



JAMES MADISON UNIVERSITY

Higher Education Capital Outlay Manual

Revised 04/13/2023



Foreword

James Madison University Higher Education Capital Outlay Manual

James Madison University Higher Education Capital Outlay Manual marks a significant milestone in James Madison University's achievement of delegated authority over its capital construction program. In 1996 the General Assembly authorized delegation of post-appropriation management of non-general fund capital projects, and administration of real property leases to certain institutions of higher education as a two year pilot program. The General Assembly continually extended the program and in 2005 passed the Restructured Higher Education Financial and Administrative Operations Act Chapter 933 (***the Act***) which made permanent those pilot delegations as well as provided further autonomy to some institutions. In 2008 criteria was established for James Madison University, through a Memorandum of Understanding to choose "two of three areas" (capital outlay, procurement, and information technology), thus becoming a "Level II" institution with the selection of autonomy in procurement and information technology, and meeting the requirements stipulated in 23-38.88 Code of Virginia.

In 2016 the General Assembly authorized (Chapter 780) James Madison University, as part of a five-year pilot program, to exercise additional financial and administrative authority as set out in each of the three functional areas of information technology, procurement and capital projects as set forth and subject to all the conditions in 2.0, 3.0, and 4.0 of the second enactment of Chapter 824 and 829 of the Acts of Assembly of 2008 except that (i) any effective dates contained in Chapter 224 and 829 of the Acts of Assembly of 2008 are superseded by the provisions of this item and (ii) the institution is not required to have a signed memorandum of understanding with the Secretary of Administration regarding participation in the non-general fund decentralization program in subsection C of 2.2-1132 in order to be eligible for the additional capital outlay project authority.

In accordance with ***the Act***, the James Madison University Board of Visitors (BOV) approved the resolution for policy and procedures to comply with ***the Act*** on June 3, 2016. After successful fulfillment of requirements, James Madison University applied to be governed by Article 4 of ***the Act*** and adopt Level III status as an institution of Higher Education. Approval was given by the Governor and a Management Agreement dated November of 2018 was signed by James Madison University (JMU) and The Commonwealth of Virginia. In accordance with the adoption, James Madison University (JMU) hereby adopts the James Madison University Higher Education Capital Outlay (HECO) Manual (JMU Manual). The JMU Manual sets forth standards, policies, terms, conditions, and procedures to be followed by James Madison University, including all departments and colleges, in procuring Capital Professional Services and Capital Construction Services to comply with ***the Act***.

Unless otherwise noted within the manual, the following delegation of authority of approvals and responsibility apply:

Authorizations and Responsibilities

Subject	Section Reference	Authorization/Responsibility
Capital Outlay (CO) Forms	Multiple	Combination of forms as published by DGS and JMU HECO forms published by JMU/BITS
Bid Receipt Date, Over 3M	5.9	Established by JMU and submitted to DEB for Major Capital Projects
Building Official	2.2; 5.1.1; 5.1.2; 7.0	Director, DEB
Grant Code Modifications and variances to executive orders affecting construction		Director, DGS
Authorization of Permits and Certificates of Occupancy		Director, DEB (or designee)
Plan/Code Reviews		DEB
Fire Safety Reviews		DEB
Fire Safety Shop Drawing Reviews		DEB
Contract Award Recommendation (AE, CM, DB)	3.1.8.3; 7.2.2.3.2; 7.2.2.5.3	VP A&F
AE Project Fees Over 200k	3.1.8.4	VP A&F
Change to Contract more than 25%/50k whichever is greater	3.2.6; 8.7.7	VP A&F
Value Engineering Waiver – Projects 5M and greater	5.14	VP A&F
Construction Delivery Method Greater Than 3M Other Than D/B/B	7.2.1.3; 7.2.2.3.1	VP A&F
DGS Recommendation	7.2.2.3.1	DGS (DEB)
Approval to Use CM	7.2.2.3.1	VP A&F
Exceptions/Deviations to Manual/Policy/Guidelines	1.1; 7.2.2.3.2; 7.2.2.3.5; 7.2.2.5.2	VP A&F
GMP Approval	7.2.2.3.4	VP A&F
Competitive Negotiation	7.2.2.4	VP A&F
Inspector Waiver	7.3.32.2	VP A&F
Form Approval (specific forms)	8.0; 8.5; 8.6	VP A&F
Property Acquisition	8.4.1	VP A&F
Demolition	8.4.2; 8.7.3	VP A&F
Establishing a Building Committee	7.0.2	AVP Business Services
Claims/Disputes	3.2.7	AVP Business Services

Authorization of Proprietary Specifications	5.3.9.2; 6.0.3.1; 6.15.2.4.2	AVP Business Services
Authorization of Sole Source Specifications	5.3.9.3; 6.0.3.3; 6.15.2.4.3	AVP Business Services
Permission to Negotiate with Low Bidder	5.10; 7.2.3.8.1; 8.4.10	AVP Business Services
Design Guideline Waiver	Chapter 6	AVP Business Services
Construction 1-2M Other Than Competitive Sealed Bidding	7.2.1.2	AVP Business Services
Less Than 30 Day Posting 1-3M	7.2.1.2	AVP Business Services
VE Waiver	10.1.2.1	AVP Business Services
AE Removal of Schedule of Values from Basic Services	7.3.30	AVP Business Services

Contents

CHAPTER 1: INTRODUCTION	12
1.0 General.....	12
1.1 Deviations	12
1.2 Manual Presentation	12
1.3 Manual Maintenance	12
1.4 Manual Location.....	12
1.5 Capital Outlay versus Non-Capital Outlay	12
1.6 Design Philosophy	13
1.7 Forms	14
1.8 Index.....	14
CHAPTER 2: DEFINITIONS.....	15
2.0 General.....	15
2.1 Acronyms and Abbreviations.....	15
2.2 Definitions.....	17
CHAPTER 3: ARCHITECTURAL AND ENGINEERING SERVICES	31
3.1 Procurement Procedures for Professional Services	31
3.1.1 General Policy on Procuring A/E Services.....	31
3.1.2 Procurement of Related Services	31
3.1.3 Project Scope of Work	32
3.1.4 Requests for Proposal (RFP).....	32
3.1.5 Advertisements for Professional Services.....	32
3.1.6 Small Businesses and Small Businesses Owned by Women and Minorities	33
3.1.7 Standard Formats for A/E Firm Data	33
3.1.8 Procedures for Selection of the A/E.....	34
3.1.9 eVA Business-to-Government Vendor Registration	40
3.1.10 Audits	40
3.2 Fees and Payments for A/E Services.....	40
3.2.1 Architectural and Engineering Fees.....	40
3.2.2 A/E Fee Proposal Standards and Guides	41
3.2.3 A/E Fee Proposal Worksheet (Form HECO-2.3).....	47
3.2.4 Proportioning of the A/E Fee and Payments.....	48
3.2.5 Determining Charges for Changes in the Scope of Work.....	50
3.2.6 Changes to A/E Contract.....	51

3.2.7 Informal Alternative Dispute Resolution	52
3.3 Restriction on Promotional Materials by A/E and Contractor	53
CHAPTER 4 – REGULATORY REQUIREMENTS FOR ALL BUILDINGS ON UNIVERSITY PROPERTY	54
4.0 Administration	54
4.12.12 Procurement of Asbestos Consulting Services (<i>CPSM Section Noted, content modified</i>)	54
4.13.3 Lead Testing (<i>CPSM Section Noted, content modified</i>)	54
4.17 Erosion and Sediment Control and Stormwater Management Plans and Specifications (<i>CPSM Section Noted, content modified</i>)	55
4.19.2 Building Maintenance Official (<i>CPSM Section Noted, content modified</i>)	55
CHAPTER 5: PROJECT SUBMITTAL STANDARDS	56
5.0 General (<i>CPSM Section Noted, content modified</i>)	56
5.0.2 Capital Project Initiation (<i>CPSM Section Noted, content modified</i>)	56
5.1 Non-Capital Outlay Construction Projects	57
5.1.1 General (<i>CPSM Section Noted, content modified</i>)	57
5.1.2 Issuance of Building Permit (<i>CPSM Section Noted, content modified</i>)	57
5.1.3 Issuance of Certificate of Use and Occupancy (<i>CPSM Section Noted, content modified</i>)	57
5.1.4 Change in Use or Occupancy (<i>CPSM Section Noted, content modified</i>)	58
5.3 Specification Standards	58
5.5 Design Initiations / Pre-Design Conference (<i>CPSM Section Noted, content modified</i>)	60
5.9 Bid Forms and Procedures	61
5.9.1 Instructions to Bidders (<i>CPSM Section Noted, content modified</i>)	61
5.9.2 Unit Price Bids (<i>CPSM Section Noted, content modified</i>)	61
5.9.3 Bid Form Preparation (<i>CPSM Section Noted, content modified</i>)	61
5.9.4 Prequalification of Contractors or Subcontractors (<i>CPSM Section Noted, content modified</i>)	61
5.9.5 Advertising (<i>CPSM Section Noted, content modified</i>)	62
5.9.6 eVA Vendor Registration (<i>CPSM Section Noted, content modified</i>)	62
5.10 Additive Bid Items (<i>CPSM Section Noted, content modified</i>)	62
5.12 Reviews and Approvals	63
5.12.8 Print and Release of Bid Documents: (<i>CPSM Section Noted, content modified</i>)	63
5.14 Value Engineering (VE) (<i>CPSM Section Noted, content modified</i>)	63
5.14.2 Procurement of the VE Study (<i>CPSM Section Noted, content modified</i>)	64
CHAPTER 6: DESIGN & PROCUREMENT CRITERIA, POLICIES AND GUIDELINES	65

