

# Scope of Work Exhibit

## Cover Sheet and Instructions

APPROVED DOCUMENT – This document is approved by the Office of the President and Office of the General Counsel for use by the Facility and is available on computer diskette.

<b>PURPOSE OF DOCUMENT:</b>	Supplements and amplifies Work requirements.		
<b>CROSS-REFERENCE TO FACILITIES MANUAL:</b>	None		
<b>CONTENTS:</b>	Scope of Work Exhibit		
<b>FOR USE WITH:</b>	Design Build Contract Documents		
<b>COMPLETED BY:</b>	√ Filling in	√ Adding Text	No Data Required
<b>ITS USE IS:</b>	√ Required	Optional	

**NOTE:** To use the electronic file of this document, you must go to the “Tools” pull down menu in Microsoft Word, select “Options,” select the “View” tab, and then put a check in the box “Hidden text.” Most instructions and alternate language is displayed in hidden text. Do not print the hidden text for the final document.

### Completion Instructions:

1. Notes, suggested text, instructions and other information is formatted using the following methods:
  - Hidden text within brackets. {This is an example of the format.} Read the material within the brackets and take the appropriate action (usually inserting text or selecting from a choice of texts.) When printing this document, the default print property will not print the hidden text.
  - Coded instruction within brackets. {This is an example of the format.} The instructions and shading will disappear when the required information is typed.
  - Suggested text is shaded in gray without brackets (see Modification and Additions below.)

### Modifications and Additions:

1. Areas shaded in gray, without brackets, represent suggested text that may be modified by the Facility to meet the needs of the Project. This is an example of the format. Ensure that any modified or added text is consistent with the Contract Documents.
2. Areas not highlighted in gray, without brackets, shall not be altered without approval of the Office of the President.

### Comments:

None

## SCOPE OF WORK

### GENERAL INFORMATION

This exhibit supplements other Contract Documents in defining the scope of work of the Design Builder.

The Work shall include all design work, labor, material, tools, equipment, excavation, shoring, testing, inspection, commissioning and all necessary general conditions, that may be reasonably inferred from the Contract Documents to provide all Design Work and Construction Work for:

{INSERT COMPREHENSIVE DESCRIPTION OF PROJECT AND SCOPE OF WORK}

**ARTICLE 1**

**GENERAL PROVISIONS**

1.1 PLAN CHECK CONSULTANT

The term "Plan Check Consultant" shall mean entity hired by University which is licensed in California as an engineer or architect (as applicable) and is certified by the code(s) invoking their plan check review for code compliance of the Design Work.

1.2 UNIVERSITY 'S BUILDING OFFICIAL

The term "University's Building Official" shall mean the individual the University has designated to act in the capacity as the "Building Official" as defined by the Uniform Building Code; and shall be the final interpreter of any code issues that may arise in the course of the Work. The University's Building Official will be responsible for the Code Compliance Review of the Work.

1.3 UNIVERSITY REVIEW AND APPROVAL

1.3.1 Regents Design Approval, see Article 2.

1.3.2 Code Compliance Review – the review conducted by the University's Building Official to review the Design Work to determine that it meets all Applicable Code Requirements.

1.3.3 Scope Compliance Review – the review by the University's Representative of the Design Work to determine that the requirements of the Contract Documents, other than elements covered by the Code Compliance Review, are met.

1.3.4 In accordance with the Design Build Agreement, each Phase is subject to review and approval by University as outlined in this exhibit. Two separate types of reviews are intended: 1) Scope Compliance Review(s); and 2) Code Compliance Review(s). The University's Building Official may, at the University's Building Official's sole discretion, utilize the services of Plan Check Consultant(s) to assist in the Code Compliance Review. Once the University has approved the Design Work, any item within such approved Design Work that the Design Builder desires to subsequently change must be identified by Design Builder in the form of a submittal identifying and requesting such change; and shall not be incorporated into the Design Work until written approval is received by University.

1.4 APPLICABLE CODES, RULES, REGULATIONS, REGULATORY AGENCY APPROVALS, & INDEPENDENT REVIEW(S)

1.4.1 It is the Design Builder's and its Design Professional's responsibility to design the Project in compliance with applicable requirements of federal and state laws, codes, rules, regulations, ordinances, and standards, including, but not limited to, those outlined below. Design Professional shall have copies available of applicable codes and regulations for ready reference.

.1 California Building Standards Code, Title 24, California Code of Regulations (CCR):

Part 1, Building Standards Administrative Code  
Part 2, California Building Code

- Part 3, California Electrical Code
- Part 4, California Mechanical Code
- Part 5, California Plumbing Code
- Part 6, California Energy Code
- Part 7, California Elevator Safety Construction Code
- Part 8, California Historical Building Code
- Part 9, California Fire Code
- Part 12, California Reference Standards Code

- .2 Air Quality Management District regulations, if applicable.
- .3 Americans with Disabilities Act (ADA), Title II, ADAAG.
- .4 California Coastal Commission Regulations.
- .5 Local Building Codes. University is not subject to local jurisdictions' building codes, nor is it required to obtain building permits from local jurisdictions for construction on real estate owned or controlled by University. However, the design and construction of utility connections and fire-protection systems may require liaison with local jurisdictions. This liaison shall be coordinated only through University's Building Official. Though the University is not required to obtain building permits from local jurisdiction, the Code Compliance Reviews coordinated and conducted by University's Building Official, and other applicable agencies; with final written approval by the University's Building Official will be in effect equivalent to a building permit. Construction or encroachment upon city- or county-owned property is subject to local codes and permit requirements.
- .6 The Federal Occupational Safety and Health Act and all other Applicable Code Requirements relating to safety.  
  
