

GLOSSARY
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With the exception of legal terminology, this Glossary has been assembled in a manner unlike any other. With very few exceptions, the words and phrases selected for inclusion were chosen based upon their occurrence in expert reports in design and construction cases the Construction Law Group has handled over the years. The most notable exceptions are "donkey tracks" and "horsefeathers" and they were included just for fun.

The definitions may not, in all instances pass scientific or technical muster. Where possible they were written from experience in handling cases where the terms were necessary to understanding the case.

Finally, we would like to thank the hundred of clients and experts who over the years patiently taught me the information in this Glossary.

Note: All glossary terms used in definitions have been italicised.

AAA: An abbreviation for the American Arbitration Association, a non-profit provider of mediation and arbitration services.

Abate or Abatement: The process of removing hazardous materials from a construction project or construction site.

Abbreviations: Standard abbreviations are used on construction plans. A listing of abbreviations commonly used on construction drawings is included as Figure 1.

ABS: Abbreviation for Acrylonitrile-Butadiene-Styrene. A type of rigid black plastic pipe used for drain / waste / vent lines.

AC: Abbreviation for alternating current; an electrical supply common in commercial and residential use in the United States in which the polarity reverses constantly.

Acceleration: An increase in labor or equipment to shorten the time for completion or mitigate the effects of an *impact* or a *delay*.

Acceleration Claim: A claim for the cost associated with *acceleration*.

Acceptance: An unequivocal agreement to an *offer*.

Acre: A common measurement of land equal to 43,560 square feet.

Acre-foot: A quantity of water commonly used in engineering calculations equal to the area of one acre covered to a depth of one foot. 325,851 gallons.

Activity: The smallest unit of work identified on a project schedule or CPM. (In other scheduling methodologies, this may be equivalent to a "task".)

Activity Duration: In *CPM* terminology, the amount of time estimated as required to accomplish an activity

ADA: The Americans with Disabilities Act, which gives civil rights protection to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, State and local government services, and telecommunications. With respect to design and construction the most common reference to the *ADA* is in the area of barrier free design and the accommodation of the built environment to individuals with disabilities.

Addendum (Addenda): Written information adding to, clarifying or modifying the bidding documents. Generally issued during the bidding process and as such, addenda become part of the *contract documents*.

Additional Insured: An entity that is provided first party coverage under a policy of insurance issued to the primary insured. It is common in the construction industry for a project owner to require the general contractor to list the owner as an additional insured. General Contractors also commonly require their subcontractors to list them as additional insureds.

ADR: See *Alternative Dispute Resolution*.

Advertisement for Bids: Written notification intended to solicit bids for construction. Most frequently used to conform to legal requirements pertaining to projects to be constructed under public authority, and usually published in newspapers of general circulation in those districts from which the public funds are derived.

A/E: Abbreviation for architect-engineer.

A-Frame: A roof shape with a very steep pitch forming a gable or "A" shape.

AGC: An abbreviation for Associated General Contractors of America. A trade organization of construction contractors. Publishes a family of standard form construction contracts.

Aggregate: A mixture of sand and stone, which along with cement is used to manufacture concrete.

Agreement: The same as a *contract*. The *AIA* terms its form contracts between owners and architects is "agreements" and for its form contracts between owners and the general contractor its terminology is "contracts."

AIA: An abbreviation for the *American Institute of Architects*.

Air Chamber: A vertical, air-filled pipe or spring coil, set above the water line to absorb pressure when water is turned off at the faucet.

Air Changes (or Exchanges) per hour: The number of times that the entire volume of air within a building changes during an hour. Also used to measure ventilation and air infiltration.

Air Entrained: Concrete that has had special admixtures added to the design mix to create air bubbles within the concrete in order to improve workability and other characteristics.

Air Gap: A device mounted at the back of a kitchen sink, connecting to the drain line between a dishwasher and disposer to allow the dishwasher to discharge freely into the disposer while preventing contaminated water from siphoning back into the dishwasher.

Air Infiltration: The amount of air leaking in and out of a building through cracks in walls, windows and doors.

Air Rights: Rights that extend above the physical property to a reasonable level above the property.

Align: An instruction given on architectural drawings requiring elements of construction to be arranged so the faces of elements of construction are in line with each other.

Allowance: A specified dollar figure established in a construction contract to provide a “reserve” for payment for items which have not yet been selected and specified in the construction contract. For example, selection of carpet or light fixtures that the architect or owner has not yet chosen may be covered by an allowance entry for that item. If the selected carpet then exceeds the allowance, the contractor will be entitled to an extra. Sometimes called a cash allowance.

All-Risk Policy: See *builders risk policy*.

Alluvium: An unconsolidated accumulation of stream-deposited sediments, including sands, silts, clays or gravels.

ALTA Survey: A boundary survey with a set of minimum standards that have been jointly prepared by ALTA (American Land Title Association)/ACSM (American Congress of Surveying and Mapping). In addition the survey will show improvements, easements, right-of-way, and other elements impacting ownership of the land.

Alternate Bid: An amount stated in the bid to be added or deducted from the base bid amount proposed for alternate materials and/or methods of construction at the owner's election.

Alternative Dispute Resolution (ADR): Any process of resolving a dispute other than litigation, such as *arbitration* and *mediation*.

Ambient Temperature: The temperature of the surrounding air outside of a building.

Amendment: A change or alteration to a *contract*.

American Institute of Architects: Professional trade association of architects. Abbreviated AIA. The AIA publishes a suite of design and construction agreements and contracts that are widely used throughout the United States and Canada.

Anchor Bolts: Bolts to secure a wooden sill plate to a concrete or masonry floor or wall.

Angle of Repose: The maximum angle that a soil, sediment or other loose material can be placed or accumulate and be stable. The angle of repose varies for different types of materials and different moisture conditions. The slope at which a hillside is stable. The driving force tending to move the soil down the hill and the restraining force tending to hold the hillside in place are equal.

ANSI: An abbreviation for the American National Standards Institute, which is a coordinating organization for uniform standards, materials and practices. ANSI Standards are widely used and relied upon in many areas of design and construction. For example, ANSI A117.1 addresses Accessible and Usable Building Facilities including barrier free design.

Anticipatory Breach: When one party to a *contract* communicates to the other party that it intends to *breach* an obligation of the *contract* when the time for performance of the obligation has not yet occurred or occurs when a party finds itself in a position in which it is impossible for it to perform.

Apparent Authority: Also called ostensible authority or implied authority; it is the authority given by a *principal* to an *agent* through representations (*e.g.*, statements) made by the *principal* to the third party.

Application for Payment: A contractor's written request for payment for completed portions of the work and, for materials delivered or stored for use on the project. In the United States the most commonly used form for applying for payments is the AIA G 702.

Approved Equal: Materials, equipment, or method approved by the architect for use in the work as being acceptable as an equivalent in essential attributes to the material, equipment, or method specified in the contract document.

Aquifer: A subsurface rock or sediment unit that is porous and permeable. To be an aquifer it must have these traits to a high enough degree that it stores and transmits useful quantities of water.

Aquifer (artesian): An aquifer that is bounded above and below by impermeable rock or sediment layers. The water in the aquifer is also under enough pressure that, when the aquifer is tapped by a well, the water rises up the well bore to a level that is above the top of the aquifer.

Aquifer (confined): An aquifer that is bounded above and below by impermeable rock or sediment layers. There may or may not be enough pressure in the aquifer to make it an "artesian aquifer".

Aquifer (unconfined): An aquifer that is not overlain by an impermeable rock unit. The water in this aquifer is under atmospheric pressure and is recharged by precipitation that falls on the land above the aquifer

Arbitration: A private process for resolving disputes in which the parties can set the rules and choose a neutral third party or parties (called an arbitrator) to hear their dispute and render an award or decision regarding the dispute.

Arbitrator: A neutral third party authorized to conduct hearings with regard to a private dispute and render a determination with respect thereto.

Architect: The word "architect" should only be used by one who is licensed by the State to practice architecture. Others who provide similar service but do not hold a State license may be referenced as designers or by similar references but should never be referred to as architects.

Architect of Record: A phrase used to identify the architect who placed his or her professional architectural seal on the drawings and in so doing represented that the drawings were prepared under his or her direct supervision.

Architect's Assignment of Plans: Banks and other lending institutions commonly request the project architect to execute a conditional assignment of the design plans for the project such that if the project owner should default on the construction loan, the lender, pursuant to the terms of the assignment, has the right to use the architect's plans for completion of the project.

Architects Basic Services: Originally set forth in the AIA Standard Form of Agreement between Owner and Architect (e.g. AIA B 141 and A B 151) and now widely recognized as the phases of services performed by an architect as follows: 1st Schematic Design Phase, 2nd Design Development Phase, 3rd Construction Document Phase, 4th Bidding or Negotiated Phase, 5th Construction or Contract Administration Phase.

Architectural Notation: A standardized system of symbols that are used on design drawings to indicate the presence and location of building components and elements.

Architecture: The area of design that deals with the preparation of plans and specifications for buildings of all descriptions. Most commonly an architect is retained to provide that portion of the design that will establish the overall character, appearance, form and general configuration of a building along with selecting the materials to be used in the construction process. In all but the most basic of projects the architect will retain consultants in other areas of design specialization including civil engineering, electrical engineering, mechanical engineering and structural engineering.

As-Built Drawings ("As-Builts"): The final construction documents reflecting the contractor's modifications made during construction and including all changes in the design in order to

provide a record of the locations and dimensions of the building including for example, duct work, wiring, utilities, etc. for use in maintenance, remodeling or additions. Sometimes referred to as "*Record Drawings*."

ASHRAE: An abbreviation for the American Society of Heating, Refrigerating and Air Conditioning Engineers.

Asphalt: A *bituminous* waterproofing agent applied to roofing materials during the manufacturing process. Also a term applied to asphaltic paving used in roadways. See *Asphalt pavement*.

Asphalt Cement: A mixture of crude petroleum used for paving, roofing, industrial and other special purposes.

Asphalt Concrete: A mixture of asphalt binder and aggregate thoroughly mixed and compacted into a mass.

Asphalt Pavement: Asphalt concrete over supporting courses such as asphalt concrete bases, crushed stone, slag, gravel, Portland Cement Concrete (PCC), brick or block pavement.

Asphalt Plastic Roofing Cement: An asphalt-based cement used to bond roofing materials. May also be referred to as flashing cement, mastic, or "bull".

Asphalt Shingles: Roofing material that consists of a base material, which is coated with asphalt and granulated minerals.

ASI: An abbreviation for the Architect's Supplemental Instruction; issued during construction to convey additional instructions from the project Architect.

A-Truss: A four-panel truss having extended batter posts intersecting over the center; resembling the letter A.

Atterberg Limits: A series of soil values reported by geotechnical engineers reporting the water contents at which changes in the behavior of the soil occur. Valuable to structural engineers in designing foundations systems. Included are the liquid limit (LL) which reflect the transition from plastic to liquid characteristics, the plastic limit (PL) which marks the transition between plastic and brittle behavior and shrinkage limit (SL) which reports the water content below which shrinkage of the soil sample no longer occurs when the water content continues to be reduced.

Awning Window: A window hinged along the top edge.

Back Charge: Billings for work performed or costs incurred by one party that, in accordance with the agreement, should have been performed or incurred by the party to whom billed or "backcharged"..

Back Flow Preventer: A device to prevent backflow i.e. into a potable water supply. Usually required for sprinkler systems, handheld showers, pullout faucet spouts, kitchen sprayers, etc.

Backfill: (Verb) Placement of excavated earth into a trench around or against a basement /crawl space foundation wall. During construction it is generally necessary to excavate beyond the final foundation boundaries. Backfill is then placed between the undisturbed ground surface and the newly constructed foundation. (Noun) The material used in backfilling operations. Generally, fill placed prior to construction or for other purposes may be referred to as "fill" but is not usually termed "backfill."

Balancing: The final adjustments of a buildings *HVAC* and mechanical control systems in order to provide the specified air flows, temperature ranges, humidification and other specified climate control parameters. Also known as "*Testing, Adjusting and Balancing*" or "*TAB*"

Balancing Valve: A water heater valve that controls water flow and balances heat distribution to different locations.

Balloon Framing: Framed walls (generally over 10' tall) that run the entire vertical length from the floor sill plate to the roof. This is done to eliminate the need for a gable end truss.

Bar Joist: An open-web, flat truss structural member commonly used to support floors or roofs.

Bark pocket: A small area of bark around which normal wood has grown; an opening between annual growth rings that contains bark.

Basalt: A dark-colored fine-grained igneous rock. Basalt is thought to be one of the main components of the oceanic crust and is common in Colorado.

Base Bid: The amount of money stated in the bid as the sum for which the bidder offers to perform the work, not including that work for which alternate bids are also submitted.

Base Bid Specifications: The specifications listing or describing only those material, equipment, and methods of construction upon which the base bid must be predicated, exclusive of any alternate bids.

Base Flashing: That portion of the flashing attached to or resting on the roof deck to direct the flow of water onto the roof covering; see *cap flashing*.

Base Material: Mat used as a base for asphalt coated roofing material. Most underlayments used over the years are organic mat. Most shingles are fiberglass mat.

Beam: A horizontal structural member designed to support a building load spanning from one support such as a column or post to another. May sometimes be called a "*girder*".

Beam Pocket: A recess formed into the top of a masonry wall and intended support the end of a beam.

Bearing Capacity: The concentrated load a soil is capable of sustaining from the weight imposed by the foundation of a building or structure. May also apply to the capacity of a structural member.

Bearing Point: A point where a bearing or structural weight is concentrated and transferred to the foundation

Bearing Stress: The compressive force exerted by a structural member resting upon an other member or body. This stress is commonly the stress occurring at a point of support, such as at a beam hanger.

Bearing Wall: A wall that is designed to carry and support a vertical load that rests upon it in addition to carrying its own weight.

Bedding: (a) The characteristic structure of sedimentary rocks in which layers of different composition, grain size or arrangement are stacked one on top of another in a sequence with oldest at the bottom and youngest at the top. (b) The granular material of pea gravel or other material that is placed as the base for a slab, pipe or other construction component.

Bed-Load: The larger heavier particles that are being transported by a stream. Instead of being dissolved or suspended, the bed-load is being rolled or bounced along, spending at least part of the time in contact with the stream bottom. See also: *load, suspended load, dissolved load.*

Bedrock: The subsurface strata or layer of earth that provides suitable support for a structure or building. Bedrock is often termed "bedrock" based upon its strength characteristics but may be a material that would not be visually identified as "rock". Bedrock may also be exposed at the surface.

Bending Strength: The ability of a member, such as a beam, to resist the tendency to break when exposed to external forces such as roof or floor loads.

Bid: Sometimes called a *tender*, a formal *offer* made in compliance with a fixed set of *contract* terms, usually in the context of a competitive process.

Bid Bond: A *bond* issued by a surety on behalf of a contractor and in favor of a project owner, such that if the owner accepts a *bid* by the contractor in question, and the contractor fails to enter into the *contract* that is the subject matter of the *bid*, the surety will pay the penalty specified in the *bond*, most usually the difference between the contractor's bid and the *bid* of the next lowest responsible *bidder*.

Bidder: A party that submits a *bid* in response to a *call for tenders*.

Bidding: Often called *tendering*, is the process of awarding a *contract* through a *call for tenders*.

Bidding Documents: Published advertisement or written invitation to *bid* usually including, instructions to *bidders*, plans and specifications, the *bid* form and the proposed form of *contract* as well as any *addenda* issued prior to receipt of *bids*.

Bidding Period: The calendar period allowed from publication of the *bidding requirements* and *contract* documents to the prescribed *bid* date/time.

Bidding Requirements: The written minimum acceptable requirements set forth by the owner to the contractor during the *bidding* process. The owner usually reserves the right to reject a *bid* if the *Bidding Requirements* are not met. See *Responsive Bid*.

