UNIVERSITY OF CENTRAL FLORIDA

PROJECT DELIVERY

PROJECT MANAGER'S MANUAL – JUL 2021

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PROJECTS OVERVIEW

Major projects are defined by the University as projects with a construction budget greater than $2,000,000, or projects that require design fees in excess of $200,000.

Minor projects, or facilities improvement projects, are campus projects with a construction cost up to and including $2 million or professional services fees up to $200,000. Minor Projects comprise roughly 97% of the total Facilities Planning and Construction (FP&C) project volume under management, by quantity of projects.

The below graphic illustrates the number and percentage of projects by dollar category.

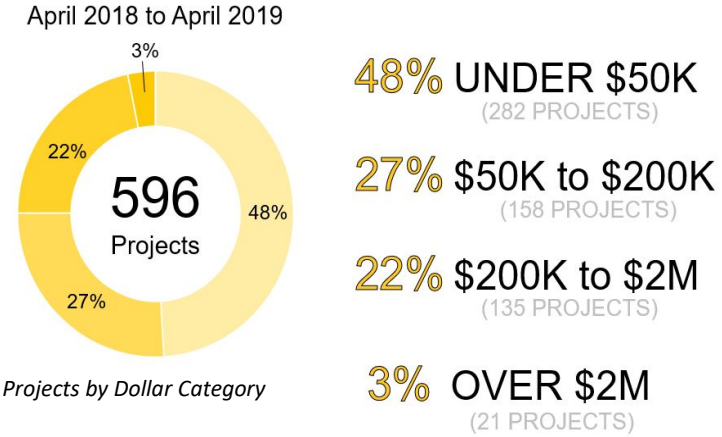

Figure 1 - Projects by Dollar Category

Projects on the UCF campus are managed by FP&C. This management ensures that projects are designed and constructed to meet UCF design and construction standards, are properly designed to building and life safety codes, are properly permitted, comply with regulatory agencies, comply with state statutes and Board of Governors (BOG) regulations, and that qualified vendors are used to ensure quality and accountability.

Projects can range from installing a new electrical outlet, to replacing an HVAC system, to building a new Downtown Campus. Projects range in size, scope, and complexity, and, while there can be similar components, no two projects are identical. Every project will have a unique scope of work and schedule.

The Overview section of this manual introduced a number of concepts. This section will provide context on how Projects are conceived and planned, designed, and executed. It will also provide more detail on recommended or required interactions with project stakeholders, partner departments, and project participants. This section will also outline the processes that the PM engages with in the course of their project management responsibilities, and elaborate on the customer service expectations required to achieve successful project outcomes.

THE PROJECT PROCESS FLOW

The below diagram illustrates the phases of a typical Project.

The Project Process Flow illustrates the big-picture phases that projects follow within FP&C. Not all elements within each phase of the Project Process Flow are required for every project - it is the responsibility of the Project Manager to determine which elements of each phase are needed for their project and to obtain approval from the Director for deviations to standard processes.

Project Phases

Figure 2 - Project Process Flow

The Project Delivery section is organized by these phases, so that a Project Manager can easily identify recommended/required tasks for each phase.

PLANNING	All activities involved in conceptualizing a project, determining goals, scope, delivery method, and arranging funding
DESIGN	Activities required to bring a project from a concept into constructible reality
BID / PERMIT	Engaging appropriate vendors with the capacity and capability to execute the design in accordance with all applicable codes
CONSTRUCTION	The execution of the work
CLOSE-OUT	The process by which all project stakeholders indicate they have received final documents, materials, and payments, and any accounts set up for the project are closed

CONTRACTS

Contracts set expectations and define obligations between the parties who enter into the contracts. PMs are expected to be familiar with contracts governing their projects, and have a good understanding of what the AE or Contractor is obligated to provide during each project phase, and hold vendors accountable for contract deliverables.

Contracts typically fall into the following categories:

- Major Project
- Continuing Service
- Purchase Orders

Major Project Contracts

Contracts are used for Major Projects, where the work is advertised, the Design Professionals and Contractors are interviewed, and the top candidates are selected.

Single-Project	Contract Description
Construction Manager at Risk (CM at Risk)	Contract where the Construction Manager (CM) is obligated to deliver a project at or under an agreed upon Guaranteed Maximum Price (GMP).
Design-Build	Owner is contracted with a single entity comprised of a Design Professional and a Contractor (Design Builder).
Design-Bid-Build (Hard Bid)	Owner is contracted separately to a Design Professional who creates the design, which is then hard bid to contractors.
Integrated Project Delivery (IPD) and Shared Savings	Owner, Design Professional, and Contractor are bound in a single contract, and share financial risks and rewards based on project outcome. *(Not currently used at UCF)*

UCF primarily uses the CM at Risk contract for Major Projects.

Continuing Service Contracts

Continuing Service contracts are used by UCF to maintain pre-qualified groups of professionals and contractors, who are obligated to perform work for the University related to Minor Projects. Continuing Service contracts typically have a term of one year with up to four (4) one-year extensions. Current Continuing Service Vendors

Construction Management	Project Coordination and subcontractor oversight
Construction Manager, up to $2M	Construction Managers bonded for projects up to $2M
General Contractor, up to $2M	General Contractors bonded for projects up to $2M
General Contractor, up to $500K	General Contractors bonded for projects up to $500K

Contractors	Build and Install per specifications delivered
Building Automation Systems	Install BAS systems per design
Building Envelope Contractor	Plan Review, installation/inspection of work
Electrical Contractor	Perform electrical work per design
Medium Voltage Electrical	Electrical contractors qualified to work with medium voltage electrical equipment
Landscape Contractor	Install landscape and irrigation systems per design
Tree Care Service	Perform pruning and other tree care per specifications
Roof Assessment Contractor	Qualified to evaluate existing roof conditions
Roofing Services Contractor	Install new or repair existing roofing material per design
Mechanical Contractor	Perform work on mechanical systems per design
Mechanical Contractor $200K	Mechanical Contractor bonded for projects up to $200K
Maintenance and Repair (Pumps) Contractor *SEM Plant Maintenance*	Specific contract for emergency maintenance and repair of pumps and motors around campus
Natural Gas	Qualified contractors to work on and install natural gas pipelines
Intramural Turf Fields	Maintenance of intramural field turf

Professional Services	Design per standards and Inspect work
Architects	Professionals qualified to design major systems
A-E UES Electrical	Design professionals with specific expertise in utilities design
Building Envelope	Design consultant with specialization in Building Envelope
Civil Engineers	Professionals able to conceive and design, infrastructure projects and systems including roads, buildings, and systems for water supply and sewage treatment.
Commissioning	Professional responsible for assuring all systems and components of a building are designed, installed, tested, operated, and maintained according to the operational requirements of the owner.
Consultant	General contract used for one-off consulting needs.
Test and Balance	Professional responsible for ensuring HVAC system(s) meet operational requirements and are operating at optimal efficiency.
Landscape Architect	Professional responsible for designing exterior landscape plan.
Mechanical, Electrical, Plumbing – Fire Protection	Professional responsible for design, plan review and inspection of MEP/FP systems.
Structural Engineers	A subset of Civil Engineering, Structural Engineers typically act as consultants to architects advising on building design.
Threshold Inspection	A certified, licensed, or registered engineer or architect whose sole focus is structural integrity.

Hybrids	Plan, Design, Procure, Install, Inspect, Maintain
Fire Alarm Systems	Entity responsible for designing, installing, and maintaining Fire Protection systems.

Purchase Order (PO)

A purchase order is a contract between UCF and the entity which has agreed to provide the good or service described in the PO. Most purchase orders are initiated for Minor Projects where work is being performed by vendors who have entered into continuing service contracts. The continuing service contract pre-qualifies the vendor for a term, and the purchase order defines the scope of work the vendor will perform on a specific project. The process for requesting purchase orders is described later in this manual, but it is important for the PM to ensure they provide a clear scope of work to the Facility and Safety Business Office (F&SBO) as it will be included in the PO when it is created.

Contract Sections

Single-Project and Continuing Service contracts generally have the following sections:

Header	
Agreement between parties	Defines specifically who the parties entering into the contract are
Recitals	Similar to existing conditions in the contract world. States facts about the context in which the parties agree to contract with each other.

Articles	
Services Provided (The Work)	Describes the services specifically provided by the contracted party
Changes in the Work	Describes how changes in the work will be handled by both parties
Personnel	May describe the amount/type of personnel provided by the contracted party, and any expectations of their behavior
Subcontractors	Describes the relationship between the contracted party and their subcontractors. May describe expectations and obligations of the subcontracted parties.
Contract Term, and Suspension or Termination	Defines the term of the contract and conditions that would cause the contract to be suspended or terminated, and the impacts of doing so
Compensation / Payments	Describes how the contracted party will be paid and what conditions need to be met for doing so.
Liquidated Damages	Defines conditions in which Liquidated Damages could be charged to the contracted party, how the damages would be calculated, and remediation opportunities.
Owner's Duties, Obligations, and Responsibilities	Defines what the Owner is responsible for during the contract.
Safety, Emergencies, and Hazardous Conditions	Defines how hazardous conditions impact the project, and how those conditions are defined.
Warranties	Specifies all warranties that apply to the project.
Project Completion	Defines what activities have to occur to bring a project to Substantial and Final Completion
Audit Rights	States the rights of the Owner to audit the contracted party.

Claims and Disputes	Describes the process by which claims and disputes will be brought forward and adjudicated
Government Regulations	Lists specific government regulations related to the contract.
Insurance, Bonds and Indemnification	Describes insurance, bonding, and indemnification requirements for the contract.
Miscellaneous	Miscellaneous items included in the contract, such as advising that "days" refer to Working Days unless specifically identified as Calendar Days.

Signature Page	

Exhibits*	
Criminal Background and E-Verify	Affidavit the contracted party signs asserting that the requirements have been met
Project Team	List of specific personnel involved in the project
Labor Rates	Labor Rates agreed to by the Contracted Parties
Overhead and Profit	Contracted Party provides their overhead cost and expected profit in this section
Proposal	Proposal prepared by the contracted party to complete the scope of work
Subcontractors	List of Subcontractors used by the contracted party

**Not all exhibits are used with every contract. The only required exhibits are Criminal Background and E-Verify*

Construction Manager Contract Responsibilities

Services and Obligations

The PM should become familiar with the Services Provided section of the contract. This section typically details obligations the contracted party is responsible for, and reports they should provide to the PM.

The example below provides an excerpt of Construction Manager obligations in the Construction Phase. The PM must ensure that these obligations are met and documented on all projects.

Service	Description
Investigation of Existing Conditions	CM needs to consider how it will perform The Work given all manner of local physical, legal, and other conditions. Failure to consider these factors is <u>not</u> a basis for a change order requesting more funds.
Existing Conditions - Utilities	CM should be careful to not disrupt utilities that run through the project site. If unusual conditions are encountered by the CM, they must be reported within **(7)** calendar days of first observance. Owner and Design Professional will investigate and determine if the conditions are materially different than what the CM would expect based on the Contract documents and feedback from Utility Providers. If yes, a Change Order can be negotiated. If no, no change order will be allowed. CM can file a claim pursuant to the Claims and Disputes article if they feel the determination is incorrect.
Required Staffing	CM to maintain minimum staffing as described in Attachment A
Construction Schedule	Contractor must submit a construction schedule with GMP, which must be accepted by the Owner. If Construction Manager does not submit or Owner does not approve, Owner can withhold payment until a suitable schedule is presented or terminate contract.

Schedule Format	Schedule must use Critical Path Method shown as activity-on-node diagram. Required information: Activity Identification, Activity Description, type of relationship between activities (including lag or lead time). Max Activity duration of **(15)** business days.	
Schedule Float	When an activity "Can Start" vs it "Must Start". CM must coordinate with owner on when to use this commodity. Owner can make use of schedule float as well.	
Schedule Update Requirements	Contractor required to update Construction Schedule at the end of each calendar month, or at such earlier intervals as circumstances may require. Schedule must be updated to show actual current progress. • Dates of activities' actual starts and completions. • Percent of Work remaining for activities started but not completed as of the update date. • Narrative report including a listing of monthly progress, the activities that define the critical path and any changes to the path of critical activities from the previous update, sources of delay, any potential problems, requested logic changes, and Work planned for the next month. • A bar chart comparison of the updated schedule to the initial schedule. This diagram shall show actual and planned performance dates for all completed activities. • All update information shall be an accurate representation of the actual Work progress.	

General Knowledge Documents

Many projects are delivered with very little reference to contracts or contractual obligations, however, as a representative of UCF and the Client, the PM should arm themselves with contract knowledge to ensure maximum value is being received from the contracted party, and if a dispute does arise, to have the information and awareness to navigate the situation properly.

Type	Name	PM Responsibility
Procedure	Project Management Performance Standard F&S 2013 FP&C0017	PM review, understand, and follow procedure
Procedure	Facilities Planning and Construction Financial Procedures F&S 2016 FP&C0021	PM review, understand, and follow procedure
Procedure	Limitations on Authority in regard to Project Management Direction F&SP 2012 FP&C0004	PM review, understand, and follow procedure

Contract Template	Agreement Between Owner and Professional	PM review and understand contract
Contract Template	Agreement for Construction Management Services	PM review and understand contract
Contract Template	Agreement for General Contractor Continuing Services	PM review and understand contract
Regulation	Florida Board of Governors Regulations	PM review and understand regulations
Procedure	eBuilder Governance F&S 2019 FP&C 0023	PM review, understand and follow procedure
Information	Campus Master Plan	PM review and utilize information as needed

PLANNING PHASE

Project Managers play a critical role in the success of University projects. Thorough planning sets the foundation for the rest of the project and reduces the frequency and criticality of many issues. The primary steps encompassed in the Planning Phase of Minor Projects are:

- Project Request
  - Project Evaluation
  - Project Assignment
- Project Charter
  - Project Charter Development
    - Project Goals
    - Project Delivery Method
    - Project Budget
    - Project Schedule
  - Project Charter Approval
- Client Approval and Funding
  - Minor Project Proposal Creation
  - Minor Project Proposal Approval
  - Project Funding Delivery
- Design Commitments
  - Purchase Orders generated for design professional if needed

Project Request

More detailed information on Project Requests can be found in the following documents:

Project Request Narrative

01 – Project Request Process (PRP) Workflow

Project planning starts with the evaluation of project requests, submitted by various stakeholders throughout the University community. All project requests go through the e-Builder 01 – Project Request Process (01-PRP).

There are four specific client entities affiliated with every Project Request:

e-Builder Role	Role Description
Project Requestor	Client user who creates the Minor Project Request
Campus Client	Client user assigned as the Point of Contact for the project
Budget Authority	Client user authorized to approve funding for the project
Client Stakeholder	Client user authorized to approve the project

It is common for a single person to be assigned to more than one role.

Project Evaluation

Minor Project Requests are evaluated for completeness, initial funding availability, changes to room numbering or use categorization, and environmental and safety concerns.

Should the Minor Project Request pass its initial reviews, the FP&C Director evaluates the project request and collaborates with

Facilities Operations (FO) to determine if the request should be closed and handled as an AiM Work Order, or continue on as an eBuilder Project Request to be assigned to an FP&C Project Manager.

Project Assignment
The FP&C Director approves the Minor Project Request, which then moves the project forward to the Manager, Facilities Planning.

The Manager, Facilities Planning assigns the PM who will be responsible for the project outcome and approves the Project Request, which sends the request to the Construction Project Assistant (CPA). Projects are assigned based on the capacity of the PM, their level of expertise in a particular domain, and the relative priority level of the project.

The CPA generates a project number, creates a project in eBuilder, and assigns the eBuilder project to the PM designated by the Manager, Facilities Planning.

AIM / e-Builder Integration
An initial work order is created at the time the project is created. The first phase of the work order acts as a place holder where information / documents from the project can be shared with the FO Asset Management team. Each time a project requires assistance from FO, UES or LNR, the PM, or contractor with the approval of the PM, must request this support by accessing e-Builder and initiating the 13 – F&S Support Request (F&SR) process, which will alert the Work Control Center team to add another phase to the work order and assign it to the appropriate department (shop). Related work will be documented in the new work order phase, and will be billed against the project.

Project Request Narrative and Project Request Workflow
While a PM may be aware of project requests, the PM's active involvement begins when the project is assigned to the PM in eBuilder.

