



FACILITIES MANAGEMENT DEPARTMENT

POLICY: IV: 08 Capital Outlay Project Coordination

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APPROVED: Executive Director of Facilities and Construction:



I. PURPOSE

The purpose of this procedure is to establish guidelines for project management operations of capital outlay projects by Facilities Planning and Construction (FP&C) staff and to set forth the procedures and working relationships of those involved in projects.

II. MISSION AND VISION STATEMENT

Mission

Our mission is to operate in a way as to maintain an exemplary and sustainable environment conducive to academic pursuits and in support of James Madison University's mission.

Vision

To deliver effective, efficient, and excellent services as we strive to promote and support a more sustainable university culture.

III. VALUES

Service: We value excellence in customer service and strive to continue to be the preferred provider of service across campus.

Respect: Through the open exchange of ideas, we hope to foster an atmosphere of mutual respect among ourselves, the university and the local community.

Stewardship: We value social, economic, and environmental responsibility and this commitment guides all our maintenance of the university's assets.

Collaboration: To ensure optimal results from our operations, we are committed to cultivating strong partnerships within our department, the university, and the local community.

Creativity: We value innovative and creative measures that ensure sustainable practices while also supporting the university's mission.

Professionalism: We take pride in our work and mandate professional etiquette across the entire spectrum of service we provide.

Integrity: We promote ethical, honest, and principled behavior when collaborating with staff, customers, university representatives, and community stakeholders.

Craftsmanship: We maintain a high standard of excellence in our department due, in large part, to the expert craftsmen we have on staff, they help us to meet our mission and vision.

IV. DEFINITIONS

- A. [James Madison University Higher Education Capital Outlay Manual](#) (JMU Manual) – Designed to present capital outlay process from project planning and approval through design and construction to project completion. The manual is arranged in sequence that parallels the capital outlay process. The manual process is to be followed for all non-general fund capital projects.
- B. [Construction and Professional Service Manual](#) (CPSM) – Sets forth the standards, policies, terms, conditions, and procedures to be followed by state agencies and institutions in procuring professional design and construction services (Virginia Department of General Services). CPSM process is to be followed on all state general funded “pool” projects.
- C. Architect/Engineer (A/E) – The architectural and/or engineering firms hired to perform consulting services related to programming, design and/or construction administration services for capital outlay projects per the JMU Manual or CPSM as issued by the [Commonwealth of Virginia Department of General Services](#).
- D. Capital Outlay Project – Projects meeting the definition of capital outlay construction in the JMU Manual or CPSM as issued by the Commonwealth of Virginia Department of General Services.
- E. Project Manager – The Facilities Planning and Construction (FP&C) staff member that directs the overall operation of a capital outlay project.
- F. Capital Outlay Project Engineer (Project Inspector) – The FP&C staff member that provides on-site construction observation and who coordinates all construction related work between the contractor and Facilities Management (FM) trades technicians, engineering and technical staff.
- G. Schematic Design Drawings – The package of drawings and documents as defined in the JMU Manual or CPSM as issued by the Commonwealth of Virginia Department of General Services.
- H. Capital Project Release Form – The form used to establish the compliance of the schematic, preliminary and working drawing documents with review comments (see page 32).
- I. Preliminary Design Drawings and Specifications – The package of drawings and specifications as defined in the JMU Manual or CPSM as issued by the Commonwealth of Virginia Department of General Services.
- J. Submittal, Testing and Commissioning Checklist – Used to tabulate submittals, testing, and commissioning activities specified by the A/E. This checklist is to be completed by the A/E and included in each review submittal.
- K. Construction Documents, also referred to as Working Drawings and Specifications – The package of drawings and specifications to be used as the official contract documents for the construction of a facility, as defined in the JMU Manual or CPSM as issued by the Commonwealth of Virginia Department of General Services.
- L. Invitation for Bids – The package of documents assembled and issued by Procurement Services including the Notice of Invitation to Bid, the Instructions to Bidders, the bid form, the pre-bid question form, the general conditions of the construction contract, the supplemental conditions, the special

conditions, the forms to be used, the scope of the work as described in the plans and specifications, other documents identified in the specifications, as well as any addenda which may be issued.

- M. Change Order – A document stipulated by the Department of General Services, issued by the A/E which is agreed to by the contractor and approved by the owner, and authorizes an addition, deletion, or revision to the work as described in the contract documents, or an adjustment in the contract price, the contract time, or to the body of the contract documents, issued on or after the effective date of the agreement.
- N. Completion – Substantial and final completion are as defined in the JMU Manual or CPSM.
- O. Contract Price – Monies payable by the owner to the contractor under the contract documents as stated in the contract or as modified by approved change orders.
- P. Contract Time – The number of calendar days or the date stipulated in the contract for the completion of the work or as modified by any approved change orders.
- Q. Contractor – The person, firm or corporation with whom the owner has entered into a contractual agreement for the construction of a facility.
- R. Cover Letter - A letter accompanying any change order submitted to the Executive Director of Facilities and Construction, authored by the Project Manager which on an inclusive itemized basis supports, clarifies, disagrees with and/or expounds upon the A/E's Letter of Justification. This letter also must stipulate that all items have been reviewed with JMU program representatives. Declaration must also be included of review and concurrence by FM and Information Technology (IT) staff. Any and all dissenting opinions from these three entities must be clearly identified and overriding circumstances fully explained. Any and all time impacts must be specifically and individually explained and justified.
- S. Field Order – A written order issued by the A/E which directs minor changes in the work or clarifies the requirements of the work, but which does not involve a change in the contract price or contract time.
- T. Letter of Justification – A concise letter authored by the A/E and submitted with the change order proposal, stipulating for each item included within a change order:
 - Definition of the problem to be corrected.
 - Concise statement of the cause for the problem, i.e. unforeseen condition, document coordination error, owner request, etc.
 - Synopsis of the effect of the change order item on the project progress and on the ability to meet defined programmatic scope, budget and schedule of the project.This letter is intended to be a communication to the JMU administration, in effect an executive summary of the change order line item components.
- U. Owner – James Madison University, the public body with whom the contractor has entered into a contractual agreement and for whom the work or services are provided.
- V. Owner's Representative – The Project Manager, Project Inspector, Project Engineer, Procurement representative, and Director of Engineering and Construction are those persons empowered to represent the owner in contractual matters. The Project Manager, Project Inspector, and/or Project Engineer can speak for the owner. The Director of Engineering and Construction is the representative empowered to execute change orders or recommend approval to the state. It should be clearly understood that it is

mandatory that all change orders related activities initiate within the Project Manager, A/E, and contractor team. If issues arise which necessitate escalation or mediation beyond that group, the Project Manager and other involved parties shall involve the Director of Engineering and Construction. Only if and when this step proves unsuccessful and/or with the full prior knowledge of the Executive Director of Facilities and Construction will any parties representing the university and/or other Commonwealth entities be involved in the resolution of such issues.

- W. Subcontractor – An individual, partnership or corporation having a direct contract with the contractor or with another subcontractor for the performance of a part of the work, subject to written consent of the owner.
- X. Systems Startup and Acceptance Testing – A joint effort to test and commission building elements, devices, and systems requiring the participation of university staff, A/E, sub-consultants, contractor, sub-contractors, testing agency, and others. This process is a proactive effort to ensure building systems function properly and meet their design intent. The successful completion of this process is a mandatory precursor to the scheduling of DEB inspection and thereby the achievement of substantial completion.
- Y. Single Party Quality Assurance – The requirement for the entirety of the construction and acceptance processes a sole coordinating entity is provided by the contractor for trades and/or disciplines. This person will be tasked with the procurement of all identified testing by certified testing entities acceptable to the university and A/E, as well as the coordination, verification, and documentation of all necessary testing, submittal, and commissioning activities in coordination with the Project Inspectors. This quality control contact will also coordinate sampling and/or testing with any university provided testing through the Project Inspectors. Unless specifically authorized by the FP&C/PM, the person fulfilling this role for the contractor shall be separate and distinct from the Project Superintendent.
- Z. Record Documents – A complete set of project contract documents (drawings and specifications) which the A/E prepares showing the “As built” conditions, locations, and dimensions based upon the contractor’s “as built” set of drawings and specifications, and other data furnished by the contractor to the A/E. The record documents shall be prepared and included all noted subsets noted in the CPSM, including CADD, CDROM, and microfilm media.
- AA. Substantial Completion – The point in time where the project is sufficiently complete, in accordance with the contract documents, so the project can be utilized for its intended purpose. The systems startup and acceptance testing and commissioning are two of several predecessors to substantial completion.
- AB. Final Inspection – The inspection performed by the A/E to confirm the completion of all outstanding items and issues as raised by the punch list, DEB inspections, and other processes.
- AC. Final Completion – Completion and full performance of all work in accordance with the terms and requirements of the contract documents, including the completion of all items identified on punch lists 2020 Edition of the Construction and Professional Services Manual, Revision 0 , 7/1/20 29 generated through the inspections set forth in Section 44(b) and submission of all information, manuals, warranties and documentation required by the Contract. Final Completion date starts the warranty period.
- AD. Occupancy – The point at which JMU officials accepts the facility from the contractor. Occupancy is conditional upon many contract requirements such as:

