

Design Deliverables

Summary

A. Expectations for Design Deliverables:

The Design Team is obligated to advance and deliver the project with a professional manner and standard of care that meets the expectations for design drawings and specifications as defined in the Designer's Responsibilities.

The expectations defined in the deliverables below outline the minimum level of information, design, engineering and specifications required by the Design Team.

B. The following table lists the work items & expectations that are required during the indicated phases of drawing submittal and per industry standards. Should deliverable submittals be combined or eliminated as part of the agreed upon project delivery (as approved by the University), the Designer is to reconcile the expectations and development of the project to ensure that the thresholds for completeness and progress for the project align with the table below.

1. As part of the submittal of deliverables for each of the major phases of design listed below, the Designer is to submit this "Design Deliverables" document to the University's Project Manager. On the "Design Deliverables" document, the Designer is to indicate the status of each required item (a check mark is interpreted to mean that an item has been included in the deliverables).
2. The design professional is to address any item that is NOT included in the deliverables package.

The following tables list the items that are required during the indicated phases:

ITEM	SERVICES (A) 10% Schematic Phase	SERVICES (B) 30% Design Development Phase	SERVICES (C) 60% Const. Document Phase (See Note 1)	SERVICES (C) 90% Const. Document Phase (See Note 2 & 3 for 90% & 100% requirements)
<p>General Description</p>	<ol style="list-style-type: none"> 1. Scope of Work Narrative 2. List of applicable building codes on drawing title sheet 3. Review and Update Project Program document 4. Schematic Drawings to include Site Plan, Floor Plan(s), and Exterior Elevation(s) as a minimum (see Note 5, Sheet 16) 5. Engineering Systems Description 6. Energy Use & Conservation Analysis 7. Project Schedule 8. Estimate of Cost 9. Minutes of Meetings 10. Review drawings to governing agencies, as required 	<ol style="list-style-type: none"> 1. Building Code Review & Describe means of code compliance 2. Preliminary drawings to include outline specifications, fire protection/life safety plan, site plan, floor plan(s), elevations, typical wall section(s), and building section(s) (see note 5, sheet 16) 3. Equipment Lists 4. Engineering Systems Analysis 5. Preliminary Energy Use & Conservation Analysis 6. Track & Estimate changes in scope of work 7. Updated Project Schedule 8. Estimate of Cost 9. Minutes of Meetings 10. Annotated comments of services "A" review 11. Review drawings to governing agencies, as required 	<ol style="list-style-type: none"> 1. Documentation on drawings as required by building codes 2. Contract Documents (see note 5, sheet 16) 3. Updated Project Schedule 4. Estimate of Cost 5. Identification of construction phasing plan, including temporary requirements during each phase 6. Minutes of Meetings 7. Annotated comments of services "B" review 8. Review Drawings to Governing Agencies, as required. 9. Submit complete set of drawings (electronically via SharePoint web link) to the City of Tuscaloosa Fire & Rescue Service. Reference Note #9 for procedure. 	<ol style="list-style-type: none"> 1. Documentation on drawings as required by building codes 2. Final Contract Documents (see note 5, sheet 16) 3. Updated Project Schedule 4. Estimate of Cost 5. Updated construction phasing plan, including temporary requirements during each phase 6. Minutes of Meetings 7. Annotated comments of 60% review 8. Annotated comments of 90% review for 100% submittal 9. Annotated comments of 100% review with bid document submittal 10. Review Drawings to Governing Agencies, as required. 11. Submit pdf drawings (electronically) to the Tuscaloosa Water & Sewer Dept –Linear Assets Division, reference Note #9 for procedure. 12. Submit Final complete set of drawings (electronically via SharePoint web link) to the City of Tuscaloosa Fire & Rescue Service. Reference Note #9 for procedure.

