

Construction Services Policies & Procedures

General Information

Services Provided

Construction Services provides a wide range of services to facilitate renovation of existing and the construction of new University assets. These services by department include:

Major Projects

Provides project management for projects equal to or over \$100,000. Services include planning, estimating, scheduling, design management, plan review, construction management, contract administration, coordination of interior design, materials procurement and project close-out.

Minor Projects

Provides project management for projects under \$100,000. Services include planning, estimating, scheduling, design management, in-house design, plan review, construction management, coordination of Construction Shop personnel, contract administration, coordination of interior design, materials procurement and project close-out. A minor project may be initiated by submitting a CUBO 700.

Construction Shops

Provides trades labor to support major and minor projects. Services include site preparation, utilities, concrete, masonry, carpentry, cabinet making, roofing, door and window installation, metal studs, drywall, painting, acoustical ceiling, brick pavers, plumbing, HVAC and electrical.

Regulatory and Compliance

Provides project management of ADA projects and projects involving remediation of hazardous materials. Reviews in-house projects for compliance with applicable codes.

Property Management and Capital Project Administration

Manages University property and oversees major projects for compliance to state regulations. Prepares leases and contracts, coordinates site surveys and appraisals and manages the University cemetery.

Types of Projects

Construction Services will perform or coordinate the performance of work including but not limited to:

Interior remodeling projects involving repair and/or replacement of existing architectural items and finishes;

Interior renovation projects involving addition, modification, and/or removal of walls, partitions, doors, windows, plumbing, HVAC and electrical;

Installation of or modifications to department owned equipment and furnishings;

Major renovation projects;

New construction projects;

Services performed for auxiliaries and non-university funded agencies or organizations;

Public Service Activities projects;

Deferred maintenance projects;

Other non-maintenance work as requested.

Project Review and Approval

Any modification, alteration or addition to the physical structure of any University facility or its environs or grounds must be performed by Construction Services, a properly licensed professional (contractor, architect, engineer or consultant) under its supervision, or with a properly licensed professional under the department's supervision. Written approval must be obtained from Construction Services prior to a department supervising a properly licensed professional. Construction Services will always have the right to inspect all construction activities. The purpose for having written permission is to insure the project has been reviewed for compliance to applicable building codes, environmental standard and University standards. Construction Services will coordinate these reviews.

Types of projects requiring review includes but not limited to:

Building new facilities or structures;

Changing the function of a room;

Adding, deleting or modifying a wall or ceiling;

Adding, deleting or modifying doors or windows;

Adding, deleting or modifying plumbing, HVAC or electrical;

Changing the external appearance of a building;

Adding, deleting or modifying walks, parking lots or signage;

Reallocation of space between departments or campus units.

Types of reviews required includes but not limited to:

University Facilities;

Administrative Council;

Clemson University Fire Marshall;

Environmental Health and Safety;

University Security;

University Telecommunications;

University Parking and Vehicle Registration;

Facilities Advisory Committee;

Committee on Access and Equity;

Office of the State Engineer;

South Carolina Department of Health and Environmental Control;

State Fire Marshall.

Major Projects

Overview

Any project that has a total cost equal to or greater than \$100,000 is considered to be a major project or permanent improvement project (PIP). Included in total cost are all architectural and engineering services, planning services, specialty consultants and construction. Equipment that either becomes a permanent fixture or does not become a permanent fixture but is included in the construction contract should be included as part of the project. Not included would be master plans or feasibility studies. Additional items considered a major project is land acquisitions, building or structure acquisitions, building demolition and leases. The major components of a major project are planning, approval, design, bidding, construction and close-out.

Planning

Planning of a major project is a joint effort of Construction Services and Planning Services. A project manager from Construction Services is assigned at this time. The major steps of the planning process are:

Tracking Sheet

This records the basic information about the project, enabling Construction Services and Planning Services to assess the organization of the project.

Funding

Before work begins, it is desired that a funding plan be in place. While not required, this can help our efforts to be applied to the most critical projects.

Project Scope

The general requirements of the project are put on paper and a written scope of work is developed for the project. This is a very important phase of the project, as it will identify the needs of the customer. The level of involvement from the customer varies depending on the complexity of the project.

Project Budget

The preliminary budget is developed based on the project scope. The accuracy of this estimate is directly proportional to the level of detail provided in the project scope. Generally, the accuracy of this estimate will be in the 10% to 20% range.

Project Schedule

The final part of the planning process is to determine a schedule. The schedule will be inclusive of planning, approvals, design, bidding, construction and project close-out. Specific milestones will be given to meet the desired completion date.

Upon completion of the planning phase, the customer is provided a complete set of these documents for review and approval. Work will proceed upon receipt of this approval.

Deliverables

Planning summary that includes the scope, budget and schedule

Responsibility

Planning Services leads with support by Construction Services

Acceptance

The customer reviews and approves the planning document

Approval

Upon completion of the planning stage, the project is ready to enter the approval stage. There are several levels of approvals required of major projects. These levels from local to state level are Planning Services, University Administration and State.

Planning Services

The project is reviewed to determine if it fits into the campus master plan. Planning Services will normally provide this during the planning process.