- a) Receipt of the Certificate of Completion from the A/E (JMU CO13.1 or JMU CO13.1A)(CO-13.1 or CO-13.1A);
- b) Receipt of the Certificate of Completion from the Contractor (JMU CO 13.2 or JMU CO 13.2A)(CO-13.2 or CO-13.2A)
- c) Receipt of written certification from the State fire marshall that the project complies with all fire safety requirements and codes.
- d) Certificate of Use or Occupancy by the Director of Engineering and Building (CO-13.3)(CO – 13.4)

AE. Project Committee – A committee appointed to select the project A/E team which shall include the following members, in addition to the Procurement representative (ex officio):

- Representatives from customers' upper administrative unit (i.e., Academic Affairs, Office of Residence Life, Student Affairs) or if delegated, a representative from the customer's immediate level administrative unit (Dean, AVP or similar);
- Representatives from FM;
 - Executive Director of Facilities and Construction
 - Director Engineering and Construction; and
 - FP&C Project Manager

This committee also serves as the advisory body in the definition of the project's scope, budget and schedule as utilized in the selection and interview process.

AF. Project Working Committee - A committee appointed to advise and participate in the design and accomplishment of the project tasks. This committee would include: representatives from the customers; FM (to coordinate design and construction issues with the engineering and shops staff and to ensure communication of and compliance with FM standards; IT (to coordinate design and construction issues with the telecom and computing staff); Instructional Media (to coordinate design and construction issues and to ensure technical support of other JMU departments for equipment design, coordination, procurement and installation efforts) if applicable; and representatives of any other JMU departments as appropriate to the project.

This committee would form the team that would recommend design direction for JMU administrative approval.

AG. JMU Project Team - A team appointed to advise and participate in the construction, move-in, closeout and warranty period of the project. This team will include: The Project Manager, Project Engineer, Director of Engineering and Construction, Executive Director of Facilities and Construction and the approved end user representative.

V. RESPONSIBILITIES

- A. Project Manager and Project Engineer are responsible for the management of the overall project with duties as defined in their employee work profile and in the JMU Higher Education Capital Outlay Manual (JMU Manual) and Commonwealth of Virginia's Construction and Professional Services Manual (CPSM).
- B. Facilities Planning and Construction staff has the overall responsibility for managing the design documents preparation and construction of capital projects. The Director of Engineering and

Construction is responsible for approval regarding project scope and for designing and constructing within the established project budget prior to sending to the or Vice President for final approval.

- C. The Vice President for Administration and Finance has final divisional responsibility for capital and non-capital outlay administration, through the Associate Vice President for Business Services. The Vice President must approve changes to the project scope and/or budget.

VI. PROCEDURE

A. General

The tasks and procedures described in this policy are a combination of Commonwealth and JMU origins. This procedure is meant to supplement those sections of the JMU Manual and CPSM pertaining to the completion and acceptance of construction contracts. This procedure is a guideline. Project Managers are expected to tailor its use to the character of each individual project. The intention of the procedure is to ensure that all relevant tasks have been completed.

B. Project Initiation

In general, the Project Manager assigned for the Office of FP&C is tasked with the responsibility of ensuring compliance with JMU procedures. This does not relinquish other parties from contractual or regulatory responsibilities as noted on the attached checklist. Upon assignment of a project, the Project Manager shall assess the project and shall develop a synopsis which includes the following:

1. The overall scope of the project;
2. Description of associated phasing and/or work assigned or delegated to other projects;
3. The schedule of the overall project, including associated phases, sub-projects, milestones, events, durations, and resource assignments from initiation through final completion and warranty;
4. The overall project budget, including identification of funding sources by discrete project org number, with budget line items itemized by account codes, etc.;
5. Draft CO 2 forms reconciled to the above budget;
6. Documentation of either the waiver of the requirement for a project committee, or the listing of all persons assigned to the proposed committee;
7. Description of anticipated work to be performed by university or separately contracted entities, including description of the proposed methodology for accomplishment.
8. A signature block with date for acceptance of the submitted synopsis by the Director of Engineering and Construction.
9. The Director of Engineering and Construction has the final responsibility for project assignment and initiation.

C. Project Coordination

1. When assistance is needed from FM staff, an estimate request shall be submitted through AiM. If this estimate is approved, a work order is created by Capital Outlay accounting staff, with a specific stipulated not-to-exceed cost.

D. Design Guidelines

In general, the parameters listed in the JMU Design and Construction Guidelines will be met by project designs unless a specific individual authorization has been given by the Director of Engineering and Construction. The consultant's design for an individual project is vital to the success of the overall campus design, and is tasked with the translation of programmatic needs into a functional, aesthetically pleasing and economic reality. The design consultant is expected to be sensitive to the work of others who have been involved with previous campus and facilities design whether on contiguous or adjacent facilities. The design consultant must refer and verify the work complies with the JMU Design and Construction Guidelines.

The following general goals provide the basis for these guidelines:

- Buildings and facilities must accommodate the functional requirements defined in the project program while contributing to the overall campus environment.
- Landscaping and open spaces must preserve and complement existing features, pedestrian and vehicular traffic, and the outdoor environments.
- Infrastructure projects must integrate with and/or improve existing systems.
- Project aesthetics must contribute to the improvement of the institutional image and establish a sense of visual continuity throughout the campus. It is desirable to use the existing architectural vocabulary when designing new or remodeled facilities.
- Cost effectiveness, maintainability, life cycle costs, budget constraints, safety and the operational aspects of the university's facilities must always be considerations when evaluating design options.

An associated task is the coordination of the JMU review of all design and/or aesthetic issues. Overall design intent and specific design solutions should be reviewed by the Project Manager in conjunction with the Director of Engineering and Construction. Design solutions which vary from or diminish any FM technical or engineering standards must be specifically authorized in writing by the Director of Engineering and Construction.

E. Schematic Design Review

While the A/E has the prime responsibility to ensure all aspects of the project comply with applicable codes and with the best construction standards and practices, reviewers are expected to be cognizant of these issues and to include relative comments for their areas of expertise. During the review process, reviewers shall meet the critical dates established by the Project Manager for the completion of reviews.

JMU lead reviewers shall include, but are not limited to, the Project Manager, the Project Engineer, Executive Director of Facilities and Construction, Director of Engineering and Construction, and the program area to occupy the facility. Lead reviewers from each department are responsible for coordinating the review process within their respective offices/departments and to ensure the appropriate individuals are present for the presentations. It is also the responsibility of lead reviewers to ensure that the entirety of the documents have been reviewed, rather than a partial approach. The Project Manager will assist reviewers in ensuring applicable sections of the documents have been reviewed. Lead reviewers are also responsible for signing the Capital Project Release form certifying acceptance of the schematic design. In lieu of this form written or email stipulation of acceptance must be obtained by the Project Manager for all committee members/lead reviewers.

