut** - A wood joint formed with two pieces cut to be joined together forming a whole new angle such as two ends cut at a 45-degree angle and fastened together to form a 90-degree angle

**Mixed number** - A whole number plus a fraction

**Monument** - A permanent surveyor's benchmark

**Mortar** - A mixture of cement (or lime), sand, and water used for masonry work

**Mullion** - A vertical bar between panes of glass in a window

**Multi-Family** - Accommodations designed for multiple families to live in such as apartments or condominiums

**Multiuse Wire Brush** - A steel brush and burnishing tool to clean copper tubing before soldering

**Muntin** - A small bar that divides glass panes or openings in sash or doors

## **N**

**Nail Puller** - Designed for pulling nails that are difficult to remove with a hammer or bar

**Nailers** - Usually pneumatic tools used to nail with speed

**National Electrical Code (NEC)** - A document that establishes minimum safety rules for an electrician to follow when performing electrical installations published by the National Fire Protection Association (NFPA)

**Natural Finish** - A transparent coating that preserves the original color and grain of the wood

**Neutral Wire** - The white colored wire where electricity returns

**Nonbearing Wall** - A wall that supports only its own weight and no additional loads

**Nosing** - The projecting edge of a stair tread

**Numerator** - The top number in a fraction which designates the number of parts

## O

**O.C. (On Center)** - The distance between the centers of studs, rafters, joists, or trusses in a building

**On-center Studs** - Studs placed at 16" or 24" within the wall frame

**Ordinance** - A piece of legislation enacted by a municipal authority

**Oriented Strand Board (OSB)** - A wood panel made from 1"-2" wood chips and glue, often used as a plywood alternative, typically in 4' x 8' sheets

**Orthographic Drawings** - Drawings that include the top view or straight-on view - front, side, and back elevations

**OSHA (Occupational Safety and Health Administration)** - US Governmental Administration designed to support and ensure safety in all workspaces

**Outlet box** - A metal or plastic box mounted on the framing structure wired for electrical receptacles

**Outrigger (Lookout)** - A beam extending from a rafter or truss to form a roof overhang at the rake end

**Overcurrent Protection Device (OCPD)** - A fuse or circuit breaker used to protect an electrical circuit from an overload, a short circuit, or a ground fault

**Overhang** - The part of a roof that extends beyond the exterior wall, including the eave and soffit area

**Overhead Service** - Electrical service provided from a power pole and dropped (service drop) down to the residence; connected to the meter and panel by the power company

## P

**P-trap** - Non-restrictive fitting installed at each fixture using a water seal to prevent sewer gases from entering occupied areas

**Panel** - A flat, thin piece of material such as wood or plywood, often framed with stiles and rails or set into grooves with molded edges, used in doors, cabinets, or decorative wall treatments

**Parallel Circuit** - An electric circuit in which the devices, branches, or components are connected between two points, with one of the two ends of each component connected to each point; the potential difference (voltage) across each component is the same

**Parapet** - A wall extension above the roofline, initially for protection but now primarily decorative, used to conceal roof elements and add to the architectural style

**Particle Board** - An engineered wood product made from coarse sawdust mixed with resin and compressed into sheets, used as a plywood alternative

**Patch Cord** - A short length of cable with an RJ-45 plug on either end used to connect a home computer to the work area outlet can also be used to interconnect various punch-down blocks in the service center

**Penny** - A term for nail length, originally referring to price per hundred nails and now denoted by "d", such as 10d (10 penny) nails used for framing

**Perimeter** - The distance around an area

**Permit** - Official approval from local government for construction activities, including Zoning/Use - Allows specific property use, like a garage or single-family home; Building - Authorizes construction or modification of structures; Demolition Permit - Grants permission to dismantle and remove a structure

**Perpendicular** - Standing at right angles to the plane of the horizon exactly upright

**Personal Protective Equipment (PPE)** - Personal Protective gear; requirements are per job site

**Perspectives** - An approximate representation on a flat surface of an image as it is perceived from a particular fixed viewpoint and that maintains mathematical proportions with a vanishing point



