



UNC CHARLOTTE
Facilities Management

2021

Project Manual

A complete Project Manual for the Planning, Design & Construction team with links to templates, exhibits, and routing forms for use and reference.

Table of Contents

Glossary	4
SECTION 100 Project Creation / Initiation	6
Chapter 101 New Project	6
Chapter 102 Project Approvals	8
SECTION 200 Procurement of Design Services	10
Chapter 201 Designer Selection	10
Chapter 202 Design Agreement	13
SECTION 300 Procurement of CMR Preconstruction Services	17
Chapter 301 CMR Selection - Refer to section	17
Chapter 302 CMR Pre Construction Contract	19
SECTION 400 Consultant Contracts	20
Chapter 401 Commissioning (Cx) Selection and Contract Execution	20
Chapter 402 Construction Services	21
Chapter 403 Miscellaneous Needs	22
SECTION 500 Design	24
Chapter 501 Standards	24
Chapter 502 Schematic Design Phase	26
Chapter 503 Design Development Phase	27
Chapter 504 Construction Document Phase	30
SECTION 600 Construction Contracts and Bidding	34
Chapter 601 Bidding	35
Chapter 602 Bid Phase for Single Prime Contracting	36
Chapter 603 Award CMR Construction Contract	43
SECTION 700 Construction	44
Chapter 701 Construction Phase	44
Chapter 702 Monitoring	45
Chapter 703 Close-Out	49
Chapter 704 Close-Out	50
NC State Construction Manual	50
General Conditions, OC-15 & OC-15CM	52
UNC Charlotte Requirements	53
Other Processes/Best Practices	55
UNC-CH process	55

Campus Requests
FIS

58
58

Glossary

AA - Academic Affairs
AD – Assistant Director
AD PDC – Associate Director Planning, Design & Construction
ADP – Assistant Director Planning
AISLE - Audiovisual Integration and Support for Learning Environments
AVCFM - Associate Vice Chancellor for Facilities Management
BA - Business Affairs
BOG – Board of Governors
BOT – Board of Trustees
CM - Construction Manager
CM@R/CMR - Construction Manager at Risk
CO - Change Order
COR - Change Order Request
Cx - Commissioning
CxA - Commissioning Authority
DD - Design Documents
FIS - Facilities Information Systems
FF&E - Furniture, Fixtures, and Equipment
FM - Facilities Management
AVC – Associate Vice Chancellor
FM Finance – Facilities Management Finance
GMP - Guaranteed Maximum Price
HUB - Historically Underutilized Business
HUB C - HUB Coordinator
ITS - Information Technology Systems
MBE - Minority Business Enterprise
O&M - Operations and Maintenance
OSBM - Office of State Budget and Management
P6 - Primavera 6 (Project Management software)
PDCAA - Administrative Assistant
DPDC – Planning, Design & Construction
PM – Project Manager
PS – Project Support
RFP - Request for Proposal
RFQ - Request for Qualifications
ROM - Rough Order of Magnitude
SA - Student Affairs
SCO - State Construction Office
SD - Schematic Design
UNCSSO - University of North Carolina System Office
VCBA – Vice Chancellor Business Affairs

VCBA Admin - Vice Chancellor Business Affairs Admin

WR - Work Request

[Capital Project Overview Glossary of Terms](#)

[Interscope+ Definitions](#)

[FM Website](#)

SECTION 100 Project Creation / Initiation

Planning, Design & Construction new project intake process including assessment of project request, project creation, and project routing & assignment to Project Manager Teams. Capital project authority is required for projects with budgets \$300,000 or more and requires specific project approval processes based on project budget. The 'project budget' includes the design, construction, contingency, and all associated costs of completing the intended construction.

Chapter 101 New Project

[EXHIBIT Project Request Form](#)

[EXHIBIT Formal Project Folder Structure](#)

[EXHIBIT Informal Project Folder Structure](#)

[EXHIBIT Project Scope Sheet](#)

[EXHIBIT Project Schedule Example](#)

[EXHIBIT Estimating and Budget Tracking worksheet](#)

[EXHIBIT Cost Worksheet Example](#)

[EXHIBIT Project Approval Checklist](#)

[EXHIBIT Code & Item](#)

[EXHIBIT CI-1](#)

[EXHIBIT OC-25](#)

[EXHIBIT Project Tracking Gantt Chart](#)

[EXHIBIT Capital Project Glossary of Terms](#)

[EXHIBIT Interscope Definitions & Terminology](#)

[Archibus Login](#)

[Google Drive](#)

[Interscope Training Materials Library](#)

[UNC SO Capital Project Procedure Guidance Table](#)

[Email Template Customer Correspondence \(CC\)](#)

- A. Requestor fills out the [Project Request Form](#) in [Archibus](#) and submits to Intake.
1. Each department or unit will decide who has the authority to submit a project request.
 2. Facilities Information Systems (FIS) assigns that individual the permissions needed to access the Project Request module in ARCHIBUS.
 3. Project is automatically assigned a project name, project number, notifies the Assistant Director of Planning (ADP) via email and logs the request in the Project List which resides in a project report in ARCHIBUS.
- B. Project Request Contact Group (defined by FIS) receives auto generated email from Archibus notifying them that a Project Request has been submitted and ADP reviews it in ARCHIBUS.

Reminder: Project request contact group includes DPDCs (ADs, ADPDC, and DPDC)

1. Confirm the project has a project sponsor and the project sponsor has approved.
 2. Determine if the proposed budget is adequate for the proposed scope of work.
 3. Determine if there are other projects in planning, design, or construction that impact the proposed project.
 4. Determine if there are planning or feasibility studies related to the proposed project.
 5. If project acceptable, submit to Project Admin Assigner
- C. ADP confers with Project Intake Assignments Group via email, gets consensus and assigns the project to the appropriate AD Teams and Project Manager (PM) and converts to a Formal or Informal project.
1. Academic Affairs team
 2. Business Affairs team

3. Student Affairs team
4. Infrastructure Support team
- D. The ADP creates a project folder
 1. Project Total Budget greater than \$500,000 [folder structure**](#)
 2. Project Total Budget less than \$500,000 [folder structure](#)
- E. Define Project Scope
 1. Project Manager (PM) receives project assignment notification.
 - a. Within seven (7) calendar days of the project assignment notification, PM [contacts the customer](#) (email template CC #1) to introduce themselves as the PM and schedule a project scoping meeting. **The PM must include their supervising AD in all correspondence and project meetings.**
 - b. The PM meets with the customer to identify all project stakeholders, record customer expectations, identify and record customer budget and schedule constraints, and identify and record basic project scope, including furniture, fixtures, and equipment (FF&E) on the [Project Scope Sheet](#).
 - i. PM shall consult their AD to get approval regarding the identified project stakeholders and user groups.
 - c. Additional scoping meetings may be required with both customer and other project stakeholders to fully develop and record basic project scope. Record any additional scoping meetings in an addendum to the original [Project Scope Sheet](#).
 - d. The PM shall investigate and record potential code, permitting, and jurisdictional impacts to project scope, schedule, and budget. Record any additional scope items on an addendum to the original [Project Scope Sheet](#).
 2. Decision to include an Advance Planning (AP) phase and project construction delivery method.
 - a. Unless otherwise determined before the project is assigned, PM, AD, ADPDC, ADP, DPDC determine if Advance Planning (AP) phase is required after budget investigation by PM.
 - b. The DPDC and AVCFM determine if the project is appropriate for a design-build delivery method or Construction Manager at Risk (CM@R) delivery method.
 - i. The designer selection process outlined in Section 200 will also apply to the selection of a design-build team.
 - c. Construction Delivery Method decided by DPDC, ADPDC, AD
 3. Identify Resources
 - a. The PM identifies the resources required to design and construct the proposed project on the [Project Scope Sheet](#).
 - b. Resources, at a minimum may include, user groups (in-house staff, other University departmental participation), consultants, and contractors, and funding sources.
 4. Prepare preliminary project schedule
 - a. The PM prepares a preliminary [Project Schedule Example](#)
 5. “Pre-design” Total Project Cost Estimate

Reminder: PM is responsible for updating the budget in Archibus and exporting a [Cost Worksheet](#) report for each project, to be saved on [Google Drive](#) every month

 - a. Soft costs are identified and estimated, and hard costs are “quantified” where feasible and “square-footed” where necessary.
 - b. If furniture is to be included, the PM consults with FM interior design.

- c. The PM consults with AISLE (Audiovisual Integration and Support for Learning Environments) and ITS (Information Technology Systems) on budget.
- 6. Scope, schedule, and estimate are approved.
 - a. The PM schedules a meeting with the customer and stakeholders to review the final project scope, schedule and the pre-design total project cost estimate.
 - b. The PM works with customer and stakeholders and modifies project scope as necessary to achieve customer/stakeholder approval of scope, schedule, and estimate.
 - c. Agreed project scope, schedule, cost estimate, and valid funding source are documented on the [project approval checklist](#) and signed-off by customer, Project Requester and Project Sponsor.

Chapter 102 Project Approvals

- A. Capital Project Authority
 - 1. Project development for projects \$300,000 and above University responsible for defining scope, budget, and schedule (CI-1, OC-25)
 - a. Projects with a budget \$300,000 to \$750,000: Board of Trustees (BOT) authorization and requests for increase in authorization.
 - i. Microsoft Project Schedule not required (University may require on a project by project basis).
 - b. Projects over \$750,000: Board of Governors (BOG) authorization and requests for increase in authorization.
 - i. BOG authorization only after BOT approval.
 - BOG meets monthly around the third week of the month (usually a Thursday).
 - BOT meets four times per year in February, April, September, and December.
 - ii. Microsoft Project Schedule required (formerly Primavera).
 - 2. Any project with a code and item number is considered a formal project regardless of budget.
 - a. [Code](#): 5 digit number that designates the funding authorization assigned by OSBM.
 - b. [Item](#): 3-digit number assigned by OSBM in combination with the code to form a unique identifier for an authorized capital project.
 - 3. Projects may be submitted for Advance Planning (AP) or for full project design and construction.
 - a. AP will be partially funded for 10% of the budget of the project, requesting full allocation of funds occurs after the AP phase.
 - 4. UNCISO establishes a project in Interscope.
- B. Project University Approval Process (projects over \$300,000)
 - 1. The DPDC notifies the Budget Office of intent to submit a project for authorization and requests confirmation of source of funds for the project.
 - 2. The PM assembles the pre-design documents including the [project approval checklist](#) with the scope, schedule, and budget forms and any other appropriate supporting documentation of scope, schedule, cost estimate, valid funding source, and submits the [project approval checklist](#) to the AD who reviews and then submits to ADP, AD PDC, DPDC, Director of Engineering, and AVCFM for review and approval.

3. ADP prepares agenda items and submits to DPDC routed to AVCFM. AVCFM submits to Vice Chancellor for Business Affairs (VCBA) for inclusion on the BOT/BOG agenda.
 - a. ADP prepares [CI-1](#) and [OC 25](#) forms for submission.
 - b. ADP routes the package to VCBA, sending it to DPDC to begin the approval process.
 - i. The VCBA submits the package to the Office of the Chancellor
 4. Following BOT action, the ADP notifies PM, Project Support (PS), FM Finance Office. The PM will then notify the Project Requestor, Project Sponsor, customer, and stakeholders.
 - a. PS records the BOT action on the [project approval checklist](#). PS files copies of the BOT Agenda and Meeting Minutes in the project folder.
 - i. S:\FM\Planning\BOT Information
 5. If the BOT does not approve the project, the project does not proceed.
 6. If the BOT approves the project:
 - a. ADP notifies the ADPDC, AD, and PM to proceed to the Design Phase.
 - b. The cost estimate as presented to and recorded on the [project approval checklist](#) becomes the Approved Project Budget. [project approval checklist](#)
 - c. ADP prepares a letter to the Office of State Budget and Management (OSBM) certifying that the BOT has approved the project.
 - i. The letter is routed to VCBA, sending to ADPDC to begin the approval process.
 - ii. Signed letter is sent to the OSBM.
 7. FM Finance Office notifies ADP once the OSBM has approved the project.
 - a. For projects \$300k-\$750K skip to paragraph 'D. Project Authorized'
- After BOT approval for projects above \$750,000
8. ADP sends OC-25 and CI-1 forms for the submittal of the project for UNC BOG action and notifies the ADPDC and the DPDC of the BOG schedule.
 - a. ADP routes package to AVCFM, sending to ADPDC to begin the approval process.
 - b. The AVCFM signs the documents and submits to the UNC System Office.
 9. After approval by the UNC BOG, VCBA forwards a copy of approval from UNCISO to AVCFM and DPDC, DPDC forwards to PS and ADP.
 - a. PS records BOG action on the [project approval checklist](#) and updates the [project tracking gantt chart](#) and the project authorization spreadsheet.
S:\FM\Planning\Project Authorization Spreadsheet.
 10. ADP notifies FM Finance Office, and PM of Board action. The PM then notifies the Project Requestor, customer, and stakeholders of Board action.
 11. If the BOG does not approve the project, the project does not proceed.
 12. If the BOG approves the project, ADP notifies the AD and PM to proceed to the Design Phase, and the cost estimate as presented to the BOG and recorded on the [project approval checklist](#) becomes the Approved Project Budget

SECTION 200 Procurement of Design Services

Projects that require design professionals (refer to G.S. 133-1.1), including architects, engineers, landscape architects, or other professional consultant services. Procurement includes the designer selection process, approval of designer selection, designer's contract form or letter agreement type, and execution process. The selected designer will be provided with all information needed to prepare an appropriate scope of design work, schedule, and design fee to meet the requirements established in the authorization.

[EXHIBIT Meeting Request Form](#)

[EXHIBIT Designer RFQ](#)

[EXHIBIT Pre-proposal Sign-In Sheet](#)

[EXHIBIT Pre-proposal Presentation](#)

[EXHIBIT Submittal Form and Subconsultant Matrix](#)

[EXHIBIT Designer Shortlist Meeting Minutes](#)

[EXHIBIT Interview Letter](#)

[EXHIBIT Designer Interview Presentation Guide](#)

[EXHIBIT Designer Selection Meeting Minutes no BOT](#)

[EXHIBIT Designer Selected Meeting Minutes](#)

[EXHIBIT Designer Summary](#)

[EXHIBIT Designer Selected Meeting Minutes w/ BOT](#)

[EXHIBIT SCO AP Contract Request](#)

[EXHIBIT Price Negotiation Memorandum](#)

[EXHIBIT Project Approval Sign-Off Form](#)

[EXHIBIT Project Approval Checklist](#)

[EXHIBIT Standard Design Agreement](#)

[EXHIBIT Letter Agreement](#)

[EXHIBIT Article 15 Supplemental Agreement](#)

[Email Template Advance Planning \(AP\)](#)

[Email Template Designer Procurement \(DP\)](#)

[Email Web Posting \(PS\)](#)

[Email Template Designer Procurement \(DP\)](#)

[SCO Manual](#)

[EXHIBIT SCO Design Agreement Request](#)

[UNC SO Capital Project Procedure Guidance Table](#)

Chapter 201 Designer Selection

A. Designer Selection Method - [Refer to section](#)

1. Assistant Director of Planning (ADP), ADP, Design, and Construction (ADPDC), and the Assistant Director (AD) confer to determine designer selection method, if Advanced Planning/Programming will be included, and if it will be designed in-house or if an outside designer will be engaged.

- a. Projects up to \$500,000: designer selection through an open-end agreement or direct selection

Reminder: 'Direct Selection' is Qualifications-based, but not a public, competitive process

B. Project budget over \$500,000: designer selection through public advertisement

1. PM recommends designer Shortlist and Selection (Interview) Committee members, approval by AD, ADPDC, and DPDC. Committee members typically include the AVCFM, the DPDC, the ADPDC, ADP, Director of Engineering and PM, a customer representative, and sometimes other campus stakeholders and/or University Administration.

- a. Projects \$2M - \$20M: PM to [email](#) (Email template DP#2b) recommendations for the selection committee chaired by AVCFM.

- b. Projects \$20M and above: PM to [email](#) (Email template DP#2a) recommendations for selection committee chaired by BOT member, email PS to request date for BOT to attend interviews
- 2. When committees have been approved and an interview date has been determined (PM to coordinate with Admin of Chair), prepare a [meeting request form](#) and email to PS to set up the shortlist and interview meetings.
 - a. Projects \$2M - \$20M [email](#) (Email template DP#4b)
 - b. Projects \$20M and above [email](#) (Email template DP#4a)
- 3. PM prepares [Designer RFQ](#), sends it to AD, ADPDC for review and approval.
 - a. Projects \$500,000 and above are required to be publicly advertised for a minimum of 15 calendar days. PM [email](#) (Email template PS#1) final version of RFQ to PS requesting it be posted to website (include folder path to where the documents are saved)
 - b. Advertisements for Design Services must be posted to the UNC Charlotte website and the UNCSCO website. Allow a minimum of 3 days from time of request to posting.
 - i. When posted to the UNCSCO website the [advertisement](#) will also appear on the State of North Carolina Interactive Purchasing System (IPS) website.

