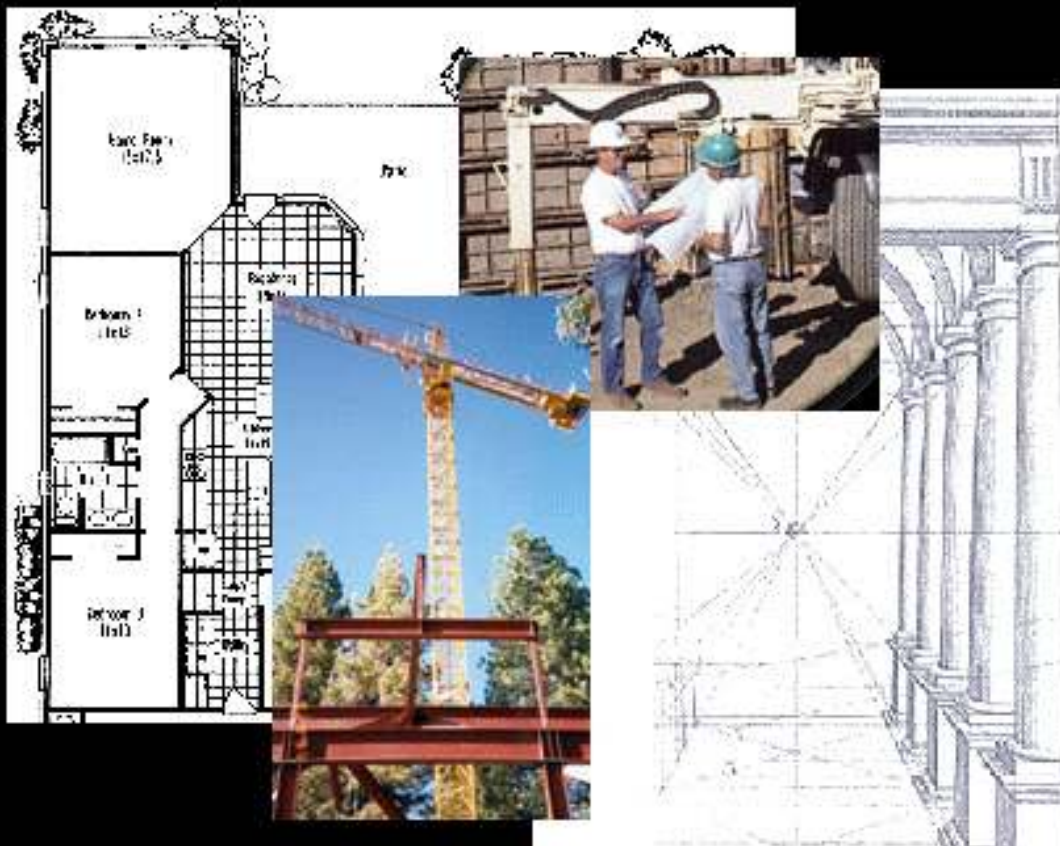


# Consumer Affairs Booklet

For the Design and Construction of  
Buildings and Other Structures



Consulting Engineers  
Council of Utah

# ***CONSUMER AFFAIRS BOOKLET***

## ***FOR THE DESIGN & CONSTRUCTION OF BUILDINGS AND OTHER STRUCTURES***

COMMISSIONED BY:  
UTAH CONSULTING ENGINEERS COUNCIL  
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### **INTRODUCTION**

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The CONSUMER AFFAIRS BOOKLET has been prepared by the CONSULTING ENGINEERS COUNCIL OF UTAH, in collaboration with other professionals.

This manual is a guideline intended as a source of basic information and does not attempt to address all the questions concerning design and construction. While some items are taken from Utah Code Annotated, other items are recommended minimum practices or general guidelines for interaction between licensed professionals, and provides guidance and recommendations, regarding standards of care for the industry.

For additional information about State Law as it relates to professional licensing, contact the Department of Occupational & Professional Licensing, Title 58 of the Utah Code Annotated, including the Rules that apply to the specific discipline.

Building codes and professional registration laws are meant to work together in an effort to protect the public against unsafe structures. Registration officials protect the public by ensuring that all design professionals have proper education and training, and pass rigorous examinations on technical and practice issues. Building officials promulgate and enforce building code requirements that are intended to protect the public's health and safety.

### **PURPOSE**

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The purpose of this manual is to present general guidelines, and recommendations, which affect the interrelationship between design and construction professionals, and to provide building officials, and the general public with a summary and guide to key elements of the standards, regulations and policies governing the construction industry in the State of Utah. Definitions relating to licensed professionals have been obtained from the Utah Code Annotated, as of the date of this publication.

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## I DEFINITIONS

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### 1. ARCHITECTURE:

“Practice of architecture” means rendering or offering to render the following services in connection with the design, construction, enlargement, or alteration of a building or group of buildings, and the space within and surrounding such buildings:

- planning
- facility programming
- preliminary studies
- preparation of designs, drawings, and specifications
- preparation of technical submissions and coordination of any element of technical submissions prepared by others including, as appropriate and without limitation, professional engineers, and landscape architects; and
- administration of construction contracts

“Practice of architecture” does not include, the practice of professional engineering, but a licensed architect may perform such professional engineering work as is incidental to the practice of architecture.

### 2. PROFESSIONAL ENGINEERING:

“Professional engineering or the practice of engineering” means any service or creative work, the adequate performance of which requires engineering education, training, and experience in the application of special knowledge of the mathematical, physical, and engineering sciences to such services or creative work as consultation, investigation, evaluation, planning, design and design coordination of engineering works and systems, planning the use of land and water, facility programming, performing engineering surveys and studies, and the review of construction for the purpose of monitoring compliance with drawings and specifications; any of which embraces such services or work, either public or private, in connection with any utilities, structures, buildings, machines, equipment, processes, work systems, projects, and industrial or consumer products or equipment of a mechanical, electrical, hydraulic, pneumatic, or thermal nature, and including such other professional services as may be necessary to the planning, progress, and completion of any engineering services, provided that the practice of professional engineering shall not include the practice of architecture, but a licensed professional engineer may perform such architecture work as is incidental to the practice of engineering.