6.0 Design Criteria and Guidelines	65
6.0.1 JMU Design Standards.....	65
6.0.2 Plans, Sections and Details of Equipment or Systems.....	65
6.0.3 Proprietary and Sole Source Procurement Procedures	65
6.0.4 Separate Contracts for Material and Equipment	66
6.0.5 Work that is "Not in Contract"	66
6.0.6 Approvals, Equals, and Substitutes	67
6.0.7 Unit Prices.....	68
6.0.8 Procurement of Furnishings and Loose Equipment	70
6.0.9 Built-In Equipment.....	70
6.1 General Design Standards.....	70
6.1.1 Guidelines for Space Planning	70
6.1.2 Building Efficiency Ratios	72
6.1.3 High Performance Buildings Act - Design.....	74
6.1.4 Structural Design Guidelines	76
6.2 CIVIL & SITEWORK DESIGN STANDARDS.....	76
6.2.1 Earthwork.....	76
6.2.2 Drawings	76
6.2.3 Earthwork Specifications	77
6.2.4 Structural Fill and Backfill	77
6.2.5 Rock Excavation.....	78
6.2.6 Erosion and Sediment Control Requirements	78
6.2.7 Minimum Standards for Parking	79
6.3 Concrete Design Standards	79
6.4 Masonry Design Standards (Reserved).....	79
6.5 Steel Design Standards (Reserved)	79
6.6 Wood & Plastics Design Standards (Reserved).....	79
6.7 Thermal & Moisture Protection Design Standards	79
6.7.1 Waterproofing & Drainage for Subsurface Structures	79
6.8 Doors & Windows Design Standards.....	80
6.8.1 Operable Sash	80
6.9 Finishes Design Standards (Reserved)	80
6.10 Specialties Design Standards	80
6.10.1 Nuisance Bird Control.....	80
6.11 Built-In Equipment Design Standards (Reserved)	80
6.12 Furnishings Design Standards (Reserved)	80
6.13 Special Construction Design Standards (Reserved)	81

6.14 Vertical Transportation Design Standards	81
6.14.1 Final Acceptance for Elevators	81
6.14.2 Elevator Microprocessors	81
6.15 Mechanical and Plumbing Design Standards.....	81
6.15.1 Rainwater Harvesting (Reserved).....	81
6.15.2 Building Automation Systems Design and Procurement.....	81
6.15.3 Pressure Vessel Design Standards	84
6.16 Electrical Design Standards	84
6.16.1 Lightning Protection Systems	84
6.16.2 Busway Installation.....	85
6.16.3 Electrical Room drawings	85
6.16.4 Elevator Machine Rooms.....	85
6.16.5 Electrical Details	85
6.16.6 Emergency Systems (NEC 700).....	86
6.16.7 Legally Required Standby Systems (NEC 701)	86
6.16.8 Optional Standby Systems (NEC 702).....	86
6.16.9 Electrical Calculations	86
6.16.10 Use of MC Cable	87
6.16.11 Conduit as Ground is Not Permitted	87
6.16.12 Fire-Rated Walls.....	87
6.16.13 Door Hardware Requirements	87
6.16.14 Clearance Markings.....	87
6.16.15 Mechanical Equipment	87
6.16.16 4-Wire Delta Systems.....	88
6.16.17 Circuit and Equipment Designations	88
6.16.18 Incandescent Lights.....	88
6.16.19 Environmental Initiative Documentation.....	88
6.16.20 Points of Contact	88
6.16.21 Dig Notice.....	88
6.16.22 Marinas, Boat Yards, Docks and Floating Buildings.....	88
6.16.23 Aluminum Conductors	90
CHAPTER 7: CONSTRUCTION PROCUREMENT AND ADMINISTRATION	91
7.0 General.....	91
7.0.1 Capital vs Non-capital Projects	92
7.0.2 The Building Committee	92
7.0.3 University Contracting Officer	93
7.0.4 Authorization to Advertise Solicitation (HECO-6).....	93
7.0.5 Work Performed by Other than Public Contract.....	93
7.0.6 Small Businesses Procurement Plan	93
7.0.7 Audits	94
7.0.8 Bonds	94
7.0.9 Conflict of Interest	95
7.0.10 Evaluation of the Contractor	95
7.0.11 Debarment and Enjoyment.....	96
7.1 Construction Procurement	96
7.1.1 Principles of Competition	96

7.1.2 Advertisement, Public Notice	96
7.2 Methods for Construction Procurement	97
7.2.1 Competitive Sealed Bid	97
7.2.2 Competitive Negotiation (Rfq / Rfp)	103
7.2.3 Additional Methods for Construction Procurement	112
7.3. Construction Administration Procedures	114
7.3.1 Prebid Conference	114
7.3.2 Addenda to the Bid Documents	115
7.3.3 Construction Management - Pre-Construction Phase	116
7.3.4 Construction Management - Construction Phase	116
7.3.5 Record Keeping	117
7.3.6 Progress Reporting	118
7.3.7 Schedule Control	118
7.3.8 Progress Meetings	118
7.3.9 Inspection	119
7.3.10 Coordinate/Monitor Testing	119
7.3.11 Requests for Information	119
7.3.12 Photography	120
7.3.13 Project Commissioning	120
7.3.14 Project Close-Out	120
7.3.15 Partial Building Permits	120
7.3.16 A/E Services During the Construction Period	122
7.3.17 Construction Project Management by University or Consultant	124
7.3.18 Preconstruction Meeting	124
7.3.19 Hazardous Materials	125
7.3.20 Monthly Pay Meeting	125
7.3.21 Other Meetings	126
7.3.22 Access to Work	126
7.3.23 Authority of the A/E During Construction	126
7.3.24 Changes in Work	127
7.3.25 University's Decisions	127
7.3.26 Orders to the Contractor	127
7.3.28 Construction Methods	127
7.3.29 Project Management Consultant	127
7.3.30 Schedule of Values and Certificate for Payment	127
7.3.31 Construction Change Orders	129
7.3.32 Inspection of Work	130
CHAPTER 8: CAPITAL OUTLAY PLANNING AND PROJECT APPROVAL	139
8.0 General	139
8.1 Capital Project Planning / Budgeting Process	139
8.2 Capital Outlay Project Implementation Process	139
8.3 Capital Outlay Project Authorization	140
8.4 Project Execution	140

8.4.1 Acquisitions of Real Property.....	140
8.4.2 Demolition	141
8.4.3 Temporary Facilities	141
8.4.4 Construction Projects	141
8.4.5 Project Initiation.....	141
8.4.6 Pre-Design Conference	142
8.4.7 Schematics.....	143
8.4.8 Preliminary Submittal.....	143
8.4.9 Working Drawing Submittal	144
8.4.10 Bid Opening and Contract Award	144
8.4.11 Building Permits and Demolition Permits	145
8.4.12 Change Orders to the Construction Contract.....	146
8.4.13 Change Orders to the A/E Contract	146
8.4.14 Building Occupancy.....	146
8.4.15 Project Close Out	146
8.5 Capital Outlay Order Of Procedure	147
8.7 Co Form Instructions And Requirements.....	152
8.7.1 Capital Outlay Project 'CO' Forms for Construction	152
8.7.2 Annual Permit Designation	152
8.7.3 Demolition of Buildings	152
8.7.4 Temporary Facilities (Other than Tents and Stages).....	152
8.7.5 Construction Projects	153
8.7.6 Building Permits	153
8.7.7 Change Orders.....	155
8.7.8 Building Occupancy.....	157
8.7.9 Project Close Out	159
CHAPTER 9: MASTER PLANS	160
9.1 Conformance with Existing Master Plans.....	160
9.2 Site and Utility Drawings	160
9.3 Master Plan and Requirements	160
9.3.1 Preparations	160
9.3.2 Intent	160
9.3.3 Future Needs.....	160
9.3.4 Chesapeake Bay Watershed	160
9.3.5 Standardization of Content	160
9.3.6 Narrative Information	161
9.3.7 Maps	162
9.3.8 Site and Utility Plans.....	163
9.3.9 Format.....	164
9.3.10 Distribution	164
9.3.11 Updates.....	164
CHAPTER 10: REPORTS	166
10.1 REPORTS.....	166