1. The A/E will deliver one (1) hard copy and one (1) digital copy of the initial schematic design review package to the Project Manager.
2. The Project Manager shall schedule and host a schematic design presentation meeting with JMU reviewers. The A/E will present the schematic design package to the JMU reviewers and allow for open dialogue discussion throughout the review. The A/E will record the discussion items and distribute them to the Project Manager for review. Once approved by the Project Manager, the Project Manager will distribute the schematic design presentation meeting minutes to the JMU reviewers.
3. The Project Manager is responsible to confirm the inclusion of necessary revisions to the final schematic design drawings and documents.
4. The Project Manager coordinates the A/E's preparation of the Basis of Design Narrative. All submittals, whether capital or non-capital, shall be per JMU Manual or CPSM. The Project Manager drafts a cover letter for signature by the Director of Engineering and Construction. A copy of this signed letter is forwarded to the Vice President for Administration and Finance through the Associate Vice President for Business Services.
5. The Project Manager approves the A/E to submit, as required, the review package to DEB and other central review agencies.
6. Project Manager receives and logs in DEB review comments. Copies of comments are distributed to the A/E and JMU lead reviewers as required.
7. Project Manager receives and logs in A/E responses to DEB comments.
8. Project Manager receives the final (third) draft documents and distributes to DEB.
9. Project Manager receives DEB approval documentation and file.
10. The Project Manager distributes the Project Release form to the JMU lead reviewers for signatures.

F. Preliminary Design Review

Reviews at this intermediate stage of design should focus primarily on compliance with design intent as communicated in schematic design, systems design, and constructability/maintainability. The design depicted should not vary from that approved in the schematic design stage other than adapting to system and structural requirements. Except in the most extreme circumstances, it is the intent of this policy that review comments which add to the scope of work not be acted upon subsequent to schematic design.

Comments at this stage of review must be in writing. Written comments promote clarity of purpose and ensure greater responsibility and accountability of the A/Es to conform to the expressed needs of the university.

For a variety of reasons, projects are often under considerable scheduling pressure during design review. It is, therefore, imperative that review procedures be executed as quickly as possible. Without this priority, the considerable number of consecutive tasks described later in this procedure would take such a length of time that a comprehensive review would be impractical from a project scheduling perspective. Likewise, it is also critical that the A/E remain fully aware of the university's review

expectations and needs, and therefore maintains a suitable schedule to allow for the unimpeded implementation of this procedure.

This procedure is meant to supplement those sections of the JMU Manual and CPSM which pertain to the working drawings and specifications. Reviewers should be familiar with chapters 7 and 8 of the manual prior to their involvement in a capital or non-capital outlay project.

The Project Manager is responsible for insuring the document packages are forwarded to authorities having jurisdiction are complete and meet established design criteria. The Project Manager coordinates the review process with other JMU personnel, the A/E, and authorities having jurisdiction.

While the A/E has the prime responsibility to ensure all aspects of the project comply with applicable codes and with the best construction standards and practices, reviewers are expected to be cognizant of these issues and to include relative comments for their areas of expertise. During the review process, reviewers shall meet the critical dates established by the Project Manager for the completion of reviews.

JMU lead reviewers shall include, but are not limited to, the Project Manager, the Project Engineer, Executive Director of Facilities and Construction, Director of Engineering and Construction, Associate Director of Operations, Assistant Director of Environmental Services, Telecommunications, and the program area to occupy the facility. Lead reviewers from each department are responsible for coordinating the review process within their respective offices/departments and to ensure that the appropriate individuals are present for the presentations. It is also the responsibility of lead reviewers to ensure the entirety of the documents have been reviewed, rather than a partial approach. The Project Manager will assist reviewers in ensuring applicable sections of the documents have been reviewed. Lead reviewers are also responsible for signing the Capital Project Release form certifying acceptance of the preliminary design.

The following procedures are listed in anticipated chronological order:

1. The A/E will deliver (1) hard copy and (1) digital copy of the initial preliminary design review package to the Project Manager.
2. The Project Manager shall schedule and host a preliminary design presentation meeting with JMU reviewers. The A/E will present the preliminary design package to the JMU reviewers and allow for open dialogue discussion throughout the review. The A/E will record the discussion items and distribute them to the Project Manager for review within three (3) days of the preliminary design presentation. Once approved by the Project Manager, the Project Manager will distribute the preliminary design presentation meeting minutes to the JMU reviewers.
3. If determined beneficial to the project by the Project Manager and Director of Engineering and Construction, the Project Manager shall schedule and host a second preliminary design presentation meeting with JMU reviewers. The A/E will present the preliminary design package to the JMU reviewers and allow for open dialogue discussion throughout the review. The A/E will record the discussion items and distribute them to the Project Manager for review within three days of the preliminary design presentation. Once approved by the Project Manager, the Project Manager will distribute the preliminary design presentation meeting minutes to the JMU reviewers.

4. The Project Manager coordinates A/E's submittal preparation and presentation to the Art and Architectural Review Board. Documentation of approval shall be provided to the A/E, and the Director of Engineering and Construction.
5. The Project Manager coordinates the accomplishment of the Value Engineering study, including the participation of all identified JMU lead reviewers. The Project Manager also ensures A/Es timely response and inclusion of resultant design modifications into the next document iteration.
6. The Project Manager receives revised preliminary drawings and specifications (third draft), logs the receipt and distribution, and disburses copies to JMU lead reviewers and independent cost estimator as required.
7. The Project Manager is responsible for confirming the inclusion of necessary revisions to the preliminary drawings and specifications.
8. The Project Manager coordinates the A/E's preparation of the Basis of Design Narrative, the Building Systems and Equipment Checklist, the A/E Project Cost Estimate, the Independent Cost Estimate, the Soils Report, Engineering Calculations for applicable disciplines, and the Preliminary Drawings. Submittals shall be per the JMU Manual or CPSM. The Project Manager drafts a cover letter for signature by the Director of Engineering and Construction. A copy of the signed letter is forwarded to the Vice President for Administration and Finance through the Associate Vice President for Business Services.
9. As required, the Project Manager submits the required review package to DEB, and other authorities having jurisdiction.
10. If required, the Project Manager submits required review package to the City of Harrisonburg representatives for water, sewer connections and roadway improvements.
11. The Project Manager receives and logs in DEB review comments. Copies of comments are distributed to the A/E and JMU lead reviewers as required.
12. The Project Manager receives and logs in A/E responses to DEB comments and prepares the university's response. The response is coordinated with the Director of Engineering and Construction and submitted to DEB, with copies to the A/E and JMU reviewers. During this phase of the review process, it may be desirable to schedule a meeting at DEB with the A/E and the DEB reviewers to resolve the State's comments in an expeditious manner.
13. The Project Manager receives the final draft documents and distributes to DEB.
14. The Project Manager receives DEB approval documentation and copies to digital project file.
15. The Project Manager distributes the Project Release form to the JMU lead reviewers for signatures.

G. Working Drawing Review

Reviews at this final stage of design should focus primarily on errors and/or omissions in the construction documents within the established scope of work. Except in the most extreme circumstances, it is the intent of this policy that review comments add to the scope of work not be acted upon.

Comments at this stage of review must be in writing. Written comments promote clarity of purpose and ensure greater responsibility and accountability of the A/Es to conform to the expressed needs of the university.

Capital projects are often under considerable scheduling pressure during latter stages of design and review. It is imperative that all review procedures be executed as quickly as possible. Without this priority, the considerable number of consecutive tasks described later in this procedure would take such a length of time that a comprehensive review would be impractical from a project scheduling perspective. It is also critical that the A/E remain fully aware of the university's review expectations and needs, and therefore maintains a suitable schedule to allow for the unimpeded implementation of this procedure.