### **3. PROFESSIONAL STRUCTURAL ENGINEER**

“Professional structural engineering or the practice of structural engineering” means the design and analysis of complex buildings and structures and includes the definition of professional engineering or the practice of engineering, and may be further defined by rule by the Utah Division of Occupational & Professional Licensing, in collaboration with the board..

### **4. PROFESSIONAL LAND SURVEYOR**

“Professional land surveying or the practice of land surveying” means any service or work, the adequate performance of which requires the application of special knowledge of the principles of mathematics, the related physical and applied sciences, and the relevant requirements of law for adequate evidence to the act of measuring and locating lines, angles, elevations, natural and man-made features in the air, on the surface of the earth, within underground workings, and on the beds of bodies of water for the purpose of determining areas and volumes, for the monumenting or locating property boundaries or points controlling boundaries, and for the platting and layout of lands and subdivisions thereof, including the topography, alignment and grades of streets, and for the preparation and perpetuation of maps, record plats, field notes records, and property descriptions that represent these surveys and such other duties as sound surveying practices could direct.

### **5. LANDSCAPE ARCHITECTURE**

“Practice of landscape architecture” means rendering or offering to render any of the following services:

- (h) production of a site plan which may include the design of any of the following:
  - (i) sprinkler irrigation systems;
  - (ii) landscape grading and drainage plans; or
  - (iii) parking lots;
- (i) design of any of the following structures incidental to the production of a site plan:
  - (i) retaining walls; or
  - (ii) raised platforms, decks, and walkways;
- (j) design of any of the following structures incidental to the production of a site plan when the structure does not exceed 1,000 square feet:
  - (i) covered pavilions;
  - (ii) gazebos;
  - (iii) restrooms;
  - (iv) storage and maintenance facilities; or
  - (v) other accessory structures; or
- (k) collaboration with architects and professional engineers in the design of roads, bridges, buildings, and structures with respect to the functional and aesthetic requirements of the area in which they are to be placed.

## **6. GENERAL BUILDING CONTRACTOR**

“General building contractor” means a person licensed as a general building contractor qualified by education, training, experience, and knowledge to perform or superintend construction of structures for the support, shelter, and enclosure of persons, animals, chattels, or movable property or any of the components of that construction except plumbing, electrical, and mechanical, for which the general building contractor shall employ the services of a contractor licensed in the particular specialty, except that a general building contractor engaged in the construction of single-family and multi-family residences up to four units may perform the mechanical and hire a licensed plumber or electrician as an employee. The Utah Division of Occupational & Professional Licensing, may by rule exclude general building contractors from engaging in the performance of other construction specialties in which there is represented a substantial risk to the public health, safety and welfare, and for which a license is required unless that general building contractor holds a valid license in that specialty classification.

## **7. GENERAL ENGINEERING CONTRACTOR**

“General engineering contractor” means a person licensed as a general engineering contractor qualified by education, training, experience, and knowledge to perform construction of fixed works in any or all of the following: irrigation, drainage, water, power, water supply, flood control, inland waterways, harbors, railroads, highways, tunnels, airports and runways, sewers and bridges, refineries, pipelines, chemical and industrial plants requiring specialized engineering knowledge and skill, piers and foundations or any of the components of those works. However, a general engineering contractor may not perform construction of structures built primarily for the support, shelter, and enclosure of persons, animals, and chattels.

## **8. RESIDENTIAL DESIGNER**

The “practice of residential design” consists of holding out to the public, or rendering or offering to render, services embracing the scientific, esthetic or orderly coordination of processes which enter into the production of completed single-family dwelling units and multifamily dwelling units not exceeding two stories in height, composed of not more than four units in each structure, and the utilization of space within and surrounding such units or structures, performed through the medium of plans, specifications, administration of construction, preliminary studies, consultations, evaluations, investigations, contract documents and advice and direction. (Residential Designers are not licensed by the State of Utah.)

## 9. PRINCIPAL DESIGN PROFESSIONAL (Revised 7/5/01)

A “Principal Design Professional” will be required for any project submitted to the building official which requires multiple disciplines (e.g., architectural, landscape architectural, civil, structural, mechanical, electrical, etc.). The principal design professional is charged with the responsibility of coordination of the design, and makes sure that each “Professional of Record” is accountable for each and every aspect of the design package for which they are responsible. The principal design professional must be a Utah registered architect, or engineer, and must have contractual responsibility and authority for coordination of all required design work under his or her direct supervision. In addition the principal design professional must have the appropriate registration to serve in this capacity based on specific project requirements. Each design Professional of Record involved shall affix his or her seal to all drawings, specifications, reports, and other documents which represent their final work product. The “Principal Design Professional” shall have the following responsibilities:

- A. Acts as point of contact for the project team during the design phase to insure dialogue among all participants, including owners, contractors, developers, engineers, architects, landscape architects, government bodies and building officials.
- B. Ensures that all elements of the submittal to the building official are compatible, coordinated and provide a logical and comprehensive document.
- C. Verifies that all elements of the design submitted are complete, and that all requirements for calculations and specifications are complete and accurately delineated on plans and related documents. Ensures that the individual professionals of record involved in the design of their portion of the project have stamped those documents which represents their final work product. The professional of record who stamp their final work product will be held legally responsible for their portion of the design.
- D. Acts as point of contact during the governmental review process with the building official. Responsible for filing proper applications for plans and permit approval, provides for timely response to questions, corrections, or requests for additional information on any element of the design package.
- E. Acts as point of contact for the design team following permit issuance, responds to any changes, clarifications, or additional information that may be required from members of the design team to owners, developers, contractors or building officials.