Bid Opening: The actual formal process of opening and tabulating *bids* submitted within the prescribed bid date/time and conforming to the bid procedures. A *Bid Opening* can be "open" (where the bidders are permitted to attend) or "closed" (where the bidders are not permitted to attend).

Bid Shopping: The *bid* phase practice of attempting to play one proposed supplier or subcontractor against another for the purpose of reducing the price for a portion of the work. Generally looked on with disfavor.

Bid Tabulation (BidTab): A summary of all *bid* prices prepared to allow analysis of the *bid* results. *Bid* tabulations include the required items as set forth in the invitation to *bid* and also usually including the *bid* amount, completion time, *addenda*, *contract* exclusions, bonding rate, etc. Used to assist in determining if the apparent low bid is a *responsive bid*.

Binder: (a) A substance that will hold, or will bind together, different materials or the numerous parts of the same material, such as bitumen. This term is generally used in reference to pavements. (b) A document issued by an insurance company evidencing a commitment to issue a policy of insurance.

Binder Course: That portion of a pavement connecting the wearing surface to the base.

Bituminous: Any product containing bitumen, which is a mixture of hydrocarbons including products such as asphalt. Frequently used in many roofing materials.

Blind Nailing: A method of nailing such that the nail does not show in the finished surface of the board. Commonly used in tongue and groove lumber where the nail is driven at an angle through the tongue.

Blocking: Short 2 x 4's used to keep rafters from twisting, and installed at the ends and at mid-span.

Blow Count: See *Standard Penetration Test*.

Blue Line Drawing: Originally a reference to a method of reproducing and printing architectural and engineering drawings that resulted in blue lines on a white background.

Blue Print: Originally a reference to a method of reproducing and printing architectural and engineering drawings that resulted in white lines on a blue background. Now used generically to reference any design drawing regardless of the method or reproduction.

Blue Stake: Generally a reference to the requirement for and the process of locating and staking or marking utilities (telephone, gas, electric, cable TV, sewer and water, etc) before the start of construction. Different colored flags, stakes or paint marks are used for different utility indications but the phrase “blue stakes” has acquired a generic meaning for the overall process of locating utilities prior to the start of construction.

Board and Batten: Vertical siding wherein wood strips (battens) hide the locations of seams where adjoining boards are joined.

Board Foot: A unit of measure for lumber that is equal to 1" thick by 12" wide by 12" long. For instance a 1" x 12" x 16' = 16 board feet.

BOCA: An abbreviation for Building Officials and Code Administrators International, which authors the *BOCA* National Building Code.

BOD: An abbreviation for Biological (or Biochemical) Oxygen Demand, the amount of oxygen consumed in the oxidation of organic matter by biological action under standard test conditions; often used as a measure of the strength of sewage and wastewater.

Bond: (a) A special form of *contract*, whereby one party (the *surety*) guarantees the performance by another party (the *principal*) of certain obligations. Bonds commonly used in the construction industry include *bid bonds*, and *performance and payment bonds*. (b) The attachment of one material or substance to another through chemical means.

Bonus Clause: A clause in a *contract* that entitles one party to additional payment if its performance exceeds what has been promised, such as finishing prior to the contractual completion date. Often used in conjunction with a *liquidated damages* clause.

Bore Log: A graphic depiction of the of soil samples removed by drilling during a subsurface soil investigation. A bore log will include the depth at which each sample was obtained during drilling, a visual description of the sample and/or its *USCS* classification, the *blow count* at that level and, if water was encountered, a symbol stating the depth at which water was recorded and whether the water was encountered upon drilling or was identified in an inspection conducted at a specified time duration after drilling.

Borrow-pit: An excavation made by the removal of material in order to use the material (called "borrow") that has been excavated as fill elsewhere or in building an embankment.

Bottom Chord: The lower or bottom horizontal member of a truss.

Bottom Plate: The bottom, horizontal structural members of a stud framed wall. The bottom plate sits on the subfloor and nails through the subfloor into floor joists. The studs are *toenailed* into the bottom plate. Sometimes called a sole plate.

Boundary Survey: A land survey used to establish boundary lines and provide records and maps, which show proper location and subdivision of lands in a specific area.

Bowstring Girder: A girder consisting of a curved rib or beam, having a horizontal tension member arranged as a chord and connected to the rib by vertical tie rods.

Bowstring Truss: A truss in which the lower chord is horizontal and the upper chord joints lie in the arc of a parabola, or similar curve.

Box Beam: A beam built of lumber (sometimes metal) and plywood in the form of a long hollow box, which will support more load across an opening than could its individual members alone. Lumber or metal members form the top and bottom (flanges) of the beam, while the sides (webs) are plywood.

Box Culvert: A square or rectangular shaped *culvert*.

Brick Ledge: A dimensioned extension of foundation wall designed to serve as the base for the support of the brick veneer.

Bridging: Small pieces of wood or metal strapping placed in an X-pattern between the floor joists at midspan to prevent the joists from twisting.

BTU: An abbreviation for British Thermal Unit which is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit in an ambient environment of 39 degrees F.

Builder's Risk Insurance: Insurance coverage intended to cover loss or destruction of the work on a construction project during construction except for damage caused by an excluded peril. This coverage generally expires with the completion of construction. Sometimes referred to as *all-risk* insurance. The modern trend is away from the usage of the term *all-risk* since not all risks are in fact covered by such insurance.

Building Paper: A general term used to apply to rolls of asphalt papers, felts, and similar sheet materials used in buildings under siding, as roof underlayment and for other similar purposes. One such product commonly seen on building projects is DuPont "Tyvek" building paper.

Building Permit: A written document issued by the appropriate governmental or jurisdictional authority permitting construction to begin on a specific project in accordance with drawings and specifications approved by the governmental authority. It is common for permits to be issued for separate portions of the work at different times. For instance a contractor may apply for and receive an initial permit that allows only excavation, followed by a foundation permit, etc. The

most common practice is for the general contractor to apply and pay for the permit, although especially on residential projects "owner permits" issued directly to the owner are not uncommon.

Built-Up Roof (BUR): A flat or low-slope roof consisting of multiple layers of asphalt and ply sheets (unsaturated felt), normally having a top finish of gravel. Commonly referred to as "hot tar" or "tar and gravel".

Bundle: A package of shingles or shakes. There are 3, 4, or 5 bundles per *square* (depending on the dimension of shingle).

Butt Edge: The lower edge of the shingle tabs.

Buttress: A structure built against a wall to support or reinforce it.

Buy Out (or Buy Down): The process by which a general contractor after acceptance of its bid negotiates or otherwise attempts to secure a reduction in the cost of subcontracting or procuring a certain portion of the construction.

CAD (or CADD): An abbreviation for Computer Aided Design (Computer Aided Drafting and Design)

Caisson: A hole (commonly 10" or 12" diameter but can vary) drilled into the earth and usually embedded into *bedrock* to a length specified by the geotechnical engineer. *Reinforcing bars (rebar)* are inserted into and run the full length of the hole and concrete is poured into the caisson hole.

Candle Power: A measurement of the intensity of light.

Cantilever Beam: A beam supported at one end only.

Cant Strip: A bevelled strip used under flashings to modify the angle at the point where the roofing or waterproofing membrane meets any vertical element.

Cap Flashing: That portion of the flashing attached to a vertical surface to prevent water from migrating behind the base flashing; sometimes referred to as counter flashing.

Capital: The decorative element at the top of a column, pillar, pier or pilaster.

Capstone: The uppermost or finishing stone of a masonry structure.

Cardinal Change: A change in the amount of work to be performed under a contract or in the terms of the performance that so substantially alters the contract as to render it effectively a different agreement subject to different terms and conditions.

Casement Window: A window that opens from a side hinge similar to the in the manner a door opens

Casing: The trim around a window or door.

Cast-in-Place: A method of placing concrete in which concrete is poured into forms that have been constructed in the location where the final concrete wall or component is to be used. Contrast to *pre-cast concrete*.

Caulking: A flexible material used to seal a gap between two surfaces e.g. between pieces of siding or corners, etc.

Ceiling Joist: Parallel-framing members designed to support ceiling loads and which are themselves attached to and supported by beams, girders or bearing walls. May also be called roof joists.

Cement: The grey powder that is used in making concrete. Portland cement. Also, any adhesive.

Cementation: The processes through which chemical precipitates form within the pore spaces of a sediment and help bind it into a sedimentary rock.

Center to Center: Used to indicate the distance from the center of one member or object to the center of another member or object.

Certificate Holder: A party to which an insurance company has provided a Certificate of Insurance evidencing that the primary insured has insurance coverage with the issuing company.

Certificate of Occupancy: Commonly referred to as a "CO" which is issued by the local building authority following inspection by the building inspector as an indication that the building is, even if not fully complete, ready for occupancy. See also "*TCO*".

Certificate of Substantial Completion: A certificate generally issued by the project architect stating that the project is with minor exceptions complete and is ready to be used for its intended purpose.

CFM (cubic feet per minute): A rating that expresses the amount of air a blower or fan can move. The volume of air (measured in cubic feet) that can pass through an opening in one minute.

Chalk Line: Straight working line made by snapping a chalked cord stretched between two points.. The process may simply be referred to as "snapping a line."

Change Directive: An order by the owner that the contractor proceed despite a lack of agreement on the cost of the changed work with a change to the work to be performed under a *contract*, such that it will generally paid for on a *cost-plus* basis.

Change Order: An agreement to change the work to be performed under a *contract* with respect to either cost or time.

Change Order Proposal: A written document issued before the Contractor and Owner have approved a *change order*. Either the contractor or the owner can issue a change order proposal. The change order proposal becomes a *change order* only after it has been approved by the Contractor and Owner (sign-off by the architect may also be required).

Change Order Request: A written document issued by the owner to facilitate a decision on whether to execute a *change order* or not and requesting the contractor's statement of adjustment to the contract sum and/or contract time if the owner elects to proceed with the change in the work; generally issued by the architect or owner's representative.

Changed Conditions: See *Differing Site Conditions*

Charrette: French for "cart". The use of the word in architectural terminology is believed to have originated with students at the Ecole des Beaux-Arts in Paris by students who continued illustrating their design presentations in the cart as they were being wheeled through the streets to be turned in at school. Now widely used to reference an intense period of design development. May also be used as a method of selecting an architect for design by holding a charrette competition in which selected architects are invited to prepare and present their design solutions; usually in a day long competition.

Chase: A vertical horizontal enclosure built into a wall, ceiling or soffit space to conceal runs of wires, conduit or ductwork.

Chattel: Same as *tangible personal property*.

Check: A separation of the wood normally occurring across or through the rings of annual growth and usually as a result of seasoning. Wood that displays checks also often has splits and cracks.

Chord: One of the main horizontal structural members in a truss. The top chord is the upper structural member and the bottom chord is at the bottom. The truss *webs* are in between and connected to the top and bottom chords.

Civil Law: A system of law based on the Napoleonic Code of France and is applicable in Quebec and Louisiana.

Cladding: The siding or materials covering the exterior of a building.

Claims-Made Policy: An *insurance policy* that covers claims that are made during the *coverage period*. Most such policies also require that the coverage have been in place both when the negligent act that leads to the claim occurred and when the notice of claim is first received.

Clapboard: Tapered horizontal boards used as siding, thickest on their bottom edge; each overlaps the one below.

Clay: A mineral particle that has a grain size smaller than 1/256 mm. The term is also used in reference to a broad category of hydrous silicate minerals in which the silica tetrahedrons are arranged into sheets. See *expansive clay*.

Clear Span: The distance or the measurement of the distance on the interior of a building that is uninterrupted by a post, column or other vertical structural support.

Clear Title: Title to property for which there are no other interests in the property or charges against the property.

Clerestory Window: A window placed in the upper walls of a room, usually at an angle, to provide extra light.

Closed Shop: A workplace in which membership in the union is a precondition to hiring.

Closed specifications: Specifications stipulating the use of specific products or processes with no substitutions. See *Sole Source Specification*.

Closed Bid: A bid in which only contractors that have been pre-approved are allowed to submit bids.

Closely Held Corporation: The same as a *private corporation*.

Cloud: A hand drawn indication resembling the shape of a cloud that is placed around a portion of an architectural or engineering design drawing to indicate that a change has been made to that portion of the design that is surrounded by the "cloud".

Cold Air Return: The ductwork (and related grills) that carries room air back to the furnace for re-heating.

Cold Roof: A method of roof design and construction common in high mountain regions in which an air space is constructed between the lower "roof" and the upper roof. The circulation of cold air between the two "roofs" keeps snow from melting on the upper roof. Since the snow does not melt on the outer roof surface, there is no alternate freezing and thawing thereby preventing *ice daming*.

Collar: A pre-formed flange placed over a vent pipe to seal the roof around the vent pipe called a vent sleeve. Sometimes referred as boot.

Column: A vertical member that is often decorative in design that is used to support a horizontal load that rests upon the column.

Combustion Air: The amount of air that needs to be supplied to a furnace, water heater or other appliance to safely support combustion.

Commercial General Liability (CGL) Policy: An *insurance policy* that covers claims by others for bodily injury and property damage. The initials "CGL" are also used to reference "Comprehensive General Liability" policies although the use of the term "Comprehensive General Liability" is used with increasing rarity since it may be seen to imply a broader scope of coverage than such policies in fact provide.

Completed Operations Insurance: Liability insurance coverage for injuries to persons or damage to property occurring after an operation is completed but attributed to that operation; does not apply to damage to the completed work itself.

Common Law: A body of law, which traces its roots to England. Common law is created by judges based upon principles of law and equity established and modified over hundreds of years.

Compaction: A compression process that reorients and reshapes the grains of sedimentary soil by virtue of the weight of overlying deposits.

Company: The same as a *corporation*.

Compensable Delay: A *delay* for which one party is contractually entitled to both an extension of time to perform and is also entitled to recover *damages*. The terms of the contract for construction will typically determine whether a delay is excusable or nonexcusable, however, generally for a delay to be compensable the contractor must not have contributed to the cause for the delay. Generally a compensable delay will also entitle the contractor to an extension of time, although it is possible to have entitlement to compensation without a corresponding right to a time extension.

Compression: The state of being compressed; shortening by pressure.

Compression Joint: A joint where compression members meet.

Compressive Strain: The deformation caused by a compression load. Also called "Shortening."

Compressive Strength: The capacity to resist compression.

Compressive Stress: A stress, which resists the shortening effect of an external compressive force.

Concealed Nailing: A method of nailing in which all nails are driven so they will not be exposed in the completed construction.

Concrete: Cement mixed with coarse and fine aggregate (pebbles, crushed stone, brick), sand and water in specific proportions according to the design mix.

Concrete Batch Mixer: A type of mixer in which the materials are placed in the desired proportions for a specific amount of concrete and then mixed and discharged for placement. On large construction projects the contractor may set up a "batch plant" on site.

Concurrent Delay: A combination of delays caused by two or more causes that are independent of one another, occurring at the same time and delaying the same activities. Generally a concurrent delay will be *excusable, noncompensable* thereby entitling a contractor to an extension of time but not to financial compensation.

Condensation: The change of water from vapor to liquid when warm; moisture-laden air contacts a cold surface.

Confidential Information: Generally means information imparted under circumstances in which an obligation of confidence and non-disclosure arises.

Conflict of Interest: A situation in which there is a conflict between a professional's obligation to the public, the client, the employer, and himself or herself.

Consequential Damages: A phrase, which has different meanings in different *contracts* and different contexts, but is generally understood to mean indirect losses, such as loss of business, loss or profits, loss or rents and similar damages not associated with the direct cost or making repairs to damaged or defective property.

Consideration: Something of value, however small, given or promised by each party to the *contract*.

Construction Documents: All drawings, specifications and *addenda* issued for a specific construction project.

Construction Lien: Usually called a mechanic's lien, is a charge or claim in respect of real property that has been improved by construction.

Construction Management Contract: A written agreement wherein responsibilities for coordination and accomplishment of overall project planning, design and construction are given to a construction management firm. The building team generally consists of the owner, contractor and designer or architect with the *Construction Manager* having a *scope of services* that can vary widely depending upon the duties assigned in the contract.

