UNIVERSITY FACILITIES

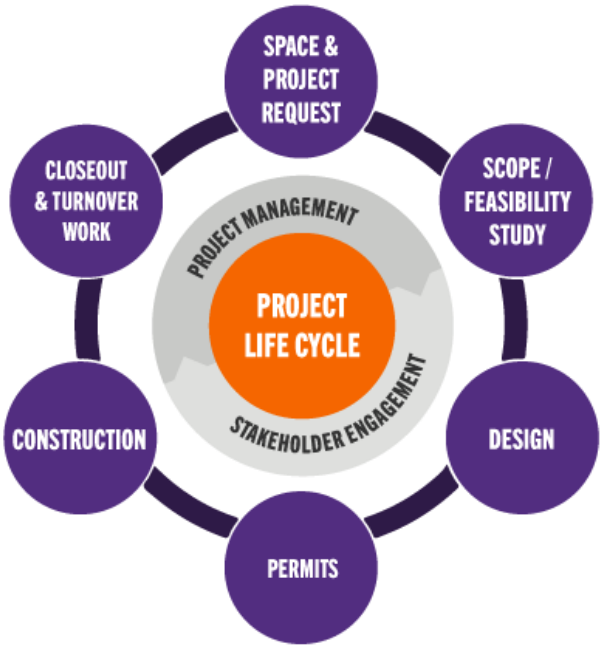
Planning, Design and Construction

PDC Playbook

Version 1.1
January 2025

Playbook Purpose

The PDC Playbook serves as a standardized procedural handbook for Planning, Design and Construction staff on the project life cycle from conception to completion. It clearly identifies the roles and responsibilities of team members and describes the tasks, deliverables, and approvals that are expected for each of the project phases. Its guidance fosters consistency in project delivery and ensures compliance with university policies and procedures and regulations set by the Office of the State Engineers. Additionally, its purpose is to serve as an educational tool for Clemson University customer groups and stakeholders.



This will be an iterative and living document with continuous improvements and additions by the PDC staff.

Background

This document was created during 2024 and is shared on the PDC Playbook webpage and available for staff and stakeholders. Note that resource links within this document are both internal and public facing. Not all links are accessible for all audiences.

Note: Planning, design, and construction activities that include leased spaces or University-owned spaces located off main campus in Clemson, South Carolina may deviate from the processes outlined in this Playbook, such as coordinating with the office of Land and Capital Asset Stewardship (LCAS), a property manager or variations with building codes or officials for approval. Please consult the Director for Project Management in those cases. The acquisition of leases or properties and all rights-of-way and easements must be coordinated with the Office of LCAS. Change Management Process:

Continuous Improvement

The University Facilities vision is to *continuously improve to become Clemson's Premier Service Team and work environment*. PDC strives for excellence and efficiency in outstanding project delivery to our customers. Through collaboration with staff and project stakeholders, we will utilize the PDC Improvement Request form to consider input for future enhancements to this Playbook.

The Project Management Coordinator (PMC) Manager is responsible for reviewing and bringing requests to the Chief Facilities Officer, Executive Director for PDC, and Director of Project Management for discussion and review / approval. Quarterly, the PMC Manager coordinates a full review of 2-3 chapters so that annually the Playbook is reviewed, updated, and enhanced. The PMC Manager is responsible for coordinating any review discussions for improvements and the communication of changes to the full PDC staff and stakeholders.

Document Revision History			
Date	**Version**	**Description**	**Approved By**
08.12.24	1.0	Playbook launch	Stephanie Cooper
01.14.25	1.1	Process enhancements, clarifications, and resource links added throughout. Workflow adjustments in Chapter 1.	Stephanie Cooper

Table of Contents

I. Space & Project Requests

General Overview

This chapter outlines the request types and project thresholds, the request and project initiation process including the required committee reviews and approvals.

Project Types and Thresholds

Project Type	Threshold	Approvals
Small Projects	<$1M	SPACe UPAAC (>100K)
BOT Projects	$1M - <$10M	SPACe UPAAC BOT
Capital Projects / PIP	>$10M	SPACe UPAAC BOT JBRC SFAA

**Permanent Improvement Projects (PIP) Classification – if applicable to the project.*

BOT	Board of Trustees
JBRC	Joint Bond Review Committee
SFAA	State Fiscal Accountability Authority
SPACe	Space Planning Advisory Committee
UPAAC	University Physical Asset Accountability Committee

Projects Defined

A "project" is defined as "the organized process of planning, designing, constructing spaces." South Carolina State law defines "construction" as "the process of building, altering, repairing, remodeling, improving, or demolishing a public infrastructure facility, including any public structure, public building, or other public improvements of any kind to real property. It does not include routine operation, routine repair, or routine maintenance."

PDC manages projects of a Level 2 Alteration and above, regardless of total dollar value. If a project could best be described routine operation, routine repair, or routine maintenance, it should be submitted as a University Facilities Service Request by the customer, or

transferred by PDC, to be managed by Facilities Maintenance Services. These include Level 1 Alternations.

Level Alternations are defined:

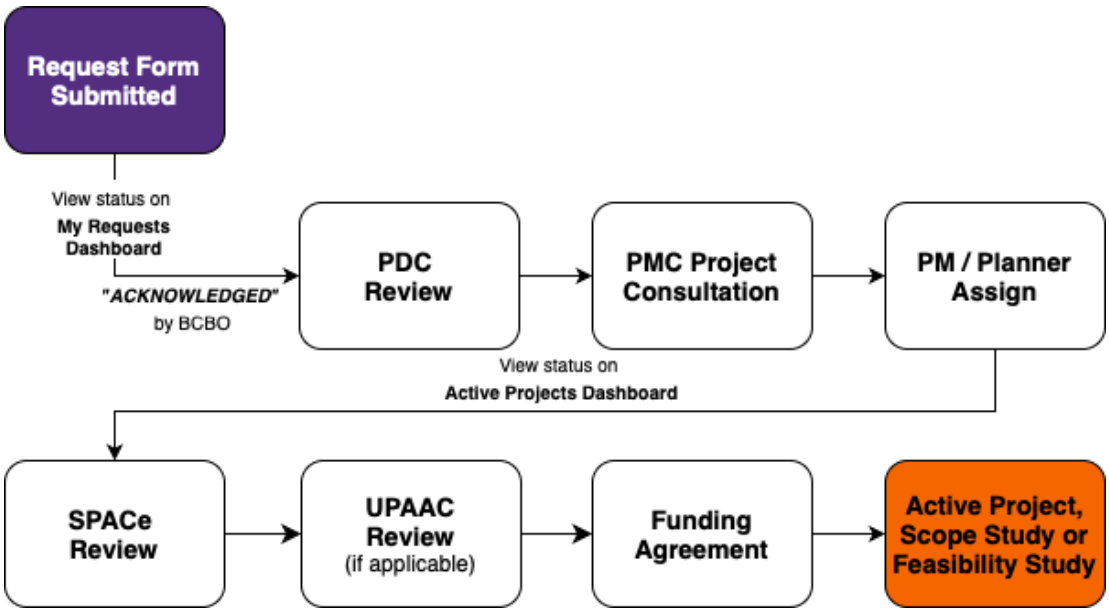
- Level 1 Alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.
- Level 2 Alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.
- Level 3 Alterations apply where the work area exceeds 50 percent of the area.

Service Request examples:

- A "like for like" replacement that does not include pulling a permit, including a HVAC unit with no changes to capacity.
- A workspace refresh of painting, installing window treatments, and "like for like" furniture replacement.

Space & Project Request Process

Request Workflow



1. **Request Form Submitted** | The Space & Project Request Form is linked from both the University Facilities home page (Clemson University Facilities, Home) and from the Planning, Design & Construction site (PDC, Home).

a. Access and Requests: Clemson credentials are required to access the request form with all CU employees able to submit a request.
    i. Self-Managed Project (SMP) Requests: Self-Managed Projects follow PDC's procedures and University Guidelines. SMP are submitted, reviewed by SPACe, monitored by the related Portfolio Team, tracked for contract spending, and viewable in the active project dashboard.
        1. Individuals must be approved to self-manage projects and only up to $50k in total project value. Additional approval is required for any project greater than $50K in total project value by the Chief Facilities Officer.
    ii. PMC Submitted Requests: The Project Management Coordinators (PMCs) may submit the following project requests on behalf of other University Facilities departments:
        1. Maintenance Repair and Renovation (MR&R) Projects – A group of maintenance projects funded by the State.
        2. Emergency Projects – These are projects which meet the State's definition of "emergency" as outlined in SECTION 11-35-1570 of the State's Procurement Code.
            a. A project must be "a threat to public health, welfare, or safety such as may arise by reason of floods, epidemics, riots, equipment failures, fire loss, or…" determined by the State Procurement Officer.
        3. Other internal requests for Utility Services, etc...

b. Request Workflow: The My Project Request Dashboard has three statuses: AWAITING_ACKNOWLEDGEMENT, ACKNOWLEDGED, DENIED.
    i. Budget Center Business Officer (BCBO): After a Requester submits the request form, the workflow populates a review to the appropriate primary BCBO for acknowledgement.
    ii. Academic Affairs (if applicable): If the request relates to an academic building or is for an academic unit, the workflow then populates a review to the AVP for Academic Operations for acknowledgement.

If a BCBO or the AVP for Academic Operations is the requester, the request is automatically acknowledged and progresses. Once the workflow is complete with an ACKNOWLEDGED status, the request progresses to the Active Project List Dashboard. See the Active Project Status Workflow section below for details.

2. **PDC Review** | A Triage Team of PDC Staff are the first PDC reviewers of space and project requests. This team includes the Chair of SPACe committee/Assistant Director of Planning and Design, the Director for Project Support, the Space Manager, and the Director for Maintenance Services.
    a. The Triage Team confirms the requester is assigned the requested space, reviews details, review concurring active projects and the Building Conditions Assessment (BCA) needs for timing of the project, asks for additional detail if needed, and determines next steps, which may include the following:
        i. Resolve the request if it is a simple space request or update to Space Data (e.g. office changes).

   ii. If a space needs further assessment, it is assigned to the Space Manager. This appears in the workflow as “active” and “SM Assigned”.
   iii. If the request is more appropriate to be handled by Maintenance Services as a Work Order, a triage team member will reach out to confirm with requester before changing status to TO_WORK_ORDER and contacting Dispatch to create the Service Request on the customer’s behalf.
   iv. If request initially appears viable, aligns with LRFP, does not conflict with concurrent projects and the requestor is assigned the space, the request moves forward in the workflow.
3. **PMC Consultation** | At the next PTM Project Assignment Meeting, a Project Management Coordinator (PMC) will be assigned to the project. The PMC calls the project contact to confirm the scope and project details. PMC sends a follow up e-mail with the project number, PDC contacts, and any additional details.
4. **PM/Planner Assign** | Once scope is confirmed with the customer by the assigned PMC, at the next PTM Project Assignment Meeting, a PM or Planner is assigned to the project to begin an initial estimate for the project, i.e. under $100K, over $1M, over $10M.
   a. The assigned PM/Planner will add the estimate information to the AiM notes log.
5. **SPACe Review** | Project Support prepares notes and project documents for SPACe to review.
   a. The committee is comprised of several SMEs that review and acknowledge the request may be moved forward based on their expertise/areas of responsibility.
   b. SPACe determines if a Feasibility Study, Scope Study, or no study is required for the project. Studies are determined by project details rather than project type or a cost threshold.
      i. UPAAC must approve Feasibility Studies before they begin.
      ii. Scope Studies may be conducted for projects estimated over $100k to better inform UPAAC of the project details.
6. **UPAAC Review (if applicable)** | After acknowledged by the SPACe, and if the total project cost is estimated over $100K, UPAAC reviews the request and either approves or denies the request or recommends elevation to Executive Leadership Team (ELT) or Board of Trustees (BOT) for approval if necessary.
   a. UPAAC must provide approval for all Feasibility Studies.
   b. Projects that fall into the category of maintenance, repair, replace, safety, or ADA do not need to go to UPAAC for approval. UPAAC will be provided monthly summaries of those projects prior to UPAAC meetings.
7. **Funding Agreement** | The assigned PM or Planner engages the PMC to create the University Facilities Funding Agreement, see Creating Project Funding Agreements.
   a. Feasibility Study: require a Funding Agreement separate from the construction Funding Agreement as they are separate AiM projects.

   b. Scope Study: Funding Agreement is for the cost of the study, and a change order will be issued for the estimated construction cost based on the study

outcome plus the estimating aspects of the PCES. If over $100k, UPAAC will approve before the change order may be approved for construction to begin.

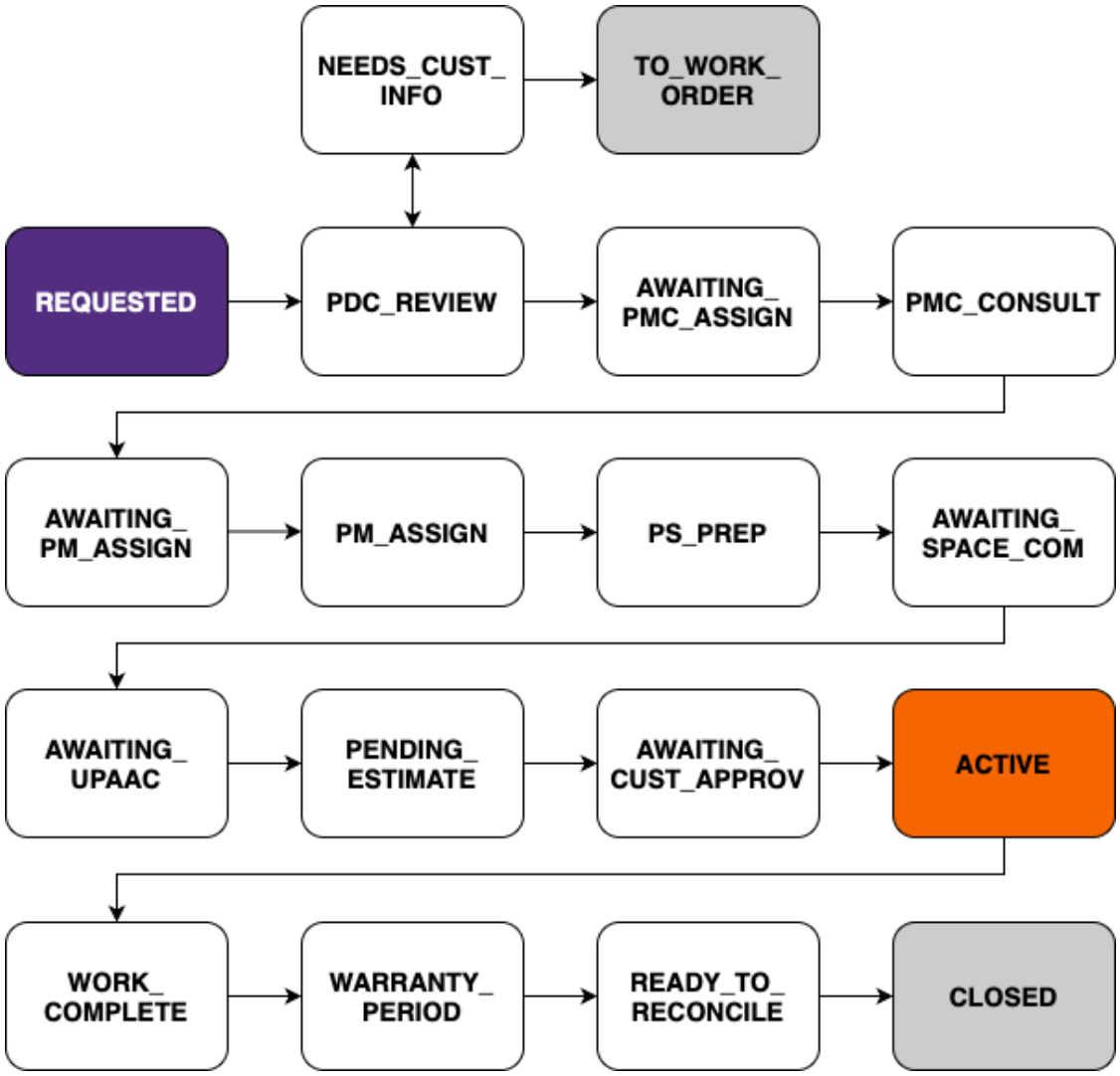
c. No Study: Funding Agreement is based upon the PCES only.
    i. For all Small and BOT Projects, the PM/Planner completes the summary tab in the Project Cost Estimating Sheet (PCES) and exports a pdf to the PMC. Note the drop down to toggle between Planning or PM use. Self-Managed teams also utilize this sheet for project estimating. Capital Projects utilize the A-1 instead of the PCES.
        1. Individuals managing Self-Managed projects also utilize the PCES and submit the pdf summary to the PMC Manager to complete a Funding Agreement.