## 10. COMPLIANCE AGENCY

“Compliance agency” means an agency of the state or any of its political subdivisions which issue permits for construction regulated under the codes, or any other agency of the state or its political subdivisions specifically empowered to enforce compliance with the codes.

## II ROLES OF DESIGN AND CONSTRUCTION PROFESSIONALS

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The licensees and registrants represented in this manual are qualified by their respective regulatory boards to have mastered a specific body of knowledge, skills and abilities necessary to serve the public and to protect its health, safety and welfare.

The following descriptions of roles are not exclusive and are not intended to unduly restrict the practice of the professional who is properly registered or licensed in the State of Utah and is practicing within the laws and regulations governing his profession.

The Utah Revised Code Annotated (UCA) recognizes that certain areas of expertise are common to registrants of more than one of the disciplines covered in this document. That recognition has also been taken into consideration in the following descriptions of roles.

Presented in this section are descriptions of the general areas of responsibility for architects, engineers, land surveyors, landscape architects, contractors, building officials, and residential designers. The descriptions are not all inclusive, but are intended to give general guidance on the practice and standard of care expected by the construction industry.

### 1.ARCHITECTS

Architects must be concerned with the basic concepts of the full spectrum of design considerations when developing a building project. Architects must develop a comprehensive package of design documents for submittal to the building department, taking all aspects of the project into account and coordinating various elements prepared by other individual design team members. Architects:

- A.Perform site layout services (e.g.: parking, zoning, setbacks, site accessibility, landscaping, building layout, site evaluation, layout and development, curb, gutter, sidewalks, streets, grading, utilities, access layouts, traffic and parking plans, etc).
- B.Are concerned with aesthetics and building design including structural, mechanical, electrical and fire protection systems.
- C.Establish building classification (e.g.: code analysis, occupancy, type of construction).
- D.Are concerned with building egress and life safety considerations (e.g.: stairway, egress width, travel distances, corridors, requirements for sprinklers, fire ratings, fire walls, separations, fire alarms, smoke control, etc).
- E.Perform interior space planning and design.
- F.Select finish materials, interior and exterior (e.g.: durability, colors, fire ratings, aesthetics, etc.)
- G.Prepare construction documents.

H. Provide overall project coordination.

I. Analyze environmental impacts (e.g.: sound attenuation, quality of living, impact on natural surroundings, pedestrian and automobile circulation's, etc).

J. Are concerned with barrier free design (e.g.: physically handicapped criteria, ADA).

K. Incidental Engineering.

## 2. ENGINEERS

Engineers must be concerned with the planning and analysis of a wide variety of project functions. Engineers must develop a comprehensive package of design documents, for submittal to the building department taking all aspects of the project into account and coordinating various elements prepared by other individual design team members.

Engineers:

- A. Perform site layout services (e.g.: parking, zoning, setbacks, site associability, landscaping, building layout, site evaluation, layout and development, curb, gutter, sidewalks, streets, grading, utilities, access layouts, traffic and parking plans, etc).
- B. Establish building classification (e.g.: code analysis, occupancy, type of construction).
- C. Perform structural systems design (e.g.: framing systems, foundations systems, lateral design, etc).
- D. Are concerned with building egress and life safety considerations (e.g.: stairway, egress width, travel distances, corridors, requirements for sprinklers, fire ratings, fire walls, separations, fire alarms, smoke control, etc).
- E. I. Perform electrical systems design (e.g.: power distribution servicing, sizing and design, standby power system, audio/visual communication system, facility security/fire alarm system, smoke detection, indoor/outdoor illumination system, etc.).
- F. Perform mechanical systems design (e.g.: plumbing, drain, waste and venting, water distribution systems, HVAC, smoke removal, boilers, process equipment, energy analysis, control systems, fire protection systems).
- G. Perform fire protection systems design and analysis (e.g.: water supply, building systems, building exit analysis, suppression, detection and alarms, municipal protection, fire protection management, hazard and risk analysis, etc.).
- H. Perform soil analysis (e.g.: soils reports, foundation systems recommendations, soil stabilization, geotechnical investigations, to be used in the design of foundation systems, pavements, and other structure, etc).
- I. Perform civil improvements design (e.g.: site evaluation, layout and development of, curb, gutter, sidewalks, storm drainage, streets, grading plans, utilities, access layouts,

traffic and parking plans, etc).

J.Prepare construction documents.

K.Provide overall project coordination.

L.Are concerned with barrier free design (e.g.: physically handicapped criteria, ADA).

M.Perform construction administration services (e.g.: cost estimates, value engineering studies, contract administration, etc.).

N.Prepare studies and reports such as environmental impact analysis, forensic analysis, etc.

O.Incidental Architecture.

### **3.PROFESSIONAL LAND SURVEYORS**

Professional Land Surveyors are tasked with providing property line locations, horizontal and vertical survey control, topographic data, and the construction layout of projects.

Professional Land Surveyors:

A.Perform boundary surveys; prepare subdivision plats, parcel maps and record of survey maps in accordance with Utah statutes.

B.Perform topographic surveys of existing ground, structures, utilities used as a basis for engineering design.

C.Perform route and alignment surveys; prepare right of way maps, such as those for road and utility line purposes.

D.Perform the layout of positions, lines and grades for construction of earthworks, roadways, utilities, buildings, and other fixed works.

E.Perform final monumentation of streets and property lines.

F.Prepare legal descriptions of property boundaries, easements, and rights of way.