Construction Manager: One who has responsibilities for the duties assigned by the *Construction Management Contract*. The Construction Manager may simply be the owner's representative or agent (sometimes referred to as "CM As Agent"), may have responsibility for actually entering into contracts with trade contractors who perform the work (sometimes referred to as "CM At-Risk", occasionally abbreviated "CM@R") or may also have responsibility for construction (also referred to as "CM As Constructor.")

Construction Survey: Surveying principles and instruments are used to locate, lay out and execute construction plans into physical points on the ground that can be used as a basis for actual construction. Construction surveying provides horizontal locations for structures and also vertical requirements for surfaces drainage or pipes flow.

Constructive Acceleration: Occurs when a contractor has been forced into an *acceleration*, without any acknowledgement by the owner that the contractor is being asked to accelerate.

Constructive Changes: Changes to the work to be performed under a *contract* where an owner refuses to acknowledge that any change has occurred.

Constructive Dismissal: An indirect form of dismissal in which an employer unilaterally changes the employment *contract* to the detriment of an employee, such that the employee refuses to accept the changes and terminates the *contract*.

Contingency: A sum designated to cover unpredictable or unforeseen items of work, or changes subsequently required to the work. It is advisable for a contract to specify the purposes for which the contingency can be used and identify whether the owner of the contractor is entitled to any unused portion.

Continuous Beam: A beam that is placed across and spans three or more columns, posts or other vertical supports.

Contour Line: A line placed on a map or drawing and used to show the changes in elevation or slope of the ground surface. Depending upon the level of detail, the lines may show the changes in elevation, grade or slope at one foot, two foot or other intervals. The greater the level of detail required the smaller the contour line interval.

Contra Proferentem: A rule of contract interpretation that states that wherever a *contract* is ambiguous and there are two alternate interpretations, the courts will apply the construction that is contrary to the interest of the party that wrote ("offered") the contract.

Contract: Sometimes called an *agreement*, is an enforceable voluntary agreement between two or more parties.

Contract Administration: The contractual duties and responsibilities of the architect and engineer during the construction phase of a specific project. See *Architect's Basic Services*

Contract Period: The total number of working days or calendar days from the date of commencement (See *Notice to Proceed*) to the date of completion as established by the contract. The contract period or *Contract time* can only be extended or reduced by valid adjustments to the schedule by *change order*.

Contract Sum: The total contractual amount payable by the owner to the contractor for the performance of the work under the contract documents including *change orders*, if any.

Contract Time: See *Contract Period*.

Contractor-Caused Delay: A *delay* that is caused by the contractor, or by a party for whom the contractor is responsible, and is generally neither an *excusable delay* nor a *compensable delay*. (may sometime be termed "contractor-responsible delay")

Control Joint: A groove formed into concrete as it dries or saw cut after the concrete has dried. Generally about 1/5 or not more than 1/4 of the total depth of the concrete slab. Created in an attempt to force the concrete to crack at and along the predetermined location of the control joint.

Coping: A flat cover of stone or brick that protects the top of a wall.

Copyright: Protects the expression of words and data in original literary, musical, dramatic and artistic works. Copyrighted expression must be written, performed, recorded, or communicated in a form such as radio or television.

Corner Braces: Diagonal braces that are placed at the corners of framed walls to stiffen them and provide extra strength.

Corner Post: The wall stud and spacer blocks that creates an interior nailing surface for drywall at a framed corner.

Corporation: Also known as a *company*, is a separate legal person created pursuant to federal or provincial statutes.

Cost Breakdown: Same as schedule of values.

Cost-Plus Contract: Sometimes called a *cost reimbursable contract*, provides a contractor with payment for the labour, equipment, and material expenses incurred on the project plus a percentage or amount for profit and overhead, sometimes to a *guaranteed maximum price (GPM)*

Cost-Plus Fee Contract: A written agreement with the owner under which the contractor is reimbursed for direct and indirect costs as defined in the contract and, in addition, is paid a fee for services. The fee may be either a stipulated sum or as a percentage of cost.

Cost Reimbursable Contract: The same as a *cost-plus contract*.

Counter Flashing: A metal flashing usually used on chimneys at the roofline to cover shingle flashing and used to prevent moisture entry.

Counterfort: A foundation wall section that runs perpendicular to and strengthens a long section of foundation wall. A short cross-wall built behind the main wall to give it additional stability by acting as an anchor to hold back the main wall. Its action is opposite to that of a buttress.

Course: (a) A continuous row of building materials, such as shingle brick or stone. (b) A row of roofing material (shingles, shakes) running horizontal (perpendicular to the drip line) the length of the roof.

Coverage Period: The length of time during which insurance coverage is in place under an *insurance policy*.

Creep: A slow more or less continuous gravity caused movement of soils or soil masses down hill. May be accelerated by alternate shrinking and swelling of clay soils in response to alternate wetting and drying and by freeze-thaw mechanisms.

Cricket: A second roof built on top of the primary roof to increase the slope of the roof or valley. A saddle-shaped, peaked construction connecting a sloping roof with a chimney. Designed to encourage water drainage away from the chimney joint.

Cripple: Short vertical "2 by 4's or 6's" frame lumber that is shorter than the surrounding framing members that are installed below a window or door.

Cripple Stud: Short studs placed between the header and a top plate or between a sill and sole plate.

Critical Delay: A delay that extends the overall duration of the project. Generally a contractor will not be entitled to a time extension unless the delay is a critical delay.

Critical Path: The sequence of activities that must be completed on schedule in order for the entire project to be completed on schedule. It is the longest duration path through the schedule. If an activity on the critical path is delayed by "x" days, the entire project will be delayed by that same number of days (unless another activity on the critical path can be accelerated to recover the lost time).

Critical Path Method (C.P.M.): A method of planning and scheduling prepared to show the respective tasks and activities involved in constructing a specific project. Most CPM scheduling is now done by the use and application of specialized scheduling software.

Cross Bridging: Diagonal bracing between adjacent floor joists, placed near the center of the joist span to prevent joists from twisting. See *blocking*.

CRRCLA: An abbreviation for Comprehensive Environmental Compensation and Liability Act, which imposes liability on specified parties in connection with the costs associated with the release of a hazardous substance.

CSI: An abbreviation for the Construction Specification Institute, 99 Canal Center Plaza, Suite 300, Alexandria VA 22314.

CSI Master Format: The CSI Master Format is a system of numbers and titles used to organize construction information into a standardized format. There are 16 "Divisions" which are

subdivided into "Sections" each addressing a specific scope of work. By way of example, Division 15 is mechanical work and Division 16 is electrical.

Cubic Feet Per Minute: A measurement of the volume of any substance that flows past a measurement point in one minute. Commonly used to measure air and water flow. Abbreviated cfm.

Cubic Foot: A measurement of volume equal to an area 1 foot long x 1 foot wide by 1 foot deep. 1,728 cubic inches.

Cubic Yard: A measurement of volume equal to 1 yard long x 1 yard wide x 1 yard deep and consisting of 27 cubic feet. Commonly used in measurement of a quantity of dirt, rock or cement. Reference to simply a "yard" is generally intended to mean a cubic yard.

Culvert: Concrete or corrugated drain pipe that is installed beneath a roadway, driveway or embankment.

Curtain Wall: Exterior wall of a building that is supported by the structure and carries no part of the vertical load except its own. Curtain walls must be designed to withstand wind loads and transfer them to the structure.

Damages: Monetary compensation awarded by a court that are payable to an injured party by the party or parties that caused the injury.

Damper: A movable metal plate placed inside of a chimney or duct to close off, adjust or regulate the amount of airflow.

Dampproofing: The black, tar like waterproofing material applied to the exterior of a foundation wall.

Datum: A reference location or elevation, which is used as a starting point for subsequent measurements. Sea level is a datum for elevation measurements.

Dead Load: The load on a building element contributed by the weight of the building materials. Contrast to *live load*.

Dead-man: A timber, log, or beam buried in the ground for anchorage.

Deck: (Decking) (a) The surface installed over the supporting framing members such as trusses, to which the roofing material is applied (b) the lumber that forms the floor surface. Decking fastens directly over the floor joists.

Deductible: The portion of the costs of defending or paying for a claim under an *insurance policy* that the *insured* must pay.

Deductive Alternate: An alternate bid resulting in a deduction from the same bidder's base bid.

Defamation: A communication that tends to injure another party's reputation and includes oral (slander) and written (libel) communications.

Defendants: The parties against whom a remedy is sought through *litigation*.

Deflection: Bending of a structural member under applied loads.

Defective Work: Work that is not in compliance with the contract requirements.

Deflection Limit: The maximum amount the beam is permitted to deflect under load. Different deflection limits are normally established for live load and total load.

Degree Rise: The difference (delta) between the starting water temperature and the ending temperature after heating is complete.

Delay: An event that causes extended time to complete all or part of a project.

Delta: The difference between two values.

Density: The density of any given product is a comparison of the mass to volume ratio. In geotechnical engineering, often used to report the degree of compaction of the soil. May also refer to the number of people or buildings of a particular type that are allowed by zoning or code.

Deposition: The settling from suspension of transported sediments. Also, the precipitation of chemical sediments from mineral rich waters.

Design-Bid-Build: A process in which a project owner and its design consultants design a project in its entirety, the owner then hires a contractor to build it (generally through a bid process), the consultant may observe the construction process and the owner finances the project and puts it into service.

Design-Build: A process in which a project owner conceptualises the project, with or without a consultant; then hires a design-builder to design it, build it, and inspect it, with or without independent secondary inspection; and then finances the project and puts it into service.

Design-Development Phase: The second phase of the architect's *basic services* including the preparation of drawings and other documents to fix and describe the size and character of the project including its architectural, structural, mechanical and electrical systems, material and systems. A preliminary statement of the probable cost of construction is also typically prepared during this phase.

Design Load: The combination of weight (*dead load*) and other applied forces (*live loads*) for which a building or part of a building is designed. Based on the greatest possible combination of loads.

Design Specification: Contrast to *Performance Specification*.

Design Temperature: A percentage of the average yearly high or low temperature. Used in calculating the heating or cooling capacity required to maintain a comfortable interior temperature in either summer or winter.

Design Values: Allowable stress values as they are established for each structural member, described in terms of Bending (Fb), Horizontal Shear (Fv), Modulus of Elasticity (E) and other stresses.

Detail: In architectural design, a detail is a graphical representation at a larger scale of portion of the construction, such as a specific part or component showing materials, composition and dimensions.

Diaphragm: Elements of a building that provide shear strength to withstand wind and earthquake loads.

Differing Site Condition: A departure of the actual conditions encountered in the field during construction from those expected by the contractor based upon the conditions represented in the *Contract Documents* (Type I Changed Condition) or based upon conditions that are materially different than those normally encountered in the same type of work in the same area (Type II Changed Condition). Generally unless the contract includes a Differing Site Conditions clause, the contractor bears the all site conditions risks associated with completing the construction.

Dimension Lines: Lines on an architectural or engineering drawing and used to indicate the size of an object shown on the drawing.

Direct Current: (DC); Electrical current that flows consistently in one direction only.

Directors: Individuals who direct the business of a *corporation*.

Discipline: The process of charging a member of a profession with professional misconduct and then proceeding to a hearing to determine guilt.

Disclaimer: An *exclusion clause* or a *limitation clause*.

Discovery of Documents: An ongoing process of identifying documents that are in the possession of a party that are relevant to the *litigation* and disclosing them to the other parties, and often continues until shortly before trial.

Dispute Resolution Provision: A clause that defines the process to be followed in resolving disputes between the parties to a *contract*.

Disruption: The same as an *impact*.

Dissolved Load: The dissolved material being carried by a stream. See also: load, suspended load, dissolved load.

Domain Names: The alphanumeric addresses of sites on the Internet.

Donkey Tracks: Semi-circular marks left in wood by hammer blows that miss the nail head.

Dormer: A window, which projects from a sloping roof.

Double-hung Window: A window, which operates by means of two sashes that slide vertically past each other.

Downspout: A pipe for draining water from the gutters; sometimes, called a "leader".

Drain Tile: A perforated, plastic pipe laid at the bottom of the foundation wall and used to drain excess water away from the foundation. It prevents ground water from seeping through the foundation wall. Sometimes called perimeter drain.

Drainage Divide: The boundary between two adjacent drainage basins. Drainage divides are ridge crests (or less obvious locations where slope of the landscape changes direction). Runoff produced on one side of the ridge flows into stream "A" and runoff on the other side of the ridge flows into stream "B".

Drawdown: A lowering of the water table around a producing well. The drawdown at any given location will be the vertical change between the original water table and the level of the water table reduced by pumping.

Drip Edge: A non-corrosive non-staining material sometimes used along the eaves and rake edges to allow water run-off to drop clear of underlying decking and/or fascia.

Drip Molding: A projecting molding around the head of a door or window frame, often extended horizontally at right angles to the sides of the frame, intended to channel rain away from the opening.

Dry Rot: A term loosely applied to many types of decay but especially to that which, when in an advanced stage, permits the wood to be easily crushed to a dry powder: the term is actually a misnomer for any decay, since all fungi require considerable moisture for growth.

Drywall (or Gypsum Wallboard (GWB), Sheet rock or Plasterboard): Wall board or gypsum: A manufactured panel made out of gypsum plaster and encased in a thin cardboard. Usually 1/2" thick and 4' x 8' or 4' x 12' in size. The panels are nailed or screwed onto the framing and the joints are taped and covered with a 'joint compound'. 'Green board' type drywall has a greater resistance to moisture than regular (white) plasterboard and is used in bathrooms and other "wet areas".

Ducts: The heating system. Usually round or rectangular metal pipes installed for distributing warm (or cold) air from the furnace to rooms in the home.

Due Diligence: All reasonable steps have been taken to satisfy statutory obligations.

Duress: Improper pressure, threats, or coercion used to induce a party to enter into a *contract*.

Dutch Door: A door divided horizontally in half; the halves may be opened together or individually.

Duty of Care: An element of negligence and is the requirement in law that every person must take reasonable care for others based upon the concept of reasonable foreseeability.

Duty to Defend: The obligation to pay for legal fees and other costs of defending a claim under an *insurance policy*.

Duty of Good Faith: The insured's obligation to disclose to the insurer any and all facts that could influence the insurer's decisions about providing coverage.

Duty to Indemnify: The duty to pay claims under an *insurance policy*.

DWV (drain-waste-vent): The section of a plumbing system that carries water and sewer gases out of a home.

Earth Pressure: The lateral pressure exerted by a bank of earth when supported by a retaining wall or an abutment.

Earthflow: A detached mass of soil that moves downslope over a curved failure surface under the influence of gravity. An *earthflow* is more complex than a slump; it has a higher moisture content and the moving mass of soil has some internal movement or "flow". Rates of movement are typically a few inches per year but faster rates can occur.

Earthquake Strap: A metal strap used to secure a water heater to the house frame or foundation.

Easement: A legal right or permission to use the property of another for a specific purpose. An easement may be temporary or permanent but does not carry with it any ownership interest in the property to which it is attached. A construction easement may simply give the right to cross another's land during construction with the easement expiring upon completion of the construction.

Eave: The projecting or overhanging lower edge of a roof.

Eave Vents: Vent openings located in the soffit under the eaves of a house to allow the passage of air through the attic and out the roof vents.

Efficiency: A product's ability to utilize input energy, expressed as a percentage.

Efflorescence: An undesirable deposit of white water soluble salts that sometimes forms on the surface of masonry walls.

Egress: A means of exiting the home. An egress window is required in every bedroom and basement. Normally a 4' X 4' window is the minimum size required

Elastic Limit: The maximum elastic stress that can be applied to an object without resulting in permanent deformation.

Elasticity: The physical property of a material that has been stretched or otherwise distorted to return to its original dimension and shape when the distorting force is removed.

Elevation: (a) The distance above sea level. (b) The front, back and side views of a building (or object) as shown on a drawing.