Reminder: no communication with designers allowed

- 4. Pre-proposal meeting
 - a. PM to determine meeting duration, day (none to be scheduled on Monday or Friday), time, room size needed, and required attendees.
 - i. Submit [meeting request form](#) to PS for room reservation
 - b. PM prepare [sign-in sheet](#)(s) and [pre-proposal presentation](#)
 - i. Presentation must be approved by AD, AD PDC and DPDC 1 week prior to the pre-proposal meeting. Email draft presentation for their review & comment.
 - ii. Presentation to include cutoff dates for: Final Questions Due (via email only) and Final Addendum Issue Date

Reminder: Advertise date + 7 days = Pre-proposal meeting date + 7 days = Final Questions due + 7 days = Final addenda issued + 7 days = Submittal due date

- c. Within 24 hours of the pre-proposal meeting, post pre-proposal presentation and sign-in sheet to UNC Charlotte website
 - i. Scan the [sign-in sheet](#), save it in the project folder, send the sign-in and presentation to PS for posting to website
 - d. PM to prepare an addendum with any updated project related information (dates, RFQ, project details, etc.), including Questions & Responses to questions received via email, answers to be reviewed and approved by AD and ADPDC before issuing.
 - i. Email addendum to PS to post on the UNC Charlotte website.
 - ii. Final Addendum must be issued by Close of Business (COB) at least seven (7) days prior to submittal due date.
- 5. Designer Shortlisting
 - a. Receive Submittals from Designers
 - i. PS save digital submissions to project folder 1.3 and on Google Drive or Dropbox and provide link to PM
 - ii. PS add master contacts to the [submittal form and subconsultant matrix](#).

- Master contact sheet tied to notes sheet, will auto fill. PM to fill in sub-matrix.
- iii. PM to [email](#) (Email template DP #5) to Shortlist committee: submittal form, link to digital submissions (Dropbox or Google Drive), and brief directions including shortlist selection meeting date
- b. Hold Shortlist Selection Meeting
 - i. [Shortlist meeting minutes](#) are prepared and signed by the PM as Secretary, reviewed by AD, DPDC, and approved by AVCFM.
 - ii. Shortlisted firms are notified by [letter](#) created and sent by PS
 - iii. After the letters have been delivered, PM emails selected firms' designer [interview presentation guide](#).
- 6. Designer Interview and Final Selection
 - a. Projects with Only Designer Selection (no interview) (\$2M and less):
 - i. The PM prepares the [meeting minutes](#) and routes to AVCFM to start the approval process.
 - ii. Once minutes are executed by the AVCFM, PS sends [letters to selected firm and non-selected firms](#).
Reminder: Selection must remain confidential until minutes are executed.
 - iii. After letters are sent, PM/AD calls the selected firm to notify that they have been selected.
 - b. Projects Shortlisting, Interview, and Selection (more than \$2M):
 - i. The PM sends the [submittal form and subconsultant matrix](#) form and [designer summary](#) to the selection committee seven (7) days prior to the designer interviews.
 - ii. If VCBA is on the interview committee, the PM sends the [submittal form and subconsultant matrix](#) and [designer summary](#) to VCBA Admin (Nelda Tatum) for the interview committee.
With BOT Member: (interviews occur before)
 - iii. The PM prepares the [meeting minutes](#) and routes the minutes to the VCBA via ADPDC, DPDC and the AVCFM for execution.
Without BOT Member:
 - iv. The PM prepares the [meeting minutes](#) and routes the minutes to the ADPDC, DPDC and the AVCFM for execution.
 - c. PS routes signed minutes to VCBA via AD to start the approval process.
 - d. Following approval by the VCBA, the selected firm and the first and second alternate firms are sent a [notification letter](#) by PS.
 - e. After letters are sent, PM/AD calls the three design firms to notify that they have been selected or not selected.
 - f. The DPDC notifies the UNC System Office (UNCSCO) of the selection.

Chapter 202 Design Agreement

- A. The PM in consultation with the AD and DPDC determines if a separate schematic design and design development phases, a combined schematic and design development phase or construction document only phase are required and may have to be approved by SCO.
- B. PM requests the [fee proposal](#) (Email template DP#8) from the selected design firm and negotiates project fee and project deliverables, reviews with AD, ADPDC.
- C. For SCO Projects (\$2M+)
 1. Advance Planning - If there's no Advance Planning/Programming, skip to [section G](#)
 - a. PM fills out the [letter](#) to SCO requesting contract negotiation, prepares [price negotiation memo](#) with the designer's proposal, and routes to AVCFM via AD to start the approval process.
 - b. When the letter has been executed by DPDC, PS to scan, save to project folder (S:\FM\Capital\Project Files\Project Files- SCO\<Project Name>\2 Design\2.1 Designer) Contract (including Amendments) and attach it to PS email to SCO.
 - c. When contracts have been approved by SCO, SCO will issue them to the designer for signatures. After receiving the signed copies from the designer, PM routes to VCBA via AD to start approval process, for final execution.
- D. An Advance Planning phase of the project may be used to develop programming, scope and budget analysis, site selection, studies, master planning, and other strategic project decisions.
 1. The requirements for advance planning of capital improvement projects are outlined in the [SCO Manual](#).
 2. The PM coordinates the AP effort and schedules meetings with designer, customer, FM Engineering, the campus ADA Coordinator, and other stakeholders. Meeting minutes, presentations, and other documents prepared by the designer are distributed by the PM who saves to the project folder.

Reminder: Meeting minutes are extremely important because they become the official record of decision making throughout the project.
 3. PM ensures AP submittal includes the program, plans, design narrative, cost, and schedule.
 - a. The project budget must be within the estimated construction budget. If the estimated cost exceeds the project budget, alternates are identified and/or the project scope is reduced. It is the designer's responsibility to produce a design within the budget.
 - b. Reductions in project scope and alternates are reviewed and approved by the PM, AD, ADP, DPDC, project requestor, customer, and stakeholders.
 4. The PM ensures that the designer submits the AP documents (within budget) to SCO to start their review concurrently with the University's.
 5. PM starts the process of setting up the design review to receive comments from the University.
 - a. For Bluebeam: PM sends file path to PS with design document submittal - [Refer to section](#) (S:\FM\Capital\Project Files\Project Files-<UMP or SCO>\Project Name\7 Plans and Specs\<Design Phase>)
 6. The PM to [notify](#) (Email template AP#2) "Project Reviewer List" with the Bluebeam session and due date for comments. Review session durations are usually for 30 days.

Reminder: "Project Reviewer List" are the people invited to design phase review sessions. PM to propose a list and get it approved by AD.

7. PM receives compiled comments from PS at the end of the review session and distributes to the design team.
 - a. PM to audit comments before sending to the design team.
 - i. Audit to include: identifying requests that are not included in the project scope, prioritizing comment requests, and identifying comments that are invalid.
 - ii. If PM believes it is in the best interest of the University to incorporate requests that are outside the scope, PM to review with and get approval from AD, ADPDC, ADP.
 - b. PM ensures the design phase approvals are recorded on the [Project Approval Sign-Off Form](#).
 8. The designer is required to provide a satisfactory response to every review comment from UNC Charlotte and SCO in writing. The PM distributes the written responses to the ADP, ADPDC, DPDC, Director of Engineering, project requestor, customer, and stakeholders.
 9. Review comments and designer responses are saved in the project file and on [Dropbox](#) by PM.
- E. Approval for full project authorization
1. Following approval by UNC Charlotte and SCO, the project may be submitted to the UNC Charlotte BOT and the UNC BOG (if over \$600,000) for approval for full project authorization.
 2. The ADP prepares documents for submittal to the BOT and BOG as outlined in Phase I, item 13 f. Section 1, 2. Design Services, 2.3, H
- F. Design Agreement Extension
1. For projects with Advanced Planning when full project authorization has been received , PM to send email to designer to let them know that their contract has been extended
- G. Programming (if Advance Planning is not utilized)
1. The PM coordinates programming effort and schedules meetings with the designer, customer, and other stakeholders.
 2. The program document fully defining the project program is prepared by the designer and is submitted for review, approval, and sign-off by the customer and all stakeholders, the designer, and the PM, AD, DPDC, Director of Engineering and AVCFM.
 3. The designer prepares a cost estimate. The cost estimate is reviewed by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders. If the estimate is over budget, alternates are identified, or the program scope is revised to bring the estimated cost within the project budget.
 - a. Revisions in project scope must be approved by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders
 - b. Alternates must be approved by the PM, the AD, the DPDC, the AVCFM, the customer and other stakeholders.
 - c. The programming documents are reviewed by the PM, the AD, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders for alignment with project needs.
 - i. PM emails users (Email template AP#4) and allows 30 days for review and attach it to an email to the reviewers, adding in any project-specific reviewers to the recipient list.
 - d. The PM facilitates review of the programming documents, collects, and distributes review comments to the design team and obtains approval for the programming phase. Approvals

are recorded on the [project approval checklist](#). Review comments and designer responses are saved in the project folder.

H. Design Agreement Execution

1. For projects up to \$500,000
 - a. [Open-End Design Agreement](#)
 - i. PM with AD, DPDC selects a designer from the list of firms on the University's Open-Ended Contract List in the area suitable for the project. **Is this a unilateral decision by the PM?**
 - ii. PM [request fee proposal](#) (Email template DP#8) from the selected design firm and negotiates project fee and project deliverables, reviews with AD, ADPDC.
 - iii. PM to prepare [letter agreement](#) with firm
 - iv. PM sends filled out contract, the fee proposal, and fee negotiation memo to the AD, the DPDC and the AVCFM for review and approval.
 - v. PM [email](#) (Email template DP#9b) the designer contract and approved proposal (both in PDF format) requesting execution of 3 original copies.
 - vi. When executed contracts have been received, route with approved proposal to VCBA via AD to start the approval process.
2. For Projects >\$500,000 - \$2M
 - a. PM [request fee proposal](#) (Email template DP#8) from the selected design firm and negotiates project fee and project deliverables, review with AD, ADPDC.
 - b. PM fills out UNC SO [standard design agreement](#)
 - c. PM sends a filled out contract, the fee proposal and fee negotiation memo to the AD, the DPDC and the AVCFM for review and approval.
 - d. PM sends the designer an email with the contract and approved proposal (both in PDF format) requesting execution of 3 original copies.
 - e. When executed contracts have been received, **route** contracts with approved proposals to VCBA via AD to start the approval process.
3. For Projects more than \$2M
 - a. PM fills out a [letter](#) to SCO requesting contract negotiation, prepares [price negotiation memo](#) with the designer's proposal, route to AVCFM via AD to start the approval process.
 - b. When the letter has been executed by DPDC, PS to scan, save to project folder path 2.1. Contract (including Amendments) and attach it to PS email to SCO.
 - c. When contracts have been approved by SCO, SCO will issue them to the designer for their signatures.
 - d. Designer sends the signed copies to PM and PM routes to VCBA, via AD to start the approval process, for final execution.
 - e. When fully executed, PS sends one copy of the executed contract to FM Finance and requests a PO for all contract types.
 - f. The PO number is provided to the designer in the cover letter sent to the design firm.
 - g. Executed Contract
 - i. One fully executed copy of the contract is returned to the design firm, one copy is maintained by the PM in the project contracts file (hard copy and electronic).
 - ii. PS sends FM Finance a copy of the cover letter and executed contract.

- iii. FM Finance issues a Purchase Order Number for all contract types. The PO number is provided to the designer in a cover [letter](#) created and sent by PS to the design firm.

Reminder: FM Finance receives a copy of the cover letter and executed contract for all contracts issued, including design, commissioning, CMR, construction, materials and testing, special inspections, etc.

4. Executed Contract

- a. One fully executed copy of the contract is returned to the design firm, one copy is saved by PS in the project contracts file (hard copy and electronic).
- b. PS sends FM Finance a copy of the cover letter and the third original executed contract.
- c. FM Finance issues a Purchase Number for all contract types. The PO number is provided to the designer in a cover [letter](#) created and sent by PS to the design firm.

5. Design Agreement Amendment

- a. PM request amendment proposal from designer
- b. For projects \$500,000 - \$2M
 - i. PM fills out [Article 15 – Supplemental Agreement](#).
 - ii. PM prints Article 15, the fee proposal, and [fee negotiation memo](#) and route to AVCFM, sends to AD to start approval process.
 - iii. Send the designer an email with the contract and approved proposal (both in PDF format) requesting execution of three original copies.
 - iv. When executed contracts have been received, put them in a blue folder with a copy of the approved proposal, route to VCBA, fee negotiation memo, and send to AD to begin the approval process.
- c. For projects \$2M+ (SCO)
 - i. Fill out Contract Amendment Request form and [fee negotiation memo](#), routing slip to DPDC with the designer's proposal, send to ADPDC to start approval process.
 - ii. SCO, upon approval, will send four copies of Article 14, Supplemental Agreement to the Designer to sign. When the designer has signed, they will return to the University for final execution.
 - iii. Upon receiving signed amendments from designer, route to VCBA along with the designer's proposal and fee negotiation memo and send to AD to start approval process.

SECTION 300 Procurement of CMR Preconstruction Services

Construction Management at Risk is an authorized contracting method. These services include independent cost estimating at each major phase of design, conducting value engineering workshops, constructability reviews of the design documents and providing construction expertise during design to facilitate planning.

The “Construction Manager at Risk” (CMR) is selected on a qualification based solicitation typically at the beginning of the design process and, working with the University and Designer, provides constructability input and cost estimating advice during the precon phases. When the construction documents are submitted, the CMR provides a GMP (guaranteed maximum price) acting as a construction manager to deliver the project.

[EXHIBIT CMR RFQ](#)

[EXHIBIT Meeting Request Form](#)

[EXHIBIT Sign-In Sheet](#)

[EXHIBIT Pre-Submittal Presentation](#)

[EXHIBIT CMR Submittal Form and Subconsultant Matrix](#)

[EXHIBIT Shortlist Meeting Minutes](#)

[EXHIBIT CMR Interview Presentation Letter](#)

[EXHIBIT Designer Interview Presentation Guide](#)

[EXHIBIT CMR Selection Meeting Minutes](#)

[EXHIBIT Pre-Construction SCO Letter](#)

[EXHIBIT Contract Execution Letter](#)

[EXHIBIT Letter Agreement](#)

[Email Web Posting \(DP\)](#)

[Email Template Construction Manager @ Risk \(CMR\)](#)

[Email Template Request to PS \(PS\)](#)

[FM Website](#)

[Construction Manager Contract](#)

[SCO Manual](#)

[SCO website](#)

[UNC SO Capital Project Procedure Guidance Table](#)

Chapter 301 CMR Selection - [Refer to section](#)

- A. If the project is using the CMR construction delivery method, the PM prepares a [CMR RFQ](#).
1. Projects under \$2M do not use the CMR delivery method.

Reminder: All projects with a budget over \$500,000 must be publicly advertised.