**PEX** - Cross-linked polyethylene tubing used for hot and cold water plumbing applications

**Phillips Head Screwdriver** - Hand Tool with four slots on the bit used to loosen, tighten, remove, and reinstall Phillips screws (corresponding receiver with four pockets)

**Pictorial Drawings** - Perspective drawings - also called renderings

**Piping** - A system of pipes in plumbing made of various plastics and/or metals

**Plan Drawings** - Includes the plot plan and floor plan for undeveloped land

**Plan View or Bird's Eye View** - A specific view of a drawing in a set of prints that presents a view looking down on an object

**Platform** - A light-frame construction system and the most common method of constructing the frame for houses and small apartment buildings

**Platform framing** - Framing method in which a subfloor acts as a "platform" for the construction of the story above

**Plot Plan** - A plot plan is a scaled drawing that shows the shape and size of the building lot; the location and shape of the lot; and the finish floor elevation

**Plumb** - Exactly vertical and perpendicular

**Plumb bob** - A lead weight attached to a string; the tool used in determining plumb

**Plumbing** - "P" Drawings outlining the plumbing requirements

**Plunge cut** - A cut made by inserting the moving blade into the middle of a piece of work rather than starting from the edge

**Pneumatic** - Tools powered by compressed air

**Power Tools** - Tools powered by electrical current

**Pressure-treated lumber** - Lumber treated with a chemical preservative to minimize potential water damage

**Prints** - A reproduction of a working drawing, originally blueprints, but more often now diazo and electrostatic prints

**Product** - The answer to a multiplication problem

**Propane Torch with electric igniter** - A tool for burning the flammable gas propane equipped with a trigger to create an almost instant flame

**Public sewer system** - A sewer system interchanging with the process plant for sewage and solid wastes

**Punch-down block** - A connecting block that terminates UTP cables directly; 110 blocks are most popular for residential applications and require a 110 punch-down tool for making the terminations

**PVC (Polyvinyl chloride) piping** - Piping offered in a wide variety of types and schedules and is the most widely used product for DWV installations in new residences

## Q

**Quotient** - The answer to a division problem

## R

**Rafter Template** - A pattern or design that illustrates the layout of a rafter

**Random Orbital Sander** - A finish sander that is designed not to leave a sanding pattern

**Rebar** - Steel rods that are put in footings and grade beams in a concrete foundation; vary in size depending on the structure and what size foundation is being poured

**Receptacle Branch Circuit** - A circuit with only outlets on it

**Reciprocal** - Describes the back-and-forth motion of a cutting blade

**Reciprocating** - A back and forth motion movement

**Reciprocating Saw** - A saw commonly used for demolition, deconstruction, or cutting materials in place

**Residence/Residential** - A place in which one lives; relates to or having a residence

**Residential Construction** - Designed and built for people to live in

**Retaining Wall** - A vertical wall, which is constructed to hold back existing earth or backfill that will be put in at a later date

**Retrofit** - The addition of new technology and or features to an older system

**RG-59 (radio guide)** - An outdated version of RG-6

**RG-6 (radio guide) (Series 6)** - Type of coaxial cable that is “quad shielded” and is used in residential structured cabling systems to carry video signals such as cable and satellite television

**Ridge** - The highest point at the top of a roof where the roof slopes meet

**Ridge Board** - The upper-most horizontal framing member on a roof, to which the tops of the rafters are fixed

**Right Angle Drill** - A drill that is designed to be used in tight places

**Rim Joist** - A joist that goes around the perimeter of the floor joist area cut from 1” X 2” X 8’ pine; the actual size of 1” X 2” is ¾” by 1½”