{INSERT ALL OTHER APPLICABLE CODES AND STATUTORY TECHNICAL COMPLAINT REQUIREMENTS.}
- .7 Regulatory Agencies. The following agencies must review and approve the Design Work:  
  
State Fire Marshal  
  
{INSERT ALL OTHER APPLICABLE REGULATORY AGENCIES SUCH AS OSHPD, STATE ARCHITECT, ETC.}
- .8 Independent Review(s). The following Independent Review(s) will be conducted on the Design Work for the University:  
  
Independent Seismic Review  
  
{INSERT ALL OTHER APPLICABLE INDEPENDENT REVIEW REQUIREMENTS.}

1.5 ENERGY ANALYSIS REQUIREMENTS

1.5.1 Design Professional shall design in accordance with Energy Analysis Requirements and shall prepare an energy analysis of the Project. Design Professional shall submit specific certification to University as required by California Code of Regulations, Title 24, Part 6,

California Energy Code. In addition Design Professional shall comply with the following Facility requirements:

{LIST SPECIFIC FACILITY REQUIREMENTS.}

1.6 REGULATORY APPROVALS AND INDEPENDENT REVIEWS

1.6.1 Design Professional shall be responsible for obtaining review and approval by applicable regulatory agencies as stipulated in this exhibit. Design Builder will coordinate with the University's Representative prior to commencing review and approval with regulatory agencies. The University's Representative will direct the Design Builder on how each regulatory agency review and approval will be coordinated with the University. Meetings may also be required of the Design Builder with agencies from which University is responsible to obtain permits or approvals.

1.6.2 Design Professional shall be responsible for incorporating revisions requested by Independent Review(ers). Design Builder will coordinate with the University's Representative prior to incorporating such revisions. The University's Representative will direct the Design Builder on how to coordinate with each Independent Review(er). Meetings may also be required of the Design Builder with Independent Review(ers).

1.7 EXAMINATION OF SITE

1.7.1 Prior to submitting Proposal for the Work, Design Builder and Design Builder's Design Professional's shall:

.1 Visit the Project site to become familiar with existing site conditions, including the site location and size, utility capacities, and connection options of external utilities.

.2 For alteration projects, visit all relevant areas of the existing buildings to be altered.

PARAGRAPH 1.8 IS OPTIONAL.

If 1.8 IS NOT APPLICABLE, RETAIN THE NUMBER AND ADD THE WORDS "NOT USED".

1.8 SPECIFICATION FORMAT

{1.8.1 University will provide a set of sample specifications reflecting a format and use of terminology that is generally acceptable for University projects; these sample specifications are intended to serve as a guide. Design Professional shall review the sample specifications and determine the extent to which the various sections and paragraphs are applicable and the extent to which modifications are required. Where, in the opinion of Design Professional, modifications in either format or terminology are required, Design Professional shall mark the modifications in the specifications for University attention, review, and approval. The sample specifications are not intended to limit Design Professional's discretion to specify products, materials, or construction methods and procedures. Neither the provisions of the sample specifications established by University nor Design Professional's use of the samples, as a guide in preparing specifications shall derogate from Design Professional's responsibility to prepare the Construction Documents.}

{PARAGRAPH 1.9 IS OPTIONAL. }

{IF NOT APPLICABLE, RETAIN THE NUMBER AND ADD THE WORDS "NOTUSED".

## 1.9 PARTNERING

{University and Design Builder will cooperate and participate fully in Partnering at all levels and among all the parties involved in this Project, and at their own expense. Partnering shall mean both formal and informal interaction between and among all the parties involved in the Project, including but not limited to University representatives, Design Builder, Design Professionals, Subcontractors and outside entities as designated by University to promote the desired goal of a successful, non-adversarial completion of the Project within the Contract Time and Contract Sum. The requirement for partnering shall not be construed as a change in the terms or conditions of the Design Build Agreement. Design Builder shall be responsible for partnering activities during the construction documents phase and the construction phase. The Design Builder shall include representation of the professional entities preparing the construction documents and the construction subcontractors, as appropriate. The Design Builder shall bear the cost of the partnering activities such as meeting rooms and facilitator(s). The Design Builder shall plan for two (2) partnering sessions during the construction documents phase and at 6-month intervals during the construction phase. Partnering is a professionally facilitated off-site meeting involving the representatives of the project team for the purposes of team building and problem solving. The Design Builder and the University shall agree on the selection of the partnering facilitator and attendees.}

## 1.10 ENVIRONMENTAL IMPACT REPORT (EIR)

The following mitigation measures from the EIR are part of the scope of the Design Builder:

{Insert all applicable mitigation measures the Design Builder is to perform.}

The following items related to the EIR are not part of the scope of work:

{Insert all applicable items which the Design Builder will not be responsible for related to the EIR.}

**ARTICLE 2****PHASE 1 – DESIGN DEVELOPMENT PHASE**

## 2.1 GENERAL

{If University has prepared design documents so that a significant part of Design Development is essentially complete, insert the following:

Upon University's written Notice to Proceed for Phase 1, Design Builder shall evaluate the Criteria Documents to establish, prior to commencing its design efforts, design reservations or concerns that require clarification or direction from the University, if any. Design Builder shall be responsible for preparing a document summarizing its findings in this regard and submitting same to the University's Representative. This review document shall include a representation by the Design Professional and the Design Builder that they have reviewed and confirmed the Criteria Documents finds them complete and suitable for the Design Work.}

{If your Project requires full development of the Design Development Phase, include/adjust the following language to meet the Project needs, consistent with the Contract Documents provided by University to Design Builder:}

Upon University's written Notice to Proceed for Phase 1, Design Professional shall prepare for approval by University's Representative, Design Development documents. These documents shall consist of such drawings, outline specifications, and narratives as are needed to establish and describe the size and character of the entire Project, and allow the University to initiate Scope Compliance Review(s). Design Professional shall incorporate into the Design Development documents architectural, structural, mechanical, and electrical systems, materials, and such other elements and other systems as described in Contract Documents.