    Note: The PCES may be phased out in future iterations as a cost estimating database within a new Project Management Information System (PMIS) may be developed.

d. The PMC works with the PM or Planner to ensure the Funding Agreement is signed by all applicable parties. The Funding Agreement is needed prior to any project work, Scope Study or Feasibility Study beginning. UPAAC approval is required for all Feasibility Studies.
    i. Funding Agreement signatures: PM/Planner, Manager, Customer, BCBO (adds funding string to agreement), Controller's Office – Accounting Services (creates in CUBS and adds CUP number to agreement).
        1. Project Manager: Facilities PM
        2. Construction/Renovation Manager: PTM for that team
        3. Customer: Customer (from Project Request)
        4. Business Officer: Enter the department's Business Officer
        5. Accounting Services: Enter kskay@clemson.edu (Katy Kay)
        6. Project Administrator: Project Support Director/Manager
        7. CC: PM on the E-Sign so notifications are sent at each step

Active Project, Feasibility Study, or Scope Study | Once the project has been approved, the PMC updates the project in the Facilities Software System AiM (including pre-established SharePoint folders and initial work orders/phases) so the PM can manage it in the system moving forward. The PMC creates a Work Order in AiM for the PM Time Phase so the PM can track hours in AiM.

Active Project Status Workflow



If SPACe determines a Scope Study is needed, a SCOPE_STUDY_ACTIVE status may occur before AWAITING_UPAAC.

AIM STATUSES		
Status	**Description**	**Updated By**
REQUESTED	REQUEST IS RECEIVED BY PDC	AiM
PDC_REVIEW	AWAITING INITIAL REVIEW BY PDC	PS
NEEDS_CUST_INFO	REQUEST NEEDS MORE INFO FROM CUSTOMER	PS
TO_WORK_ORDER	PROJECT REQUEST TRANSFERRED TO WORK ORDER	PS
AWAITING_PMC_ ASSIGN	GOES TO PTM PROJECT ASSIGNMENT MEETING TO ASSIGN TO A PMC	PS
PMC_CONSULT	PMC CONTACTS CUSTOMER TO CONFIRM SCOPE AND PROJECT DETAILS	PS
AWAITING_PM_ ASSIGN	GOES TO PTM PROJECT ASSIGNMENT MEETING TO ASSIGN A PM	PS
PM_ASSIGN	PM/PLANNER ASSIGNED TO PROJECT	PS
PS_PREP	PROJECT SUPPORT REVIEWS NOTES AND CONFIRMS INFO IS DOCUMENTED IN PREPARATION FOR SPACE COMMITTEE REVIEW	PROJECT MANAGER
AWAITING_SPACE_ COM	SPACE PLANNING AND ADVISORY COMMITTEE REVIEWS AND DETERMINES - SCOPE STUDY/FEASIBILITY STUDY/NO STUDY	PS
SCOPE_STUDY_ ACTIVE	PERFORMING SCOPE STUDY TO GET REQUIRED PROJECT INFO AND COSTS, IF APPLICABLE	PS
AWAITING_UPAAC	UPAAC REVIEWS IF REQUIRED	PS
PENDING_ ESTIMATE	PM/PMC GENERATES ESTIMATE AND SUBMITS THE FUNDING AGREEMENT	PS for Space/P&D for UPAAC
AWAITING_CUST_ APPROV	AWAITING SIGNATURES FROM CUSTOMER TO APPROVE FUNDING AGREEMENT	PROJECT MANAGER
ACTIVE	PM IS AUTHORIZED TO PROCEED WITH PROJECT	PS
WORK_COMPLETE	PROJECT IS SUBSTANTIALLY COMPLETE, PM/PLANNER TO OBTAIN CLOSE OUT DOCUMENTATION	PROJECT MANAGER
WARRANTY_PERIOD	PROJECT REMAINS IN WARRANTY STAGE UNTIL 10-MONTH INSPECTION (ONLY FOR "CAPITAL" PROJECTS)	PROJECT MANAGER
READY_TO_ RECONCILE	CLOSE OUT DOCUMENTS OBTAINED, FINAL BILLING COMPLETE ON ALL CONTRACTS AND PO - PMC TO RECONCILE AIM AND CUBS	PROJECT MANAGER
CLOSED	PROJECT IS COMPLETELY FINISHED	PS

Space Planning Advisory Committee (SPACe)

The SPACe aids the activities of the UPAAC, facilitated by the Office of University Planning & Design. Please refer to the Working Version of Space Policy for details of SPACe members, responsibilities, and governance. *Space Policy as a university policy is in development.* Please refer to Clemson University's Board of Trustees Capital Project Approval Policy for additional information.

University Physical Asset Accountability Committee (UPAAC)

The UPAAC is an Executive Leadership Team (ELT) subcommittee charged with Capital Project approvals and the approval of University Space Assignments. UPAAC meetings are held monthly and led by the Director of Planning & Design.

Procurement Notes

The selection of professional services (architects and engineers) and, if utilized, the alternative delivery methods (CMAR, Design-Build) are determined by a Selection Committee. The Selection Committee includes:

Professional Services Selection Committee	Alternative Construction Delivery Method
EVP for Finance and Operations/COO – Chair	State Engineer's PM – Chair (non-voting) EVP for Finance and Operations/COO
BOT Member, appointed by Chairperson	BOT Member, appointed by Chairperson
Requestor's VP and End-User selected by VP	Requestor's VP and End-User selected by VP
Director of Planning and Design, PDC	Project Manager, PDC

Please refer to Clemson University's Board of Trustees Capital Project Approval Policy and the OSE Construction Procurement Manual (Chapter 3 and chart 3.4.2.B and Chapter 4 for professional services) for additional information.

Space & Project Request Chapter Resources

1. Space & Project Request Form
2. My Project Request Dashboard
3. Active Project List Dashboard
4. University Facilities Service Request
5. Building Conditions Assessment (BCA)
6. Creating Project Funding Agreements
7. Project Cost Estimating Sheet (PCES)
8. OSE Construction Procurement Manual
9. Board of Trustees Capital Project Approval Policy
10. Working Version of Space Policy
11. UF Standards and Procedures
12. PDC Improvement Request

II. Feasibility / Scope Studies

General Overview

Most of the Clemson University (CU) projects involving professional architectural, or engineering services undergo a study. As outlined in the Space & Project Request Chapter, SPACe determines which type of study is required, or if a study is not required for that specific project, and a PM and/or Planner is assigned to manage the study. This includes Self-Managed Projects.

Studies are used to analyze the viability of a proposed construction or renovation project. These studies establish the project scope, concept design, and conceptual cost estimate. Less intensive than a full Feasibility Study, a Scope Study provides focus for smaller projects, can inform project prioritization, and identify reasons to proceed or not proceed.

All Feasibility and Scope Studies are paid for by the project customer. A University Facilities Funding Agreement is needed to begin a Feasibility or Scope Study. All Feasibility Studies require UPAAC approval prior to the Funding Agreement being created.

Feasibility / Scope Study Data Table

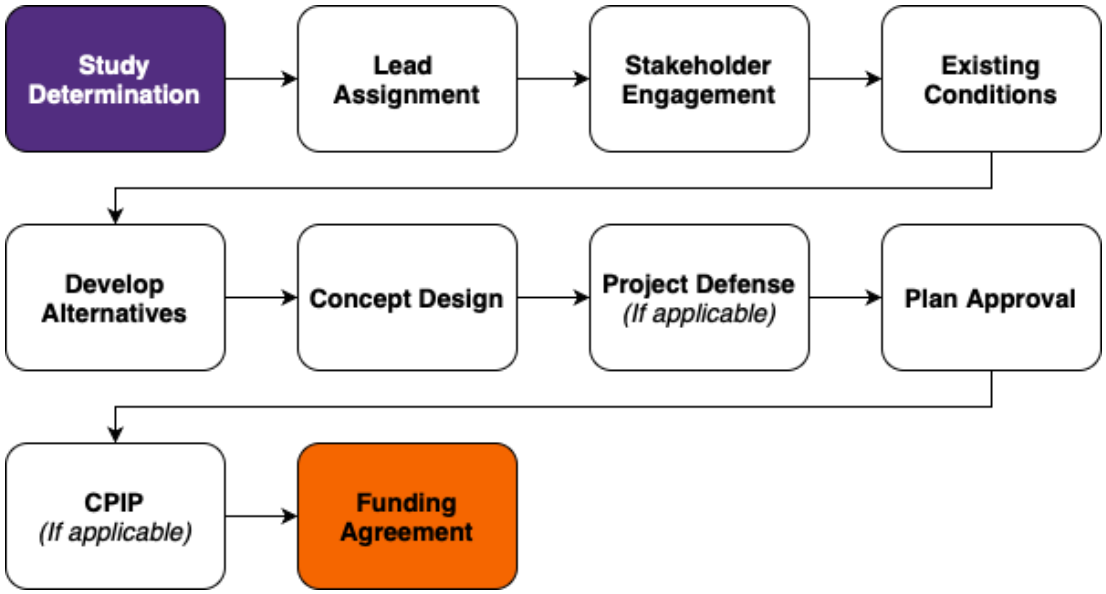
DOCUMENTATION TOOLS	• Emails and email folders (saved in Outlook folders monthly per project and then archived in SharePoint) • SharePoint folders and files • AiM Computerized Maintenance Management System (CMMS) – Capital Projects Module • PeopleSoft Enterprise Resource Planning (ERP) System • Bluebeam Studio for drawing mark-ups and reviews • ArcGIS (referenced as needed) • South Carolina Business Opportunities – SCBO (if applicable) • External Consultant and/or Contractor Systems
DELIVERABLES	• University Facilities Funding Agreement • Feasibility / Scope Study Report, including all required documents and forms with Risk Register • Feasibility / Scope Study – Customer/Stakeholder Approval Form • Architectural Firm Evaluation (By PM/Planner)
KEY PERFORMANCE INDICATORS (KPI)	• Compliance with deliverables required for this phase • Estimating ○ BOT & Capital: Feasibility v Construction cost

(note some KPI tracking may wait until PMIS enhancement)	○ Small: Scope Study v Construction Cost External **External** ● Feasibility Study schedule variance (By Firm) ● Program Adherence (By Firm) ● Evaluation Score
TIMING	● Feasibility and/or Scope Studies are conducted after the SPACe determines which action is appropriate for the project. All Feasibility Studies are also approved by UPAAC.
ROLES/ DEPARTMENTS INVOLVED	● Agency ● Director of Project Management ● Portfolio Team Manager (PTM) ● Project Manager (PM) ● Planner ● Project Management Coordinator (PMC) ● Space Data Management Team (SDMT) ● Planning & Design ● Code and Procurement ● Project Customers ● Facilities Maintenance ● Public Safety ● Clemson Computing and Information Technology (CCIT) ● Office of State Engineer (OSE) ● External Consultants and Contractors
APPROVALS	● The PM / Planner works with the customer group to ensure the appropriate parties review and approve the Feasibility or Scope Study

Study Templates

The Study Lead – either a Planner from the Planning and Design Team, or a Project Manager – ensures that the Design Consultants utilize the Scope Study Template or Feasibility Study Template posted on the Feasibility & Scope Study webpage of the University Facilities website.

Feasibility Study Process Workflow



Study Determination

As outlined in the Space & Project Request Chapter, SPACe determines which type of study is required, or if a study is not required for that specific project.

Scope Studies are appropriate to guide decision-making for projects involving laboratory, classroom, or office renovations; or smaller-scale new construction projects. In some cases, Scope Studies may serve as an exploratory effort or precursor to a full Feasibility Study. This is done when a rough order of magnitude (ROM) cost and basic concept design is needed to determine whether a more detailed examination is required.

Any Scope Study that results in a potential project with a total project cost greater than $100K is reviewed by UPAAC and may require completion of a full Feasibility Study prior to moving to design.

The following types of projects require a Feasibility Study:

1. All major Capital Projects (greater than $10M)
2. Most BOT Projects ($1M to $10M)
3. Most projects requiring a design or architectural review (Level 2 renovation or above)
    a. Simple renovations may need an architectural drawing without the need of a Scope Study.

Lead Assignment

As outlined in the Space & Project Request Chapter, The Director of Planning & Design works with the Director of Project Management to determine if a PM or a Planner will be the Lead assigned to the study.

If a Planner is the assigned Lead for the study, a PM is assigned to the project team, and the Planner engages the PM during scoping and budgeting discussions to ensure that the estimate includes all items needed to appropriately complete the scope.

If the PM is the assigned Lead for the study, the PM engages the Planner to guide program and architectural considerations.

In both cases, the Lead engages the Interior Design and Space Managers to review finishes, furniture, and move needs.

Stakeholder Engagement

1. The Lead works with the requesting department, the Director of Project Management, and the Director of Planning & Design to identify key Stakeholders to be engaged during the Study.
2. The Lead works with the appropriate internal parties to procure consulting services to create either the Scope or Feasibility Study. See Procurement Chapter for more details.
3. The Lead works with the Consultant to schedule and manage Stakeholder meetings to gather information and complete the study.
4. The Lead works with the Consultant to engage other departments on campus to gather information for the study. These departments could include, but are not limited to, the following:
    a. University Facilities
        i. Custodial Services
            1. Recycling Services
        ii. Maintenance Services
        iii. Utility Services
        iv. Planning Design & Construction
            1. Planning and Design
            2. Space Data Management Team (SDMT) – a cross-functional team between PDC & FITS
            3. Code & Procurement
        v. TOW – The level of TOW involvement is determined during this phase and carried forward through design, construction, and closeout.

   b. Clemson Computing and Information Technology (CCIT)
      i. Network Team
      ii. Audiovisual Services
   c. Occupational and Environmental Safety (OES)
   d. Land and Capital Asset Stewardship (LCAS) – Campus Real Estate Team
   e. Public Safety
      i. TigerOne – Card Access, Video System Integrations, hardware and A3 Contract
      ii. Clemson University Police Department (CUPD) – Security Camera
      iii. Clemson University Fire Department (CUFD)
   f. Parking and Transportation Services (PATS)
5. The Lead utilizes Bluebeam Studio throughout this phase to share documents with the stakeholders and get their comments, and to provide feedback to the consultant to make updates to the plans. For tips, review Bluebeam Studio SOP and follow instructions within the Design Review SOP.

Existing Conditions

The Lead should consult the Building Conditions Assessment (BCA) Dashboard. Existing Conditions includes a code review of requirements for improvements to ensure those are included in the scope.

Develop Alternatives

The Lead works with the Consultant to determine development alternatives. The Lead should consult with the PDC code review team any ideas for alternatives.

Concept Design

The Lead works with the Consultant to refine the preferred Concept Design. The Lead consults with the internal PDC code team for a re-review of the concept design as gate before Plan Approval, depending on the details available. The Lead reviews the study to ensure it meets all requirements outlined in the template and the Design Consultant contract.

Project Defense – *If Applicable*

For all Capital Projects and some BOT Projects on a case by case basis, the Lead will submit and prepare for a Project Defense with the University Finance team. The goal of the defense is to properly vet all aspects of the Capital Project prior to seeking Phase 1 approval. Capital Projects should be on the CPIP Year 1 to undergo a defense.

Plan Approval

The Lead works with the Design Consultant and customer group to obtain all necessary approvals to finalize the Feasibility or Scope Study, including getting the following parties to sign the Customer/Stakeholder Approval Form – Study via Adobe sign. For tips, review Adobe Sign How To.