**Rip** - To cut in the direction of the wood grain

**RJ-11 (registered jack)** - The popular name given to a six-position connector or jack

**RJ-45 (registered jack)** - The popular name given to an eight-pin connector or jack used to terminate UTP cable

**Romex Cable** - A cable with electric wires inside used to “carry electricity”

**Roofing** - Material for construction of a building’s roof as in tar paper, shingles, corrugated tin, etc.

**Roofing Hammer** - Specialized hand tool used by residential roofers to cut shingles and drive nails

**Rotational** - Describes the spinning motion of a blade

**Rough In** - The stage in an electrical installation when the raceways, cable, boxes, and other electrical equipment are installed which must be completed before any construction work can be done that covers wall and ceiling surfaces

**Rough Opening** - The actual rough opening of a door or window which is important to ensure the insulation of doors and windows has been done properly

**Rough Sill** - The bottom board running at a right angle to the Jack studs in a window frame that the window sits on

**Router** - A power tool for shaping

**Router Bit** - The cutting tool used by a router (multiple choices)

**Rubber** - Usually designed for flat roofs and made from sheets of rubber or PVC joined together via heat welding; usually not used on exposed roofs

## **S**

**Safety Data Sheets (SDS)** - Forms describing contents, chemicals, and other pertinent data required by OSHA Standards

**Saw** - A tool used to cut material to a specific size and shape

**Scale** - Construction projects are drawn in a reduced scale and at a specific ratio relative to the actual size of a project. Drawing in scale shows a real object with accurate sizes except they have all been reduced or enlarged by a certain amount (called the scale). a proportion between two sets of dimensions (as between those of a drawing and its original)

**Scale factor** - The ratio of two corresponding lengths in two similar geometric figures

**Schedules** - Lists of materials required for a project

**Schematic** - A diagram of a component of a whole design

**Screwdriver** - A hand tool used to drive screws into various materials

**Sections** - A scaled view created by passing a cutting plane through a portion of a building; cut-apart views of the building components

**Septic Tank** - Fabricated holding tank or structure to contain sewage and solids

**Series Circuit** - An electric circuit connected so that current passes through each device without branching

**Service Center** - The hub of a structured wiring system with telecommunications, video, and data communications installed usually located near the electrical service panel

**Service Disconnect** - The device in the service equipment that provides control of the power supply to the building (on-off)

**Service Entrance** - The part of the wiring system where electrical power is supplied to the residential wiring system from the electrical utility

**Service Entrance Conductors** - The metal conduit that carries the power lines from the service to the meter and the service equipment

**Service Equipment or Panel** - The service panel that houses the service disconnect and the individual circuit breakers that provide power to the feeder circuits

**Sheathing** - A layer of boards or other wood or fiber materials applied to the outer studs, joists, and rafters of a building to strengthen the structure and serve as a covering

**Shielded Twisted Pair (STP)** - A cable that resembles UTP but has a foil shield over all four pairs of copper conductors and is used for better high-frequency performance and less electromagnetic interference (EMI)

**Shims** - A thin strip of wood that reduces in thickness from the head down used to align parts and make them fit together well

**Shoring** - Using materials to construct the means to hold the sides of the excavation in place

**Sill or Double Sill** - Used to support the bottom of windows

**Sill Plate** - Bottom horizontal member of an exterior wall frame that rests on top of a foundation; anchored, usually with 'J' bolts; also known as mudsill

**Single Family** - Designed for a single family to live in

**Single Pole Switch** - A switch used to turn on/off electricity that has two black screws

**Sizing Feeders and Subpanels** - Some residences require a second panel called a subpanel where electrical power is provided by a feeder line

**Sizing the Load Center** - Calculations required to determine the size of the service equipment or panel

**Sizing the Service Entrance Conductors** - The size of the service equipment or panel determines the size of the cable required to provide service. A standard table lists the service or feeder rating and the copper size required

**Skids** - Usually 4" X 4" treated lumber is used in place of a concrete foundation, and a floor system is framed and mounted on several skids

**Slab on Grade** - A type of foundation with a concrete floor that is placed directly on the soil, the edge of the slab is usually thicker and acts as the footing for the walls

**Slate** - Made from thin pieces of stone and often come in single shingles or larger panels; a very heavy roofing alternative and requires a strong roof structure