### **4.LANDSCAPE ARCHITECTS**

Landscape Architects must be concerned with all aspects of site design when planning and developing a project site. Landscape Architects:

- A. Perform general site layout (e.g.: pedestrian and automobile circulation, site access, zoning setbacks, parking lot plans, zoning requirements for landscaping, building placement on a project site, site evaluation, site layout and development, curb, gutter, sidewalks, streets, grading plans, landscaping and irrigation plans, etc.)
- B. Are concerned with project aesthetics and visual analysis of project sites.
- C. Prepare environmental impact analysis and reports (e.g.: EIR/EIS/EIA).
- D. Performs soil sampling and analysis (e.g.: soil fertility, soil texture composition and Ph levels, etc.)
- E. Perform construction document preparation (e.g.: exterior lighting plans, landscape and irrigation plans, retaining walls, grading plans, outdoor fountains, site amenities, and outdoor structures such as trellises, gazebos and decks) that are incidental and necessary to a project's dominant purpose. Where architectural and/or engineering specialties are required and which represent a substantial risk to the public health, safety and welfare, licensed architects and/or engineers shall assist in the document preparation.
- F. Perform construction observation for landscape work (e.g.: cost estimates, value engineering studies, contract administration and site inspections, etc.).
- G. Perform project coordination of landscape work (e.g.: contract document and preparations, coordination of project consultants, etc.).
- H. Are concerned with environmental impacts (e.g.: quality of living and integration of buildings into project sites, etc.)
- I. Are concerned with barrier free site design and Americans with Disabilities Act requirements.
- J. Perform construction administration when the landscape architect is the principal design professional and uses other registrants as consultants to the overall benefit of the project.

## **5.CONTRACTORS**

A Contractor is a person or other legal entity that enters into contracts with various types of owners or other contractors for the purpose of constructing all or part of any type of

construction project. Usually contractors construct projects that have been designed by other design professionals. It is the responsibility of the “Contractors” to:

- A. Obtain building permits and arrange for inspections of the work as required by government agencies.
- B. Construct the work within project plans and specifications and be responsible for, and insure that, the quality of work meets recognized industry standards.
- C. Direct all job-site safety programs, methods of construction and the orderly coordination of subcontractors and suppliers.
- D. Supervise and/or perform the construction of any or all parts of a project. Contractors may also hire licensed subcontractors to perform individual categories of the work necessary in the construction of a project.
- E. Be licensed to construct items in general or specific construction categories, within a State approved monetary “Work in Progress Limit.”
- F. Be responsible for their own activities and those of their subcontractors and material suppliers. Subcontractors shall be licensed in one or more work categories, each having specific monetary “Work in Progress Limit.”

## **6. BUILDING OFFICIALS:**

A Building official is authorized and directed to enforce provisions of adopted codes and ordinances by regulating and controlling the design, construction, use, location and maintenance of all buildings, structures and other improvements within his jurisdiction. The State of Utah adopts specific editions of construction codes and amends them. Cities and counties, within the State, may amend construction codes with State concurrence, to safeguard life, health, property and public welfare. In this role, the building official provides a balance between the necessities of the owner-designer-builder team as creators of buildings and the protection of the public as users of the buildings. The building official:

A. When it is required that documents be prepared by an architect or engineer, the building official shall require the owner to engage and designate on the building permit application a professional of record who shall act as the architect or engineer of record. If the circumstances require, the owner may designate a substitute architect or engineer of record who shall perform all of the duties required of the original architect or engineer of record. The building official shall be notified in writing by the owner if the architect or engineer of record is changed or is unable to continue to perform their duties.

The architect or engineer of record shall be responsible for reviewing and coordinating all submittal documents prepared by others, including deferred submittal items, for compatibility with the design of the building.

B. Shall review and approve deferred submittals. (For the purposes of this document, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the building official within a specified period.) Deferral of any submittal items shall have prior approval of the building official. The architect or engineer of record shall list the deferred submittals on the plans and shall submit the deferred submittal documents for review by the building official.

Submittal documents for deferred submittal items shall be submitted to the architect or engineer of record who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance with the design of the building. The deferred submittal items shall not be installed until their design and submittal documents have been approved by the building official.

C. Requires special inspections for certain structural elements, or non-structural elements, of a project in addition to standard construction inspections, and for work which is deemed to involve unusual hazards or conditions. When special inspection is required by the BUILDING CODE, adopted by the Utah Uniform Building Codes Commission, the architect or engineer of record shall prepare an inspection program that shall be submitted to the building official for approval prior to issuance of the building permit. The inspection program shall designate the portions of the work that require special inspection and the name or names of the individuals or firms who are to perform the special inspections, and indicate the duties of the special inspectors.

The special inspector shall be employed by the owner, the engineer or architect of record, or an agent of the owner, but not the contractor or any other person responsible for the work.

When structural observation is required, the inspection program shall name the individuals or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur. The building official shall require copies of special inspection reports to be submitted to the permitting agency, the engineer and/or architect, and the owner.

D. Renders interpretations of the codes, and adopts and enforces procedures and supplemental regulations in order to clarify the application of code provisions.

E. Provides a general review of proposed projects at a conceptual stage, and makes recommendations to assist in design development which complies with the current codes and regulations.

F. Reviews plans, specifications, calculations and other related documents for compliance with the provisions of technical codes and relevant laws, ordinances, rules and regulations. Also determines the type and extent of information required to determine

compliance.

- G.Reviews alternate materials, methods of construction or modifications for approval which comply with the intent of the technical building codes. Maintains an objective perspective to ensure the designs and construction meet the intent of codes while providing safe facilities for the users or occupants of the structures.
- H.Ensures those documents which are not exempt from being prepared by a registered professional have the appropriate Utah seal, signature and date affixed thereto. Submittals under the owner/builder or approved exemptions shall be attested to accordingly on the drawings or in the permit application.
- I.In the role of protecting the public, advises the DOPL of suspected improper or illegal conduct of a registered professional, or of a non-registrant performing professional services. The building official also reports apparent professional incompetence manifested by excessive errors in submitted documents, obviously incomplete submittals, or an unreasonable number of resubmittals.
- J.Issues permits for construction based upon approval of application information and/or construction documents. Issuance of a permit shall not prevent the building official from thereafter requiring correction of errors in the documents, or from preventing building operations being carried on when in violation of codes or ordinances.
- K.Performs inspections of all construction or work for which a permit is required. Each portion of such work shall remain accessible and exposed for inspection purposes until approved by the building official for the work to proceed.
- L.Issues violation notices requiring correction of work being done contrary to the approved plans, specifications and the code provisions, or being done without a valid permit. If the circumstances warrant, the building official may order work to be stopped by notice in writing.
- M.Issues Certificates of Occupancy for buildings or structures which have been inspected and found to be in substantial compliance with the codes or other laws which are enforced by the building department. This includes new or remodeled buildings or structures, additions or existing buildings which have changed the occupancy classification.
- N.Orders discontinuance of the use of any building or structure which is being used contrary to the provisions of the codes, or which is structurally unsafe or otherwise dangerous to human life. May initiate abatement proceedings to cause unsafe structures to be repaired, rehabilitated, demolished or otherwise removed.