<p>Specifications</p>	<p>1. System & material narrative description <u>Note:</u> Site survey and soil tests indicating all existing conditions will be provided by Owner</p>	<p>1. Outline specification with same section numbering as final <u>Note:</u> All construction testing will be provided by Owner</p>	<p>1. Complete specification including draft front end documents <u>Note:</u> All construction testing will be provided by Owner</p>	<p>1. Final specification including front end documents (see note 6, sheet 16) <u>Note:</u> All construction testing will be provided by Owner</p>
<p>Site</p>	<p>1. Existing conditions 2. Demolition identified 3. Building outline(s) 4. Site entrance 5. Roads & driveways 6. Parking locations 7. Loading dock location 8. Waste collection locations 9. Walkway locations 10. Stairway locations 11. Future expansion 12. Utility requirements 13. Site utilities 14. Clearly show "Build-to" line (Refer to UA Campus Design Guide portion of UA Campus Master Plan)</p>	<p>1. General dimensions & elevations 2. Site demolition plan 3. Parking plan & elevations 4. Site drainage 5. Lighting plan 6. Concept details of fixtures & equipment 7. Utility plans, elevations & details 8. Plan to address existing hazardous materials, if applicable 9. Dewatering plan 10. Site demolition plans 11. Soil retention work, if needed</p>	<p>1. Extent of construction area and work 2. Site demolition plan 3. Traffic plan if existing roads/walks are impacted 4. Site development and phasing plans 5. Construction site access 6. Staging area 7. Soil erosion control plan for both construction and occupancy periods 8. Construction signage 9. Pipe sizes 10. Connection details 11. Protection requirements for construction, plantings that remain</p>	<p>1. Extent of construction area and work 2. Site demolition plan 3. Traffic plan if existing roads/walks are impacted 4. Site development and phasing plans 5. Construction site access 6. Staging area 7. Soil erosion control plan for both construction and occupancy periods 8. Construction signage 9. Pipe sizes 10. Connection details 11. Protection requirements for construction, plantings that remain</p>
<p>Landscaping</p>	<p>1. Existing conditions</p>	<p>1. Planting plan 2. Irrigation plan 3. Planting legend 4. Irrigation legend</p>	<p>1. Existing tree protection 2. Soil preparation & planting specifications 3. Guying diagrams 4. Piping diagrams 5. Pipe sizes 6. Landscape details</p>	<p>1. Existing tree protection 2. Soil preparation & planting specifications 3. Guying diagrams 4. Piping diagrams 5. Pipe sizes 6. Landscape details</p>

<p>Structural</p>	<ol style="list-style-type: none"> 1. Structural scheme 2. Written description 	<ol style="list-style-type: none"> 1. Foundation plan 2. Typical floor framing plan 3. Framing plan(s) at unique features 4. Main member sizing 5. Structural sections 	<ol style="list-style-type: none"> 1. Definition of control joints 2. Beam, column, & slab schedules 3. Mechanical & electrical concrete pads 4. Foundation details 5. Structural details 6. Structural notes 	<ol style="list-style-type: none"> 1. Definition of control joints 2. Beam, column, & slab schedules 3. Mechanical & electrical concrete pads 4. Foundation details 5. Structural details 6. Structural notes 7. Final calculations, if requested
<p>Building Exterior Envelope</p>	<ol style="list-style-type: none"> 1. Typical elevations (1/8" scale minimum) 2. Fenestration designations 3. Energy code requirements 	<ol style="list-style-type: none"> 1. All building elevations w/ dimensional heights 2. Typical wall sections 3. Overall building cross sections (1/8" scale minimum) 4. Roof layout (1/8" scale minimum) 	<ol style="list-style-type: none"> 1. Roof-mounted equipment 2. Roof details 3. Exterior details 4. Flashing details 5. Control joint definition & details 6. Parapet & coping details 7. Roof & drainage plan 8. Exterior door details 9. Typical window details 10. Details of unique features 11. Expansion joint locations 12. Large scale building cross-sections 	<ol style="list-style-type: none"> 1. Roof-mounted equipment 2. Roof details 3. Exterior details 4. Flashing details 5. Control joint definition & details 6. Parapet & coping details 7. Roof & drainage plan 8. Exterior door details 9. Typical window details 10. Details of unique features 11. Expansion joint locations 12. Large scale building cross-sections
<p>Building Interior</p>	<ol style="list-style-type: none"> 1. Typical floor plans (1/16" minimum scale) with legends 2. Demolition plan(s), if applicable 3. All room numbers 4. Area use identification & area in square ft. 5. Mechanical, electrical, & other service closets & rooms 6. Life safety plan 7. Area tabulations compared to program requirements 8. Show flexibility for expansion & alterations 9. Preliminary layout of major spaces w/ fixed equipment 	<ol style="list-style-type: none"> 1. All floor plans (1/16" minimum scale) with key plans 2. Demolition plan(s), if applicable 3. Wall typed, fire ratings, smoke control zones 4. Plan to address existing hazardous materials, if applicable 5. Fixed seating 6. Defined seating, serving, & kitchen facilities 7. Equipment & furniture layouts 8. Important interior elevations 9. Preliminary finish schedule 10. Preliminary door schedule 		