**Sledgehammer** - A large hammer designed for driving stakes and breaking up hard materials

**Slope** - An upward or downward installation used to install drainage or venting piping

**Small-Appliance Branch Circuits** - A type of branch circuit that supplies electrical power to receptacles located in kitchens, dining rooms, pantries, and such

**Soffit Vent** - Any kind of metal vent installed in some or all soffits to allow heat to dissipate

**Soffits** - The underside of an eave or other structural component like a beam, arch, staircase, or cornice

**Soil Classification** - Term used to describe the type of soil as to its level of stability

**Solder** - A fusible metal alloy with a melting point or melting range of 90 to 450 °C (200 to 840 °F), used in a process called soldering where it is melted to join metallic surfaces

**Spacer** - A scrap of plywood to be nailed between pieces of dimension material to make a component a desired dimension, i.e., two 2"x4"s on end nailed together with a 1/2" piece of plywood between them is 3 1/2" wide or equal to the width of a 2"x4"

**Span** - The width of a trench opening

**Specifications** - A detailed, exact statement of particulars, especially a statement prescribing materials, dimensions, and quality of work for something to be built, installed, or manufactured

**Speed Square** - A compact metal tool, typically 6 to 9 inches in size, shaped like a right-angle triangle. It is used for marking squares and various other angles, especially 90-degree angles, and is commonly employed for layout and angle marking

**Square** - Perpendicular or at 90 degrees in relation to a member, where the building meets at 90° angles in the corners

**Stab** - The location of a load center's ungrounded bus bar where a circuit breaker is snapped on

**Stability** - Term used to describe the amount of movement in a structure or soils

**Stack Vent** - The vent for the waste stack

**Statute** - A written law passed by a legislative body

**Stock** - Building materials like dimension lumber or masonry block

**Stripper-Cutter** - A tool used to strip/remove insulation, cut, and bend wire

**Structural Drawings - "S"** - Drawings of members, assemblies, and systems that transmit live and dead loads

**Structured Cabling** - A building telecommunication cabling infrastructure that consists of several standardized smaller elements with voice, video, and/or data communication components. A system for video, voice, and data communications cabling as specified by EIA/TIA

**Stud** - The vertical structural member in a wall that can be either wood or metal and is spaced either on 16", 24" or 32" OC

**Stud Layouts** - The markings on two straight 2" x 4"s or 2" x 6"s cut to the length of the wall and laid side by side that show what framing components go where on a wall; a line represents the edge of a stud, and an X represents which side of the line the stud goes

**Sub-fascia** - A 2"x6" or 2"x8" nailed to the roofing joists, but then covered with a piece of 1"x materials as the exposed fascia

**Subfloor** - Cut from ¼" plywood sheets it strengthens the entire floor unit and serves as a base for the finish floor, consists of structurally rated panels fastened to the tops of the floor joists, also known as rough flooring

**Sum** - The answer to an addition problem

**Supplemental Ground** - A grounding device that is used to "back up" a metal water pipe grounding electrode

**Survey Term Transit** - An instrument used by surveyors to determine the location, heading, and dimensions of a piece of property

**Surveying Term Hub and Tack** - The process of a surveyor determining points by placing wood hubs. Once the hub is driven into the ground, a metal tack is placed in the top of the hub to give a pinpoint location of a point

**Switch box** - A metal or plastic box mounted on the framing structure wired for electrical switches

**Symbols** - Standard symbols representing various components of structure in the architectural drawings

**Systems** - A set of connected things or parts forming a complex whole, like a floor or roof system. A whole consisting of several parts or members

## **T**

**T's** - A particular type of framing that is put together out of studs and used to give backing and support where one wall intersects another

**T1-11 Siding** - A type of wooden panel siding made of plywood and routed with grooves that make it appear as wooden strips

**Takeoff** - An estimate of the quantities of labor, materials, equipment, and special items needed to complete the job

**Tamp** - To ram down or compact something

**Tape Measure (Standard & Metric)** - a narrow strip (as of a limp cloth or steel tape) marked off in units (as inches or centimeters) for measuring