2.1.1 Design Professional shall furnish an update of the schematic design phase building code analysis that delineates the design criteria (e.g., exit paths, travel distances, required exits, rated walls, and rated corridors, building occupancy, construction type, and fire zones). This deliverable shall be used for preliminary Code Compliance Review by the University's Building Official.

2.1.2 Design Professional shall submit documentation supporting the design criteria for the structural (including structural loading), HVAC, plumbing, electrical, lighting and communication systems; and other specialized building systems.

2.1.3 {WHEN INDEPENDENT REVIEW(S) ARE NOT REQUIRED, DELETE THIS SUBPARAGRAPH AND RETAIN THE NUMBER AND ADD THE WORDS "NOT USED".}The Work of this phase is subject to independent reviews, both internal and external, and value engineering

2.1.4 Design Development drawings which are to be developed into working drawings require Mylar copies. These copies must be capable of enduring any corrections by erasure that may be required and of withstanding the wear they will undergo while working drawings are being produced. The completed tracings must be of excellent quality for the production of good-quality duplicates.

- 2.1.5 Program. Prior to completing the 50% and 100% design development phase submittals, Design Professional shall evaluate the programmatic requirements and call to the attention of University's Representative any discrepancy contained therein and request direction regarding any discrepancies.

## 2.2 ARCHITECTURAL REQUIREMENTS

- 2.2.1 Site, Civil, and Landscape Drawings (Scale: Not less than 1 inch = 40 feet 0 inches). The Design Professional shall:

- .1 Depict the overall dimensions of any proposed new building. Indicate all references to a benchmark and baseline. Indicate the distances from each proposed new building to (1) existing buildings, (2) property lines (setbacks), and (3) roadways.
- .2 Depict all existing structures within a radius of at least 300 feet of the Project. Identify all structures and streets by name.
- .3 Depict all new exterior elements and all existing exterior elements that will remain in place after an alteration or addition. These elements include, but are not limited to streets, service drives, easements, loading docks, parking areas, paved areas, walks, stairs, ramps, retaining walls, fences, fire hydrants, and equipment.
- .4 Depict the elevations of building entrances and major exterior elements.
- .5 Provide a site plan indicating existing and proposed contours at 1-foot intervals. Indicate the method of general site drainage as it is affected by the location of each proposed building.
- .6 Provide sections through the site as needed to explain changes in levels within the proposed building as related to the site.
- .7 Depict the placement of ramps and other provisions for disabled access to the site and building. Depict the parking area and drop-off location nearest the building and the routes and travel distances to all building entrances.
- .8 Provide a site utilities plan that depicts existing utilities, including underground lines, located within the Project site and that depicts any proposed new utility services. Indicate the points of connection between new work and the existing utility systems.
- .9 Provide a site demolition plan indicating existing structures and utilities that are to be removed.
- .10 Provide landscape design drawings.

- 2.2.2 Floor Plans (Scale: Not less than 1/8 inch = 1 foot 0 inches). The Design Professional shall:

- .1 Indicate the locations, room names, sizes (in assignable square feet), and space numbers for all programmed spaces and required gross areas including entrances, lobbies, corridors (with widths), stairs, elevators, toilet rooms, janitors' closets, and mechanical/electrical equipment rooms. Floor plans for additions or alterations to

existing buildings shall show the existing floor plan and indicate the existing space usages and any proposed changes.

- .2 Indicate the locations of all doors (showing door swings) and windows.
- .3 Indicate the overall dimensions of the major elements of each building.
- .4 Indicate the locations and fire ratings of all fire separations, exit enclosures, fire doors, and similar elements, as required by applicable codes.
- .5 Indicate the provisions for making facilities accessible to and usable by the disabled. Indicate all accessible toilets and drinking fountains.
- .6 Indicate the location of all plumbing fixtures such as lavatories, floor drains, water closets, urinals, service sinks, drinking fountains, eyewash fountains, deluge showers, and fire-hose cabinets.
- .7 Indicate all principal built-in features such as fixed auditorium seats, kitchen equipment, display cases, counters, shelves, lockers, laboratory benches, case work, glass washers, sterilizers, fume hoods, and similar items.
- .8 Indicate the locations of movable furniture—if not in scope of Contract Documents, indicate “not in contract” (NIC)—including “interior landscape” partitions and equipment. Differentiate between movable furniture and equipment and built-in furniture and equipment.
- .9 Provide a demolition plan whenever a Project requires the demolition of any building or portions thereof. The demolition plan shall differentiate between new work (walls, doors, finishes, and so on), existing work to be removed, and existing work to remain in place.
- .10 Provide a roof plan showing associated equipment, slopes, ridges, drains, and other items.