The following procedures are listed in anticipated chronological order:

1. The A/E will deliver one (1) hard copy and one (1) digital copy of the initial working drawing review package to the Project Manager.
2. The Project Manager shall schedule and host a working drawing presentation meeting with JMU reviewers. The A/E will present the working drawing package to the JMU reviewers and allow for open dialogue discussion throughout the review. The A/E will record the discussion items and distribute them to the Project Manager for review within three days of the working drawing presentation. Once approved by the Project Manager, the Project Manager will distribute the working drawing presentation meeting minutes to the JMU reviewers.
3. The Project Manager receives revised one (1) hard copy and one (1) digital copy of the working drawings and specifications (second draft), logs the receipt and distribution, and distributes to JMU reviewers as well as to an independent cost estimator as required.
4. If determined beneficial to the project by the Project Manager and Director of Engineering and Construction, the Project Manager shall schedule and host a second working drawing presentation meeting with JMU reviewers. The A/E will present the revised working drawing package to the JMU reviewers and allow for open dialogue discussion throughout the review. The A/E will record the discussion items and distribute them to the Project Manager for review within three days of the revised working drawing presentation. Once approved by the Project Manager, they will distribute the revised working drawing presentation meeting minutes to the JMU reviewers.
5. The Project Manager prepares the CO-6 form, which is approved by the Director of Engineering and Construction and then forwarded to the A/E for appropriate cost estimation and signature. The A/E returns the signed CO-6 to the Project Manager along with the A/E's detailed cost estimate and required engineering calculations. The CO-6 is checked and initialed by the Project Manager and subsequently by the Director of Engineering and Construction. A final electronic version is then prepared by the Procurement representative and a hard copy submitted for signature by the Vice President for Administration and Finance. Upon receipt of the signed copy, the electronic form is submitted to DEB by the Procurement representative.
6. As required, the Project Manager submits the required review package to DEB and other authorities having jurisdiction. The submission package shall include the working drawings and specifications, CO-6, A/E's detailed cost estimate, independent cost estimate, and A/E calculations.

7. The Project Manager receives and logs in DEB review comments. Copies of comments are distributed to the A/E and JMU reviewers.
8. The Project Manager receives and logs in A/E responses to DEB comments and prepares the university's response. The response is checked by the Director of Engineering and Construction (subsequent to JMU lead reviewers, as required) and submitted to DEB, with copies to the A/E and JMU reviewers. During this phase of the review process, it may be desirable to schedule a meeting at DEB with the A/E and the DEB reviewers to resolve the State's comments in an expeditious manner.
9. The Project Manager receives the final (third) draft documents and makes them available to JMU lead reviewers and distributes them to DEB.
10. The Project Manager receives the approved CO-6 and copies to project digital file.
11. The Project Manager distributes the Project Release form to the lead reviewers for signatures.
12. The Project Manager reviews draft advertisement for bids with Procurement.
13. The Project Manager distributes copies of any addenda and/or amendments to the JMU reviewers, Procurement and, to the DEB architectural reviewer in order that each set of contract documents be kept current.

H. Design Aesthetics and Finishes Review

Approvals

1. At the schematic design stage the intent shall be established for the massing and architectural style of the facility. This will include specific documented approval by the university of written and graphic depictions of the intended location, orientation, massing, and architectural style.
2. At the preliminary design phase the intent shall be established for the interior and exterior finish material and their applications. This will include specific documented approval by the university of written and graphic depictions of the intended finishes.
3. At the working drawing phase, the details for interior and exterior finish material installation, interface between differing materials, and the interface between existing and new construction shall be separately presented to and specifically approved by the university.
4. At the working drawing phase, along with the required list of testing and submittals, the A/E shall provide a list of required mock ups, i.e. masonry unit, precast concrete, windows, flashings, and other typically specified building components, including the identification of locations for each mock-up on the construction site.
5. During construction, as a predecessor to A/E approval, materials sample submittals for exterior and interior finishes shall be specifically approved in writing by the university. This does not necessarily include the detailed approval of erection or installation shop drawings, and does not usurp or abridge the A/E's contractual approval requirement.

6. During construction, the requirement for mock-ups of masonry unit, precast concrete, windows, flashings, and other typically specified building components shall not be waived without explicit approval of the Director of Engineering and Construction. Approval of the physical mock-up by the university is an absolute requirement.

Records

1. The Project Manager shall ensure a copy of design submittal approvals relative to finishes and aesthetics are kept within the FP&C office. These records shall include sketches, renderings, models, color boards, interior finish boards, meeting minutes for presentations (including a list of attendees), computer simulations, letters of approval, and/or other similar items. Each such item will have attached or directly upon the sample physical notation of project name, approval indicating individuals, entities, and dates.
2. The Project Manager shall ensure a copy of construction finish material submittal approvals are kept within the FP&C office. These records shall include field sketches, color samples, meeting minutes for presentations (including a list of attendees), letters of approval, photographs of mock-ups, and/or other similar items. Each such item will have attached or directly upon the sample physical notation of approval indicating project name, individuals, entities, and dates.
3. The Project Manager conducts and oversees finish review meetings. The A/E shall be responsible for documenting the proceedings of the meeting in a form and format approved by the Project Manager. The A/E shall send copies of the minutes for participants to the Project Manager within three working days for internal university distribution.

I. Capital Bid Procedures

The Project Manager is responsible for central communications with the A/E, documenting the A/E interpretations and comments relative to the bidding process, distributing relevant documents/forms, and scheduling meetings as required. The Project Manager shall be the primary party in conducting the pre-bid conference. Attendance at the pre-bid conference is mandatory for bidders.

The Procurement representative is responsible for ensuring bidding processes comply with the JMU Manual or CPSM and procurement regulations.

The Project Manager is responsible for ensuring bid packages are complete, and meet submittal content and design criteria. The Project Manager is also tasked with the ongoing responsibility to ensure projects are bid within the established budget. This responsibility includes the duty to establish contingency or fall back strategies for additive bid items or other acceptable means to ensure compliance with the budget. The Project Manager coordinates the bid process with JMU personnel, the A/E, and the central agency representatives.

The following procedures are listed in anticipated chronological order:

1. The Procurement representative establishes and affirms the scheduled time period for the invitation to bid, the pre-bid conference and the acceptance of bids. Prior to the release of the notice of "Invitation to Bid" the Project Manager shall coordinate scheduling with the Procurement representative, applicable agencies, and any campus entities involved.

2. As a precursor to the release of the notice, the Project Manager confirms with the Procurement representative acceptance of the working drawings and specifications by applicable agencies and individuals. At this time, the Procurement representative also coordinates with the university Procurement office ensuring processes, protocols and schedule milestones for the procurement of any "owner furnished" items (as identified by the Project Manager) related to the bid have been clearly communicated.
3. The Procurement representative publishes the Notice of Invitation to Bid, issues addenda to the bid, documents participation in the pre-bid conference and monitors the receipt and opening of bids.
4. The Project Manager serves as the primary contact with the A/E and with DEB on matters of document content or intent. The Project Manager shall, with the assistance of the Procurement representative and the A/E coordinate and accomplish the tabulation of bids, the evaluation of bids, the establishment of bidder responsibility, as well as the proper initiation, execution, and distribution of the DGS form E&B CO-8.
5. Subsequent to the evaluation of bids, determination of successful low bidder, receipt of approval to award (DGS Form E&B CO-8), the Procurement representative will post the Notice of Intent to Award.
6. After receipt of authorization from DEB the Procurement representative shall initiate a written contract with the contractor. A copy of the Notice of Award shall be publicly posted concurrent with the notice to the contractor the bid has been accepted.
7. The Procurement representative will ensure bid bonds and document deposits are held or released in strict accordance with the provisions of the JMU Manual or CPSM.

J. Capital General Contractor Construction Manager at Risk Procedures

In general, while the Project Manager assigned by the Director of Engineering and Construction shall be responsible for overall project progress and coordination, the Procurement representative shall ensure procedures established by this policy and GCCM at Risk and Guaranteed Maximum Price (GMP) related JMU Manual or CPSM requirements are in compliance. The Project Manager is also responsible for central communications with the A/E, documenting the A/E interpretation and comments relative to the design and GMP process, distributing relevant documents/forms, and scheduling meetings as required. The Procurement representative shall be the primary party in conducting the GCCM selection processes and meetings. GMP's will be established at 80% working drawings.

The Project Manager is responsible for confirming packages forwarded to central review agencies are complete and meet established submittal format requirements. The Procurement representative is responsible for ensuring GMP and GCCM selection processes comply with both the JMU Manual or CPSM and procurement regulations.