Once a project has been approved and assigned to the PM in eBuilder, the PM sees the project show up in their court. The PM acknowledges the project, which allows them to input information, initiate processes, add comments, and take other actions on the project. Upon acknowledgement of the project, the PM moves on to the next project step – developing the Project Charter.

Project Charter

More detailed information on Project Charters can be found in the following documents:

Project Charter Narrative

02 – Project Charter Process (PCP) Workflow

Project Charter Development

The Project Charter requires the PM to be very engaged with the campus client and partner departments, and to use their prior experience and professional network to develop thorough and accurate cost estimates and schedule for decision making purposes. The Project Charter is a document that present's the PM's understanding of the project scope and their plan to deliver the project. The Project Charter includes the project goals, a plan for how the PM intends to deliver the project, estimated cost and funding source(s), and the estimated project schedule.

Once the PM acknowledges the project they should take the below steps in the development of the Project Charter:

- Review the Project Details in e-Builder
- Speak with the campus client and schedule site visit for an in-person discussion
- Ensure there is agreement on the desired project goals, and determine if the project will need to include a design professional
- Determine how the campus client intends to fund the project
- Prepare a Project Budget Estimate and gain approval from the assistant director (AD)
- Prepare Project Schedule Estimate
- Recommend Delivery Method
- Discuss written Project Goals, Budget Estimate, Schedule Estimate, and Delivery Method with Campus Client and ensure they want to move forward.

Next, the Project Manager will initiate the Project Charter process in eBuilder and route it for FP&C leadership approval – refer to the Project Charter Narrative, which contains a guide for creating a Project Charter in e-Builder.

This document is developed by the PM after meeting with project requestor, walking the site, and developing an understanding of the project goals and client resources available to achieve them. Depending on the project, it may be helpful to the client if the PM takes them to a location on campus, which is similar to what the client is trying to accomplish. This will help the client visualize what their project could turn into which informs the development of the Project Charter.

The PM must also confirm that the Campus Client agrees with all aspects of the Project Charter (especially the estimated cost and schedule), prior to submitting for FP&C leadership review.

The Project Charter information is reviewed by FP&C leadership to ensure that the estimated cost and schedule values are in line with the goals of the project, and that leadership agrees with the

delivery method and continuing services vendors recommended by the PM.

Having an approved Project Charter is a pre-requisite for subsequent financial processes, which will not be approved by the Facilities and Safety Business Office (F&SBO) until the Project Charter is approved.

Project Charter Elements

Element	Description
Project Goals and Scope	Project scope is the part of project planning that involves determining and documenting a list of specific goals, deliverables, tasks, costs and deadlines.
Project Delivery Method	Method by which the Project Scope will be completed. Options for project delivery include: • **Delivery** o Rotation o Justification o E-Builder Quotes • **Continuing Services Vendors** o Design Professionals ▪ Architects ▪ Engineers ▪ Landscape Architect ▪ Building Envelope Professional ▪ Commissioning Agents ▪ Threshold Inspection Professional o General Contractors ▪ General Contractors ($0 - $500K) ▪ General Contractors ($0 – $2M) ▪ Job Order Contractors ($0 - $500K) o Construction Managers ($0 - $2M) o Trade Contractors ▪ Electrical Contractors ▪ Mechanical Contractors ▪ Plumbing Contractors ▪ Building Envelope Contractor ▪ Landscape Contractor ▪ Roofing Contractor ▪ Tree Care Contractors ▪ Security Contractors o Consultants

Project Budget	Project Budget based on Project Goals, PM Administration and any Project Contingency.
Project Schedule	Initial, high-level schedule based on Project Scope and Delivery Method selected. The project schedule is developed with input from relevant project stakeholders.

Project Goals and Scope

The PM works with the client, who may not be technically inclined or well versed in construction or design, to understand the goals of the project. The PM should be able to translate client goals into basic solution concepts, which can help the client visualize project outcomes. Once the PM and the client have agreed on what goals are realistically able to be achieved based on funding availability, the PM uses this information to inform the development of the Project Delivery Method, Budget, and Schedule.

Project Delivery Method

The PM will develop a plan which incorporates professionals, contractors, and internal departments, who have the skillsets required to deliver the scope of the project.

As Minor Projects are capped at $4 Million construction cost, most typically use General Contractors or Job Order Contractors as a core partner in the project team. Larger Minor Projects ($500K - $4 Million) may use a Construction Manager, if significant project oversight and coordination between many subcontractors is required.

A description of University Departmental Resources is provided in the PM Manual Overview section. Continuing Service Vendors are described in more detail below. Projects may not be delivered in pieces, creating out-of-sequence design and construction. Projects must be fully funded and designed with complete scope to avoid unnecessary schedule and financial risk.

*More detailed information on Project Budget creation can be found in the **Project Charter Budget Narrative**.*

Project Budget

The PM develops the Project Charter Budget based on their previous experience, any archived costs available to them, and may gain input from a continuing service Design Professional. PMs should also be familiar with how to calculate Professional Service Fees, the DMS Fee Curve, and what is a Basic or Additional service as this impacts the budget.

The PM selects a budget template in e-Builder Cost module, which includes budget lines for all divisions of construction and other common budget items, and customizes the information to match their project scope.

The PM should endeavor to understand the budget the client has to work with, and the source(s) of funding for the project.

*More detailed information on Project Schedule creation can be found in the **Project Charter Schedule Narrative**.*

Project Schedule

As part of the Project Charter, the PM must develop a Project Schedule. The Project Schedule is a high-level schedule, which incorporates University scheduling requirements and displays significant project milestones.

- Does the Project require Design?
  - How long will design take based on scope complexity?
- Will the project require significant permitting and/or the involvement of the State Fire Marshall?
- Are there University schedule considerations or deadlines?
  - Spring Break
  - Winter Break
  - Summer Break
  - Start of classes
- Are there College/Departmental scheduling considerations?
- Will occupants be required to relocate permanently or temporarily move out of the space?
  - PM will need to establish contact with the assigned Move Coordinator. The Resource Management department has established a Moving Guide, which the PM can provide to their client if the client is unfamiliar with the process.
- How complex is the Project Scope?

Using these factors and their general experience, the PM creates the Project Schedule in e-Builder, which FP&C Leadership reviews during the Project Charter Approval process.

Project Charter Approval

The FP&C Manager, Facility Planning is required to review and approve all Project Charters. Project Charters where either of the two below conditions are met also require FP&C Director approval:

- The project priority level is designated as High Priority
- The estimated project cost is greater than $35,000.00

Once approval is obtained, the Project Charter Process closes and the PM works with the client to obtain project approval and funding.

At this step, the Project Manager requests formal approval from the client to proceed with the Design work on the project. To do

this, the PM initiates the 05-Minor Project Proposal process in e-Builder, attaching the below documentation, and routes it to the client:

- Minor Project Proposal Cost Breakdown *(Required)*
- Minor Project Design Scope of Services *(Required)*
- Design Professional Proposal *(Optional)*
- Additional Information *(Optional)*

Minor Project Proposal (MPP) Creation and Approval

More detailed information on Minor Project Proposals can be found in the below documents:

Minor Project Proposal Narrative

05 – Minor Project Proposal (MPP) Workflow

Minor Project Proposal - Design (MPP) Creation

The PM requests and receives a design proposal from the selected design professional.

Based on the design professional's proposal, the project cost estimates from the Project Charter, and the internal costs from the table below, the PM creates a Minor Project Proposal for the design portion of the project and routes it to the client for approval. The MPP provides the client with a breakdown of the cost of the Design Phase of the project and an expected timeline for completion.

F&S Design Review Fees

Facilities and Safety staff can charge their time to projects. As such, the table below has been developed for the PM to include the proper amount of fees into their Minor Project Proposals.

DESIGN REVIEW F&S FEE CHART*	
Project Type	**Fee**
Projects with no new assets (carpet replacements, outlets, etc.)	$0
Small minor projects (single room renovations, etc.)	$500
Medium minor projects (multi room renovations, etc.)	$1,000
Large minor projects (new construction/expansions, HVAC replacements, etc.)	$2,000
Major projects	$5,000

**Design review fees include cost of F&S staff to review drawings during design and provide proposals to FP&C for construction related billable activities (commissioning support, outages, training, etc.)*

Please see the Minor Project Proposal Narrative for detailed information on this process.

Project Management Services (PMS) Fees

FP&C Project Management Services Fees are 3% of the anticipated total project cost. The PM must ensure the client understands this charge, and that 50% of the anticipated total project management fee will be included in the design phase Minor Project Proposal.

Minor Project Proposal Approval
The client reviews the proposal and can approve or reject it through the e-Builder process "05 - Minor Project Proposal". It is mandatory for the PM to alert the client that an MPP is imminent and discuss the proposal with the client if there is a significant variance in the prior estimated design cost or schedule vs the design proposal cost or schedule.

Project Funding
Once the MPP has been approved, F&SBO transfers funds from the designated client account into the FP&C project account. The PM can now proceed with creating commitments in e-Builder to apportion the project funds as needed. The first commitment for a project which requires design is typically for the design professional.

Design Commitments

More detailed information on Commitments can be found in the below documents:

Commitment Approval Narrative

05 – Commitment Approval (CA) Workflow.

Project Funding Apportioning (Design Commitments)
Once a project has been funded, and at the appropriate time, the PM will need to create Commitments for each vendor the University pays directly. A Commitment alerts the Facilities and Safety Business Office (FBSO) that the PM wants to allocate a portion of the project funding to a specific vendor for a particular service. Commitments at this phase are created for design professionals (or contractors if no design is required, i.e. ***Carpet Replacements***). Refer to the Commitment Approval Narrative for a guide on creating commitments.

F&SBO will review the information provided by the PM to ensure it follows UCF policies, then will create a requisition, which will be reviewed and turned into a PO by UCF Procurement Services.

The PO, which serves both as a contract between UCF and the design professional, as well as a Notice to Proceed, will be delivered to the design professional by UCF Procurement. The PM should also receive a notification; however, the PM should follow up with the design professional to confirm receipt.

Updating Budgets

Budgets must be updated in eBuilder throughout the life cycle of the project to account for changes. Every time funds are moved between budget lines the budget needs to be updated. These updates must be performed for the lines that are not tied to commitments, as well as those which are. This is usually an issue for internal project costs such as charges from FO, UCF IT, UES, OIR, and PMS Fees.

In the case where the project contingency has been used up, a new MPP will need to be created, requesting funds from the client. F&SBO is not involved in approving budget changes, and there have been instances when a budget change has been made, which increases project costs over the actual dollars held in the project account. When this happens, F&SBO lets the PM know to request additional funds from the client.

The best way for the PM to manage their project budget is to update it when there are changes. For example, the budget should be updated when a PM approves an FO charge that is higher than the budgeted amount, or when PMS fees are altered…

At no time can funds be shifted between related projects to avoid established funding thresholds. The Project Manager must discuss with the Manager and Director of FP&C any projects that approach established funding thresholds, as this may trigger additional funding approvals or scope reductions.

The following table lists the Narratives, Processes, Forms, Procedures, and Policies a PM may use during the Planning Phase:

Type	Name	PM Responsibility
Narrative	Project Request Narrative	PM review and understand narrative
e-Builder ENTERPRISE	Project Request Process (01-PRP)	PM review, understand, and acknowledge the project within 3 days of assignment
Narrative	Project Charter Narrative	PM review and understand narrative
Narrative	Project Charter – Budget	PM review and understand narrative
Narrative	Project Charter - Schedule	PM review and understand narrative
e-Builder ENTERPRISE	Project Charter Process (02-PCP)	PM review, understand, and execute process as needed
Narrative	Minor Project Proposal Narrative	PM review and understand narrative

Form	Minor Project Proposal Cost Breakdown	PM review, understand, and use form as needed
Form	Minor Project Design Scope of Services	PM review, understand, and use form as needed
e-Builder ENTERPRISE	Minor Project Proposal (05-MPP)	PM review, understand, and execute process for design professionals as needed
Narrative	Commitment Approval Narrative	PM review and understand
e-Builder ENTERPRISE	Commitment Approval (05-CA)	PM review, understand, and execute process for design professionals as needed
Guide	Moving Guide	PM review, understand, and provide guide to client as appropriate
Request Form	UIMP/Carry Forward Funding Request Form	PM review, understand, and use form as needed
Policy	Management of Construction Funding – PECO, Courtelis, Bond and Donations	PM review, understand, and follow policy

DESIGN PHASE

Project Manager Responsibilities

All projects engaging A/E services require design deliverables, which vary depending on project size, complexity, and schedule requirements. The Project Manager, with input from FP&C leadership (upon request), can use their best judgment to propose what deliverables are applicable to a specific project. For example, the PM may recommend to waive the Schematic Design and 50% Design Development deliverables if this is necessary to meet tight schedule deadlines and won't have a detrimental effect on the quality of the project.

For Minor Projects, without the need for professional services, the Design Phase is typically less intensive, and may be minimal if an Architect or Engineer (A/E) is not required for the project.

The PM will provide or facilitate programmatic guidance, design review assistance, and general oversight, coordination, and management of the project.

The PM is the primary point of contact for design and commissioning (CxA) Professionals, and serves as the Owner's representative and customer liaison, providing leadership and guidance on all aspects of the project. All project-related communications and actions shall be routed through the PM, including deviation requests, impacts to the budget or schedule, and dealings with internal and external agencies.

e-Builder Drawing and Design Plan Review

More detailed information on Plan Review can be found in the below documents:

Drawing and Design Plan Review Narrative

04–Drawing and Design Plan Review (DDPR) Workflow.

The primary tool the PM, Design Professionals, and Project Stakeholders will use throughout this process to review submittals and drawings is the e-Builder Drawing and Design Plan Review process. The PM should ensure all participants understand how to use this tool, their roles in the design process, what is required of them, and execution timeframes they need to achieve in order for the project to stay on schedule.

The Design Professional shall provide a construction cost estimate at the end of each design phase as part of basic services. Detailed construction cost estimates developed in conjunction with the Construction Manager shall be presented in CSI format and given in recognizable units for estimating purposes (e.g., square feet, cubic yards, tons, etc.). Should the estimate exceed the available budget, the PM must ensure the client is informed and have an open discussion aimed at bringing the scope and budget into alignment. Some clients may want to find additional funding, while others will opt to reduce scope. If scope reduction is desired, the Design Professional shall revise the design as required to match the construction budget.

Design Phases

Typical phases of design, and their respective scope of work, follow for reference. For a full description of the requirements of each phase, see the applicable contracts for each project Contractual deliverables for Major and Minor Projects include:

Kick-off Meeting
When a Minor Project moves into the Design Phase, it is important for the PM to facilitate a Kickoff Meeting to ensure all parties are on the same page. FP&C has developed an agenda template the PM should use as a guide for this meeting. Agenda topics include:

- Introduce Attendees and Route Sign-In Sheet
- Brief Project Scope Overview
- Schedules Requirements
    - Design Schedules and Milestones
    - Discuss project issues / concerns that will affect design schedule.
- General Design Issues for Concern
- General Coordination with University
- Important Dates
- UCF Departments & Contacts

Following this agenda will ensure that all parties understand what the project is trying to accomplish, when significant project deliverables are due, what primary challenges the project needs to overcome, and how/who to contact at the University.

The PM must update the agenda template to reflect specific information relevant to their project, and ensures that the UCF Departments & Contacts section contains current, valid information.

Pre-Design Conference
The PM will schedule a Pre-Design Conference, which will be led by the PM and attended by the Design Professional, the campus client, and other UCF stakeholders involved in construction or renovation projects. The agenda may include the following topics depending on the project scope:

- Project schedule, key dates, and milestones
- Communications and document management
- Reporting requirements, including space tracking during design
- Estimating, value engineering, and budget reconciliation
- Timing and content of design deliverables and reviews
- BIM execution, approach, and roles and responsibilities
- UCF Design & Construction Standards
- UCF Policies, forms, and standards
- How this project fits into the Educational Plant Survey
- Art in State Buildings program
- UCF workshop and presentation requirements, UCF stakeholders and their involvement in the process

- Permitting and code compliance requirements
- Inspection requirements
- Commissioning scope, responsibilities, and coordination
- EHS, SFM, and ADA requirements
- Sustainability, energy efficiency, and LEED certification
- Construction issues to be addressed during design
- Coordination with and impact on adjacent buildings, projects, and/or ongoing activities
- Project Close-out procedures and documents
- Invoicing procedures

Communication Requirements
All project correspondence from project vendors must be directed to the PM or FP&C department leadership. No direct communication between project vendors and campus clients is permitted without written approval from the PM.