For Capital Projects not within CPIP Year 1, the Approval Form will serve as a completion to the process. Once on CPIP Year 1, following a refresh Feasibility Study and Project Defense, the Customer/Stakeholder Approval Form may be amended with a modification signature section to approve the plan.

The Lead uploads the final plan including signed approval form to the appropriate SharePoint folder.

CPIP Process – *If Applicable*

After a Feasibility Study is completed for a Capital Project, the project is incorporated into CU's Capital Permanent Improvement Plan (CPIP).

A fee of one half of one percent (0.005) of total project cost is assessed upon Phase 2 approval of all CPIP projects to support the Campus Planning Fund. This fund is used to support Feasibility Studies (including refresh studies), updates to the Long-range Framework Plan, and other campus planning efforts.

Once a project is planned to move ahead (CPIP Year 1), the PDC team selects a Lead to complete a “refresh” Feasibility Study to make it current if older than 1 year. This refresh study is funded by the Campus Planning Fund and not by the customer. Following the Project Defense, a modification section for new signatures may be added to the Customer/Stakeholder Approval Form.

See Capital Projects Chapter for more details.

University Facilities Funding Agreement

Once a Scope Study is complete with the plan approval step, the PMC will create a Change Order for the project's original Funding Agreement detailed in the Space & Project Request Chapter to adjust for estimated construction costs determined by the study. All signatures on the Funding Agreement will need to be re-signed prior to the project moving into construction.

Once a Feasibility Study is complete with the plan approval step and the associated project is approved to move forward, the PMC creates a new project in AiM to track separately from the initial project to initiate the study. The Feasibility Study remains as a separate project in AiM. Before the project can move into construction, the PMC creates a new University Facilities Funding Agreement with the estimate and funding sources from the customer.

See Creating Project Funding Agreements for assistance.

Feasibility / Scope Studies Chapter Resources

1. Feasibility and Scope Study Templates
2. Bluebeam Studio SOP
3. Customer/Stakeholder Approval Form – Study
4. Adobe Sign How To
5. Creating Project Funding Agreements
6. Long-range Framework Plan
7. CU's Capital Permanent Improvement Plan (CPIP)
8. Construction Site Hazardous Materials / Wastes (OES)
9. Asbestos Management (OES)
10. UF Standards and Procedures
11. PDC Improvement Request

III. Design

General Overview

This chapter outlines the high-level steps for the design phase of the project life cycle. For more detailed information regarding guidelines, processes, and requirements, please refer to the resources cited at the end of this chapter.

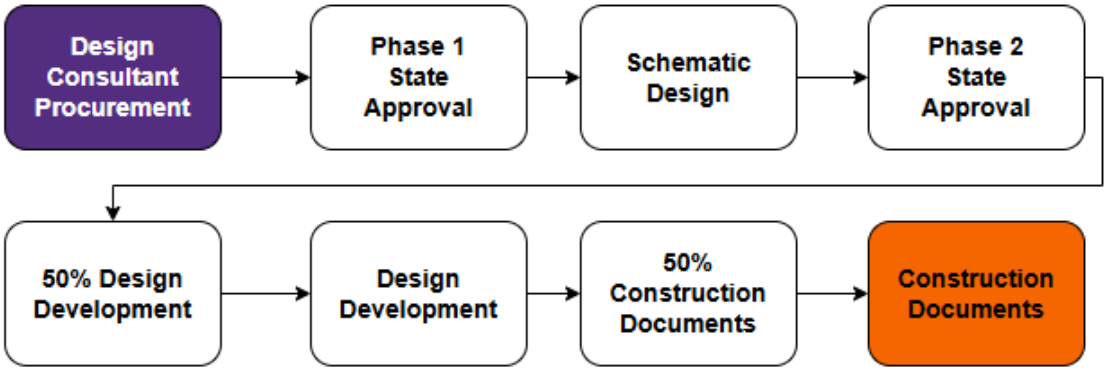
Design Data Table

DOCUMENTATION TOOLS	• Emails and email folders (saved in Outlook folders monthly per project and then archived in SharePoint) • SharePoint folders and files • AiM Computerized Maintenance Management System (CMMS) - Capital Projects Module • PeopleSoft Enterprise Resource Planning (ERP) System • Bluebeam Studio for drawing mark-ups and reviews • ArcGIS (referenced as needed) • External Consultant and/or Contractor Systems
DELIVERABLES	• Customer Service Evaluation **Consultant** • Approved Design Documents • Updated design schedule • Updated project cost estimate • Meeting Minutes, Presentation Materials and Renderings **Project Management** • Updated overall project schedule • Updated Funding Agreement • Approved Project Permits • Performance Evaluation – Professional Services
KEY PERFORMANCE INDICATORS (KPI) *(note some KPI tracking may wait until PMIS enhancement)*	• All data is entered in SharePoint within 7 days of receipt **External** • Compliance with deliverables required for this phase • Design schedule variance • Design cost variance of fee • Design Change Orders by reason code • Project cost estimate variance
TIMING	• Design occurs after the Feasibility Study or Scope Study on Level 2 alterations. Design for projects that do not require level 2 alterations can begin once funding is available and Funding Agreement completed.

ROLES/ DEPARTMENTS INVOLVED	• Director of Project Management • Portfolio Team Manager (PTM) • Project Manager (PM) • Planner • Project Management Coordinator (PMC) • Space Data Management Team (SDMT) • Planning & Design • Code & Procurement • Project Customers • Facilities Maintenance • Physical Security and Public Safety • Clemson Computing and Information Technology (CCIT) • Office of State Engineer (OSE) • External Consultants and Contractors
APPROVALS	• Project Customers approve elements of the design documents which align with the approved project scope. • The PM escalates project scope variances to the Director of Project Management as needed.

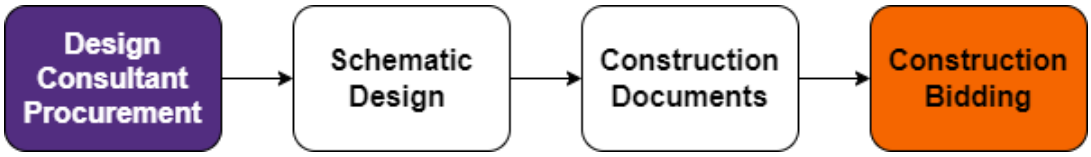
Design Phase Workflows

Capital Projects



BOT Projects

Small Projects



Design Consultant Procurement

Clemson University follows the Office of State Engineer (OSE) regulations for "Procuring Professional Services Independent of Construction Services." The OSE Manual includes specific versions of common AIA agreements, and these versions shall be used as specified therein for any professional services rendered to the University. All agreements for Professional Services also follow Clemson University's Standard Procedure for Negotiating Large Professional Services. See Procurement Chapter for more details.

See OSE Manual for Schematic Design and Construction Document submission requirements: Chapter 5 – Design-Construction Document and Construction Standards (sc.gov).

Schematic Design

Most project types involve a Schematic Design Phase wherein the PM and Planner are working with the Design Consultant and Project Customers to gather requirements to inform the design. Small Projects and certain BOT Projects may move from Schematic Design (SD) straight into Construction Documents (CD), while larger BOT and Capital Projects move from Schematic Design (SD) into Design Development (DD).

Activities

1. Schematic Design (SD) Meetings
    a. The Project Manager (PM) and Planner work with the prime Design Consultant and customer group to schedule and conduct user meetings to gather information to inform the SDs.
    b. The Design Consultant provides the meeting requests, decision requirements, and other agenda items to the PM who coordinates schedules internally and sends calendar appointments to required attendees. The PM ensures that other parties are included in these meetings as needed.

c. The PM meets with the Design Consultants and appropriate sub-consultants as needed to review the project deliverables, update the schedule, discuss cost and/or resource issues, and to prepare for upcoming design meetings with the customer group.
d. Design Consultants provide meeting minutes within seven (7) days of meeting adjournment. The PM or Planner saves the meeting minutes in the appropriate SharePoint. Folder.

2. Schematic Design Deliverables
    a. The PM oversees the design team's preparation of SD documents during this phase.
    b. These deliverables are outlined in the Design Consultant contract and tracked on the schedule provided by the Design Consultant to the PM.
    c. The design consultant updates the schedule tracking these deliverables at a minimum monthly with their invoice submission.
3. 100% Schematic Design Review
    a. The PM works with the Design Consultant to schedule and conduct an in-person or remote (hybrid) review of the 100% SDs with key teams. This allows the design team to capture comments from these teams throughout the process to ensure what's documented aligns with expectations and current standards. See Design Review SOP for more details. Participants in this review include, but are not limited to, the following:
        i. PM
        ii. Planner
        iii. Space and Interior Design Manager
        iv. Historic Preservation Officer
        v. Design Consultants
        vi. Project Customers
        vii. Construction Manager (CM) - if applicable
        viii. Code & Procurement
        ix. Maintenance Services
        x. Turnover Workgroup (TOW)
        xi. Office of State Engineer (OSE)
        xii. Clemson University Fire Department (CUFD)
        xiii. Utilities Services (UF)
        xiv. Clemson Computing Information Technology (CCIT)
    b. The PM provides the drawings via link to a Bluebeam Studio session to attendees at least 2 weeks prior to the meeting. Invited participants make comments prior to and during the meeting as needed.
    c. The PM works with the design consultant to ensure that all comments are tracked in Bluebeam studio and reconciled prior to issuing final SDs for approval.

4. SD Approval
    a. The PM ensures the SDs are reviewed and signed-off on by the project customers and team members from the review above before notifying the Design Consultant that they can move into the design development phase.
    b. The Design Consultant completes the Document Transmittal Form (SE-371) and sends the SDs to the Office of State Engineer (OSE) for review and approval. Per OSE 5.19.1.A the SD are to be transmitted with the SE-371.
    c. The Design Consultant is responsible for scheduling an SD review with OSE. The Design Consultant is responsible for documenting the comments and decisions made and distributing them for review and approval.
        i. For Capital Projects, a Phase 2 approval is required at this stage before moving into Design Development.
5. SD Cost Estimate and Schedule Update
    a. The Design Consultant and/or Construction Manager (CM), if applicable, updates the cost estimate and schedule based on information learned during this SD phase.
    b. If there are changes which increase the estimated cost of the project, the PM works with the Director of Project Management to escalate to the appropriate teams for review and approval.
6. Funding Agreement
    a. Once all SD documents have been approved and any budget/scope issues have been resolved, the PM updates the project Funding Agreement to reflect the current project scope.
7. For Capital Projects and some BOT Projects as determined by the Director of Planning & Design, the team conducts the Phase 2 Project Defense at the end of schematic design before proceeding through the Phase 2 approval process with the state.

Phase 2 State Approval

For Capital Projects, Phase 1 and Phase 2 Approval from the State are required. See Capital Projects Chapter for more details.

Contractor Procurement

For larger Capital Projects following the Construction Manager at Risk (CMR) methodology, the Construction Manager (CM) services are procured concurrently with the Design Consultant procurement. For BOT and small projects, the construction services are typically procured after the 100% Construction Documents (CDs) have been completed. See Procurement Chapter for more details.

Design Development

Small projects and certain BOT projects may move from Schematic Design straight into Construction Documents, while larger BOT and Capital Projects move from Schematic Design into Design Development.

Activities

1. Design Development (DD) Meetings
    a. The Project Manager (PM) works with the prime Design Consultant and customer group to schedule and conduct user meetings to gather information to inform the DDs, like the process for Schematic Design.
    b. The PM continues meeting with the Design Consultants and appropriate sub-consultants as needed to review the project deliverables, update the schedule, discuss cost and/or resource issues, and to prepare for upcoming design meetings with the customer group.
    c. The PM works with the design consultant to ensure all documentation is filed into the appropriate folder in SharePoint.
2. DD Deliverables
    a. The PM oversees the design team's preparation of DD documents during this phase.
    b. These deliverables are outlined in the Design Consultant contract and tracked on the schedule provided by the Design Consultant to the PM.
    c. The design consultant updates the schedule tracking these deliverables at a minimum monthly with their invoice submission.
3. 50% Design Development
    a. The Design Consultant prepares the 50% DDs as outlined in the contract deliverables.
    b. The PM schedules and conducts a 50% DD review meeting with key departments as outlined in the Schematic Documents phase above. See Design Review SOP for more details.
4. 100% Design Development
    a. The Design Consultant prepares the 100% DDs as outlined in the contract deliverables
    b. The PM schedules and conducts a 100% DD review meeting with key departments as outlined in the Schematic Documents phase above. See Design Review SOP for more details.
5. DD Approval
    a. The PM ensures the design development plans are reviewed and signed-off on by the project customers and team members from the review above before notifying the Design Consultant that they can move into the construction document phase.
    b. Once all documents have been approved, the PM provides written approval to the Design Consultant to move into the construction document phase.

6. DD Cost Estimate and Schedule Update
    a. The Design Consultant and/or Construction Manager (CM), if applicable, updates the cost estimate and schedule based on information learned during this design development phase.
    b. If there are changes which increase the estimated cost of the project, the PM works with the Director of Project Management to escalate to the appropriate teams for review and approval.
7. University Facilities Funding Agreement Updates
    a. Once all design development documents have been approved, and any budget/scope issues have been resolved the PM updates the project Funding Agreement to reflect the current project scope.

Construction Documents

All project types involve a Construction Documents Phase wherein the Design Consultant is finalizing the drawings for construction based on feedback received in previous phases from the PM, project customers, and other teams. At this stage there should be no significant design changes, and the focus is on refinement and detailing the documents and drawings.

Securing permits and obtaining final OSE approval of the project's construction documents serves as the final step in the Design phase. For more information on Design and Construction Documents, please refer to the OSE Manual (Ch. 5).

Activities

1. Construction Document (CD) Meetings
    a. The Project Manager (PM) works with the prime Design Consultant and other groups to schedule and conduct meetings to gather information to inform the CDs.
2. CD Deliverables
    a. The PM oversees the design team's preparation of construction documents during this phase. At this stage this includes all requirements for project permitting. For the complete list of document requirements please see the OSE Manual (section 5.2.10).
    b. These deliverables are outlined in the Design Consultant contract and tracked on the schedule provided by the Design Consultant to the PM.
2. 50% Construction Documents
    a. The Design Consultant prepares the 50% CDs as outlined in the deliverables contract.
    b. The PM schedules and conducts a 50% CD review meeting with key departments as outlined in the Schematic Documents phase above. See Design Review SOP for more details.

3. 100% Construction Documents
    a. The Design Consultant prepares the 100% CDs as outlined in the deliverables contract.
    b. The PM schedules and conducts a 100% CD review meeting with key departments as outlined in the Schematic Documents phase above. See Design Review SOP for more details.
4. CD Approval
    a. The Design Consultant completes the Document Transmittal Form (SE-371) and sends the CDs to the Office of State Engineer (OSE) for review and approval via the OSE Database.
    b. Once all documents have been approved, the PM provides written approval (using a PDC form) to the Design Consultant to move into the Bidding phase.
    c. The Design Consultant submits the 100% CDs to the Clemson Code & Procurement team for review. The Design Consultant's team is responsible for securing all permits for a project.
        i. If the construction value is under $5M, the Authority Having Jurisdiction (AHJ) for permitting is the Clemson Code Official.
        ii. Capital projects exceed $5M in total value and are permitted by the Office of State Engineer (OSE).
5. University Facilities Funding Agreement Updates
    a. Once all construction documents have been approved, and any budget/scope issues have been resolved the PM updates the Funding Agreement to reflect the current project scope.

Customer/Stakeholder Approval Form – Designs

The PMC will customize the Customer/Stakeholder Approval Form – Designs for each specific project.

Following Approval

Following Design approval and prior to construction, permits are required for official authorization to begin construction. See the Construction Codes Request page for more information.

The PM will work with the Space Management and Space Data Management Teams for 911 addresses, building ID for new construction, and to request they contact the county managers for any road name changes.