The Project Manager is also tasked with the ongoing responsibility to ensure projects are within the established budget. This responsibility includes the duty to establish contingency or fall back strategies or other acceptable means to ensure compliance with the budget. Strategies are subject to prior approval by the Director of Engineering and Construction. The Project Manager coordinates the cost review and GMP process with JMU personnel, the A/E, and the central agency representatives.

Procedures for GCCM at Risk are per the JMU Manual or CPSM.

K. Capital Change Order Procedures

Construction change orders become necessary when emergent issues during the course of construction impact the contracted scope of work. These changes may be due to unforeseen conditions or to user-directed changes. Changes involving the contract cost or performance time must be included in a contract change order (HECO-11)(G.S. form E&B CO-11). Changes which escalate the contract total to or beyond 125% of the original contract price must be approved by the Governor or designee. All other change orders may be approved by the Director of Engineering and Construction.

The Project Manager shall ensure the contractor is informed of the prohibition of work covered by a proposed change order being initiated prior to receipt of a fully executed change order. Work performed prior to receipt of an executed change order is undertaken at the sole risk of the contractor. Should a change order not be approved, such work shall be removed and corrective work accomplished to return the disturbed areas to original condition. These remedial measures shall be accomplished at no additional cost to the owner, and at no cost to the project contract completion schedule.

The total cumulative amount for change orders shall not exceed the construction contingency identified on the approved project budget, CO-8. Any such need would necessitate prior approval from the Department of Engineering and Building and the Department of Planning and Budget is obtained on a revised G.S. form E&B CO-8 to transfer funds to the contingency line item from another budget line item of the total project budget. If it becomes necessary to infuse additional funds into the project budget to cover valid construction change orders, JMU staff must submit both a revised G.S. Form E&B CO-2 and a revised G.S. form E&B CO-8 indicating the source of additional funds and the revised project budget. It is expected that the Project Manager operate in a proactive manner to the greatest degree possible. That expectation tasks the Project Manager with forewarning the Director of Engineering and Construction to the greatest degree possible of events which might lead to such a necessity.

Changes in contract time inevitably impact the end user and the overall university operation. Any proposed change which will effect contract completion time (substantial or final) must have prior specific approval of the Vice President for Administration and Finance.

Procedures outlined here will generally begin after a change in the work is identified by either the owner, contractor, or consultant. This policy will provide a comprehensive guide for all required tasks during the preparation and approval of change orders.

In general, the Procurement representative is tasked with the responsibility of ensuring compliance with change order procedures. The Project Manager is responsible for central communications with the A/E and contractor. The Project Manager, consultant, contractor and all the related sub-contractors or sub-consultants have specific responsibilities during the development of a change order. However, it is ultimately the responsibility of the Procurement representative to ensure complete compliance with these and other associated requirements.

The Director of Engineering and Construction has the overall responsibility for managing the development of change orders. This individual also has approval authority for change orders cumulative total is less than 25% of the original contract price. The Project Manager shall review and sign the HECO-11 or G.S. form E&B CO-11a. Predicated upon the advice of the Project Manager and the

Procurement, the Director of Engineering and Construction shall sign the associated HECO-11 or G.S. form E&B CO-11.

The Director of General Services is responsible for approval of any single change order where the cumulative total of change orders exceeds 25% of the original contract price. Responsible parties listed above remain responsible for reviewing and ultimately signing their respective forms predicated upon the Director of General Services approval.

To ensure strict compliance with paragraph 38 of the "General Conditions", JMU requires the following change order procedures be followed:

1. No change order proposal may be initiated without prior approval of the owner's representative. Neither the A/E nor the contractor shall process any change order without approval to proceed from either the Project Manager or the Director of Engineering and Construction. Change order originating from any other source or change order support materials received without prior approval will be returned with no action taken.
2. The contractor will send change order proposals to the A/E with copies to the Project Manager, Project Engineer, and Procurement representative. Change orders must be reviewed for technical impact by university program representatives, FM and IT staff, if applicable. The Project Manager is responsible for accomplishing and documenting these reviews.
3. To facilitate analysis of the change order proposal and identification of any areas of disagreement, the university requires the contractor prepare the estimate for review. The architect shall prepare an independent estimate of the change order proposal. When a mutually agreeable scope of work and price have been determined the A/E, by submitting to the project manager the Letter of Justification, shall make a written recommendation for acceptance.
4. If the change order proposal is acceptable, predicated upon the concurrence of the Procurement representative, the Project Manager shall direct the A/E to initiate a formal change order.
5. For capital and non-capital projects, the architect will prepare the change order (HECOM-11 or G.S. form E&B CO-11) and Change Order Justification form (G.S. form E&B CO-11a) in three copies. The information included on the CO-11 a shall be a synopsis of that stipulated in the Letter of Justification previously submitted with the change order proposal. Three copies shall each be accompanied by a full description of the changes in the work including drawings if applicable and copies of estimate sheets used to reach the mutually agreed price. The architect will forward the change order documents to the contractor for signature.
6. The contractor shall forward the signed change order to the Project Manager. After initialing the bottom of one copy of the change order form the Project Manager will attach the A/E Letter of Justification and cover letter to that same copy, then submit these documents and the six copies of the change order to the Procurement representative. The Procurement representative will verify the form and format of the change order, as well as accomplishing the review and agreement with associated calculations. The Procurement representative will initial the copy previously annotated by the Project Manager to signify approval. Prior to submitting the change order to the Director of Engineering and Construction, the Procurement representative will ensure the FM Budget Manager has reviewed the change order.

7. The Director of Engineering and Construction executes capital change orders which are cumulatively less than 25% of the original contract price. At this time, the letter of justification and cover letter will be filed in the project file.
8. Change orders in excess of the parameters listed in item seven (7), the university will recommend approval of the change order and forward it to the Director of General Services for action.
9. No work associated with any change order shall be initiated prior to approval and execution of a change order. Work done prior to receipt of an executed change order is in every case undertaken at the sole risk of the contractor. Should a change order not be approved, all such work shall be removed and corrective work accomplished to return the disturbed areas to original condition. These remedial measures shall be accomplished at no additional cost to the owner, and at no cost to the project contract completion schedule. No payment for work not authorized by a fully executed change order shall be invoiced or paid.
10. The Procurement representative shall distribute copies of executed change orders as follows:
 - a) Contractor – with attachments
 - b) A/E – with attachments
 - c) Procurement representative (project file) – with attachments
 - d) FP&C Project Manager– with attachments
 - e) Division of Engineering and Buildings (DEB) – with attachments
 - f) JMU Accounting and Reporting through the FM Budget Manager– without attachments
 - g) JMU Accounts Payable through the FM Budget Manager– without attachments
 - h) Director of Engineering and Construction – without attachments
11. The Procurement representative shall confirm change order forms and formats conform to the requirements of the JMU Manual or CPSM and to this section.

L. Application for Payment Review

The Project Inspector shall, utilizing the GCPay system, review each application for payment from the contractor or A/E, not only for conformance with actual project progress and events, but also for arithmetic and format correctness. Irregular or erroneous submittals will be returned to the contractor or A/E for correction. The Project Inspector shall reject all applications for payment not including all required forms, submittal accompaniments, and backup documentation.

The Project Manager shall, utilizing the GCPay System, follow the same system for review once the Project Inspector has completed their review of the application for payment. Release of any retainage is not approved until the project achieves Final Completion. Any retainage release prior to Final Completion will be reviewed and approved by the Director of Engineering and Construction prior to processing the application for payment in the GCPay System.

M. Capital Outlay Systems Start-up and Acceptance Testing

The purpose of this policy is to establish a consistent process for defining expectations, developing an implementation plan, and affirming compliance with performance expectations for devices and systems within a project. This procedure is meant to supplement those sections of the JMU Manual or CPSM pertaining to testing and commissioning.

Occupancy and use of a facility being constructed or remodeled is predicated upon the envelope and systems being fully functional. Proof of this functionality is a precursor to both the DEB inspection and the resultant declaration of Substantial Completion. As defined in the General Conditions to the Contract and in the JMU Manual or CPSM, Substantial Completion is the point in time where a project is sufficiently complete in accordance with the contract documents, so that the project may be utilized by the university for the purposes for which it is intended. This procedure defines criteria by which that completion and operability may be judged.