## **7.RESIDENTIAL DESIGNERS**

The role of the residential designer is identical to that of a principal design professional, restricted to single-family dwelling units and multifamily dwelling structures not

exceeding two stories in height, composed of not more than four units in each structure, and where the structures conform to the Building Code provisions for Conventional Light Frame Construction. A licensed professional architect and/or engineer should be involved with the design of residential construction whenever the conventional construction provisions are exceeded, including the following:

- A.Design snow load exceeds 40 psf.
- B.Design wind speed is more than 80 mph.
- C.Structure is located in Seismic Zone 3 and/or has an unusual or irregular shape.
- C.Structure is to be built on a sloping lot, exceeding a ratio of 1:5.
- E.Special roof framing is used.
- F.Split level floors are used.
- G.Floor cantilevers exceed 4 feet.
- H.Length of shear panels are less than 2 feet 8 inches.

### **III STAMPING AND SIGNING OF PLANS**

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Technical documents submitted to building officials for review are stamped in order to certify that the registrant has discharged his responsibility to prepare complete documents which comply with all applicable laws governing the construction of the intended improvement. Architects, engineers, landscaped architects, and surveyors are responsible for limiting their design services to their specific area of registration or licensure. Professionals are required to stamp their final work product, by law. Those professionals who stamp the final construction documents shall be held legally responsible for their portion of the work.

Engineers, architects, landscape architects and land surveyors are prohibited by law from stamping any work that has not been prepared under their direct supervision. It is also unlawful for the respective professionals to sign or stamp any plans, specifications, plats or reports that were not prepared by them or for which they did not have responsible charge of the work.

The following policy is presented as the minimum acceptable standards for the sealing and submittal of plans and other technical documents: (Where seals and/or stamps are required, signature stamps are prohibited.)

- A. Every final document prepared by an Architect and/or Engineer is required to be sealed or stamped. A signature and date must be placed on the stamp. All documents leaving an Architect's, Engineer's, Landscape Architect's, or Land Surveyor's office or control are considered final documents unless the documents are clearly identified *Preliminary, Not For Construction* or some other concise statement.
- B. Seals or stamps may be computer-generated or stamped with ink. The size is to be as required by the Laws and Rules established by the State of Utah. Reduced size original seals are not permitted. Copy reductions of an original document are permitted.

- C. Signatures on final documents must be original signatures with wet ink. Copies of original final documents do not require wet ink signatures as long as the originals are sealed and wet ink signed.
- D. Plans: Each sheet within a set of plans, which represent a separate element or professional discipline (e.g.: architectural, landscape architectural, structural, mechanical, electrical, etc.) of every set of plans submitted must contain a stamp with a signature and date on the stamp.
- E. Specifications: When required and submitted, the front page only of each document must contain a stamp bearing a signature and date on the stamp.
- F. Calculations: The front page only of each set of calculations submitted must contain a stamp with a signature and date on the stamp.
- G. Soils and other required reports or analyses: A stamp with a signature and date must be placed on the front page or within the body of the report.
- H. At times a professional document contains the product of more than one professional. In this instance each must stamp, sign and date the document and add a notation clearly specifying what portion of the work each professional is responsible for.
- I. Technical reports, or documents, which represent a professional opinion and/or affect the technical aspects of a project, shall be stamped and signed by the registrant.
- G. Electronic media:
  - (1) Details, shop drawings, product descriptions and other product information prepared by manufacturers, suppliers or installers of a specific product or system may be integrated into documents prepared and sealed by registered design professional. Architects may do so providing they are incidental in relationship to the overall scope of the project and do not, in themselves, describe spaces, elements or systems directly effecting public health, safety and welfare; engineers are not limited to an incidental relationship or by spaces, elements, etc. However, in any case, the design professional must accept full responsibility for all information contained which becomes a part of the design documents.
  - (2) Computer generated stamps: Computer generated stamps may be used on final original drawings provided a handwritten signature is placed across the stamp and the date is written on or below the stamp. **Computer generated signatures and dates are not permitted.** Drawings that are transmitted electronically to a client or regulatory agency should have the computer generated stamp removed from the original file.

#### IV RECOMMENDED STANDARDS FOR BUILDING PLANS

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Each construction project approved by a building official must be represented by complete plans and specifications which clearly show all components necessary to comply with code

requirements and/or protect the public health and safety. The “approved” permit set of drawings serves as official evidence that the state, county or city agency responsible for protecting public safety has reviewed and approved building plans prior to the initiation of construction activities.

Plans and specifications submitted to the building official must be of sufficient nature to clearly show the project in its entirety with emphasis on structural integrity, life safety assurance, absence of architectural barriers, building codes compliance and definition of scope of work.

A. DRAWINGS: The minimum required drawings will depend greatly upon the size, nature and complexity of the project, however, the following are the minimum recommended standards required before the building official can begin the plan review: (Each sheet shall have a title block with the firm name, address, and phone number. Additions and remodels may not require all of the following components for plan submittal and review for permit.)