- B. The procedures for selecting a CMR are posted on the [SCO website](#).
1. In consultation with the AD and the DPDC, the PM establishes an “CMR Selection Committee” as required by UNCISO and SCO.
 - a. For projects from \$2M to \$20M the committee is chaired by the AVCFM.
 - b. For projects over \$20M, the committee is chaired by a member of the BOT.
 - c. Committee members typically include the AVCFM, the DPDC, the ADPDC, AD, PM, a customer representative, and possibly representatives of other stakeholders and the University Administration.
- C. PM recommends CMR Shortlist and Selection (Interview) Committee members, approval by DPDC, ADPDC, and AD. Committee members typically include the AVCFM, the DPDC, the ADPDC, AD, HUB-C and PM, a customer representative, and sometimes other campus stakeholders and/or University Administration.
1. Projects \$2M - \$20M: PM to [email](#) (Email template CMR#1) recommendations for selection committee chaired by AVCFM

2. Projects \$20M and above: PM to [email](#) (Email template CMR#3) recommendations for selection committee chaired by BOT member, [email](#) (Email template CMR#4) PS to request date for BOT to attend interviews
- D. When committees have been approved, PM to [email](#) (Email template CMR#2) PS with [meeting request form](#) to set up shortlisting and interview meetings. PM to determine pre-submittal meeting duration, day, time, room size needed, and required attendees, to PS to set up the shortlist and interview meetings.
1. Projects \$2M - \$20M [email](#) (Email template CMR#5)
 2. Projects \$20M and above, PM to first [email](#) (Email template CMR#4) PS to request a BOT member, then [email](#) (Email template CMR #5)
- E. PM to determine pre-submittal meeting duration, day, time, room size needed, and required attendees.
1. PM to provide meeting details and [request](#) (Email template PS#7) PS to arrange a reservation or submit request directly via <http://cres.uncc.edu/on/campus-group-reservation-request> .
 2. PM to [send](#) (Email Template CMR#8) the Project Stakeholders with the pre-submittal meeting details.
- F. PM prepare [sign-in sheet\(s\)](#) and [pre-submittal presentation](#)
1. Presentation must be approved by AD, ADPDC and DPDC one week prior to the pre-proposal meeting. Email draft presentation for their review & comment.
 2. Presentation to include cutoff dates for: Final Questions Due (via email only) and Final Addendum Issue Date

*Reminder: Min. interval::
 Advertise date + min 7 days = Pre-proposal meeting date + 7 days = Final Questions due + 7 days
 = Final addenda issued + 7 days = Submittal due date*

- G. The PM conducts the pre-submittal meeting
1. Within 24 hours of the pre-submittal meeting, the final presentation, final HUB form (receive from HUB-C) and scanned sign-in sheet(s) to [FM website](#)
 - a. PM to scan the [sign-in sheet\(s\)](#) and receive final HUB documentation from HUB C and save both to project folder 6.0.1 CM Selection)
 - b. PM to prepare addendum including the sign-in sheet(s), final presentation (as PDF), final HUB documentation, and Questions & Responses to questions the PM receives via email.
 - i. [Email](#) (Email template PS#7) addendum to PS to post on the [FM website](#).
 - ii. Final Addenda must be issued at least seven (7) days prior to submittal due date.
- H. CMR Shortlisting
1. Receive Submittals from CMR firms
 - a. PS to save digital submissions to project folder and on google drive/dropbox so anybody can access them:
Project Folder 6.0.1 CM Selection\Submittals
 - b. PS add master contacts to the [CMR submittal review form](#)
 - i. Master contact sheet tied to notes sheet, will auto fill.
 - c. [Email](#) (Email template CMR#6) to Shortlist committee: attach evaluation form, link to digital submissions (dropbox or google drive), and brief directions including shortlist selection meeting date
 - d. PM distributes hard copies of the submittals to the recipients indicated in the email.
 2. Hold Shortlist Selection Meeting
 - a. The Shortlist Committee reviews each submittal based on the criteria as detailed in the NC Administrative Code (01 NCAC 30J .0303) and selects three or four firms to interview.

- b. [Shortlist meeting minutes](#) are prepared by the PM who then routes to AVCFM for execution via AD to start the approval process.
 - c. When meeting minutes are executed, shortlisted firms are notified by [letter](#) created and sent by PS.
 - d. After the letters have been sent, PM prepares the [interview presentation guide](#) and [emails](#) it to shortlisted firms including the interview schedule.
- I. CMR Interview and Final Selection
- 1. The PM sends the [interview presentation guide](#) to the selection committee seven (7) days prior to the CMR interviews.
 - a. If VCBA is on the interview committee, the PM sends the [interview presentation guide](#) (PDF) to VCBA Admin for the interview committee.
- After interviews have been completed:
- With BOT Member:*
- b. The PM prepares the [meeting minutes](#) and routes them to VCBA via AD to start approval process minutes.
- Without BOT Member:*
- c. The PM prepares the [meeting minutes](#) and routes them to AVCFM via AD to start approval process.
- 2. Following execution of minutes, PS prepares the selected letter, Alternate 1 letter and Alternate 2 letter, and Not Selected letters and mails and emails to firms.
 - 3. After letters are sent, PM/AD calls the interviewed CMR firms to notify them that they have been selected or not selected.
 - 4. The DPDC notifies the UNC System Office (UNCSCO) of the selection.

Chapter 302 CMR Pre Construction Contract

- A. PM [requests a fee proposal](#) (Email template DP#8) from the selected CMR firm and negotiate project fee and project deliverables, review with AD, ADPDC.
 - 1. PM must ensure the proposal includes services as required by [SCO](#) as a minimum.
- B. PM fills out [letter](#) to SCO requesting preparation of the contract with the CMR's proposal attached and routes to AVCFM with Justification Memo via AD to start the approval process.
 - 1. When the letter has been executed by AVCFM, PS to scan, save to project folder 6.0.2, and email & mail to SCO.
- C. Upon approval, SCO issues the [contract](#) to the CMR for signatures. CMR mails signed copies to PM. After receiving the signed copies from the CMR, PM routes to VCBA, via AD to start the final execution process.
 - 1. Upon receiving signed copies back from VCBA, PM prepares [contract execution letter](#) with the executed contract attached and routes to DPDC via AD with a price negotiation memo to start the approval process.
 - 2. PS sends executed contract and letter to CMR and SCO.
 - 3. PS sends one copy of the executed contract to FM Finance and they issue a PO number.
- D. PO number is provided to the CMR in the cover [letter](#) sent to the CMR firm by PS.

SECTION 400 Consultant Contracts

Professional services required outside of the design contract. These types of services can be needed before, during, or after the design phase.

[EXHIBIT RFQ Template](#)

[EXHIBIT Designer Selection Committee Meeting Minutes](#)

[EXHIBIT Commissioning Agent](#)

[EXHIBIT Letter Agreement](#)

[EXHIBIT PO Requisition Form](#)

[Email Web Posting \(PS\)](#)

[Email Designer Procurement \(DP\)](#)

[FM website](#)

[Building Commissioning Standards](#)

[UNC SO Capital Project Procedure Guidance Table](#)

Chapter 401 Commissioning (Cx) Selection and Contract Execution

- A. If the project will use a commissioning agent, the PM prepares a RFQ for building commissioning services using the [RFQ template](#).

Reminder: All projects with 20,000 gsf or more require a CxA. Additional projects may include a CxA based on these [Building Commissioning standards](#). PM to consult with AD and ADPDC on if Cx will be included. House Bill 628 says that if the cost of Senate Bill 668 will take longer than a certain number of years (as determined by a LCCA during AP), the project doesn't need to comply with SB668. That includes Cx.

- B. The Selection Committee reviews the proposals and selects a commissioning agent.
1. The Selection Committee includes the DPDC, ADPDC, PM, Director of Engineering.
 2. The selection committee recommends a firm and identifies the first and second alternate firms.
 3. The PM prepares the [selection meeting minutes](#) and the minutes are reviewed by the AD, DPDC and the AVCFM.
 4. Following approval, the selected firm and the first and second alternate firms are notified via [commissioning agent](#) selection by PS.
- E. Cx Proposal and Contract Execution
1. The PM [request fee proposal](#) (Email template DP#8) a fee proposal from the number one ranked firm.
 2. The PM negotiates the contract and prepares a [letter agreement](#) for CxA and sends it to the commissioning firm for signature.
 3. The PM routes the partially signed letter agreement with price negotiation memo to VCBA for final signatures via AD to start the approval process.
 4. VCBAAdmin sends back the executed letter agreement in campus mail, PS approved The PM routes the partially signed contract to VCBA via AD to start the approval process is sent to the VCBA for final execution.
- For Projects more than \$2M
- a. PM fills out a [letter](#) to SCO requesting contract negotiation, prepares [price negotiation memo](#) with the designer's proposal, route to AVCFM via AD to start the approval process.
 - b. When the letter has been executed by DPDC, PS to scan, save to project folder 5.0 and attach it to PS email to SCO.

- c. When contracts have been approved by SCO, SCO will issue them to the designer for their signatures.
- d. Designer sends the signed copies to PM and PM routes with price negotiation memo to VCBA, via AD to start the approval process, for final execution.
- e. When fully executed, PS sends one copy of the executed contract to FM Finance and requests for all contract types.
- f. The PO number is provided to the commissioning agent in the cover letter sent to the commissioning firm.
- g. Executed Contract
 - i. One fully executed copy of the contract is returned to the commissioning firm, one copy is maintained by the PM in project folder 5.0 (hard copy and electronic).
 - ii. PS sends FM Finance a copy of the cover letter and executed contract.
 - iii. FM Finance issues a Purchase Number for all contract types. The PO number is provided to the CxA in a cover [letter](#) created and sent by PS to the commissioning firm.

Chapter 402 Construction Services

- A. Special Inspections (SI) and Construction Material Testing (CMT) [Should precede Closeout and probably should be in the Procurement Section. These services need to be onboard at the very start of construction.](#)
 - 1. For CMT/SI services of \$50,000 or less
 - a. Select firm off of the Open-End list.
 - i. Request separate proposals.
 - ii. Review the proposals for both cost and work proposed and select the firm to contract with for the work.
 - b. Fill out an open-ended letter agreement.
 - i. Send the testing firm an email with the contract and approved proposal (both in PDF format) requesting execution of four original copies.
 - c. When executed contracts have been received, route them with price negotiation memo to VCBA via AD to begin approval process.
 - 2. For CMT/SI services greater than \$50,000
 - a. PM prepares an advertisement for qualified construction services firms and sends to HUB C and PS for posting on the [FM website](#) (and GA website).
 - b. PM send an [email](#) to the newspapers requesting an ad be placed in the classifieds.
 - c. When qualifications are received, PM prepares a review spreadsheet and includes it in the shortlisting [meeting request](#).
 - i. Distribute hard copies to shortlist committee members.
 - ii. After the shortlisting meeting, create minutes, route to AVCFM via AD to start the approval process.
 - d. PM to request proposal from shortlisted firm.
 - e. Send the testing firm an email with the [letter agreement](#) and approved proposals (PDF format) requesting execution of three original copies.
 - f. When executed contracts have been received, route them with price negotiation memo to VCBA via AD to start approval process.

3. Amendment
 - a. Fill out [Article 15 – Supplemental Agreement](#).
 - b. Send the testing firm an email with the contract and approved proposal (both in PDF format) requesting execution of three original copies.
 - c. When executed contracts have been received, route them with price negotiation memo to VCBA via AD to start approval process.
- B. Commissioning
1. Prepare an advertisement and Supplemental Information Spreadsheet for prequalified Commissioning Agents and send to PS for posting on the [FM website](#) (and GA website).
 2. Send an email to the newspapers requesting an ad be placed in the classifieds.
 3. Create recommendations for Commissioning Agent Shortlist and Interview Committees and send to DPDC for approval.
 4. Send a [meeting request](#) to the Commissioning committee for both shortlisting and interview of firms.
 5. When the submittals have been received, fill out a Submittal Form and send it to the Committee, telling them where they can be found and reminding them of the shortlist date.
 6. After the shortlist meeting, fill out meeting minutes, print, put them in a blue folder, staple a Routing Slip to DPDC to the outside, and give to ADPDC to begin the approval process.
 7. After the interviews, fill out meeting minutes, print, put them in a blue folder, staple a Routing Slip to DPDC to the outside, and give them to ADPDC to begin the approval process.
 8. Minutes will then be sent to PS for creation of the Selected and Not-Selected mailings.
 9. Send the selected firm an email requesting a fee proposal for services.
 10. After the fee has been agreed on, prepare the Contract Request letter to SCO, print, sign, and give to DPDC for signature.
 11. Commissioning Contract (PF 5.0)
 12. Receive fee proposal from Commissioning Agent (CxA)
 13. When fee has been agreed upon, fill out letter to SCO requesting contract negotiation, print, put it in a blue folder with the proposal, staple a Routing Slip to DPDC to the outside, and give them to ADPDC to begin the approval process.
 14. SCO, upon approval, will send four copies of the Commissioning Agreement to the CxA to sign and return to the University for final execution.
 15. Using a blue folder with a Routing Slip to VCBA stapled to the outside, give the Agreements to ADPDC to begin the approval process.

Chapter 403 Miscellaneous Needs

- A. Purchase Order Requisition (for proposals \$30,000 or less)
 1. Fill out the [PO Requisition Form](#)
 2. [Email](#) to FM Finance with backup documentation (proposal)
- B. Check Request (for permits, etc)
 1. [Email](#) FM Finance and include the following information
 - a. Project Name
 - b. Payee
 - c. Payee Address
 - d. Amount

- e. Purpose
 - f. Backup Documentation
- C. New Vendor
- 1. 49er Mart Process
- D. Contractor Access Request
- 1. Info to FIS
 - 2. Request in Archibus
 - 3. Get 800 number, 49er Card

SECTION 500 Design

Design management consists of several interrelated efforts. As the Universities representative, the project manager tracks progress, manages progress payments, checks quality of contracted services, and coordinates the stakeholders to achieve the goals of the project. As a general design management principle, stakeholders must be made informed of the expectations of each design phase and their responsibility to make binding judgments at the appropriate time. Decisions made in earlier design phases are often very costly to change in later stages of design. The project Manager should carefully read the scope of services to ensure that the agreed upon services are being provided at each major design submittal.

[EXHIBIT Project Approval Sign-Off Form](#)
[EXHIBIT Project Approval Checklist](#)
[EXHIBIT Project Review Master List](#)
[EXHIBIT Document Routing Slip](#)

[EXHIBIT Open End Designers FY21](#)
[EXHIBIT Plan Review Document](#)
[Email Template Advance Planning \(AP\)](#)
[SCO Manual](#)
[SCO Website](#)

Chapter 501 Standards

- A. Refer to SCO Manual [Section 503 - Drawings](#)
- B. Bluebeam Process
1. PS to hold Bluebeam License and manage the process
 - a. Create project file in Bluebeam folder on Dropbox
 - C:\Users\\Dropbox (UNC Charlotte)\Bluebeam
 - b. Create separate folders within dropbox project file for each review phase
 - Within each review phase folder create separate folders for submittal documents and review summary
 2. PM sends file path (*S:\FM\Capital\Project Files\Project Files-<UMP or SCO>\Project Name\7 Plans and Specs\<Design Phase>*) to PS with design document submittal
 - a. Design Phase Submittal Drawings and Project Manual
 - b. An Advance Planning phase of the project may be used to develop programming, scope and budget analysis, site selection, studies, master planning, and other strategic project decisions.
 - The requirements for advance planning of capital improvement projects are outlined in the [SCO Manual](#).
 - The PM coordinates the AP effort and schedules meetings with designer, customer, FM Engineering, the campus ADA Coordinator, and other stakeholders. Meeting minutes, presentations, and other documents prepared by the designer are distributed by the PM who saves to the project folder.

Reminder: Meeting minutes are extremely important because they become the official record of decision making throughout the project.

- PM ensures AP submittal includes the program, plans, design narrative, cost and schedule.
 - The project budget must be within the estimated construction budget. If the estimated cost exceeds the project budget, alternates are identified and/or the project scope is reduced. It is the designer's responsibility to produce a design within the budget.
 - Reductions in project scope and alternates are reviewed and approved by the PM, AD, ADP, DPDC, project requester, customer, and stakeholders.
- The PM ensures that the designer submits the AP documents (within budget) to SCO to start their review concurrently with the University's.
- PM starts the process of setting up the design review to receive comments from the University.
 - PM sends file path to PS with design document submittal - [Refer to section](#)

(S:\FM\Capital\Project Files\Project Files-<UMP or SCO>\Project Name\7 Plans and Specs\<Design Phase>)

- The PM to [notify](#) (Email template AP#2) "Project Reviewer List" with the bluebeam session and due date for comments. Review session durations are usually for 30 days.

Note: "Project Reviewer List" are the people invited to design phase review sessions. PM to propose a list and get it approved by AD.
 - PM receives compiled comments from PS at the end of the review session and distributes to the design team.
 - PM to audit comments before sending to the design team.
 - a. Audit to include: identifying requests that are not included in the project scope, prioritizing comment requests, and identifying comments that are invalid.
 - b. If PM believes it is in the best interest of the University to incorporate requests that are outside the scope, PM to review with and get approval from AD, ADPDC, ADP.
 - PM ensures the design phase approvals are recorded on the [Project Approval Sign-Off Form](#).
 - The designer is required to provide a satisfactory response to every review comment from UNC Charlotte and SCO in writing. The PM distributes the written responses to the ADP, ADPDC, DPDC, Director of Engineering, project requestor, customer, and stakeholders.
 - Review comments and designer responses are saved in the project file by PM.
 - c. Design Phase Cost Estimate
 - d. If applicable, previous Design Phase Responses to Owner Comments
3. PS to copy documents from file path provided by PM and save to Bluebeam
 4. PS to create a new Bluebeam Session
 - a. Standard naming convention of session: <Project Name> (can be shortened) <Design Phase> Submittal
 - b. For all session documents complete these steps at the end of a session:

- open each document, right-click on the document's tab, select Save As > add “-redlined” at the end of file name > save in the Bluebeam dropbox folder.
 - In each document, expand the Markups List, export Summary (arrow up in square icon)
5. PS to save completed session documents in a new folder called “Owner Review” saved within this file path: S:\FM\Capital\Project Files\Project Files-<UMP or SCO>\Project Name\7 Plans and Specs\<Design Phase>
 6. PS to notify the PM via email that the session closed and session documents are saved.