<p>Elevators</p>	<ol style="list-style-type: none"> 1. Elevator location(s) 2. Equipment room location(s) 	<ol style="list-style-type: none"> 1. Equipment description 	<ol style="list-style-type: none"> 1. Dimensioned plans 2. Enlarged plans & details 3. Sections & details of pit & hydraulic cylinder, if applicable 4. Description of shaft sump pit(s) 5. Elevator car & equipment support details 6. Description of controls & fixtures 7. Door & frame details 8. Interior details including lighting 9. Elevator shaft section 	<ol style="list-style-type: none"> 1. Dimensioned plans 2. Enlarged plans & details 3. Sections & details of pit & hydraulic cylinder, if applicable 4. Description of shaft sump pit(s) 5. Elevator car & equipment support details 6. Description of controls & fixtures 7. Door & frame details 8. Interior details including lighting 9. Elevator shaft section
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<p>HVAC</p>	<ol style="list-style-type: none"> 1. Identify all systems 2. Exterior equipment locations 3. Special occupancy zones 4. Alabama State Energy Conservation Code Requirements 	<ol style="list-style-type: none"> 1. Updated design criteria for each mechanical system 2. One-line diagrams & other materials as required to describe the fundamental design concept for all mechanical systems 3. Indication of the amount of redundancy for all major pieces of mechanical equipment, e.g. “two pumps 100% capacity each” 4. Overall building air flow diagram indicating air handlers, exhaust fans, duct risers, and duct mains 5. Plans indicating shaft, chase, recess requirements 6. Duct layout for typical spaces 7. Equipment schedules (major equipment) 8. Equipment locations (w/enlarged mechanical plan(s)) 9. Control diagrams (concept form) for all mechanical & plumbing systems 10. Description of major sequences of operation 11. Central automation operation 12. M/E smoke control scheme 13. Preliminary calculations 14. Air intake & discharge locations 15. Mechanical legend 16. Efficiency of HVAC systems 17. Ventilation requirements ASHRAE 62-2004 18. Verify ASHRAE Energy Standard 90-2004 is met 	<ol style="list-style-type: none"> 1. One-line flow diagrams for all mechanical systems; chilled water, heating hot water, etc. 2. Floor plans w/ all components and required service access to areas drawn to actual scale. On the plans, indicate duct sizes and airflow quantities relative to each room, including CFM in and out of all doors. Indicate location of control panels. 3. Valves and volume control boxes (note that each is to be identified by a unique number assigned by the Engineer) 4. Provide a schedule that indicates the control sequence that applies to each room (room #, room descriptor, control sequence #) 5. Detailed floor plans of mechanical rooms w/ all components and required service areas drawn to actual scale. 6. Cross sections through mechanical rooms and areas where there are installation/coordination issues (tight space, zoning of utilities). Indicate required service access areas 7. In common mechanical space, indication of space zoning by system 8. Connection to fire alarm and campus control systems 9. Equipment details, including structural support requirements 10. Penetration details and installation details 11. Duct construction schedule (on the drawings), indicating materials and pressure class for each duct system 12. Detailed controls drawings, including clear differentiation of trade responsibility for control, fire, and control power wiring 13. Detailed sequences of operation 14. Design calculations actual scale 	<ol style="list-style-type: none"> 1. One-line flow diagrams for all mechanical systems; chilled water, heating hot water, etc. 2. Floor plans w/ all components and required service access to areas drawn to actual scale. On the plans, indicate duct sizes and airflow quantities relative to each room, including CFM in and out of all doors. Indicate location of control panels. 3. Valves and volume control boxes (note that each is to be identified by a unique number assigned by the Engineer) 4. Provide a schedule that indicates the control sequence that applies to each room (room #, room descriptor, control sequence #) 5. Detailed floor plans of mechanical rooms w/ all components and required service areas drawn to actual scale. 6. Cross sections through mechanical rooms and areas where there are installation/coordination issues (tight space, zoning of utilities). Indicate required service access areas 7. In common mechanical space, indication of space zoning by system 8. Connection to fire alarm and campus control systems 9. Equipment details, including structural support requirements 10. Penetration details and installation details 11. Duct construction schedule (on the drawings), indicating materials and pressure class for each duct system 12. Detailed controls drawings, including clear differentiation of trade responsibility for control, fire, and control power wiring 13. Detailed sequences of operation 14. Design calculations actual scale
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<p>Plumbing & Piping</p>	<ol style="list-style-type: none"> 1. Main water supply 2. Restroom location(s) 3. Location of water & gas meter 	<ol style="list-style-type: none"> 1. Updated design criteria for each plumbing system (including set (continued) points, water quality levels, etc.) 2. One-line diagrams, etc. that describe the fundamental design concept for all plumbing systems 3. Piping plans (domestic & process) with indication of required service access areas 4. Water header diagram 5. Central cooling water header diagram 6. Steam header diagram 7. Steam metering concept 	<ol style="list-style-type: none"> 1. Water riser diagram, including assumed fixture counts per floor construction (continued) 2. Waste & vent riser diagrams including assumed fixture counts per floor connection 3. Radiation riser diagram 4. Central cooling water riser diagram 5. Chilled water riser diagram 6. Riser diagram of other plumbing systems, such as natural gas & pure water 7. Foundation drains 8. Pipe sizes 9. Typical plumbing details, including structural support requirements 10. Water heating piping detail 11. Coil piping detail 12. Convector piping detail 13. Penetration details 14. Design calculations 15. Location & size of water & gas service meter 	<ol style="list-style-type: none"> 1. Water riser diagram, including assumed fixture counts per floor construction (continued) 2. Waste & vent riser diagrams including assumed fixture counts per floor connection 3. Radiation riser diagram 4. Central cooling water riser diagram 5. Chilled water riser diagram 6. Riser diagram of other plumbing systems, such as natural gas & pure water 7. Foundation drains 8. Pipe sizes 9. Typical plumbing details, including structural support requirements 10. Water heating piping detail 11. Coil piping detail 12. Convector piping detail 13. Penetration details 14. Design calculations 15. Location & size of water & gas service meter
<p>Fire Protection (Mechanical)</p>	<ol style="list-style-type: none"> 1. documenting adequacy of utility 2. Connection to utility 3. Optional F.P. systems 	<ol style="list-style-type: none"> 1. Riser diagram 2. One-line layout 3. Fire pump sizing calculations 		
<p>Lighting</p>		<ol style="list-style-type: none"> 1. Typical lighting plans 2. Fixture/switching layout 3. Fixture types & schedule 4. General light fixture descriptions 5. Light level calculations 6. Energy code requirements 	<ol style="list-style-type: none"> 1. Lighting plans of all areas 2. Control diagrams 3. Installation details, including structural support requirements 4. Design calculations with cut sheets of all light fixtures 	<ol style="list-style-type: none"> 1. Lighting plans of all areas 2. Control diagrams 3. Installation details, including structural support requirements 4. Design calculations