Design Chapter Resources

1. OSE Manual
2. South Carolina Building Code Council
3. Clemson University Construction Standards
4. Clemson University Site Design Guidelines
5. Clemson University Standards for Commissioned Architects and Engineers
6. University Facilities Construction Map
7. University Facilities GIS Group
8. Design Review SOP
9. Bluebeam Studio SOP
10. Construction Site Hazardous Materials / Wastes (OES)
11. Asbestos Management (OES)
12. Campus Urban Management Policy and Management Plan - Policy 7
13. University Facilities Landscaping Services Tree Management
14. Design and Construction Contact List
15. Construction Codes Request
16. UF Standards and Procedures
17. PDC Improvement Request

IV. Procurement

General Overview

Clemson University (CU) adheres to procurement guidelines contained in the South Carolina's Office of State Engineer (OSE) Manual for Planning and Execution of State Permanent Improvements. The State's default delivery method is Design-Bid-Build. For guidance on selecting a project delivery method, please see the OSE Manual (Ch. 3). All alternative delivery methods are approved by the OSE.

All construction related contracts, including those of self-managed projects (SMP), are approved by the University Facilities PDC to ensure that Indefinite Delivery Quantity (IDQ) and Task Order Contracts (TOC) limits are not exceeded.

Procurement Data Table

DELIVERABLES	• Agreements/Contracts ○ Required documents outlined in agreements/contracts • Purchase Orders • Work Orders
KEY PERFORMANCE INDICATORS (KPI) *(note some KPI tracking may wait until PMIS enhancement)*	• Compliance with deliverables required for this phase • All data is entered in SharePoint within 7 days of receipt • Processing time for contract execution

The Construction Manager at Risk (CMR) is a project delivery method in which the Agency awards separate contracts, one for architectural and engineering services to design the project and the second to a CMR for both construction management services and construction of the project according to the design. For additional information on CMR, please see the OSE Manual (Ch. 11).

Design-Bid-Build (DBB) is a Competitive Sealed Bidding process for the procurement of a Construction Contractor exceeding $100K. For additional information on DBB, please see the OSE Manual (Ch. 6).

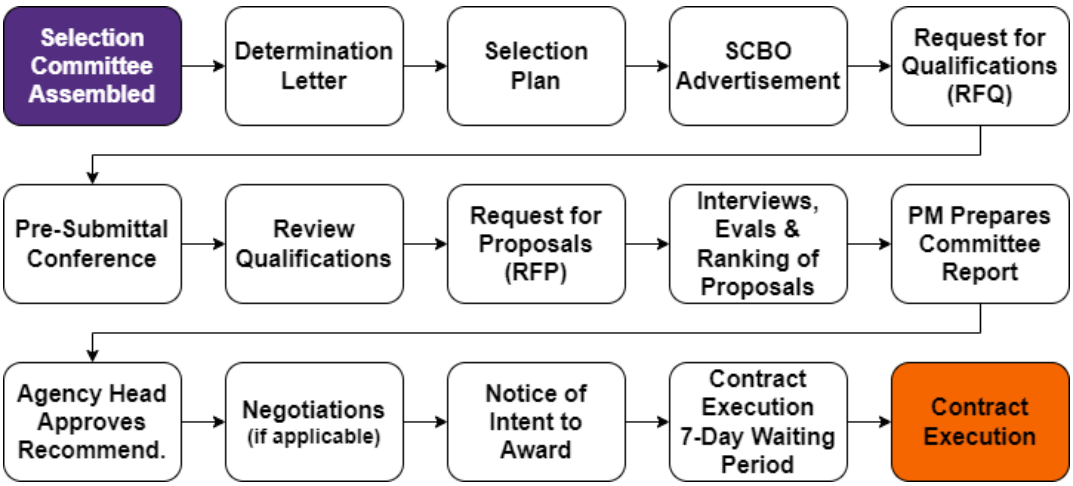
Design-Build (DB) is a project delivery method in which an Agency enters a single contract for design and construction of an infrastructure facility. For additional information on DB, please see the OSE Manual (Ch. 12).

Procurement & Delivery Methods

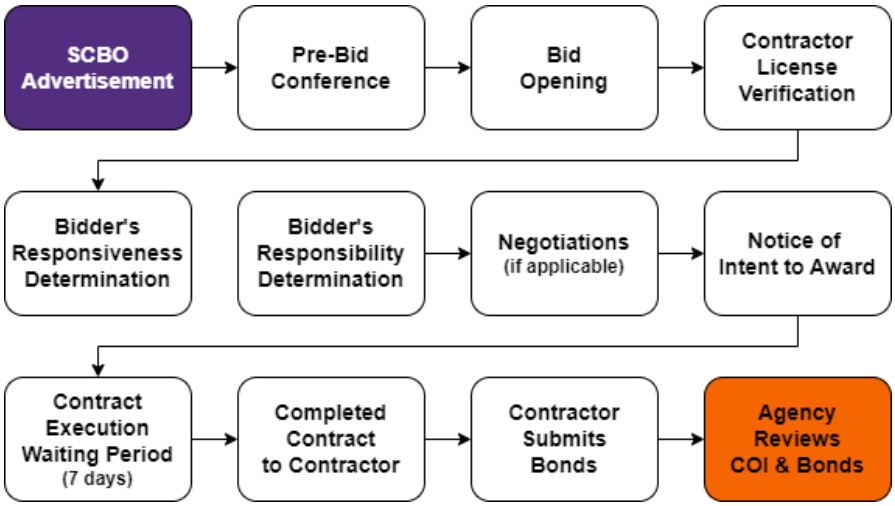
Delivery Method	Procurement for A/E, CM & Land Surveys	Procurement for Construction Services
CMR	Qualification Based Selection	Competitive Sealed Proposals
DBB	Qualification Based Selection	Competitive Sealed Bidding
DB	Any OSE Source Selection	Any OSE Source Selection Allowed

Please see the OSE Manual and the S.C. Procurement Code for further information on all delivery methods.

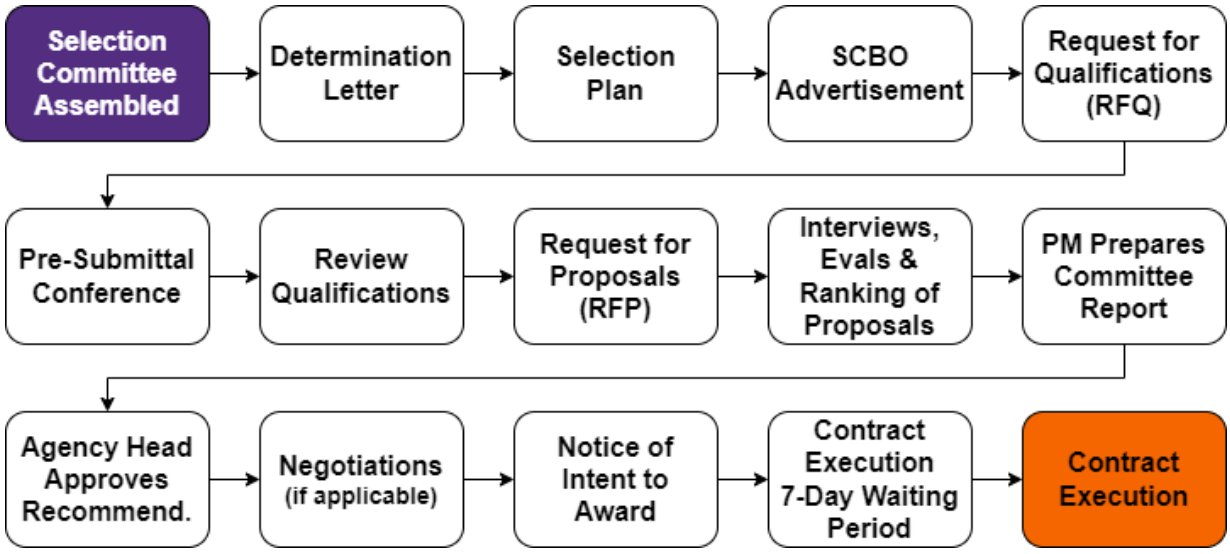
Construction Manager at Risk (CMR)



Design-Bid-Build (DBB)



Design-Build (DB)



Procurement Types

The following are the most common procurement contracts utilized at CU:

1. Professional Services (Ch. 4)
    a. Large Professional Services (>*$50K) - Capital Projects*
    b. Large Indefinite Quantity (IDQ)
        i. Delivery Order (<*$200K)*
        ii. Delivery Order Totals (<*$500K)*
    c. Small Professional Services (<*$50K)*
    d. Small Indefinite Quantity (IDQ) (<*$50K)*
2. Construction Services
    a. Task Order Contract (TOC) (Ch. 9)
        i. Task Order Assigned to TOC (*$90K – 350K*)
        ii. Task Order Total (<*$4M*)
    b. Small Purchases (<*$100K)* (Ch. 8)
3. Other – see OSE Manual
    a. Brand Name Only (*any*)
    b. Emergency (*any*)
    c. Sole Source (*any*)

Procurement Type	Procurement Method	Vendor Type	OSE Approval
Large Professional Services	Invitation for Selection, or Alternative Delivery Method	Professional Services	Yes*
Large Indefinite Quantity	Invitation for Selection	Professional Services	Yes*
Small Professional Services	Direct Negotiation & Selection	Professional Services	No**
Small Indefinite Quantity	Direct Negotiation & Selection	Professional Services	No**
Task Order Contract	Invitation for Selection	Construction	Yes
Small Purchases	Direct Quote (<$10K) or Invitation for Selection – 3 quotes required ($10-100K)	Construction	Yes

**Initial contract must be approved; specific scopes may not require approval as there is an existing contract already approved.*
***All procurement documents must be submitted to OSE for information even if OSE approval is not required.*

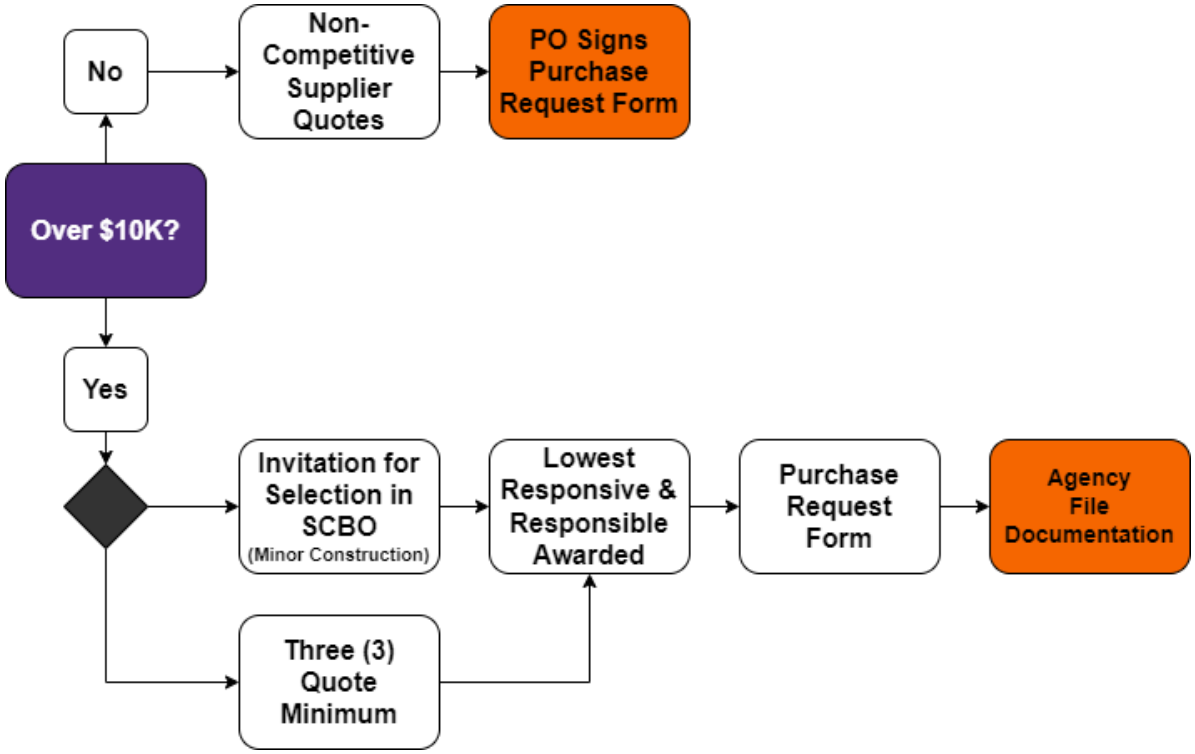
Small Professional Services Contract (<$50K)

Small professional services contracts are for professional services where the total compensation is $50K or less.

1. The Agency awards a contract through direct negotiation and selection.
2. The Agency requests the firm submit a proposal letter along with the contract:
    a. Small Professional Services Contract (SE-240), or
    b. Professional Incidental Services Contract (SE-235)
3. The Agency submits a copy of the professional agreement to OSE using the Transmittal of Small Professional Service Contract (SE-230).
4. For more detailed information, please see the OSE Manual (Ch. 4).

Small Purchases for Construction (<$100K)

Small purchase contracts are for construction services where the total compensation is $100K or less. See the OSE Manual for more information on the various threshold requirements (Ch. 8).

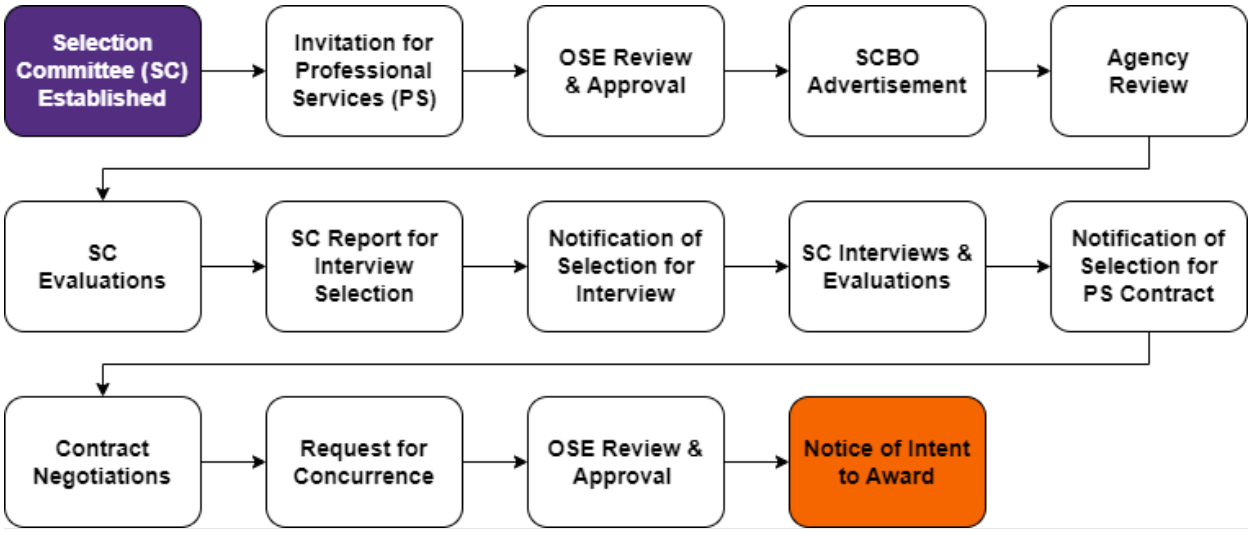


Delivery Order (greater or less than $50K)

A Small Delivery Order is an order issued by an Agency for a professional services firm to perform work under an IDQ where the total compensation is $50K or less (Small IDQ). A Large Delivery Order is an order issued by an Agency for a professional services firm to perform work under an IDQ where the total compensation is less than $200K (Large IDQ). Please see the IDQ section below for more information.

Large Professional Services Contract (>$50K)

Professional Services over $50K require Large Professional Services contracts which require the assembly of a Selection Committee.