10.1.1 Capital Outlay Progress Report	166
10.1.2 Value Engineering Utilization Report	166
10.1.3 Construction Procurement Report	166

CHAPTER 1: INTRODUCTION

1.0 General

The James Madison University Higher Education Capital Outlay Manual (hereafter referred to as the JMU Manual) for capital projects contains guidance, procedures and policy that must be followed in the execution of capital outlay projects. Appropriate portions of this manual apply to projects below the Capital Outlay threshold. These portions include, contracting procedures, approval levels, code requirements, building permits and project permits, safety requirements, and the forms as indicated. Supporting documentation concerning the enabling legislation and delegation of authority, supporting guidelines, and forms can be found on the JMU Higher Education Capital Outlay Manual (HECOM) Website: jmu.edu/hecom/

1.1 Deviations

Deviations from the policies and procedures outlined within shall be requested in writing and must have prior approval of the James Madison University Vice President of Administration and Finance. The request shall justify and substantiate the need for the deviation. All deviations so provided shall be consistent with the authorities provided herein.

1.2 Manual Presentation

The JMU Manual is designed to present the capital outlay process from project planning and approval through design and construction to project completion (occupied building). The JMU Manual is arranged in a sequence that parallels the capital outlay process.

1.3 Manual Maintenance

James Madison University Procurement Services in collaboration with Facilities Planning and Construction is responsible for maintenance of the JMU Manual. Suggestions for changes, notification of conflicting guidance, and questions may be submitted to:

James Madison University
Director, Procurement Services
MSC 5720
752 Ott Street
Harrisonburg, VA 22807

1.4 Manual Location

The JMU Manual including errata corrections will be posted on the James Madison University Higher Education Capital Outlay Manual website and may be downloaded and printed by users.

Revisions to the JMU Manual will be issued electronically by posting on the JMU HECO Manual website (jmu.edu/hecom/). Changes or revisions will be marked or identified in the JMU Manual where they occur.

1.5 Capital Outlay versus Non-Capital Outlay

Capital Outlay Projects, as defined by the Department of Planning and Budget (DPB) Instructions, must be authorized by the General Assembly or by the Governor as provided for in the Acts of Assembly 4-4.00 Capital Projects (also called the Appropriations Act), and as further defined by The Restructured Higher Education Financial and Administrative Operations Act, Chapter 4.10. Capital Outlay Projects use an established authorization and approval sequence for the “Design Phase” of the Project to include:

Project Initiation (using the HECO-2)

Schematic Design Approval Phase (HECO-4)

Preliminary Design Approval Phase (HECO-5) and

Working Drawings or Construction Documents Approval Phase (HECO-6).

After receiving Bids, Construction Contract Award approval is made using the HECO-8.

These forms are also used to track the cost of the project, the commitment of funds and the infusion or transfer of funds for the project. The approval authority for the forms is described in Chapter 8 of the JMU Manual.

Non-Capital Outlay Projects, are usually defined as small construction, renovation, repair or replacement projects which are funded by Agency resources and do not require authorization by the Legislature or Governor. Non-Capital Outlay Projects in most cases do, however, involve work regulated by the VUSBC and require a Building Permit from the Building Official or his designee. The design phases and approval process for the Non-Capital Outlay Projects is left to the agency’s discretion. Non-Capital Outlay Projects \$1 Million or less in estimated cost are procured under the Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and their Vendors pursuant to the Rules Governing Procurement of Goods, Services, Insurance and Construction by a Public Institution of Higher Education of the Commonwealth of Virginia Governed by Subchapter 3 of the Restructured Higher Education Financial Administrative Operations Act, Chapter 4.10 of Title 23 of the Code of Virginia, and Chapters 824 and 829 of the 2008 Acts of Assembly of Virginia. Non-Capital Outlay Projects greater than \$1 Million but less than \$3 Million in cost are procured, reviewed and permitted in accordance with the requirements of the JMU Manual pursuant to the Rules Governing Procurement of Goods, Services, Insurance and Construction by a Public Institution of Higher Education of the Commonwealth of Virginia Governed by Subchapter 3 of the Restructured Higher Education Financial Administrative Operations Act, Chapter 4.10 of Title 23 of the Code of Virginia, and Chapters 824 and 829 of the 2008 Acts of Assembly of Virginia.

1.6 Design Philosophy

The design goal is to create a capital investment that meets the user’s functional requirements and provides the most economical life cycle cost. JMU’s design philosophy envisions a long and useful life for projects. These projects will often be used for periods exceeding 50 years and, consequently, should be designed for durability, economy of operation and ease of maintenance. Projects shall be developed to meet JMU’s functional and space requirements within a cost range comparable to similar public and private sector projects. Achievement of this goal should incorporate good architectural and engineering practice and design solutions should be consistent with industry standards, [JMU Design & Construction Guidelines](#), and must be designed by the A/E to meet the functional and space requirements within the “Design Not to Exceed” budget for the project.

Project system components should be selected on the basis of life cycle costs. If an increased first or initial cost can be documented to show a reduced life cycle cost for JMU, particularly for operating and personnel costs, then the design should incorporate the more extensive first cost feature or system.

Architects and Engineers must exercise discipline in their designs to avoid inefficient use of space in terms of floor area and building volume. Exterior design features and materials should be consistent with the architectural character of the surrounding buildings and site. Excessive or grandiose features which are not related to the function or the intended use of the facility shall be avoided. Projects must be designed by the A/E to meet the functional and space requirements within the "Design Not to Exceed" budget for the project.

1.7 Forms

James Madison University Virginia Higher Education Capital Outlay (HECO) Forms, Formats and Samples are on the [JMU HECO Manual Forms](#) site. DGS Forms referenced in the JMU Manual are available electronically on the DGS Forms Center at dgs.virginia.gov

1.8 Index

The JMU Manual is posted on the James Madison University [website](#) and is fully text searchable. Therefore, no index is provided for the JMU Manual.

CHAPTER 2: DEFINITIONS

2.0 General

This chapter is designed to acquaint university personnel, contractors, and A/E's with terminology, symbols, acronyms and abbreviations customarily used in the procurement of construction and professional services and in the execution of the James Madison University Capital Outlay Program. Definitions are taken from the Code of Virginia, and reference general customs and practices associated with the construction industry and professional services contracts.

2.1 Acronyms and Abbreviations

Whenever used in the JMU Manual, including the appendices and standard forms, the following terms have the meanings indicated, which apply to both the singular and plural and the male and female gender thereof:

AARB:	Art and Architectural Review Board
ACSM:	Advisory Committee on Space Management
ADA:	The Americans with Disabilities Act of 1990
ADAAG:	Americans with Disabilities Act Architectural Guidelines
A/E:	Architect/Engineer
ASBO:	Assistant State Building Official
ASHRAE:	American Society of Heating, Refrigerating and Air-Conditioning
AVP:	Assistant Vice President
DEB:	Bureau of Capital Outlay Management, part of the Virginia Department of General Services, Division of Engineering and Buildings.
CA:	Commissioning Authority
CM:	Construction Management
CO:	Change Order or Capital Outlay (often in reference to forms)
COB:	Close of Business
COE:	Corps of Engineers
COP:	Change Order Proposal
CPSM:	Construction and Professional Services Manual (Current Version)
CRT:	Code Review Team
Cx:	Commissioning
DB:	Design-Build Construction Delivery Method
DCJS:	Virginia Department of Criminal Justice Services