Chapter 502 Schematic Design Phase

- A. Schematic Design phase drawings and documents illustrate the recommended implementation of the program and project requirements.
 1. The PM coordinates the schematic design effort and schedules meetings with designer, customer, the campus ADA Coordinator, and other stakeholders. Meeting minutes, presentations, and other documents prepared by the designer are saved to the project folder.
 2. The requirements for schematic design of capital improvement projects are outlined in the [SCO manual](#).
 3. The Commissioning Authority shall review the SD submittal against the modeling assumptions and make written comments to the design team for incorporation into the project by the design team.

Reminder: Refer to the “Commissioning of Buildings” on the [SCO Website](#)
 4. The designer prepares a cost estimate. If the estimate is over budget, alternates to reduce scope are identified or the program is revised to bring the estimated cost within the project budget.
 5. If a CMR delivery method is being used, the CMR prepares an estimate. The CMR and designer estimates are reconciled, and the reconciled estimate is reviewed by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders.
 6. If the estimate is over budget, alternates to reduce scope are identified or the program is revised to bring the estimated cost within the project budget.
 - a. Revisions in project scope must be approved by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders.
 - b. Alternates must be approved by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders.
 - c. If alternates or reduced scope are not feasible or desired, the university can request an increase in authorization for the project.
 - i. The ADP prepares documents to Request an Increase in Authorization from the BOT and BOG. The authorization request process outlined in Phase I is followed.
 - ii. FM Finance is notified when the increase is authorized.
 - iii. FM Finance enters the increase request in Interscope. The PM enters the project in Interscope and Microsoft Project.
 - d. The PM updates the Project Cost worksheet to reflect the updated cost estimate.
 7. The Schematic Design submittal sets up a review period and is reviewed by the PM, the Associate DPDC, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders. The PM

- facilitates review of the SD documents, collects, and distributes review comments to the design team and obtains approval for the SD phase.
8. The programming documents are reviewed by the PM, the AD, ADPDC, DPDC, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders for alignment with project needs.
 - a. Fill out a [Plan Review Document](#) allowing 30 days for review and attach it to an email to the reviewers, adding in any project-specific reviewers to the recipient list.
 9. The PM facilitates review of the programming documents, collects, and distributes review comments to the design team and obtains approval for the programming phase. Approvals are recorded on the [project approval checklist](#). Review comments and designer responses are saved in the project folder.
 10. Approvals are recorded on the [project approval checklist](#)
 - a. After submitted SDs have been received, hang the set in the plan room and place the associated specs/docs in an unoccupied cubby.
 - i. Fill out a [Plan Review Document](#) allowing 30 days for review and attach it to an email to the reviewers, adding in any project-specific reviewers to the recipient list.
 - ii. Save SD submittal in the dropbox bluebeam folder, create bluebeam session, include link to session in the email to request review.
 - b. When plans have been approved, print out an Owner's Approval Letter on UNC Charlotte letterhead, put it in a blue folder, staple a Routing Slip to DPDC to the outside, and give them to AD to begin the approval process.
 - c. When plans have been approved, print out a Proceed to DDs letter on UNC Charlotte letterhead, sign, scan, and email to the designer.
 - d. Review comments and responses are saved in the project folder.
 11. The PM ensures that the designer submits the SD documents to the Office of State Construction (SCO) for review. SCO has specific Design Review Forms that must be submitted. The forms are available on the [SCO website](#)

Chapter 503 Design Development Phase

- A. An DD phase of the project may be used to develop programming, scope and budget analysis, site selection, studies, master planning, and other strategic project decisions.
 1. The requirements for advance planning of capital improvement projects are outlined in the [SCO manual](#).
 2. The PM coordinates the AP effort and schedules meetings with designer, customer, FM Engineering, the campus ADA Coordinator, and other stakeholders. Meeting minutes, presentations, and other documents prepared by the designer are distributed by the PM and saved to the project folder.
 3. The AP documents including program, plans, design narrative, cost and schedule are reviewed by the PM, the ADPDC, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders.
 - a. Fill out a [Plan Review Document](#) allowing 30 days for review and attach it to an email to the reviewers, adding in any project-specific reviewers to the recipient [email](#). (Email template AP#2)
 4. The PM facilitates review of the documents, collects, and distributes review comments to the design team. Approvals are recorded on the Project Approval Sheet (Project Approval – Exhibit 7).
 5. The PM ensures that the designer submits the AP documents (within budget) to SCO for review.

6. The project budget must be within the estimated construction budget. If the estimated cost exceeds the project budget, alternates are identified and/or the project scope is reduced.
 7. Reductions in project scope and alternates are reviewed and approved by the PM, the AD, ADP, DPDC, Project Requestor, customer, and stakeholders.
 8. The designer responds to review comments from UNC Charlotte and SCO in writing. The PM distributes the written response to the AD, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders.
 9. Review comments and designer responses are saved in the project file.
- B. Approval for full project authorization
1. Following approval by UNC Charlotte and SCO, the project may be submitted to the UNC Charlotte BOT and the UNC BOG (if over \$600,000) for approval for full project authorization.
 2. The ADP prepares documents for submittal to the BOT and BOG as outlined in Phase I, item 13 f. Section 1, 2. Design Services, 2.3, H
- C. Programming (if Advance Planning is not utilized)
1. The PM coordinates programming effort and schedules meetings with the designer, customer, and other stakeholders.
 2. The program document fully defining the project program is prepared by the designer and is submitted for review, approval, and sign-off by the customer and all stakeholders, the designer, and the Project Manager, AD, Director of PDC, Director of Engineering and AVCFM.
 3. The designer prepares a cost estimate. The cost estimate is reviewed by the PM, the AD, DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders. If the estimate is over budget, alternates are identified, or the program scope is revised to bring the estimated cost within the project budget.
 - a. Revisions in project scope must be approved by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders
 - b. Alternates must be approved by the PM, the AD, the DPDC, the AVCFM, the customer and other stakeholders.
 4. The programming documents are reviewed by the PM, the AD, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders for alignment with project needs.
 - a. Fill out a [Plan Review Document](#) allowing 30 days for review and attach it to an email to the reviewers, adding in any project-specific reviewers to the recipient list.
 - b. Email Template
 5. The PM facilitates review of the programming documents, collects, and distributes review comments to the design team and obtains approval for the programming phase. Approvals are recorded on the [project approval checklist](#). Review comments and designer responses are saved in the project folder.
- D. Design Development phase sets forth in writing and drawings all basic program elements, systems and materials to be used in the project.
1. The PM receives written approval from SCO for SD and approval to proceed to the design development phase.
 2. The PM coordinates design development effort based on the approved Schematic Design submittal, and schedules meetings with designer, customer, the campus ADA Coordinator, and other stakeholders. Meeting minutes, presentations, and other documents prepared by the designer are distributed by the PM and saved to the project folder.

3. The requirements for the design development phase of capital improvement projects are outlined in the [SCO manual](#)
4. The Commissioning Authority (elsewhere referenced as Commissioning Agent – consistency in terms) shall review the DD design against the modeling assumptions and make written comments to the design team for incorporation into the project by the design team. Refer to the “Commissioning of Buildings” on the [SCO website](#).
5. The designer prepares a cost estimate. If the estimate is over budget, alternates to reduce scope are identified or the program is revised to bring the estimated cost within the project budget.
6. If a CMR delivery method is being used, the CM prepares an estimate. The CM and designer estimates are reconciled, and the reconciled estimate is reviewed by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders.
7. If the estimate is over budget, alternates are identified, or the project scope is revised to bring the estimated cost within the project budget.
8. Revisions in project scope must be approved by the PM, the AD, the DPDC, the AVCFM, the customer and other stakeholders.
9. Alternates must be approved by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders.
10. If alternates or reduced scope are not feasible or desired, the university can request an increase in authorization for the project.
 - a. The ADP prepares documents to Request an Increase in Authorization from the BOT and BOG. The authorization request process outlined in Phase I is followed.
 - b. FM Finance is notified when the increase is authorized.
 - c. FM Finance enters the increase request in Interscope. The PM enters the project in Interscope and Microsoft Project.
11. The PM updates the Project Cost worksheet to reflect the updated cost estimate.
12. The Design Development submission is reviewed by the PM, the ADPDC, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders. The PM facilitates review of the DD documents, collects, and distributes review comments to the design team and obtains approval for the DD phase. Approvals are recorded on the [project approval checklist](#).
13. Send a request to ITS for a preliminary CP-1 estimate for their work on the project.
Email Template
14. Review comments received from the university and SCO are addressed by the designer in writing and revised documents are submitted for review.
15. The PM distributes revised documents for review by the AD, ADPDC, ADP, DPDC, Project Requestor, customer and stakeholders.
16. The PM facilitates review of the DD documents, collects, and distributes review comments to the design team and obtains approval for the CD phase.
17. Approvals are recorded on the [project approval checklist](#).
 - a. After submitted DDs have been received, hang the set in the plan room (hall) and place the associated specs/docs in an unoccupied cubby.
 - i. Fill out a [Plan Review Document](#) allowing 30 days for review and attach it to an email to the reviewers, adding in any project-specific reviewers to the recipient list.
 - ii. Save DD submittal in the dropbox bluebeam folder, create bluebeam session, include link to session in the email to request review.

- b. When plans have been approved, print out a Proceed to DDs letter on UNC Charlotte letterhead, sign, scan, and email to the designer.
 - 18. When plans have been approved, print out an Owner's Approval Letter on UNC Charlotte letterhead, put it in a blue folder, staple a [Routing Slip](#) to DPDC to the outside, and give them to AD to begin the approval process.
 - 19. Review comments and responses are saved in the project folder.
 - 20. The Designer must secure written approval of the Design Development submittal from the Owner and SCO before proceeding to the next phase. If the submittal does not sufficiently address the basic elements of the project, it will be returned "Not Approved" and a resubmittal showing further development will be required.
- E. Furniture Procurement and Moves
- 1. If the project requires the relocation of existing occupants during construction or relocation of occupants at the completion of construction, an in-house interior designer who will serve as the Furniture Procurement and Moves PM will be assigned to the project.
 - 2. The furniture budget is reviewed with the PM. Comments regarding the budget are recorded by the Furniture and Moved PM and forwarded to the PM, the ADP, and DPDC.
 - 3. The assigned Furniture and Moves PM coordinates the specification and assembly of procurement documents for furniture either through the designer, third party specifier(s), and/or in-house staff.
 - 4. The Furniture and Moves PM prepares a preliminary selection of furniture.
 - 5. The preliminary furniture selection is reviewed by the PM, the ADP, and the DPDC.
 - 6. Following approval of the preliminary furniture selection, the proposed furniture package is reviewed with the customer representative, the Project Requestor, AVCFM, DPDC, ADP, and PM.
 - 7. The PM coordinates with the Furniture and Moves PM to ensure that infrastructure requirements for FF&E have been communicated to the designer.
 - 8. The Furniture and Moves PM coordinates the identification and listing (current location, new location, and infrastructure requirements) of FF&E that will be relocated from existing facilities into the new or remodeled facility, and assures that infrastructure requirements have been communicated to the designer through the PM.
 - 9. The Furniture and Moves PM coordinates the move of the building occupants to new or renovated space, soliciting quotations for moving expenses, providing information to building occupants, and overseeing the move.
 - 10. The Furniture and Moves PM reviews any requirements for temporary space during construction and works with Space Management to identify temporary space. A space request is submitted if temporary space is needed.
 - 11. The Furniture and Moves PM coordinates the move of occupants to temporary space, soliciting quotations for moving expenses, providing information to building occupants, and overseeing the move.

Chapter 504 Construction Document Phase

- A. A CD phase of the project may be used to develop programming, scope and budget analysis, site selection, studies, master planning, and other strategic project decisions.
 - 1. The requirements for advance planning of capital improvement projects are outlined in the [SCO manual](#).

2. The PM coordinates the AP effort and schedules meetings with designer, customer, FM Engineering, the campus ADA Coordinator, and other stakeholders. Meeting minutes, presentations, and other documents prepared by the designer are distributed by the PM and saved to the project folder.
 3. The AP documents including program, plans, design narrative, cost and schedule are reviewed by the PM, the ADPDC, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders.
 - a. Fill out a [Plan Review Document](#) allowing 30 days for review and attach it to an email to the reviewers, adding in any project-specific reviewers to the recipient [email](#). (Email template AP#2)
 4. The PM facilitates review of the documents, collects, and distributes review comments to the design team. Approvals are recorded on the [project approval checklist](#).
 5. The PM ensures that the designer submits the AP documents (within budget) to SCO for review.
 6. The project budget must be within the estimated construction budget. If the estimated cost exceeds the project budget, alternates are identified and/or the project scope is reduced.
 7. Reductions in project scope and alternates are reviewed and approved by the PM, the AD, ADP, DPDC, Project Requestor, customer, and stakeholders.
 8. The designer responds to review comments from UNC Charlotte and SCO in writing. The PM distributes the written response to the AD, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders.
 9. Review comments and designer responses are saved in the project file.
- B. Approval for full project authorization
1. Following approval by UNC Charlotte and SCO, the project may be submitted to the UNC Charlotte BOT and the UNC BOG (if over \$600,000) for approval for full project authorization.
 2. The ADP prepares documents for submittal to the BOT and BOG as outlined in Phase I, item 13 f. Section 1, 2. Design Services, 2.3, H
- C. Programming (if Advance Planning is not utilized)
1. The PM coordinates programming effort and schedules meetings with the designer, customer, and other stakeholders.
 2. The program document fully defining the project program is prepared by the designer and is submitted for review, approval, and sign-off by the customer and all stakeholders, the designer, and the PP, AD, DPDC, Director of Engineering and AVCFM.
 3. The designer prepares a cost estimate. The cost estimate is reviewed by the PM, the AD, DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders. If the estimate is over budget, alternates are identified, or the program scope is revised to bring the estimated cost within the project budget.
 - a. Revisions in project scope must be approved by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders
 - b. Alternates must be approved by the PM, the AD, the DPDC, the AVCFM, the customer and other stakeholders.
 4. The programming documents are reviewed by the PM, the AD, ADP, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders for alignment with project needs.
 - a. Fill out a [Plan Review Document](#) allowing 30 days for review and attach it to an [email](#) to the reviewers, adding in any project-specific reviewers to the recipient list.

5. The PM facilitates review of the programming documents, collects, and distributes review comments to the design team and obtains approval for the programming phase. Approvals are recorded on the [project approval checklist](#). Review comments and designer responses are saved in the project folder.
- D. Construction Documents phase completes construction drawings and specifications setting forth all the work in detail and describing the work to be performed, including: materials, products, and finishes: workmanship; finishes; plumbing, mechanical, electrical, and fire protection systems; special equipment; site work; and utility connections and services.
1. The PM coordinates the construction document effort based upon the approved Design Development submittal, and schedules meetings with the designer, customer, the campus ADA Coordinator, and other stakeholders. Meeting minutes, presentations, and other documents prepared by the designer are distributed by the PM and saved to the project folder.
 2. The requirements for the construction document phase of capital improvement projects are outlined in the [SCO Manual](#).
 3. The Commissioning Authority shall review the CD submittal against the modeling assumptions and make written comments to the design team for incorporation into the project by the design team. Refer to the "Commissioning of Buildings" on the [SCO website](#).
 4. The designer updates the cost estimate. If the estimate is over budget, alternates to reduce scope are identified or the program is revised to bring the estimated cost within the project budget.
 5. If a CMR delivery method is being used, the CM prepares an estimate. The CM and designer estimates are reconciled, and the reconciled estimate is reviewed by the PM, AD, DPDC, Director of Engineering, AVCFM, the customer and other stakeholders.
 6. If the estimate is over budget, alternates to reduce scope are identified or the program is revised to bring the estimated cost within the project budget.
1. Revisions in project scope must be approved by the PM, The AD, the DPDC, the AVCFM, the customer and other stakeholders
 2. Alternates must be approved by the PM, the AD, the DPDC, Director of Engineering, the AVCFM, the customer and other stakeholders.
 3. If alternates or reduced scope are not feasible or desired, the university can request an increase in authorization for the project. Refer to Pre-Design procedures.
 - a. The ADP prepares documents to Request an Increase in Authorization from the BOT and BOG. The authorization request process outlined in Phase I is followed.
 - b. FM Finance is notified when the increase is authorized.
 - c. FM Finance enters the increase request in Interscope. The PM enters the project in Interscope and Microsoft Project.
 4. The PM updates the Project Cost worksheet to reflect the updated cost estimate.
 7. The Construction Document submittal is reviewed by the PM, the AD, ADP, ADPDC, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders ([Project Review Master List](#)). The PM facilitates review of the CD documents, collects, and distributes review comments to the design team and obtains approval for the CD phase.
 8. Coordination between Engineering (Facilities Operations, Lock Shop), Campus Landscape Architect (Grounds), AISLE, ITS, FFE
 9. Send a request to ITS for an update to the CP-1 estimate for their work on the project. Attach the preliminary CP-1 to the request.
 10. Approvals are recorded on the [project approval checklist](#).