The PM shall meet with the design team and critical stakeholders to review and confirm project objectives, and:

- Receive, review, discuss, and comment on project goals
    - Review the program and Owners Project Requirements (see next section)
    - Develop a clear understanding of the needs of the facility, its occupants, and their academic missions
    - Verify that all spaces essential to the function, operation, and support of the facility are accounted for and properly sized
    - Identify the relationship between spaces, including the general characteristics, finishes, and furnishings of each space
- Discuss primary building systems (MEP/FP, Telecom, AV, security)
- Discuss sustainability and LEED goals
- Review O&M considerations and goals
- Finalize detailed design schedule, including key milestones and meetings
- Review the construction budget and estimating requirements
- Advise Owner of tests and inspections that may be required

- Review alternative approaches to project design and construction

Owner's Project Requirements

The Owner's Project Requirements (OPR) is an official document (or set of documents) that UCF provides to a Design Professional to define project goals and requirements. The OPR document(s) are informed by the following planning documents:

- Campus Master Plan
- Building Program
- Capital Improvements Plan

The OPR document is required for Leadership in Energy and Environmental Design (LEED) certification, but also serves the following purposes:

- Provides the design team with information necessary to develop the Basis of Design (BOD), which serves as a road map for development of the project's drawings and specifications
- Provides the CxA with tangible benchmarks to measure the project in both design and construction, to ensure that the project's development aligns with the university's expectations, goals, and requirements
- Outlines the requirements for operations, maintenance, and systems manuals which are necessary for proper long-term use of the facility

The OPR is primarily directed at describing the requirements of a building's Mechanical/Electrical/Plumbing (MEP) and Fire Protection (FP) systems. However, UCF is moving toward Total Building Commissioning. It is at UCF's discretion to have the OPR document developed by a third party CxA (with our input and on our behalf), or to develop this document internally. The Utilities and Energy Services (UES) department typically takes the lead on the development of this document, as the majority of the document is related to MEP/FP system requirements. The building systems OPR may include:

- Project Objectives, University Directives
- Applicable Codes and Standards
- Project Schedule and Budget
- Commissioning Process Scope
- Design Document Requirements
- User Requirements
- Occupancy Requirements and Schedules

- Training Requirements for University Personnel
- Benchmarking Requirements (Measurement and Verification)
- Operation and Maintenance Criteria
- Equipment and System Maintainability Expectations
- Quality Requirements of Materials and Construction
- Allowable Tolerance ina Facility System Operations
- Energy Efficiency and Environmental Sustainability Goals
- Adaptability for Future Facility Changes and Expansion
- Systems Integration Requirements
- Health, Hygiene, and Indoor Environment Requirements
- Acoustical Requirements
- Seismic or Vibration Requirements
- Accessibility Requirements
- Security Requirements
- Aesthetics Requirements
- Communication Requirements
- Building Envelope Requirements
- Audio Visual Requirements
- Telecommunications Requirements
- HVAC Requirements
- Building Automation Systems (BAS) Requirements
- Lighting Requirements
- Power Requirements
- Fire Alarm Requirements
- Plumbing Requirements
- Fire Protection Requirements
- Preferred Vendors and Manufacturers
- Close-out Process, Warranty Requirements

Per university Policy 3-111.1, Energy Sustainability, UES will serve as the UCF point of contact and liaison for all utilities and energy conservation measures, including both building and building systems commissioning. Upon the start of any capital project (new construction or significant renovation) project, the PM should discuss the building systems OPR with FP&C and UES leadership to determine if it is needed, and if so, whom within UES will create and manage the document. The PM must participate in the

document's development, familiarize him or herself with the final document, and ensure that all design documents conform to OPR requirements.

Basis Of Design (BOD)
The Basis of Design (BOD) is a living document, created by the design team, and updated at all deliverable phases, which describes the specific methods that will be used to achieve the Owner's Project Requirements. The BOD typically applies to capital projects. The BOD presents the basic rationale, assumptions, criteria, logic, systems, equipment, and strategies that will be documented and implemented in the subsequent design documents. The BOD's content and format typically follows that of the OPR, as it must address all OPR requirements. All deviations to OPR requirements must be submitted and approved in writing using the deviation process.

Status Report
The Agreement between the Owner and the Design Professional requires that the latter prepare status reports throughout design and construction. The construction status report may be used to document and report the Design Professional's weekly site visits. These reports shall cover all work through the end of the previous month, with special emphasis on items that are of critical importance, to the extent that they may cause future delays or problems. Information provided shall be in sufficient detail to give a thorough overview of the project. The Design Professional shall submit all such reports to the PM in electronic form (searchable PDF), with copies of construction phase reports to the Contractor.

Conceptual Schematic Design (CSD)
The CSD shall convey the Design Professional's understanding of the confirmed program and OPR with both narratives and illustrations. Typically, computer-generated exterior and interior 3D perspectives and mass models are used to fully present the concept(s).

The CSD shall illustrate and/or describe fundamental design parameters, such as:

- Functional organization
- Building footprint
- Site development
- Massing, scale, and context of the building
- Basic exterior and interior finish materials
- Major building systems

For capital projects, interactive design workshops (charettes) must be employed to allow the user group and other university stakeholders to participate in the design process. At the conclusion of the CSD charrettes, the Design Professional shall give a

presentation, explaining the influences that led to the proposed design. Upon consideration by those in attendance, and if a consensus can be reached, a concept will be selected for further development in the Advanced Schematic Design (ASD) phase. If a consensus is not reached, multiple solutions may be further developed in ASD.

Specific CSD deliverables may include:

- Alternative design solutions to satisfy the OPR, program, and budget
    - Sketches, renderings, and/or study models
    - Diagrammatic plans, sections, elevations
    - Preliminary narratives of building systems
- Draft BOD
- Project cost estimate

Advanced Schematic Design (ASD)
The ASD submittal shall fully convey the design intent by explaining and/or illustrating the following fundamental concepts and systems:

- Site development, circulation, and contextual relationships with neighboring facilities
- Site infrastructure – particularly the routes, sizes, and impacts of distributed utilities
- Building exterior massing, scale, materials, appearance, and contextual relationship
- Building egress, ingress, and Life Safety provisions
- Functional organization of the interior spaces
- Interior finishes
- Building systems, including building envelope, structural, mechanical, plumbing & fire protection, telecommunications, audio/visual, security, and conveying systems

ASD usually represents the final opportunity to significantly alter the program, floor plan(s), major building systems, footprint, and orientation of the building without impacting cost and/or schedule. The PM must clearly communicate this to the client and other University stakeholders, so that their input can be received and accounted for in the final design without unnecessary impacts to overall project design.

Specific ASD deliverables may include:

- Final design solution to satisfy the OPR, program, and budget

  - Sketches, renderings, and/or study models
  - Hard lined plans, sections, elevations
  - Detailed narratives of building systems
- Energy model
- Life-cycle cost analysis
- Updated BOD
- Project cost estimate

Design Development (DD) (50%, 100%)
DD will provide the basis for the detailed Construction Documents, and must capture all significant design decisions. At the completion of this phase, all major design, technical, logistic, procurement, and cost challenges should be resolved to eliminate carryover of research or exploration of alternatives to the next phase. The design professional shall present adequate documentation to fully explain the decisions and solutions that have been reached.

Immediately following DD the PM will send the floor plans to Space Admin and request final room number assignments. Should any subsequent modifications be made to the floor plans, the PM must resubmit the drawings to Space Admin for possible room renumbering. These room numbers must also be reviewed by the FP&C Planning department to ensure they have been assigned in a logical manner.

Specific DD deliverables may include:

- Preparing documents that illustrate all unique project conditions and fully document all typical construction details
  - Updated sketches, renderings, and/or study models
  - Hard lined plans, sections, elevations which include wall types, construction materials, and detail references
  - Life Safety plans, code summary
  - Typical construction details
  - Preliminary specifications
  - Preliminary equipment layouts
  - Cut sheets for lighting, plumbing, hardware, HVAC equipment, architectural specialties, special equipment, and other key elements
  - Consultant drawings and specifications, as required:
    - Mechanical
    - Electrical

        - Plumbing
        - Fire Protection
        - Civil
        - Structural
        - Interiors
        - Specialty Consultants
    - Preliminary door and door hardware schedules
- Energy model, life-cycle cost analysis
- LEED scorecard presented, demonstrating the UCF prescriptive requirements for high-performing buildings have been achieved
- Updated BOD
- Project cost estimate

Construction Documents (CD), 50%
The CD submittal shall include sufficient detail to bid the facility, including complete draft specifications, dimensioned architectural floor plans, reflected ceiling plans, finishes schedule, door/window schedules, refined mechanical/electrical/plumbing and fire protection equipment schedules, scaled layouts of major equipment in mechanical, electrical, plumbing, fire protection, and telecommunication rooms.

If the 50% CD deliverable is used as the basis for bidding or a GMP proposal, certain key systems or trades should be further developed to minimize the risk of changes and additional construction costs.

Construction Documents (CD), 100%
This CD submittal is typically used as the basis for bids and/or a GMP proposal. As such, plans and specifications must be finalized, fully detailed, and coordinated with each other. This deliverable must usually be signed and sealed by the Design Professional for review by the State Fire Marshall.

The Design Professional shall recommend and specify additive alternates as needed to ensure a complete and usable facility within the budget. Alternates will be awarded as funds allow, but the base bid must be structured so that the facility will function as intended if the alternates cannot be funded and awarded.

Engineering documents for the following systems shall include, where applicable, all data, information, drawings, details, specifications, descriptions, requirements, and other items required to fully engineer and depict the following building systems:

- Structures

- Fire protection
- Fire alarm and detection
- Electrical (including lighting, lightning protection, communications, and grounding systems)
- Mechanical (including instrumentation and control systems)
- Plumbing

Specific CD deliverables may include:

- Documents that fully illustrate the complete scope of the project to allow it to be fully bid and constructed, including all deliverables listed in the Design Development section, fully developed, as well as the engineering systems listed above
- Energy model, life-cycle cost analysis
- Final project specifications
- Updated BOD
- Utility demands provided to UES
- Utility capacity subscriptions applied for based off 100%CD utility demands
- Utility capacity (System Development charges) have been paid for by the project
- Direct Owner Purchase items identified
- Project cost estimate

Early Release Packages
For certain CM projects, early release Scopes of Work may be bid, procured, and executed in advance of the remainder of the work. Common examples include site work, site utilities, demolition, and building foundations. In such cases, the Design Professional shall develop a stand-alone, biddable set of plans and specifications (including non-technical specifications) for the targeted early release Scope of Work. Depending on the scopes of work included, review by the State Fire Marshal and permitting by UCF BCO (or other AHJ) may or may not be required.

Early release packages should be contemplated and planned during negotiation of the Contract.

Conformed Documents
A final conformed set of bid documents shall be provided to incorporate 100% CD review comments, the UCF Building Department, State Fire Marshall (if applicable) comments from permitting, builder comments from bidding, and other Owner-approved adjustments to the plans & specifications. The Conformed Bid Documents may need to be signed & sealed for

Authorities Having Jurisdiction (such as the UCF Building Department).

For capital Projects, the PM must facilitate in-person workshops at major deliverable milestones to ensure stakeholder coordination. Campus clients have variable knowledge of project design. The PM must prepare the client to provide the appropriate amount of information at design workshops by asking questions of the client that encourage definition of project scope.

Design Workshops

Design workshops are critical to ensure proper stakeholder participation, and allow the Project Team to identify and address concerns as early as possible.

A Design Workshop is typically a half or full day, in-person meeting of the AE, PM, and relevant project stakeholders. For certain Minor Projects, the PM may be required to follow the Major and Minor Design Workshop Procedure. For these projects the PM is required to schedule Design Workshops at the below applicable project milestones:

- Conceptual and Advanced Schematics
- 50% Design Development
- 100% Design Development
- 50% Construction Documents
- 100% Construction Documents

For some Minor Projects, not all of the above milestones will apply.

Prior to each scheduled design workshop, the A/E must provide the following to the PM:

- Drawings and specifications/narratives
- BOD
- Preliminary cost estimate
- Critical Needs Checklist

Hard copies of the above must be provided per the contract or Scope of Services agreements. The PM will distribute these documents to all project stakeholders for review and comment.

Regardless of project size, the PM is always empowered to call for a Design Workshop at their discretion if they feel it is needed to resolve a design issue and move the project forward.

The PM must ensure the following when setting up a Design Workshop:

- Workshop Notification and Agenda document is delivered to all required participants in a manner that gives the participants enough time to review the information and prepare for the Workshop (minimum of 2 weeks)

- Review at each design milestone should follow the process described in the UCF Professional Services Guide (Article 4 – Design and Construction Documents) pages 23 – 43.
- To move to the next design phase/milestone a Design Phase Submission Report signed by the AE, and a completed Critical Needs Checklist is required.

Concurrency Review

If your project requires a civil engineer and a SJRWMD permit, you must submit a UCF concurrency application as early as possible during design to Utilities and Energy Services. For ease of reference, the application is located at https://energy.ucf.edu/application-for-concurrency-review/.

Other useful & related links:
Master Utility Level Disclosure [UES INFO UTL 002]
University Controlled Utilities and Interconnection [UCF Policy 3-303.1]
Utility Interconnection Standards: Please refer to Division 33, starting on page 183.

Design Phase Completion

The PM may approve the completion of design phases, once the below criteria have been met:

1. The proper design deliverables have been provided, in accordance with the Contract, Scope of Services, and the UCF Professional Services guide
2. The PM has reviewed the UCF Standards Critical Needs Checklist for completeness and accuracy
3. The PM has checked the Design Comment Log with responses from the vendor, and all responses have been accepted and closed by the initiating party
4. All deviations have been submitted and accepted/rejected by the completion of the Design Development phase
5. The PM has confirmed with the Contractor (if applicable) that the project is on budget

The PM must confirm phase approval in an email to the Design Professional, which will allow the designer to bill for the completion of the design phase.

Commitments, Requisitions and Purchase Orders

More detailed information on Commitments can be found in the following documents:

Commitment Approval Narrative

05 – Commitment Approval (CA) Workflow

The Purchase Order (PO) serves as the notice to proceed for a design or construction vendor. The PM must coordinate with UCF Procurement and ensure that a vendor receives a PO prior to starting work. **A PM cannot authorize the start of work without a PO, as it will result in an unauthorized procurement action, which can result in department fines and disciplinary action for the responsible party.**

There is a chain of events the PM must be familiar with, which lead to the creation of a PO. The below figure outlines the general process:

Purchase Orders and Requisitions control the application of funds. In order for funds to be available for a project, an approved Minor Project Proposal must be completed. This process results in the transfer of funds from the Client account to the FP&C Project Account.

The PM is then able to create a Commitment in e-Builder, which notifies F&SBO that the PM would like to use all or part of the available funds in the FP&C Project Account for work to be performed by the project Contractor.

The F&SBO Accountant assigned to the PM receives the Commitment in e-Builder, then creates a Requisition in PeopleSoft and sends it to UCF Procurement for processing. A **Requisition** is an internal request from F&SBO to UCF Procurement listing the services/items FP&C wants UCF Procurement to order from an outside vendor. If the PM is unsure which F&SBO Accountant is assigned to them, they can contact the F&SBO Accounting Supervisor.

UCF Procurement reviews and processes the Requisition, creates a PO in PeopleSoft, and provides the PO Number to the Contractor and the F&SBO Accountant, with a copy to the PM if requested. A **Purchase Order** is a legally binding document between UCF and the Contractor, which details the items/services the Contractor will provide and the price UCF will pay for each item/service listed.

The F&SBO Accountant enters the PO Number into e-Builder, uploads the PO into e-Builder, and notifies the PM.

The PM should always follow up with the Contractor to ensure the Purchase Order has been received, as the PO is considered to be the Notice to Proceed. In many contracts, the Contractor is obligated to start work within 10 days from the issuance of a Notice to Proceed.