D&F:	Determination & Finding
DEB:	Division of Engineering and Buildings of the Virginia Department of General Services
DEQ:	Department of Environmental Quality
DPB:	Virginia Department of Planning and Budget
DPFC:	Director, Facilities Planning and Construction
DGS:	Department of General Services
DHCD:	Department of Housing and Community Development
DPOR:	Department of Professional and Occupational Regulations
DRB:	Design Review Board
DSBSD:	Virginia Department of Small Business and Supplier Diversity
EIR:	Environmental Impact Report
ESCO:	Energy Service Company, or Energy Service Contract
eVA:	Electronic Virginia (mandatory procurement system for the Commonwealth). The eVA home page address is www.eva.virginia.gov . Solicitations and Awards are posted on the VBO or Virginia Business Opportunities page.
E&G:	Education and General
FAACS:	The Fixed Asset Accounting and Control System of the Virginia Department of Accounts
FAT:	Factory Acceptance Test
FICT:	Restructured Higher Education Financial and Administrative Operation Act, Chapter 4110 of Title 23 of the Code of Virginia
FPC:	Facilities Planning & Construction
FM:	Facilities Management
FT:	Functional Test
GC:	General Contractor or General Conditions
HECO:	Higher Education Capital Outlay
HVAC:	Heating, Ventilating and Air Conditioning
IFB:	Invitation for Bids
LEED:	Leadership in Energy and Environmental Design
MOU:	Memorandum of Understanding
NFPA:	National Fire Protection Association
O&M:	Operations and Maintenance (Manuals)

PM:	Project Manager
RFP:	Request for Proposal
SCHEV:	State Council on Higher Education in Virginia
VP A&F:	Vice President, Administration & Finance
SWAM:	Small, Women Owned, and Minority Owned Businesses
UFAS:	Uniform Federal Accessibility Standards
USBC:	The Uniform Statewide Building Code (Also referred to as the VUSBC.)
USGBC:	U.S. Green Building Council
VAC:	Virginia Administrative Code
VBO:	Virginia Business Opportunities (part of eVA)
VCC:	The Virginia Construction Code
VCCO:	Virginia Construction Contracting Officer
VEES:	The Virginia Energy Conservation and Environmental Standards
VPPA:	The Virginia Public Procurement Act, § 2.2-4300 thru 2.2-4377, Code of Virginia as amended
VUSBC:	Virginia Uniform Statewide Building Code.

2.2 Definitions

Whenever used in the JMU Manual, including appendices and standard forms, the following terms have the meanings indicated, which apply to both the singular and plural and the male and female gender thereof:

Act (The): The Restructured Higher Education Financial and Administrative Operations Act, Chapter 10 of Title 23.1 of the Code of Virginia.

Acceptance Phase: The phase of construction after startup and initial checkout where functional tests, O&M, documentation review and training occurs.

Addendum: Written or graphic instruments issued prior to the receipt of bids or proposals that clarify, correct or change the bidding/proposal documents.

Additional Services: A service that JMU includes in the A/E's Scope of Work as part of the Work under the A/E Contract but which service is not included in the A/E Basic Services as described in the JMU Manual. Compensation for the additional services is included in the fee negotiations prior to signing the contract and is, therefore, included in the A/E Contract.

Advertisement: The term commonly used to describe the public announcement or "Notice" of the availability of the Invitation for Bids (i.e. bid document or IFB) or Request for Proposal (RFP) or Request for Qualifications (RFQ) made by publishing a notice in the public Internet procurement website

designated by the Department of General Services (i.e. VBO/eVA) and otherwise publicly posting the notice (internally in the procurement office or in newspapers).

A/E Change Order: A document (HECO-11 A/E) issued on or after the effective date of the Contract (JMUCO-3) agreed to by the A/E and approved by JMU that authorizes the addition, deletion or revision in the Work, including any adjustments in the Contract price and/or the Contract time. A Change Order, once signed by all parties, is incorporated into and becomes part of the Contract.

A/E Contract: The Form of Agreement (JMUCO-3, JMUCO-3.1, JMUCO-3.2) and any document expressly incorporated therein. Such incorporated documents customarily, include the Terms and Conditions of the A/E Contract, the JMU Manual, the Memorandum of Understanding and all modifications, including subsequent Change Orders.

A/E Manual: This reference to portions of the manual is no longer applicable. The A/E Manual, when printed in any document or manual shall refer to the JMU Manual, all Chapters and Appendices A thru Z, and all revisions thereto, and which shall be incorporated into the Contract in their entirety except as amended or superseded in the Contract or an addendum thereto.

Agency: Means James Madison University (State Agency 216).

Agency Contracting Officer: The person designated in writing by JMU who is delegated authority to approve, award and execute contracts, change orders and other documents related to a capital outlay project for the agency.

Agency Head: The President of James Madison University.

Agency Representative: Person designated by the Agency Head to be responsible for administering the agency's Annual Permit Program.

Architect: An individual licensed to practice in the Commonwealth of Virginia as an architect by the Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA) Board of the Department of Professional and Occupational Regulation. "Architect" may also be used to refer to a firm of such individuals which is properly licensed in Virginia. Also refer to A/E.

Architect/Engineer: The term used to refer to the architects and/or engineers who contracts with the Owner to provide the architectural and/or engineering services for a Project. The Architect/Engineer is a separate contractor and is not an agent of the Owner. This term also includes any associates or consultants employed by the Architect/Engineer to assist the Architect/Engineer in providing services.

Art and Architectural Review Board (AARB): The Review Board appointed by the Governor to advise and provide counsel to the Governor as to the artistic merit of fixtures, structures, construction on state property, and works of art.

Association: As applied to architects or engineers, this term shall mean a legal entity formed by several architects and/or engineers who have associated together for the purposes of working as a unit on a specific project. The Association may take the form of a partnership, joint venture, corporation, etc.

Auxiliary Buildings: Support facilities which support the educational mission outside the classroom, but are not used for instruction or academic administration. Examples include Dormitories, Dining Facilities,

Parking Garages, Intercollegiate athletics and extracurricular activities. These facilities often generate revenue through fees charged for their use.

Beneficial Occupancy: the condition after Substantial Completion but prior to final completion of the project at which time the Project, or portion thereof, is sufficiently complete and systems are operational such that the Owner could, after obtaining necessary approvals and certificates, occupy and utilize the space for its intended use. Guarantees and warranties applicable to that portion of the work begin on the date the Owner accepts the Project, or a portion thereof, for such Beneficial Occupancy, unless otherwise specified in the Supplemental General Conditions or by separate agreement.

Bid: The offer provided by the bidder submitted on the prescribed form and setting forth the bidder's price(s) for the Work to be performed.

Building: Any roofed or occupiable structure.

Building Committee: The group constituted by JMU in accordance with the requirements of Chapter 7 of the JMU Manual and with the authority and purpose as set forth in Chapter 7 including interviewing and selecting A/E's for the planning and design of construction projects and other professional services required by JMU as well as subjectively selecting the GC/CM depending on delivery method for construction per this JMU Manual.

Building Official: JMU will utilize the Director of the Division of Engineering and Buildings, Department of General Services as the Building Official. The Building Official's duties, responsibilities and authority generally conform to those described in the Uniform Statewide Building Code (Code of Virginia, § 36-98.1).

Capital Project: For purposes of this Manual, "Capital Project" means (1) Acquisition or proposed acquisition of property, including improvements thereto; (2) New construction projects with a total project cost exceeding \$3,000,000 (as defined for institutions of higher education); (3) Improvements, renovations, repairs, replacement, maintenance, or combination projects for a single building with a total project cost exceeding \$3,000,000; and (4) Umbrella projects. (Projects less than the above are considered non-capital.)

Change Order: A document (HECO-11) issued on or after the effective date of the Contract (JMUCO-9) agreed to by the Contractor and approved by the Owner that authorizes an addition, deletion or revision in the Work, including any adjustment in the Contract price and/or the Contract time. The term "Change Order" shall also include written orders to proceed issued pursuant to Section 38 (a) (3) of the General Conditions of the Construction Contract, HECO-7. A Change Order, once signed by all parties, is incorporated into and becomes part of the Contract.

Code of Virginia: 1950 Code of Virginia as amended, Virginia's codified statutes. Sections of the Code of Virginia are referred to herein as § xx-xx.

Commissioning: A quality assurance process to verify and document that building systems and components operate in accordance to the owner's project requirements and the project design documents.

Commissioning Authority (CxA): The party responsible for the commissioning process.

Competitive Negotiations: A method of Contractor selection that includes the following two elements (See Chapter 7 for further procedures):

- a. Issuance of a written Request for Proposal (RFP) indicating in general terms that which is sought to be procured, specifying the factors which will be used in evaluating the proposal and containing or incorporating by reference the other applicable contractual terms and conditions, including any unique capabilities or qualifications which will be required of the Contractor.
- b. Public notice of the RFP at least ten (10) days prior to the date set for receipt of the proposal by publication on the eVA Web site (i.e., Virginia Business Opportunities (VBO)) and optionally in a newspaper of general circulation in the area in which the contract is to be performed.