University Administration

The planning documents are sent to the Administration to determine if the project meets the University's mission and to approve the project funding.

State

After the Administration approves the project, it is formally submitted to the state for approval. This is done by filling out and submitting a form known as an "A-1". This is routed through the Commission on Higher Education (CHE), the Joint Bond Review Committee (JBRC) and the State Budget and Control Board (B&CB). If the project is a Public Service Activity, the CHE is omitted. This is the most time consuming part of the approval process. The CHE is the only one of these agencies that meets on a regularly scheduled basis. Because of this, it can be hard to project the approval date. For further information on state approvals, see Appendix

Deliverables

An approved A-1

Responsibility

Construction Services

Acceptance

The customer, Planning Services, University Administration and State Agencies review and approve the A-1

Design

Construction Services provides two types of design, in-house design and consultants. As a general rule, a consultant will design major projects. However, there are instances where all or selected parts will be designed in-house. In-house design usually will be limited scope projects such as landscape design and metal building design. The more complex projects will utilize outside consultants. The major steps of the design process are:

A/E Selection

When the project cost is going to exceed \$1 million, the A/E is selected by using a formal selection process approved by the state. This process takes 3-4 months. Planning Services leads this process. If the project is less than \$1 million, Construction Services has the option of using one of our A/E's retained by an Indefinite Delivery Contract (IDC). By using an IDC, the A/E can start immediately upon providing a written scope of services.

Programming

This is the most critical part of the entire job. During this phase, the user groups are brought in to determine the specific requirements of the facility. Without participation by the users, the A/E must speculate on their needs, often resulting in a facility that does not satisfy the user. Therefore, the focus here is to "begin with the end in mind" or determine what final product is desired.

Upon the customer's approval of the program, the project continues to schematic design.

Schematic Design

With the final product known, the A/E develops different layouts that meet the customer's needs.

Upon the customer's approval of the schematic design, the project continues to design development.

Design Development

During this phase, the A/E refines the design and develops final floor plans. Details start to be added and the basic architecture of the facility is determined. Upon the customer's approval of the design development, the project continues construction documents.

Construction Documents

This is the final design phase, bringing all of the previous work together to provide a set of plans and specifications that can be used by a contractor to construct the facility. At this point, a full review is done to insure the quality of the documents. After this review is complete and all parties approve, the facility is ready to go to the bidding phase.

Deliverables

Programming documents

Schematic design documents

Design development documents

Construction documents

Timely correspondence on all items related to design

Responsibility

Planning Services with the support of Major Projects Departments will perform the programming phase. From that point, Major Projects Department will continue the process with support from Planning Services as needed.

Acceptance

The customer and University Administration approves all phases as they are completed

University Facilities will provide review throughout the process

The State Engineer is allowed 45 days of review time throughout the project with the majority of the time being spent on construction documents

Bidding

Upon completion of the design phase, the project is advertised for bids and awarded to the responsive and responsible low bidder. The major steps of the bidding process are:

Advertisement

The project is advertised in South Carolina Business Opportunities (SCBO) and a bidding period of at least four weeks is established.

Pre-Bid

During the Advertisement period, a pre-bid is held to familiarize bidders with the project and make them aware of any special conditions that exist. The pre-bid can be mandatory or non-mandatory. IF mandatory, only those firms attending are allowed to submit bids. It is required that the pre-bid be at least 14 days after advertisement and that there be 14 days after the pre-bid before bids are accepted.

Bid Acceptance/Approval

After bids are received, a notice of intent to award is posted for the lowest responsive bid that is within the budget. After 16 calendar days allowed for protests, a contract can be issued for construction. After the protest period is over and no protests have been filed, the contract is sent to the State Engineer for approval. After approved by the State Engineer, the University may execute the contract. If the contract is under \$250,000, the contract may be executed by the President without further approval. Contracts of \$250,000 or more require approval by the Board of Trustees during their quarterly meetings.

Deliverables

Executed construction contract

Timely correspondence on all items related to bidding

Responsibility

Major Projects Departments will advertise the project for bids, conduct the pre-bid, accept bids, serve as the liaison with the State Engineer, prepare contracts and provide information required for the Board of Trustees

Acceptance

The project manager, customer, University Administration, Board of Trustees (when applicable) and State Engineer approves construction contracts

Construction

After a construction contract is awarded, the project is brought to fruition in the construction phase. This phase is the most rewarding for the customer, as there is finally something tangible to show for the effort put in to this point. The major steps of the construction process are:

Contract Administration

The administrative effort that goes into the construction phase is very time consuming. The project manager manages the design contract, construction contract and specialty consultant's contracts. With each contract, there are pay requests, change orders and request for information.

Inspection

The project manager is responsible for coordinating all of the inspections required for a project. These include inspection of the work for quality, conformance to specifications, maintainability and safety.

Procurement

The project manager will assist the customer in developing bid specifications and the purchase of furnishings and equipment required for the project.

Deliverables

Complete facility per the design documents

Timely correspondence on all items related to construction including weekly written updates that give the status of construction, budget, schedule and any potential problems

Responsibility

Acceptance