Emergency Authorizations – Design and Construction

In cases of emergency, whether in design or construction, when it is essential to authorize work related to funded projects (such as unanticipated fire watches), the following steps must be followed prior to authorization:

- Email the Director, Facilities Planning and Construction (cc: your Manager), with a detailed email including:
  - Project name
  - Project number
  - Project description
  - Circumstance that causes an emergency need for services
  - Type of vendor to provide emergency service
  - Name of vendor to provide emergency service
  - Estimated cost of emergency service
  - Funding source of emergency service
- Director will forward request to AVP, Facilities and Safety, for approval, cc'ing: the Project Manager and Manager
- AVP, Facilities and Safety, will approve the emergency procurement
- Project Manager will authorize the emergency service vendor to proceed
- As soon as possible after the emergency situation, the Project Manager will complete an "Emergency Procurement Certification" form, found on the UCF Procurement website, and submit to the Director, Facilities Planning and Construction (cc: your Manager) for approval
- Director will forward request to AVP, who will forward it to the COO for approval
- Signed form will be returned to the Project Manager, to provide (with the initial email approval) to the Facilities and Safety Business Office for issuance of a purchase order to the emergency vendor

If this process is not followed, the Project Manager will also have to fill out an "Unauthorized Procurement" form, also found on the UCF Procurement website, and may be subject to disciplinary action.

Space Administration

On a Project, the PM will need to coordinate with Space Administration if:

1. On their review of the Project Request, Space Administration indicated the project would require their involvement
2. During the Design Phase, the scope of the project changes such that it triggers an activity, in which Space Administration needs to be notified
   - Space Categorization of a space will be changed

Room Numbering
PM should confirm if Space Administration would like to provide room numbers for the design, or have the Design Professional assign numbers per UCF Room Numbering Guidelines.

All room numbering must be approved by Space Administration.

- New rooms will be created
- Existing rooms will be combined into a single space

If the project requires coordination with Space Administration, the PM must transmit all floor plans to Space Administration at the end of the Design Development phase. Space Administration will review the floor plans and ensure room numbers are properly assigned to the modified space. The PM will then communicate these numbers back to the AE team for inclusion in the project documents.

Final plans must also be provided to Space Administration before the project Close-out phase is completed, so they can properly document floor plan and room number changes.

Owner's Standards

Owner's Standards provide a set of requirements, expectations and guidance for Professionals and Contractors who perform work for the University. Adherence to these standards is important as it leads to more consistency of construction, enabling the University to produce high-quality projects and achieve cost-savings in maintenance, materials, and labor over time.

The PM should ensure any Professional or Contractor involved in a University projects has access to the most updated version of the standards. It is the PM's responsibility to work with the Professional on any Standards Deviation requests to ensure there is a real need for the deviation, which can be properly justified.

Standards Deviation

In some instances, deviations from UCF Standards may be justified. In these cases the AE may complete and submit to the PM, or the PM can complete, a Request for Standards Deviation Form. The PM will submit the form, along with any relevant backup documentation, to the FP&C Standards Coordinator who organizes the Standards Deviations meetings. Weekly meetings are scheduled to review Standards Deviation requests, and the Standards Coordinator will notify the PM of the date and time of the meeting, in which the Deviation Request will be considered. The AE and PM should be prepared to make their case for the deviation request at this meeting. The request will be reviewed by the Standards Deviations committee, with input from the AE and PM, and if approved by all committee members, will be routed to the F&S AVP for final approval. The Standards Coordinator will notify the PM if any additional information is required. If the deviation was approved by the committee and the F&S AVP, or if the deviation was rejected, the Standards Coordinator will email the signed deviation form along with the results to the committee members, the PM, and the AE. The Standards Coordinator then saves approved deviations as PDF&S on the shared drive, and in the e-Builder Projects folder for future referenced if needed.

The timeline from submission of the request to final outcome can vary, but generally the PM will receive an answer in 2-3 weeks from the date they submitted the request.

Standards Changes

If a PM feels there is an opportunity to make a beneficial change to the UCF Standards, the UCF Design, Construction, and Renovation Standards Change Request Process provides guidance on how to do so.

Before any UCF Standards change request is formally submitted, the PM must first submit the change request to the FP&C Manager and Director and gain their support.

For UCF Standards changes, which have received the support of the FP&C Manager and Director, the PM completes a UCF Design, Construction, and Renovation Standards Change Request form and submits it to the Standards Change Request (SCR) Administrator. If additional input is needed, the PM will be contacted by the SCR Administrator. When the request has been reviewed, and a decision made, the PM will be notified.

Critical Needs Checklist

The Critical Needs Checklist is a document that aligns with the UCF Design, Construction and Renovation Standards, and serves as confirmation the UCF Standards are being followed. Each item in the checklist corresponds to a specific, bolded section in the UCF Standards. For example, CNA-1 indicates the first Critical Need in section A of the UCF Standards. CNB-5 indicates the fifth Critical Need in section B of the UCF Standards. Each critical need referenced on the Critical Needs Checklist is found in the UCF Standards in bold, blue text, and has the same CNX-# designation.

The first page of the Critical Needs Checklist provides instructions on how to complete the document. The PM must ensure that if an AE is engaged in a Minor Project, they submit a completed Critical Needs Checklist at all major design milestones, and the AE also includes a completed Checklist with each Pay Application. If the AE submits a Pay Application without a completed Critical Needs Checklist included, the PM must reject the Pay Application and advise the AE to resubmit it with a completed Critical Needs Checklist.

Permit Design Reviews

Most Projects will require permits due to systems impacted, or the general design of the project. The Building Code Office (BCO) is only required to perform an early design review at 50% Construction Documents. This early review is part of the project's permit fee. Additional reviews can be requested by the PM, but may incur additional charges against the project.

Per the Permitting Procedures:

- Plan reviews shall be processed once 100% of the Building Department fees have been collected.

- Expedited reviews are available for an additional fee. Only a department Director or Manager can request an expedited review.
- One preliminary 50% review, one 100% review, and two revisions are covered under the base fees.
- Additional reviews will be charged at an hourly rate (See EHS_SOP501_INST001_CONSTRUCTION_COSTS), starting on the third submission. Major redesigns will be handled on a case-by-case basis, and may require a new permit submission.
- A revision cannot be submitted until the initial review is complete and comments responded to.
- Construction documents scanned by the Building Department will be billed at a cost of $2.00 per page. Approved documents may be scanned by Project Managers and submitted to the department with an affidavit attesting that the record document has been confirmed complete. Outside entities cannot scan documents.

The table below lists the Narratives, Processes, Forms, Procedures, and Policies a PM may use during the Design Phase:

Type	Name	PM Responsibility
Narrative	Drawing and Design Plan Review	PM review and understand
	Drawing and Design Plan Review Process (04-DDPR)	Review Drawings, Advise Stakeholders for comments, Compile Comments, and Deliver information to AE
Policy	Crime Prevention Through Environmental Design F&SP 2012 FP&C0002	PM review, understand and follow policy
Policy	Access to UCF Sensitive Facilities Data F&SP 2018 F&S0019	PM review, understand and follow policy
Policy	Award of Projects among Professionals Selected through a Qualifications Basis to Provide Continuing Services F&SP 2014 FP&C0007	PM review, understand and follow policy

Policy	Basic and Additional Services for Major and Minor Projects F&SP 2017 F&S0013	PM review, understand and follow policy
Procedure	Major and Minor Design Workshop Procedure F&S 2013 FP&C0013	PM review, understand and follow procedure
Procedure	Utility Outage Procedure F&S 2015 F&S0017	PM review, understand and follow procedure
Vendor Form	Non-Disclosure Agreement (NDA) Form	PM to review, understand and utilize form as needed
Vendor Form	Professional Qualifications Supplement (PQS)	PM to review, understand and utilize form as needed
Finance Form	Professional Services Invoice FP&C4320	PM to review, understand and utilize form as needed
Finance Form	Additional Services Request Justification From FP&C4330	PM to review, understand and utilize form as needed
Finance Form	Design Phase Submission Report FP&C4340	PM to review, understand and utilize form as needed
Request Form	Access Control Installation Request Form	PM to review, understand and utilize form as needed
Request Form	Camera installation Request Form	PM to review, understand and utilize form as needed
Request Form	Document Request Form FP100	PM to review, understand and utilize form as needed
Request Form	Standards Deviation Form	PM to review, understand and utilize form as needed
Request Form	FP&C5100 UCF Design, Construction, and Renovation Standards Change Request	PM to review, understand and utilize form as needed

Request Form	Utility Interruption Notification	PM to review, understand and utilize form as needed
Template	2020 FPC Design Kickoff Agenda.doc	PM to review, understand and utilize form as needed
Permit Form	State Fire Marshal Application for Plan Review	PM to review, understand and utilize form as needed
Checklist	Critical Needs Checklist	PM to review, understand and utilize checklist as needed

BID / PERMIT PHASE

In the Bid / Permit phase for Minor Projects, the PM identifies and recommends a vendor who will be responsible for completing the work, and ensures all permits identified during the Design Phase are secured. If the project does not require professional design, or if work requiring permitting is identified by the selected Contractor, the PM will work with the Contractor and the Building Department to ensure permits are obtained as efficiently as possible.

UCF retains a pool of pre-qualified Contractors on Continuing Service Contracts (CSC). Minor projects are typically assigned to this pool of Contractors in accordance with the Award of Minor Projects to Continuing Service Contractors Selected through a Qualifications Basis policy. The Project Manager must familiarize themselves with this procedure, as it sets the rules for awarding projects to vendors – these rules must never be broken without AVP or VP approval, and clear written documentation justifying these variances.

Capital Projects require advertised solicitations, in which Construction Managers bid on a design/scope of work, prepared by an architectural firm. The PM may be involved in the selection committee formed to review project bids. Typically, the University and FP&C leadership drive this process.

The bidding options below align with the award procedure and are summarized here for convenience – but these summaries do not override the written procedure.

Award Options

Award options are decided during the Project Charter process in the Planning phase. See the Planning section for additional information.

Rotation

For projects with a construction cost under $35,000, the Project Manager has the authority to choose the Continuing Service Contractor (CSC) who is best qualified to perform the work. In the Project Charter process, the Project Manager must document why they are selecting this CSC vendor, for audit purposes. To ensure fairness, the FP&C department must rotate work among our CSC vendors to ensure that all groups are getting awarded a reasonable amount of work. The Manager, Facilities Planning must periodically evaluate the amount of work assigned to CSC vendors to ensure it is being assigned fairly and reasonably.

Justification

A justification is an exemption to competitive bidding. A justification is requested as part of the Project Charter process, and must include a reference to one of several approved reasons to make a direct award to a CSC vendor. Valid justification reasons are:

- Type of Project: sitework/roadwork/traffic signals, classroom/office renovations, research/wet lab, computer lab, new construction, etc.
- Location of Project: contractor's current or recent work in the same building or successful past experience with faculty/staff on another project in same building (familiarity with MEP systems, locations, and limitations)
- Client group preference
- Vendor's expertise and specialized experience on similar projects
- Vendor's workload and due dates, as they related to their ability to meet time requirements, when expediting the project is necessary
- Fair share of work
- Contractors demonstrated past performance in terms of quality, time, and budget

A justification also requires a detailed explanation by the Project Manager for why a direct award is needed. Typically, the justification method is used when a project requires completion in an expedited time frame, the desired vendor has capacity to complete the work in the desired time frame, and the vendor has previously performed similar work with high quality results.

Competitive Bids (eBQuotes)

More detailed information on eBQuotes can be found in the following documents:

Vendor Bid and Selection Process Narrative.

03 – Vendor Selection - Bid Review (BIDVS) Workflow

Competitive bids are required for projects with a Project Cost of $35,000.00 or greater. The PM can request an exemption to this requirement (known as a Justification – see below), which must be approved by FP&C leadership in the Project Charter process. FP&C uses the eBuilder bidding module to bid, review, and award competitive bids among our CSC vendors. As such, we call this process "eBQuotes", and follow the eBQuotes procedure for these bids.

The eBQuotes bid steps include:

- Prepare Statement of Work
- Prepare Bidding Package
- Upload Bidding Package into eBuilder
- Approval of Bid Package required by Manager, Facilities Planning
- Select relevant vendors to view and bid on project
- Schedule site visit / bid preview
- Schedule bidding due date

- Respond to all Bid Clarifications in a timely manner
- Review submitted bids including submittals
- Review low bids to ensure scope is fully covered
- Submit recommended vendor to FP&C leadership for approval
- Award the bid
- Add appropriate personnel to the e-Builder project, or contact e-Builder Administrator to add the personnel
- Close the bid

Commitment Approval

More detailed information on Commitments can be found in the following documents:

Commitment Approval Narrative

05 – Commitment Approval (CA) Workflow

Commitments are initiated by the PM to apportion funds for specific vendors performing work on the project, and provide the vendors with a Purchase Order, which serves as the vendors' Notice to Proceed and assures them that funds for their services have been secured. Commitment examples are to fund work performed by a General Contractor/Construction Manager, an Architect/Engineer, or a Trade Contractor or Professional which the University pays directly. The PM will not create commitments for subcontractors.

Once the PM initiates the 05-Commitment Approval process in e-Builder, the system executes a set of logical tests based on the Commitment Type selected, and will either route the Commitment to the Facilities and Safety Business Office (F&SBO) for review, or route the Commitment through a series of approval steps. After receiving the appropriate approval, F&SBO will create a requisition in the University's Enterprise Resource Planning (ERP) system, currently PeopleSoft. Once the requisition is created, UCF Procurement will create a Purchase Order in PeopleSoft. For detailed information on this process, please review the Commitment Approval Narrative and 05-Commitment Approval Workflow.

Permitting

The application for permits is found on the Building Department website

Building Code Permit Application

Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any impact-resistant coverings, electrical, gas, mechanical or plumbing system, the installation of which is regulated by the Florida Building Code (FBC), or to cause any such work to be done, shall first make application to the building official and obtain the required permit. See Section 105 of the FBC for additional information.

Also see Work Not Requiring Permits on the Building Department website.

The entity performing the work applies for permits. The applicant is required to supply all materials required in the permit packet.

Application Process

More detailed information on Commitments can be found in the following documents:

08E – BPMT BCO Payment Process

The permit process starts with a transfer of funds to the BCO office from the project account. BCO will not begin a review of a project without a journal transfer number on the permit application. In order to accomplish this task, FP&C has developed the eBuilder "BPMT BCO Payment Process". This process is initiated by the UCF Project Manager, typically once the cost of the project is known – usually after an approved Minor Project Proposal. This process routes to the Facilities and Safety Business Office to transfer permit funds to BCO, then to the Contractor to provide them the journal transfer number and other pertinent information for their permit application. The project is closed once the Contractor uploads the permit documents to eBuilder and provides the permit number assigned by BCO within the process.

Base Permit Fee

The permit fee is calculated based on the BCO Permit Fee Schedule – refer to the BCO website for the latest version. BCO has also provided a Permit Fee Calculator on their website which uses formulas from the BCO Permit Fee Schedule – but the calculator value must be checked by the PM against the Permit Fee Schedule, as the latter document governs the permit cost. This value is used in the eBuilder BPMT process to determine the proper amount of funds to be transferred to BCO for the permit.

Permit Requirements

- Fully Completed Application
    - Valuation includes total value of work covered by permit
        - Materials
        - Equipment
        - Labor
        - Design
- Three sets of hard-copy plans and documents
- State Fire Marshal Application for Plans Review form, and two additional sets of plans and documents (if applicable)
- The PM is responsible for determining if the contractor's permit will include oversight of low-voltage work. If not, the PM must communicate and follow-up with UCF IT and/or OIR that they must obtain their own permit for low voltage work.

All projects with electrical scope must be reviewed and approved by the Interim AVP of Facilities and Safety prior to permit application. This approval can be from design documents or the actual permit documents – but the former is encouraged in order to avoid review time delays and ensure that any comments are integrated into the final permit set.

Permit Application Review Times

Project Cost	Permit Application Review
Less than $2M	7 Working Days
$2M to $8M	15 Working Days
$8M or More	20 Working Days
SFM – any cost	40 Working Days

Permit Expedite Fee
If a Building Permit Application needs expedited review, an additional flat fee of $550 can be paid by the project to shorten the standard review time period.

Work covered by the Building Permit Fee
The plan review fee covers the initial review of the project, final construction documents, and all associated minor revisions, shop drawings, and code required submittals. Any revisions with significant cost increases (permit fee increases over $500) to the total project cost (over and above project contingency) will require an additional BPMT transfer of permit funds to BCO.