(1) COVER SHEET:

- (a) Project identification.
- (b) Project address. (It may be helpful to also include a location, or vicinity map.)
- (c) All design professionals of record shall be identified and shall have applied their seal or stamp to their portion of the drawings which represents their final work project.
- (d) The principal design professional (that is the professional who is responsible for project coordination) shall be identified. All communications shall be directed through this individual.
- (e) Design criteria list:
  - occupancy group
  - type construction
  - location of property
  - seismic zone
  - square footage/allowable area
  - fire sprinklers
  - height and number of stories
  - occupant load
  - land use zone
  - code editions used
  - wind loads
- (f) Index of drawings.

(2) SITE PLAN:

- (a) Show proposed new structure and any existing buildings, or structures, all property lines with dimensions, all streets, easements and setbacks.

- (b) Show all water, sewer, electrical points of connection, proposed service routes and existing utilities on the site.
  - (c) Show all required parking, drainage and grading information (with reference to finish floor and adjacent streets).
  - (d) Indicate drainage inflow and outflow locations and specify areas required to be maintained for drainage purposes.
  - (e) Show all paved surfaces, sidewalks, etc.
  - (f) Show north arrow.
- (3) FOUNDATION PLAN:
- (a) Show all foundations and footings. Indicate size, locations, thickness, materials and strengths, and reinforcing.
  - (b) Show all imbedded anchoring such as anchor bolts, hold-downs, post bases, etc.
  - (c) Soils reports may be required for the proposed structure at that site.
- (4) FLOOR PLAN:
- (a) Show all floors including basements. Show all rooms, with their use, overall dimensions and locations of all structural elements and openings. Show all doors and windows.
  - (b) Provide door and window schedules.
  - (c) All fire assemblies, area and occupancy separations, draft stops, location of fire extinguishers, and related devices, shall be shown.
- (5) FLOOR AND ROOF FRAMING PLANS:
- (a) Show all structural members, their size, methods of attachment, location and materials for floors and roofs.
  - (b) Show critical connection details, and procedures, required to ensure that the structure is properly constructed.
- (6) EXTERIOR ELEVATIONS:
- Show all views. Show all vertical dimensions and heights. Show all openings and identify all materials.
- (7) BUILDING SECTIONS AND WALL SECTIONS:

Show materials of construction, non-rated and fire-rated assemblies and fire-rated penetrations. Show and properly dimension all major elements.

(8) MECHANICAL SYSTEM:

- (a) Show the entire mechanical system. Include all units, their sizes, mounting details, all duct work and duct sizes.
- (b) Indicate all fire and smoke dampers where required.
- (c) Provide equipment schedules.
- (d) Submit ENERGY CODE ANALYSIS per State of Utah requirements.

(9) PLUMBING SYSTEM:

- (a) Show all fixtures, piping, slopes, materials and sizes.
- (b) Show point of connections to utilities, septic tanks, pretreatment sewer systems and water wells.

(10) ELECTRICAL SYSTEM:

- (a) Show all electrical fixtures, (interior, exterior and site) wiring sizes and circuiting, grounding, panel schedules, single line diagrams, and fixture schedules.
- (b) Show point of connection to utility.
- (c) Load calculations shall be provided if required.
- (d) Show required alarm systems and detector locations.
- (e) Show emergency lighting and exit lighting.

(11) LANDSCAPING PLANS:

Show locations and quantities of all landscape materials (e.g.: plant species, mulch, turf areas, earth mounding, edging, etc.) required for construction of the project. Show all decks, patios, and paved area related there too.

(12) IRRIGATION SYSTEM:

Show location and provide product type of backflow prevention device, controller, valves, main line, lateral line and sprinkler heads for the entire system. Indicate on plans point of connection, pipe sizing, flow in g.p.m. for each valve in spray and drip irrigation zones.

B. OTHER SUBMITTALS:

(1) STRUCTURAL CALCULATIONS:

Provide structural calculations for the entire structural system of the project.

(2) SPECIFICATIONS:

Either on the drawings, or in booklet form, further define construction components covering quality of materials and methods of construction, wall finishes and all pertinent equipment. Schedules may be incorporated in the project manual in lieu of drawings or details.

(3) ADDENDA AND CHANGES:

It shall be the responsibility of the individual identified as the principal design professional to notify the building official of any and all changes throughout the project and provide revised plans, calculations or other appropriate documents prior to actual construction when possible.

(4) REVISIONS:

- (a) For clarity, all revisions shall be identified.
- (b) Indicate the date of change, and the name, or initials, of the person making the change.
- (c) If identification symbols are used, revisions of the same date shall have the same delta identification symbol letter or number.
- (d) It is recommended that revised areas be clouded on the drawings and tagged with the corresponding delta identification symbol.
- (e) Revisions can also be resubmitted as a new project.

(5) ENERGY CODE ANALYSIS:

Provide energy code analysis.

C. DEFICIENT SUBMITTAL:

It is the responsibility of the principal design professional to verify the plans are complete, consistent and competent. If the plans do not meet these criteria, the building official may take any or all of the following actions:

- (1) Provide a complete list of required corrections.
- (2) Increase the plan check fee for additional plan review time required due to lack of completeness.

- (3) Return plans unchecked.
- (4) Refer the design professional(s) to the appropriate state board for possible disciplinary action.

## V RECOMMENDED STANDARDS FOR SURVEY MAPS

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Professional land surveyors who perform property surveys in the State of Utah are required by law to prepare maps of their surveys which shall conform to a specified standard and file the maps with the County Surveyor's Office in accordance with 17-23-17 and 17-23-17.5, UCA.

Any registered professional land surveyor making a boundary survey of lands within this state to establish or reestablish a boundary line on the ground by setting a monument or to obtain data for constructing a map or plat showing a monumented boundary line shall file a map of the survey that meets the requirements, established by Utah Code, with the county surveyor or designated office within 90 days of the establishment or reestablishment of a boundary monument or boundary line. The establishment or reestablishment of a boundary monument or a boundary line shall be interpreted as, when any type of monument, hub, or marker is established in the field by the registered professional land surveyor, and/or when the licensed professional land surveyor stamps, signs, and dates, the final map or plat.