1. After submitted CDs have been received, hang the set in the plan room (hall) and place the associated specs/docs in an unoccupied cubby.
 - a. Fill out a [Plan Review Document](#) allowing 30 days for review and attach it to an email to the reviewers, adding in any project-specific reviewers to the recipient list.
 - b. Save CD submittal in the dropbox bluebeam folder, create bluebeam session, include link to session in the email to request review.
 2. When plans have been approved, print out a Proceed to DDs letter on UNC Charlotte letterhead, sign, scan, and email to the designer.
 3. Review comments are saved in the project folder.
 11. The PM ensures that the designer submits the CD documents to SCO for review. SCO has specific Design Review Forms that must be submitted. The forms are available on the [SCO website](#).
 12. The PM verifies that the designer submits the project for any other regulatory reviews required by federal, state or local jurisdictions as required. Refer to the [SCO manual](#) for a list of regulatory agencies.
 13. Review comments received from the University and SCO are addressed by the designer in writing and revised documents are submitted for review.
 1. The PM distributes updated documents for review by the AD, ADP, ADPDC, DPDC, Director of Engineering, Project Requestor, customer, and stakeholders.
 2. The PM facilitates review of the CD documents, collects, and distributes review comments to the design team and obtains approval for the CD phase.
 3. Approvals are recorded on the [project approval checklist](#)
 4. Review comments are saved in the project folder.
 14. Final project approval letters from the Owner and all regulatory agencies having jurisdiction
 1. The PM downloads all approval letters and copies to the project file. The PM notifies the PDC, AD, DPDC, Director of Engineering and AVCFM that the project is approved for bid.
 - a. When plans have been approved, print out an Owner's Approval Letter on UNC Charlotte letterhead, put it in a blue folder, staple a [Routing Slip](#) to DPDC to the outside, and give them to AD to begin the approval process.
- E. Final Submittal
1. Final Submittal for Bid to SCO (refer to [SCO Manual](#) Section 509)
 2. Designer to provide a written response to the Construction Documents review comments.
 3. While the final submittal is being reviewed by SCO, the bid phase can run concurrently.
 4. Final Review/Approval letter will be e-mailed from SCO.
 5. Approved for Bid
 6. Must receive Approval to Bid from SCO before bid opening.

SECTION 600 Construction Contracts and Bidding

The project manager's primary goal for the construction procurement phase of the project is to procure the construction work required by the project. The PM should procure the work by using an effective process that considers. Funding source and project cost which may require a public bid and acceptance of lowest responsive and responsible bidder.

[EXHIBIT GMP Contract Request letter](#)

[EXHIBIT Change Order Form](#)

[EXHIBIT General Contractor Prequalifications](#)

[EXHIBIT Award Letter](#)

[EXHIBIT CMR Notice to Award](#)

[EXHIBIT Project Cost Worksheet](#)

[EXHIBIT Notice to Bidders](#)

[Design Agreement Checklist](#)

[UNC SO Capital Project Procedure Guidance Table](#)

[FM website](#)

[SCO Website](#)

[SCO Manual](#)

[Prequalification Matrix](#)

A. Construction Manager at Risk (CMR) Delivery Method Bid Phase

1. The CMR required processes and forms are on the NC Department of Administration [SCO website](#).
2. When the construction documents are reviewed and approved by regulatory agencies, the CMR provides a GMP (guaranteed maximum price) acting as a construction manager to deliver the project. A GMP is defined in the [SCO manual](#) and the SCO contracts.
3. The CMR prepares the [advertisement](#) for bids both the newspapers and websites and the PM ensures the [advertisement](#) is posted to the FM and UNC System Office website. Add Link
4. Guaranteed Maximum Price (GMP) contract
 - a. The PM receives the GMP proposal and completes the [GMP Contract Request letter](#). The Owner may accept, negotiate or decline the GMP offering and bid the work under another construction delivery method.
 - b. The GMP proposal is forwarded to the AD, DPDC and AVCFM for review. Following approval by the AVCFM, the contract is forwarded to the VCBA for signature.
5. Guaranteed Maximum Price
 - a. The CMR shall publicly advertise for and pre-qualify all "first tier subcontractors," in accordance with SCO requirements. First tier subcontractors must comply with MBE (Minority Business Enterprise) guidelines. Bids will be opened in a public venue. The CMR may self-perform work only under limited circumstances.
 - b. After receiving the bids, the CMR will prepare a [Change Order](#) Request to reconcile the difference with the final GMP. The PM will forward the [Change Order](#) Request to the AD, DPDC, and AVCFM for review and approval.
6. If the Design/Build method has been selected, the Design Build team has been engaged.

Chapter 601 Bidding

A. Bidding Single Prime Contractor

1. SCO has specific contract forms that must be incorporated into State projects. These forms are available for download on the [SCO website](#).
2. Specific details and requirements for bidding projects are included in the [SCO manual](#)
3. Upon approval of all regulatory agencies, the PM shall establish the date of receipt of bids.
4. The Designer prepares the [Notice to Bidders](#) and Instructions to Bidders using the format required by SCO in the [SCO Manual](#). The draft [Notice to Bidders](#) is sent to the PM, ADP, DPDC for review and prepared by the designer.
5. The PM prepares an [advertisement](#) which is posted on the [FM website](#) and forwarded to the UNC System Office which then is posted on the State of North Carolina Interactive Purchasing System. The draft project [advertisement](#) is sent to the ADP and DPDC for requirements and HUB coordination.
6. The PM prepares an [advertisement](#) for placement in a newspaper having general circulation in the State of North Carolina.
 - a. If the Owner wishes to pre-qualify bidders under single-prime contracting prior to issuing bid documents, the required forms and procedures prescribed by the State Building Commission as available on the [SCO website](#).
 - b. The PM prepares an [advertisement](#) for posting on the UNC System Office and [FM website](#).
 - c. The PDCAA forwards the [advertisement](#) to the UNC System office for posting on the [SCO website](#).
 - d. The PDCAA posts the [advertisement](#) to the [FM website](#).
 - e. The PM receives Prequalification Submittals from Contractors and downloads electronic submittals to the project folder.
 - f. The PM along with assigned prequalification committee members completes the [Prequalification Firm matrix](#). Firms not prequalified must be promptly notified of this determination to allow for appeals of the prequalification committee determination via [General Contractor Prequalifications](#).
7. Prebid meetings must be scheduled no later than 15 days prior to the bid opening (to allow for 10-day MBE requirements). The PM needs to ensure that the HUB Coordinator is invited to the pre-bid meeting and the bid opening.
8. Addenda are issued by the designer in accordance with [SCO requirements](#). No addenda shall be issued later than 7 days prior to bid opening. Addenda must be reviewed by the PM, ADP, and DPDC before being issued.
9. Bids are received and opened as specified in the [Notice to Bidders](#).
10. A certified Bid Tabulation, from the Designer will be provided to the PM within 24 hours from bid opening for posting to the FM website. The PDCAA will post the bid results.
11. If the low bid exceeds the funds available, the designer, AD and DPDC are authorized to enter negotiations with the lowest responsible bidder to identify reductions in cost. The recommendations are forwarded to the DPDC, Director of Engineering and the AVCFM, and Project Requestor for review and approval.
 - a. If agreement to reduce bids cannot be reached, bids can be rejected or additional authorization for the project funding can be requested from the BOT and BOG.

- i. The ADP prepares documents to Request an Increase in Authorization from the BOT and BOG. The authorization request process outlined in Section 1 is followed.
12. The PM shall prepare a letter of recommendation of award with a copy of the certified bid tabulation, a Bid Summary Sheet, a copy of the recommended bidder's Proposal Form, a UNC HUB Certification for [award letter](#) (to include the MBE forms submitted with the bid and any backup documentation confirming Good Faith Efforts, and the Owner's recommendations concerning disposition of bids).
 - a. The [PM will route](#) the [award letter](#) for recommendation of award to the ADPDC, DPDC for review and AVCFM for signature.
 - b. The DPDC will forward to the AVCFM for review and approval.
 - c. The signed letter is sent via email to the UNC System Office for projects between \$750,000-\$2M and to SCO for all contracts over \$2M.
13. Upon approval of the OSBM or SCO a [CMR Notice to Award](#) letter to the Owner which shall detail the complete budget for the project including construction cost, designer's fee, contingency reserve, movable equipment, and any other specific reserves.
14. The designer, upon receipt of the notification of award, shall prepare the contract documents and submit to the contractor for execution and obtaining Certificates of Insurance and Performance and Payment Bonds for all projects over \$500,000.
 - a. The format for the standard Construction Contract and a Construction Contract Checklist is attached to the documents on the [SCO website](#).
 - i. All contract dates must be dated after the contract award letter received from SCO.
 - b. For projects with a total project budget less than \$750,000 the SCO Informal Contract can be used. Construction cost cannot exceed \$500,000.
15. The PM will route the contracts through the AD and DPDC. The DPDC will forward to the AVCFM for review and approval and to the VCBA for signature.
16. The PM will download the electronic copies of all contract documents to the project folder. The executed construction contracts are then sent to SCO for review and final approval of the Attorney General.
17. SCO returns three copies of the executed contract to the PM for projects with a total budget over \$500,000. The PS administrative assistant will send one copy to the designer, one copy to the contractor and save one copy in the project folder (hard copy and electronic).
18. FM Finance receives a copy and issues the PO.
19. PM updates the [Project Cost Worksheet](#), based upon the bid contract amount by recording the construction contract in the Estimating and Budget Control worksheet.

Chapter 602 Bid Phase for Single Prime Contracting

1. Once the Final Review/Approval letter and final project approval letters from UNC Charlotte and all regulatory agencies are on file with SCO, the project may be bid.
2. Construction Manager at Risk (CMR) Delivery Method
 - a. The CMR required processes and forms are on the NC Department of Administration SCO website. (<https://ncadmin.nc.gov/businesses/construction/forms-documents>)
 - b. When the construction documents are reviewed and approved by regulatory agencies, the CMR provides a GMP (guaranteed maximum price) acting as a construction manager to deliver the project. A GMP is defined in the State Construction Manual and the SCO contracts.
 - c. The CMR prepares the advertisement for bids on both the newspapers and websites and the PM ensures the advertisement is posted to the [FM](#) and [SCO Website](#).

- d. Guaranteed Maximum Price (GMP) contract
 - i. The PM receives the GMP proposal and completes the [GMP Contract Request letter](#). The Owner may accept, negotiate or decline the GMP offering and bid the work under another construction delivery method.
 - ii. The GMP proposal is forwarded to the AD, PDC Director and AVC FM for review. Following approval by the AVC FM, the contract is forwarded to the VCBA for signature.
- e. Guaranteed Maximum Price
 - i. The CMR shall publicly advertise for and pre-qualify all “first tier subcontractors,” in accordance with SCO requirements. First tier subcontractors must comply with MBE guidelines. Bids will be opened in a public venue. The CMR may self-perform work only under limited circumstances.
 - ii. After receiving the bids, the CMR will prepare a Change Order Request to reconcile the difference with the final GMP. The PM will forward the Change Order Request to the Associate Director, Director and AVC FM for review and approval.
3. If the Design/Build method has been selected, the Design Build team has been engaged.
4. Competitive bids by General Contractors
 - a. Once the Final Review/Approval letter and final project approval letters from the Owner and all regulatory agencies are on file with SCO, the project is approved for bids.
 - b. The State Construction Office has specific contract forms that must be incorporated into State projects. These forms are available for download on the State Construction Office website at (<https://ncadmin.nc.gov/businesses/construction/forms-documents>).
 - c. Specific details and requirements for bidding projects are included in the State Construction Manual. (<https://files.nc.gov/ncdoa/documents/files/SCO-Construction-Manual-3-2019.pdf>).
 - d. Upon approval of all regulatory agencies, the project manager (PM) shall establish the date of receipt of bids.
 - e. The Designer prepares the [Notice to Bidders](#) and Instructions to Bidders using the format required by SCO in the State Construction Manual. The draft [Notice to Bidders](#) is sent to the PM, ADP, PDC Director for review and prepared by the designer.
 - f. The PM prepares an [advertisement](#) which is posted on the UNC Charlotte website and forwarded to the UNC System Office which then is posted on the State of North Carolina Interactive Purchasing System. The draft project [advertisement](#) is sent to the ADP and DPDC for requirements and HUB coordination.
 - g. The PM prepares an [advertisement](#) for placement in a newspaper having general circulation in the State of North Carolina.
 - h. If the Owner wishes to pre-qualify bidders under single-prime contracting prior to issuing bid documents, the required forms and procedures prescribed by the State Building Commission as available on the [SCO website](#).
 - i. The PM prepares an [advertisement](#) for posting on the UNC System Office and UNC Charlotte [Facilities Management websites](#).
 - ii. The PS forwards the [advertisement](#) to the UNC System office for posting on the NC State website.
 - iii. The PS posts the [advertisement](#) to the UNC Charlotte Facilities website.
 - iv. The PM receives Prequalification Submittals from Contractors, PS downloads electronic submittals to the project folder.
 - v. The PM along with assigned prequalification committee members completes the [Prequalification Firm matrix](#). Firms not prequalified must be promptly notified of this determination to allow for appeals of the prequalification committee determination.

- i. Prebid meetings must be scheduled no later than 15 days prior to the bid opening (to allow for 10 day MBE requirements). The PM needs to ensure that the HUB Coordinator is invited to the pre-bid meeting and the bid opening.
- j. Addenda are issued by the designer in accordance with SCO requirements. No addenda shall be issued later than 7 days prior to bid opening. Addenda must be reviewed by the PM, ADP, and PDC Director before being issued.
- k. Bids are received and opened as specified in the [Notice to Bidders](#).
- l. A certified Bid Tabulation, from the Designer will be provided to the PM within 24 hours from bid opening for posting to the FM website. The PDCAA will post the bid results.
- m. If the low bid exceeds the funds available, the designer, AD and PDC Director are authorized to enter into negotiations with the lowest responsible bidder to identify reductions in cost. The recommendations are forwarded to the PDC Director, Director of Engineering and the AVC FM, and Project Requestor for review and approval.
 - i. If agreement to reduce bids cannot be reached, bids can be rejected or additional authorization for the project funding can be requested from the BOT and BOG. .
 - o The Assistant Director of Planning prepares documents to Request an Increase in Authorization from the BOT and BOG. The authorization request process outlined in Phase I is followed.
- n. The PM shall prepare a [letter of recommendation of award](#) with a copy of the certified bid tabulation, a Bid Summary Sheet, a copy of the recommended bidder's Proposal Form, a UNC HUB Certification for Award letter (to include the MBE forms submitted with the bid and any backup documentation confirming Good Faith Efforts, and the Owner's recommendations concerning disposition of bids.)
 - i. The PM will route the letter for recommendation of award to the ADPDC, DPDC for review and AVCFM for signature.
 - ii. The PDC Director will forward to the AVCFM for review and approval.
 - iii. The signed letter is sent via email to the UNC System Office for projects between \$750,000-\$2M and to SCO for all contracts over \$2M.
- o. Upon approval of the OSBM or the State Construction Office a "Notice to Award " letter to the Owner which shall detail the complete budget for the project including construction cost, designer's fee, contingency reserve, movable equipment and any other specific reserves.
- p. The designer, upon receipt of the notification of award, shall prepare the contract documents and submit to the contractor for execution and obtaining Certificates of Insurance and Performance and Payment Bonds for all projects over \$500,000.
 - i. The format for the standard Construction Contract and a Construction Contract Checklist is attached to the documents on the [SCO Website](#). All contract dates must be dated after the contract award letter received from SCO.
 - ii. For projects with a total project budget less than \$750,000 the SCO Informal Contract can be used. Construction cost can not exceed \$500,000.
- q. The PM will route the contracts through the Associate Director, and PDC Director. The PDC Director will forward to the AVC FM for review and approval and to the VC BA for signature.
- r. The PM will download the electronic copies of all contract documents to the project folder. The executed construction contracts are then sent to SCO for review and final approval of the Attorney General.
- s. The State Construction Office returns three copies of the executed contract to the PM for projects with a total budget over \$500,000. The PS sends one copy to the designer, one copy to the contractor and save one copy in the project folder (hard copy and electronic).
- t. FM Finance receives a copy and issues the PO.
- u. Project Manager updates the Project Cost Worksheet, based upon the bid contract amount.