Only final construction documents may be submitted for permit review. (https://ehs.ucf.edu/building-codes)

The basic plan review fee includes:

- One (1) preliminary 50% CD design review
- One (1) 100% CD review of Signed/Sealed drawings or the official permit set of drawings
- Two (2) plan revisions

State Fire Marshal (SFM)

Bureau of Fire Prevention
The Bureau of Fire Prevention is the compliance and enforcement arm of the Division of State Fire Marshal, and is comprised of four sections:

- Inspections
- Boiler Safety
- Plans Review
- Regulatory Licensing

Some projects require plans review during the design phase to ensure compliance with the inspections during the construction phase. For more information, the PM can reference the Construction Services Guide published by SFM. The PM can expect Bureau of Fire Prevention involvement if their project contains the following:

- Occupancy Changes
- Fire Alarm installations or modifications
- Sprinkler installations or modifications
- Chapter 69A-47, F.A.C., Uniform Fire Safety Standards for Elevators;

- Chapter 69A-55, F.A.C., Uniform Fire Safety Standards for Public Food Service Establishments;
- Chapter 69A-58, F.A.C., Uniform Fire Safety Standards for Educational Facilities.

More detailed information on Commitments can be found in the following documents:

08C – DPMT Direct Payment Process to External Vendor

SFM Fees

SFM fees are calculated as percentage of the Construction Cost (Construction Cost x 0.0025 with a $100 minimum). SFM fees are paid from the project using the eBuilder "DPMT – Direct Payment Process to External Vendor" process. This process is initiated after the Project Manager receives the invoice from the SFM. It is critical that the PM account for the proper value of SFM fees in their project.

Hot Work Permits

A Hot Work Permit is required for any operation on UCF properties involving open flame or producing heat and/or sparks. The PM is responsible for ensuring that the contractor is aware of this requirement and following it. All precautions as required by University Policies and Procedures, the Florida Fire Prevention Code, NFPA 51B, OSHA 1910.252, and ANSI Z49.1 must be met or the Hot Work is not permitted.

A Hot Work Permit can be issued either by Environmental Health & Safety (EHS) or by the contractor's designated Permit Authorized Individual (PAI). To use an in-house PAI, the contractor must provide EHS with their Standard Operating Procedure (SOP) for HOT WORKS.

- Section 1 of the Hot Work Permit Request form should be completed, and the form turned into EHS or the contractor's PAI **(5) days prior** to the requested work.
- Section 2 will be conducted by the PAI on site prior to any hot works beginning.
- Obtain approval signatures, verify site, execute work as described and in accordance with any conditions noted on page 2, and remain on site for fire watch 30 minutes after work has been completed.

Permit shall be posted in the hot works operation area throughout the duration of work.

The Building Department will conduct a limited number of inspections per permit category. The number of inspections can vary by project depending upon its scope and complexity. There is no defined maximum number of inspections, but the expectation is the Contractor will conduct themselves in a professional and punctual manner, will demonstrate good judgement in calling for inspections, and will have the job site accessible and ready at the appointed date/time. Refer to the Inspection section in the Construction phase for detailed information on inspections.

The table below lists the Narratives, Processes, Forms, Procedures, and Policies a PM must be familiar with and use at the appropriate time during the Bid/Permit Phase:

Type	Name	PM Responsibility
Narrative	Vendor Bid and Selection Narrative	PM review and understand
e-Builder ENTERPRISE	Vendor Selection | Bid Review (03-BIDVS)	PM understand and execute process as needed
Narrative	Minor Project Proposal Narrative	PM review and understand
e-Builder ENTERPRISE	Minor Project Proposal (05-MPP)	Deliver to the client for approval and funding, a proposal, which includes project scope, cost and a delivery schedule
Procedure	Procurement Services Manual Requisitions > General Monetary Levels and Limits for Additional Approvals	PM review, understand and follow procedure
Policy	Award of Minor Projects to Continuing Service Contractors Selected through a Qualifications Basis F&SP 2015 FP&C0008	PM review, understand and follow policy
Narrative	Commitment Approval Narrative	PM review and understand
e-Builder ENTERPRISE	Commitment Approval 05-CA	Create commitment(s) as needed per project scope once MPP has been approved and funds transferred to FP&C project account
Building Department Form	Building Permit Application	PM to review, understand and utilize form as needed

Form	Contractor Environmental Agreement EHS_SOP_319_FORM003	PM to review, understand and utilize form as needed
Form	Contractor Hazardous Material/Waste Inventory EHS_SOP_319_FORM006	PM to review, understand and utilize form as needed
Form	Hot Work Permit Request	PM to review, understand and utilize form as needed
Building Department Form	Over the counter Permits	PM to review and understand
Building Department Database	Building Code Permit Database	PM to review and use as needed
Building Department Form	Work Not Requiring Permits	PM to review and understand

CONSTRUCTION PHASE

During the construction phase, a primary role for the PM is to ensure the Project Team is communicating effectively, and the Client is kept up to date with project progress. Any changes impacting project cost or schedule should be communicated as soon as possible to give the client opportunity to provide input and time to plan and communicate back to impacted groups within their organization.

The Project Manager is responsible to ensure the project plan developed in the prior phases (Planning, Design, and Bid/Permit) is executed according to the agreed-upon schedule and cost.

To move into the construction phase, the project must meet the following requirements:

- Well-defined scope of work
- Full funding based on the approved budget
- Approved design and/or approved construction documents
- All required permits obtained
- Contract executed or purchase order issued between UCF and the selected Contractor(s) performing the work

The PM must hold the Contractor accountable for the output agreed to, work with the Contractor to navigate unforeseen issues which may arise during construction, and promptly review and process financial transactions (payment applications, change orders, contingency transfers, etc.).

Kickoff Meeting Construction

Much like the Kickoff Meeting for the Design Phase, the Kickoff Meeting for the Construction Phase is used to ensure all stakeholders understand what is expected of them. The PM should tailor their meeting agenda according to the project scope prior to distributing it.

If the professional, contractor, and other meeting invitees have previous experience working with the University and understand requirements, a thorough discussion of expectations may not be required. However, if there are vendors present without this experience, it is the PM's responsibility to ensure each vendor understands the expectations and requirements attached to their project role.

A/E Field Reports

Field Reports contain a description of the observations the consultant makes during a site visit. Typical items a field report should include are:

- Unique report number
- The site or project name

- The names of the architect, owner, and contractor
- A record of the people on site
- Date, time and duration of visit
- Weather conditions at time of visit
- Progress of construction (as an estimated percentage or notes)
- Work to be completed by next site visit
- Notes and photos of any non-conforming work and other issues
- Any questions and actions to be performed (and who should perform them)
- Distribution list of people who need to read the report.

The PM should assess the frequency with which to conduct field reports based on the contract requirements and project scope. The consultant must use a consistent format for field reports. PMs must review all field reports and provide corrections to the consultant if errors are found.

Weekly OAC Meeting – PM Role
Contractors and Architect/Engineers are contractually obligated to participate in regular Owner, Architect, Contractor (OAC) meetings. The PM sets the frequency of the meeting based on the project scope. For larger projects, OAC meetings are typically conducted on a weekly basis.

The expectation of the FP&C PM is to hold the contractor and/or architect/engineer accountable to the contractual obligations they have entered into with the University, any prior commitments made by them, and ensure they are taking the actions necessary to meet future commitments.

The Project Manager must lead the meetings. The contractor has obligations to prepare and present to the PM various reports, meeting agendas, meeting notes, and keep a daily journal of construction and site information. The contractor has an obligation to prepare and present project submittals, maintain an accurate construction schedule, and alert the PM to any updates, which may impact cost or budget.

The PM should be prepared at each OAC meeting to provide information on any activities they committed to prior to the meeting, and to demand updates from the Contractor or Architect on their prior commitments.

- Submittal Schedule is complete and up to date
- RFIs are being responded to timely
- Activities are being accomplished on or ahead of schedule
- Permits / Inspections are being arranged and completed as appropriate

After each OAC, the PM should touch base with the project client to ensure any critical information is shared on schedule, budget, or other items that impact the client. A record of meeting minutes

must be kept for OAC meetings. These are prepared by the CM/GC generally or can also be prepared by the AE. The minutes are circulated for comments from attendees prior to becoming official record.

Project Manager Site Visits
The UCF PM is responsible to frequently walk job sites to review progress of the work and ensure compliance with the project documents and UCF Standards. Jobsite walks should be a minimum of once per week, or more frequently during critical construction periods. Concerns should be documented with photos and sent to the Architect/Engineer/Contractor for resolution, and followed up by the UCF PM to ensure completion.

UCF requires contractors to submit Payment Applications in order for project funds to be released. Small minor projects may only have a single payment application submitted at the end of the project requesting full payments. For larger minor projects contractors typically submit payments applications on a pre-determined (monthly) schedule, or when specific project milestones are achieved. The payment application submission schedule must be agreed to by the PM prior to construction phase work being performed by the contractor.

Payment Applications

More detailed information on Payment Applications can be found in the following documents:

Payment Application and Consultant Invoice Narrative

08 – Contractor Pay-App and Consultant Invoice (PMT) Workflow

Pay-App review process
Contractors use e-Builder to submit payment applications. They initiate the 08 – Contractor Pay-App & Consultant Invoice process, input all required fields, upload their packet of information, and route it to the PM to review.

The process outline is below:

- Pay App Initiated – Contractor initiates Pay App process and attaches documentation in e-Builder
  - Certificate of Partial Payment
  - Schedule of Values
  - Transfer forms (if applicable)
    - Line to Line Transfer Form
    - Contractor Contingency Transfer Form
    - Buyout Savings Form
  - Small, Minority, or Woman-Owner Business Form (required even if contractor does not fall into one of the group designations)
  - Backup Documentation as needed (ordered to align with listing on Certificate of Partial Payment)
  - Invoices
  - Statements
  - Receipts
- AE Review (if AE on project) – AE Reviews Pay App for accuracy and completeness
- PM Reviews Pay App / Invoice for billing accuracy, completeness, and correct formatting
  - Does the Payment Application contain all required documents? For the final payment application, have

all correctly formatted Close-out documents been provided?
    - Are the backup documents ordered in the same manner as listed on the Certificate of Partial Payment?
    - Is the Payment Application submitted according to the agreed-upon time frame?
    - Does the payment requested accurately reflect the work completed?
- F&SBO Reviews Pay App / Invoice for compliance with purchasing guidelines and financial accuracy
- FP&C Assistant Director Reviews Pay App / Invoice over 10K
- FP&C Director Reviews Pay App / Invoice over 50K
- F&SBO issues payment to contractor

More detailed information on Internal UCF Departmental payments can be found in the following documents:

Internal UCF Invoice Payments Narrative

08B – Internal UCF Invoice Payments (UPMT) Workflow

Internal UCF Invoice Payments process

UCF Facilities Planning & Construction requires that invoices from internal university departments be paid through an e-Builder process. The 08B – Internal UCF Invoice Payments (UPMT) process provides an efficient workflow for submitting invoices that will enhance information transfer and response times for both FP&C and other university departments related to FP&C projects.

If internal departments have questions about submitting invoices, the PM must guide them through the process, and also refer them to the Submitting an Invoice with the UPMT Process.

If the PM encounters departments who are not set up on this process, please contact the Construction Project Coordinator for assistance.

In conjunction with this process, the PM must ensure they have included budgets for all departments during the design phase. Having a budget for an internal department submitting an invoice allows the process to run more smoothly, and reduces the amount of work the PM needs to perform in the back end.

Change Orders

Change Orders document changes impacting cost or time in the scope of work, and must be agreed to by the owner, contractor, and/or architect/engineer. A change order can be used to add or delete scope, modify cost, or add time to a project. It is highly advisable for the contractor to discuss the reason for issuing a change order with the PM prior to submitting a request in e-Builder.

Types of Change Orders

More detailed information on Change Orders can be found in the following documents:

Change Order Narrative

06 – Potential Change Order (PCO) Workflow

The PM must understand which Change Order Process to use depending upon Project Type, Vendor, and Contract Type. The below matrix can be used as a reference:

07AS – Additional Service (AS) Workflow
Major Projects

07C – Purchase Order Revision (POR) Workflow
Minor Projects

Project Type	Vendor	Contract Type	e-Builder Process
Major	CM	CM at Risk	06 – Potential Change Order
Major	AE	Agreement between Owner and Professional	07AS – Additional Service
Major	TC	Purchase Order	07C – Purchase Order Revision
Minor	CM/GC	Purchase Order	07C – Purchase Order Revision
Minor	AE	Purchase Order	07C – Purchase Order Revision
Minor	TC	Purchase Order	07C – Purchase Order Revision

Potential Change Order
Changes in scope, cost, or time for a CM overseeing a Major Project are always handled through the 06 – Potential Change Order process (PCO).

The CM should always discuss a contemplated change order with the PM and AE before initiating this process in e-Builder. Once agreement between parties has been reached, the contractor starts the change order review process by gathering all documentation needed to support the change order and initiating the 06-Potential Change Order process (PCO) in e-Builder.

The contractor attaches required documents for consideration, certifies the cost and schedule impacts have been appraised, certifies the changes being requested have been coordinated with the contract documents, and submits to the AE.

The AE certifies if the costs are included for corrective work made necessary by error, omissions, deficiencies, or fault attributable to Architect / Engineer (yes/no) and either returns the PCO to the CM for revision or submits it to the PM. If the PM disagrees with the architect's determination of errors/omissions, they should return the process to the A/E for correction.

The PM certifies the following:

- The justification is accurate and complete.
- The work is within the general scope of the contract.
- All contract documents, plans, specifications, and scope of this work have been completely reviewed.
- The price for labor, materials, contracted work, and other costs are fair and reasonable.
- The scope and justification have been clearly and completely described above.
- The schedule impact to the project has been assessed for impact.

- Sufficient backup documentation has been provided (yes/no).

The PM either returns the PCO to the CM for revision or submits it to F&SBO for a Budget Validation.

Upon successful Budget Validation, F&SBO submits the PCO to the FP&C Manager.

The FP&C Manager reviews the PCO for reasonability and either returns it to the PM or submits it to the FP&C Director.

The FP&C Director reviews the PCO for reasonability and either returns it to the PM or approves the item.

If the PCO is greater than $75,000.00 it will route to the F&S AVP for approval. The F&S AVP will review the PCO for reasonability and either return it to the FP&C Director or approve it.

Once a PCO is fully approved, e-Builder will end the PCO process and generate a Change Order (CO). The CO process will auto-initiate in e-Builder.

Additional Service

Changes in scope, cost, or time for an AE overseeing a Capital Project are always handled through the 07AS – Additional Service process (AS).

The AE should always discuss the contemplated additional service with the PM prior to initiating this process in e-Builder.

The PM certifies the following:

- The justification is accurate and complete.
- The work is within the general scope of the contract.
- All contract documents, plans, specifications, and scope of this work have been completely reviewed.
- The price for labor, materials, contracted work, and other costs are fair and reasonable.
- The scope and justification have been clearly and completely described above.
- The schedule impact to the project has been assessed for impact.
- Sufficient backup documentation has been provided (yes/no).

The PM either returns the AS to the AE for revision or submits it to F&SBO for a Budget Validation.

Upon successful Budget Validation, F&SBO submits the AS to the FP&C Manager.

The FP&C Manager reviews the AS for reasonability and either returns it to the PM or submits it to the FP&C Director.

The FP&C Director reviews the AS for reasonability and either returns it to the PM or approves the item.

If the AS is greater than $75,000.00 it will route to the F&S AVP for approval. The F&S AVP will review the AS for reasonability and either return it to the FP&C Director or approve it.

Upon approval F&SBO will modify the Purchase Order for the AE to include the changes introduced by the AS scope and amount.

Purchase Order Revision

Changes in scope, cost, or time for an AE or GC/CM overseeing a Minor Project are always handled through the 07C – Purchase Order Revision process (POR). The Purchase Order Revision process is also used for Trade Contractors on Major or Minor projects, with whom UCF has directly contracted.

The vendor to whom the Purchase Order is made is responsible for initiating this process. Members of the Project Team should always discuss the contemplated purchase order revision with the PM prior to initiating this process in e-Builder.

Once the POR process is initiated, if an AE is on the project the AE must indicate they have reviewed the POR. The AE can approve or return the process to the vendor before it gets to the PM for review. If no AE is on the project, the process goes straight to the PM.

The PM certifies the following:

- The justification is accurate and complete.
- The work is within the general scope of the contract.
- All contract documents, plans, specifications, and scope of this work have been completely reviewed.
- The price for labor, materials, contracted work, and other costs are fair and reasonable.
- The scope and justification have been clearly and completely described above.
- The schedule impact to the project has been assessed for impact.
- Sufficient backup documentation has been provided (yes/no).