**Telecommunications Industry Association (TIA)** - One of two associations that jointly develop installation standards for structured cabling systems in residential applications

**Terminal Screw** - The receptacle screws (brass, silver, black, and green colored) where "stripped" electrical wires are attached

**Tiles** - Made of ceramic or clay, they are naturally fire-resistant and can also be effective insulators

**Title Blocks** - An area on a working drawing or print that is used to provide written information about the drawing or print

**Toe nailing** - To drive a nail in at a slant. Method used to secure floor joists to the plate

**Tongue-and-groove** - Wooden planking or plywood in which the adjacent boards are joined by means of interlocking ridges and hollows down their sides

**Top Plate** - The uppermost horizontal members of a wall, normally, there are two on the top and one on the bottom. Requirements depend on load capacity.

**Transit** - A surveying instrument used to ascertain the position, direction, and dimensions of a property. By referencing established benchmarks, surveyors can pinpoint latitude and longitude coordinates, determine the magnetic orientation of property lines, and measure their lengths. It is similar to a builder's level but also capable of measuring elevation angles

**Trap** - Non-restrictive fitting or device installed at each fixture using a water seal to prevent sewer gases from entering occupied areas

**Trench** - A narrow excavation made below the surface of the ground that is deeper than it is wide

**Trench Collapse** - A hazardous construction site incident that happens when the walls of a trench give way, causing a massive amount of soil or dirt to fall into the excavation area

**Trim** - Primarily moldings and/or one-inch-thick wood used to finish off and cover joints, or window/door casings

**Trim Out** - The final phase of residential electrical installation including installing light fixtures, trimming out the breaker panel, installing electrical outlets and switches, cover plates, and connecting appliances like the water heater, garbage disposal, and dishwasher

**Trimmer Stud** - A 2x4 attached to King stud to hold up header and support window or door frame

**Tripod** - Three-legged stand used to mount the level head unit

**Ts, Corner Posts & Partition Assemblies** - Whenever two walls meet specific components built from studs and cripples are required to increase structural strength

**Type S Plug Fuse** - A fuse type that uses different fuse bases for each fuse size

## U

**Underground Service** - Electrical service provided from underground and then brought up to connect to the residence; connected to the meter and the panel by the power company

**Uniform Drawing System (UDS)** - Construction Specifications Institute's National CAD standards

**Unshielded twisted pair (UTP)** - A type of cable normally used to install voice and data communication wiring in a house, with four pairs of copper conductors and graded for bandwidth by category (Cat 5, Cat 5e, Cat 6, Cat 7 are the most current versions)

## V

**Variable Speed** - A tool whose speed can be controlled by an operator

**Vent Stack** - The main vent for the DWV system

**Vent Through Roof** - Where the vent stack goes through the roof of the residence

**Volt** - Measures the current pressure at receptacles and lights

## W

**Wall Plates** - The top and bottom horizontal members of a wall frame

**Waste Stack** - The main vertical pipe which begins with its connection to the building drain and terminates with its connection to the stack vent

**Water Distribution System** - The network of pipes and fittings that transports water under pressure to fixtures and other water-using equipment and appliances

**Water Meter** - A device to measure the quantity or rate of water flowing through piping

**Watt** - The rate at which an electrical device (light bulb, appliance, etc.) consumes energy

**Weight Bearing** - Walls or footings that will have a permanent load placed on them, usually run across the joists not with them

**Wire Nuts** - A plastic "cap" used to cover the twisted end of two electric wires

**Work area outlet** - The jack on the wall that is connected to a desktop computer by a patch cord

**Working Drawings** - A drawing that contains the graphic information necessary to complete a construction job

**Wrecking Bar** - Large bar designed to give leverage when taking materials apart

**Wrench** - A hand tool used to turn nuts and bolts to tighten or loosen

**WVA Formula** -  $\text{Watts} = \text{Volts} \times \text{Amps}$ ; A basic equation used in electrical engineering to calculate voltage

**X**

**Y**

**Z**

**Z- flashing** - Metal flashing that fits between two sheets of paneling to shed water