- A. [For project \\$30 - \\$500k \(Download Minor\)](#) What does Download Minor mean?
1. PM to use the [Standard Form of Informal Contract and General Conditions](#) form.
 - a. The PM to include UNC Charlotte specific requirements in the Supplementary General Conditions section of the [form](#). The Designer should be using the same [form](#).
 - i. Required verbiage has been added to the form for the Minority Business Participation section in the Supplementary General Conditions.
 - PM to fill out the MBE Guidelines and the Minority Business Forms and include them in the [Supplementary General Conditions](#).
 - ii. PMs will need to ensure appropriate information (parking, locates, work schedule, etc.) is included in the Supplementary General Conditions, if applicable.
 2. PM to solicit three (3) to five (5) bids via email including attachments with all the required bid documents (plans/specs/contract forms).
 - a. PMs need to ensure to include minority owned firms when soliciting bids for Informal projects. Contact the HUB Coordinator for assistance in this effort.
 - i. If the project construction cost is estimated to be under \$100,000, PM solicits a minimum of three (3) firms, one (1) of which must be a minority owned firm.
 - ii. If the project construction cost is estimated to be over \$100,000, the PM should solicit at least five (5) firms, two (2) of which must be minority owned firms.
 3. PM to conduct a Zoom Pre-Bid Meeting to ensure that all potential bidders are receiving the same project related information. The meeting should be held at least 12-15 days before the bids are due to meet the 10-day requirement for contacting minority subcontractors, in accordance with Affidavit A - Good Faith Effort Item #5.
 4. No formal bid opening, bidders email the PM and Designer their bids and must include all required bid documents.
 5. Designer and PM identify the apparent lowest responsible and responsive.
 6. Designer to contact the apparent low bidder via email and advise them to submit Affidavit C or Affidavit D within 72 hours of receipt of email.
 - a. Not required if the bidder submitted Affidavit B with their bid.
 7. PM to email the HUB Coordinator the low bidder's MBE documents (Identification Form, Affidavit A or B or Affidavit C or D).
 8. The HUB Coordinator to review MBE documents for Good Faith Effort compliance. Once completed, the HUB Coordinator will issue a UNC HUB Certification for Award letter to the PM.
 - a. This is required for any project over \$100,000.
 9. PM request Recommendation letter from the Designer via email after negotiations, value engineering effort, or alternate selection is complete.
 10. Request verification letter from HUB Coordinator regarding the HUB forms.
 11. PM/Designer fill out short-form construction contract.
 12. Send the contractor an email with the contract, Designer recommendation letter (PDF format), and HUB Documents (PDF format), requesting execution of three original copies.
 13. When signed contracts have been received from the GC, route to VCBA via AD to begin the approval process.
 14. After execution by VCBA, PS sends one hard copy to FM Finance to request a Purchase Order.
 15. When PO is issued, PS to mail and email the GC one hard copy of the contract and a letter with the PO number attached.

- B. For project \$500k - \$2M (Download Major, Formal Bidding)
1. Pre-Bid Phase Start
 - a. Once the Final Review/Approval letter and final project approval letters from the Owner and all regulatory agencies are on file with SCO, the project is approved for bids.
 - b. SCO has specific contract forms that must be incorporated into State projects. These forms are available for download on the [SCO website](#).
 - i. Specific details and requirements for bidding projects are included in the [SCO manual](#).
 - c. Upon approval of all regulatory agencies, the project manager (PM) shall establish the date of receipt of bids.
 2. Pre-Bid Meeting, Bid Opening, and [Notice to Bidders](#)
 - a. PM to determine pre-bid meeting and bid opening date, time, and reserve location (CRES), fill out web [advertisement](#) for bidders.
 - i. Must have a minimum of 11 days between the pre-bid meeting and the bid opening
 - ii. Prebid meetings must be scheduled no later than 15 days prior to the bid opening (to allow for 10-day MBE requirements).
 - iii. Send invites for the pre-bid meeting and the bid opening, adding the Designer, Customer, AD, ADPDC, and DPDC to the attendees.
 - b. The Designer prepares the [Notice to Bidders](#) and Instructions to Bidders using the format required by SCO in the [SCO manual](#). Designer to send the draft [Notice to Bidders](#) to PM who reviews and then sends to ADP, DPDC for review, designer finalizes.
 - i. Designer finalized NTB, PM creates PDF of final document.
 - PM sends the NTB PDF to HUB C for them to post on the UNC Charlotte website and forwarded to the UNC System Office which then is posted on the State of North Carolina Interactive Purchasing System.
 - Allow a minimum of 23 days from date submitted to HUB C for website posting and the bid opening.
 - c. Designer conducts pre-bid meeting including preparing any meeting material and sign-in sheet.
 - i. PM to ensure that the HUB C is invited to the pre-bid meeting and the bid opening.
 - PM sends HUB C scanned sign-in sheet and meeting materials to post on the FM website.
 - ii. Addenda are issued by the designer in accordance with SCO requirements.
 - No addenda shall be issued later than 7 days prior to bid opening. Addenda must be reviewed by the PM, ADP, and DPDC before being issued PM/Designer set bidder questions due date and final addenda to be posted.
 - PM sends HUB Coordinator addenda to post on the FM website.
 3. If the Owner wishes to pre-qualify bidders under single-prime contracting prior to issuing bid documents, the required forms and procedures prescribed by the State Building Commission as available on the [SCO website](#).
 - a. Solicitation
 - i. The PM prepares an [advertisement](#) and send to PS requesting posting to website.

- ii. HUB-C forwards the [advertisement](#) to the UNC System office for posting on the NC State website.
 - iii. HUB-C posts the [advertisement](#) to the FM website.
 - iv. The PM receives Prequalification Submittals from Contractors and downloads electronic submittals to the project folder.
 - b. Selection
 - i. The PM along with assigned prequalification committee members completes the Prequalification Firm matrix <https://ncadmin.nc.gov/document/general-contractor-prequalification-matrix> ([General Contractor Prequalifications](#)).
 - PM creates [Meeting Minutes](#)
 - Firms not prequalified must be promptly notified of this determination by PS to allow for appeals of the prequalification committee determination.
 - ii. PM to inform pre-qualified contractors that the project has advertised for bids, copy designer and AD.
4. PM and Designer to conduct bid opening following
 - a. After bid opening request from the Designer:
 - i. Certified bid tab within 24 hours of bid opening
 - ii. Recommendation letter
 - iii. Minority participation forms
 - iv. Scanned bids, save in project folder
 - b. Send HUB Coordinator documents received from Designer and request
 - c. PM to complete Bid Summary Form 325.
 - d. PM to prepare letter to GA ? recommending contract
 - i. Route the letter, certified bid tab, designer recommendation letter, scanned bid, and HUB certification letter to AVCFM via AD to begin the approval process.
 - e. When the letter has been signed, PS to send letter and all backup documents to the UNC System Office.
 - i. For projects with a total project budget less than \$750,000 the SCO Informal Contract can be used. Construction cost cannot exceed \$500,000.
- C. For project \$2M+ (Major, SCO)
- 1. Pre-Bid Phase Start
 - a. Once the Final Review/Approval letter and final project approval letters from the Owner and all regulatory agencies are on file with SCO, the project is approved for bids.
 - b. The State Construction Office has specific contract forms that must be incorporated into State projects. These forms are available for download on the [SCO website](#).
 - i. Specific details and requirements for bidding projects are included in the [SCO manual](#).
 - c. Upon approval of all regulatory agencies, the project manager (PM) shall establish the date of receipt of bids.
 - 2. Pre-Bid Meeting, Bid Opening, and [Notice to Bidders](#)
 - a. PM to determine pre-bid meeting and bid opening date, time, and reserve location.
 - i. Must have a minimum of 11 days between the pre-bid meeting and the bid opening

- ii. Prebid meetings must be scheduled no later than 15 days prior to the bid opening (to allow for 10-day MBE requirements).
 - iii. Send invites for the pre-bid meeting and the bid opening, adding the Designer, Customer, DPDC, AD, Assoc. Director to the attendees.
 - b. The Designer prepares the [Notice to Bidders](#) and Instructions to Bidders using the format required by SCO in the [SCO Manual](#). Designer to send the draft [Notice to Bidders](#) to PM who reviews and then sends to ADP, DPDC for review, designer finalizes.
 - i. Designer finalized NTB, PM creates PDF of final document.
 - PM sends the NTB PDF to HUB Coordinator for them to post on the UNC Charlotte website and forwarded to the UNC System Office which then is posted on the State of North Carolina Interactive Purchasing System.
 - Allow a minimum 23 days from date submitted to HUB C for website posting and the bid opening.
 - c. Designer conducts pre-bid meeting including preparing any meeting material and sign-in sheet
 - i. PM to ensure that the HUB C is invited to the pre-bid meeting and the bid opening.
 - PM sends HUB Coordinator scanned sign-in sheet and meeting materials to post on the FM website.
 - ii. Addenda are issued by the designer in accordance with SCO requirements.
 - No addenda shall be issued later than 7 days prior to bid opening. Addenda must be reviewed by the PM, ADP, and DPDC before being issued PM/Designer set bidder questions due date and final addenda to be posted.
 - PM sends HUB Coordinator addenda to post on the FM website.
- 3. After bids have been opened
 - a. If the low bid exceeds the funds available, the designer, AD and DPDC are authorized to enter into negotiations with the lowest responsible bidder to identify reductions in cost. The recommendations are forwarded to the DPDC, Director of Engineering and the AVCFM, and Project Requestor for review and approval.
 - i. If agreement to reduce bids cannot be reached, bids can be rejected or additional authorization for the project funding can be requested from the BOT and BOG. .
 - ii. The ADP prepares documents to Request an Increase in Authorization from the BOT and BOG. The authorization request process outlined in Phase I is followed.
 - b. If low bidder is within budget, discuss the alternates to be accepted with the end user for the project and inform the designer.
 - c. Send an email to HUB-C with a pdf of the unofficial results of bid opening attached for posting on the FM website.
 - d. After bid opening request from the Designer:
 - i. Certified Bid Tab within 24 hours of bid opening
 - ii. Letter of Recommendation
 - iii. Bid Summary
- 4. Construction Contracts

- a. The designer, upon receipt of the notification of award, shall prepare the contract documents and submit to the contractor for execution and obtaining Certificates of Insurance and Performance and Payment Bonds for all projects over \$500,000.
 - i. Request designer to fill out [Construction Contract](#) using the [Design Agreement Checklist](#) and return for review.
 - b. PM to route the contracts through the AD and DPDC. The DPDC will forward to the AVCFM for review and approval and to the VCBA for signature.
 - c. The PM will download the electronic copies of all contract documents to the project folder. The executed construction contracts are then sent to SCO for review and final approval of the Attorney General.
 - d. SCO returns three copies of the executed contract to the PM for projects with a total budget over \$500,000.
 - i. Upon receipt PS will send one copy to the designer, one copy to the contractor and save one copy in the project folder (hard copy and electronic).
 - ii. FM Finance receives a copy and issues the PO.
5. Project Manager updates the Project Cost Worksheet, based upon the bid contract amount by entering the contract amount in the Estimating and Budget Control worksheet.

Chapter 603 Award CMR Construction Contract

- A. Construction Manager at Risk (CMR) Delivery Method Bid Phase
1. The CMR required processes and forms are on the NC Department of Administration [SCO website](#).
 2. When the construction documents are reviewed and approved by regulatory agencies, the CMR provides a GMP (guaranteed maximum price) acting as a construction manager to deliver the project. A GMP is defined in the State Construction Manual and the SCO contracts.
 3. The CMR prepares the [advertisement](#) for bids both the newspapers and websites and the PM ensures the [advertisement](#) is posted to the [FM](#) and [SCO website](#).
 4. Guaranteed Maximum Price (GMP) contract
 - a. The PM receives the GMP proposal and completes the [GMP Contract Request letter](#). The Owner may accept, negotiate or decline the GMP offering and bid the work under another construction delivery method.
 - b. The GMP proposal is forwarded to the AD, DPDC and AVCFM for review. Following approval by the AVCFM, the contract is forwarded to the VCBA for signature.
 5. Guaranteed Maximum Price
 - a. The CMR shall publicly advertise for and pre-qualify all “first tier subcontractors,” in accordance with SCO requirements. First tier subcontractors must comply with MBE guidelines. Bids will be opened in a public venue. The CMR may self-perform work only under limited circumstances.
 - b. After receiving the bids, the CMR will prepare a Change Order Request to reconcile the difference with the final GMP. The PM will forward the Change Order Request to the Associate Director, Director and AVCFM for review and approval.

SECTION 700 Construction

Construction Phase and construction close-out. Once the contractor for construction has been identified and approved, the PM now moves into the construction phase. The PM's goal during this phase is to provide effective construction administration. The primary objective is to build the specified project within the agreed-upon schedule and budget and with a high level of quality.

Chapter 701 Construction Phase

EXHIBIT Weekly Site Inspection Report Form	Email DP #2b
EXHIBIT COR approval cover sheet	Email DP #2a
EXHIBIT Contractor Evaluation Form	Email DP #4b
EXHIBIT Designer Evaluation Form	Email DP #4a
EXHIBIT Project Close-Out Checklist	Email SD/DD/CD
UNC SO Capital Project Procedure Guidance Table	Email GC/Bidding
Email AP	Email ITS/Operations
Email CMR	SCO Construction Manual
Email Cx	SCO website

A. Pre-construction Meeting

1. For projects \$500k - \$2M
(Download Major)
 - a. Schedule a preconstruction meeting with campus contacts, including customer, Building Liaison, designer, and GC.
2. For projects \$2M+
 - a. To begin the selection of subcontractors before a contract is in place, consider issuing a Letter of Intent to the low bidder while awaiting a contract from SCO.
 - i. PM, AD, DPDC make the decision to use a Letter of Intent.
 - ii. If Letter of Intent will be issued, route to AVCFM via AD to begin the approval process.
 - b. When a contract has been received from SCO, contact SCO Monitor to schedule a pre-construction meeting.
 - i. Send meeting invites to campus contacts, including customer or Building Liaison, designer, and GC.
 - c. After the preconstruction meeting has taken place, send the date/time/location of the monthly meeting to PS for distribution to all attendees.

B. Notice to Proceed

1. Designer shall issue the Notice to Proceed to all prime contractors. Copies of each letter issued by the Designer shall be furnished to the PM, the Owner Capital Project Coordinator, and to the SCO.
2. A SCO Project Monitor is assigned to the project. The PM will notify the AD, DPDC and AVCFM.

C. Construction Meetings

1. After the contract has been received from SCO, the designer will contact the SCO Construction Monitor to schedule a pre-construction meeting. The Project Monitor must be present at the pre-construction meeting
 - a. The PM will establish the date, time, and location for the monthly meetings and other meetings in coordination with the SCO Project Monitor as needed to facilitate progress of the project and notify project stakeholders.
 - b. The PM will set up the meeting (reserve room, create meeting invite) and provide a list of campus stakeholders to be invited to the monthly construction meeting to the designer.
 - c. Attachment of list or list below the “always required stakeholders” for PM to work off of? ADA Coordinator, Parking Services, ITS, FM Engineering, customer, AD, ADPDC, DPDC, and Maintenance Operations, etc. need to finalize the complete list.
2. The meetings shall be conducted in accordance with the requirements of the [SCO Construction Manual](#).
3. For Hard Bid projects: The monthly meetings will be scheduled by the PM and led by the designer who is responsible for the agenda/meeting material, sign-in sheet, and meeting minutes. The weekly meetings will be scheduled by the PM and led by the contractor who is responsible for the agenda/meeting material, sign-in sheet, and meeting minutes. For CMR projects: All meetings will be scheduled by the PM and led by the CMR who is responsible for the agenda/meeting material, sign-in sheet, and meeting minutes.
 - a. The Designer/Contractor/CMR must send their agenda and/or meeting material to all invited attendees at least 48 hours prior to the meeting date and time.
 - b. The Designer/Contractor/CMR must send their meeting minutes to all invited attendees within 48 hours after the meeting date and time.
 - i. Minutes should have the agenda and sign-in sheet included as attachments.
 - ii. The email with the meeting minutes must request comments and revisions from attendees within a week and once received the designer/contractor/CMR must revise accordingly and send out a final version that, must be noted, will become part of the project record.
 - *EXAMPLE DESIGNER EMAIL*: Please find attached the meeting notes, attendee list, and presentation from our meeting last Tuesday, March 10th. Please review carefully as these will become a part of the project record unless changes are requested within one week.
4. The PM will attend all weekly and monthly construction meetings.

Chapter 702 Monitoring

A. Monitoring

1. The contractor prepares a construction schedule as required by the General Conditions and the Supplemental Conditions of the Contract and the UNC Charlotte Design and [SCO Construction Manual](#).
2. The designer reviews the construction schedule prepared by the contractor or the CM and provides comments to the contractor. The PM reviews the schedule and provides comments to the designer. The schedule is reviewed at the monthly construction meetings.
3. A copy of the approved schedule is forwarded to the ADP, DPDC and saved in the project folder.