**Survey Maps:** The following items should be part of every survey map:

- A. The location of the survey by quarter section, township and range.
- B. The date of survey.
- C. The scale of drawing and north point.
- D. The distance and course of all lines surveyed.
- E. The basis of bearing for the survey with ties to two monuments from which the survey can be retraced.
- F. All measured bearings and distances separately indicated from those of record.
  
- G. All monuments set and their relation to older monuments found.
- H. A detailed description of monuments found and set, indicated separately.
- I. A detailed description of all evidence of occupation, such as fences and walls, with measurements from the boundary lines surveyed.
- J. The record legal description of the property, and a written legal description of the property surveyed if substantially different from the record.
- K. A written narrative that explains and identifies the purpose of the survey.
- L. The basis of bearings for the survey.
- M. The found monuments, deed elements, and decisions made that controlled the established or reestablished lines.

- N. A surveyor's certificate wherein the licensed professional land surveyor personally certifies as to the survey made and the findings of the survey.
- O. The surveyor's seal or stamp with signature and date.
- P. The surveyor's business name, address and telephone number.

In January 1999, the Utah Council of Land Surveyors introduced their proposed Standard of Practice for Boundary Surveys. Notwithstanding any of the forgoing statutory standards, when this standard is accepted by the UCLS membership it will become the defacto minimum standard for **boundary surveys** in the State of Utah. In August 1999, by vote of it's membership this standard was accepted and in September 1999 was published in it's Foresight Magazine as the minimum standard for Boundary Surveys in the Stat of Utah.

Many title companies and mortgage lenders will require every survey to conform to "Minimum standard Detail Requirements for ALTA/ACSM Land Title Surveys," which was jointly established and adopted by the American Land Title Association (ALTA), American Congress on Surveying and Mapping (ACSM), and the National Society of Professional Surveyors (NSPS) in 1997.

## VI PERFORMANCE STANDARDS

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### 1. COMPETENCY FOR ASSIGNMENTS:

- A. **Field of competence.** A registrant or licensee shall undertake to perform assignments only when qualified by education or experience in the specific technical field involved, however, a Registrant, as the prime professional, may accept an assignment requiring education or experience outside of his own field of competence, but his services are restricted to those phases of the project in which the Registrant is qualified. All other phases of such project shall be performed by qualified associates, consultants or employees. For projects encompassing one or more disciplines beyond the Registrant's competence, a Registrant may sign and seal all documents for the total project only when the Registrant has first determined that all elements of the project have been performed, signed and sealed by other associates, consultants or employees who are competent and qualified to perform such services in other disciplines, and are registered or licensed.
- B. **Aiding and abetting an unregistered person.** A Registrant or Licensee shall avoid actions and procedures which, in effect, amount to aiding and abetting an unregistered person to practice architecture, engineering, landscape architecture, or land surveying.
- C. **Use of seal on documents.** A Registrant shall affix his or her signature and seal only to plans or documents prepared under his or her responsible charge.

### 2. PUBLIC STATEMENTS:

**Actions in regard to other registrants or certificate holders.** A Registrant or Licensee

shall not attempt to injure, maliciously or falsely, directly or indirectly, the professional reputation, prospects, practice or employment of another Registrant or Licensee, nor shall he indiscriminately criticize another Registrant's or Licensee's work in public. If he believes that another Registrant or Licensee is guilty of fraud, deceit, negligence, incompetence, misconduct or violation of the standard of care in the industry, he should present such information to the Utah States Registration Board for action.

### 3. CONFLICT OF INTEREST:

- A. **Conflict of interest.** Each Registrant or Licensee should conscientiously avoid conflicts of interest with an employer or client, and, when unavoidable, shall forthwith disclose the circumstances to the employer or client. In addition, the Registrant or Licensee shall promptly inform the employer or client of any business association, interests, or circumstances which could influence a Registrant's or Licensee's judgment or quality of service, or jeopardize the client's interests.
- B. **Solicitation from agencies.** A Registrant, Licensee, or a representative thereof shall not solicit or accept a contract from a governmental authority on which he, or an existing principal or officer, of his organization serves as a member of the elected policy and/or governing body of such governmental authority or serves as a member of an entity of such governmental authority having the right to contract for the services, or approve the final work product, of a Registrant or a Licensee.
- C. **Professional services and decisions of agencies.** A Registrant, Licensee or representative thereof serving as a member, advisor or consultant to a governmental board, commission or department shall not participate in decisions with respect to professional services to be offered, that have been offered or may have been performed by that person's associates, firm or employer for the concerned governmental body upon which that person serves, whether such professional services are commissioned by an entity of the said governmental body or by another person or entity.

### 4. SOLICITATION OF WORK:

- A. **Representation of qualifications.** A Registrant or Licensee shall not falsify or permit misrepresentation of his or his associate's academic or professional qualifications, and shall not misrepresent or exaggerate the degree of responsibility in or for the subject matter of prior assignments. Brochures or other presentations incident to the solicitation of employment shall not misrepresent pertinent facts concerning employers, employees, associates, joint-ventures or his or their past accomplishments with the intent and purpose of enhancing qualifications for the work. The Registrant or Licensee shall not indulge in publicity that is misleading.