**Note: This flow follows a Design Bid Build delivery method. If an alternative delivery method such as Design Build (DB) or Construction Manager at Rish (CMR) is being used, there is a need to obtain OSE approval before SCBO advertisement.*

1. The Agency establishes the Selection Committee (SC).
2. The PM on behalf of the SC prepares the Invitation for Professional Services (SE-210).
3. The Office of the State Engineer (OSE) reviews and approves the SE-210.
4. The OSE submits the SE-210 to South Carolina Business Opportunities (SCBO) for the advertisement.
5. The Agency reviews the submittals for completeness.
6. The SC evaluates and selects at least three (3) firms for interview.
7. The PM prepares a written report using the SC Report for Interview Selection (SE-211).
8. The Agency posts the Notification of Selection for Interview (SE-212) at the location indicated in the Invitation and notifies all invitation respondents (firms) electronic copies of the SE-212.
9. The SC interviews and evaluates the short-listed firms for interview.
10. The Agency determines its ranking report as final and prepares and distributes the Notification of Selection for Professional Services Contract (SE-219).
11. The Agency negotiations with the highest-ranking firm.
12. The Agency submits the Request for Concurrence in Posting Notice of Intent to Award Professional Services Contract (SE-220) along with the proposed contract to OSE.
13. The OSE reviews and approves (or denies) the SE-220 and returns it to the Agency.

14. The Agency posts the Notice of Intent to Award Professional Services Contract (SE-221) and sends electronic copies to all firms that responded to the invitation.
15. For more detailed information about Large Professional Services contracts, please see the OSE Manual (Ch. 4).

Indefinite Quantity Contract (IDQ)

The Indefinite Quantity Contract (IDQ) is a Professional Services contract that does not procure or specify a defined quantity of services (other than a minimum or maximum quantity) and that provides for the issuance of Delivery Orders for the performance of work during the period of the contract. IDQ Contracts follow the same procedures as Professional Services large contracts, except for using the SE-600 forms. For additional information, please see the OSE Manual (Ch. 9).

Small IDQ Contracts (<*$50K)*

1. The Agency awards a contract through direct negotiation and selection.
2. The Agency requests the firm submit a proposal letter along with the contract:
   a. Indefinite Quantity Contract (SE-640), or
   b. Indefinite Quantity Contract Delivery Order – Small Contract (SE-635)
3. The Agency submits a copy of the professional agreement to OSE using the Transmittal of Small Indefinite Quantity Contract – For Information Only (SE-630).

Large IDQ Contracts *(<$200K per DO, not to exceed $500K for contract duration)*

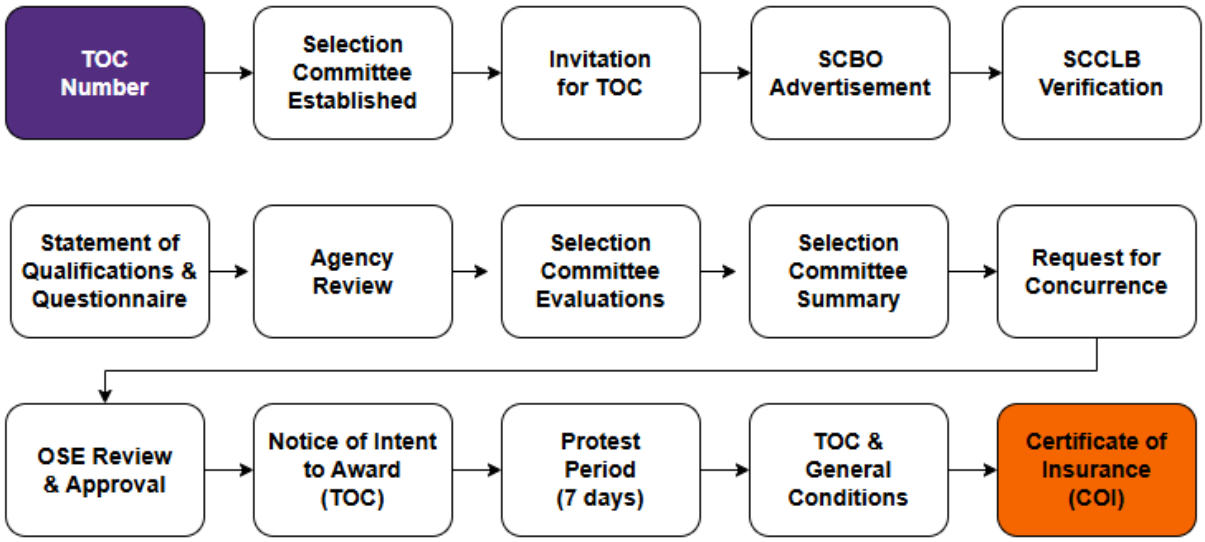
1. The Agency establishes the Selection Committee (SC).
2. The PM on behalf of the SC prepares the Invitation for Indefinite Quantity Contract (SE-610).
3. The Office of the State Engineer (OSE) reviews and approves the SE-610.
4. The OSE submits the SE-610 to South Carolina Business Opportunities (SCBO) for advertisement.
5. The Agency reviews the submittals for completeness.
6. The SC evaluates and selects at least three (3) firms for interview.
7. The PM prepares a written report using the SC Report for Interview Selection – (SE-611).
8. The Agency posts the Notification of Selection for Interview – (SE-612) at the location indicated in the Invitation and notifies all invitation respondents electronic copies of the SE-612.
9. The SC interviews and evaluates the short-listed firms for interview.
   The Agency determines its ranking report as final and prepares and distributes the Notification of Selection for Contract Award – (SE-619).
10. The Agency negotiations with the highest-ranking firm.

11. The Agency submits the Request for Concurrence in Posting Notice of Intent to Award IDQ Contract (SE-620) along with the proposed contract to OSE.
12. The OSE reviews and approves (or denies) the SE-620 and returns it to the Agency.
13. The Agency posts the Notice of Intent to Award IDIQ Contract (SE-621) and sends electronic copies to all firms that responded to the invitation.

Task Order Contract (TOC)

A Task Order Contract (TOC) is a Construction Services contract that does not procure or specify a firm quantity of services (other than a minimum or maximum quantity) and that provides for the issuance of Task Orders for the performance of tasks during the period of the contract. TOCs are valid for three (3) years with two (2) automatic one (1) year extensions and are composed of four (4) Contractors. For additional information, please see the OSE Manual (Ch. 9).

For projects bid through South Carolina Business Opportunities (SCBO), the SE-311 stipulates that the *"Agency WILL NOT accept Bids sent via email."*

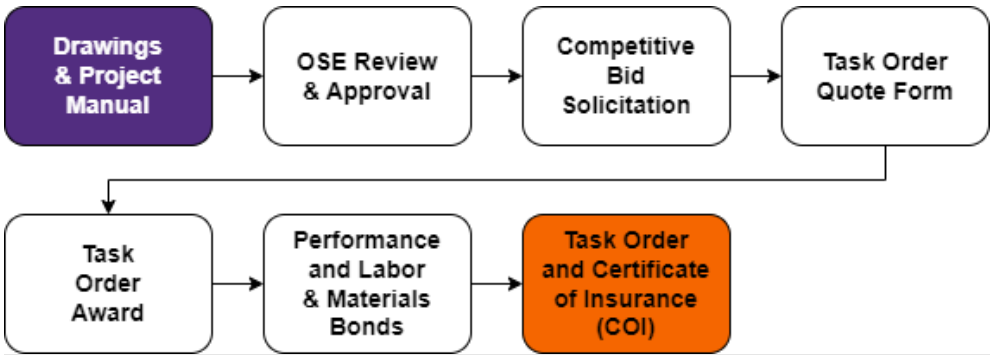


1. The Agency receives the TOC Number from the Office of the State Engineer (OSE) prior to soliciting qualifications.
2. The Agency establishes the Selection Committee (SC) (SE-614).
3. The Agency prepares the Invitation for Task Order Contract (SE-655).
4. The Agency submits the SE-655 to OSE for review and approval (or denial).
5. The OSE submits the approved SE-655 to SCBO for advertising.
6. The Agency verifies Contractor licensing with SC's Labor Licensing Regulations (SC LLR).
7. The Agency prepares the Contractor's Statement of Qualification & Questionnaire.
8. The Agency reviews the submissions for completeness prior to distributing them to the SC.

9. Each SC member completes an evaluation of each submission using the Selection Committee Member Contractor Evaluation – Task Order Contract (SE-657).
10. The Chair verifies individual scoring and compiles all rankings using the Selection Committee Summary – Task Order Contract (SE-658).
11. The Agency determines its ranking report as final and prepares and distributes the Request for Concurrence in Posting Notice of Intent to Award-TOC to OSE (SE-660).
12. The OSE reviews and approves (or denies) the SE-660 and returns it to the Agency.
13. The Agency posts the Notice of intent to Award – Task Order Contract (SE-670) and sends electronic copies to all firms that responded to the invitation.
14. The Agency waits seven (7) days prior to entering the contract (protest period).
15. The Contractor completes the Task Order Contract (SE-680) and General Conditions to the Task Order Contract (SE-685) and sends them to the Agency.
16. The Contractor submits their Certificate of Insurance to the Agency.

Task Orders Assigned to TOC Approval (*$90K – 350K*)

The minimum threshold for Task Orders is $90K. If Task Order quotes are below $90K, withdraw the Task Order solicitation and re-solicit as a Small Purchase (Ch. 8). For more detailed information on Task Orders and Task Order Contracts, please see the OSE Manual (Ch. 9).



1. The Contractor submits Drawings and Project Manual to the Agency.
2. The Office of the State Engineer (OSE) reviews and approves the Project Manual and drawings.
3. The Agency solicits competitive bids from the four (4) TOC Contractors.
4. The Contractors submit the Task Order Quote Form (SE-688) in response to solicitation.

5. The Agency awards the Task Order to the lowest quote.
    a. Amendments may be initiated by either the Agency or the Contractor using the Task Order Modification (SE-695).
6. The Agency obtains Performance (SE-355) and Labor & Material Payment Bond (SE-357).
7. The Agency provides the Construction Services Task Order (SE-690) and the Certificate of Occupancy/Use Permit (SE-585) to OSE.

Construction Procurement Methods

The following are the construction procurement methods allowed by the Procurement Code (OSE Manual reference chapter):

1. Qualification Based Selection (Ch. 4)
2. Competitive Sealed Bidding (Ch. 6)
3. Competitive Sealed Proposals (RFP) (Ch. 11 or Ch. 12)
4. Small Procurements (Ch. 8)
5. Emergency Procurements (Ch. 8)
6. Sole Source Procurement (Ch. 8)

PMC Responsibilities

The Project Management Coordinators (PMCs) are responsible for the following activities during Procurement:

1. Coordinates schedules and scheduling meetings.
2. Organizes and sets up rooms for Pre-bid conferences and Pre-Construction Conferences.
3. Works with the Design Consultant and PM to create and review bid documents.
4. Assists the PM in uploading documents to SharePoint.
5. Within 10 days of bid opening, reviews Surety Bonds and Licenses:
    a. Licenses
    b. Surety Bonds
    c. Bond Rating
6. Executes contractual notices: Notice of Award (NOA), Authorization to Proceed (ATP).
7. Creates and updates website notices.
8. Scan in Bid documents after opening to AiM and SharePoint, then hand off the physical copies to the PMCM to maintain records.
9. Other administrative tasks related to procurement.

Change Orders

A Change Order is defined as any modification that alters the contract's: scope of work, contract sum, and/or contract time. The Office of the State Engineer (OSE) Auditors determine if the original construction contract is within or above the agency construction contract certification. For additional information on Change Order guidelines and requirements, please see the OSE Manual (Ch. 7).

Contracts Within Agency Construction Contract Certification

1. Does not require the Office of the State Engineer (OSE) approval.
2. The PM/Planner completes the Change Order form and communicates updates with the Contractor.
3. The Change Order work is executed.
4. The Project Management Coordinator (PMC) updates the project data in AiM and notes the reason for the change.
5. See Agency Certification List for more details.

Contracts Above Agency Construction Contract Certification

1. The PM/Planner submits the Change Order to OSE for approval.
2. The PM/Planner communicates updates with the Contractor.
3. The Change Order work is executed.
4. The Project Management Coordinator updates the project data in AiM and notes the reason for the change.

Change Order Time Delays

1. The Agency evaluates any time delays by the contractor.
2. The Agency documents all time delays via Change Order.
3. The Agency submits documentation to OSE for information only.

Change Directives

A Change Directive allows the Agency to direct the Contractor to make urgently needed changes to the contract scope document without completing the Change Order process. The Agency utilizes the AIA G714 form for this process. For more information, please see the OSE Manual (Ch. 7).

OSE Procurement Forms

Please visit the OSE website to obtain a complete list of procurement form templates.

Clemson University Procurement and University Facilities Buyers

These processes will be updated in a future Playbook draft by July 2026 to align with Clemson's transition to a new Employee Resource Platform (ERP) finance software, Workday.

Purchase Orders

PDC Staff may utilize University Facilities Support Services Buyers for non-construction related purchases for goods and services by utilizing Work Orders to generate a Purchase Order within AiM. Refer to the AiM Purchase Order Guide for assistance.

When goods and services are to be charged back to a project account:

1. The PMC initiates the process by creating a Purchase Order Request in AiM for the project. The PMC may add details for the purchase and attach quote(s).
2. The PM/Planner then assigns a Buyer from the Facilities Support Services team.
3. The Buyer completes all needed purchasing following Clemson University Procurement Business Services (PBS) procedures.
4. After the product is received or services complete and ready for payment to be issued, the PM/Planner completes the requisition for the PO within AiM.
5. The Buyer completes the Work Order.

When goods and services are *not* to be charged back to a project account, for example a customer requests furniture not associated with a project:

1. The customer must call in or submit a University Facilities Service Request to generate a Work Order and provide the needed account string. The staff member must the authorized to utilize that account string. PDC staff may not submit this service require on their behalf. The customer should have the appropriate PDC staff member listed as the contact person.
2. Once the Work Order is created, follow the steps in the above section.

Purchases from $10,000 - $25,000

PDC staff will work with University Facilities Buyers. These purchases require a total of three (3) formal written quotes if not on contract. Quoted products are to be identical. All quotes must be attached to the Requisition in buyWays by the UF Buyer. CU Procurement will be responsible for verifying legitimacy. Quotes may consist of letterhead, email and/or website pricing. Absent adequate quotes, products will require a formal solicitation by Procurement and Business Services (PBS).

See the CU Procurement Dollar Limitations Policy for more information.

P-card Purchases

The Purchasing Card (p-card) is a VISA credit card issued by Bank of America. It is a flexible purchasing tool that offers an alternative to the existing University purchasing process and provides for an efficient and effective method to purchase non-restricted commodities for items under the competitive bid threshold of $10,000, or items 1) from State or Agency contracts, 2) airline tickets, or 3) those included on the Direct Purchase Voucher Exemption List, even if those exempt purchases exceed $10,000 (and also receive prior approval to raise the card transaction limit to allow). Purchases must follow the State and University purchasing regulations and the card is to be used only for official University purchases.

See the CU Procurement P-Card Procedures for more information.

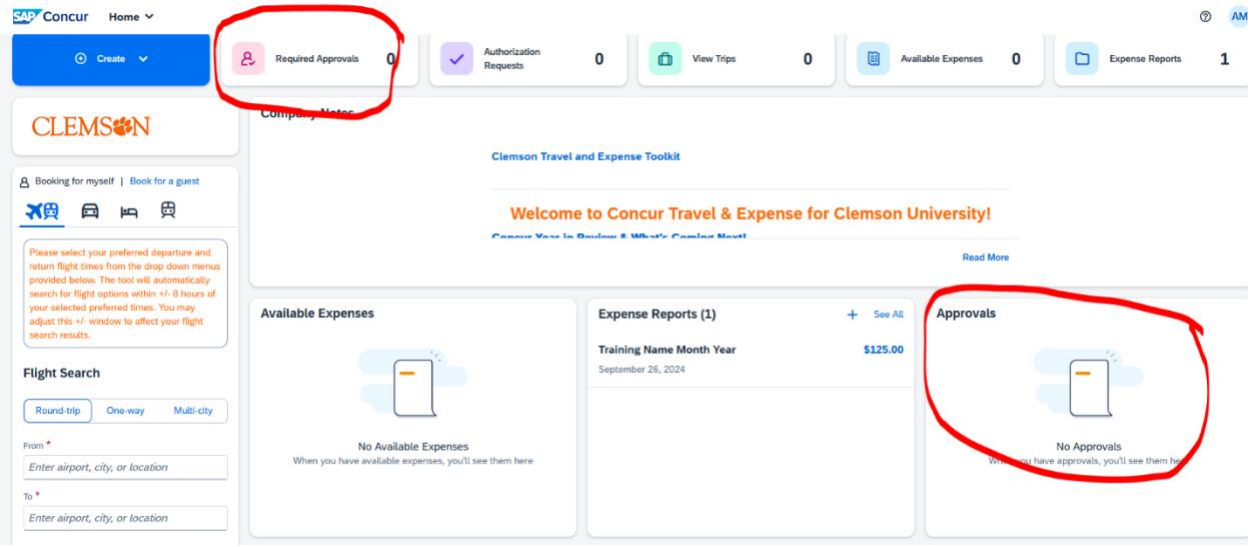
Credit Card Purchases are used when there is not a prior approved Purchase Order. For PDC staff, P-Cards are only to be used for office supplies, registration fees, membership dues, subscriptions, and emergency repairs, etc. An emergency repair is defined as: “When the appropriate supervisor indicates that any delay in obtaining the material may result in loss or damage to university property.” Exceptions require approval from the Executive Director for PDC. See the UF Standards 03.D.01.01 Purchase Authorization.