The Office of Facilities Planning and Construction has the overall responsibility for management of the construction testing process. Decisions or determinations relative to the rejection of work or conversely the waiver of any contract requirements be submitted to the Director of Engineering and Construction for action prior to implementation.

The A/E has the prime responsibility to ensure that aspects of the systems startup and acceptance testing comply with the contract documents, applicable codes, with the best professional practices, construction standards and practices and with the A/E's previously submitted schedule of tests, submittals, and commissioning. The A/E must, during the development of the contract documents, through consultation with the university, clearly define the intention, detail, and extent of testing to be supplied by the contractor and that supplied by the university. In addition, there is necessary coordination relative to the various university entities that have a prime interest in the quality assurance process. Departments involved in the initial review of the working drawings and specifications are potential direct or indirect participants in the systems startup and acceptance testing.

The Project Manager, with the aid of the Project Inspector, shall be responsible to ensure appropriate staff from FM, Police and Safety, Telecommunications, and the program area to occupy the facility are informed of the testing and acceptance procedures as defined, and subsequently of plans for the pre-construction meeting. Specific determination of involvement with the definition of test parameters and with on-going testing will be specifically confirmed on a project-by-project basis by the Director of Engineering and Construction after consultation with the Project Manager. The Project Manager shall also be responsible for coordinating and documenting periodic site visits by university shop technicians (FM, Telecom, Police and Safety, etc.) during the course of the project.

The Project Manager shall be responsible for documenting on-board reviews, inspections, acceptances, and corrective actions required by and/or involving the fire marshal, university shops, and other entities.

The Project Manager shall coordinate activities necessary for partial, adjacent, and concurrent occupancy by the owner. The Project Manager shall ensure that any and all additional testing, observation, and/or related activities which are prudent to ensure the health and well being of these occupants is provided or performed.

1. The Project Manager establishes the list of attendees at the pre-construction meeting. Attendance is mandatory for all parties. As stipulated in the Construction and Professional

Services Manual, a portion of this meeting shall deal with quality control, testing, inspections, required notices, and project closeout requirements and procedures. As a part of this process, the A/E will review for attendees the general design theory and operational parameters for each system, the tabulation of required submittals and tests, testing protocols, commissioning processes, and the required form and format for quality control documentation. The contractor will propose a methodology for the coordination and oversight of both systemic and individual device testing, as well as the accomplishment of the final commissioning and testing documentation.

2. At the pre-construction meeting a projected timeline will be established for the contractor's submission, the A/E's review, and the university's approval of :
 - Submittal schedule indicating projected dates of required submittals and identifying the responsible parties for both submittal and review;
 - Testing schedule indicating projected dates of required materials and installation tests identifying whether the test is the responsibility of the contractor or the university;
 - For acceptance testing, a narrative description of the testing processes including both system and discrete device test plans and checklists based upon the functional parameters which the A/E has stipulated in the contract documents. This submittal shall contain a comprehensive plan and schedule for the entire acceptance testing and commissioning process including the initiation and duration of each activity noted. The narrative plan, schedule, and checklists shall utilize equal task identifiers to enable reciprocal referencing. The commissioning portion of this process shall conform to the requirements of the Construction and Professional Services Manual;
3. Upon receipt of the items described in item 2, the A/E shall meet with the Project Manager, Project Inspector and university staff tasked with the maintenance and/or operation of buildings, equipment, devices, or systems. The purpose of this meeting is to provide timely clear response to the contractor's submitted plans and documents. The review and comment of the various university staff shall in an advisory capacity to the Project Manager. After review, comment and response, a formal recommendation regarding acceptance or rejection of the proposed testing/commissioning plan will be made by the A/E to the Project Manager.
4. The contractor's quality assurance person shall perform reviews of mechanical, electrical, and signal submittals and/or shop drawings to determine if systems configurations allow for optimal access for measurement of data required for the functional testing. In addition this person shall review submittals and shop drawings to ensure required maintenance clearances are provided. This entity is also required to field verify and certify all maintenance clearances and access. Typical examples of this requirement is the ability to access and operate any and all valves or actuators, the ability to remove and replace filters, the ability to access and reposition dampers.
5. Prior to the initiation of the acceptance testing of any system or device, a written request for initiation of the test, a Certification of Completion signed both by the contractor's quality assurance person and by applicable sub-contractors, a copy of the associated accepted submittals, a copy of the test parameters, and any approved checklists shall be submitted by the contractor. The receipt of all training and of draft operation and maintenance manuals for all systems are also precursors to any acceptance testing. Once approved by the A/E, the test shall be scheduled in coordination with the Project Inspector.

6. The contractor shall provide scaffolds, staging, and accessories required to allow testing agencies, consultants, and involved university staff access to equipment, valves, and other devices located beyond the range of a six foot step ladder.
7. Industry standard test equipment utilized in the specified testing shall be provided by the contractor. All proprietary or system/product specific test equipment shall be provided by the system or product manufacturer. Equipment for shaft alignment and vibration isolation shall be approved by the design engineer.
8. The test equipment utilized by the contractor's quality assurance person or by a sub-contracted entity for which they are directly responsible, shall be calibrated as per the system's or product's manufacturer's recommendations, with calibration tags permanently affixed to the instrument being used. The test equipment shall be maintained in good repair and working condition throughout the duration of the project and shall be re-calibrated as needed.
9. The contractor's quality assurance person shall submit a draft copy of the final startup and acceptance testing report to the A/E within 30 calendar days of the completion of all testing. This report shall include, but not be limited to;
 - A narrative describing the overall testing and approval process, including commissioning, identifying tests performed and results;
 - A narrative describing all building or facility systems. This narrative will be based upon the system descriptions provided at the pre-construction meeting by the A/E and adapted to fully include changes or substitutions which occurred during construction.
 - Hard and electronic copies of computer generated single line diagrams of all systems as installed in a format and software approved by the university;
 - Completed testing log forms, checklists, and test results;
 - Notarized signed certification of completion of all system and device start up and acceptance testing by the contractor and all sub-contractors, including all commissioning requirements;The A/E shall review this report, and provide written comments to the contractor. Subsequent to revision by the contractor the A/E shall recommend acceptance of this report by the university.

N. Construction Site Access

1. From the "Notice to Proceed" through final completion the Construction Manager or General Contractor has control over granting access to the site. The Project Manager is responsible to coordinate approval to unrestricted access to the site from the Construction Manager at Risk or General Contractor for the members of the JMU project team. Anyone accessing the site, including the project team, must follow the Construction Manager at Risk or General Contractor's rules for visitor site access and safety.
2. Site tours and/or access for any person not part of the project team shall be coordinated by the Project Manager. Prior to site access for any person not part of the project team, the Project Manager will seek approval from the Construction Manager at Risk or General Contractor to grant site access and ensure the site is safe for outside persons to access the site. The Project Manager must then coordinate with the Director of Engineering and Construction for approval and request, in writing, approval to the Director of Engineering and Construction. The Associate Vice President of Business Services will have final approval for site access for any person not part of the project team.

3. The Project Manager or person designated by the Associate Vice President of Business Services will escort the person(s) after both approvals are granted. No one outside of the project team is allowed on any construction site unescorted.

O. Forms

The purpose of a comprehensive acceptance testing/commissioning process is to confirm that pertinent site work, architectural, structural, mechanical and electrical systems have been properly installed, and are fully operational in the manner intended. Tests shall be documented in checklist form as described below. The contractor's quality assurance person shall specifically identify any item on the checklist not satisfied, and work with the A/E and university to remedy the situation.

Testing documentation checklists shall be developed by the A/E on a project by project basis. FP&C Project Inspectors shall, when relevant, provide examples of previously used forms and formats. The following constitutes a general list of possible areas of involvement and/or testing which may be involved in a project. Most projects will not require inclusion of all areas listed. Systems and devices to be included in the plan shall be verified on a project by project basis with the A/E and confirmed by the FP&C Project Inspector.