The PM either returns the POR to the Initiator for revision or submits it to F&SBO for a Budget Validation.

Upon successful Budget Validation, F&SBO submits the POR to the FP&C Manager, Facilities Planning.

The FP&C Manager, Facilities Planning reviews the POR for reasonability and either returns it to the PM or submits it to the FP&C Director.

The FP&C Director reviews the POR for reasonability and either returns it to the PM or approves the item.

If the POR is greater than $75,000.00 it will route to the F&S AVP for approval. The F&S AVP will review the POR for reasonability and either return it to the FP&C Director or approve it.

Upon approval F&SBO will modify the Purchase Order as requested.

Additive Change Order
Additive Change Orders are typically funded from owner contingency. The PM must ensure that adequate owner contingency is available to fund a particular change order before it is approved. The client may also choose to add additional funds to the project. A project may have an additive change order due to the following reasons:

- Owner Added Scope
- Unforeseen Conditions
- Act of God *(Hurricanes, etc.)*
- Error / Omission
- Contractor Scope Gap

Change Orders must be submitted according to the contract terms, generally within **(14)** days of an issue being discovered. For Owner Added Scope, this time frame may be relaxed at the discretion of the PM. The PM must reject change orders that are not properly submitted.

Deductive Change Order
A deductive change order is issued when scope, cost, or time needs to be reduced from a previously issued Purchase Order / Contract. In some cases, a deductive change order may result in funds being added into contingency if work is being completed under budget. Examples of deductive change orders are:

- Project scope reduction required to align project costs with available funding
- Client needs change during project
- Scope removed from a contractor who does not have the resources available to meet a project deadline
- Subcontracted work comes in under budget
- Work is performed ahead of schedule
- Direct Owner Purchases (Tax Exempt Materials)

Direct Owner Purchase Orders
A Direct Owner Purchase Order is created through a change order process by which a revision is executed to an existing Purchase Order, and a new, additional Purchase Order is created. Qualifying Direct Owner Purchase items must be identified before construction starts, which will allow Direct Owner Purchase Orders to be issued as efficiently as possible. During a project, issues can arise which introduce new materials as well. The PM must work with the contractor and F&SBO to generate Direct Owner Purchase Orders or have the contractor issue a deductive change order for the sales tax amount of the material.

UCF is a tax-exempt organization and can leverage this status to save the sales tax (currently 6.5% as of 2020) typically charged on a wide variety of construction materials.

The PM must familiarize themselves with the Direct Owner Purchase (DOP) Procedures for Major and Minor Construction procedure. The process requires the contractor to supply material information in time for UCF to review the submittal and issue a Direct Owner Purchase Order. Section 12A-1.094 of the Florida Administrative Code (FAC) also applies.

Per the normal CA process, the PM will create a CA for the contractor for the total cost of the work in their scope, and the related PO will be issued.

*Note: Costs for **Shipping** the material and **Markup** on the material are not removed from the original commitment.*

By the end of the 100% CD phase, a list of items that qualify for Direct Owner Purchase should be supplied by the Contractor. The Contractor must supply the PM with a breakdown of the cost of labor and materials for the items on the list.

- PM executes the Purchase Order Revision process and removes the cost of materials and their associated taxes *(07C – Purchase Order Revision process)*
  - POR process is completed, and a revised PO is issued to the Contractor
- PM creates a Commitment for the Material Manufacturer with the cost of the material only *(05 – Commitment Approval process)*
  - Manufacturer must be set up in e-Builder and PeopleSoft
  - PO is issued to the Manufacturer
- The subcontractor responsible for the ordered material receives the material
- The Contractor confirms receipt of the material
- Contractor executes the **08A – Owner Direct Purchase Invoice process** upon confirmation of material receipt.
  - Contractor attaches supporting documentation.
  - PM reviews and approves
  - Process 08 – Contractor Pay-App & Consultant Invoice is spawned and goes directly to the PM for review and approval
  - The process follows a regular workflow where upon completion, payment is issued to the Manufacturer.

Commitment Transfers

More detailed information on Commitment Transfers can be found in the following documents:

Commitment transfers are used by contractors to move funds within their contracted amounts, or from contingency funds. A central document to this process is the Schedule of Values. A Schedule of Values is a detailed statement furnished by a contractor outlining the detailed line items that make up the contract sum. It allocates funding for various parts of the work and is also used as the basis for submitting and reviewing payment applications.

Commitment Transfer Narrative

07B – Commitment Transfer Process (CTP) Workflow

The PM must understand the contract and the rules governing when these commitment transfers are allowed.

Line-to-Line Transfers
Funding transfers from one Schedule of Values line item to another. These transfers are typically used when a contractor needs to funds a division of work which cost more than budgeted, with funds from a division of work where the actual cost was less than projected. The contractor will initiate the 07B – Commitment Transfer Process.

Contractor Contingency Transfers
Funding transfers from contractor contingency to specific Schedule of Value line items. These transfers are typically used when the contractor has a scope gap or when there is an unforeseen site condition. The contractor will initiate the 07B – Commitment Transfer Process after consulting and coming to a verbal agreement with the PM.

Buyout Savings Transfers
Funding transfers from Schedule of Values line items to/from a Buyout Savings line within the Schedule of Values, which are a result of portions of the work being contracted for less than the original amount budgeted. The contractor will initiate the 07B – Commitment Transfer Process.

Communication

Communication with Stakeholders
Stakeholder communication impacts both the success of the project and how the PM and FP&C is perceived by others.

Stakeholders refer to anyone who has a stake in the construction project. Primary project stakeholders are:

- Campus Client
- Building Liaison
- Partner Departments
- Project Team (AE / Contractor / Consultants)
- Other project specific individuals or organizations the PM identifies as important for the success of the project

The following steps set the PM up for communication success:

- Know Your Customer (KYC) This is a common term in the banking industry, but it applies here as well. Getting to know who you are interacting with on the client side:
- What is their personality and communication style?
- How often they expect to be updated?
- What are their major concerns with potential project impacts on their facilities / operations?
- Set clear expectations of stakeholders on the client side
- What information do you expect them to disseminate?
- What information is helpful to receive from them?

- Advise that they need to be familiar with e-Builder and if not, arrange for the training team to engage with them
- If they are an in-experienced client, discuss the Project Process Flow to provide an overview of what the process looks like, and what is expected of the client during each phase

Campus Notification Process

*Please refer to the **Campus-wide message Narrative** for a detailed guide on how to create and issue these notifications.*

For projects whose scope is such where it may cause impacts to University operations, there are communication mechanisms the PM must use to send out information and alerts. These communications must route through the FP&C Manager, Director, and F&S AVP. **Authorization to distribute a broadcast electronic mail message may be granted only by the President, the Provost, or a University Vice President**.

Inspections

Inspections can be conducted by the building official, contracted professionals, and the State Fire Marshal's Bureau of Fire Prevention throughout the Construction Phase of the project, up to and including the final inspection by the UCF Building Department prior to issuing a Certificate of Completion/Occupancy. Inspections also are conducted by internal partner departments such as UES, LNR, and FO. The Building Code Office is responsible for conducting all construction plan review and inspection services for all UCF owned facilities. All construction work requiring a permit also requires an inspection. **The contractor applies for all construction permits, and is responsible for notifying the building official when work is ready to be inspected.**

Types of inspections are listed below:

Building/Structural Inspections

- Footing
- Slab
- Masonry
- Wall / Ceiling
- Framing
- Structural
- Sheet rock (as required)
- Roofing
- Reinspection
- Other
- Final Inspection

Electrical Inspections

- Underground
- Floor Rough-in
- Wall Rough-in
- Ceiling Rough-in
- Panel / Feeder
- Service / Ground

- Appliance / Equipment
- Lightning Protection
- Reinspection
- Other
- Final Inspection

Plumbing Inspections

- Underground
- Rough-in
- Stack Piping & Test
- Water Piping & Test
- Gas Piping & Test
- Storm Piping & Test
- Fixtures
- Equipment
- Reinspection
- Other
- Final Inspection

Mechanical Inspections

- Duct Rough-in
- Steam Piping & Test
- Hot Water (HW) Piping & Test
- Chilled Water (CHW) Piping & Test
- Condensate Piping & Test
- Insulation
- Wall & Ceiling
- Equipment
- Reinspection
- Other
- Final Inspection

Fire Safety Inspections
Inspections review construction for compliance with the Uniform Fire-Safety Standards of the State Fire Marshal and Florida Fire Prevention Code.

Inspections are conducted by the State Fire Marshal – Bureau of Fire Prevention:

The plans review process fee includes up to three (3) construction site inspections. The contractor requests a site inspection by completing the State Fire Marshal Inspection Request Form located on the UCF Building Department Website

Type of Inspections:

- Fire Alarm System
- Hood System
- Sprinkler System – Above Ground
- Sprinkler System – Under Ground
- Lease, Pre-Occupancy

- Lease, Renewal
- Example Inspection Scope:
- Fire rated partition construction, penetrations and locations, manufacturer's specifications or listings by recognized testing laboratories required to verify the quality of firestopping material.
- Fire/smoke damper installations at required locations.
- Stair details including the run and rise of treads and risers
- Handrails and guardrails including height and spacing.
- Integrity of stair enclosures and other vertical openings.
- Placement of exit signs and emergency lighting fixtures.
- Above ground fire sprinkler system that includes the following:
- Witness hydrostatic test and obtain copies of Schedule A test certificates that are found in NFPA 13.
- Ensure that sprinkler head coverage meets code requirements.
- Installation of risers, mains and lines including hangers.
- Review hydraulic calculations, manufacturer's specifications or listings by recognized testing laboratories required to verify the quality of firestopping material. 5
- Witness hydrostatic test and flushing of the supply main and obtain copies of Schedule U test certificates that are found in NFPA 13.
- Verify location and installation of joints, retainers, and thrust blocks.
- Verify locations and accessibility of fire department connections, post indicator valves, fire hydrants, and backflow prevention valves.
- Manufacturer's specifications or listings by recognized testing laboratories required to verify the quality of firestopping material.
- Installation of emergency generator and witness acceptance (load) test. Obtain copy of test results.
- Installation of fire-jockey pumps and witness acceptance test. Obtain copy of test results.
- Kitchen hood installations including clearance of ducts from combustible material, clean-out doors on ducts, seamless exterior welds, height of discharge vent above roof, and that the top of the vent is hinged for access and cleaning of the fan motor.
- Inspection of fuel storage tank(s) and dispensing piping, and/or performance testing of LPG, flammable and combustible liquids and other hazardous material systems.

Site Inspections

Site Inspections are conducted by Landscape & Natural Resources. These inspections are conducted regularly throughout the construction process, and relay issues to the PM to address with the contractor:

- Site Inspection
  - 811 Locate
  - Gopher Tortoise Survey (good for 90 days)
  - Stormwater Pollution Prevention Plan
  - Tree Protection required for trees located in the construction site during the project
  - Soil Testing
    - After final grading / before landscape installation, the PH level in the soil should be tested to ensure it is suitable for vegetation. The landscape subcontractor will take samples and send them for analysis.
    - When the results are returned, the PM will send to LNR for review.
    - LNR will either confirm that landscape/sod installation can begin, or advise that soil remediation needs to occur.
    - If soil remediation needs to occur, the contractor must spread a thin layer of topsoil over the site to provide enough material for vegetation to adapt/survive.
    - LNR will perform a visual inspection after remediation and advise the PM if they are satisfied
- Irrigation Inspection
  - Sleeve installation per plans (before pavement and hardscapes are installed)
  - Mainline installation inspection of fittings and depth (before burying)
  - Mainline pressure test once mainline is installed (150-PSI for 4 hours)
  - Lateral Line installation with head connections (before burying)
  - Coverage test with irrigation operational from the controller (before plants are installed)
- Landscape Inspection
  - LNR requires 72-hour notice for inspection
  - All plants, trees and sod must be inspected upon arrival to campus (installed within 24 hours)
  - Site Prep – removal of rocks larger than 1-inch with proper grading along hardscapes
  - Irrigation should be operational from clock before plants can be installed
  - Planting layout (LNR will meet with contractor to lay out plant material before installation)
  - Tree Selection
    - Before trees are brought to the site, LNR needs to be given the opportunity to visit the tree nursery and personally select the trees for install with the landscape. The PM should ensure the contractor understands and acts upon this requirement.

- Final Inspection – LNR does not maintain the site until it is fully signed off on in an email to the PM and Contractor

LNR has prepared inspection checklists for Site, Irrigation, and Landscape inspections, which the PM can provide to their contractor:

Elevator Inspections

The elevator manufacturer provides a checklist to the GC for items that must be completed BEFORE they will come and deliver the elevator and install. If these requirements are not met, they won't begin. See attached Otis pre-inspection checklist.

The elevator manufacturer is then responsible to meet the design and state of Florida elevator code requirements.

Once the State inspector comes for final inspection, the State of Florida Elevator Inspection form is completed (in triplicate) and the temporary occupancy is provided for the elevator to be able to be used. See the form which reflects what items are inspected for completion during this final inspection.

Commissioning

UES or a consultant can act as a Commissioning Agent (CxA) to perform commissioning services. Commissioning occurs throughout the project life cycle. The CxA's typical scope includes:

- Works with the Owner in the development of Owner's Project Requirements (OPRs)
- Reviews and back checks the Basis of Design (BoD) of the Design Professional for compliance with the OPR, if a project requires a BoD
- Reviews the project design and provides comments to the Design Professional
- Reviews submittals and provides comments
- Develops Component Verification Checklists (CVCs) from approved submittals
- Samples CVC data for accuracy of submittal versus field installed
- Conducts site walks and creates field reports with issues log
- Completes point to point (P2P) review of mechanical systems
- Conducts Test and Balance (TAB) and ensures BAS calibrated to TAB
- Observes Functional Performance Testing
- Sends System Manual, Letter of Cx Completion, and Cx Preliminary report to EoR

- EoR approves Cx report and provides letter of attestation to FP&C and UES
- UCF UES Signs off
- Seasonal/Warranty testing as per contract details in conjunction with F&S, CxA, EoR, and Contractor

Test and Balance (T&B or TAB)
T&B is a measurement process of an HVAC system's output that is necessary to verify that the system(s) are performing at specified design criteria for both airside and hydronic systems; temperatures, pressures, volumetric flowrates, RPM, horsepower, velocity, voltage, current and efficiency are typical measurements and calculations recorded in the T&B report. The T&B report must be approved by the EOR before the FPT phase of Cx can begin. If there is no EOR on the project (example, like for like replacement), UES serves as the authority to approved T&B reports.

- TAB verification conducted
- Engineer of Record (EoR) review and approve TAB report
- TAB verification signed off by UES & CxA

Utility Outage Procedure

Utility Interconnection and Outages
Utility interconnections are coordinated by the UCF PM. The PM must understand the Electric Interconnection Process and the Gas Interconnection Process, and manage these processes in coordination with UES.

Activities the PM must coordinate:

- Coordinate Site Meeting with UES, Duke, CM
- Submit, or ensure Contractor submits, Request to Start/Stop Service form: Service Request Form: Electric
- Permanent 8-week lead time
- Temporary 2-week lead time
- (*Note: before energizing, fill out the UCF Environmental Health & Safety Request to Energize and Electrical Installation form*)
- Coordinate Utility Site Meeting prior to digging
- Confirms Contractor is on target for utility rough-in
- If outage required, coordinate with UES and Building Liaison
- 2-week minimum notice in writing (Utility Outage Procedure)
- Coordinate with GIS/Field Services for an electrical inspection and grounding test
- Provide scan and hardcopy of results to UES
- Re-confirms outage and energize date/time with Project Team

The operations of the University of Central Florida are dependent on reliable building equipment and utilities. Interruptions to utility services may occur through planned/construction maintenance outages. Per the Utility Outage Procedure, end users and peer departments will be given **at least two weeks' advance notice** of a planned outage (after all approvals have been obtained), to

minimize adverse impacts on university operations. Coordination of a planned outage will include the scheduled date and duration; required provisions; communication throughout the outage; contingency plans, should the outage last longer than anticipated; and restoration of normal building operations after the outage. Contingencies may include a fire watch, temporary cooling or heating, and backup generation. A planned outage may need to be rescheduled due to field conditions or safety issues, in accordance with this procedure.