Enforceability: Refers to whether a court will enforce a *contract* or a portion of a *contract* in the event of a dispute.

Enforceable Contract: One that a court will uphold as being effective.

Enforcement: A professional organization's process of charging a non-member with either using the protected professional title in breach of the *right to title* or practicing the profession in breach of the exclusive *scope of practice*.

Engineer: See *Professional Engineer*.

Engineer of Record: A phrase used to identify the engineer who placed his or her professional engineering seal on the drawings and in so doing represented that the drawings were prepared under his or her direct supervision.

Environmental Audit: A systematic process of objectively obtaining and evaluating evidence about a verifiable environmental matter, ascertaining the degree of correspondence between the assertion and established criteria, and then communicating the results to the client.

Environmental Impact Statement: A detailed analysis of the environmental consequences of proposed construction is likely to have on environmental quality. Required by the National Environmental Policy Act of 1969.

Environmental Site Assessment (ESA): An assessment of a property for possible contamination and to recommend a remediation protocol if contamination is discovered.

EPA: An Abbreviation for the Environmental Protection Agency, which is the agency of the United State Government, charged with regulating pollution, radiation and toxic substances.

Equity: Residual value of a property or business after deducting any mortgage or other liability.

Ergonomics: The study of the functions, operations and relationships of humans and machines and the manner in which they relate one to the other.

Errors and Omissions Insurance: A *claims-made policy* that covers claims made by third parties for loss or damage caused by negligence of the *insured*.

ESA: The same as an *environmental site assessment*.

Escutcheon: A decorative metal flange or trim shield beneath a faucet handle that covers the faucet stem and the hole in the fixture or wall.

Estoppel: The legal principle that precludes a party from asserting something contrary to what is implied by a previous action or statement of that party.

Ethics: Broadly stated, the theory of morality.

Evapotranspiration: The process by which water in soil, vegetation and land surface is converted to water vapor.

Examination for Discovery: An oral cross-examination of a representative of an adverse party in litigation.

Excess Insurance: Insurance that is purchased to cover damages over and above the damages covered by primary or underlying insurance. The limits of the underlying insurance must be exhausted before the excess insurance carrier has any obligation.

Exclusion Clause: A clause that purports to completely exclude the damages or remedies available to the innocent party upon the occurrence of specified events.

Exclusive License: Grants the licensee (the party gaining the rights) the exclusive right to use the rights held by the licensor (the party granting the rights).

Excusable Delay: A *delay* entitles the contractor to an extension of time for performance of the contract. Excusable delays may be *compensable* or *noncompensable*. The terms of the contract for construction will typically determine whether a delay is excusable or nonexcusable.

Expansion Joint: A joint designed to accommodate movement in the structure or components of the system due to thermal or stress-load variation.

Expansive Clay (Expansive Soil): A clay soil that expands when water is added and contracts when it dries out. This volume change when in contact with buildings, roadways, or underground utilities can cause severe damage. ("Betonite" is an expansive soil).

Expense Within Limits: A type of insurance policy in which all costs including attorney fees and expert witnesses that are incurred by the insurance carrier reduce the available limits of the policy of insurance. All professional errors and omissions insurance issued to architects and

engineers are expensive within limits policies. Sometimes referred to as self-consuming, self-depleting or (pioratively) as "Pac-Man Polices."

Expert Witness: A person with skill or expertise, based on either training or experience or both, who is hired to provide a professional opinion to the court or to an *arbitration* tribunal.

Exposure: (a) The direction a building faces, e.g. a north facing building has a northerly exposure. (b) The measurement of that portion of a shingle or siding board, which is exposed below the overlapping shingle, or board.

Express Authority: Sometimes called actual authority, is the authority given by a *principal* to an *agent* often through a written or spoken *contract* between the *principal* and the *agent*.

Express Terms: Words, phrases, or conditions that have been discussed and agreed to by the parties to a *contract*.

Exterior Insulation and Finish System (EIFS): An exterior cladding assembly consisting of a polymer finish over a reinforcement that is adhered to plastic foam insulation that has been fastened to masonry, concrete, building sheathing or directly to the structural framing. The sheathing may be cement board or gypsum sheathing. Intended to give the appearance of a stucco finish.

Extrapolate: To project tested values by assuming an observed or established pattern would continue. A method of projecting values beyond the limits of the test results. Not necessarily reliable.

Facade: An elevation or exterior face of a building, usually the front or chief face.

Face Amount: See *Penal sum*.

Face Nail: To install nails into the vertical face of a bearing header or beam.

Factor of Safety: Same as "Safety Factor." The ratio of ultimate load to the greatest allowable working load. This term is losing favor since it is subject to misuse and abuse.

False Work: Temporary scaffolding, walkways, covers etc. that are used during construction for bracing or protecting the construction and then removed prior to completion.

Fascia: A relatively broad, flat, horizontal board, used to cover the rafter tails at the eaves.

Fast Track Construction (Fast Tracking): A method of design and construction in which a portion of the construction work commences before the design for the project is complete.

Fasteners: Staples or nails used, for example, to attach roofing material to the roof deck.

Fatigue: A physical condition of material under stress that has lost, to some degree, its power of resistance as a result of repeated application and removal of stress, such as repeatedly bending and straightening a paperclip.

Fault: A fracture or fracture zone in rock along which movement has occurred.

Feathering Strips: Tapered wood filler strips placed along the butts of old shingles or shakes to create a level surface when re-roofing over an existing wood shingle or shake roof.

Fee Simple Right or Interest: A right or interest in property that permits the holder to do almost anything with the property, including selling, leasing, occupying, or mortgaging the property.

Felt: Fibrous material saturated with asphalt and used as an underpayment or sheathing; see underlayment.

Fenestration: A reference in architectural terminology to a buildings windows and doors.

FF&E: An abbreviation for furniture, fixtures and equipment. Generally associated with interior design and planning of retail or office facilities.

Fiduciary Duty: A heightened duty to care for the interest of another party in priority to one's own interest, and to refrain from acting against the interest of the other party.

Field Order: A written order for a minor change or clarification in the work not involving an adjustment to the contract sum or an extension of the contract time.

Final acceptance: The owner's formal acceptance of a project from the contractor upon certification by the architect that it is complete and in accordance with the contract requirements; final acceptance is confirmed by the making of final payment including the release of retainage unless otherwise stipulated at the time of making such payment.

Fire Block: Short horizontal members sometimes nailed between studs, usually about halfway up a wall. See also 'Fire stop'.

Fire-Rated System: Wall, floor and roof construction of specific materials and designs that has been tested and rated according to fire safety criteria (e.g., flame spread rate and fire resistance). Testing and approval are performed by agencies such as Underwriters Laboratories, Inc. A one-hour rating, for example, means that an assembly similar to that tested will neither collapse nor transmit flame or high temperature for at least one hour after a fire starts.

Firestop: A solid, tight closure in a concealed space, placed to prevent the spread of fire and smoke through the space. In a frame wall, the fire stop is generally made of 2 by 4 cross blocking between the studs. Materials that fill the opening around penetrating items such as cables, cable trays, conduits, ducts, and pipes and their means of support through the wall or floor to prevent spread of fire.

Fishmouth: (a) A half-cylindrical or half-conical opening formed by an edge wrinkle in a roofing membrane; (b) In shingles, a half conical opening formed at a cut edge.

Fixed Fee: A set contract amount for all labor, materials, equipment and services; and contractors overhead and profit for all work within the contract.

Fixed Price Contract: Sometimes called a *stipulated sum contract*, is a *contract* in which the exact amount that the contractor will be paid for the work is defined in the *contract*.

Fixed Limit of Construction Cost: The maximum allowable cost of the construction work as established in the agreement between the owner and the architect. The budget to which the architect is to design, not to be confused with the contractor's bid price.

Fixture: *Personal property* that becomes part of *real property* when it becomes affixed to the *real property*.

Flange: Top and bottom longitudinal members of a beam or I-joint. Plywood box beams are fabricated with lumber flanges (top and bottom) and plywood webs (sides).

Flanking Paths: Paths by which sound travels through ducts, conduits, openings, structural elements, rigid ties, etc. The acoustic effect of sound *flanking paths* must be taken into account in determining sound transmission between adjoining rooms. See *STC*.

Flashing: Strips of sheet metal or other material bent or formed to fit the angle between any two roof surfaces or between the roof and any projection, such as a chimney.

Flat or Low Slope: Pitch of less than three (3) feet of rise over twelve (12) feet of run is considered a flat or low slope roof. Installation of composition roofing, at this minimum slope, is not recommended and built-up roofs are generally specified.

Flatwork: Common word for concrete floors, driveways, basements, and sidewalks.

Float: The flexibility inherent in non-critical activities that allows their start dates to be delayed without affecting the project completion date. (See also *slack*)

Floating Wall: A non-bearing wall built on a concrete floor. It is constructed so that the bottom of the two horizontal plates can compress if the concrete floor moves up due to movement of expansive soils.

Floor Load: The maximum combination of *dead load* and *live load* a floor is designed to support.

FM: An abbreviation for Factory Mutual Research Corp.

Flood Plain: An area of alluvium-covered, relatively level land along the banks of a stream that is covered with water when the stream leaves its channel during a time of high flow. Special

requirements and regulations may exist with regard to construction within designated flood plains.

Floor Joists: The main floor-framing members that support the floor span. Joist are usually made of engineered wood I-beams or 2x8 (or larger) lumber.

Footing: The base for foundation walls, posts, chimneys, etc. The footing is wider than the member it supports, and distributes the weight of the structure to the ground over a larger area to prevent settling.

Footprint: The outline of a building's perimeter without regard to its height. The footprint of a building reflects the percentage of the building site that the building itself will occupy.

Force Account: A term used when work is ordered to be done without prior agreement as to lump sum or unit price cost thereof and is to be billed for at cost of labor, materials and equipment, insurance, taxes, etc., plus an agreed percentage for overhead and profit.

Force Majeure: Generally means events beyond the control of the contracting parties, although most contracts specifically define the events to be considered force majeure.

Force Majeure Clause: A list of events that the parties to a *contract* agree are beyond their control and that provides for relief due to these events. Sometimes called "Acts of God."

Forced Air Heating: A common form of heating with natural gas, propane, oil or electricity as a fuel. Air is heated in the furnace and distributed through a set of metal ducts to various areas of the house.

Form: Temporary structure erected to contain concrete during placing and initial hardening.

Foundation: The load bearing structure of the building upon which the building is erected.

Foundation Plan: A drawing of a building as viewed from above in horizontal section showing exterior foundation walls, footings, piers and other foundation components.

Frame Construction: Construction in which the structural parts are wood or dependent on a wood framework for support. The classification of frame construction remains the same in building codes even when masonry veneer is applied on exterior walls.

Fraud: Also known as deceit, is an intentional tort. It is often a fraudulent misrepresentation, because fraud in almost all cases involves a misstatement (misrepresentation) made by one party to deceive the other party.

Freeboard: The dimension underneath a bridge or culvert that is measured from the top of the water surface to the bottom surface of the bridge or culvert.

Frost Line: The depth of frost penetration in soil and/or the depth at which the earth will freeze and be subject to frost heave. This depth varies in different parts of the country and varies widely within Colorado as well. This depth is normally dictated by local building codes.

Frustration: Or impossibility, is an event not foreseen at the time a *contract* was entered into that makes the performance of the *contract* either impossible or of no value.

Fundamental Breach: A *breach of contract* that goes to the root of the *contract* and deprives the innocent party of all or substantially all of the benefit of the *contract*.

Furring Strips: Strips of wood, often 1 X 2 and used to shim out and provide a level fastening surface for a wall or ceiling.

Gable: The upper portion of a sidewall that comes to a triangular point, at the ridge of a sloping roof.

Gable Roof: A type of roof containing sloping planes of the same pitch on each side of the ridge. Contains a gable at each end.

Gaging Station: A facility on a stream, lake, canal, reservoir or other water body where instruments are installed to automatically monitor the water. Measurements such as stage, discharge, water temperature and pH are automatically taken and transmitted to hydrologists via satellite, radio or telephone. Measurements from these stations are useful for a wide variety of flood prediction, water management, recreation and navigation purposes.

Gambrel Roof: A type of roof containing two (2) sloping planes of different pitch on each side of the ridge. The lower plane has a steeper slope than the upper; contains a gable at each end.

General Conditions: (a) That portion of the *contract documents, specifications or project manual setting* forth the contractor's performance requirements including the rights, responsibilities and relationships of the parties involved in the performance of the contract. General conditions may include a statement of the *bonds* required, the date of *substantial completion*, and similar matters. (b) An account or line item in a contractor's price or on the *Schedule of Values* that includes certain costs that are not attributable to any single construction activity or task such as the field office, utilities, insurance, bond costs, field toilets, etc.

General Partner: A *partner* in a *limited partnership* that operates the business of the *limited partnership*.

Girder: A larger beam of wood or steel used as the principle support of concentrated loads at points along its span.

Glazing: (a) The process of installing glass, which commonly is secured with glazier's points and glazing compound. (b) The panes of glass that are installed into a window frame.

Glazing Bar: See *Mullion*.

Glulam: A large beam constructed by laminating multiple layers of lumber together under pressure. Short for glue laminated.

Grab Bar: Safety bar installed in a bathtub or shower for use when bathing. Specific dimensional requirements may exist in facilities that must comply with the ADA and/or Fair Housing Act requirements.

Grade: (a) Ground level, or the elevation at any given point. Also the work of leveling dirt. (b) The designated quality of a manufactured component (e.g grade of carpet or other material).

Grade Beam: A foundation wall that is poured at level with or just below the grade of the earth.

Grantee: The party that grants a right.

Gray Water: Wastewater from sinks, showers, and bathtubs, but not toilets.

Green Lumber: Freshly sawed of undried wood. Wood that has become completely wet after immersion in water would not be considered green, but may be said to be in "green condition."

Green Concrete: Concrete that is fresh or has not yet gained its full strength.

Greenboard: A generic name for waterproof plasterboard used for construction in areas exposed to moisture such as behind tile in a bathroom tub or shower surround.

Grievance: A complaint by either the union on behalf of an employee or by the employer, stating that the other party has breached the collective agreement.

Ground Water: Water that exists below the water table in the zone of saturation. *Ground water* moves slowly in the same direction that the water table slopes.

Grounding: Connecting a piece of electrical equipment to a "ground wire" which is connected to the electrical system ground at the circuit breaker box. This helps to ensure that the circuit breaker will trip and cut off power in the event of a short circuit or damage to insulation.

Grout: A mortar composed of sand, cement, and water of such liquid consistency that it could easily be poured. To pour *grout* into a void.

Grouting: The pouring of *grout*.

Grubstake Agreement: Historically an agreement between a storeowner, who provided grub, and the prospector, so that the prospector did not starve while searching for a mineral find or strike. It now refers to any agreement with a geoscientist that provides necessary resources to complete a geotechnical investigation.

GMP: Abbreviation for Guaranteed Maximum Cost: An amount established in an agreement between the owner and contractor as the maximum cost of performing specified work on the basis of cost of labor and materials plus overhead expense and profit.

Gusset Plate: A piece of plywood connecting lumber members of a truss or other frame structure. Gussets may be applied to one or both sides.

Head: A measure of mechanical energy per unit weight of fluid.

Header: (a) A beam placed perpendicular to joists and to which joists are nailed in framing for a chimney, stairway, or other opening. (b) A wood lintel. (c) The horizontal structural member over an opening (for example over a door or window).

Heat Load: The amount of heating required to keep a building at a specified temperature during the winter at a specified outdoor or design temperature.

Hip: The inclined external angle that is formed by the intersection of two sloping roof planes and which runs from the ridge to the planes.

Hip Roof: A type of roof containing sloping planes on each side of the building; therefore it does not form gables.

Hip Shingles: Shingles used to cover the inclined external angle formed by the intersection of two (2) sloping roof planes. Also called hip and ridge.