2.2.3 Elevations and Sections (Scale: Not less than 1/8 inch = 1 foot 0 inches). The Design Professional shall:

- .1 Depict in building elevations, all building elements including penthouses, entrances, windows, doors, stairs, platforms, louvers, vents, exhaust stacks, retaining walls, and similar items. Indicate proposed finished grades.
- .2 Indicate the overall building and floor-to-floor heights.
- .3 Include longitudinal and transverse sections for each major area, indicating floor elevations, existing and proposed exterior grades, ceiling heights, pipe tunnels, non-excavated areas, basement areas, roof lines, and parapets. Where appropriate, show connections to adjoining buildings.
- .4 Reference all sections and elevations on the floor plans.
- .5 Indicate in the sections, provisions for HVAC distribution and hood venting.

2.2.4 Interior Details (Scale: Not less than 1/4 inch = 1 foot 0 inches). The Design Professional shall provide detail plans, sections, and elevations for the following types of space:

- .1 Classrooms and lecture halls.
- .2 Kitchens and related service areas.
- .3 Laboratories and laboratory support areas.
- .4 Toilet and locker rooms.
- .5 Other areas of special design.

2.2.5 Schedules. The Design Professional shall:

- .1 Provide a door schedule indicating each door's type, size, material, hardware group and pertinent comments.
- .2 Provide a preliminary interior finish schedule indicating the material, texture, and color of each finish material proposed for use in the Project.
- .3 Materials Boards. The Design Professional shall provide samples of all finish materials listed in the materials/color schedule. These samples shall be accurate with respect to the actual finishes, textures, and colors being proposed. Materials samples shall be mounted and displayed on presentation boards for review and approval by University.

## 2.3 STRUCTURAL REQUIREMENTS

The Design Professional shall provide a structural plan for each level of the structure at the same scale as that used for the architectural plans. Indicate the grid system (dimensioned), columns, load-bearing walls, shear walls, footings, and related items.

## 2.4 PLUMBING REQUIREMENTS

2.4.1 Existing Capacity. The Design Professional shall indicate proposed points of connection to existing Facility utility systems. Refer to the site plan requirements outlined in paragraph 2.2.1.

2.4.2 Site Utilities Plan (Scale: Not less than 1 inch = 40 feet 0 inches). The Design Professional shall:

- .1 Indicate the routing of proposed new external utilities from each new building to each point of connection to the Facility's utility systems. Indicate all utility lines that are to be abandoned, removed, or rerouted.
- .2 Show all existing utilities within the Project site based on both the information provided by University and on Design Professional's field investigation.

2.4.3 Floor Plans (Scale: Not less than 1/8 inch = 1 foot 0 inches). The Design Professional shall:

- .1 Indicate all piping on the floor-level plan in which it will be installed.

- .2 Indicate the locations of main waste lines and stacks and vents as well as all service mains, including those for water, air, gas, and vacuum.
- .3 Indicate all pieces of equipment—including pumps, tanks, generators, pressure-reducing valves, and so on—showing their locations and required piping connections.

## 2.5 HVAC REQUIREMENTS

2.5.1 Floor Plans (Scale: Not less than 1/8 inch = 1 foot 0 inches). The Design Professional shall:

- .1 Indicate the location of each piece of equipment including air handling units, chillers, cooling towers, pumps, converters, expansion tanks, boilers, fans, fan coil units, and other equipment.
- .2 Indicate all mains for each duct system.
- .3 Indicate the typical supply and return air zones for each type of occupancy. Occupancy types include offices, laboratories, computer rooms, conference rooms, and special application rooms. A typical air zone shall include the terminal unit with all applicable branch ducts and air outlets and inlets.
- .4 Indicate the typical exhaust air duct for each type of application. Application types include hoods, toilet rooms, janitors' closets, transformers, mechanical/electrical equipment rooms, and other rooms as required for a satisfactory indoor environment. A typical duct shall include an air inlet and a source destination for exhaust air.

2.5.2 Large-Scale Drawings (Scale: Not less than 1/4 inch = 1 foot 0 inches). The Design Professional shall provide a layout of all equipment rooms to ensure that the proposed equipment will fit in the allotted space.

## 2.6 ELECTRICAL REQUIREMENTS

The power, signal, and communications layouts shall be shown on one set of drawings, and the lighting layouts shall be shown on a different set of drawings. Use standard symbol conventions.

2.6.1 Floor Plans (Scale: Not less than 1/8 inch = 1 foot 0 inches). The Design Professional shall:

- .1 Indicate the location of each load center unit substation, motor control center, distribution switchboard, panel board for power and lighting, telephone equipment room, and closet.
- .2 Indicate the types and locations of lighting fixtures and controls in typical offices, laboratories, corridors, examination rooms, and similar spaces, and use a schedule for detail.
- {.3 OPTIONAL: Provide specific project requirements for floor plans.}

2.6.2 Large-Scale Drawings (Scale: Not less than 1/4 inch = 1 foot 0 inches). The Design Professional shall provide a layout of all equipment rooms to ensure that the proposed equipment will fit in the allotted space.

2.6.3 Distribution Diagram (Not to Scale). The Design Professional shall provide a single-line electrical distribution diagram showing primary service to substations and secondary service

to distribution switchboards, motor control centers, and panel boards for power and lighting. This diagram shall include and show the permanent as well as temporary points of connection to external utilities such as high-voltage, telephone, and all signal systems.

## 2.7 OUTLINE SPECIFICATIONS

Prior to beginning production of the specifications, Design Professional shall schedule a meeting with University's Design and Construction, and Contract Administration units to discuss specification guidelines. At this meeting, University will provide guidelines for preparing specifications. Attendees at this meeting shall include all applicable Design Professional(s), and each Design Professional's specifications writer.