4. The PM downloads a copy of the approved construction schedule to the project folder.
 5. Requests for time extensions will be reviewed by the designer and a recommendation forwarded to the PM.
 6. If milestone dates are not being achieved, the PM notifies the AD, the DPDC and AVCFM. The designer requires the contractor to provide a recovery schedule as required by the General Conditions of the Contract.
 7. If the project is not completed by the scheduled completion date, the designer will notify the contractor that liquidated damages will be assessed. A copy of the letter will be sent to the PM, ADP, and DPDC, and then a copy is saved in the project file.
 8. Monitor progress of the work
 9. Track project cost and budget
 - a. Project Manager shall track and maintain current, all project cost and budget data using the Estimating and Budget Tracking worksheet.
 - b. Reconcile the [Estimating and Budget Tracking](#) summary with FM Finance monthly.
 - c. Monthly, submit a reconciled copy of the Budget Summary to the AD, DPDC, and AVCFM.
 10. Review, and process change orders
 11. The required processes and forms for project change orders are on the [SCO website](#).
 - a. Refer to the [SCO Change Order Processing Manual](#)
 12. The PM reviews an updated Change Order Request (COR) Log provided by the contractor weekly, identifying all pending and potential COR's, the date identified, and the best available cost impact data and tracks COR's in the [Estimating and Budget Tracking worksheet](#).
 13. The PM determines the urgency of authorizing the Contractor to proceed with the work, and if it is determined that the work should proceed prior to approval of the COR, obtain concurrence of the ADPDC, DPDC, and AVCFM for all change orders. The PM will notify the designer to proceed with the work using a Field Order.
2. GC Change Order for projects \$500,000 - \$2M (Download Major)
 - A. Fill out the UMP [Change Order form](#) and send it to the GC for execution.
 - B. After the CO has been received from the Designer, initial each copy beside the Owner's Signature Block, route to AVCFM via AD to begin the approval process.
 1. Project manager reviews each Rough Order of Magnitude (ROM) cost, Field Order and COR when submitted by the Contractor
 - a. Receive COR from the Designer including, a description of the scope of the change, a written justification as to why the COR constitutes a legitimate change to the contract, applicable detailed quantity take-offs, a revised schedule justifying any requested time extension, and labor and material unit prices for all quantities claimed
 - b. Consult with the Director of Engineering on changes involving mechanical or electrical systems.
 - c. Review plans and specifications, bulletin documents, and contract terms and conditions to verify the legitimacy of the claimed change
 - d. Determine and clearly restate the basic scope of the change
 - e. Verify the reasonability of any time extension requested through a detailed review of the baseline Project Schedule and the current schedule
 - f. Verify that the claimed quantities are consistent with the determined basic scope

- g. Verify quoted labor and material unit prices are appropriate for the determined scope using recent experience of known costs and/or Means unit cost data adjusted for the locale, job conditions, and time driven escalation
 - h. Verify that any charges for general conditions costs are consistent with the terms and conditions of the contract and are consistent with the scope and schedule of the changed work – note general conditions costs are largely time driven
 - i. Verify that subcontractor and contractor mark-ups are consistent with the terms and conditions of the contract, and pay particular attention to mark-ups other than standard overhead and profit line items
2. Require resubmission of COR by contractor resolving any discrepancies or issues identified in COR analysis
 3. After resubmission, if all the issues have not been satisfactorily addressed, the Designer will schedule a negotiation session with all the parties. If agreement cannot be reached through this negotiation, refer the matter to the ADPDC and DPDC.
 4. The designer will process acceptable COR's into Change Orders according to the requirements of the SCO Manual and the General Conditions of the Contract. All change orders for construction contracts over \$500K are processed and approved through Interscope.
 - a. Assemble a COR package including COR, [COR approval](#) cover sheet and all supporting documents, a COR analysis form serving as written justification for COR acceptance, a current budget summary highlighting the funds available to cover the cost of this COR.
 - b. The PM will submit the COR package to the AD and DPDC for approval.
 - c. Receive back the approved COR Package with appropriate approval signature on the COR Approval Cover Sheet, and provide notice of approval and written authorization to the Contractor to proceed with the changed work addressed by the COR.
 - d. Periodically assemble single or multiple COR Packages into a formal Change Order Package and process according to SCO requirements.
 - e. Receive back the approved Change Order including the three internally signed copies of the Change Order Form and deliver one copy of the Change Order Form to the Contractor, one copy to Purchasing, and file the third copy along with the Change Order Package in the project contract file
 5. If any required change order, scope revision, or other issue affecting cost cannot be absorbed by the project contingency funds, and would therefore cause the total project cost to exceed the total project authorization, a recommendation to request an increase in authorization is forwarded to the AD, the DPDC, the AVCFM and the VCBA. If the VCBA is in agreement, the ADP prepares a request for an increase in authorization for BOT and BOG approval.
 6. Change orders are prepared and processed according to the requirements of the [SCO Construction Manual](#).
 7. The designer provides three copies of any paper Change Orders issued for projects with construction contracts up to and including \$500K to the FM Finance office.
 8. The PM notifies FM Finance when Change Orders have been approved for projects between \$500K and up to and including \$2M. (Interscope does not notify for CO approval on projects less than \$2M)
 9. All change orders for construction contracts over \$500K are processed and approved through Interscope. The designer enters the Change Order and it is routed through the approval process, or rejected for further information.

10. For projects less than \$2M, the PM notifies FM Finance of the change order since no notification is sent through Interscope.
 11. For projects over \$2M, COR are approved by SCO and an electronic notification is sent to FM Finance.
- C. Review and process applications for payment
1. The designer shall provide administration, review and processing for application for payment request processing.
 2. As required by the contract, the contractor must submit a proposed schedule of values, insurance certificates, and required bonds, for approval by the designer prior to approval of the contractor's first monthly application for payment.
 3. Applications for payment from contractors, including Construction Managers, shall be submitted to the designer for approval. After payment requests have been approved by the designer, the designer's signature shall be affixed, and the payment request forwarded to the PM for review and payment.
 4. Prior to designer certification of the application for payment, the PM will review a "pencil copy" payment application.
 - a. Verify that contract amounts and any change order amounts indicated on the payment application are correct,
 - b. Verify that vendor's claimed percentages of completion for each category of work are reasonable, based upon inspection of the work progress, and verify quality of work is acceptable
 - c. Verify that proper retention is identified and being withheld per the terms of the contract
 - d. Compare progress billings (payment applications) with schedule progress – if there are significant discrepancies, this can be an early indication of schedule trouble
 5. The PM approves and uploads the correct and acceptable payment applications to ImageNow and submits it to FM Finance Office for review and processing.
 6. The PM maintains a log of all contract payments – note, all non-contract payments are recorded and tracked in the [Estimating and Budget Tracking worksheet](#), but contract payments are not confirmed. The Estimating and Budget Tracking worksheet does track non-contract payments because it is necessary in order to track total committed cost. The worksheet does not track contract payments because contract payments do not affect total committed cost, the contract itself and any approved change orders commit that cost.
 7. Payments to ITS, AISLE and FM Support are electronic and not invoiced so the PM must go and look at WR approvals/invoicing and approve ITS invoices and record them in the Non-Contract Payment Worksheet in the Estimating and Budget Tracking worksheet.
- D. Oversee the building start-up process
1. The designer coordinates start-up, testing, and training for building systems and equipment according to the requirements of the General Conditions and Specifications of the Contract.
 - a. The PM and the Director of Engineering review equipment to be tested.
 - b. The PM and Director of Engineering invite representatives to witness start-up and receive training.
 - c. The contractor provides training and start-up materials, records the training and start-up.
 - d. Collect and review air and water balance reports for compliance with specification requirements

- e. The designer collects, assembles and reviews the Operations and Maintenance (O&M) Manuals from Contractor(s) as required in the Supplemental General Conditions of the Contract.
 - f. The designer delivers O&M Manuals to the PM. The PM confirms that all required submittals are included. add process for distributing and reviewing in FM (Maintenance Ops?)
 - g. The PM transmits the O&M Manuals to PS.
2. Final Inspection and Beneficial Occupancy
- a. The designer coordinates final inspection with the SCO Project Monitor according to the requirements of the SCO Manual and the General Conditions of the Contract.
3. Manage move-in
- a. The Furniture Procurement and Moves Project Manager prepares and distributes to all stakeholders, a project specific plan for moving building occupants to new space. See Phase 2 - Design, Item 6 for information.
 - b. The PM coordinates with ITS and AISLE with processes for the installation of phones, activation of data ports, and installation of audio-visual equipment.

Chapter 703 Close-Out

- a. Manage close-out
 - i. The designer coordinates punch-list completions
 - 1. The designer prepares and manages punch-list documentation.
 - 2. The designer schedules progressive mechanical, electrical, and plumbing (MEP) punch list walks with contractor, applicable subcontractors, designer during construction and prior to wall and ceiling closures.
 - 3. Schedule final punch-list walks at substantial completion
 - 4. The PM reviews punch lists for accuracy and completeness
 - 5. Distribute punch-lists to Contractor and establish deadline for completion
 - 6. Schedule re-inspections as required until all items are resolved and signed-off
 - b. Collect close-out documentation from designer
 - i. Review close-out documentation and complete [Close-Out Checklist](#). Specify handling and filing of As-Built drawings
 - ii. Receive Warranty Binder from designer
 - 1. Warranty Binder is received electronically, and the FIS team adds it to the drawings archive. Suggest copy to FM
 - iii. Assemble Finishes Binder (Finishes Binder Standards for project and file in the Materials Library we don't have a materials library. Specify a location and suggest copy to FM
 - c. Settle any outstanding change orders and claims
 - i. Identify and evaluate for merit, any remaining change orders and claims
 - ii. Attempt to negotiate a fair and reasonable settlement based upon merit, and if a settlement cannot be reached, refer the issue to the DPDC.
 - d. Verify and process final payments and change orders.
 - e. Advise ADPDC, DPDC and FM Finance office of final completion such that the project accounts may be closed
- B. Prepare [Contractor Evaluation Form](#) in [Interscope](#). Ensure input from HUB C is obtained.

- C. Prepare [Designer Evaluation Form](#) in [Interscope](#)
- D. Document lessons learned
 - a. Conduct After Action Reviews
 - i. After close-out, meet with customers, designer, and contractor to discuss and document what was done well and what could have been done better during the course of the project. Also determine how well the completed project is fulfilling the customers' needs and expectations.
 - b. Assemble a project review package
 - i. Documentation of customer, designer, and contractor post project review meetings
 - ii. [Project Close-Out Checklist](#)
 - c. Conduct meeting with ADP, DPDC, ADPDC, and Director of Engineering to discuss the project, review the project review package, and document lessons learned
- E. Closeout CHANGE NAME
 - a. For projects \$2M+ (SCO)
 - i. Log in to Interscope and search for the project to complete designer and contractor reviews per the instructions on the [SCO website](#).
 - b. For projects \$500k - \$2M (UMP)
 - i. Designer
 - 1. Fill out the Designer Evaluation Form (PF 4.3) and Preliminary Evaluation Letter (PF 4.3) and send to the Designer for comments.
 - 2. When comments are received or when the comment request date has passed, incorporate any comments received into the Evaluation Form and fill out the Evaluation Letter to SCO (PF 4.3). Print on UNC Charlotte letterhead and give to DPDC for signature.
 - ii. Contractor
 - 1. Fill out the Contractor Evaluation Form (PF 4.3) and Preliminary Evaluation Letter (PF 4.3) and send to the Contractor for comments.
 - 2. When comments are received or when the comment request date has passed, incorporate any comments received into the Evaluation Form and fill out the Final Evaluation Letter (PF 4.3). Print on UNC Charlotte letterhead and give to DPDC for signature.
 - c. Post-Construction
 - i. After SCO's acceptance of the project, fill out the Project Acceptance memo to VCBA and the New Property Reporting Form and deliver it to DPDC for signature.
- F. Send the Owner Occupancy Memorandum email to all appropriate campus personnel. Demobilization

Chapter 704 Close-Out

UNC Charlotte Closeout Process Study
 Existing Policies/Procedures
 State Requirements

NC State Construction Manual
Section 704 - Commissioning Authority

C. Commissioning Report:

Evidence of completed functional testing is sufficient to accept the building at the final inspection. The commissioning report should be provided to the Owner no later than the project closeout phase, which is within 60 days of project acceptance.

Section 709 - Final Inspection

“Project Approval Authorization: Final Inspection for Owner Occupancy” form...should be uploaded into the State Construction Office InterSCOPE database as one of the closeout documents.”

“The Certificates of Compliance should be uploaded into the State Construction Office InterSCOPE database, as a closeout document.”

Section 715 - Project Closeout and Record Documents

A. Final Payment to Designer:

Final payment to the Designer will not be made until all closeout documents listed below have been provided to and approved by the Owner and the State Construction Office.

B. Contractor As-Built Drawings:

The contractor shall provide marked-up drawings, specifications and other material that reflect actual final conditions of the project in compliance with the Article 32 (d) of the General Conditions of the Contract. The contractor should forward the marked-up drawings and material to the designer for editing of the record documents, and the original marked-up plans should be given to the owner to document details of the actual conditions that may not be completely shown on the electronic Record Drawing files.

C. Record Document Requirements:

The Designer should take the marked-up drawings from the contractor, including any hand-written notes or other material, and produce electronic record drawings and specifications for the project. Original as-built mark-ups should be given to the Owner. Record documents should be uploaded into the State Construction Office InterSCOPE database and provided to the Owner. UNC formal projects under \$2M should also be uploaded into InterSCOPE and provided to the Owner.

D. Approval of Final Project Closeout Documents:

The closeout documents, required upon acceptance of the project, should be uploaded by the Designer into the State Construction Office InterSCOPE database and provided to the Owner. The Project Monitor will verify that all required closeout documents have been uploaded and approved prior to authorizing final payment to the Designer. All closeout documents should be provided within 60 days of project acceptance, unless required earlier by the contract.

Closeout documents uploaded into the State Construction InterSCOPE database are considered to be the Final Report on the project. A separate Final Report, a past requirement of the State Construction Office, does not need to be submitted.

1. Final Inspection Checklist:

The Designer shall provide a completed, signed copy of the Final Inspection for Owner Occupancy form, which should have been available at the time of final inspection.

2. Verification of Punch List Completion:

The Designer shall provide written confirmation that the final punch list items are complete.

3. Unsettled Claim Verification:

The Designer shall confirm that no unsettled claims exist on the project.

4. Record Documents:

Record drawings shall be provided for the project. Two files should be made available for each drawing. One file type should be computer-aided design (CAD) drawing files, with or without designer seals, for the owner to use as a basis for future project drawings. A full set of these CAD drawing files should be provided to the owner, in a digital media acceptable to the owner such as a compact disk. Printed copies of record drawings may be provided at the owner's request. The building summary sheet and the architectural floor plans should be given to the State Property Office as CAD drawing files, in the same digital media as the owner drawing files.

Pdf files should also be provided as permanent drawings, with Designer seals, that cannot be electronically edited. The pdf files can either be uploaded into the State Construction Office InterSCOPE database, which is preferable, or for extremely large files, another digital media such as a compact disk can be provided. For any record drawing digital media delivered to State Construction, identical files should be given to the owner.

5. Final Pay Application:

Minority Business Enterprise Final Documentation Consent of Surety of Final Payment
Contractor's Affidavit of Release of Liens
Contractor's Affidavit of Payment of Debts and Claims

6. Certificates of Compliance:

A Certificate of Compliance from every Designer or consultant sealing drawings on the project shall be uploaded onto the State Construction InterSCOPE database. On University Download Projects GS 116-31.11 this certificate should be uploaded into InterSCOPE and provided to the Owner.

7. Certificate of Completion:

One Certificate of Completion shall be issued for each project by the lead Designer and uploaded into the State Construction Office InterSCOPE database. On University Download Projects GS 116-31.11 this certificate should be uploaded into InterSCOPE and provided to the Owner.

General Conditions, OC-15 & OC-15CM

Article 25 - Final Inspection, Acceptance, and Project Closeout

- c. Within fourteen (14) days of acceptance per Paragraph c1 or within fourteen (14) days after completion of punch list per Paragraph c2 above, the Project Designer shall certify the work and issue applicable certificate(s) of compliance.
- d. Any discrepancies listed or discovered after the date of SCO final inspection and acceptance under Paragraphs c1 or c2 above shall be handled in accordance with Article 42 (note: Guarantee section detailing 12 month warranty).
- e. The date of acceptance will establish the following:
 1. The beginning of guarantees and warranties period.
 2. The date on which the CM's insurance coverage for public liability, property damage and builder's risk may be terminated.
 3. That no liquidated damages (if applicable) shall be assessed after this date.
 4. The termination date of utility cost to the CM (if applicable).
- f. Prior to issuance of final acceptance date, the contractor shall have his authorized representatives visit the project and give full instructions to the designated personnel regarding operating, maintenance, care, and adjustment of all equipment and special construction elements. In addition, the contractor shall provide to the owner a complete instructional video (media format acceptable to the owner) on the operation, maintenance, care and adjustment of all equipment and special construction elements.