Competitive Sealed Bidding: A method of Contractor selection that includes the following elements (See Chapter 7 for further procedures):

- a. Issuance of a written Invitation to Bid (IFB) containing or incorporating, by reference, the specifications and contractual terms and conditions applicable to the procurement.
- b. Public notice of the IFB at least ten (10) days prior to the date set for receipt of bids by publication of the public announcement or "Notice" of the availability of the Invitation For Bids (i.e. bid documents or IFB) on the eVA Web site. JMU may also publish the Notice in a newspaper of general circulation. Bids may be solicited solely from Contractors who have prequalified. In addition, bids may be solicited directly from potential contractors. Any additional solicitations shall include businesses selected from a list made available by the Department of Small Business and Supplier Diversity (DSBSD).
- c. Public opening and announcement of all bids received.
- d. Evaluation of bids based upon the requirements set forth in the invitation.
- e. Award to the lowest responsive and responsible bidder.
- f. Competitive sealed bidding shall not be used for procurement of Professional Services as defined in this Manual.

Construction: As used in this Manual, includes new construction, reconstruction, renovation, restoration, major repair, demolition and all similar work upon buildings and ancillary facilities owned or to be acquired by the Commonwealth, including any draining, dredging, excavation, grading or similar work upon real property.

Construction Administration (CA): As used in this Manual, this term means non-professional services provided under a contract with JMU which generally includes inspection of the Work, coordinating testing services contracts procured by JMU, reviewing change orders and schedule submittals from the Contractor, and providing other construction period services for the benefit of JMU. The Construction Administrator is the entity responsible to JMU for providing these services to assure compliance with the Contract Documents but is not responsible under the CA Contract for providing the Work. JMU may use an employee to perform construction administration services. This differs from the Construction Administration services required under the A/E Contract.

Construction Management (CM): As used in this Manual, this term means services provided under contract with JMU, which generally include coordinating and administering construction contracts for

the benefit of JMU, but may also include, if provided in the contract, furnishing construction services to JMU. See Chapter 7 of the Manual for further descriptions. The Construction Manager has direct responsibility and liability to JMU for performing the Work as described by the Contract Documents. Also called the CM/GC, or the 'Contractor' for the CM project or CM-Agent (CMA) when used for administering the project.

Consultant: An individual or firm with professional expertise engaged to render a specific service in connection with a project.

Contract Administration: As used in this Manual, this term means non-professional services provided under a contract with JMU which generally includes inspection of the work, coordinating testing services contracts procured by JMU, reviewing change orders and schedule of submittals from the Contractor, and providing other construction period services for the benefit of JMU. The Contract Administrator is the entity responsible to JMU for providing these services to assure compliance with the Contract Documents but is not responsible under the CA Contract for providing the Work. JMU may also use an employee to perform construction contract administration services.

Contract Completion Date: The date by which the construction Work must be substantially complete. The Contract Completion Date is customarily set forth in the Contract (JMUCO-9) based on Notice to Proceed and the Time for Completion. In some instances, however, the Contract contains a mandatory Contract Completion Date, which date shall have been stated in the solicitation.

Contract Documents: As used in this Manual and General Conditions of the Construction Contract (HECO-7), this term shall mean the Contract (JMUCO-9) and any documents expressly incorporated therein. Such incorporated documents customarily include the bid submitted by the Contractor, the General Conditions of the Construction Contract, any Supplemental General Conditions, any Special Conditions, the plans and specifications, and all modifications, including addenda and subsequent change orders.

Contract Price: The total compensation stated in the Contract, as modified by Change Orders, payable to Contractor for performing the work set forth in the Contract Documents.

Contract Term: As applicable to A/E Term Contracts and Job Order Contracting, one year or when the cumulative total project fees reach the statutory dollar limits, whichever occurs first.

Contractor: A generic term used to indicate a person, firm or corporation with who has entered into a contract agreement to perform work or provide a service. As used in the Manual in respect to a capital outlay project, the contractor for the professional services is referred to as the Architect/Engineer or A/E. The contractor for the construction related work is referred to as the Contractor. As used in the Manual and the Standard Forms, "Contractor" means the specific person or firm with whom JMU has contracted to do the Work described in the Contract Documents for that undertaking. On a Construction Management project, the CM, CM at Risk or CM/GC is the "Contractor."

Cure Notice: A notice, either oral or in writing, that informs the contractor that he or she is in default and states what the contractor has to do to correct the deficiency. If the notice is oral it shall be confirmed in writing.

Day(s): Calendar day(s), unless otherwise noted.

Defective: An adjective which, when modifying the word Work, refers to Work that is unsatisfactory, faulty, deficient, does not otherwise conform to the Contract Documents, does not meet the requirements of applicable inspections, standards, tests or approvals referred to in the Contract Documents, or has been damaged prior to the A/E's recommendation of final payment (unless responsibility for the protection thereof has been assumed by university at Substantial Completion or Beneficial Occupancy).

Design-Build (DB): A contract between JMU and another party in which the other party agrees to both design and build the structure, roadway or other item specified in the Contract.

"Design-not-to-exceed" Budget: The Project construction budget established in the A/E's contract and accepted by the A/E as the ceiling for the estimated construction cost of the Project the A/E is engaged to design.

Determination and Findings (D&F): A document, usually prepared by the Project Manager, which justifies and substantiates the need for special procedures or actions. Typically this is for a deviation or waiver from standard policies or procedures which results in saving time and/or money and/or improving quality. University Building Official or Vice President for Administration & Finance will consider D&F proposals after review and a recommendation by the Director, Facilities Planning & Construction.

Disadvantaged Business Enterprise: A small business concern which is at least 51 percent owned by one or more socially and economically disadvantaged individuals, or, in the case of any corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest in which is owned by one or more socially and economically disadvantaged individuals and whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged who own it.

Drawing: A page or sheet of the Plans which presents a graphic representation, usually to scale, showing technical information, design, location, and dimensions of the various elements of the Work in sufficient detail for the Building Official to determine code compliance. Graphic representations include, but are not limited to, plan views, elevations, transverse and longitudinal sections, large and small scale sections and details, isometrics, diagrams, schedules, tables and/or pictures.

Emergency: Any unforeseen situation, combination of circumstances or a sudden occurrence or state resulting therefrom that poses imminent danger to health, life or property and which usually demands immediate action.

Engineer: A person who is qualified and licensed to practice engineering in Virginia as a Professional Engineer by Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA) Board of the Department of Professional and Occupational Regulation, also referred to as the A/E. "Engineer" may also be used to refer to a firm of such individuals which is properly licensed in the Commonwealth of Virginia.

Equal: Any other brand, make or manufacturer of a product, assembly or equipment that, in the opinion of the A/E, is equivalent to that specified, considering quality, capabilities, workmanship, configuration, economy of operation, useful life, compatibility with design of the work and suitability for the intended purpose, and which is accepted as such by JMU.

Equipment: A tangible resource, such as machinery, articles or apparatus, of a permanent or long-term nature, used in an operation or activity.

Extra service: A service which JMU tasks the A/E to provide after the Contract has been signed and which was not included in the Basic Services or in the additional services as described in the A/E Contract. Extra services, and the compensation therefore, are authorized by a modification to the A/E Contract using the A/E Change Order, HECO-11 A/E.

Facility: A structure or group of structures, including all buildings and other improvements thereto, which is built, installed or established to serve a particular purpose.

Field Order: A written order issued by the A/E which clarifies or explains the Plans, the Specifications, or any portion or detail therein, without changing the design, the Contract Price, the Time for Completion or the Contract Completion Date.

Final Completion Date: The date of JMU's acceptance of the Project from the Contractor upon confirmation from the A/E by a HECO13.1 and the Contractor by a HECO-13.2 that the Project is totally completed in accordance with the Contract Documents including the completion of all items identified on punch lists. Procedures for determining Final Completion are set forth in Section 44 of the General Conditions of the Construction Contract (HECO-7).

Float: The excess time included in a construction schedule to accommodate such items as inclement weather and associated delays, equipment failures, and other such unscheduled events. It is the contingency time associated with a path or chain of activities and represents the amount of time by which the early finish date of an activity may be delayed without impacting the critical path and delaying the overall completion of the project. Any difference in time between the Contractor's approved early completion date and the Contract Completion Date shall be considered a part of the project float.

Float, Free: "Free float" is defined as the time by which an activity may be delayed or lengthened without impacting upon the start day of any activity following in the chain.

Float, Total: "Total float" is defined as the difference (in days) between the maximum time available within which to perform an activity and the duration of that activity. It represents the time by which an activity may be delayed or lengthened without impacting the Time for Completion or the Contract Completion Date.

General Conditions (GC): The General Conditions of the Construction Contract, HECO-7, latest edition. Also the General Conditions of the Design-Build Contract, HECO-7DB for use with Design-Build contracts; and the General Conditions of the Construction Manager "At Risk" Construction Contract, HECO-7CM for Construction Manager at Risk contracts. All documents can be found on the Forms Center.