All receipts must be signed by the authorized purchaser and submitted to the Facilities accounting staff by the twelfth (12th) day of the month. The monthly statements will be co-signed by the appropriate supervisor.

Only select PDC staff are issued a P-Card. For PDC projects, the AIA documents are typically purchased on a P-Card. If a UF Buyer determines the best source of procurement for a project is using the P-Card, the PM/Planner responsible for the project budget will be responsible for reviewing and approving the cost allocation to the project when the purchaser submits their monthly P-Card Expense Report.

When a purchase is placed on another person’s P-Card and paid by the project account string, the PM of the project must be an “approver” of the purchase in the Concur system. This guide shows how and “approver” approves charges that are allocated back to a project for another person’s Expense Report. Approver’s Guide to Concur. You will only approve purchases toward your project, not all purchases that may listed in the Expense Report. For questions, reach out to the Facility Business Officer for assistance.

If you have an approval waiting, it will display on your Concur home screen dashboard here:



Supplemental IDQ Contracts

PDC staff will work directly with UF Buyers for Supplemental IDQ Contracts to be entered into buyWays.

These must be started in AiM via a Work Order for the umbrella contract. The PO is created for each additional IDQ Contract proposal. The UF Buyer will enter a requisition in buyWays.

Supplier Registration

PDC staff will work directly with UF Buyers for supplier registration.

Additional CU Procurement Policies & Procedures

1. CU Procurement Policies and Procedures (in process of transition to CU Policy Central)
2. Disbursements Grid
3. Decision Tree
4. How to Buy/Pay
5. Procurement Methods
6. Emergency Purchases
7. Sole Source

Additional FBO Guidelines & Procedures

Please reach out to FBO on additional guidance regarding payment applications and final contract payments for project closeout, routine invoices for services and labor and materials as many of these may adjust with continued ERP build out.

Food related purchases must be approved ahead of time by the Executive Director of PDC. If the Executive Director of PDC and the Chief Facilities Officer agree to food purchases, it will need to be direct expenses by the Facilities Business Officer in the ERP System.

Asbestos Testing and Abatement

All asbestos testing and abatement services are procured by contacting the Asbestos Project Manager (APM) in OES. The APM coordinates with dispatch to create Work Order and Purchase Order for these services and coordinates the timeline of the services with the PM. PMs do not contact these vendors directly for services. Please refer to the Asbestos Management (OES) webpage and Asbestos PO and Billing Protocol for more information.

This process in currently under review by continuous improvement team and may be updated in a future draft.

Procurement Templates

The approved templets are located in the Alternate Plans –Templates folder.

1. Determination Letter
2. Selection Plan
3. Request for Qualifications
4. Request for Proposal

Procurement Chapter Resources

1. OSE Manual for Planning and Execution of State Permanent Improvements
2. S.C. Procurement Code
3. South Carolina Business Opportunities (SCBO)
4. Project Consultation Code Review Checklist (resource list)
5. SC's Labor Licensing Regulations (SC LLR)
6. Agency Certification List
7. AiM Purchase Order Guide
8. AiM Work Order Guide
9. CU Procurement Policies and Procedures
    a. Dollar Limitations Policy

   b. P-Card Procedures
   c. Disbursements Grid
   d. Decision Tree
   e. How to Buy/Pay
   f. Procurement Methods
   g. Emergency Purchases
   h. Sole Source
10. Alternate Plans –Templates
11. Construction Site Hazardous Materials / Wastes (OES)
12. Asbestos Management (OES)
13. Asbestos PO and Billing Protocol
14. UF Standards and Procedures
15. PDC Improvement Request

V. Capital Projects

General Overview

Clemson University (CU) defines a Capital Project as any project over $10M in total value. These projects utilize other sections of this playbook, as referenced throughout this document.

Project Requests & Approvals

Projects equal to or greater than $1M are approved by the Board of Trustees (BOT). Please refer to Clemson University's Board of Trustee's Capital Project Approval Policy for additional information. Projects over $100k require the approval of the University Physical Asset Accountability Committee (UPAAC).

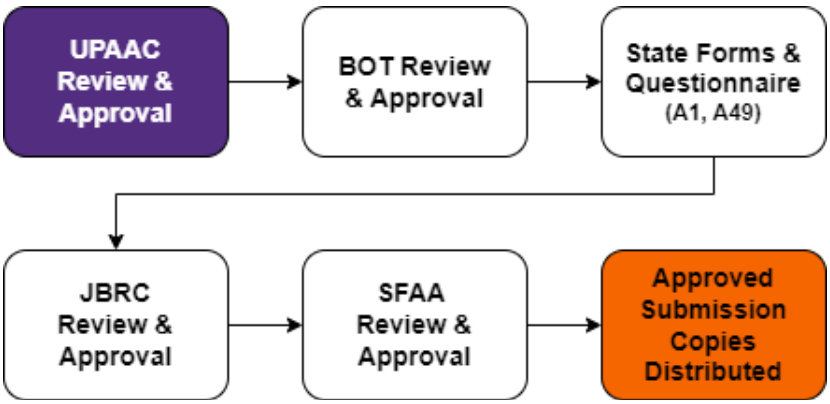
See Project Request Chapter for Request and Approval workflow.

Project Types & Thresholds Overview

See Project Request Chapter for Project Types and Thresholds.

Capital Projects

Capital Projects Approval Workflow



See the Capital Project Approval Policy for more details.

Permanent Improvement Projects (PIP) Approvals

Projects designated as Permanent Improvement Projects (PIP) greater than $10M are submitted to the Board of Trustees to approve the project concept and the project budget prior to being submitted to the S.C. Joint Bond Review Committee (JBRC), Commission on Higher Education, and State Fiscal Accountability Authority for approval. Modifications to an established project are approved by the Chair of the Board of Trustees (BOT) and the Chair of the Facilities and Finance Committee.

1. A Feasibility study is completed. See Feasibility Chapter for details.
2. The UPAAC and the BOT review the Phase 1 project funding agreement / feasibility study and approve the project.
3. Approval by the BOT begins the Architect and Engineer (A/E) and Construction Manager at Risk (CMR) procurement process. See Procurement Chapter for details.
4. The Director of Code & Procurement completes the A1, A49, and State Questionnaire with input from University Finance. The Director of Code & Procurement submits these to the Clemson Government Affairs Office for submission to the state.
5. The Joint Bond Review Committee and the State Fiscal Accountability Authority (SFAA) review and approve the project.
6. The Executive Budget Office Representative signs the A1 form and submits it to Clemson noting the approval.
    a. Phase 1 - Schematic Design commences. See Design Chapter for details.
        i. 1.5% of the total budget is typically approved for Schematic Design. However, Clemson University best practice is to request 2-3% of the total project budget to get a more accurate cost estimate. After the Schematic Design Phase has been completed, the design and new cost estimate are presented to the Board of Trustees. The PIP process is repeated for Phase 2 approval.
    b. Phase 2 - Detailed Design commences. See Design Chapter for details.

PIP Resources:

- PIP Request (A1 Form)
- PIP Required Documentation
- PIP Manual
- PIP Quick Guide

UPAAC Approval

1. The Planning & Design team develops the monthly University Physical Asset Accountability Committee (UPAAC) meeting agenda and provides support to the academic or administrative College/Department presenting their resolution for approval.

2. Projects proposed outside of the Capital Permanent Improvement Plan (CPIP) development phase (April – June) are reviewed at the monthly UPAAC meeting.
    a. If the project is added to the UPAAC agenda, the Project Sponsor and the Project Manager (PM) prepare to present the project to the committee and field any questions regarding project details.
3. Projects proposed during the CPIP development phase may be reviewed by UPAAC but will only be considered for Years 3-5 of the CPIP unless the committee designates otherwise.
4. The UPAAC reviews the approved project and determines CPIP priority base on:
    a. Funding Requests
    b. Debt Capacity
    c. Other Associated Factors
5. Once approved, the Planning and Design team documents the project approval and submits it to the Executive Leadership Team (ELT) for final approval.

Consultant Selection

Construction Manager (CM) at Risk (CMR) is the preferred alternate delivery method for Capital Projects. Selection of the PIP Professional Services (Architects and Engineers) and the Alternative Delivery construction method (CMR, Design-Build) are determined by a Selection Committee. The Selection Committees includes the following:

Professional Services Selection Committee	Alternative Construction Selection Committee
EVP for Finance and Operations/COO – Chair	State Engineer's PM – Chair (non-voting) EVP for Finance and Operations/COO
BOT Member, appointed by Chairperson	BOT Member, appointed by Chairperson
Requestor's VP and End-User selected by VP	Requestor's VP and End-User selected by VP
Director of Planning and Design, PDC	Project Manager, PDC

Planning is responsible for Professional Services and Project Managers for Construction Services on behalf of the Selection Committee:

1. Developing the proposed project's description
2. Determining the professional services required for the project
3. Preparing the formal invitation for professional services (SE-210)
4. Determining the ranking range for each of the evaluation criteria
5. Evaluating all timely responses and determining the list of firms to be interviewed
6. Attending all interviews, evaluating the qualifications of each firm, and determining the ranking of the firms interviewed

VI. BOT Projects

General Overview

Clemson University (CU) defines a BOT Project as any project between $1M and $10M in total project value. BOT Projects are projects that the state of South Carolina Legislator has approved for Clemson to manage. These projects utilize other sections of this playbook, as referenced throughout this document.

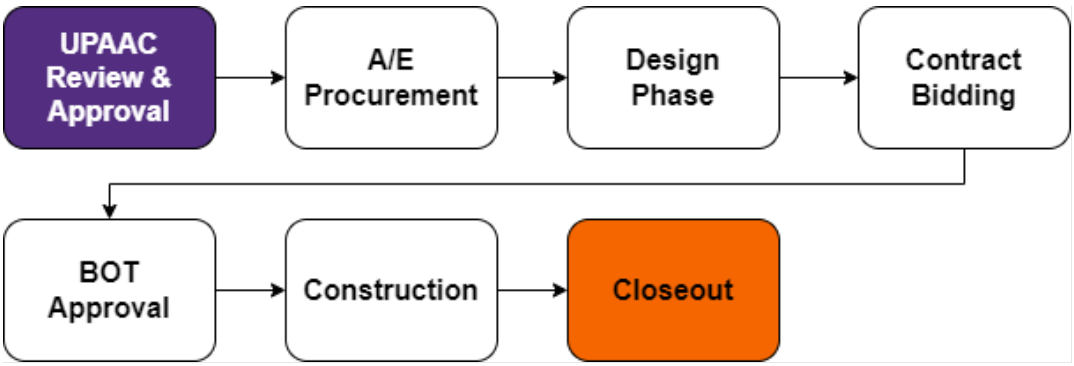
Project Requests & Approvals

See Project Request Chapter for Request and Approval workflow.

Project Types & Thresholds Overview

See Project Request Chapter for Project Types and Thresholds.

BOT Project Process Overview



Design, Bid, Build

BOT Project Process

1. A Feasibility or Scope study is completed. See Feasibility / Scope Studies Chapter for detail.
2. The University Physical Asset Accountability Committee (UPAAC) reviews the project Funding Agreement / Feasibility Study and approves the project.
3. BOT projects typically follow the Design-Bid-Build methodology. See Procurement Chapter for details. However, an alternative delivery may be considered and accepted during the Feasibility / Scope Study phase.

4. The Project Manager (PM) and Project Management Coordinator (PMC) complete the Design Consultant selection. See Procurement Chapter for details.
5. The Design Phase is completed by the external A/E, Client and project team. See Design Chapter for details.
6. The Project Management Coordinator (PMC) enters two lines for the budget into the AiM Capital Projects Module:
    a. Phase 1 to track Project Management cost (Internal Time)
    b. Phase 2 to track close out documents
7. After the Design Phase is completed, the PM and PMC complete the Contractor Bidding. See Procurement Chapter for details.
8. The Project Team works directly with the Executive Director of PDC to submit required documentation for the Board of Trustees (BOT).
9. Once the project is approved, construction commences. See Construction and Commissioning Chapter for details.
10. After construction is completed, closeout commences. See Closeout and TOW Chapter for details.

VII. Small Projects

General Overview

Clemson University (CU) defines a Small Project as any project under $1M in total project value. These projects utilize other sections of this playbook, as referenced throughout this document.

Project Requests & Approvals

See Space & Project Request Chapter for Request and Approval workflow.

Project Types & Thresholds Overview

See Space & Project Request Chapter for Project Types and Thresholds.

Small Project Process Overview

1. The Project Requestor submits their request via the web form. See Space & Project Request Chapter for details.
    a. All Self-Managed Projects are Small Projects.
2. A Scope or Feasibility Study, or no study may be required based on SPACe review. See Feasibility / Scope Studies Chapter for detail.
3. The University Physical Asset Accountability Committee (UPAAC) reviews the project if the estimate is above $100K.
4. The Project Manager (PM) and Project Management Coordinator (PMC) complete the Design Consultant selection. See Procurement Chapter for details.
5. The Design Phase is completed by the external A/E, Client and project team. See Design Chapter for details.
6. After the Design Phase is completed, the PM and PMC complete the Contractor Bidding. See Procurement Chapter for details.
7. Once the project is approved, construction commences. See Construction and Commissioning Chapter for details.
8. After construction is completed, closeout commences. See Closeout and TOW Chapter for details.

VIII. Construction & Commissioning

General Overview

This chapter outlines the high-level steps for the Construction and Commissioning Phases of the project life cycle. For more detailed information regarding guidelines, processes, and requirements, please refer to the resources cited in and at the end of this chapter.