The outline specifications shall provide a more detailed description of all building components and systems as compared with the schematic design documents and Performance Specifications in the Contract Documents. The outline specifications shall include the following:

- 2.7.1 An index showing all divisions and sections intended to be used. The format shall be that recommended by the Construction Specifications Institute (CSI), Master Format.
- 2.7.2 A general description of the construction, including the structural system; wall, ceiling, roofing, and waterproofing systems; exterior and interior finishes; and doors, windows, and case work. These descriptions shall include applicable code requirements and applicable standards reference.
- 2.7.3 Descriptions of the plumbing and HVAC systems including controls, ducts, filtration, and piping. These descriptions shall include applicable code requirements and applicable standards reference.
- 2.7.4 A general description of electrical services, including the voltage and the number of feeders. The specifications shall provide a specific description of items to be served by emergency power and shall describe design considerations for special areas. This description shall include applicable code requirements and applicable standards reference.
- 2.7.5 A description of fire safety items including all mechanical and electrical devices required by the State Fire Marshal for the intended occupancy of the building.
- 2.7.6 A description of special systems, including laboratory control systems, energy management systems, special exhaust systems, and similar items.

## 2.8 AREA TABULATION

The Design Professional shall tabulate assignable square footage (ASF) and gross square footage (GSF). Provide a tabulation of rentable square footage (RSF) according to specifications of the Building Owners and Managers Association. Provide a space-by-space comparison of design development phase ASF and programmed ASF. The Design Professional shall tabulate by floor and program component, and include a recapitulation showing the totals for the building as a whole, if applicable

## 2.9 SOILS AND MATERIALS TESTING

The Design Professional shall make initial recommendations for Construction Phase testing and special inspections such as soils and materials testing, welding inspections, and dewatering requirements that are proposed to be handled in the Quality Control Plan.

University will provide for all testing and inspections, except certain classes of materials testing and inspection to be provided by the Design Builder: 1) such cases are limited to quality control testing in manufacturing plants (including reinforcing and structural steel, concrete, and manufactured items), 2) certain field testing such as performance testing of mechanical and electrical systems.

Testing provided by the Design Builder shall be performed by manufacturers, testing agencies, or the Design Builder's field forces as appropriate. The Quality Control Plan and Specifications must clearly indicate tests and inspections to be provided by the Design Builder and University.

Means, methods, results and report contents for testing and inspection must be specified in the Quality Control Plan. The University's Representative will judge the acceptability of all testing and inspection performed on behalf of the Design Builder.

{REMOVE SECTION ON "REGENTS DESIGN SUBMITTAL" IF REGENT APPROVAL HAS ALREADY BEEN OBTAINED AND INSERT "NOTUSED."}

## 2.10 REGENTS DESIGN SUBMITTAL

Prior to the approval and completion of the Design Development Phase, the Design Builder shall submit and present (5) five colored sets of the following material for review and approval by the University's Board of Regents:

1. floor plans.
2. building sections.
3. building perspective.
4. building model
5. narrative describing how the design's appropriateness, color, materiality, and value fit the facility context.

Should the University's Board of Regents fail to approve the design submittal or aspects of the design submittal, the Design Builder will be required to modify the design documents above and re-submit for approval. University board meetings are typically held once every two months. No adjustment to the Contract Sum or Contract Time will be granted for obtaining University approval.

**ARTICLE 3****PHASE 2 – CONSTRUCTION DOCUMENTS PHASE**

## 3.1. GENERAL

The construction documents phase submittal shall include, at minimum, all items that are required for the Design Development Phase and those that are enumerated in Phase 1 code analysis approved by University's Building Official. Construction Documents shall show all elements previously shown on the Design Development documents but with greater detail and specificity.

3.1.1 Upon University's written Notice to Proceed for Phase 2, and based on Design Development Phase documents approved in writing by University, and Change Order(s), Design Professional shall prepare for approval by University, Construction Documents consisting of Drawings and Specifications setting forth in detail the requirements for the construction of the project. The Construction Documents shall describe the quality, configuration, size and relationships of all components to be incorporated into the project. The Construction Documents shall be consistent with the Contract Documents.

3.1.2 Design Professional shall submit a tabulation comparing both gross and assignable floor areas to the design development phase area requirements.

3.1.3 The Work of this phase is subject to independent reviews, both internal and external, and value engineering

{WHEN INDEPENDENT REVIEW (S) ARE NOT REQUIRED, DELETE THE PARAGRAPH ABOVE AND RETAIN THE NUMBER AND ADD THE WORDS "NOTUSED"}

3.1.4 Design Professional shall submit construction documents to University Scope Compliance Review approval upon 50% completion; and Design Professional's determination that the documents are 100% complete and coordinated, Design Professional shall submit Construction Documents for both Scope Compliance Review and Code Compliance Review. Design Professional shall re-submit the documents for back check by the University for Scope Compliance Review and to University's Building Official, and other applicable agencies after corrections are made to the 100% submittal for Code Compliance Review. The Design Professional shall continue to re-submit the documents until written approval from the University's Representative is obtained for Scope Compliance; and written approval from University's Building Official is obtained for Code Compliance.

3.1.5 Upon 50% and 100% completion of the Construction Documents, Design Professional shall submit for University review and comment {NUMBER} copies each of the Construction Documents, a summary of the calculations, and detailed calculations, for the structural, HVAC, electrical, plumbing, communications, and other specialized building system calculations.