Goods: Material, equipment, supplies, printing and automated data processing hardware and software.

HPBA Building Value: The value for the building as it stands in its current condition.

Improvements: Work necessary to accomplish a specific purpose and produce a complete and usable improvement to an existing facility or structure, including the associated architectural and other technical services and fixed equipment installed and made part of the facility or structure, as well as any site development. Improvements include:

- a. alteration of interior space arrangement and other physical characteristics, such as utilities, so that it may be more effectively used for its present designated functional purpose;
- b. conversion of interior arrangement and other physical characteristics, such as utilities and fixed equipment installed on and made a part of the facility or structure so that it may be effectively utilized for a new functional purpose;
- c. renovation of most or all of a facility or structure, or an existing mechanical system for the purpose of modernizing the use or capability of such asset in order that it may be effectively utilized for its designated functional purpose or to comply with current code requirements;
- d. restoration of a facility or structure to the maximum extent possible to its former or original state (historic property);
- e. relocation from one site to another of a facility or structure either intact or by disassembly and subsequent reassembly; and
- f. major repair to restore a facility, mechanical system or utility system to such a condition that it may continue to be appropriately and effectively utilized for its designated purpose by overhaul, reprocessing or replacement of parts or materials which have deteriorated by action of the elements or wear and tear in use.
- g. demolition to remove a building or facility either for land clearance or to make land available for new capital use.

Informality: A minor defect or variation of a bid or proposal from the exact requirements of the Invitation to Bid or Request for Proposal that does not affect the price, quality, quantity or delivery schedule for the goods, services or construction being procured.

Invitation for Bids (IFB): A formal solicitation to the public including the Notice, Instructions To Bidders, Bid Form, General Conditions, Supplemental General Conditions, Special Conditions, Forms to be used, the Plans and Specifications, and any other documents listed in the Specifications, all of which request qualified bidders to submit competitive prices or bids for providing the described work on a project.

JMU Design Guidelines: Provide both performance-based and prescriptive guidance to the A/E and the contractor in planning, preparation and installation phases of all JMU construction projects. Provides instruction to certain requirements that go above and beyond typical code requirements.

Landscape Architect: An individual licensed by the Commonwealth of Virginia as a 'Landscape Architect' by the APELSCIDLA Board of the Department of Professional and Occupational Regulation. The Landscape Architect may function as a project manager and may be the prime A/E professional on those projects where the preponderance of the work is represented by the application of the principles and methodology of landscape architecture in consultation, evaluation, planning (including the preparation and filing of sketches, drawings, plans and specifications) and responsible supervision or administration of contracts relative to projects principally directed at the functional and aesthetic use of land.

Liquidated Damages: See General Conditions of the Construction Contract (HECO-7). As used in this Manual, the term "Liquidated Damages" generally means a predetermined and fixed amount of money per period of time as stated in the Contract Documents and which will be charged to the Contractor as a

measure of damages for delay suffered by JMU due to failure of the Contractor to substantially complete, or finally complete, the Project/Work by the date or time established in the Contract Documents.

Maintenance Prevention: A technique embracing reliability engineering and maintenance experience and directed at preventing potential design defects that would ultimately inhibit proper operation and maintenance of new equipment, buildings, and property components. Design deficiencies are identified, mitigated or eliminated through careful maintenance oriented review of the design document prior to purchase, construction, or installation. "Maintenance Prevention" is influenced heavily by life cycle cost considerations.

Maintenance Reserve Project: A single effort undertaking which involves major repair or replacement to plant, property or equipment, normally costing less than \$1,500,000. Examples of such projects include:

- a. repair or replacement of damaged or inoperable equipment such as elevators, furnaces, plumbing fixtures, air conditioning and ventilation equipment;
- b. repair or replacement of components of a plant such as masonry, ceilings, floor, floor coverings, roofs, sidewalks, parking lots, exterior lighting, boilers, and air conditioners;
- c. repair or replacement of existing utility systems, such as electrical, water and sewer, heating & cooling. When replacement of components of utility systems is required (e.g. transformers, distribution panels, cables, etc.), new components should be sized to account for future growth if the existing components are operating at or near capacity;
- d. correction of deficiencies in property and plant that are required to conform with building and safety codes or those regulations associated with hazard corrections, including asbestos hazards when incidental to repair/maintenance;
- e. correction of problems resulting from erosion and drainage.

Memorandum of Understanding (MOU): A document signed by both the A/E and JMU that formalizes the details of the fee negotiations, the scope of work, the A/E schedule, and other items agreed to during negotiations. The terms of the MOU are more project specific, supplementing and/or clarifying the requirements of the A/E Contract in terms of the particular project. However, the MOU does not supersede nor take precedence over the requirements of the Manual unless such change has been approved in writing by the VP Administration and Finance and such written approval is attached to the MOU.

Micro Business: A small business certified as such by the Virginia Department of Small Business and Supplier Diversity (DSBSD). For purposes of DSBSD micro certification, the business must have no more than 25 employees and has no more than \$3 million in average annual revenue over the three-year period prior to certification.

Minority-owned Business: Minority-owned business means a business that is at least 51% owned by one or more minority individuals who are U.S. Citizens or legal resident aliens, or in the case of a corporation partnership, or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more minority individuals who are citizens of the United States or

legal resident aliens, and both the management and daily business operations are controlled by one or more minorities. For purposes of DSBSD certification, “minority” is an individual who is a citizen of the United States or a legal resident alien and who is African American, Hispanic American, Asian American or Native American.

New Construction: The building of a new structure, facility or improvement (including utilities) on a site. A new construction project is a single undertaking involving construction applicable to one or more facilities, including all work necessary to accomplish a specific purpose and produce a complete and usable new facility, all associated architectural and other technical services, all installed equipment, site development and any improvements. New construction includes:

- a. construction of a new plant including the erection, installation, assembly of a new facility or structure, utility system, or site work;
- b. addition, expansion, or extension to a structure which adds to the overall exterior dimension of the plant or structure;
- c. complete replacement of a structure or facility that because of age, hazardous conditions, obsolescence, structural and building safety conditions or other causes is beyond the point where it may be economically repaired/renovated and can no longer be used for its designated purpose.

Nonprofessional Services: Any services not specifically identified as professional services in the definition of professional services.

Notice: All written notices, including demands, instructions, claims, approvals and disapprovals, required or authorized under the Contract Documents. Written notice by either party to the Contract shall be sufficiently given by any one or combination of the following: (1) delivered in hand at the last known business address of the person to whom the notice is due; (2) delivered in hand to the person’s authorized agent, representative or officer wherever they may be found; or (3) enclosed in a postage prepaid envelope addressed to such last known business address and delivered to a U.S. Postal Service official or mailbox. Notice is effective upon such delivery. Notice shall also mean the Notice of Invitation for Bids included in the IFB/RFP.

Notice of Award: The written notification by JMU to the apparent successful bidder/offeror notifying the bidder/offeror that it has been awarded the contract, pending the submittal and execution of all documents required in the IFB/RFP.

Notice of Intent to Award: The written public posting by JMU announcing the apparent successful bidder/offeror and notifying the bidder/offeror and all other bidders/offerors that JMU intends to award the contract to the apparent successful bidder/offeror pending completion of the verification that it is a Responsible Bidder/Offeror and the receipt and acceptance of all executed documents required in the IFB/RFP.

Notice to Proceed: A written notice by JMU to the Contractor (with a copy to A/E) fixing the date on which the Contract time will commence for the Contractor to begin the prosecution of the Work in accordance with the requirements of the Contract Documents. The Notice to Proceed will customarily identify a Contract Completion Date.

Owner: For purposes of the Manuals, “Owner” shall mean James Madison University.

Performance Specification: A specification which generally describes the characteristics of the article required, e.g. the style, type, quality, character, economy of operation and purpose to be served by the article and the results required of the article provided. It does not restrict bidders to a specific brand, make, or manufacturer, nor does it tell the Contractor how to achieve the required result.

Person: Any individual, corporation, partnership, association, company business, trust, joint venture or other legal entity.

Plans: The group or set of project-specific drawings included in the Contract Documents.

Pre-bid/proposal Conference: A meeting of interested, prospective bidders/offerors held by JMU, usually with the assistance of the A/E, prior to the receipt of bids in which comments or questions concerning specifications or other provisions in the IFB or RFP can be received and considered. Any response shall be in writing and distributed to all who requested and received the IFB and RFP.

Prequalification of Bidders: The process by which the qualifications and credentials of potential bidders may be evaluated for particular types of services or construction in accordance with criteria established in writing and sufficiently in advance of their implementation to allow interested persons or firms a fair opportunity to complete the process (See Chapter 7 for further descriptions).