Construction & Commissioning Data Table

DOCUMENTATION TOOLS	• Emails and email folders (saved in Outlook folders monthly per project and then archived in SharePoint) • SharePoint folders and files • AiM Computerized Maintenance Management System (CMMS) - Capital Projects Module • PeopleSoft Enterprise Resource Planning (ERP) System • ArcGIS (referenced as needed) • External Consultant and/or Contractor Systems
DELIVERABLES	• Approved Construction Administration (CA) Items • Updated overall project schedule (from the PM) • Updated construction schedule (from the contractor) • Completed applicable transactions in AiM • Updated University Facilities Funding Agreement • Performance Evaluation – Professional Services, GC, CMR or Design-Build (from PM) • Performance Evaluation – PM (from GC Lead & Arch Firm Lead) • Customer Service Evaluation • Project Emergency Contact List (provided by GC/CMR)
KEY PERFORMANCE INDICATORS (KPI) *(note some KPI tracking may wait until PMIS enhancement)*	**Project Manager** • Overall Project Schedule variance • All data is entered in SharePoint within 7 days of receipt **External** • Construction Schedule variance • Construction Contingency Burn Rate • Construction Change Orders by reason code • Approval timelines for CA Items (RFIs, Submittals, etc.) • # of reportable events / near misses • Inspection Completion % • # of items noted during inspections

	• Punchlist Completion % • Cashflow • Minority (MBE) Business participation percentage tracking for contracts • All data is entered in SharePoint within 7 days of receipt
TIMING	• Construction and commissioning occur after the design is completed and before final occupancy of the space
ROLES/ DEPARTMENTS INVOLVED	**PDC** • Director of Project Management • Portfolio Team Manager (PTM) • Project Manager (PM) • Project Management Coordinator (PMC) • Planning & Design team • Codes & Procurement team **University Facilities** • Maintenance Services • Utility Services • Landscaping Services • Custodial Services • Recycling Services **Additional Internal Partners** • Public Safety • Clemson Computing and Information Technology (CCIT) • Parking and Transportation Services (PATS) • Occupational and Environmental Safety (OES) • Project Customers **External Partners** • Office of State Engineer (OSE) • External Consultants and Contractors • External Regulatory approval agencies (inspections)
APPROVALS	• The PM works with the external Design Consultant and construction contractor to review and approve items during this phase • Various jurisdictions conduct inspections and approve project elements per their authority

General Overview

1. Pre-Construction (Pre-Con) Meeting
    a. The PM works with the Construction Manager (CM) or General Contractor (GC) and the Design Consultant to schedule and conduct a pre-construction meeting. Participants may include, but are not limited to, the following:
        i. Project Customer
        ii. Project Manager
        iii. CM or GC
        iv. Building Security Coordinators
        v. Occupational and Environmental Safety (OES)
        vi. Key subcontractors
        vii. Design consultant
        viii. Commissioning Agent
        ix. Maintenance Services (UF)
        x. Utilities Services (UF)
        xi. Other departments as needed for coordination
        xii. 3rd Party Inspectors
    b. See the Office of State Engineer Manual for pre-construction conference discussion items for reference: Chapter 7 - Construction Contract Administration - Design-Bid-Build (sc.gov).
    c. The meeting is held at the project site and includes, but is not limited to, discussions about the following:
        i. Project Team and Reporting Structure
        ii. Information Tracking processes (RFIs, submittals, etc.)
        iii. Early submittal packages (e.g. structural steel, etc.)
        iv. Submittal register and equipment delivery tracking, etc.
        v. Outage planning and procedures
        vi. Status of permits required for mobilization
        vii. Owner Architect Contractor (OAC) meeting cadence and scheduling
        viii. Schedule and risk overview (Special events)
        ix. Inspections process
        x. Site Logistics (e.g. access, deliveries, dumpsters, parking, road closures, tree protection and landscaping, etc.)
        xi. Site access restrictions (if abatement was performed)
        xii. Construction schedule and key constraints, milestones
        xiii. Asbestos / Hazardous waste identification and removal (if applicable)
2. The PM works with the customers and other associated groups to identify and execute enabling locations, decommissioning of vacated spaces, and other activities as needed to prepare for construction mobilization.
    a. See the Main Campus Urban Forest & Management Policy & Plan on the UF Tree Management webpage for guidelines regarding tree removal.

i. Significant tree removals or changes to the approved design require communication to the Executive Director for PDC, senior leadership, and the campus community.

Construction Administration & Management

Mobilization

The Project Manager (PM) works with the Construction Manager (CM) or General Contractor (GC), Facilities Maintenance, Campus Security, and other departments to ensure the following are in place for the construction site:

1. Project Signage, in accordance with the Planning's Exterior Signage Guidelines
2. Perimeter containment, including tree fencing to protect roots (if applicable)
3. Door core changes
4. Fire Alarm Access programming changes
5. Site Fencing (if applicable)
6. Dumpsters and loading dock access
7. Other logistical items as needed for the project, including tree protection and sign off any tree removal per policy. See UF Tree Management webpage for guidelines regarding tree removal.

Construction and Issue / Risk Management

1. The Construction Manager (CM) or General Contractor (GC) manages the physical construction work per the terms of the construction contract and documents/specifications.
2. The Project Manager (PM) serves as the primary point of contact for the contractor when issues / risks arise throughout construction.
3. The PM maintains a risk log/register for the project and escalates issues to the Director of Project Management as needed.
4. The PM follows all Construction Contract Administration as listed in the OSE Manual Chapter 7 or Chapter 11 (if CMAR).

Owner-Architect-Contractor (OAC) Meetings

1. PM works with the CM or GC and Design Consultant to determine an appropriate date/time for the OAC meetings, which are typically held weekly or bi-weekly. Participants include, but are not limited to, the following:
    a. PM
    b. CM or GC and subcontractors (as needed)
    c. Design consultant (and sub-consultants as needed)
    d. Commissioning Agent

    e. Others as needed
2. The PM is responsible for determining if other parties are needed based on the proposed agenda and/or open items to be resolved. These parties could include, but are not limited to, the following:
    a. Facilities Maintenance
    b. Clemson Computing and Information Technology (CCIT)
    c. Public Safety
3. The CM or GC manages the OAC meeting including providing meeting agendas and logs for review (RFIs and Submittals), providing and reviewing 2-week look-ahead schedules, creating and issuing meeting minutes within 5 business days of the meeting. The PM saves meeting minutes into the appropriate SharePoint folder.

Other Construction Meetings

1. The PM works with various parties to schedule and conduct other meetings throughout construction. These include, but are not limited to, the following:
    a. Commissioning Meetings
    b. Meetings to discuss certification progress (e.g., Green Globes, LEED, etc.)
    c. Outage coordination meetings
    d. Clemson Computing and Information Technology (CCIT) coordination meetings
    e. Security and Door Hardware coordination meetings
    f. Furniture and Interior Finish coordination meetings
    g. Transition Planning Meetings (including move management)

Construction Administration (CA)

1. The PM works with the Design Consultant and the CM or GC to process CA items during the construction phase. These include, but are not limited to, the following:
    a. Requests for Information (RFIs) - The PM is involved in determining if other groups such as Space Data Management Team (SDMT), Codes & Procurement, or Maintenance Services need to be involved in the review.
    b. Submittals - The PM is involved to determine if other groups such as Space Data Management Team (SDMT), Code & Procurement, or Maintenance Services need to be involved in the review.
    c. Potential Change Orders (PCOs), for larger projects
    d. Change Orders (COs)
    e. Payment Applications - The contractor submits Pay Applications to the Design Consultant via AIA Forms (G702 and G703). If there is not a Design Consultant on the project, the contractor submits Pay Applications directly to the PM. The Design Consultant or PM reviews and certifies the payment application; if it is by the Design Consultant, they will then forward the certified payment application to the PM. The PM inputs the payment application into AiM as their approval verification. The Project Management Coordinator (PMC) saves the

documentation in the appropriate SharePoint folder. For more information, please see the OSE Manual.

Utility Outages and Impacts

1. The contractor prepares and submits a utility outage schedule during pre-construction to the PM for review.
2. The PM coordinates discussions and/or meetings with the key stakeholders such as Utilities, Facilities Operations, CCIT, etc. to fully define the scope and potential impacts of the proposed outage.
3. The PM works with the contractor to obtain the necessary utility outage approvals and support to maintain the project schedule. See Planned Outage Notification procedure for more details.

Schedule Management

1. The CM or GC maintains the schedule throughout the construction phase and submits the current version to the PM for review at least monthly (with the payment applications).
2. The CM or GC may change dates within the schedule that don't impact the construction completion date without approval of the PM.
3. The PM works with the CM or GC to manage date change requests related to weather delays, per the language in the OSE contracts.
4. The CM or GC submits changes which impact the construction completion date to the PM for review. Any schedule change to the contract will be submitted formally on the OSE SE-380 or SE-480 for official approval. The PM escalates these changes to the Director of Project Management, Project Customer, and other key project stakeholders for review and further escalation as needed.

Construction Reporting

1. *Future development pending.*

Inspections & Punchlist

Project Manager (PM) Observations

1. The PM observes the project site weekly at a minimum and provides feedback and questions to the CM or GC, Design Consultant, and others at the weekly Owner-Architect-Contractor (OAC) meeting.
2. The PM may choose to schedule other observations as needed through the construction phase with other groups such as customers and Clemson leaders.

Design Consultant (DC) Inspections

1. The DC inspects the construction site as needed and per their contract throughout construction.
2. The DC documents and issues field reports based on these inspections and shares those with the project team.
3. The PM ensures these inspection reports are filed in the appropriate SharePoint folder.

Commissioning Agent (Cx) Inspections

1. If a Cx is hired for the project, they inspect the construction site as needed and per their contract throughout construction.
2. The Commissioning Agent documents and issues field reports based on these inspections and shares those with the project team.
3. The PM ensures these inspection reports are filed in the appropriate SharePoint folder.

Ad Hoc Inspections / Observations

Various other groups on campus may inspect or observe project sites based on specific needs or to check on general progress. These groups include, but are not limited to, the following:

1. Facilities Maintenance Services
2. Turnover Workgroup (TOW)
3. Planning & Design
4. Space Management
5. Code & Procurement
6. Occupational and Environmental Safety (OES)
7. DES (Department of Health)
8. DPH

3rd-Party Inspections

1. The Authority Having Jurisdiction (AHJ) for a project is either the OSE or Clemson Code Official team, based on the value of the project:
    i. Over $5M total project value = OSE
    ii. Under $5M total project value = Clemson code officials
2. The PM schedules 3rd party inspections for the following project types
    i. OSE projects
    ii. Clemson projects greater than $100K
    iii. Clemson projects requiring multiple discipline inspections
    iv. Clemson projects not in a location on or near the main campus.

3. See OSE Manual (Ch. 5) for approved 3rd-party inspection firms.
4. See OSE Manual (Ch. 5) for required inspections.

Jurisdictional Inspections

1. The PM works with the PDC Codes & Procurement team or OSE PM to determine how final inspections will be scheduled and executed for the project.
2. For projects under $10M the Clemson Code & Procurement team executes inspections internally and provides feedback and results to the contractor and PM.
3. For projects over $10M, the Code and Procurement team works with the OSE PM to engage external parties to conduct these inspections and provide feedback to the contractor, PM, and Code & Procurement team as needed.

Punchlist Management

1. The PM works with the contractor and GC or CM during the pre-construction phase to determine the logistics for tracking the punchlist including which system it will be housed in and who will be the owner for updates.
2. The CM or GC creates the initial punchlist and typically maintains it in their Project Management Information System (PMIS) and updates it as needed throughout the construction.
3. The PM, commissioning agent, and other customers provide punchlist items as they are identified to the CM/GC or Design Consultant to add to the official punchlist.

Mechanical-Electrical-Plumbing (MEP) Systems Start-up

1. The contractor schedules the start-up of all MEP equipment and systems with the appropriate subcontractors per the approved construction schedule.
2. The contractor ensures appropriate documentation for the start-up is provided to the Design Consultant and commissioning agent as needed.

Start-up, Commissioning, & Testing

MEP Systems Commissioning

1. Commissioning activities and requirements are identified in the Request for Proposal (RFP) and associated contract documents for the Commissioning Agent.
2. The PM works with the contractor, Design Consultant, TOW team and commissioning agent to identify commissioning activities needed for the project.
3. The contractor schedules and conducts commissioning activities with the commissioning agent, PDC Code & Procurement team, and other identified parties (design engineer, subcontractors, etc.) as needed on capital and BOT projects.

4. The PM provides oversight to the process including ensuring meetings are scheduled and held, milestones are being met, issues are escalated and resolved; and other parties such as Facilities Maintenance, Code & Procurement, and TOW are included and provided the appropriate information.

MEP Systems Training and Documentation

1. The PM works with the contractor to identify and schedule training sessions on MEP equipment and systems. The PM invites Facilities Maintenance Services and other parties as needed.
2. The contractor works with the PM to identify and schedule resources to videotape training sessions on equipment items and systems identified by University Facilities Maintenance and other departments. The PM works with the PMC to upload it into SharePoint.

Computing and Information Technology (CCIT) Start-up and Commissioning

1. The PM works with the CCIT team and the contractor to schedule the IT network gear and other associated equipment to be installed and activated.
2. The CCIT Team works with the PM and CM or GC to identify what trades require early connectivity to the network to complete their work (e.g., BMS and security contractors, elevator testing contractors, etc.).
3. The CCIT team works with the PM and CM or GC to identify the logistics and schedule for delivering the network closet gear and conducting appropriate start-up and commissioning.
4. The CCIT team inspects the cabling coming to the closet and the closet layout itself, then activates the network gear as needed.

Substantial Completion & Occupancy

Request for Substantial Completion

1. The requirements for achieving Substantial Completion are identified in the contract documents for the project and the OSE Manual (Ch. 7).
2. The contractor tracks and updates the projected substantial competition date on the approved construction schedule.
3. Once the contractor believes substantial completion has been achieved, they submit the Notice of Substantial Completion to the Design Consultant and PM for review and approval.
4. The contractor maintains and updates a list of remaining work items to be completed after substantial completion.

Insurance Coverage Transition

1. The PM completes the New Building / Building Demolition Form to transfer the insurance coverage from the Builder's Risk Policy to Clemson's Property Insurance Carrier and submits it to the Office of Risk Services & Insurance (via e-mail to Linda Rice and CC Laura Stoner).

Furniture and Signage Installation

1. The PM works with the contractor and Space and Interior Design Manager to coordinate and schedule installation of furniture in the completed spaces.
    a. Project customers are not permitted to procure signs outside of the PM for their project. All new signage follows the CU interior and exterior signage guidelines.
2. The PM works with the contractor and appropriate vendors to coordinate and schedule installation of signage in the completed spaces.

Opening Events

1. The PM works with the customer group and the applicable Clemson leadership teams to identify opening events needed for the project.
2. The PM helps the appropriate teams coordinate timing and logistics for these events with the contractor and other impacted departments.

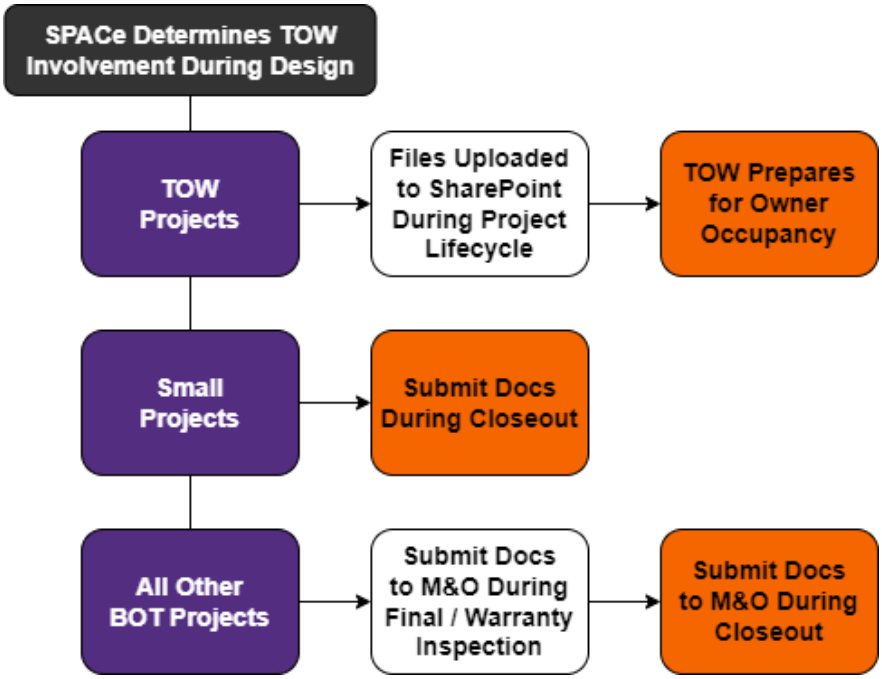
Construction & Commissioning Chapter Resources

1. OSE Manual
2. Chapter 7 - Construction Contract Administration - Design-Bid-Build (sc.gov)
3. South Carolina Building Code Council
4. Clemson University Construction Standards
5. University Facilities Construction Map
6. University Facilities GIS Group
7. Exterior Signage Guidelines
8. University Facilities Landscaping Services Tree Management
9. New Building / Building Demolition Form
10. Planned Outage Notification
11. Construction Site Hazardous Materials / Wastes (OES)
12. Asbestos Management (OES)
13. Emergency Management (EM) Hazard Specific Emergency Information
14. UF Standards and Procedures
15. PDC Improvement Request

IX. Closeout & Turnover Workgroup (TOW)

General Overview

This chapter outlines the high-level steps for the Closeout and Turnover Workgroup (TOW) Phases of the project life cycle. For more detailed information regarding guidelines, processes, and requirements, please refer to the resources cited in and at the end of this chapter.