3.1.6 The Construction Documents submittals shall either incorporate any changes or corrections required by University's Building Official or the applicable review agencies as a result of their Code Compliance Review of the 100% completed Construction Documents or be accompanied by a written statement as to why such changes were not incorporated. University's Building Official may reject Design Professional's explanation and require Design Professional to make the changes or corrections to the Construction Documents as previously requested by University's Building Official related to its Code Compliance Review.

The University's Building Official will be final interpreter of all code requirements, and all such decisions will be final.

- 3.1.7 Unless directed otherwise in writing by University the Construction Documents Phase shall not be considered 100% complete until all required agency and University approvals have been received by Design Professional. Design Professional shall prepare and submit required agency applications as required by University's Representative.
- 3.1.8 Upon 100 percent completion of the Construction Documents, Design Professional shall provide a complete listing of all rooms and spaces, as required in Format for Listing Rooms and Spaces in exhibits.
- 3.1.9 Final Construction Drawings and the Certification page of the specifications submitted to University shall be signed and stamped by the appropriate Design Professional's of Record.
- 3.1.10 Design Professional shall be responsible for the content of all Construction Documents. All construction documents prepared or signed by Design Professional of Record shall be complete, coordinated, accurate, and contain directions as will enable a competent contractor to carry them out.
- 3.1.11 Design Professional shall submit for University review and comment {NUMBER} copies of the final (100%-completed) Construction Documents.
- 3.1.12 When Scope Compliance Review by the University; and Code Compliance Review by the University's Building Official, and review agency required changes or corrections have been incorporated by Design Professional, the 100%-completed Construction Documents will be deemed to be final and ready for University to issue Construction Notice to Proceed. Design Professional shall provide to University 1 set of Mylar reproducible Drawings, {NUMBER} {set OR sets} of prints, and the complete set of the Specifications, of the final (100% backchecked and corrected) set of Construction Documents. The Specifications shall be provided in both hard copy form and on computer disk. {FACILITY TO INSERT APPROPRIATE COMPUTER DISK FORMAT: i.e., computer disk format shall be latest version of Microsoft Word.}

{IF APPLICABLE, ADD THE FOLLOWING TO 3.1.12:}

{Design Professional is also required to provide University with a computer-disk version of the Drawings that is compatible with {SPECIFY ONE OR MORE COMPUTER APPLICATIONS, i.e. latest version of AutoCAD}.

{WHEN INDEPENDENT REVIEW IS REQUIRED ADD THE FOLLOWING PARAGRAPH OR RETAIN THE NUMBER AND ADD THE WORDS "NOTUSED."}:}

- 3.1.13 {The Work of this phase is subject to independent reviews, both internal and external (see Paragraph 2.1.3).}
- 3.1.14 Program. Prior to completing the 50% and 100% construction documents phase submittals, Design Professional shall evaluate the programmatic requirements and call to the attention of University's Representative any discrepancy contained therein and request direction regarding any discrepancies.

{Facility shall complete this when design submittal items are required of the Design Builder in the Design/Construction Phase Exhibit, and their scope is not fully defined in this Article.

3.1.15 Design/Construction Phases Required Design Submittals. The following design submittals are required to be submitted, reviewed and approved by the University, prior to the construction phase indicated on the Design/Construction Phases Exhibit. This Exhibit is a detailed description of scope for each such submittal where the scope is not described later in this Article.}

{Facility shall insert an itemized list, with detailed scope description for each design submittal indicated in the Design/Construction Phase Exhibit, if it is not later defined in this Article}

### 3.2 50% COMPLETED MINIMAL SUBMITTAL REQUIREMENT

Products and materials specified on the drawings must be identical to the products and materials required in the written Contract Documents Specifications.

#### 3.2.1 Civil Drawings:

- .1 Existing civil survey.
- .2 Site plan.
- .3 Grading and drainage plan.
- .4 Site profile sections.
- .5 Details.
- .6 Site utilities plan.
- .7 Site demolition plan.

#### 3.2.2 Architectural Drawings:

- .1 Title sheet with index, general notes, legends, and a small-scale Facility/Project location map. General notes shall not include General Conditions items. Notes must coordinate with and conform to the written Contract Documents.
- .2 Site plan.
- .3 Floor plans indicating fixed (built-in) equipment.
- .4 Roof plan.
- .5 Reflected ceiling plans showing all penetrations.
- .6 Demolition plan (when appropriate).
- .7 Elevations and sections.
- .8 Details.
- .9 Schedules:
  1. Door and window schedules.
  2. Interior finish schedule.
  3. Other schedules as appropriate.
  4. Updated Materials Board

#### 3.2.3 Structural Drawings:

- .1 Plans that indicate the location, type of member, size, and material of each structural element for foundations, floors, roofs, and any intermediate levels.
- .2 Schedules (beam, column, slab, and so on).
- .3 Details of all connections, assemblies, expansion joints, and similar items.
- .4 Details of the structural framing systems required to support nonstructural elements and fixed equipment.

**3.2.4 Plumbing Drawings:**

- .1 Locations, sizes, and elevations of the site sewer, building sewer, drains, street water main, and water service into the building.
- .2 Locations and sizes of the waste, and waste vent stacks with connections to drains, fixtures, and equipment.
- .3 Locations and sizes of hot, cold, and circulation water mains, branches, and risers from the service entrance and tanks.
- .4 Riser diagrams for each system showing all plumbing stacks with vents, water risers, and fixture connections for multistory buildings; materials, gauges, and sizes for all elements.
- .5 Fire-extinguishing equipment such as sprinklers and wet/dry standpipes.
- .6 Plumbing fixtures and any equipment that requires water and drainage connections including pumps and storage tanks.
- .7 Locations and sizes of natural gas, vacuums and medical gas systems.
- .8 All required equipment piping connections including those for pumps, tanks, and generators.
- .9 Sections that show structural, HVAC, and piping systems through congested areas.