Professional Services: For the purposes of the Manuals, services provided by a licensed professional within the scope of the practice of accounting, architecture, land surveying, landscape architecture, or professional engineering.

Project: The term used to represent the specific or proper assigned title of the entire undertaking which includes, but is not limited to, the design services by the A/E and the construction "Work" performed by the contractor pursuant to the Contract documents.

Project Inspector: One or more persons employed by JMU to inspect the Work for the JMU and to document and maintain records of activities at the worksite to the extent required by JMU. JMU shall notify the Contractor in writing of the appointment of such Project Inspectors.

Project Manager: The designated representative of the A/E, the Contractor, or JMU through whom written decisions and notices are generally conveyed.

Project Manual: The front end documents that establish the contract requirements for construction, and the specifications which establish the technical requirements for the materials and installation of construction.

Proprietary: An adjective used to describe a product or piece of equipment which is manufactured under some exclusive right but which is available to subcontractors from multiple vendors or suppliers; (e.g. a product or piece of equipment which is specified by a single brand name and model number and which is available to bidders from more than one source, but for which no "Equal" is permitted.)

Provide: As used herein and in the Contract Documents, "Provide" shall mean to supply, to furnish and to install complete with all accessories, parts and services to be ready for its intended use.

Real Estate: Any land and improvements including all rights and interest (i.e., leasehold, easements, permission, licenses, allotments, minerals, remainder or any other interest).

Request for Proposal (RFP): A written public notification by JMU soliciting proposals for professional, nonprofessional, or contractor services. The RFP generally describes the services sought, the unique

capabilities or qualifications needed to perform the work, factors to be used to evaluate proposals and the conditions for negotiating prices and terms with the Offerors.

Responsible Bidder: A bidder who has the capability, in all respects, to perform fully the Contract requirements and the moral and business integrity and reliability that will assure good faith performance, and who has been prequalified, if required.

Responsive Bidder: A person or firm who has submitted a bid which conforms in all material respects to the Invitation to Bid.

Sealed Bid: A bid which has been submitted in a sealed envelope to prevent its contents from being revealed or known before the deadline for the submission and opening of all bids.

Service: A service that JMU includes in the A/E's Scope of Work as part of the Work under the A/E Contract but which service is not included in the A/E Basic Services as described in the Manual. Compensation for the additional services is included in the fee negotiations prior to signing the contract and is, therefore, included in the A/E Contract.

Services: Any work performed by an independent contractor wherein the service rendered does not consist primarily of acquisition of equipment or materials, or the rental of equipment, materials, or supplies.

Shop Drawings: The drawings, diagrams, illustrations, schedules, installation descriptions and other data prepared by or for the Contractor to provide detailed information for the fabrication, location, erection, installation, connection and methodology associated with the Work. Shop drawings are intended to aid in the preparation and installation of materials and to ascertain that the materials proposed by the Contractor conform to the requirements of the Contract Documents.

Small Business: A business that is at least 51% independently owned and controlled by one or more individuals who are U.S. citizens or legal resident aliens, and together with affiliates, has 250 or fewer employees or average gross receipts of \$10 million or less averaged over the previous three years.

Sole Source: A product, item of equipment, service or combination of these which is practicably available from only one manufacturer, vendor or provider in an area to the exclusion of others (e.g. within the constraints of the particular Project, whether geographic, time, material or other). If products, equipment or services are franchised to only one vendor in an area, the vendor would be considered a Sole Source for such products, equipment or services specified for this project.)

Special Conditions: That part of the Contract Documents which describes special or additional requirements or procedures applicable to the particular project. The Special Conditions do not amend or supersede the General Conditions.

Specifications: Those portions of the Contract Documents containing the General Conditions as well as written technical descriptions of materials, equipment, construction systems, standards and workmanship describing the proposed Work in sufficient detail for the Contractor to perform the Work and providing sufficient information for the Building Official to determine Code Compliance.

Subcontractor: An individual, partnership or corporation having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work. The Subcontractor may include any person who provides on-site labor but does not include any person who only furnishes or supplies materials for the project.

Submittals: As used in the construction Contract Documents, shall mean all shop drawings, illustrations, brochures, standard schedules, performance charts, and other data required by the Contract Documents which are specifically prepared by or for the Contractor to illustrate some portion of the Work and which are submitted to the A/E for review to assure conformance with the requirements of the Contract Documents. As used in the Professional Services Contract, shall mean the drawings, specifications, cost estimates, schemes and other documents required by Chapter 5 of the Manual to be submitted by the A/E to JMU for review and/or approval.

Substantial Completion: The date on which the project (or a specific part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the project (or the specific part thereof) can be utilized by JMU for the purpose for which it is intended. JMU, at its sole discretion, may take Beneficial Occupancy at this time or may choose to wait until final completion to occupy.

Substitute: A material, product, equipment, or assembly that deviates from the requirements of the Contract Documents but which the Contractor deems will perform the same function and have equal capabilities, service life, economy of operation, and suitability for the intended purpose. The proposal must include any cost differentials proposed. Any such proposed substitute must be submitted to the A/E for review and, if acceptable to the A/E and JMU, incorporated into the Contract by Change Order.

Supplemental General Conditions: The part of the Contract Documents which amends or supplements the General Conditions of the Construction Contract, HECO-7.

Supplier: A manufacturer, fabricator, distributor, material provider or vendor who provides material for the project but does not provide on-site labor.

SWaM/SDV Business: All subcategories of Small Businesses including Micro Business, Minority-Owned Business, Service Disabled Veteran-Owned Business, Small Business, and/or Women-Owned Business together as a group.

Tax Exempt: Construction is not tax exempt per Title 23 VAC 10-210-410 A. The sales tax exemption does not extend to tangible personal property sold to a construction Contractor for its use or consumption in the performance of a real property construction contract. However, when materials are purchased directly by the Commonwealth and provided to the Contractor for use on a project, the Commonwealth is Tax Exempt on that purchase. When an estimate is provided for a Guaranteed Maximum Price, Change Order, or other similar item requiring a detailed itemization of the costs of a project, the itemized sales tax is considered a part of the cost of the work. The itemized sales tax is valid for inclusion in these estimates and demonstrates that the Contractor has complied with Title 23 VAC 10-210-410 by taking the amount of the tax into consideration when submitting its price.

Time for Completion: That number of consecutive calendar days following receipt of a Notice to Proceed that the Contractor has in which to substantially complete everything required of it by the Contract. The time for completion is usually set out in the IFB. When the Notice to Proceed is issued, it states a Contract Completion Date which has been set by the Owner based on the Time for Completion.

Umbrella Project: A global appropriation fund for multiple projects, typically related in character of work. Individual projects are typically executed as stand-alone project, but funding may be shifted from one project to another, as necessary within the appropriation.

Unit Price Work: Work to be paid for on the basis of established unit prices for the quantity of material provided or work done.

Unsealed Bid: An unsealed written offer conveyed by U.S. Postal Service, commercial courier service, facsimile, email, or other means. The bids are normally opened and recorded when received.

VCCO: The acronym used to refer to a state employee who has completed the necessary training and testing and recertification by the Bureau of Capital Outlay Management, Division of Engineering and Buildings in state procurement law, policy and procedures and who has been awarded the designation of Virginia Construction Contracting Officer (VCCO). Where used in this Manual, the VCCO functions are related to the following: procurement of professional services contracts; receipt, opening and review of bids; and recommending award of the contract to the successful bidder.

VEES: The Virginia Energy Conservation and Environmental Standards

VEES Building Value: The value for the building as it stands in its current configuration including the cost of all repairs needed to provide a safe and functional building for its intended use and occupancy. Depending upon the source of the building value (VAPS, FICAS, other) it may be necessary to add the cost of General conditions, overhead and profit of the Contractor as well as the cost of said repairs.

Women-owned Business: Women-owned business means a business that is at least 51% owned by one or more women who are U.S. Citizens or legal resident aliens, or in the case of a corporation partnership, or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or legal resident aliens, and both the management and daily business operations are controlled by one or more women.

Work: All labor, materials, equipment and other services necessary to perform the complete services, or any separate identifiable part thereof, or to provide the complete product required by the Contract. In construction, Work includes, but is not limited to, performing services, furnishing labor, and furnishing and incorporating materials and equipment into the construction to provide the entire completed construction, or the various separately identifiable parts thereof, as required by the Contract Documents.