<p>Electrical Power</p>	<ol style="list-style-type: none"> 1. Service location for site power and communication equipment 	<ol style="list-style-type: none"> 1. Electrical equipment location 2. Receptacle location 	<ol style="list-style-type: none"> 1. Load summary 2. Panel schedules 3. Details of power service to building 4. Power distribution plans that indicate the location of all receptacles 5. Plans & details of emergency power generation system & controls 6. Connections to other building systems, including fire alarm & HVAC 7. Details of special terminal devices 8. MCC details 9. Penetration details 10. Design calculations 11. Normal power riser diagram with circuit breaker & fuse sizes 12. Emergency power riser diagram with circuit breaker & fuse sizes 	<ol style="list-style-type: none"> 1. Load summary 2. Panel schedules 3. Details of power service to building 4. Power distribution plans that indicate the location of all receptacles 5. Plans & details of emergency power generation system & controls 6. Connections to other building systems, including fire alarm & HVAC 7. Details of special terminal devices 8. MCC details 9. Penetration details 10. Design calculations 11. Normal power riser diagram with circuit breaker & fuse sizes 12. Emergency power riser diagram with circuit breaker & fuse sizes
<p>Security Systems</p>		<ol style="list-style-type: none"> 1. General security/CCTV system description 2. General description of card access system 	<ol style="list-style-type: none"> 1. Riser diagrams 2. Equipment closet layout & elevations 3. Concealed & exposed raceways 4. Installation details 5. Security system riser diagrams 6. Security equipment locations 7. Card access equipment closet layout & elevations 	<ol style="list-style-type: none"> 1. Riser diagrams 2. Equipment closet layout & elevations 3. Concealed & exposed raceways 4. Installation details 5. Security system riser diagrams 6. Security equipment locations 7. Card access equipment closet layout & elevations
<p>Information Technology (OIT)</p>			<ol style="list-style-type: none"> 1. Floor plan(s) in CAD for wireless access point locations. (UA PM to send plans to user.) 	
<p>Other Graphics</p>	<ol style="list-style-type: none"> 1. Rendering(s), models, and information regarding line-of-sight impact, scale and massing of new construction as it relates to existing buildings in the immediate area of the new construction 	<ol style="list-style-type: none"> 1. Rendering(s), models, necessary for Board of Trustees approval, if applicable and information regarding line-of-sight impact, scale and massing of new construction as it relates to existing buildings in the immediate area of the new construction 		