During Pre-Planning, the PM works with the Client to develop provisions and contingency plans, and the UES Coordinator of Utilities (CoU), who will be the PM's point of contact with all utility providers. The PM will provide the CoU with the desired time frame for the utility outage. The CoU will contact all relevant utility providers to schedule the requested outage and provide input back to the PM, which will include the date, duration and costs associated with the outage. Any costs must be paid by the end user and are not negotiable. The outage will be timed to minimize the disruption to campus operations as much as possible.

For Planned Outages, the PM is required to request a chargeable Work Order in AiM with a phase for each department required to support the outage. All charges must be paid for by the project, estimated in advance in collaboration with UES, and budgeted by the Project Manager.

Sunshine 811

Some Minor Projects require digging/excavation as part of the project scope. In Florida, when a project will require excavation, the Contractor must contact Sunshine 811 to mark underground utilities either by dialing 811 from a phone or navigating to the sunshine811.com website. Sunshine 811 is a not for profit corporation to which underground utility owners and operators are required to be members of, per the "Underground Facility Damage Prevention and Safety Act". By contacting Sunshine 811, the Contractor helps prevent significant fines and repair costs due to utility service outages, injuries, environmental contamination and property damage.

The Sunshine 811 process is detailed here.

- Contractor prepares excavation site by lining the dig site with white paint, flags, or stakes
- Contractor contacts Sunshine 811 by calling 811 or navigating to sunshine811.com to request a ticket
- Contractor **waits two full business days** for Utility providers to clear or mark the dig site
- Utilities mark infrastructure as applicable
- Each Utility responds to the ticket using a PRS code that indicates Clear, No Conflict, Marked, Unmarked. Marked

and Unmarked codes will have instructions requiring the Contractor to respond.

- Contractor checks the ticket (Positive Response System (PRS)) throughout the required timeframe to follow progress and respond to any instructions
- At the end of the waiting period, Contractor confirms all utilities have responded, and verifies dig site markings match the PRS summary.
- Once confirmed, Contractor may proceed with careful digging, understanding that all marks are approximate and have a tolerance of 24 inches from the outer edges of a buried facility. Contractor may request another ticket if Utility marks become faded or are destroyed.

The Project Manager must advise the Contractor of the Sunshine 811 process, but never take responsibility for calling in utility locates.

Inspection Scheduling and Fees

Fees for Re-inspections, Emergency, Holiday or After-Hour Inspections

Any work that fails the initial inspection will require a follow up inspection. This re-inspection of the work will be performed at a mutually agreed-upon date, and the Contractor will fund the cost of the re-inspection. The contractor is also responsible for funding non-standard inspections (Emergency, Holiday, non-business hour).

The UCF Building Department maintains information on scheduling inspections, inspection fees, and holiday schedules on their Inspection Information Webpage. The information on their website takes precedence if there is a variance between the information contained in this manual.

Inspection Rate Table:

Inspection Type	Rate
Re-inspection of a Failed Inspection	$150.00
Emergency	$117.00 per hour (2-hour minimum)
Holiday	$117.00 per hour (2-hour minimum)
Non-Business Hour	$117.00 per hour (2-hour minimum)

Checks should be paid by the contractor directly to the inspector, and be made payable to "SAFEBuilt".

Completion of the Work

Applying for a Certificate of Completion, Certificate of Occupancy, or a Temporary Certificate of Occupancy (CC/CO/TCO)

Upon completion of all permitted work the contractor requests project completion documentation from the UCF Building Department. There are three types of certifications, which can be issued based upon specific project criteria.

- A Certificate of Completion (CC) is issued for permitted work which is required to meet Florida Building Codes, but which does not change building occupancy.
- A Certificate of Occupancy (CO) is issued for permitted work which is required to meet Florida Building Codes, where occupancy is changed or new square footage is added.
- A Temporary Certificate of Occupancy (TCO), typically only used for large projects, is issued when not all permitted work is complete in the entire work area, however, in a portion of the work area, all permitted work has been completed, and that portion is ready to be occupied. All life-safety components must be completed for a TCO to be issued.

The Building Department advises the PM and contractor on which certification is required for each project during the plan review process.

When the contractor is confident that all permitted work has been completed for the certification for which they wish to apply, the contractor discusses with the PM their desire to move forward with the application. If the PM agrees, the Contractor navigates to the Building Department website under Forms and completes the appropriate application.

For a large project, if the contractor and owner are in agreement that a Temporary Certificate of Occupancy will be required, the Contractor navigates to the Building Department website under Forms and completes an "Application for Temporary Certificate of Occupancy". There is a $550 application fee and this document also requires the signature of the Assistant Vice President, Facilities and Safety before being submitted to the Building Department. The project will be assessed a $550 fee each month until a Certificate of Occupancy has been issued.

A CC, CO, or TCO cannot be issued until the final inspection of the work. If the inspection is passed, the certificate is issued by the Building Department. If the work fails inspection, a new application will need to be submitted and another inspection will need to be performed at the contractor's expense.

Substantial Completion
Major or minor new construction projects are required to follow the Substantial Completion procedure. There are two types of Substantial Completion that UCF Projects must achieve:

- Architect's Substantial Completion - achieved when the Work has been completed to the point where Owner can lawfully occupy or utilize the Work for its intended purpose under a Certificate of Occupancy (CO) or Temporary Certificate of Occupancy (TCO) (with conditions acceptable to Owner in its sole discretion) or their equivalent. **The Professional shall issue a Certificate of Substantial Completion to designate the completion of this milestone. This certificate is signed by the FP&C Director.** On the date a TCO/CO is issued, UCF's insurance takes ownership of the building, Warranty dates begin, and UCF UES starts to pay utility bills for the project.
- Owner's Substantial Completion – achieved when all items on the Owner's Substantial Completion procedure and checklist have been achieved and approved by the required UCF Stakeholders. The Owner's Substantial Completion is tied to the Contractor's retainage reduction.

The Project Manager must review, understand, follow, and ensure that the contractor follows the Substantial and Final Completion procedure. The issuance of a Certificate of Occupancy or Temporary Certificate of Occupancy by the Building Code official for the Work shall be an express condition precedent to Contractor's right to request that Owner or Professional issue a Certificate of Substantial Completion.

If Owner has designated portions of the Work to be turned over to Owner prior to Substantial Completion of the entire Work, Professional or Owner shall certify the date as to when Substantial Completion of such designated portions of the Work have been achieved.

Contractor shall give the Project Manager and the Professional thirty (30) days' notice prior to the predicted Substantial Completion date. The written notice from Contractor shall include a proposed punch list of all items of Work to be completed or corrected by Contractor. Within a reasonable time thereafter, Contractor and Owner or Professional shall make an inspection of the Work (or designated portion thereof) to determine the status of completion.

If Owner or Professional do not consider the Work (or designated portion) substantially complete, Owner or Professional shall notify Contractor in writing and the inspection process shall be repeated at no additional cost to Owner. In such case, Contractor shall pay the costs (including those of Professional) of all additional Substantial Completion inspections.

The table below lists the Narratives, Processes, Forms, Procedures, Policies, and other documents a PM may use during the Construction Phase:

Type	Name	PM Responsibility
Narrative	Potential Change Order Narrative	PM review and understand
e-Builder ENTERPRISE	Potential Change Order (06-PCO)	Review and approve or reject
Narrative	Additional Service Narrative	PM review and understand
e-Builder ENTERPRISE	Additional Service (07AS-AS)	Review and approve or reject
Narrative	Change Order Narrative	PM review and understand
e-Builder ENTERPRISE	Change Order (07-CO)	Review and approve or reject
Narrative	Commitment Transfer Narrative	PM review and understand
e-Builder ENTERPRISE	Commitment Transfer Process (07B-CTP)	Review and approve or reject
Narrative	Purchase Order Revision Narrative	PM review and understand

e-Builder ENTERPRISE	Purchase Order Revision (07C-POR)	Review and approve or reject
Narrative	Contractor Pay-App & Consultant Invoice Narrative	PM review and understand
e-Builder ENTERPRISE	Contractor Pay-App & Consultant Invoice (08-PMT)	Review and approve or reject
Narrative	Owner Direct Purchase Narrative	PM review and understand
e-Builder ENTERPRISE	Owner Direct Purchase Order (08A-ODP)	Review and approve or reject
Online Form	BCO Inspection Request Inspection Instructions	PM review and understand
Building Department Form	Request to Energize an Electrical Installation	PM review and understand
Building Department Form	Revisions & Deferred Submittals	PM review and understand
Building Department Guide	BCO Inspections General Information	PM to review and understand
Building Department Form	State Fire Marshal Request for Building Site Inspection	PM to review, understand, and utilize form as needed

Facilities Operations Form	Asset List and Warranty Template	PM to provide to Contractor at Kickoff and collect during Close-out
Building Department Form	Application for Temporary Certificate of Occupancy BCO	PM to review and understand when form should be used
Building Department Form	Application for Certificate of Occupancy BCO	PM to review and understand when form should be used
Procedure	Utility Outage Procedure F&S 2015 F&S0017	PM review, understand and follow procedure
e-Builder ENTERPRISE	Substantial Completion (09–SC)	PM review, understand and execute process as needed
Form	Owner's Substantial Completion Checklist	PM to review, understand, and utilize form as needed

CLOSE-OUT PHASE

The Close-out Phase is the final phase of the project process flow. The purpose of the Close-out Phase is to ensure:

- Turnover of the project from FP&C to operations is successful
- Appropriate project documentation is received, verified, and archived
- The project is financially reconciled and any excess project funds are correctly disbursed

Projects should be fully closed within 90 days of entering the Close-out Phase. PMs should set this expectation at the Design and Construction Kickoff meetings, alerting the Project Team that this will impact their evaluations, and reinforce the expectation during the Construction Phase.

The Close-out Phase begins once the Building Department has issued a Certificate of Occupancy or Completion for the project.

The PM should change the "Project Status" in e-Builder to "Close-out".

Close-out Phase Impacts

It is human nature to let off the gas once a project moves from the Construction Phase into the Close-out Phase. A PM may feel they are essentially "done" with the project as work is completed and/or people are able to move in and use the area, however, a responsible Project Manager understands the need to guide the project to completion, ensuring their clients, both the project requestor, and the University stakeholders depending on the PM's leadership, receive the information they need, or funds they are due.

Significant impacts of the Close-out phase include:

- UCF Board of Trustees reporting
- Project Financial Reconciliation/F&SBO Close-out
- Required documents received from and delivered to appropriate project stakeholders
- Project Manager Capacity Calculations
- Excess funds remitted back to Campus Clients

UCF Board of Trustees reporting

The UCF Board of Trustees Finance and Facilities subcommittee monitors Facilities Planning & Construction project metrics. Projects in the Close-out Phase show up on reporting the University presents to these entities along with the time the project has been in the phase. As projects linger in Close-out, it creates a negative

perception of abilities of the FP&C department. When the PM actively engages in Close-out with their support team and drives the projects to completion, it improves project Close-out reporting time, which creates a better overall perception of the department.

More detailed information on the Final Completion and Close Out process can be found in the following documents:

Final Completion and Closeout Narrative

10 – Final Completion & Close Out (FCCO) Workflow

Final Completion and Close-out (10 – FCCO)

The FCCO process was developed to create a central process, in which every participant receives clear instructions about what is required of them to move Close-out forward. This is a dynamic process, in which only process steps relevant to a specific project are required. For example, if the project does not include an AE, the AE step is bypassed. An outline of the process is listed below. Document naming conventions are clearly labeled within the process.

FCCO Outline

Contractor Step

- Indicates if an A/E was on the project
- Indicates if Test and Balance was required for the project
- Indicates if Commissioning was required for the project
- Indicates if the project altered campus landscape or hardscape, or have an exterior construction staging area
- Indicates if equipment was added to the project which required owner training
- Confirms project completion
  - Attaches Certificate of Occupancy or Certificate of Completion (if applicable)
  - Attaches Permit Card (if applicable)
- Confirms complete set of As-Built Drawings are attached, stamped AS_BUILT and dated.
  - Attach As-Built Drawings
- Confirms Punch List is complete
  - Attaches Completed Punch List
- Confirms Commissioning is either complete or not required
  - Attaches Final Test and Balance Report approved by Architect of Record (if applicable)
  - Attaches Preliminary Commissioning Report and Completed Issues Log (if applicable)
- Confirms Asset List is complete or not required
  - Attaches Final Asset List (if applicable)
- Confirms all Manufacturer Operations and Maintenance Manuals and Warranties are attached in the proper format
  - Attaches Manufacturer O&M and Warranties

- Confirms Contractor Warranty(s) are attached and in proper format
    - Attaches Contractors' Warranties
- Confirms all Owner Training is complete and Training Materials are attached
    - Attaches Training Schedule Matrix
    - Attaches all Sign-In Sheets
    - Attaches all Training Videos compressed into a single zip file
- Confirms Site Restoration and Remove of Construction Equipment are complete
    - Attaches photos of site area
- Confirms Inspection/Certification of Elevators is complete or not required
    - Attaches Elevator Inspections (if applicable)
    - Attaches Confirmation Document from FO that Certificates are placed in elevators
- Confirms if the project qualifies for a LEED certification

Close-out Specialist Step

- Review documents for format, completeness, and naming convention
- Initiates the AE and Contractor Survey processes
    - Can manually start a second evaluation if project has multiple contractors
- Reviews AiM Work Order for the project to ensure billing phases are complete

AE Step

- Record Documents in CAD or RVT and PDF
- Architects Final Completion form
- Reviews Contractor-supplied documents and confirms they are appropriate and complete

PM Step

- Review process selections made by prior project participants
- Review uploaded documents
- Indicate if Permit Fees were paid through project or paid directly by the contractor

Director Check Step

- Generally required for Major Projects and projects which go through Substantial Completion.
    - Will have instructions on screen to advise the PM what criteria is used to determine if a project requires Director approval

- Will route to FP&C Director first, then other Directors, and ending with F&S AVP

FO Step

- Review training selection
- Approve or reject to GC - GC response goes directly back to FO
- Note: Billing reviewed by Close-out Specialist during previous step

LNR Step (If site restoration applicable)

- Upload site photos
- Approve and confirm billing

Asset Management Step

- Confirm Asset List is complete and received
- Confirm Contractors warranties are received
- Confirms O&M Manuals / Manufacturers' Warranties are complete and received

Close-out Specialist Step

- Financial Review / Share Assets with AiM
- Complete Close-out evaluations

Payment Notice to PM

- Alerts PM they can approve final pay application

F&SBO Step

- Confirm all payments / transfers have been made and all Purchase Orders are closed
- Attach financial Summary

Project Coordinator Step

- Reconcile Financial Summary vs Project Cost
- Send notice to revoke Contractor keys

Archive Step

- Confirms receipt of required docs

Space Admin Step

- Confirms receipt of required docs

Financial Reconciliation

Project Financial Reconciliation/F&SBO Close-out

After the final payment application is received from the contractor, the Facilities and Safety Business Office (F&SBO) performs a financial reconciliation to close out their part of the project. Critical elements of this process are:

- Ensure all Purchase Orders are closed
- Review open encumbrances/commitments
- Check with the Vendors Payable department to see if there are any payments in progress that have not yet been vouchered

- Contact FP&C Close-out Team / PM if more information is needed
- Review open budget line items (Non-PO)
- Use DataMart application to find budget line items with remaining balances
- Check with internal departments / review billing data to see if final billing is submitted
- Contact FP&C Close-out Team / PM if more information is needed
- Execute Budget Position Report
- Report displays how much cash is left in the project in PeopleSoft.
- If cash amount is at a deficit to remaining budget items, the Project Accountant alerts the Accounting Coordinator.
- If cash amount is equal to the remaining budget items, create three journal entries:
- Professional Management Services Journal – FP&C Professional Management Fees
- Building Department Journal Entry – BCO Fees – Safebuilt/BCO
- Owner Savings Journal – return excess funds to Client
    - Can be physical journal or budget reduction
- If cash is at a surplus to remaining budget items, the Project Accountant alerts the Accounting Coordinator.