Hogback: A narrow ridge with steeply inclined sides of nearly equal slopes. Formed by differential erosion of steeply dipping rock units. The best recognized hogback region in Colorado is the cut for Interstate 70 at the Morrison exit.

Holdback: More commonly called *retainage*, is a percentage of *contract* value that must be withheld from each progress draw, not to be paid out until certain time periods have passed and certain conditions have been met.

Homogeneous: Having parts of only one kind. Composed of similar parts or congruous elements. A soil that is homogeneous is comprised of only one soil classification.

Honeycomb: An unacceptable physical appearance in the surface of finished concrete resembling a honeycomb.

Horizontal Shear: The measure of the resistance of the shearing stress along the longitudinal axis of a structural member when a load is applied to the member and supported at each end, there is a stress over each support that tends to slide the fibers across each other horizontally. The internal force that resists this action is the horizontal shear.

Horsefeathers: Tapered wood filler strips placed along the butts of old wood shingles to create a level surface when reroofing over existing wood shingle roofs or when installing new shingle siding over old siding.

Hot Tar: Oil-based material applied first by heating to melting point in order to saturate individual ply of felt. Used on low slope or flat roofs. Can be covered with gravel in order to protect from harmful ultraviolet rays of sun. Also called a tar and gravel roof.

HVAC: An abbreviation for Heating, Ventilation, and Air Conditioning.

Hydraulic Conductivity: The ability of a porous material to transmit a fluid. Permeability.

IAMPO: An abbreviation for the International Association of Mechanical and Plumbing Officials, which publishes the International Plumbing Code.

I-beam: A steel beam with a cross section resembling the letter **I**. It is used for long spans as basement beams or over wide wall openings, such as a double garage door, when wall and roof loads bear down on the opening.

ICBO: Abbreviation for the International Conference of Building Officials, which publishes the Uniform Building Code. One of three major regional model code agencies. The others are BOCA (Building Officials and Code Administrators) and SBCCI (Southern Building Code Congress International).

Ice Dam: An undesirable condition created when ice builds up at the lower roof edge as snow thaws and re-freezes on the overhang. This action can force water up and under the shingles, causing leaks. The condition can be avoided by the installation of electric or solar heat tape along roof edge or by construction using a *cold roof*.

Ice & Water Shield: A self-adhering membrane roofing underlayment designed to provide leak protection for sloped roofs subject to the effects of ice dams or wind driven rain. The membrane is designed to be applied to the roof deck prior to the application of the finished roof covering (shingles, tile, metal, etc.). Now a generic name, however it is properly applied only to Grace Ice & Water Shield as manufactured by W.R.Grace Company.

Impact: Also known as a *disruption*, is the effect of an event that detrimentally affects a project but that does not necessarily extend the time to complete the project.

Impact Load or Impact Stress: Any stress caused by the sudden application of a load over and above that which the load at rest would produce. For example, a lower roof section on a building in a mountainous area must be designed to resist the "impact load" of snow sliding onto it from a higher roof section as well as the load of snow that falls upon it.

Impact Noise Rating: Values for floor assembly impact sound transmission, now replaced by IIC classification. See also *STC*.

Implied Terms: Terms that have never been discussed or agreed to between the parties to a *contract* but which are taken for granted.

Inadvertence: One of the parties to the *contract* has unintentionally failed to carry out one of its promises or obligations.

Indemnity: An *agreement* by one party to bear the financial loss of another party for a specified event.

Inexcusable Delay: Delays caused by the contractor, within the contractor's control or which the contractor should have reasonably anticipated and for which the contractor is entitled to neither compensation nor an extension of time.

Injunction: A court order prohibiting a party from doing something.

Insider Trading: See *unlawful insider trading*.

Insurable Interest: The *insured* benefits from the existence of or would be prejudiced by the loss of the insured property.

Insurance Policy: A *contract* of *indemnity*.

Insured: The party covered by an *insurance policy*.

Intangible Property: All property other than *real property*.

Intellectual Property: A set of rights, often referred to as a bundle of rights, in intangible property.

International Trade Agreement: An *agreement* between two countries that puts rules in place about the transfer of goods and services between the two countries.

Interrogatories: A series of written questions sent by one party to another during a *litigation*, which must be answered under oath.

Invitation to bid: A solicitation of competitive bids. Same as *Advertisement For Bids* or *Call for Bids*.

Invited Bidders: The bidders selected by the architect and the owner as the only ones from whom bids will be received. See *Closed Bid*.

Isometric Drawing: A form of architectural drawing showing an object as three-dimensional with all planes drawn to scale. A true isometric will appear distorted if scaled precisely. Accordingly, the vertical lines extending from the horizontal base line may be drawn to a reduced scale.

Jamb: The vertical members of a window or doorframe.

Job captain: A member of the architect's staff normally responsible, on a given project, for the preparation of drawings and their coordination with other documents

Joint Tenants: Hold rights in property concurrently such that if one of them dies, the remaining joint tenants automatically inherit the interest of the deceased.

Joint Venture: Not a legal structure; rather, it is an organization where two or more joint venturers act together but retain their separate legal status.

Joist: One of a series of parallel timber or steel beams used to support floor and ceiling loads, and supported in turn by larger beams, girders, or bearing walls.

Joist Hangers: Metal brackets designed to hold joist ends. Using hangers is usually faster and easier than toenailing joists.

Just Cause: Refers to the legal acceptability of employment termination, such as when an employee has committed a fundamental breach of the employment contract.

Kiln-drying: A method of seasoning timber, in which it is put into a kiln and exposed to a current of hot air.

King Stud: The outer vertical framing studs (left and right) on either side of a window or door opening, and runs continuously from the bottom sole plate to the top plate. The shorter jack studs are nailed to the king studs.

Knee Wall: A short wall that supports the roof rafters

Labor and Material Payment Bond: A form of *payment bond* that is put in place to protect the owner of a construction of a project against *liens* by unpaid subcontractors, suppliers, and those working below them in the contractual chain. In the event the principal (usually the general contractor) does not make payment as required, the *surety* must make payment under the *bond*.

Laminar Flow: A state of uniform flow within a fluid in which the moving particles travel along parallel paths (compare with Turbulent Flow). May also be applied to the flow of air.

Laminated Veneer Lumber (LVL): Structural wood elements constructed of veneers laminated together with their fibers oriented in a parallel direction.

Landslide: A downslope movement of rock and soil over a failure surface and under the influence of gravity. Slumps, earthflows, debris flows and debris slides are examples.

Lap: To position adjacent objects so that one surface extends over the other. Term may designate a lap siding technique, in which each panel or piece overlaps the edge of the next lower panel.

Latent Defect: A defect in the construction of a building that is not immediately apparent but which become apparent with the passage of time, weathering or use.

Lateral Force: The force imposed and acting against the side surface of an object. The wind blowing against the side of a building exerts a lateral force.

Lateral Support: (a) Bracing, blocking or other support required to resist lateral forces (b) the natural support of the earth or land required to prevent adjoining property from failing.

Lay-off: The temporary suspension of employment.

Lease: Provides a party with an exclusive right to occupy or possess all or part of a property for a set period of time.

Ledger (for a Structural Floor): The wooden perimeter frame lumber member that bolts onto the face of a foundation wall and supports the wood structural floor.

Ledger Strip: A strip of lumber nailed along the bottom of the side of a girder on which joists rest.

Leech Field: A method used to treat/dispose of sewage in rural areas not accessible to a municipal sewer system. Sewage is permitted to be filtered and eventually discharged into a section of the lot called a leech field.

Let-in Brace: Nominal 1 inch-thick boards applied into notched studs diagonally. Also, an "L" shaped, long (@ 10') metal strap that are installed by the framer at the rough stage to give support to an exterior wall or wall corner.

Letter of Intent: Or a term sheet, is a document that sets out the basic terms of a business arrangement in advance of agreeing to all of the detailed *contract* terms.

Level: True horizontal. Also a tool used to determine level.

Liability Insurance: Insurance that protects an *insured* against claims made by third parties, such as a claim against a professional for errors and omissions.

Licensing Agreement or License: Provides a grant of rights to a licensee to use a right held or owned by a licensor.

Lien: A charge or claim against property.

Lien Bond: A form of *payment bond* used as security to facilitate the discharge of a *lien* that has been filed against the land on which a project was constructed.

Lien Waiver: A written document provided to the owner by contractors, subcontractors, material suppliers or other construction professionals, having lien rights, relinquishes all or part of those rights. Lien waivers are generally required in connection with an *application for payment*.

Life Cycle Cost: A measure of the total cost of an appliance or building system taking into account its initial purchase and installation cost, and its operation and maintenance cost over the period of the expected useful life.

Limitation Clauses (or Limitation of Liability Clauses): Contract clauses that purport to limit the damages or remedies available to the innocent party upon the occurrence of specified events.

Limitation Period: A contractual or statutory requirement for a notice of a claim to be made or legal action to be commenced within a certain time period.

Limited Liability Partnership: A *partnership* in which the liability of a *limited partner* is limited only to the liability of that *partner*

Limited Partners: *Partners* in a *limited partnership* whose liability is limited to their cash contribution to the *limited partnership*.

Limited Partnership: A *partnership* in which the liability of each *limited partner* is limited only to the liability of that *limited partner*.

Lineal Foot: A unit of measure for lumber equal to 1 inch thick by 12 inches wide by 12 inches long. Examples: 1" x 12" x 16' = 16 board feet, 2" x 12" x 16' = 32 board feet.

Lintel: A horizontal structural element spanning over an opening and carrying the weight of the wall above it. Same as a *header*.

Liquidated Damages: Genuine estimates of loss caused by breach of contract (mostly used for late performance of a *contract*) that are made before the *contract* is signed and before any *breach of contract* has occurred. They are defined in a clause in the *contract*.

Liquidating Agreement: An form of agreement in which a subcontractor agrees to release its claim against the general contractor in exchange for the general contractor's agreement to pursue the claim against the owner to pay over the agreed upon portion of the recovery to the subcontractor upon resolution with the owner.

Lithology: The study and description of rocks, including their mineral composition and texture. Also used in reference to the compositional and textural characteristics of a rock.

Litigation: The use of the court system to resolve disputes.

Live Load: Part of the total load on structural members that is not a permanent part of the structure. May be variable, as in the case of loads contributed by the occupancy (people, furniture, etc.) and including wind and snow loads.

Load (stream flow): The total amount of sediment being carried by a stream or a glacier. Includes suspended materials, dissolved materials and materials moved along Earth's surface.

Loads (structural): The weight or pressure a structure carries, which must be considered in designing a building or other structure. Uniform Loads are evenly distributed over a large area, usually the entire surface of a panel. Concentrated loads are applied over a very small area. Dead loads are stationary, permanent loads; that is, the weight of all the material used in construction of the building. Live loads are planned loads the structure must carry under normal conditions, such as people or furniture and equipment. Minimum loads are generally assigned by the building code for the type of structure.

Lookout: Short pieces of lumber that project from the sides of the house to support an overhanging section of roof.

Low Voltage: Voltage that is less than 50v as compared to the typical household current of 120 volts. May be used for low voltage lighting, doorbells systems, etc.

Lumens: Unit of measure for total light output. The amount of light falling on a surface of one square foot from a standard candle.

Lump Sum Bid: A single dollar amount proposed to cover all labor, equipment, materials, services, and overhead and profit for completing the construction.

Lump Sum Contract: A form of construction contract between the owner and contractor wherein the owner agrees to pay the contractor a specified sum of money for completing the specified construction. May also be a contract between a general contractor and subcontractor requiring the subcontractor to complete a specified work scope for a *lump sum*.

LUST: An abbreviation for Leaking Under Ground Storage Tank.

Main: The primary water or sewer or electrical line in a building from which branch lines are distributed.

Mansard: A roof type with two slopes on each of the four sides, the lower slope being steeper than the other; capped off with a cupola, typically Victorian.

Material Non-Disclosure: A breach of the duty of the *insured* to provide all relevant information to the insurer when purchasing an insurance policy.

Means and Methods: The processes, procedures and manner in which a contractor will accomplish its work in order to construct the project or a part thereof in accordance with the design. The contractor must construct the project in accordance with the design but the *way* in which it does it (means and methods) is for the contractor to determine.

Measured Drawings: Architectural drawings of an existing structure, drawn to scale. Usually prepared in anticipation of the remodeling or renovation of an existing structure to allow the preparation of architectural plans for the new construction.

Measured Mile Approach: The valuation of a *delay* claim by using a portion of the *contract* unaffected by *delays* as a yardstick to compare productivity for the rest of the *contract*.

Mechanical Weathering: A general term applied to a variety of weathering processes that result in the particle size reduction of rock materials with no change in composition. Frost action, salt crystal growth and pressure relief fracturing are examples. Also known as physical weathering.

Mediation: is an assisted negotiation process in which settlement discussions are facilitated by a neutral third party.

Member: A component or part of a building, particularly one intended to carry a structural load.

Membrane: A flexible or semi flexible roof covering or waterproofing, whose primary function is the exclusion of water.

Metal Fatigue: A breakage of the metal caused by the bending and flexing or the expansion and contraction of a metal part beyond its endurance limit.

Metes & Bounds: survey whose property lines are defined by bearings and distances.

Milestone: A scheduling event that signifies the completion of a major activity. A milestone, by definition, has a duration of zero and no effort. There is no work associated with a milestone. It is noted by a flag on the CPM to signify that some other work has been completed. Usually a milestone is used as a project checkpoint to monitor how the project is progressing.

Millwork: Finished woodwork, cabinetry, carving, etc.

Misrepresentation: A statement of fact made by one party that is untrue.

Mistake: A misunderstanding with respect to the term of a *contract*.

Mitigation: A party who has suffered an injury or loss must take reasonable steps to reduce or mitigate their own injury or loss.

Mixing Valve: Mixes hot and cold water to achieve a specified delivery temperature.

Modulus of Elasticity (MOE): A measurement of a member's stiffness determined by the ratio of the amount a material will deflect in proportion to the applied load. A member with a large MOE will deflect less under the applied load than a member with a smaller MOE when other conditions are equal. MOE is often referred to as the E value.

Mohs Hardness Scale: A collection of minerals ranging from very soft to very hard. Use as a comparison scale during mineral identification. From softest to hardest, the ten minerals are: talc 1, gypsum 2, calcite 3, fluorite 4, apatite 5, orthoclase 6, quartz 7, topaz 8, corundum 9, and diamond 10. Developed by Friedrich Mohs, a German mineralogist in the early 1800's.

Moment: The tendency of a force to produce rotation or to resist rotation.

Monolithic: In construction terminology generally used to reference a concrete component or part of a building that has been poured in one continuous concrete pour without joints.

Moral Principles: Are the standard of conduct required generally by society or specifically by an organization or group.

Moral Rights: Rights that protect the artistic integrity of copyrighted work, such as the manner in which a painting is displayed.

Mortgage: A form of security for a loan, which provides the lender with the right to be paid out of the value of the property, when the property is sold, in priority to the holder of the *fee simple right*.

Mortgage Improvement Certificate: A certificate by a licensed surveyor for the benefit of mortgage companies and title insurance companies. Not a survey in the strict sense of the word. The certificate shows the relationship of the structure to the deed lines as described in the legal description.

Mudjack (Mudjacking): Injection of grout ("mud") into the ground in order to increase the bearing capacity of the soils in the immediate vicinity. Also used to gradually lift a foundation element into alignment or into its proper position by forcing grout under the element.

Mudsill: Bottom horizontal member of an exterior wall frame which rests on top a foundation, sometimes called sill plate. Also sole plate, bottom member of interior wall frame.

Mullion: A vertical primary framing member that separates paired or multiple windows within a single opening.

Muntin: A small member, which divides the glass or openings of sash or doors.

Mushroom: The unacceptable occurrence when the top of a caisson concrete pier spreads out and hardens to become wider than the foundation wall thickness.

Mutual Mistake: A *mistake* made by both parties to a *contract*.

M.Y.A.: A geological abbreviation for a Million Years Ago.