Cost	1. Preliminary cost estimate (System-by-System applicable)	1. Updated cost estimate by materials	1. Updated cost estimate by materials	1. Updated cost estimate by materials
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Notes:

1. Each of the requested documents noted in this service shall contain, at a minimum, 60% of the information required for each document.
2. Each of the requested documents noted in this service shall contain, at a minimum, 90% of the information required for each document.
3. 100% (Final Review) shall incorporate all revisions of the 90% phase review.
4. All moveable furnishings and artwork are considered to be independent of the architectural design project.
5. All plan drawings, including enlarged plans and plan details, shall include north arrows.
6. All text shall be 1/8" minimum height for drawings on 24" x 36" sheet size or larger.
7. Provide to the Owner, the Project Manual bound in a heavy duty, 30 ring vinyl covered binder, white color, when the bid documents are submitted.
8. All electronic drawings shall comply with the requirements contained in Section I CAD Requirements of the Design Guidelines.
9. Required Milestone Municipal Reviews:

City of Tuscaloosa Fire & Rescue Submittals

60% Review - Provide the City of Tuscaloosa Fire and Rescue Service the UA Estus Web Link for the 60% submittal by email to fmo@tuscaloosa.com with attention to Fire Marshal Gene Holcomb and Lt. Chuck Potts. The subject line of the email shall read: "UA Project Name – UA Project # - 60% Review".

Final Submittal (with ABC Comments) - Following the Alabama Building Commission (ABC) Final Plan Submittal Review, the AOR shall address and correct all ABC comments. The AOR shall then provide the TFRS with an ESTUS web link where the corrected drawings along with their responses to the ABC’s review comments can be downloaded. The SharePoint web link shall be sent by email to fmo@tuscaloosa.com with attention to Fire Marshall Gene Holcomb and Lt. Chuck Potts. The subject line of the email shall read: "Conformance Documents with ABC Comments – UA *Project Name*".

Tuscaloosa Water & Sewer Dept.

90% Review - Provide the Linear Assets Division with the following pdf documents by email to greasetrapproviews@tuscaloosa.com on projects that involve 1) the installation of a new grease trap, 2) modification of an existing grease trap and/or 3) a change in commercial kitchen output waste. Required pdf documents include: civil/site utility plan, floor plans of commercial dining areas showing seating capacity, floor plans of commercial dining areas showing cooking lineups and plans showing locations, capacities and installation details of grease traps. The subject line of the email shall read: "UA Project Name – UA Project # - Grease Trap Review".

Should a submittal to either of these regulatory bodies not be possible at the required submittal thresholds due to project schedule (60% and 90% submittal omitted by the University), the Design Team is to discuss with the Project Manager for an interim review with required officials and contact the City of Tuscaloosa or Water & Sewer Department to explain the special circumstances prior to emailing a link or pdf drawings for review.

- End -