- B. **Assignment on which others are employed.** A Registrant or Licensee shall not knowingly accept employment for professional services for an assignment which another Registrant or Licensee is employed, or contracted to perform without the currently employed or contracted entity being informed.
  - C. **Selection on the basis of qualifications.** A Registrant or Licensee should seek professional employment or professional service work on the basis of qualifications and competence for proper accomplishment of the work assignment.
5. **PREPARATION OF THE FINAL WORK PRODUCT, PLANS AND SPECIFICATIONS, ETC.:**
- A. **Direct supervision required by professional architects, engineers, landscape architects and land surveyors.** The final work product of a professional architect, engineer, or land surveyor must be performed by them, or under their direct supervision. Under the direct supervision of the licensed professional, as it applies to an employee, subordinate, associate, or drafter of a professional architect, engineer, landscape architect, or land surveyor, means that the unlicensed employee, subordinate, associate, or drafter of the licensed professional engages in the practice of professional architecture, engineering, landscape architecture, or land surveying only on work initiated by the professional architect, engineer, landscape architect, or land surveyor, and only under the administration, charge, control, command, authority, oversight, guidance, jurisdiction, regulations, management, and authorization of the professional architect, engineer, or land surveyor.
  - B. **Professional architects, engineers, and land surveyors are responsible for the work and services provided by their employees, subordinates, associates, and/or drafters.** Employee, subordinate, associate, or drafter of a licensed professional, means one or more individuals not licensed as a professional architect, engineer, landscape architect, or land surveyor who are working for, with, or providing services directly to the licensed professional, and under the direct supervision and responsible charge of the licensed professional architect, engineer, landscape architect, or land surveyor.
  - C. **Direct Supervision.** The term “Direct Supervision” means the licensed professional, by regular participation, has exercised directing, guiding and restraining power on matters embodied in the plans, designs, and advice involved in the architectural, engineering, landscape architectural, or land surveying work and accepts responsibility for the contents of the final work project. After-the-fact review or checking of technical submissions does not satisfy the requirement of direct supervision.
  - D. **Responsible Charge.** The term “Responsible Charge” directly relates to the degree of control a licensee is required to maintain while exercising independent control and direction of architecture, engineering, landscape architecture, or land surveying work and to the decisions which can be made only under the direct supervision of a

licensed professional.

- (a) The degree of control necessary to be in responsible charge shall be such that the licensee:
  - (i) personally makes architectural, engineering, landscape architectural, or land surveying decisions, or reviews and approves proposed decisions prior to their implementation, including consideration of alternatives, whenever technical decisions are made. In making decisions the licensed professional must be physically present or through the use of communication devices, can be available in a reasonable period of time; and
  - (ii) judges the qualifications of technical specialists and the validity and applicability of their recommendations before such recommendations are incorporated in the work.
- (b) To be considered in responsible charge of a project, the professional licensee who signs the final documents must be capable of answering questions asked by equally qualified professionals. These questions would be relevant to the decisions made during the individual's participation in the project and require responses in sufficient detail to leave little question as to the licensee's technical knowledge of the work performed. It is not necessary to defend decisions as in an adversary situation, but only to demonstrate that the individual in responsible charge made the decisions and possessed sufficient knowledge of the project to make the decisions.
  - (i) Examples of questions to be answered by an architect or engineer could relate to criteria for design, methods of analysis, methods of manufacture and construction, selection of materials and systems, economics of alternate solutions, and environmental considerations. The individual should be able to clearly define the degree of control and how it is exercised within the organization and geographically and to demonstrate that the responsible professional is answerable within that degree of control.
  - (ii) Examples of questions to be answered by a land surveyor could relate to criteria for design, methods of analysis and conclusions made including, but not limited to, the retracement of government surveys, interpretation and construction of deeds, application of proportion methods and analysis of evidence related to unwritten property rights. The individual should be able to clearly define the degree of control and how it is exercised within the organization and geographically and to demonstrate that the land surveyor is answerable within that degree of control.

## **6. DURING CONSTRUCTION SERVICES, OBSERVATION AND INSPECTION:**

- A. Codes and Standards in the industry do not require Architects and/or Engineers to perform observations and/or inspections during manufacturing or construction. Building departments, or other regulatory agencies, may require observations of construction to be performed by a licensed Architect or Engineer.
- B. Revisions made during construction to an architectural or engineering document are to be stamped by the licensed professional.
- C. Non-licensed persons may provide construction observations and inspections

provided no architectural or engineering design and/or revisions to the construction documents are made or approved by the non-licensed person.

- D. Non-licensed persons may prepare shop drawing layouts, details and quantity take-offs, etc. that are intended to be a supplier's or manufacturer's interpretation of a licensed engineer's drawings for the purpose of constructing or manufacturing such items or products. These drawings do not require an architect's or engineer's stamp.
- E. Shop drawings containing architectural or engineering design not shown on the project documents or submitted to the public or building department as a final design, must be prepared and stamped by a licensed professional.

## 7. **IMPROPER CONDUCT:**

- A. **Fraudulent or dishonest enterprises.** A Registrant or Licensee shall not knowingly associate with, or permit the use of his or her name or the firm name in a business venture by any person or firm which it is known, or there is reason to believe, is engaging in business or professional practices of a fraudulent or dishonest nature.
- B. **Unprofessional conduct.** A Registrant or Licensee shall not knowingly mislead the public, and shall not stamp, and/or sign the final work product of anyone who is not under their direct supervision.
- C. **Moon-Lighting.** Architects, engineers, landscape architects, and land surveyors, shall not accept professional employment or assignments outside of their regular work without the knowledge of their employers. It is unethical for an employee of a firm to engaged in the practice of architecture, engineering, landscape architecture, and/or land surveying, which is in direct competition with the type of work being performed on a daily basis for the firm they work for. When employees engage in this type of "Moon-Lighting" activity, they potentially place their employer, and the firm, in a position of liability. The courts have ruled, in some cases, that the architectural, engineering, landscape architectural or land surveying work performed by an employee of a firm, requires the firm to be responsible for that work even if it was performed after hours, if that work product is of a type normally performed during working hours for the firm.
- D. **Other ethical standards, or policies.** There are other ethical standards, or policies, established by professional societies, which provide additional insight regarding the ethical conduct or practice of licensed professionals. Each licensed professional should be familiar with the ethical standards, or policies, which have been established by their respective professional societies.