NEC (National Electrical Code): A set of regulations pertaining to electrical design and construction. The NEC is adopted by *NFPA* and approved by *ANSI*. Many local code authorities have adopted the NEC as the regulatory standard, normally with local amendments that differ from the NEC in some ways.

Negative Restrictive Covenant: A requirement on a land title not to do something, such as not constructing a building.

Negligence: The failure to take reasonable care for another person.

NFPA: Abbreviation for the National Fire Protection Association

No-Damages-for-Delay-Clause: A *limitation clause* designed to protect the owner from claims for *damages* associated with *delay* and *acceleration*; but it does not preclude the contractor from insisting upon an extension of time. Such clauses are prohibited in many public contracts.

Nominal Dimension: The commercial designated dimension of a piece of "dimensional lumber". It is not the actual dry dressed dimension, however. For example, a nominal 2"x4" stud actually measures 1-1/2 inch x 3-1/2 inches.

Nonexcusable Delay: A delay that does not entitle the contractor to either a time extension or increased compensation to cover the cost associated with the delay. The terms of the contract for construction will typically determine whether a delay is excusable or nonexcusable. However, typical non-excusable delays include matters such as the failure of a subcontractor to perform, unavailability of materials when the contractor could have secured timely delivery by advance planning, and similar matters within the reasonable control of the contractor.

Nonconforming Work: Work that does not meet the requirement of the contract documents. The owner may reject the work and require that it be re-performed or may accept it as a deductive alternate.

Noncritical Delay: A delay to one or more project activities that are not on the *critical path* and thus do not delay the overall completion of the project. Generally a contractor is not entitled to an extension of time as a result of a noncritical delay.

Notice of Claim Provision: A clause that defines the process to be followed for giving notice of and information in respect of a claim under a *contract*.

Notice to Proceed: A formal notification to the contractor to commence construction.

Nuclear Density Testing: A method of determining the compaction of soil or soil-rock mixtures using gamma radiation from a nuclear density testing gauge either placed on the surface of the material (backscatter method) or inserted via a detector probe up to 12" into the material (direct transmission method). Testing of soil compaction by "NDT" should be done in accordance with ASTM D2922. NDT can also be used with asphalt and other materials.

Nuisance: The undue interference with the use and enjoyment of rights to land.

Obligee: The party to whom the obligations are owed under a *bond*.

Observation Of The Work: Used to describe the duties of the architect during the construction phase in conducting periodic visits to the site to gain general familiarity with the progress and quality of the work in order to determine in general if the work is proceeding in accordance with

the contract documents. Architects generally do not supervise the construction. Nor are their site visits during construction for the purpose of inspection.

(OC) On Center: The measurement of spacing for studs, rafters, and joists in a building from the center of one member to the center of the next.

Occupational Health and Safety Legislation (OH&S): Legislation dealing with occupational health and safety.

Occurrence Policies: *Insurance policies* that cover claims in which the insured event (such as a house burning down or damage occurring to a building) occurred during the *coverage period*.

Offer: A proposal by an offeror to an offeree, containing the essential terms of a proposed *contract*.

Officers: Individuals in a *corporation* who provide a closer operational direction for the business, such as the president, vice-president, and corporate secretary,

Oil Shale: A dark-colored shale containing an unusual amount of solid organic material. This shale can be crushed and heated to liberate gaseous and liquid hydrocarbons. At present the expenditure required to process oil shale into a fuel makes this effort marginally profitable or unprofitable although concentrated efforts to render oil shale production commercially feasible continue on Colorado's western slope.

One Hour Wall: A fire resistant wall commonly composed of 5/8" type X drywall over conventional framing designed to resist a direct flame for one hour.

One Hundred Year Storm: A term used as a measurement of rainfall duration and intensity. In civil engineering design, it is used as a means of sizing the capacity of various storm drainage facilities. Street storm drains are often designed to accommodate a twenty-five year storm, sumps and creeks may be designed to a 100-year storm criteria. The reference to a 100-year storm or a 50-year storm, etc. is simply a means of communicating a specific storm intensity and duration and should not be understood to convey the impression that such a storm will only occur every 100 years, etc.

Open Hole Inspection: When an engineer or other inspector inspects the open excavation and examines the earth to determine or confirm the type of foundation that should be utilized.

Open Shop: A workplace with no union membership requirement and in some places is synonymous with a non-union shop.

Option Agreement: Provides the optionee (the party purchasing the option) with the right to buy or not buy land or goods or rights from the optionor (the party granting the option).

Or Equal: A phrase used in design specifications which requires the contractor to provide either the specific product set forth or at its option to provide a product from a different manufacture that is equivalent to the specified product.

Oriented Strand Board (OSB): Structural wood panels manufactured from reconstituted, mechanically oriented wood strands bonded with resins under heat and pressure.

OSHA: See *Occupational Safety and Health Administration*.

Outcrop: An exposure of bedrock. Outcrops can be formed naturally or by human action. Stream erosion and highway construction can produce outcrops.

Outfall: A location where water is discharged. Normally used in reference to where a water treatment facility releases treated water into the environment.

Panelized Construction: Building components fabricated in wall, floor, or roof sections, etc., to be assembled into a completed structure at the building site. Panelized construction is intended to speed erection and cuts on-site labor costs.

Parapet: A low wall or railing along the edge of a roof or terrace, provided for protection and /or to screen equipment and vents on the roof.

Parge (Parge Coat): In masonry construction, a coat of cement mortar on the face of rough masonry.

Parol Evidence Rule: The rule of contractual interpretation that states that where a contract is entirely written, and its written language is clear and unambiguous, extrinsic (outside) evidence is not admissible to add to, vary, or contradict the written words.

Partner: One of the members of a *partnership*.

Partnership: A group of individuals or corporations who pool their resources with the goal of making profit.

Parts per Million: A measurement used to express concentration of the parts of one substance in a million parts of another. Abbreviated ppm.

Party Wall: A common wall separating adjoining dwelling units such as apartments.

Pass Through Agreement: See *Liquidating Agreement*

Passive Solar System: A system of providing solar heat to a building without the involvement of any mechanical means. Consists mainly of the orientation of a building, the architectural arrangement of windows and the selection of materials.

Patents: Legal protections for inventions, which include any new and useful art, process, machine, manufacture, or composition of matter, or any new and useful improvement in any art, process, machine, manufacture, or composition of matter.

Pay-If-Paid Clause: A clause in a construction *contract* that shifts the risk of non-payment by the owner from the general contractor to the subcontractor by making payment to the subcontractor by the general contractor contingent on the general contractor being paid by the owner.

Pay-When-Paid Clause: A clause in a construction *contract* that applies to the timing of payment (not to whether payment must eventually be made). It does not allow the general contractor to refuse to the subcontractor if the owner never pays.

Payment Bond: A written security instrument (bond) issued to the owner by a surety company, on behalf of the contractor or subcontractor guaranteeing payment to all persons providing labor, materials, equipment, or services in accordance with the contract in the event the contractor does not make the required payments.

Peak Flow: The maximum instantaneous discharge of a stream at a specific location. Corresponds to the highest stage of a flood.

Penal Sum: The amount set forth in a bond as the maximum amount for which the surety may be held liable.

Penalty: A sum of money included in a *contract* as punishment for *breach* of the *contract* rather than as compensation for the *breach*.

Penalty Clause: A provision in a contract that provides for a reduction in the amount otherwise payable under a contract to a contractor as a penalty for failure to meet deadlines or for failure of the project to meet contract specifications. If such a clause is regarded by the court as too harsh to be regarded as a fair estimate of probable damaged, it will normally be held invalid. See *liquidated damages*.

Penny: As applied to nails, it originally indicated the price per hundred. The term now serves as a measure of nail length and is abbreviated by the letter "d". Normally, 16d (16 "penny") nails are used for framing. Originally indicated the price in English pence per 100 nails of this size.

Perched Water Table: A water table that is isolated from and higher than the regional water table. This can occur when a hilltop is underlain by an impermeable rock unit. Infiltrating waters accumulate on and do not drain from the impermeable unit, creating an isolated water table that is higher than the water table of the surrounding land.

Percolation: The process of straining or filtering a substance. The passing of water or other fluid through the pores of a solid.

Percolation Test or Perc. Test: Tests that a soil engineer performs on earth to determine the feasibility of installing a leech field type sewer system on a lot. A test to determine if the soil on a proposed building lot is capable of absorbing the liquid affluent from a septic system.

Performance Bond: A bond under which a *surety* guarantees the performance of a construction *contract* by a contractor.

Performance Specification: A specification that sets out the operating parameters, minimal acceptable quality standards or aesthetic requirements that must be met by the final product but does not either provide a detailed design or require the contractor to furnish a specified piece of equipment by an identified manufacturer.

Performing Under Protest: The protesting party gives the other party written notice that it will be performing certain work under a *contract* on the understanding that it is doing so without prejudice to its right to argue that it is entitled to additional payment for that work.

Perils Covered: The events that trigger the obligation of the insurer to either indemnify, defend, or both

Perimeter Drain: 3" or 4" perforated plastic pipe that goes around the perimeter (either inside or outside) of a foundation wall (before backfill) and collects and diverts ground water away from the foundation. See also *drain tile*

Permeability: A measure of how well a material can transmit water. Materials such as gravel, that transmit water quickly, have high values of permeability. Materials such as clay, that transmit water poorly, have low values. Permeability is primarily determined by the size of the pore spaces and their degree of interconnection. Permeability measures are expressed in units of velocity, such as centimeters per second, and assume a gradient of one vertical foot of drop per linear foot.

Personal Property: All property that is not *real property*.

Perspective Drawing: A drawing that attempts to show an object in a natural, three-dimensional view.

pH: A relative measure of the acidity or alkalinity of a water based upon a scale that ranges between 0 and 14 with 7 being neutral. Values of pH below 7 indicate acid solutions and values of pH above 7 indicate basic solutions.

Phase I ESA: The first part of an environmental site assessment, in which an assessor seeks to determine whether a particular property is or may be subject to actual or potential contamination.

Phase II ESA: The second part of an environmental site assessment, in which an assessor seeks to characterize and/or delineate the concentrations or quantities of substances of concern related to a site and compare those levels to criteria.

Phase III ESA: The third part of an environmental site assessment, which results in a detailed delineation of the contaminants, confirmatory sampling throughout the remediation process, and a measurement of the success of the remediation program.

Pier: A vertical pad or masonry support, usually cast in place. Piers or caissons drilled into the earth and filled with concrete are used to support a building foundation.

Piezometer: A small diameter hole drilled into the earth's surface in order to measure changes in the level of ground water. Also the device that is inserted into the hole to make the measurements.

Pilaster: A rectangular vertical member projecting only slightly from a wall, with a base and capital as will a column.

Pile: A structural foundation unit that that is installed either by driving, jacking or screwing it into the soil or by casting into a drilled hole through soft or compressible soils until competent bearing strata is reached. Piles can be wood, concrete or steel.

Pitch: The rate at which a roof or other surface slopes. The incline of slope or the ratio of the total rise to the total width, i.e., a 6-foot rise and 24-foot width is a one-fourth pitch. Expressed in the dimension of vertical rise, per dimension of horizontal run.

Placed (Placing): A descriptive word used to indicate in-place concrete construction. Concrete is said to be "placed" because technically it is too thick to "pour."

Plaintiff: The party in a court action who claims to have suffered injury or loss.

Plan: A line drawing presenting the horizontal *section* of the walls of a building. The *section* (a horizontal plane) is taken at an *elevation* to include the relative positions of the walls, partitions, windows, doors, chimneys, columns, pilasters, etc. A "plan" can be thought of as viewing as from above a horizontal section that has been cut through the building.

Plans: A term used to represent all drawings including *elevations*, *sections* and *details*; and any other drawings necessary for construction of a project. A set of plans for a construction project will generally be arranged in the same sequence as follows:

C Series: Civil

L Series: Landscape

A Series: Architectural

I Series: Interior

S Series: Structural

M Series: Mechanical

P Series: Plumbing

F Series: Fire Protection

E Series: Electrical

Specialty consultants such as Kitchen (K) Elevator (El) etc.

Plan and Profile: A specific type of engineering drawing normally used for utilities such as water and sewer lines. The upper portion of the sheet depicts a "plan view" and the lower portion consists of a profile view with the plan and profile views having coordinated stationing.

Plasticity: The property of a material that allows or causes it to be deformed by stress forces.

Plate: Normally a 2 X 4 or 2 X 6 that lays horizontally within a framed structure, such as:

- Sill plate: A horizontal member anchored to a concrete or masonry wall.
- Sole plate: Bottom horizontal member of a frame wall.
- Top plate: Top horizontal member of a frame wall supporting ceiling joists, rafters, or other members.

Pleadings: Documents filed in court in a lawsuit, or included in a trial record, including a *statement of claim, statement of defense, reply, demand for particulars, interrogatories, and motions.*

Plume: The spread of pollutants in or on groundwater.

Plumbing Tree: Prefabricated set of drain waste, vent and supply lines.

Plenum: The main hot air supply duct leading from a furnace.

Plot plan: An overhead view plan that shows the location of the home on the lot. Includes all easements, property lines, set backs, and legal descriptions of the home. Provided by the surveyor.

P.O.B.: An abbreviation found on surveys meaning Point of Beginning.

Point load: A point where a bearing/structural weight is concentrated and transferred to the foundation.

Pony Wall: A short wall used to support framing members such as floor joists.

Porosity: The volume of pore space in a rock, sediment or soil. Usually expressed as a percentage. This pore space can include openings between grains, fracture openings and caverns.

Positive Pressure: Air pressure within a device or a building that is higher than the surrounding or outside air pressure.

Positive Restrictive Covenant: Imposes a requirement on a land title to take specified action. For example certain subdivisions require that the owner build on the lot within a specified time after purchase.

Post Tension Concrete: Concrete that is poured in place with stressing of the concrete to provide the necessary strength accomplished after the initial placement by stretching cables within the concrete a specified tension. Post tension concrete is designed to have less shrinkage cracking than traditionally reinforced cast in place concrete.

Pre-bid Conference or Pre-bid walk-through: A meeting of any interested bidder, at the job site, giving an opportunity to review the project, and discuss any unclear design or programming issues.

Pre-Cast Concrete: Concrete that is formed and placed off-site and then transported to the project and erected in its final location.

Pre-Qualification: A process in which potential sellers are pre-qualified so as to limit the ultimate *call for tenders* or *request for proposal* to a limited number of qualified sellers.

Pre-qualification of prospective bidders: The process of investigating the qualifications of prospective bidders on the basis of their competence, integrity, and responsibility relative to the contemplated project.

Pre-Stressed Concrete: Pre-cast concrete panels or other units in which steel rods, rebar or wire mesh have been inserted for stressing prior to placement of the concrete.

Predecessor: An activity on a *CPM* schedule that must be completed before another activity can begin. For instance the "activity" of setting the forms must generally be complete before the reinforcing steel can be placed and the concrete foundation poured. See also *successor*.

Prefabricated: In housing, all parts constructed or fabricated in an off-site factory so that final construction only involves assembling the standardized parts at the job site. Commonly abbreviated as *prefab*.

Preliminary Estimate: Same as *Statement Of Probable Construction Costs*.

Pressure Head: Pressure in a plumbing system. The unit of measure which is the vertical force exerted by water at a depth of one foot.

Pressure Loss: The term given for the loss of pressure that occurs whenever water (or air) moves through a pipe (or duct) or moves uphill against the force of gravity. If the total pressure loss in a piping system exceeds the available static pressure there can be no flow.

Prime Contractor: Any contractor that has a contract directly with the owner. The prime contractor is usually the general contractor for a project. However, an owner may enter into

separate contracts directly with several contractors in which case there are *multiple-prime contractors*.

Principal: (1) The leading participant of professional practice such as an architectural or engineering firm. (2) A person who authorizes an *agent* to act on behalf of the *principal*. Under a *bond*, a principal is the party whose performance was guaranteed under the *bond*.