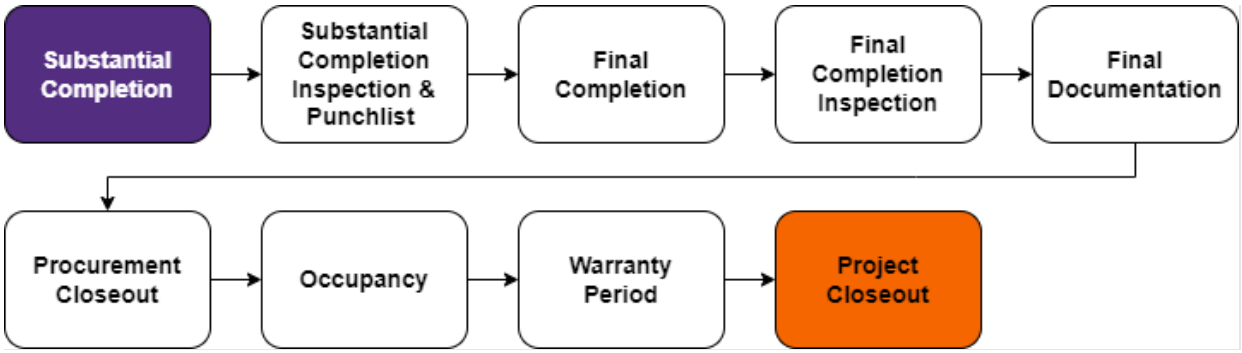
During the Design phase the SPACe determines the level of involvement of TOW for each project.

- All Capital Projects and other projects that have new square footage, new utilities, and significant changes to the essential building components shall incorporate the Turnover Workgroup (TOW) process.
- All other BOT Projects submit documents to the Maintenance & Operations department during Final / Warranty Inspection and Closeout Phase
- Small Projects submit documents during the Closeout Phase

Contractors and Design Consultants submit all contractually required documents to the Project Management Coordinator (PMC). The PMC ensures that all documents are collected based on the relevant PDC Project Closeout Checklist (completed by the PM) and stores the documents and updated plans in SharePoint. The final documentation checklist will depend on the contract.

Project involvement for the TOW Team begins during the Design phase. TOW is an integral part of the Closeout process working alongside the Project Team to close out the project and prepare for Owner Occupancy. Files are uploaded into the SharePoint TOW folders throughout the project.

Closeout Phase Overview



Substantial Completion and Punchlist

1. The A/E declares the project substantially complete.
2. The Agency gives the Office of the State Engineer (OSE) a minimum of ten (10) days' notice for the Substantial Completion inspection so that the OSE PM may attend.
3. The A/E issues the Certificate of Substantial Completion (SE-550), signed by the Agency and the A/E.
4. The PM transfers insurance to the Insurance Reserve Fund (Ch. 7) by submitting this form to the Office of Risk Services & Insurance (via e-mail to Linda Rice and CC Laura Stoner):
    a. New Building / Building Demolition Form
5. The Agency submits the executed SE-550 to the Contractor and the OSE.
6. The Contractor is responsible for any remaining work via the Punchlist. Once completed, the Punchlist is reviewed by the following entities:
    a. A/E and Design Consultants
    b. Commissioning Consultant
    c. Facilities Review
        - Shops Manager
        - Preventative Maintenance Supervisor
        - Custodial Manager
        - Utilities Engineer
        - TOW Manager

16. For more information, please refer to the OSE Manual (Ch. 7).

Final Completion and Inspections

1. The Contractor determines that the project has reached Final Completion and submits the Certificate of Final Completion (SE-560) to the A/E.
2. The A/E performs the final inspection
3. The A/E and Agency signs the SE-560 for approval.
4. For more information, please refer to the OSE Manual (Ch. 7).

Life Safety Systems Inspections

- ☐ Fire Alarm Systems: Connect fire alarm system to CU Police Department
- ☐ Fire Sprinkler / Suppression Systems: Connect fire pump alarm to CU Police Department
- ☐ Fire Pump Test: Emergency Generator Operations/Load Bank Test
- ☐ Fire Extinguishers installed and functional
- ☐ Other Life Safety Systems (e.g., AED)
- ☐ OSE Fire Alarm Inspection
- ☐ OSE Building Inspection
- ☐ CU Building Inspection

Final Documentation

1. The PM ensures that the contractor provides all applicable closeout documentation for review and acceptance. The level of documentation will depend on the contract.
2. The PM is responsible for communicating with the Vault Manager to ensure that the documents are saved in the Vault.
3. The PM changes the AiM status to WORK_COMPLETE. For Capital Projects, the WARRANTY_PERIOD status is used to reflect the 10 months of waiting for the 10-month warranty walk with the project team.

Lessons Learned Exercise

Project Managers will complete a Lessons Learned exercise for all projects as a part of their Closeout responsibilities. Resources and Templates may be found in the Lessons Learned folder. All past LL exercises will be saved in the folder to create a repository institutional knowledge building and for considerations for improvement.

1. Small Projects: PMs will complete the condensed version of the Lessons Learned template which is 1 page. These LL will be reviewed periodically during the Project Manager Meetings to continuously improve.

2. BOT Projects: If the BOT project had a scope study, then the PM will complete a 1-page Lesson Learned template. If the BOT project had a feasibility study, then the PM will complete the more detailed Lessons Learned presentation template. The PM will present the detailed LL information with the A/E and GC or CMR to the PDC team.
3. Capital Projects: PM will complete and present a Lessons Learned presentation with the A/E and GC or CMR team to the PDC team.

Procurement Closeout

Closure of the contract and final payment requires the following:

1. The A/E issues the SE-560 and is accepted by the Agency.
2. The Contractor submits all final documentation to the A/E.
3. The Contractor submits the final payment application to PeopleSoft.
4. Clemson University (CU) issues final payment to the contractor.
5. For more information, please refer to the OSE Manual (Ch. 7).

Procurement Closeout Checklist

☐ University Facilities installs all necessary CU lock cores and issues master keys to maintenance and Clemson University Planning Design.
☐ University Facilities install space/building signage.
☐ The Architect/Engineer reviews all closeout documents.
☐ The Architect/Engineer reviews and approves As-Built documents.
☐ The PM/Planner gives final approval for As-Built documents.
☐ The Architect/Engineer reviews completed O&M Manuals.
☐ The Procurement Officer approves the completed O&M Manuals.
☐ The PM/Planner obtains and submits construction documents to University Facilities for record.
- Construction Correspondence
- Change Orders
- Test Reports
- Financial Records
- Surveys, etc.

☐ The PM/Planner submits records to Facilities Management Archives.
☐ The PM/Planner distributes As-Builts within CU (Commissioning Agent)
☐ The PM/Planner receives and accepts Attic Stock.
☐ The PM/Planner distributes closeout documents to the Project Team.
☐ The General Contractor confirms contact information for subcontractors, suppliers, and manufacturers and provides information to the PM/Planner/Project Coordinator.
☐ The General Contractor obtains copies of certifications:
- Appropriate certifications and acceptance information

- Certificate of Occupancy
- Record of Inspection from Fire Marshall
- Record of inspections of pressure vessels, boilers, elevators, etc.
- DHEC Health Inspections
- Inspections by other governing authorities

☐ The General Contractor obtains copies of all General Contractor-provided maintenance agreements and service contracts.
☐ The General Contractor obtains copies of all General Contractor obtained Construction Materials Testing Reports.
☐ The A/E reviews and approves the As-Installed Building Finish data.
☐ The General Contractor submits all warranty and manufactured documentation to the A/E and PM/Planner/Project Coordinator.
☐ The General Contractor conducts final cleaning of space/building.
☐ Custodial final inspection for acceptance.
☐ Utility Meter Activation

Training

1. The PM works with the contractor to coordinate and schedule training per the TOW SOP.

Occupancy

1. The PM/Planner submits the Certificate of Occupancy (SE-585) to OSE.
2. OSE approves the SE-585.
3. For more information, please refer to the OSE Manual (Ch. 7).

Warranty

1. The Contractor is obligated to correct any work deficiencies for one (1) year after the date of Substantial Completion.
2. The A/E completes a ten (10) month walkthrough inspection of the space/building. The PM tracks these activities and schedules it when needed.
3. The A/E issues a report indicating all deficiencies the Contractor must correct to OSE, the Agency, and the Contractor.
4. Failure to complete inspection within one (1) year could result in warranty voidance.
5. For more information, please refer to the OSE Manual (Ch. 7).

Project Closeout

1. PIP Projects: The Agency submits the A1 form to the Capital Budgeting Unit for approval to close out the project.
2. Non-PIP Projects: the Agency submits written notification to OSE for approval to close out the project.
3. Closing Out A-1 State Projects:
    a. PM places the project in "Ready to Rec" status after the warranty period is over.
    b. PMC reconciles the project between AiM and CUBs.
    c. PMC emails Director for Code & Procurement the project has been reconciled.
    d. Director for Code & Procurement will gather and complete A-1 documents to send out to PM, PMC and University Finance staff: Director for Capital Planning and Accounting Fiscal Manager for Plant Fund.
    e. Columbia will send back confirmation that the project has been closed with the State and OSE.
    f. PMC saves all documentation to the project and closes it.
    g. PMC e-mails to FITS to remove from website.

Closeout & Turnover Workgroup (TOW) Chapter Resources

1. PDC Project Closeout Checklist
2. New Building / Building Demolition Form
3. PDC Lessons Learned
4. TOW SOP
5. OSE Manual
6. UF Standards and Procedures
7. PDC Improvement Request

Appendix

Acronyms

ABBV	Full Term	Description
A/E	Architect / Engineer	The design professional with whom the Agency is seeking or has a contractual agreement.
ADA	Americans with Disabilities Act	The Americans with Disabilities Act (ADA) of 1990 provides comprehensive civil rights protections to individuals with disabilities in several areas, including facility spaces.
ASF	Assignable Square Footage	The sum of all areas on all floors which are assigned to, or available for assignment to, and occupant or specific use. More specifically, it is the building's gross area less its building service, circulation, mechanical, and structural areas.
BCA	Building Conditions Assessment	An assessment of current known deficiencies which is used to submit project requests and to update project scopes
BOT	Board of Trustees	The CU Board of Trustees governs the University by establishing policies that ensure academic quality and freedom, protect the University's financial security, and promote efficient and effective administration through the Board's selected president and his or her executive officers.
CCIT	Clemson Computing & Information Technology	CCIT provides a secure, reliable, and robust information technology environment that enables the University to accomplish its mission and achieve its goals.
CHE	South Carolina Commission on Higher Education	The South Carolina Commission on Higher Education was established in 1967 and serves as the coordinating board for South Carolina's 33 public institutions of higher learning. CHE acts both as an oversight entity on behalf of the General Assembly, and as an advocate for the citizens of South Carolina as they seek opportunities to improve their lives, and those of their families, through higher education.
CFO	Chief Financial Officer	Oversees and provides stewardship for all financial aspects of the University, ensuring the institution's fiscal well-being and long-term sustainability.
CM	Construction Manager	3rd-party Construction Manager
CPIP	Comprehensive Permanent Improvement Plan	The CPIP is an annual planning document required to be submitted by all agencies and higher education institutions who anticipate submitting items that qualify as a Permanent Improvement Project (PIP).
CU	Clemson University	CU, founded in 1889, is a leading public research institution in Upstate South Carolina.
CUPD	Clemson University Police Department	University Police works closely with students, faculty, and staff to create a safe living, learning, and research environment on the Clemson campuses

DB	Design-Build	Competitive sealed proposals as provided in SC Code § 11-35-1530.
DBB	Design-Bid-Build	Architect-Engineer, Construction Management, and Land Surveying Services procured using qualification-based selection procedures of SC Code § 11-35-3220. Or Construction Services procured using competitive sealed bidding as provided in SC Code § 11-35-1520.
DBFOM	Design-Build-Finance-Operate-Maintain	Competitive sealed proposals as provided in SC Code § 11-35-1530.
DBOM	Design-Build-Operate-Maintain	Competitive sealed proposals as provided in SC Code § 11-35-1530.
DOA	Department of Administration	As the central administrative agency for state government, the South Carolina Department of Administration's (Admin) mission is: Lead to identify efficiencies. Collaborate to provide services to enhance security and trust. Innovate to increase effectiveness. Founded in 2015.
EBO	Executive Budget Office	Responsible for assisting the Governor's Office in the development of the Executive Budget and oversight of the annual state budget for South Carolina. Additionally, EBO establishes and maintains the guidelines for the budget request process and helps foster performance improvement and transparency by overseeing the annual accountability report process for state agencies. EBO also has oversight of the state's permanent improvement projects.
ED	Executive Director	Executive Director
ELT	Executive Leadership Team	Link
FCI	Facilities Condition Index	Snapshot of the current state of a single facility, a group of facilities or even an entire facilities portfolio.
GC	General Contractor	A person or business entity that contracts to oversee a building project usually involving the use of subcontractors.
GIS	Geographic Information System	A geographic information system (GIS) is a computer system for capturing, storing, checking, and displaying data related to positions on Earth's surface.
IDQ	Indefinite Quantity Contract	Professional Services contract that does not procure or specify a defined quantity of services (other than a minimum or maximum quantity) and that provides for the issuance of Delivery Orders for the performance of work during the period of the contract.
JBRC	Joint Bond Review Committee	Six-member joint committee of the General Assembly that studies and monitors policies and procedures relating to the approval of permanent improvement projects and to the issuance of state general obligation and institutional bonds; to evaluate the effect of current and past policies on the bond credit rating of the State; and provide advisory assistance in the establishment of future capital management policies.
MR&R	Maintenance Repair & Renovations	A group of annually funded projects to address known deficiencies in Clemson buildings and locations

OSE	South Carolina Office of the State Engineer	The Office of State Engineer (OSE) is responsible for providing construction procurement procedures, training, approvals, and assistance on State construction projects.
PDC	Planning, Design, and Construction	Planning, Design and Construction is composed of Capital Projects, Construction & Renovation and Planning & Design.
PIP	Permanent Improvement Project	Any acquisition of land, regardless of cost; Any acquisition (as opposed to the construction) of buildings or other structures, regardless of cost; Construction of new facilities and any work on existing facilities including their renovation, repair, maintenance, alteration or demolition in those instances in which the total cost of all work involved is $100K+; Architectural and engineering and other types of planning and design work, regardless of cost, which is intended to result in a permanent improvement project. Master plans and feasibility studies are not permanent improvement projects and are therefore not to be included; Capital lease purchase of any facility acquisition or construction; and/or Equipment that either becomes a permanent fixture of a facility or does not become.
PM	Project Manager	Responsible for the planning, coordination, and management of construction projects. Their goal is to ensure that the project is completed on time, within budget, and in compliance with safety regulations and legal requirements.
SFAA	State Fiscal Accountability Authority	Provides fiscal oversight for the State of South Carolina and to meet the needs of the public sector by delivering quality, cost-effective insurance, procurement, and engineering services.
SMP	Self-Managed Projects	Self-Managed Projects are operated by approved Clemson University staff not seated within PDC. All Self-Managed Projects follow PDC's procedures and University Guidelines, including hazardous materials and asbestos management. SMP must be submitted through the project request form, tracked in the active project dashboard and monitored by the related Portfolio Team. SMP follow procurement guidelines and count toward CU contract limits. All SMPs $50K in total project require additional approval by the Chief Facilities Officer.
SPACe	Space Planning Advisory Committee	Committee aids in the activities of the UPAAC, facilitated by UPD and consists of university staff from the Office of Academic Affairs and Provost, University Facilities, University Planning & Design, and staff members from the requesting department as needed.
TOW	Turnover Workgroup	The Turnover Workgroup (TOW) is an integral part of the Closeout process working alongside the Project Team to close out the project and prepare for Owner Occupancy. Their role is determined in the Design Phase.

UPAAC	University Physical Asset. Accountability Committee	Subcommittee of the Executive Leadership Team (ELT) who is charged with capital project approvals and the approval of university space assignments.
UPD	University Planning & Design	Through thoughtful planning, design, and engineering, the UPD group guides the evolution of the campus landscape in a way that enriches student life, meets the needs of the community, and enhances the image, experience, and culture of the university.