Departmental Specific Systems

- To be determined on a project-by-project basis
- Site Utilities
- Steam
- High Voltage Electrical
- Domestic Water
- Chilled Water
- Natural Gas
- Compressed Air
- Telephone, Fiber Optics, and Data Services
- Condensate Return
- Irrigation System
- Asphalt Paving
- Portland Cement Concrete Paving
- Storm Sewer System
- Sanitary Sewer Sytem
- Site Lighting
- Exterior Signage
- Traffic/Access Coordination

Architectural/General Building Systems

- Building Envelope
- Wall Systems (Including fireproofing, acoustics, and densities testing)
- Doors, Windows, Hardware, and Glazing Systems
- Paint and Interior Finishes
- Fixed Equipment
- Roofing and Flashings
- Fall Protection

- Insulation and Vapor Barriers
- Waterproofing and Damp Proofing
- Sealants and Caulkings
- Chalk and Marker Boards
- Projection Screens

Structural

- Soils Analysis
- Compaction tests
- Aggregate tests
- Concrete Strength tests
- Masonry Strength tests
- Welding tests
- Steel, High Strength Bolts, and Connections tests

Vertical Transportation

- Controls and Operations

Plumbing

- Piping
- Valves
- Pumps
- Fixtures
- Fittings
- Fire Protection
- Labeling and Color Coding

HVAC

- Motors and Pumps
- Water Heaters and Boilers
- Cooling Towers
- Cooling Package and Fan Coil Units
- Condensate Drains
- System Drains and Weatherproofing
- Filters
- Convenience Outlets and Safety Controls
- Ductwork and Insulation
- Dampers
- Controls and Energy Management Systems
- Actuators
- Hydronic Heating Systems
- Steam System
- Chilled Water System
- Refrigeration

Electrical

- Conduits
- Wiring and Circuitry
- Power Generation
- Electrical Service and Distribution
- Interior and Exterior Emergency Lighting
- Fire Alarm System
- Security Systems
- Telecommunication and Data System
- Audiovisual/Distance Learning System
- Video System
- Conductor and Receptacle Identification
- Lighting
- Lighting Controls
- Clock System
- Lightning Protection

It is crucial to note the installation verification, testing and/or commissioning requirements for projects vary widely. It is the intention of the university in each case the A/E who designs the element of system will establish a series of defined processes and performance parameters which will verify the quality of materials and installations. It is then the university's expectation to receive and accept the detailed process and testing plan which the contractor develops to meet those criteria, at a point in time early enough in the construction process to allow full coordination of trades and the integration of testing and commissioning into the normal work flow. It is mandatory discrete device and subsequent systemic testing and/or commissioning be accomplished prior to the DEB inspection and the resultant declaration of substantial completion.

P. Capital Outlay Close-out Checklist

Procedures outlined below will generally occur as the project approaches the point of occupancy, however, listed tasks begin well in advance of this milestone. It is also critical tasks listed are dependent upon the successful work of a number of persons and entities. The responsible party listed is the prime initiator or facilitator of the work, not the sole person tasked with the accomplishment of the listed duty. Generally the subject tasks from this policy are accomplished subsequent to occupancy. This stipulates that commissioning, start-up/acceptance testing, JMU staff training, punch list generation, punch list corrections, final inspection, A/E Certificate of Completion, certification by the Fire Marshal, etc. have all been successfully completed.

This procedure is a guideline. Project managers are expected to tailor its use to the character of each individual project. The intention of the procedure is to ensure relevant close-out tasks have been completed.

Prior to the initiation of this phase of a project, the Project Manager shall assess the overall status of the project, and shall develop a synopsis which describes the following:

1. The success of the project in accomplishing the initial and revised program goals, schedule, and accomplishment within physical/operational proximities;

2. The status of the project budget, associating dollar values and funding sources to uncompleted program goals and project tasks;
3. The status of the project schedule, associating timelines and assigned deliverables for uncompleted program goals and project tasks;
4. The status of project related accounts, including a plan and schedule for the closeout of associated accounts, work orders, and purchase orders.

The task of closing project accounts, files and documents is a critical element in the management of a project. The Project Manager must provide a description of the tasks involved and the projected schedule to the Director of Engineering and Construction at the beginning of this phase. The Project Manager must also certify timely completion of checklist items.

The Director of Engineering and Construction has the final responsibility for project completion. The Director of Engineering and Construction shall sign the G.S. Form E&B CO-14 certifying that Commonwealth project closeout requirements have been met.

Q. Project Warranty Management

This procedure is a guideline. Project Managers are expected to tailor its use to the character of each individual project. The intention of the procedure is to ensure relevant tasks have been completed.

Within ten working days of the certification of substantial completion of a project, the project manager shall assess the project and shall develop a synopsis which includes the following:

1. The scope of the overall project;
2. Description and notation of status relative to completion of associated phasing and/or work assigned or delegated to other projects;
3. The schedule of the actual overall project, including associated phases, sub-projects, milestones, events, durations, and resource assignments from initiation through substantial completion;
4. The projected schedule of the project's final completion, move-in, warranty inspection and warranty expiration;
5. Copies of A/E liability insurance carrier stipulation and GC performance and payment bond;
6. Draft memorandums to associated university departments describing the warranty process;
7. Produce draft letters for the signature of the Director of Engineering and Construction reminding the A/E, A/E liability insurance carrier, general contractor and general contractor surety of their contractual obligations relative to the warranty period.

Within 30 working days of final completion, the Project Manager shall assess the project and shall develop an appendix to the synopsis which includes the following:

1. The overall project actual budget through substantial completion, including identification of funding sources by discrete project org. number, with budget line items itemized by account codes, etc. indicating actual expenses and commitments as well as commitments for projected completion items.

The procedures for this policy are for the accomplishment of all applicable project warranty tasks for each assigned project. It is preeminent upon the assigned FP&C Project Manager to review this procedure with respect to each specific project, to tailor its application, and to add any additional appropriate items necessary to document the process and intended end product or the project initiation process.

1. The guarantee of the work is as defined in the General Conditions of the Construction Contract. As the Project Inspector and Project Manager have administered the project to the point of completion, it follows that the warranty claim procedure should also be administered by FP&C representative.
2. A potential warranty claim may be submitted by any person. The submission of a notice will initiate the following events:
 - a. A problem is reported to FM through the established work order system process or directly by an FM associate. Every effort should be made to adjust, or otherwise maintain an item made before reporting the discrepancy as a warranty claim, as items may later be determined to be non-warranty and could therefore impose additional cost on the university.
 - b. The responsible Project Inspector determine if the issue is a normal maintenance task or a warranty item.
 - c. If it is a warranty item, there are two possible actions.
 - i. If the issue is an emergency, there are two courses of action;
 1. During working hours, the Project Inspector should be notified of the emergency as quickly as possible so
 2. FP&C may assist in initiating action with the contractor.
 3. In an after-hour emergency situation, FM technicians may call the contractor directly for assistance. An attempt should be made to notify the Project Inspector assigned to the project at their after-hours number if assistance is needed.

In either case, FM monitors the work and confirms satisfactory repair completion. A work order will be submitted in AiM for the scope of work and work order closed when completed. Project Inspectors have access to work order documentation in AiM.

- ii. If the issue is not an emergency, then the claim form information is to be provided to the Project Inspector in either written or email format. The Project Inspector will complete the form and transmit it to the contractor. The Project Inspector coordinates the response with the associated FM supervisor to ensure that all appropriate parties participate in the confirmation of acceptable response. A copy of the completed claim form is sent to FM and the original form is filed for record by the Project Inspector.
- iii. The repair must be verified that it is complete by both the Project Inspector and the associated FM supervisor. A copy of the completed claim form is forwarded to the Executive Director of Facilities Management, Director of Engineering and Construction, and the reporting party for their information and files. FM staff then verifies the repair is complete as well.
- iv. After claim satisfaction the Project Inspector files the completed form in the warranty claim folder within the FP&C central project file. At the completion of the warranty period this file is transferred to the FM archival files.