Private Corporation: Also known as a *closely held corporation*, is a *corporation* in which all of the shares of the corporation are held by a limited number of *shareholders*.

Privileged Information: Information revealed during one proceeding (such as *mediation*), which cannot be used as evidence in a subsequent proceeding (such as a *litigation*).

Privity: To a contract means being a party to a *contract*.

Proctor Test: A method of determining the compaction or density of soil. The maximum density of the soil type is first determined with that value being used as a reference to determine the percent of compaction achieved in the field. In Standard Proctor testing a soil sample must be taken from the job site, it then has a standard weight dropped on it for compaction, after oven drying for 12 hours the water content is evaluated. In the Modified Proctor test the same procedure is followed except a hammer is used for greater impact. ASTM D1557 addresses Proctor testing.

Procurement: The purchase of goods and/or services.

Products Liability: The liability of the manufacturer to a consumer for a defective product.

Professional Engineer (P.E.): One who is licensed by the State to provide engineering services to the public. Many engineers focus their practice into civil engineering, structural engineering, mechanical engineering, electrical engineering, etc. although the State of Colorado does not distinguish branches or areas of specialization in the granting of engineering licenses.

Profit à Prendre: A combination of an *easement* and a *license*.

Program: A statement prepared by or for an owner, with or without an architect's assistance, setting forth the conditions and objectives for a building project including its general purpose and detailed requirements, such as a complete list of the rooms required, their sizes, special facilities, etc.

Project: A construction undertaking, composed of one or more buildings and the site improvements, planned and executed in a fixed time period.

Project Budget: The sum established by the owner as available for the entire project, including the construction budget, land costs, equipment costs, financing costs, compensation of professional services, contingency costs, and other similar established or estimated costs.

Project Cost: The total cost of a project including the professional compensation, land costs, furnishings and equipment, financing, and other changes as well as the construction cost.

Project Manager: A third party consultant retained by the owner to coordinate the development of the project. The duties of a Project Manager are highly variable depending on the contract but may include assists with bidding and contracting) establishing project schedules, monitoring the budget, advising the owner on *Change Orders* and *Request for Substitutions* and assisting the owner in close-out.

Project Manual: A book that usually includes the bidding requirements, the general conditions of the contract and the technical work specifications divided into the *CSI Master Specification Format*. Sometimes simply called the *specifications*.

Property Insurance: *Insurance* that protects an *insured* against loss or damage to property in which the *insured* has an interest as a result of certain causes, such as fire or theft.

Proponent: A potential seller that submits a detailed proposal responding to a *request for proposals*.

Prospectus: A written document containing specific financial and technical information about *securities*. It must be made available to prospective purchasers before sale of the *securities* can take place.

Proximate Cause: A cause that plays a significant part in producing the result, as compared with one, which is too remote.

Public Corporation: A *corporation* in which the shares are publicly traded, generally on a stock exchange.

Public-Private Partnership: A project delivery method in which a public owner enters into a *contract* to have a project designed, constructed, financed, and operated on a long-term basis by a private company.

Punch List: A written document usually prepared by the project architect listing items of work requiring correction completion by the contractor prior to being eligible for final completion of the project.

Pure Economic Loss: A loss where the only damages are monetary and where there are no personal injuries or property damage.

Purlin: A horizontal framing member that that is used to support roof rafters between the top plate and the ridge.

Quantum Meruit: “The amount it is worth.” It is the amount to be paid by one party to another when the *contract* that they were working under becomes inapplicable, and when a court finds that one party has been unjustly enriched at the other’s expense.

R Value: A measure of insulation. A measure of a materials resistance to the passage of heat. The higher the R value, the more insulating "power" it has. Used to compute insulating effectiveness.

Radiant Heating: A method heating a building by using hot water circulated through pipes in the floor, walls or ceiling or through electric cables. The area is heated by radiation from the pipes or cables as opposed to warm air being blown or forced into the area through ducts.

Radon: A colorless, odorless, radioactive gas generated through the decay of radium in rocks and the soils. It is believed to pose a health risk in the form of lung cancer. Proper ventilation is required in order to avoid its accumulation.

Rafter: One of a series of structural members in the form of a sloping beam that supports a roof.

Rafter, common: A rafter that runs the full length from a wall plate to the ridge as a right angle.

Rafter, hip: A rafter that forms the intersection of an external roof angle.

Rafter, valley: A rafter that forms the intersection of an internal roof angle. The valley rafter is normally made of double 2-inch-thick members.

RCRA: An abbreviation for Resource Conservation and Recovery Act is a federal law that regulates the handling of hazardous materials as disposal site. Contract to *CERCLA* that addresses clean up at construction sites of accidental releases and other non-active or dormant sites.

Real Property: Anything that is land and anything attached to land.

Reaction: A passive force set up in opposition to an initial, active force, e. g., the upward pressure on the bottom of a beam resting on a support, equal in amount to the downward pressure from the beam.

Rebar, reinforcing bar: Ribbed steel bars installed in foundation concrete walls, footers, and poured in place concrete structures designed to strengthen concrete. Come in various thickness and strength grade.

Recharge: Water added to an aquifer or other water body. An aquifer is recharged by precipitation in an area where the aquifer has a porous connection to the surface.

Recharge Area: The geographic area where water infiltrates into the ground and enters an aquifer.

Record Drawings: See *As-Built Drawings*.

Redline, red lined prints: Blueprints that reflect changes and that are marked with red pencil.

Reflected Ceiling Plan: A method of preparing a drawing in which the view is of the ceiling as if reflected downward onto a mirror surface. Generally used to show lighting and other features located on the ceiling.

Rejection: An express or implied refusal to accept an *offer*.

Remoteness: The lack of a connection between a wrong and an injury or loss.

Romex: A common type of electrical wiring used inside homes today. It is recognizable by its off-white plastic covering.

Repudiation of a *contract*: occurs when one party to the *contract*, either by word or by conduct, lets the other party know that it does not intend to perform its obligations.

Request for Information: A written request from a contractor to the owner or architect for clarification or information about the contract documents, plans, specifications, etc.

Request for Proposal: A written request usually from the owner to a contractor, design professional or subcontractor for an estimate or cost proposal to accomplish a defined scope of work.

Request for Qualifications: A process used to choose a project participant based solely on the qualifications of the respondents, rather than on other criteria, such as price.

Request for Quotation: Generally an informal process whereby separate requests are made with no formal closing time or tender closing conditions.

Rescission: The cancellation of a *contract*.

Resilient Channels: Metal channels used to further inhibit sound transmission through wall and ceiling framing.

Resisting Moment: The moment which opposes distortion, displacement, or overturning.

Responsive Bid: A bid that is in compliance with all of the bid requirements usually including the bid amount, completion time, addenda, contract exclusions, bonding rate, etc.

Restrictive Covenant: An employment *contract* forbids a former employee from working for a competitor, usually for a specified period of time, within a specified geographic area, or within an area of business.

Resultant Damage: Damage to property in addition to the property containing the faulty workmanship, material, or design.

Retainage: The same as *holdback*.

Retaining Wall: A wall built to sustain a lateral pressure, such as an earth thrust.

Retention (Retainage): Amounts withheld from progress billings until final and satisfactory project completion. Sometimes called "reserve".

Return Air: Cold air that is drawn back into the furnace for reheating.

RFI: An abbreviation for *Request for Information*.

RFP: An abbreviation for *Request for Proposal*.

RFQ: An abbreviation for *Request for Qualifications*

Ridge Board: The board placed on the ridge of the roof onto which the upper ends of other rafters are fastened. (May also be called a ridge beam)

Ridge Shingles: Shingles used to cover the ridge board.

Ridge Vent: A vent mounted along the entire ridge line of the roof to allow the passage of air through the attic or cathedral ceiling.

Right of Way: An *easement* that grants a right to enter upon and cross over land owned by another.

Right to Title: The exclusive right of a professional regulatory authority and its members to use a particular title.

Rim Joist: A joist that runs around the perimeter of the floor joists.

Rise: The vertical distance from the eaves line to the ridge. Also the vertical distance from stair tread to stair tread.

Riser (framing): Each of the vertical boards closing the spaces between the treads of stairways.

Riser (plumbing): A vertical metal or plastic tube or assembly that connects to a faucet to the water supply stop valve. Usually made of copper. Metal Flex Risers are corrugated to facilitate bending. Also a supply line that rises from one story to the next.

Rockslide: A type of mass wasting in which a large volume of rock debris slides down a slope under the influence of gravity.

Roof Sheathing or Sheeting: The wood panels or sheet material fastened to the roof rafters or trusses on which the shingle or other roof covering is laid.

Rough In: The initial stage of a plumbing, electrical, heating, carpentry, and/or other project, when all components that won't be seen after the second finishing phase are assembled. Generally used in reference to Heat Rough in, Plumbing Rough in, and Electrical Rough in.

Safe Drinking Water Act: An amendment to the Public Health Service Act, which was passed in 1976 to protect public health by establishing uniform drinking water standards for the nation. In 1986 SDWA Amendments were passed that mandated the EPA establish standards for 83 drinking water contaminants by 1992 and identify an additional 25 contaminants for regulation every 3 years thereafter.

Sandstone: A sedimentary rock composed of sand-sized particles (1/16 to 2 millimeters in diameter).

Sanitary Sewer: A sewer system designed for the collection of wastewater from the bathroom, kitchen and laundry drains, and is usually not designed to handle storm water.

Sash: An individual frame around a window.

Scarp: A more or less vertical step like feature created on the earth surface by the downward slipping of a fault.

Schedule: (a) The time allowed for construction of a project. (b) A table on a set of building plans that sets forth additional information. For instance a door schedule will contain information as to the types of doors including the material, size, etc. of all doors on the project. A finish schedule may show the type of finish that different surfaces are to receive such as paint, wallpaper, etc.

Schedule of Values: A written document prepared by the contractor setting forth the allocation of the contract sum into the various components of the work. The schedule of values is often presented in the *CSI* divisions and sections and is commonly used as a basis for reviewing the contractor's *applications for progress payments*.

Schematic: A preliminary sketch or diagram representing the proposed intent of the designer.

Schematic Design Phase: The first phase of the architect's *basic services* in which the architect consults with the owner to ascertain the requirements of the project and prepares schematic design studies consisting of drawings and other documents showing the scale and project components for the owner's approval.

Schist: A metamorphic rock containing abundant particles of mica, characterized by strong foliation, and originating from a metamorphism in which directed pressure plays a significant role.

Scope of Practice: The exclusive right of a professional regulatory authority and its members to practice in their particular field.

Scope of Work: The definition of goods or services to be supplied pursuant to a *contract*.

Scratch Coat: The first coat of stucco or plaster that is applied to a wall. It is grooved or "scratched" to form a good bonding surface for the next coat.

Scupper: A through wall opening to provide an outlet for water from a parapet wall in order to provide a means of drainage. They can discharge water into a downspout, discharge directly into a gutter or be extended to allow unrestricted discharge of water. In Southwest style adobe construction scupper are known as *canales* and are often made of wood with a copper or galvanized lining.

Securities: In the context of securities legislation are publicly traded shares, bonds, and other investment devices.

Setback: The minimum distance between a reference line and a building, or portion thereof.

Settling Pond: An open pond where waste or process water is allowed to stand while suspended materials settle out.

Sewer Lateral: The portion of the sanitary sewer, which connects the interior waste water lines to the main sewer lines. The side sewer is usually buried in several feet of soil and runs from the house to the sewer line. It is usually 'owned' by the sewer utility, must be maintained by the owner and may only be serviced by utility approved contractors. Sometimes called side sewer.

Sewer Stub: The junction at the municipal sewer system where the home's sewer line is connected.

Sewer Tap: The physical connection point where the home's sewer line connects to the main municipal sewer line.

Shareholders: Own a *corporation* in proportion to their shareholdings.

Shear: Used in reference to the stresses that are imposed on an object

Shearing Strain: The deformation produced by a shearing force.

Shearing Strength: The resistance that a body can offer to a shearing force.

Shearing Stress: A stress that resists any action tending to slide one part of a body past an adjacent part.

Shiplap: A board siding with joints cut out of the board allowing pieces to fit together with no overlapping.

Shop Drawing: A drawing prepared by or at the direction of the contractor to provide direction and information as to the specific way in which a component of the building is to be fabricated and assembled. Shop drawings are required to be submitted to the architect for review before the element shown is constructed.

Shotcrete: Shotcrete is a process where concrete is projected or "shot" under pressure to form structural shapes including walls, floors, and roofs. The surface can be any surface that concrete can be shot onto. The surface can be smoothed while the concrete is still wet.

Sieve Analysis: A method of determining and reporting the grain size of soil material by passing it through a series of sieves with different size screen openings. For example clean sands and gravels are generally said to have less than 5% passing a No. 200 sieve.

Simple Breach: A *breach of contract* that does not entitle the innocent party to treat the *contract* as ended or permits the innocent party to stop performing their part of the *contract*.

SIR: An abbreviation for Self Insured Retention. An SIR is similar to a deductible on an insurance policy and is the amount of risk that the insured retains for its own account and with respect to which it is "self-insuring."

SOG: Slab on Grade or Slab on Ground, an abbreviation for a method of construction wherein a concrete slab is placed directly on the supporting ground or grade

Sole Source Specification: A specification that allows the contractor to purchase and install the specified equipment only from the single manufacturer or supplier set forth in the specification.

Slack: The flexibility inherent in non-critical activities that allows their start dates to be delayed without affecting the project completion date. (See also *float*)

Soffit: The underside of an eave, overhang, dropped ceiling, etc.

Soil Compaction: A method of mechanically increasing the density of a soil.

Sole Proprietorship: The legal term used to describe an individual carrying on business.

Sound Attenuation: Sound proofing a wall or subfloor, generally with fiberglass insulation. Building codes generally dictate minimum Sound Transmission Class STC ratings.

Span: The distance between the structural supports in floors, ceilings and roofs.

Spandrel Beam: A horizontal member, spanning between exterior columns that supports the floor or roof.

Spandrel Wall: An exterior wall panel, usually between columns, that extends from the window opening on one floor to one on the next floor.

Specific Performance: A court order that requires one party to perform specific acts.

Specifications: A detailed written description of the requirements for a project including a statement of required materials, quality and workmanship standards. The most common arrangement for specifications substantially parallels the *CSI* format. Specifications may be included in a *Project Manual* or on some (generally smaller) projects may be included on the *plans* as *General Notes*.

Splash Block: Portable concrete (or vinyl) channel generally placed beneath a downspout in order to receive roof drainage and to divert it away from the building.

Square: A unit of measure-100 square feet-usually applied to roofing and siding material. Also, a situation that exists when two elements are at right angles to each other.

Square Acre: 208.71 feet x 208.71 feet; commonly referred to as 210' x 210'.

Squeegie: Fine pea gravel used to grade a floor (normally before concrete is placed).

Stand-Up Time: The time that elapses from the time a trench is dug until the trench walls start collapsing. Stand-up time is dependent on many factors, including soil type, water content, trench depth, weather conditions, and whether or not the soil has been previously disturbed

Standard of Care: An element of negligence and is the level of skill and care required of a person.

Standard Penetration Test: In soils testing or geotechnical analysis penetration testing refers to a procedure in which a split tube sample is driven into the ground with a known force and the number of blows required to advance the sampler 12 inches is recorded. The *blow count* provides an indication as to the bearing capacity of the soil.

Standard Practices of the Trade(s): One of the more common basic and minimum construction standards. This is another way of saying that the work should be done in the way it is normally done by the average professional in the field.

Standard Specification: A specification that describes in detail all of the individual components of the final product.

Starter Strip: Asphalt roofing applied at the eaves that provides protection by filling in the spaces under the cutouts and joints of the first course of shingles.

Statement Of Probable Construction Cost: Cost forecasts prepared by the architect during the schematic design, design development, and construction documents phases of basic services for the guidance of the owner. Generally less detailed than an estimate.