Article 32 - Certificates of Payment and Final Payment:

d. Prior to submitting request for final payment to the designer for approval, the CM shall fully comply with all requirements specified in the "project closeout" section of the specifications. These requirements include but not limited to the following:

1. Submittal of Product and Operating Manuals, Warranties and Bonds, Guarantees, Maintenance Agreements, As-Built Drawings, Certificates of Inspection or Approval from agencies having jurisdiction. (The designer must approve the Manuals prior to delivery to the Owner).
2. Transfer of required attic stock material and all keys in an organized manner.
3. Record of Owner's training.
4. Resolution of any final inspection discrepancies.
5. Granting access to Contractor's records, if Owner's internal auditors have made a request for such access pursuant to Article 52.

UNC Charlotte Requirements

Capital Project Guidelines

Part 11 - Contract Closeout

- 11.1 See general conditions and supplements thereto and specification sections for document submittals, demonstrations, written instructions, personnel instructions, and any other special requirements.
- A. PROJECT RECORD DRAWINGS: Shall be furnished to the Architect with each application for payment and at time of closeout. Project record drawings shall meet North Carolina Department of Administration Standards of the most current North Carolina Construction Manual.
- B. THE GENERAL CONTRACTOR shall file one (1) complete set of Contract Drawings in his field office. Each Prime Contractor and each Prime Subcontractor, as the case may be, shall fully and accurately note in red on this set any and all changes and deviations in the Project from that originally indicated on the drawings, as required by change orders, bulletin drawings, addenda, alternates, products, equipment, and methods of construction. All utility services and other concealed work which are built into walls, floor slabs, roof slabs, below slabs on grade, and in general unexposed shall be accurately located to avoid damage to them in case a change or renovation takes place at some future date. All changes in dimensions, elevations, location of building components and equipment, and the location of any existing work which are different from that originally shown shall be indicated on these drawings. A copy of these, showing the work for which payment is requested shall be provided with each application for payment.
- C. UPON COMPLETION of construction, the Contractors shall each furnish a copy of surveys by a N.C. Registered Land Surveyor showing the final and accurate location of all new underground utilities each has installed giving spot elevations of the utilities at 30'-0" intervals maximum. All encountered existing underground utilities shall also be noted on the site plan if their location, type, or elevation is different from that indicated on the Contract Drawings or if the utility is not indicated on the Contract Drawings. Further, the survey provided by the General Contractor shall accurately locate the building and shall give as built contours of the site.
- D. AT THE CONCLUSION OF THE PROJECT, the Contractors shall turn over to the University all equipment, files, logs, drawings or submittals, etc., belonging to the Owner.

- E. AT THE CONCLUSION OF THE PROJECT, Contractors shall provide receipts signed by the Owner for all required items of the attic stock. The Project Expeditor shall submit a listing (specification section, type of material, and quantity) of all required attic stock items for review by the owner and designer prior to the preliminary final inspection.
- F. AT THE CONCLUSION OF THE PROJECT Contractors shall provide one copy of all packing slips, instruction sheets, Owner's guides, etc., that were packed with items of equipment and materials incorporated into the project.
- G. AT THE CONCLUSION OF THE PROJECT each Contractor shall provide a comprehensive listing of subcontractors and suppliers showing the generic name of materials, work or equipment provided, trade or brand name, name, address, telephone number and contact person, and a reference to the drawings or specification.
- H. AT THE CONCLUSION OF THE PROJECT Shop Drawings, Fire Sprinkler and Fire Alarm Drawings shall be sent in CAD and PDF formats. Other General shop drawings, not specific to UNC Charlotte may be sent in PDF format.
- I. AT THE CONCLUSION OF THE PROJECT Design manuals, warranty information, and paper documentation provided to the owner be in a digital format to facilitate storage. Acceptable file types are pdf, doc, xls, tiff, jpg, rvt/ifc, and dwg.

SGCs

Article 5 - Shop drawings, submittals, samples, data:

E. ADD paragraph f:

The Contractor will furnish and deliver to the Owner 1 copy of each shop drawing, submittal, sample, and data which has been reviewed by the Designer and which has received a "NO EXCEPTIONS TAKEN" or a "TO BE CORRECTED AS NOTED" evaluation. The Contractor or each Prime Contractor shall deliver these to the Owner within 14 calendar days of receiving each reviewed item from the Contractor following review by the Designer, or in the case where 1 copy of a sample was submitted, within 14 calendar days of receiving advice that the sample is "NO EXCEPTIONS TAKEN" or "TO BE CORRECTED AS NOTED." Coordinate delivery with the owner's project manager. The owner shall have the option of accepting submittal copies during construction or at closeout in which case the project expeditor shall neatly store all items by division in "banker type" storage boxes or a separate file cabinet in the contractor's office facility. All stored submittals and samples shall be accessible to owner at any time during normal working hours.

Already required - Summary

- Contractor As-built Drawings
- Designer Record Drawings (dwg & pdf & rvt/ifc)
- Final Inspection Checklist
- Project Approval Authorization: Final Inspection for Owner Occupancy (form)
- Verification of Punch List Completion
- Unsettled Claim Verification
- Final Pay App
- Certificates of Compliance
- Certificate of Completion
- O&M Manual & Video

- Attic Stock
- List of subcontractors with contact information and summary of work performed
- Contractor's Records (upon audit request)
- Hard copy shop drawings, submittals, and samples.
- Commissioning Report

Other Processes/Best Practices

UNC-CH process

Capital Project Close-out Procedure and Record Document Requirements

The Designer shall provide the following project services toward completion of the project. These requirements are in addition to the deliverable requirements described in the North Carolina–State Construction Manual (NC-SCM). Final payment will not be approved until all deliverables are received in good order. All items are expected to be delivered within sixty days of project acceptance.

1. **At project close-out** the Designer shall provide the following documents to the University Construction project manager. All the following items shall be updated to accurately reflect as-built conditions:
 - 1.1. One **Archival Drawing Set** printed. As follows:
 - 1.1.1. This set shall be imaged on Mylar stock (to be determined if Mylar is still used)
 - 1.1.2. This set shall be made up of loose sheets, NOT bound.
 - 1.1.3. This set includes ALL drawings and illustrations that describe any demolition and construction completed as part of the project.
 - 1.1.4. The drawing set's Contents or Sheets list shall be updated to reflect the final drawing collection.
 - 1.1.5. Formatted per section B below.
 - 1.2. One **set of CAD Drawing Files** used to produce the printed drawings.
 - 1.2.1. Delivered per section C below.
 - 1.3. One **set of PDF Drawing Files** used to produce the printed drawings.
 - 1.3.1. Delivered per section C below.
 - 1.4. One **Drawings Index** in electronic format.
 - 1.4.1. One line per record document sheet: giving the document sheet number, sheet name and corresponding electronic file name used to produce the record drawing.
 - 1.4.2. Described in section C below.
 - 1.5. **Specifications Manual set including Addenda** following NC-SCM guidelines:
 - 1.5.1. **One Printed set** per section B below.
 - 1.5.2. **One Electronic set** per section C below.
 - 1.6. **Final Report** following NC-SCM guidelines
 - 1.6.1. **One Printed copy** per section B below.
 - 1.6.1.1. Include a copy of all warranties.
 - 1.6.1.2. Include a copy of all close-out required affidavits.
 - 1.6.2. **One Electronic file(s)** set per section C below.

1.6.2.1. Original content only, forms and scans are not required.

2. Printed materials

2.1. Shall follow the following standards unless specified otherwise above:

- 2.1.1. For As-built drawings, document pages must be imaged on Mylar. (*see comment above about mylar*)
- 2.1.2. All other materials should be imaged on acid-free, white, 18 to 30-pound white paper of bond or rag base with contrasting print.
- 2.1.3. Covers must be acid-free cover paper, card stock, art board or Mylar.
- 2.1.4. Plastic (polyvinyl) covers and/or comb binding are NOT permitted.
- 2.1.5. All text (margins) must be at least ¾ inches from the document edge.
- 2.1.6. Document sets over 1 inch thick shall be split into multiple volumes.
- 2.1.7. The cover of each item, and each drawing sheet, shall include, as applicable:
 - 2.1.7.1. Phase indication or "Record Document" clearly visible.
 - 2.1.7.2. Architect and/or engineer's name and State IDs.
 - 2.1.7.3. Architect and/or engineer's Seal and Signature. Note: PE must Seal and Sign As-Built drawings.
 - 2.1.7.4. State Project Code-Item and State Project ID.
 - 2.1.7.5. Revision history with revision dates.
 - 2.1.7.6. A volume identifier, such as "Volume 1 of 3".
- 2.1.8. Materials produced by a reprographics firm shall include a statement of the materials used by the reprographics firm (or receipt) to assure compliance with these UNC standards.

3. Electronic documents

3.1. May be delivered on: Cloud based platforms (as long as UNCC approves and has access) Compact Disk, DVD or Flash Drive media and follow the standards below:

- 3.1.1. All electronic files shall be named according to their printed sheet name.
- 3.1.2. File names shall not include space or punctuation characters other than hyphens, periods and underscores. (Follow the UNC Charlotte Integrated Lifecycle Management (ILM) PPlan - see Exhibit 8 - Digital Management Exchange). (Are construction photos still taken? Behind the wall photos for anything that has MEP would be helpful.)
- 3.1.3. **Text files** shall be:
 - 3.1.3.1. Delivered in Rich Text Format, RTF, or Microsoft Word 2000 or later format.
 - 3.1.3.2. Acrobat PDFs are also acceptable for textual material as long as content are text searchable, indexed, and selectable. PDFs may not be scanned documents. Original digital files only except when signatures are required.
 - 3.1.3.3. All documents in printed form must include seal and signature.
- 3.1.4. **Spreadsheets** shall be:
 - 3.1.4.1. Delivered in Comma Separated Values, CSV format or Microsoft Excel 2000 or later format.
- 3.1.5. **Drawing Files** shall be:
 - 3.1.5.1. Compatible with AutoCAD format 2018.
 - 3.1.5.2. Each CAD file shall be bound with no external references (XREFs) and purged of unreferenced objects.
 - 3.1.5.3. Include any non-bindable attachments, custom font (SHX file) and the CTB file used in project.

- 3.1.5.4. A single drawing; multiple sheet tabs are not allowed.
- 3.1.5.5. In editable condition, not protected or locked.
- 3.1.5.6. 3D models shall be .rvt or .ifc and compatible with current Revit release used by UNC Charlotte.

4. **Notes**

- 4.1. Documents will be reviewed by UNC Construction staff for completeness and accuracy before being accepted by the Plan Room.
- 4.2. Documents not meeting these requirements when received by the Plan Room Archive will be need to be corrected and resubmitted at the expense of the designer.

Campus Requests

FIS

Digital only, we don't want paper or mylar.

Drawings should have a full index and an index in each section.
Manuals should have an index and be broken down by section.

Things that typical get missed with the shop closeouts:

- Simplex Fire alarm CAD and PDF drawings
- Fire Sprinkler vendor CAD and PDF drawings
- Final Survey CAD drawings
- BAS Control system backup files of all controllers
- BAS Updated Building control diagram Visio and PDF

Designers' Checklist

The following items are required to be delivered to the UNC Charlotte Project Manager within 60 days of project acceptance per the North Carolina State Construction Manual, State Construction Office (SCO) General Conditions, UNC Charlotte Supplemental General Conditions, and UNC Charlotte Capital Projects Guidelines. Final payment will not be approved until deliverables have been received.

All Owner's deliverables items noted with a * are required to be uploaded to SCO InterSCOPE database as a closeout document.

- Contractor As-built Drawings
 - Drawings to be scanned to pdf in color (300 to 600 dpi) and assembled as a single file per original drawing volume.
- Designer Record Drawings
 - *One set of PDFs to be assembled into volumes per the design disciplines and should include an overall index as well as an index for each volume that show sheet numbers with corresponding PDF page numbers.
 - One set of DWGs used to create the PDFs
 - If the project was designed in 3D, a federated 3D BIM model that follows the UNC Charlotte Integrated Lifecycle Management (ILM) Plan and has been reviewed and signed off by the design team, contractor, and UNC Charlotte Engineering.
- Additional to be provided separate from drawing sets
 - Final Survey Drawings (CAD & PDF)
 - Simplex Fire Alarm Drawings (CAD & PDF)
 - Fire sprinkler vendor drawings (CAD & PDF)
 - BAS
 - Control system backup files of all controllers
 - Updated Building control diagram (Visio & PDF)
 - Wiring floor plans to show wiring layout
 - Security Drawings floor plans and riser diagram which should include security cameras and access control (CAD & PDF)
- O&M Manual & Video
 - Contractor-provided. Designer to approve prior to issuing to Owner and include a letter indicating such.
 - Manual to be in PDF format, broken down by spec section and include an index.
 - Training videos to be individual files by subject in mpeg format.
 - If Owner training has been performed, a log must be provided detailing date, time, subject, and all attendees from Owner, Contractors, Designers, Commissioning Agents, etc.
- Commissioning Report (if applicable)
 - PDF format
- *Final Inspection Checklist ([form](#))
- *Verification of Punch List Completion
- *Unsettled Claim Verification

- *Project Approval Authorization: Final Inspection for Owner Occupancy
- *Certificates of Compliance
 - From every Designer or consultant sealing drawings
 - Signed within 14 days of Punch List completion.
- *Final Pay App
 - Minority Business Enterprise Final Documentation Consent of Surety of Final Payment
 - Contractor's Affidavit of Release of Liens
 - Contractor's Affidavit of Payment of Debts and Claims
- *Certificate of Completion
- Attic Stock
 - List of attic stock to be developed per project during design (Division 01).
 - Delivery to be coordinated with the University Project Manager.
 - Transmittal letter with signature and date verifying receipt by Owner to be included with Closeout Documents as PDF
- Shop drawings and approved submittals
 - PDF format, organized by spec section w/index
 - Index to include Submittal Number, Product Name, Manufacturer Name, Manufacturer's Product Number, Approval Date
 - Naming convention - SUB#####
- Approved samples.
 - Index to be included with samples and provided via PDF to include:
 - Manufacturer
 - Product name
 - Product number
 - Color information
 - Specifications section
 - Neatly stored by division in "banker type" storage boxes
- List of subcontractors with contact information and summary of work performed.
- Contractor's Records (upon audit request)
- Upload of required documents to SCO InterSCOPE database complete.

All digital files to be transmitted via secure online file transfer in a single repository organized by deliverable.

Project Managers' Checklist

- Verify receipt of digital Closeout Documents from the Designer ([Google Sheet](#)) and save to Project Folder.
- Verify receipt of attic stock and approved samples from the Designer ([Google Sheet](#))
- Review and approve content and format of all items using the [Designers' Checklist. Google Sheet](#)
- Verify all required items have been uploaded to SCO InterSCOPE database.
- Send FIS an email (save as PDF to PF 4.0) including all digital files:

<Recipient>,

Please find the digital files received for closeout of the referenced project at the link below. The Designers' Checklist has been reviewed and approved. Please use this [Google Sheet](#) to verify receipt of the files and, after your review, acceptance or any requests for revisions.

<link or network path to digital repository>

- Once all items have been verified, approve Designer's final pay request and Contractor's final pay app.
- Send MO an email (save as PDF to PF 4.0) with the following items:

- Record Drawings (PDFs)
- M&O Manuals
- Training Videos
- Training Log
- List of subcontractors
- <Recipient>,

Please find the files received for closeout of the referenced project at the link below. The Designers' Checklist has been reviewed and approved. Please use this [Google Sheet](#) to verify receipt of the files and, after your review, acceptance or any requests for revisions.

The transmittal form verifying receipt of the attic stock for the project is attached for your reference.

<link or network path to digital repository>

<attach attic stock transmittal PDF from designer>

- When all parties have signed off on the acceptance of the digital closeout documents, save the Google Sheet to.
- For Renovation projects, complete the [Department of Insurance form](#) to include the renovation costs and submit to Risk Management.
- Complete Evaluations and upload to SCO InterSCOPE database:
 - [Advance Planning](#)
 - [Designer](#)
 - [Contractor](#)

Project Categories

Project Type	Total Project Budget	Authorization*
Informal Minor Under \$30K	Up to \$30,000	University
Informal Minor \$30K - \$300K	> \$30,000 to \$300,000	University
Formal Download \$300K - \$500K	> \$300,000 to \$500,000	BOT (submit CI-1 and OC-25 to UNCSCO)
Formal Download \$500K - \$750K	> \$500,000 to \$750,000	BOT (submit CI-1 and OC-25 to UNCSCO)
Formal Download Under \$1M	> \$750,000 to \$1,000,000	BOG (submit CI-1 and OC-25 to UNCSCO)
Formal UMP Over over \$1M	> \$1,000,000 to \$2,000,000	BOG (submit CI-1 and OC-25 to UNCSCO)
Formal SCO Over \$2M	> \$2,000,000	BOG (submit CI-1 and OC-25 to UNCSCO)