Required Documentation

During the FCCO process, the PM verifies all required project documentation is obtained, and reviews it for quality and reasonableness. This documentation substantiates required Close-out activities were completed, provides a record of the state of final construction of the project, and enables the University to effectively operate, maintain, and request warranty work for any installed equipment going forward. Required documentation includes:

- All warranties provided by the contractor, professionals, and manufacturers.
- As-Built drawings
- Record Drawings if the project includes a design professional
- Final Completion Certificate from Architect if project scope includes design
- All project submittals
- All Operation and Maintenance Manuals

- Final Inspection documents
- Certificate of Occupancy or Completion
- Contractor evaluation
- A/E evaluation if applicable
- Final Punch List certified complete
- Notice from client that they accept the project
- Asset List
- Certification of LEED submission if applicable
- Training matrix and sign-in sheets if training is applicable
- Final Commissioning report if commissioning is applicable
- Final approved Test and Balance report if Test and Balance if applicable
- Photo of job site to confirm site restoration
- Final Payment Application
- Copy of notification to the Work Control Center stating the project has been completed and Contractor's access to a Great Grand Master key through TRAKA has been rescinded.

Final Completion
"Final Completion" of the Work shall be achieved on the later of:

- The date that the Work passes a Final Completion inspection, or
- The date that Contractor has produced all required Final Completion Close-out documentation and items.

Work must pass the Final Completion inspection and all required Final Completion Close-out documentation and items must be produced to Owner by Contractor/Project Team.

Contractor Responsibilities
When Contractor believes it has fully performed all of the Work, including all punch list items, Contractor shall deliver to Owner a written affidavit certifying that all Work has been completed in accordance with the requirements of the Contract Documents. That written affidavit shall be delivered to Owner by Contractor at the same time it submits its final application for payment, which Contractor shall submit within thirty (30) days of the date of Substantial Completion.

Owner Final Inspection
After receipt of such affidavit, the final application for payment and all other documents required for project Close-out, Professional or Owner shall promptly inspect the Work to determine if all of the

Work has been completed and is ready for final acceptance by Owner.

If Owner or Professional determine Contractor has completed the entire Work, Owner or Professional shall promptly issue a final Certificate for Payment, stating that, to the best of its knowledge, information and belief, and on the basis of its observations and inspections:

- All of the Work has been completed in accordance with the requirements of the Contract Documents
- The final balance due Contractor, as noted in the final Certificate for Payment, is due and payable
- All conditions precedent to Contractor's entitlement to final payment have been satisfied

Conditions for approval of final payment and retainage release
Neither the final payment nor the retainage shall become due and payable until Contractor submits:

- The duly executed and notarized final Waiver and Release of Lien in the form acceptable to Owner and in compliance with Applicable Laws
- Written consent of surety to final payment
- All Close-out documentation and information required by the Contract Documents to be provided by Contractor prior to its entitlement to final payment. ***Initiate and provide all required documents in the 10-FCCO process.***
- If required by Owner, other data establishing payment or satisfaction of all obligations, such as receipts, releases and waivers of liens, arising out of the Contract Documents, to the extent and in such form as may be designated by Owner
- Certificate of Final Completion in form approved by Owner,
- All operation and maintenance manuals not previously produced,
- Owner maintenance or "attic" stock as prescribed in the technical specifications,
- One (1) set of as-built plans and specifications,
- Certification and affidavit that all insurance required of Contractor beyond final payment, if any, is in effect and will not be canceled or allowed to expire without notice to Owner,
- Full, final and unconditional waivers of construction liens, from each contractor, subcontractor, supplier or other person or entity who has, or might have a claim,
- Duly executed and notarized full, final and unconditional certification and affidavit that all of Contractor's obligations

to contractors, subcontractors, suppliers and other third parties for payment for labor, materials or equipment related to each project have been paid or otherwise satisfied,

- All written warranties and guarantees relating to the labor, goods, products, materials, equipment and systems incorporated into the Work, endorsed, countersigned, and assigned as necessary; affidavits, releases, bonds, waivers, permits and other documents necessary for final Close-out of Work,
- A list of any item(s) due but unable to be delivered and the reason for non-delivery; and
- Any other documents reasonably and customarily required or expressly required herein for full and final Close-out of the Work.

The Owner reserves the right to inspect the Work and make an independent determination as to the Work's acceptability, even though the Owner or Professional may have issued its recommendations.

Unless and until the Owner is completely satisfied that Final Completion has been achieved, neither the final payment nor the retainage shall become due and payable.

Owner's Final Completion Checklist

Document	Source
Record Drawings (if applicable)	AE
Final Completion Certificate	AE
Test and Balance Report	AE / UES
Preliminary Commissioning Report	Commissioning Agent
Final Commissioning Report	Commissioning Agent
Completed Final Punch List	Contractor
As-Built Drawings or equivalent	Contractor
Warranties	Contractor
Project Submittals	Contractor
Operation and Maintenance Manuals	Contractor
Final inspection Documents	Contractor
Certificate of Occupancy or Completion	Contractor
Asset List	Contractor

LEED Submission (if applicable)	Contractor
Job Site Restoration Photo	Contractor
Final Payment Application	Contractor
Training Sign-In Sheets	Contractor
Training Matrix	Contractor
Contractor Evaluation	PM
AE Evaluation	PM
PM Evaluation	Client
Notice of Client Acceptance	Client
Key Access Revocation	PM
Owner's Final Completion Checklist	PM

Project Manager Capacity Calculations
Each project manager has a project load capacity based on their position.

FP&C leadership uses the Load Capacity Report to review the project load capacity of each PM.

Projects with a "Project Status" of "Close-out" remain part of the PM's load calculation until they are fully closed, however the capacity value associated with the project is reduced. The PM may not be able to take on additional projects if the report indicates the PM is at full capacity. Once the final inspection has been completed, the PM must ensure the Contractor works to gain CC/CO as quickly as possible, and understands then correctly executes the FCCO process. The FCCO process has been developed to efficiently and accurately collect required materials and approvals from project stakeholders, and track the time taken at each step of the process. A portion of the Contractor Evaluation is based on how long the Contractor takes from gaining CC/CO to correctly executing their step of the FCCO process.

The expectation is that the vast majority of projects will be fully closed out within 90 days of achieving CC/CO. The PM should engage with relevant stakeholders, and work with their support team to drive project Close-out.

Excess Funds remitted back to Campus Clients
Many projects are funded by University Colleges or Departments. Often, these entities save up money over multiple years to afford a project meaningful to them. The PM should be mindful that they are the caretaker of these funds during all phases of a project, including Close-out. Excess funds should be returned to the client

as soon as practicable. By working to close the project out and return excess funds to the client, the PM demonstrates respect for their clients' resources, which make these positions possible, and creates goodwill toward FP&C.

To obtain feedback on the performance of the Project Team, end-of-project evaluations are completed for the A/E, Contractor, and Project Manager by the primary entity receiving the service.

The Project Manager completes the evaluations for the A/E and Contractor, since they are the recipient of the service provided.

Vendor Evaluations

During the FCCO process, e-Builder will spawn A/E and Contractor evaluations which the PM must complete promptly.

A/E Evaluation (as applicable)
PM measures AE on the first four factors listed below and is able to add free-form comments. The Construction Project Assistant evaluates the AE on Close-out.

- Quality
- Cost Estimate/Budget
- Schedule
- Communication
- Close-out

Contractor Evaluation
PM measures Contractor on the first four factors listed below and is able to add free-form comments. The Construction Project Assistant evaluates the Contractor on Close-out.

- Quality
- Budget
- Schedule
- Communication
- Close-out

FP&C Evaluation

The FP&C department is also evaluated at the completion of each project. The primary focus of the evaluation is on the communication received from FP&C in general and the PM specifically. This evaluation is generated by e-Builder and sent to the client during the FCCO process.

Asset Turnover

The PM should be aware of two primary entities they interact with on projects, in which assets are acquired with project funds or removed/demolished:

- Facilities Operations, Asset Management team
- F&SBO Property Custodian

These entities serve two very distinct functions:

Asset Warranty and Maintenance
The Asset Management team records assets in the AiM CMMS system for the purpose of ensuring the assets are properly

maintained, and the University is making use of any related warranties provided by the contractor or manufacturer.

Accounting of Assets held in possession by the University
The F&SBO Property Custodian works with the Property & Inventory Control department to ensure project assets are received in PeopleSoft, and ownership of the assets is transferred to the appropriate department.

PM primary responsibilities
After the Minor Project Proposal for Construction has been approved:

The PM must ensure all Property Custodians (PCTs), relevant to the project scope, are identified and added to the project by adding them as project participants in e-Builder.

- F&SBO PCT
- Client PCT
- Relevant Support Department PCTs

The PM must ensure the client understands it is their responsibility to alert Property & Inventory Control for any asset, which is purchased by them using non-project funds.

The PM must identify any assets, purchased by the contractor to perform the work, which will become University property upon completion of the project. The Facilities and Safety Business Office also tracks the purchase of equipment to be turned over to UCF on Major Projects.

During the Design Phase:

- Advise the Asset Management team of any existing asset, which is scheduled to be removed or demolished.

During Project Construction Phase:

- Advise the F&SBO PCT when Project-Funded Assets have been installed.
- PM approves pay-apps, which may contain assets.
- PM responsible for the inspection of assets received and installed.
- PM can delegate inspection activity to another University employee, but remains responsible for correct outcome.

During Project Close-out Phase:

- Verify an accurate Asset List, created in the desired format, has been turned over by Contractor.
- Ensure the Facilities Operations, Asset Management team receives the list and is satisfied with the content.

- Verify all Project-Funded Assets have been received and the FP&C PCT has transferred ownership of all relevant assets to their appropriate departments.

Warranties and Obligations

Every project will include warrantied work. Warranties cover various aspects of work and common warranties are listed in the section below. These warranties are contained in the vendors Continuing Service Contracts. The PM should be familiar with the types of warranties, their terms, and what each cover.

Different project entities warranties.

- Professionals
- Contractors
- Manufacturers

Building Envelope Warranty for Design
For five (5) years after the date of Substantial Completion of the Work, Professional shall warranty, repair, and remediate any incident of water intrusion or water damage caused by Professional's improper design of the Project's exterior systems, without additional expense to Owner. This includes the improper specification of faulty or unproven products, and the improper/inadequate detailing of building systems.

Note: Some professionals push back on the "warranty" verbiage, in which legal typically removes the word leaving the sentence as, "For five (5) years after the date of Substantial Completion of the Work, Professional shall repair, and remediate…"

Building Components Obligation
Professional shall specify in the Construction Documents that there shall be a minimum one (1) year warranty on all building components. The minimum one (1) year warranty shall in no way limit, reduce or shorten any warranty guaranteed by law, issued by manufacturers, or accepted as a general contracting or construction practice.

Roof Components Obligation
Professional shall also specify in the Construction Documents that the roof and its components shall be warrantied against water intrusion, leaks, and defects for a period of twenty-five (25) years.

Warranty for Defective Work

Assignment of Warranties to Owner
The Construction Manager shall obtain and assign to Owner on a non-exclusive basis all warranties given to Construction Manager by any subcontractors or by any suppliers supplying materials, equipment or fixtures to be incorporated into each project.

Guarantee of New Equipment
The Construction Manager expressly warrants to Owner that all materials and equipment to be incorporated into the Work shall be new unless otherwise specified.

Work Quality and Conformance to Contract Documents
Construction Manager expressly warrants to Owner that all Work shall be of good quality, free from all defects and in conformance with the Contract Documents.

Guarantee of executing work per specifications
Construction Manager warrants to Owner that all materials and equipment furnished under the Contract Documents shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturers, fabricators, suppliers or processors except as otherwise provided for in the Contract Documents.

Acceptable Warranty form
Any warranty to be provided will be in such form as is acceptable to Owner and shall not include any exclusions, exceptions or modifications except to the extent approved by Owner in its sole discretion.

Warranty Claims
In addition to all other rights and remedies available to Owner at law or in equity, including any implied warranties Owner may be entitled to as a matter of law, Construction Manager expressly warrants to Owner that it shall promptly correct, upon receipt of written notice from Owner, any portion of the Work which is found to be defective or otherwise not in conformance with the requirements of the Contract Documents.

Payments for reimbursable Work.
In the event that any defective or non-conforming work is deemed by Owner in its sole discretion to present an immediate threat to safety or security, Owner shall be entitled to correct and fix such defective or non-conforming portions of the Work, and Construction Manager shall reimburse Owner for all costs and expenses incurred by Owner in performing such Work.

Warranty Term
This obligation to correct defective or nonconforming Work shall run for a period of one (1) year (or such longer period of time as may otherwise be specified in the Contract Documents) commencing from the date that CC/CO/TCO is achieved.

Adjacent Damage
With respect to the correction of any defective or nonconforming Work, Construction Manager shall be liable for all damage to any part of the Work itself and to any adjacent property which is caused by such corrective work.

11-Month Walk Through
Construction Manager shall conduct, jointly with Owner and Professional, a warranty inspection at eleven (11) months after the date a Certificate of Completion/Certificate of Occupancy/Temporary Certificate of Occupancy is issued. Construction Manager is responsible for scheduling, notification and execution of the eleven (11) month inspection. Any items not

covered as a result of lapsed warranties will be the responsibility of the Construction Manager. Construction Manager's warranty excludes remedy for damage or defect caused by Owner's abuse, modifications not performed by Construction Manager, improper or insufficient maintenance by Owner (unless such maintenance was performed in accordance with the directions from Construction Manager), improper operation by Owner (unless such operations were performed in accordance with the directions from Construction Manager), or normal wear and tear under normal usage.

Warranty for Building Components
Construction Manager shall provide a minimum one (1) year warranty on all building components, which warranty commences on the date a Certificate of Completion/Certificate of Occupancy/Temporary Certificate of Occupancy is issued. The minimum one (1) year warranty shall in no way limit, reduce or shorten any warranty guaranteed by law, issued by manufacturers, or accepted as a general contracting or construction practice. The warranty is in addition to all other warranties given hereunder or implied by Applicable Law.

Building Envelope Warranty
For five (5) years after the date a Certificate of Completion/Certificate of Occupancy/Temporary Certificate of Occupancy is issued, Construction Manager shall warranty, repair, and remediate any incident of water intrusion or water damage caused by improper construction or installation of defective materials, including the installation of roofing materials, building side panels, attached exterior drainage, vapor barriers, windows, doors, improper installation of seals or sealants, improper construction of foundations, or other substandard or improperly installed materials or construction work.

Roof Warranty
Construction Manager shall ensure the roof and its components are warrantied by the roofing manufacturer against water intrusion, leaks, and defects for a period of twenty-five (25) years after the date a Certificate of Completion/Certificate of Occupancy/Temporary Certificate of Occupancy is issued. The warranty given in this section is in addition to all other warranties given hereunder or implied by Applicable Law.

Roof Scans
Infrared roof surveys are performed on building roofs to identify specific areas of wet insulation and moisture present in the roof system. This method gives contractors and inspectors information about state of the roof system without having to damage it.

Within a period of three (3) to six (6) months after the final completion, an aerial infrared scan of the roof system must be performed by a third-party vendor not affiliated with the roofing contractor and the results transmitted to the owner. The aerial scan and results report shall meet the documentation requirements of the Infraspection Institute for infrared inspection of insulated rooF&S.

There needs to be precise conditions for an infrared moisture survey to be successful:

- Flat or low-sloped roof
- Clean and dry roof surface
- Mostly sunny and warm during the day
- Little to no wind
- Clear night

During the day, energy from the sun heats up the roof membrane and the insulation underneath. As day turns into evening, the sun sets, and the roof system cools off, the saturated areas of insulation will hold the heat longer than the dry areas.

Equipment Warranty
Manufacturers typically warrant that their competently installed product will perform correctly for a specified term. For some equipment, specific maintenance activity needs to be performed at designated intervals for the equipment warranty to remain valid. The PM should ensure that the Facilities Operations Asset Management team receives all information needed to perform any required activities on the equipment to validate the warranty.

The table below lists the Narratives, Processes, Forms, Procedures, and Policies a PM may use during the Close-out Phase:

Type	Name	PM Responsibility
e-Builder ENTERPRISE	Final Completion and Project Close-out 10-FCCO	PM to understand an facilitate the process.
Form	Project Asset Table	PM to understand form and review contractor-completed form during FCCO
Certificate	Certificate of Substantial Completion	PM to receive from Architect / Engineer of Record
Certificate	Certificate of Final Completion	PM to receive from Architect / Engineer of Record

e-Builder ENTERPRISE	AE Evaluation	PM to receive as a process and complete evaluation
e-Builder ENTERPRISE	Contractor Evaluation	PM to receive as a process and complete evaluation
e-Builder ENTERPRISE	PM Evaluation	PM to understand and review evaluation content
Procedure	Evaluations of Firms under Contract with the University of Central Florida	PM to understand and use the procedure when completing evaluations