STC: An abbreviation for Sound Transmission Class. A single number rating used to measure of the ability of a wall or floor assembly to reduce noise transmission across 16 frequencies. The higher the number, the greater the effectiveness. STC testing should be done in accordance with ASTM E90.

Stick Built: (a) A house built with conventional wood framing members. (b) The process of constructing framing one member at a time on the job site, instead of raising prefabricating walls or trusses as a unit

Stipulated Sum Contract: The same as a *fixed price contract*.

Storm Sewer: A sewer system designed to collect storm water and which is separated from the waste water system.

Strict Liability Offense: An offense for which the prosecution need only prove that the act occurred (such as contamination of land in breach of an environmental statute).

Stick: A single piece of pipe. Sometimes also called a *joint*.

Strike: The geographic direction of a line created by the intersection of a plane and the horizontal. Often used to describe the geographic "trend" of a fold or fault. See *Dip*.

Structural Floor: A framed floor that is installed as a basement floor *instead* of concrete slab poured on the ground or grade. This is done on expansive soils in order to prevent the upward movement of the soil from moving the floor and damaging the building.

Stud: A 2x4 or 2x6 vertical framing member used to construct walls and partitions. In residential construction studs are typically wood. In commercial construction and tenant finish applications they are commonly light gauge metal.

Subfloor: The framing components of a floor to include the sill plate, floor joists, and deck sheeting over which a finish floor is to be laid.

Submittal: Any information that must be provided to the project architect by the contractor to demonstrate or illustrate the detailed information respecting a product or assembly as the contractor intends to provide it. A submittal may be a shop drawing or it may be an actual sample such as a sample of carpet or brick.

Subrogation: Allows one party who pays for a loss suffered by another party (such as an insurer and an *insured*) to assume the rights of that other party for the purpose of recovering the loss from a third party.

Substantial Completion: The date certified by the architect when the work or a designated portion thereof is sufficiently complete, to allow for its beneficial use and occupancy.

Substitution: A request by contractor that the architect or engineer allow a different product to be accepted for use on a project than the one set forth in the plans and specifications.

Sub-surface Investigation: A term used to represent an examination of soil conditions below the surface of an area being considered for construction. Normally conducted by *geotechnical engineers* and including soil boring, extraction and laboratory testing to determine soil properties and strength parameters for structural design purposes.

Successor: In *CPM* terminology an activity that follows a *predecessor activity* and cannot commence until that prior activity has been completed.

Superior Knowledge: A legal theory usually relied upon by contractors in pursuing claims for contract extras. According to the doctrine of superior knowledge, an owner has an obligation to convey to a contractor information within the owner's knowledge that may effect the contractor's performance, especially where that knowledge is not otherwise available to the contractor.

Superstructure: The part of a building or other structure above the foundation.

Supervision: The detailed observation and inspection of construction work in order to ensure conformity with the contract documents. The direction of work by the contractor's personnel. Generally architects and engineers do not supervise construction.

Surety: A guarantor under a *bond*.

Surface Lease: A real property right that provides access to a surface holder's property to permit subsurface access,

Swell Consolidation Test: A laboratory test conducted on a soil sample retrieved from a potential construction site. The soil sample is confined in a cylinder. Water is added and the increase in volume (swell) is measured. The cylinder is then exposed to pressure with the force required to return the sample to its original volume measured. From this test, a geotechnical engineer can advise a structural engineer as to the load that will be required to resist uplift in the event the soil becomes wetted and swells and the allowable loads that can be imposed on the soil without consolidation of the soil.

T&M: An abbreviation for a contracting method called *Time and Materials*.

Take Off: A listing of materials and their quantities that a contractor prepares from a review of the plans and specifications to allow for estimating the cost of construction.

Talus: The mass of fragmentary rock or soil, which accumulates at the foot of a hill, slope, or cliff as disintegration proceeds above.

Tangible Personal Property: Also known as a *chattel*, is *personal property* that is also *tangible property*.

Tangible Property: Any property that has physical attributes.

Target Price Contract: A construction *contract* in which the cost is fixed as long as the cost of construction exceeds a certain amount (the target); but savings below the target are shared in accordance with some previously agreed proportion between the owner and the contractor.

Tectonics: The study of processes that move and deform Earth's crust.

Tenancy in Common: A form of joint ownership in which each of the holders of a right to property owns a stated portion of the right; and if one of them dies, the heirs of the deceased tenant-in-common inherit his or her interest.

Tender: A *bid*.

Tendering: *Bidding*.

Tensile Resistance: The ability of a member to resist elongation.

Tensile Strain: The deformation produced by an external tensile force. Also called "Stretch" or "Elongation."

Tensile Strength: Same as "Tensile Resistance." The resistance that a body can offer to an external tensile force.

Tensile Stress: A stress resisting the elongation of a body.

Tension: The state or condition of being stretched. Contrast to *Compression*

Tension Member: A member of a structure subjected to tension only. In truss designs certain web members are in tension and others are in compression.

Terminal Moraine: A mound of unsorted glacial till that marks the furthest advance of a glacier

Termination Clause: Lists the acts by parties to a *contract* that entitle the other party to terminate the *contract*.

TCO: Abbreviation for Temporary Certificate of Occupancy. A certificate issued by the building authority that allows a building to be occupied and used for its intended purpose notwithstanding that certain items (landscaping, striping of parking spaces, wallpaper, etc. may not be complete and must be completed before a permanent *Certificate of Occupancy (CO)* is issued. In some instances the owner may be required to escrow funds with the building authority to guarantee completion of the unfinished work.

Thermal Movement: Movement, either expansion or contraction, caused by temperature changes.

Third Party: Party to a *litigation* that is added by the *defendant*, rather than the *plaintiff*.

Third Party Claim: A pleading setting out the claim of a *defendant* against a *third party*.

Time and Materials: A form of construction contract wherein payment is based on the contractor's actual cost for labor, equipment, materials, and services plus a fixed add-on amount to cover the contractor's overhead and profit.

Toe: The foot of a slope. The front part of the base of an abutment or retaining wall.

Toenailing: Driving a nail at an angle or slant in one framing member and driving it through into a second (usually perpendicular) framing piece.

Top Plate: Top horizontal member of a frame wall supporting ceiling joists, rafters, or other members.

Topographic Survey: A survey to record the configuration of a surface including its relief and the locations of its natural and man-made features.

Torsion: The twist or deformation of a body set up by a torque.

Torsional Strain: A deformation in a member caused by a twisting moment.

Torsional Stress: The stress arising from the deformation set up by a torque or twisting moment.

Tort: A breach of a *duty to care* for another party where the breach causes injury or loss to that party, independent of whether the two parties involved do not have a *contract*, for which the law provides a remedy.

Total Cost Approach: The valuation of a *delay* claim by calculating the difference between the expected and actual cost of a project.

Trade Secret: *Confidential information* contained in a document, product, formula, or patent.

Trademarks: Protected logos or words that represent a company's goods or services.

Trap: Curved section of a drain line that prevents sewer odors from escaping into the atmosphere. All fixtures that have drains must have a "P" trap installed. A toilet is the only plumbing fixture with an "S" trap.

Trench Box (also called a trench shield) A trenching safety device that can be placed in a trench to prevent trench failures from injuring workers. A trench box consists of two large plates, usually made of steel, which are parallel to the walls of the trench, and horizontal cross-members which hold the two plates apart. The lower edge of the box rests on the bottom of the trench, and the top edge extends above the top of the trench. The workers stay between the plates of the trench box, so that if the wall of the trench collapses, the dirt will be stopped by the trench box. As work progresses, the trench box is pulled along the trench with a backhoe.

Trespass: The unauthorized entry onto the land of another person.

Tributary Area: (a) In structural engineering, the total area including all building elements within that area whose weight (load) is contributed to and must be carried by a specified

structural member. (b) In civil engineering the total land area that contributes its drainage to a specified location or area where it must be properly handled by storage or redirection.

Troweled Finish: A finish on concrete work made by working wet concrete with a trowel.

Truss: A combination of members usually arranged in triangular units to form a rigid framework for supporting loads over a span. Parallel chord trusses are also used for floor and roof supports. There are numerous different truss configurations including A-Truss, Warren Trusses, Modified Warren Trusses, Scissor Trusses, Bow-String Trusses, etc.

Trust: Legal doctrine that separates the legal ownership of a right or of a property from the beneficial interest or ownership.

Trust Beneficiary: A person for whose benefit *trust* property or rights must be used.

Trust Funds: Payments made to a contractor, which the contractor is obligated to use to compensate subcontractor and suppliers. See CRC§ 38-22-127 (10).

Trust Provision: Of a *construction lien* statute is a clause that creates a *trust*, such that funds received by a contractor or subcontractor are designated as trust funds, obliging the contractor to use those funds to pay subcontractors, workers, and suppliers working under the contractor.

Trustee: A person appointed under the terms of a *trust* to have legal ownership of the *trust* property or rights, but who is required by law to act on behalf of and in the best interests of the *trust beneficiaries*.

Turbulent Flow: An irregular state of fluid (or air) flow in which the particle paths cross one another and may even travel in opposing directions. (Compare with Laminar Flow.)

Turn-key: A job in which the contractor completes all work and furnishing of a building so that it is ready for immediate use. All the owner has to do is "turn the key", open the door and occupy the building.

U.B.C. (Uniform Building Code): The Uniform Building Code is one of the more common sets of regulations adopted by local jurisdictions to establish certain design and building standards. The International Conference of Building Officials (ICBO) and other organizations, such as the International Association of Plumbing and Mechanical Officials (IAPMO) and the National Fire Protection Association (NFPA), have code publications.

Unbalanced Bid: A bid in which some of the unit prices do not reflect the realistic cost of one or more activities. A contractor may seek to increase the bid amount for early phase work such as mobilization in order to secure a greater percentage of the total contract price at an earlier stage in the performance of the work. The practice is generally considered less than desirable.

Unconformity: A contact between two rock units of significantly different ages. An unconformity is a gap in the time record for that location.

Unconscionable Contract: A contract that is so unfair, oppressive, or one-sided that it would be offensive for the court to enforce it.

Underlayment: (a) A material applied over subflooring and directly beneath nonstructural finish flooring, such as tile or carpeting. (b) A layer of asphalt saturated material (sometimes referred as tarpaper) which is installed over a roof deck before shingles are installed, which provides additional protection against water intrusion.

Underpin: To pin or support an existing wall by excavating at intervals beneath it and building in piers or screwing in helical piers, after which further excavation is made between the piers and the spaces then are filled.

Union Shop: A workplace in which employees must become union members after they are hired.

Unit Cost: The cost of a unit quantity of material or service.

Unit Price: The price per unit of magnitude, such as the price per hour, per ton, per square foot, per cubic yard, etc.

Unit Price Contract: A *contract* that requires the owner to pay a stipulated amount for each unit or quantity of work performed. Unit price contracts are most common on projects that have large quantities of uniform repetitive work such as excavation and pipeline contracts.

Unusually Severe Weather: Weather that is more severe than the average or expected conditions in a particular geographical region during the same season. A certain amount of adverse weather is expected on any construction project. It is only when weather exceeds that which should reasonable be expected that it constitutes an excusable delay in the contractor's performance.

USCS: Abbreviation for the Unified Soil Classification System, which provides uniform letter symbols for use in reporting the primary component of a soil sample.

- G is for gravel
- S is for sand
- M is for silt
- C is for clay
- O is for organic soil

UST: An abbreviation for Under Ground Storage Tank. Old and abandoned underground tanks that were used for the storage of gasoline, diesel, cleaning fluids and other hazardous materials that are rusting and otherwise deteriorating. *USTs* are governed by *RCRA*.

Vadose Water: Water that exists in the pore spaces of a rock or soil, below the ground surface but above the water table.

Vadose Zone: The area in which *vadose water* exists.

Valley: The internal angle formed by the intersection of two sloping roof planes which serves as trough to funnel water off roof surface.

Vapor Barrier: A material (such as plastic film or felts) intended to control moisture transmission through walls and other building elements. Often combined with insulation to control condensation. A vapor barrier should always be installed on the warm side of the wall.

Vent: Any outlet for air that protrudes through roof deck or other surface such as a pipe or stack. A ridge vent or off-ridge vent is installed for the purpose of ventilating the underside of roof deck. Other common vents include foundation vents and gable vents.

Vicarious Liability: The liability of a party for the acts or omissions of another party. It is usually used in the context of an employer being liable for the acts or omissions of its employee.

Viscosity: The resistance of a fluid to flow. Fluids with a high viscosity resist flow. Fluids with a low viscosity flow freely.

Void Space: An air space beneath a grade beam for the purpose of allowing expansive soils to increase in volume without contacting and forcing the grade beam upward. Usually formed by placing a collapsible, biodegradable cardboard void forming material in the bottom of the grade beam form prior to placement of the concrete; but can be created by excavation under the grade beam after the concrete has cured. The cardboard void forming material must be sufficiently strong to support the weight of the wet concrete without collapsing, but must also be designed to crush with the upward force of expansive soil if the swell occurs before the material biodegrades.

Voidable Contract: A *contract* that can be terminated or ended by a party that is not in breach of the *contract*; however, that party can also choose to continue with the *contract*.

voids: The spaces between the particles of a substance or of a mixture; used in connection with soil, sand, broken stone, or gravel.

Volt: A unit of electric force that measures the pressure of electricity. The amount of electric force carried through a high-voltage transmission line is measured in kilovolts (kv).

Volunteer: Someone who pays money to another without any legal obligation to do so.

Waiver of Rights: Occurs when a party, by word or conduct, does not enforce its own contractual rights.

Waiver of Subrogation: A contract clause eliminating the insurer's right to *subrogation*.

Wane: An area of bark or an area where there is a lack of wood on the edge or corner of a piece of lumber.

Warranty: A contractual promise to repair defects in the goods and services for a specific period of time after the goods and services were performed or provided.

Water Hammer: A loud banging noise caused by the hydraulic shock of suddenly shutting off a water supply, where water moves against the side of containing pipe or vessel.

Water Table: A level beneath the Earth's surface, below which all pore spaces are filled with water and above which the pore spaces are filled with air. The top of the zone of saturation in a subsurface rock, soil or sediment unit.

Watershed: The geographic area that contributes runoff to a stream. It can be outlined on a topographic map by tracing the points of highest elevation (usually ridge crests) between two adjacent stream valleys. The watershed of a large river usually contains the watersheds of many smaller streams. Also referred to as a "drainage basin".

Watt (w): Named for James Watt, a 19th-century Scottish engineer, it is a measure of the power that can be generated by an electric current. It is equal to 1/746 horsepower.

Web: A structural component of an I-joist, beam or truss, the web is the vertical section located between the two flanges of a joist and between the top and bottom chords or a truss.

Weep-hole: A hole in a wall (such as behind a brick veneer wall) for draining the water that tends to accumulate at the back.

Wind Bracing: Metal straps or wood blocks installed diagonally on the inside of a wall from bottom to top plate, to prevent the wall from twisting, racking, or falling over "domino" fashion.

Working Drawing: Any drawing showing all the parts and dimensions with other information pertinent to construction, so that whatever is shown can be built without other drawings or instructions.

Wrap-up Policy: A liability *insurance policy* that insures all of the direct participants in a construction project, including the consultants, the owner, and all subcontractors.

Yard of Concrete: One cubic yard of concrete is 3' X 3' X 3' in volume, or 27 cubic feet. One cubic yard of concrete will pour 80 square feet of 3 1/2" sidewalk or basement/garage floor.

Zone of Aeration: A zone between the land surface and the water table where pore spaces are filled mainly with air. Water that exists in the pore space in this zone is referred to as "soil moisture".

Zone of Saturation: The zone beneath the water table where all pore spaces are completely filled with water. Water that exists within this zone is known as "ground water".

Zone of Weathering: A subsurface area, above the water table, where mineral and organic materials are subject to weathering.

Zoning: Restrictions of areas or regions of land within specific geographical areas based on permitted building size, character, and uses as established by governing urban authorities.