3. Two months prior to the end of the warranty period the Project Inspector will schedule and administer a warranty inspection of the entire project. This inspection will involve the facility users, the associated FM shop staff, the A/E (including all sub-consultants), the general contractor, the Project Manager, and the Director of Engineering and Construction. All facets of the project will be examined and a written list of warranty and non-warranty items noted. A list of warranty items will be transmitted to the general contractor within five (5) working days along with a requirement that a schedule for the accomplishment of all necessary corrective work be returned at least one month prior to the end of the warranty period.

R. Project Committees

This portion of the policy establishes the procedures and protocols for implementing the formation of the project management committees for capital and non-capital projects overseen by FP&C staff. Committees are required for FP&C projects. Expected levels of involvement may vary by project type, (for example in the case of a roofing or site utility project verses a new facility design and construction, but the committee will be formed and utilized in projects.)

This procedure is a guideline. Project Managers are expected to tailor its use to the character of each individual project. Variation from or waiver of this policy will only be reviewed with the Director of Engineering and Construction.

The procedures for this policy are the steps necessary to establish and utilize a team organization to ensure all facets of the design and accomplishment of a project scope are communicated and considered. It is preeminent upon the assigned Project Manager to do everything possible to ensure effected parties within the JMU community are enabled to participate.

1. When a project is initiated, a draft list of recommended committee membership for the project initiation committee and the project working committee will be submitted to the AVP for Business Services through the Executive Director of Facilities and Construction. The Project Manager, based upon consultation with the involved JMU customer group, will prepare the list.
2. Once the membership is approved, the Project Manager will draft a letter for the Director of Engineering and Construction informing the members of their appointment, describing the project scope, schedule and the macro level budget information.
3. The Project Manager will then provide the list of members for the project committee to the Procurement representative for the initiation of the consultant selection process.
4. The Project Manager will serve as the primary point-of-contact for the project committee throughout the consultant selection process.
5. Once the consultant selection process is completed, the Project Manager will draft a letter for the Director of Engineering and Construction's signature informing the committee of the outcome and thanking them for their participation.
6. The project working committee will, prior to initiation of work with the consultant, meet to establish mutual expectations of the process and involvement during the design phase of the work. At this meeting the Project Manager, after consulting with the occupant group, will stipulate the selection of a project committee chair. This person will be the associated dean or department head who will be

tasked with functioning as the point-of-contact for the Project Manager relative to the receipt of or disbursement of information to and from the committee and the occupants. The committee chair will also be the responsible party for scheduling committee meetings, recording and distributing meeting minutes, and for overseeing the timely receipt of information and input from the various committee members. This committee chair will typically be a representative from the most senior level of the involved customer administrative entity.

7. The project working committee will meet as required during the design process. Their work will include participation in the project programming functions where the scope of the actual project is defined, the review and acceptance of design solutions and elements, the recommendation to the university administration of preferred design solutions, and the stipulation of the committee acceptance of various phases of the work thereby recommending the Director of Engineering and Construction to allow the project to continue to the next phase. In addition, once design is completed, the committee members will attend construction meetings for coordination and input.

S. Monthly Capital Project Accounting

This portion of the policy establishes the procedure to be followed for producing the Capital Project accounts report for the office of FP&C. The report is an AiM line-item summation of the capital project(s) related expenditures and encumbrances delineating commitments and expenses to date, as well as unexpended and uncommitted balances.

Project Managers are responsible for the review the AiM report monthly, and the affirmation of commitments and expenditures indicated. The Project Manager is responsible for defining and initiating resultant management decisions and initiatives necessary to keep the project within the approved scope, schedule and budget. The Project Manager shall review the final report to the Director of Engineering and Construction each month.

T. Project Audit Meeting

Project Managers are responsible to host a “Lessons Learned” meeting for each project after Final Completion and prior to the end of warranty. The meeting is a candid review of the performance of each project team member. Results of this meeting will help shape the policy and procedures for the Office of Facilities Planning and Construction on future projects. The Project Manager will generate a report of the findings from the post audit meeting for distribution.

The meeting shall include, but is not limited to the following attendees:

Executive Director of Facilities and Construction
Director of Engineering and Construction
Associate Director of Facilities
Project Manager
Project Engineer
Program/Department Representatives

The meeting shall cover, but is not limited to the following topics:

JMU Performance

- Project Manager qualification/performance

- Project Engineer qualification/performance
- Accuracy of the information
- JMU Design and Construction Guidelines
- Document review/coordination through the design process
- DEB Coordination
- Timely response to design issues
- Timely response to construction issues
- Communication with end user group
- Communication with FM staff
- Communication with A/E Team
- Communication with Contractor

A/E Performance

- Key individuals' qualification/performance
- On-time delivery throughout the design phases
- Efficient and creative design solutions
- Accuracy of the information
- Complete and coordinated documents
- Adhere to JMU Design and Construction Guidelines
- Efficient DEB approval process
- Timely response to FP&C
- Timely response to JMU Review team
- Timely response to Contractor
- Communication with Project Manager
- Communication with JMU Team
- Communication with Contractor
- Management of subconsultants
- Listening and understanding JMU Review team comments/concerns

Contractor/Construction Manager Performance

- Key individuals' qualification/performance
- Properly staffed
- Compliance with construction documents
- Quality of the work
- Maintain clean, safe site and adjacent areas
- Ability to work on campus and comply with JMU Design and Construction Standards
- Coordination of the work
- Complete work tasks on schedule
- Complete work on budget
- Minimize punch list
- Complete punch list on schedule
- Substantial Completion on schedule
- Completion on schedule
- Complete warranty items on schedule
- Timely response to FP&C
- Timely response to JMU Review team

- Timely response to A/E
- Communication with Project Manager
- Communication with JMU Team
- Communication with A/E
- Management of subcontractors
- Listening and understanding JMU Review team comments/concerns

Report distribution and comment – After review by the Director of Engineering and Construction, the Project Manager shall distribute the draft report to participating JMU staff. In addition, the report shall be distributed to the following individuals for review and comment:

- The Vice President for Administration and Finance,
- The Associate Vice President for Business Services,
- The Executive Director of Facilities and Construction
- The Director of Engineering and Construction

The official FP&C project file shall contain a copy of the final report.



Facilities Management

Project Schematic Design Release Form

Project Name: _____

Project Code: _____

A/E Firm: _____

A/E Contact: _____

DEB/BCOM Reviewer: _____ Date: _____

FP&C Project Manager: _____

Signature: _____ Date: _____

Facilities Management Reviewer: _____

Signature: _____ Date: _____

Executive Director of Facilities and Construction: _____

Signature: _____ Date: _____

Director of Engineering and Construction: _____

Signature: _____ Date: _____

Telecommunications Reviewer: _____

Signature: _____ Date: _____

Public Safety Reviewer: _____

Signature: _____ Date: _____

Program Office/Department: _____

Signature: _____ Date: _____

Return to Facilities Planning and Construction Project Manager



Project Preliminary Design Approval Form

Project Name: _____

Project Code: _____

A/E Firm: _____

A/E Contact: _____

DEB/BCOM Reviewer: _____ Date: _____

FP&C Project Manager: _____

Signature: _____ Date: _____

Facilities Management Reviewer: _____

Signature: _____ Date: _____

Executive Director of Facilities and Construction: _____

Signature: _____ Date: _____

Director of Engineering and Construction: _____

Signature: _____ Date: _____

Telecommunications Reviewer: _____

Signature: _____ Date: _____

Public Safety Reviewer: _____

Signature: _____ Date: _____

Program Office/Department: _____

Signature: _____ Date: _____

Return to Facilities Planning and Construction Project Manager



Facilities Management

Project Working Drawings Release Form

Project Name: _____

Project Code: _____

A/E Firm: _____

A/E Contact: _____

DEB/BCOM Reviewer: _____ Date: _____

FP&C Project Manager: _____

Signature: _____ Date: _____

Facilities Management Reviewer: _____

Signature: _____ Date: _____

Executive Director of Facilities and Construction: _____

Signature: _____ Date: _____

Director of Engineering and Construction: _____

Signature: _____ Date: _____

Telecommunications Reviewer: _____

Signature: _____ Date: _____

Public Safety Reviewer: _____

Signature: _____ Date: _____

Program Office/Department: _____

Signature: _____ Date: _____

Return to Facilities Planning and Construction Project Manager