**3.2.5 HVAC Drawings:**

- .1 Schedule and legend starting on sheet M-1 or its equivalent and continuing on the following sheets.
- .2 Sequence of operations diagram.
- .3 Detailed (scale: not less than 1/4 inch = 1 foot 0 inches) floor plans and sections as needed to clearly indicate the work required for all mechanical equipment rooms.
- .4 Air and piping systems, including all branches, on each floor plan.
- .5 Air balance schedule indicating the CFM (cubic feet per minute) of outside air, supply air, return air, and exhaust air for each air system; elevations of fan units to ensure required air flows and access to the component parts of the units.
- .6 Flow diagram for each of the following types of water systems:
  1. Chilled water.
  2. Condenser water.
  3. Hot water.
  4. Others as needed to clearly define the scope of work.
- .7 Air riser diagram for each type of system.
- .8 Mechanical drawings that show the complete HVAC systems including the following items:
  1. Heating and steam mains, including branches, with pipe sizes.
  2. Air-conditioning systems including refrigerators, water and refrigerant piping, and duct work.
  3. Exhaust and supply ventilating systems showing duct sizes for steam or water connections and piping.

**3.2.6 Electrical Drawings:**

- .1 Electrical service to the building.
- .2 Transformers and their connections, whether in the building or on the Project site.
- .3 Main switchboard, power panels, light panels, and associated equipment.
- .4 Feeder and conduit sizes.
- .5 Light fixtures, receptacles, switches, and power outlets.

- .6 Telephone outlets, conduits, terminal cabinets, and backboards.
- .7 Complete fire alarm system including its connection to the Facility's system.
- .8 Emergency electrical power system including generator transfer switches, fuel tanks, and all auxiliaries.
- .9 Electrical service entrance and its service switches, the service feeds to the public service feeders, and the characteristics of the light and power currents.
- .10 Other systems as required.

### 3.2.7 Landscape Drawings:

- .1 Finished grading plan.
- .2 Irrigation plan.
- .3 Irrigation details.
- .4 Planting plan.
- .5 Planting details.
- .6 Hardscape (paving) plan.
- .7 Hardscape details (walls, walks, planters, and so on).
- .8 Other details as appropriate.

### 3.2.8 Specifications:

Design Builder will prepare its Construction Documents including Specifications. Design Professional shall:

- .1 Submit the specifications Division 2 through 16 in the format recommended by the Construction Specifications Institute (CSI), narrow scope type.
- .2 Include in the 50% completed submittal, at minimum, any six completed architectural sections from Divisions 2 through 13, one completed mechanical section from Division 15, and one completed electrical section from Division 16. If Division 14 is used include 1 completed Section.
- .3 Fully describe in the architectural, structural, mechanical, and electrical specifications the materials and workmanship and the types, sizes, capacities, finishes, and other characteristics of all materials, products, articles, and devices. Incorporate within each specifications section, in Part 1, a list of all required submittals such as shop drawings, materials lists, samples, and certifications.
- .4 Compile and draft all specifications on IBM-compatible computer equipment using the latest version of Microsoft Word. Store the specifications files on electronic storage media as directed by the University.

3.2.9 California Energy Code Certification. Design Professional shall ensure that designs of new buildings and designs of alterations to existing buildings, as applicable, comply with the California Code of Regulations, Title 24, Part 6, California Energy Code. University may independently check the designs and verify that they are in compliance with the code and meet the requirements of the Criteria Documents.

With the 50% completed submittal, Design Professional shall submit documentation, on appropriate California Energy Commission forms, certifying that the design complies with the code. Any non-complying aspect of the design, as determined by University's Representative, shall be corrected by Design Professional.

### 3.3 100% COMPLETED SUBMITTAL REQUIREMENTS

All drawings, specifications, and other documents enumerated in Paragraph 3.2 for inclusion in the 50% completed submittals shall be further developed by Design Professional in sufficient detail as to be deemed 100% complete and buildable. Prior to submitting the 100% construction documents, Design Professional and Design Professional's consultants shall have thoroughly checked, coordinated, and revised all documents to bring them to 100% completed level. General Conditions items shall not be included on Drawings or Schedules. Notes must coordinate with, and conform to the written Contract Documents. Products and materials specified on the drawings must be identical to the products and materials required in the written Contract Documents Specifications. In addition to the documents enumerated for the 50% completed submittal, Design Professional shall submit the items listed below for the 100% completed submittal:

- 3.3.1 Architectural Drawings. Detail the anchorage of all fixed equipment in accordance with the California Building Standards Code, Title 24, CCR, all applicable parts.
- 3.3.2 Structural Drawings. Structural drawings shall be accompanied by computations, stress diagrams, and other pertinent data and shall be complete to the extent that the calculations for individual structural members can be readily interpreted. The computations shall be prefaced by a statement outlining the basis for the structural design and indicating the manner in which the proposed building will resist vertical loads and horizontal forces. The computations shall be sufficiently complete as to establish that the structure will resist the loads and forces prescribed by the California Code of Regulations, Title 24, all applicable parts. Assumed safe bearing pressures on soils and the ultimate strengths of concrete shall be provided in computations and noted on the drawings. Where unusual conditions occur, any additional data that are pertinent to the work shall be submitted.
- 3.3.3 Plumbing Drawings. All plumbing drawings shall indicate the complete plumbing system in detail and shall include methods for fastening equipment to the structure to resist seismic forces.
- 3.3.4 HVAC Drawings. All HVAC drawings shall indicate the complete heating, ventilating, and air-conditioning systems in detail and shall include methods for fastening equipment to the structure to resist seismic forces.
- 3.3.5 Electrical Drawings. Electrical drawings shall indicate all components of the electrical system in place and connected to the sources of services. A sufficient level of detail shall be provided to illustrate connections, routings, and other items in complex areas. All wiring shall be final-sized. Detailed methods for fastening equipment to the structure to resist seismic forces shall be indicated. At minimum, provide the following:
  - .1 Feeder and conduit sizes and a schedule of feeder breakers or switches.
  - .2 Locations of light fixtures, receptacles, switches, power outlets, and all circuits.
  - .3 Other systems as required.
- 3.3.6 Materials Board. A 100% final updated materials board shall be submitted.
- 3.3.7 Calculation of Areas. Design Professional shall include, with the 100% completed submittal, calculations of the gross square footage (GSF) and the assignable square footage (ASF) and shall make a direct comparison of these areas with the original Project program areas.
- 3.3.8 Soils and Materials Testing. Design Professional shall include, with the 100% completed submittal, a list of requirements for special testing and inspections, such as soils and

materials testing, welding inspections, and dewatering requirements, included in the Quality Control Plan. The University's Building Official has the authority as part of the Code Compliance Review to require additional testing based on his final code requirements and interpretation.

- 3.3.9 Cost Breakdown form shown in the exhibits with all proposed schedule of value description information, for University approval.
- 3.3.10 Quality Control Plan. – As specified in the General Requirements Exhibits. No Construction Notice to Proceed will be issued until the Quality Control Plan has been reviewed and approved by the University. The Design Builder shall prepare the Quality Control Plan to provide reasonable time for University to review and accommodate for subsequent revisions required of the Design Builder, as not to impact the Contract Time. Revisions required by the University may include, but not limited to, additional testing by either University or Design Builder.
- 3.3.11 University will provide and pay for all special inspections and laboratory testing, except the following which shall be provided and paid for by the Design Builder:
- {INSERT ANY TESTING AND SPECIAL INSPECTIONS THAT THE FACILITY WILL NOT PROVIDE OR PAY FOR. THE DESIGN BUILDER WILL PROVIDE AND PAY FOR SUCH LISTED ITEMS.}
- 3.3.12 Design Builder shall provide all other testing and inspection.

The corrected 100% and University approved backcheck drawings and specifications shall be submitted in both reproducible hard copy form and on {SPECIFY, e.g. latest version of Microsoft Word and AutoCAD disk}

**ARTICLE 4****PHASE 3 - CONSTRUCTION PHASE****4.1 GENERAL**

The Design Builder shall provide all materials, equipment, labor, and services required by the Contract Documents to construct the Work for the Contract Sum and within the Contract Time during the Construction Phase.

**4.2 TESTING AND INSPECTION**

Testing and inspection shall follow the approved Quality Control Plan and the Specifications.

**4.2.1 The Design Builder shall:**

- .1 Participate in punch list inspections for beneficial occupancy, substantial completion and final completion.
- .2 Assist University's Representative in reviewing test and inspection results.
- .3 Not authorize deviations from the Contract Documents.
- .4 Where applicable, perform tasks and file reports as required by Office of Statewide Health Planning and Development.
- .5 Assure the Construction Work is in compliance with the Quality Control Plan and Specifications.

**4.3 MATERIALS/COLOR SCHEDULE AND MATERIALS BOARDS**

Design Builder shall revise and update the materials/color schedule and materials boards, which were prepared during the Design Development Phase and updated during the Construction Documents Phase, as necessary to reflect the actual manufacturers' products that have been submitted by Contractor and approved for use on the Project.

**4.4 RECORD DOCUMENTS**

4.4.1 . Any revisions or changes that have been made during construction shall be incorporated in the Record Documents. During construction, University's Representative shall have reviewed all revisions and changes and shall have approved the set of drawings and specifications maintained by Design Builder prior to Design Professional's preparation of the final Record Documents. Design Professional shall provide reproducible Record Documents to University in all the following formats: (1) hardcopy { Insert specific requirements e.g. Mylar reproducible, 24"x36" minimum sheet size}, (2) electronic copy {Insert specific requirements, e.g. AutoCAD version 13 or approved equivalent}.

**4.4.2 HVAC drawings shall include the following items:**

- .1 An actual air balance report CFM (cubic feet per minute) for each air outlet and each air inlet on all drawings.
- .2 An added schedule for each fan motor indicating (1) the actual ampere measured in each conductor, (2) the full-load ampere noted on the motor's nameplate, (3) the service factor noted on the motor's nameplate, (4) the motor voltages noted on the

motor's nameplate, and (5) the actual voltage between each conductor: for example, A to B, A to C, and B to C on single-winding three-phase motors.

- .3 The final sequence for each mechanical system.
- .4 Revisions of each schedule in the original Contract Documents reflecting the actual equipment installed (by manufacturer's name and model number) and all other revisions.

#### 4.5 GUARANTEE TO REPAIR PERIOD INSPECTIONS

Design Builder shall review the work no later than 11 months after Substantial Completion, or Final Completion, as applicable and shall submit written recommendations to University for the correction of any deficiencies. Design Builder shall be accompanied by University and Design Professional(s) during these inspections. Dates for inspections shall be as mutually agreed by the parties.