CHAPTER 3: ARCHITECTURAL AND ENGINEERING SERVICES

3.1 Procurement Procedures for Professional Services

3.1.1 General Policy on Procuring A/E Services

The Governing Rules set forth the general parameters for university procurement, including procurement of professional services. The sections in this chapter provide further clarification of the requirements for procurement of professional services. Requirements for the procurement of construction services (a non-professional service) is addressed in Chapter 7 of the JMU Manual.

3.1.1.1 Professional Disciplines

The policy of JMU is to contract with a single entity in acquiring the full range of disciplines necessary to provide the services identified for the project. The entity may be an Architectural & Engineering firm with in-house capabilities in all disciplines, or it may be an Architectural, Engineering or Land Surveying firm which subcontracts for disciplines not in-house. All of the above entities have an equal opportunity to compete for projects. Consideration will be given to the proposer which demonstrates it has the ability to meet the criteria in the RFP and is best suited to provide the services for the project. In any case the proposer will be referred to as the Architect/Engineer (A/E) and will be required to provide the services indicated in the contract.

3.1.1.2 Professional Responsibility

The person having overall responsibility for the project management and coordination of disciplines may be either a licensed Architect or Professional Engineer. A licensed Architect shall be in charge of planning and design of the architectural aspects of the project. A licensed Engineer competent in that particular discipline shall be in charge of each discipline of the engineering aspects of the project. The Architect or Engineer shall be registered and licensed by the Virginia Department of Professional and Occupational Regulation (DPOR) in accordance with requirements of the [Code of Virginia](#).

3.1.1.3 University Responsibility

Per this JMU Manual the Vice President (VP A&F) of Administration and Finance is delegated by the University President as responsible for the administration and supervision of JMU's capital outlay and construction program. The VP A&F shall be responsible for assuring that JMU conforms to the policies and procedures in the JMU Manual for the procurement and administration of professional and nonprofessional service contracts and for the procurement and administration of construction contracts.

3.1.2 Procurement of Related Services

The following types of services are typically required for capital outlay projects and for building planning, construction and renovation projects:

3.1.2.1 Professional Services

Land surveyors, geotechnical engineers, soils engineers, or any service requiring the use of a licensed architect, engineer or surveyor are, by state law, considered to be Professional Services and shall be procured as outlined in this chapter.

3.1.2.2 Nonprofessional Services

Cost consultants, interior design and landscape design services, soils testing, concrete testing, project management, project administration, inspection/clerk of the works, and other services which may be performed by either licensed or non-licensed architects, engineers or others are considered to be Nonprofessional Services and shall be procured using procedures contained in the Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education.

3.1.3 Project Scope of Work

Once JMU determines the need for professional services, a Scope of Work will be prepared to identify or outline the services required, to identify the criteria, limitations and parameters for the services, and to describe the product(s) expected. The Scope may range from very general to very specific and will usually reference the JMU Manual, the State Budgeting Instructions, the Virginia Uniform Statewide Building Code (VUSBC) and/or other standards for the specific related requirements.

3.1.4 Requests for Proposal (RFP)

When the total contract fees are expected to be greater than \$50,000, the Request for Proposal (RFP) shall indicate in general terms the nature of the project and the architectural and/or engineering services which are sought, specify the factors which will be used in evaluating the proposals, incorporate by reference the JMU Manual including the contractual terms and conditions contained therein, and set forth specifically any additional contractual terms and conditions. The RFP will state any unique capabilities or qualifications which will be required of the A/E. Each respondent to the RFP agrees to provide all the architectural and/or engineering services with respect to the project that are set out in the JMU Manual and the RFP.

The RFP may specify the method to be utilized during negotiations in arriving at the fee amount for services; however, it shall not call for proposers to furnish estimates of man-hours, labor rates, or cost for services with their qualification proposals. If no method is specified, the respondents may propose methods for negotiating the fee amount.

Each respondent shall submit ARCHITECTURAL/ENGINEERING FIRM DATA ([Forms JMUAE-1 through JMUAE-6](#)) in response to the RFP and include the data and qualifications of any A/E firms to be associated with it on the project. Responses which do not include the Forms AE-1 through AE- 6 and/or do not include the requested information and data may be considered as Not Responsive to the RFP.

Proprietary information from respondents shall not be disclosed to the public or to the competitors provided such proprietary information is appropriately identified in the RFP response, as required by [Code of Virginia](#), § 2.2-4342, F.

A/E's who submitted proposals but were not selected may contact JMU for a de-briefing. JMU shall provide an explanation as to why the firm was not selected.

3.1.5 Advertisements for Professional Services

3.1.5.1 Public Notice of Request for Proposals

Public Notice of RFP's for A/E services for Capital Projects and for Term A/E Contracts shall normally be posted for at least 21 days, but not less than 10 days.

3.1.5.2 Methods of Notice

Public notice of any Request for Proposal shall be given by the following methods: 1. Publication of a notice on [eVA](#); 2. Optional publication of the notice in a newspaper of general circulation statewide and/or in the general area of the project. 3. In addition to the above, proposals may be solicited directly from potential A/E firms.

3.1.5.3 Contact Information

The public notice shall show the name, address, e-mail address, and phone number to be used to obtain a copy of the RFP.

3.1.6 Small Businesses and Small Businesses Owned by Women and Minorities

JMU is committed to increasing participation of Virginia Department of Small Business and Supplier Diversity (DSBSD) Certified (i) small businesses (including micro-small), (ii) woman-owned businesses, and (iii) minority-owned businesses. JMU expects contractors to actively pursue significant participation of small businesses, businesses owned by women and minorities through partnerships, joint ventures, subcontracts, or other contractual opportunities.

In awarding points for the RFP, the maximum number of available points may be awarded to any A/E that is a certified SWaM business and provides a SWaM sub-contracting plan in excess/diversity of their certification. If the A/E is not certified as a SWaM business, the maximum number of points shall be reduced for the provided SWaM sub-contracting plan. The agency may set a fixed level of participation at its discretion. The plan shall become a requirement of the contract, and compliance to the plan shall be demonstrated prior to final payment. The A/E shall indicate in its proposal whether it will be using specific consultants or subcontractors to comply with the plan. If so, any changes in the identity of the consultants or subcontractors shall be submitted to JMU along with an explanation as to why the change is being made and how the plan will be met.

Reporting shall be submitted on a form template agreed upon at award, the report shall be submitted with each monthly pay application. Additional reporting through GC Pay may be required. Reporting shall be submitted by the A/E to JMU to document small businesses as well as businesses owned by women, minorities, and service disabled veterans that are utilized in the work or in support of the work on this contract.

3.1.6.1 Audit

In order to assure compliance with certification requirements and small business subcontracting plans, JMU shall contractually provide for appropriate auditing of vendors and contracts. Such audits shall include the right to make on site audits at any time during the term of the applicable contract or certification.

3.1.7 Standard Formats for A/E Firm Data

Standard formats for responding to RFPs provide a uniform layout for the A/E to present both the historical data on A/E firm and the project specific qualifications and help streamline JMU's review and evaluation process. Using standard formats also reduces the effort and expense of responding to RFPs and provides uniformity in the types of information requested. Capital Outlay forms JMUA-E-1 through JMUA-E-6, ARCHITECTURAL/ENGINEERING FIRM DATA, are structured to gather information on the

responding A/E that is relevant to the RFP. A/Es responding to Professional Service RFPs shall use these forms for their responses. Required additional or supplemental information shall be provided as requested in the individual RFP.

Blank copies of the JMUAЕ-1 through JMUAЕ-6 forms are downloadable from JMU HECOM FORMS site at <http://www.jmu.edu/hecom/forms.shtml>.

Forms AE-1 and AE-1A provides historical data on the firm to include firm name, location, type of ownership, size, previous name(s), principals, type of personnel, consultants proposed, Professional Liability Insurance coverage, proposed participation of small businesses and variety of past project experience data.

Form AE-2 provides information on the proposed consultants for the particular project.

Form AE-3 provides information on the personnel proposed to be assigned to the project and a narrative of the methodology to be used for providing the services and for quality assurance.

Form AE-4 provides information on the individual qualifications, experience and expertise of the key personnel proposed to be assigned to the project.

Form AE-5 provides specific data on similar projects or projects with similar features on which the A/E and/or its consultants have provided services.

Form AE-6 offers the A/E a forum for a narrative to describe particular capabilities, expertise, project approach, current workload and other information supporting the firm's qualifications for the project.

A/E's interested in being considered by JMU for Emergency Procurements and Small Purchase Procurements should file with JMU a generic copy of Forms JMUAЕ-1 through AE-6 indicating the consultants often used, current staff with qualifications, typical or representative projects, and a narrative summary of the firm's capabilities.

3.1.8 Procedures for Selection of the A/E

3.1.8.1 Category A – Emergency Procurement

Per Governing Rules, in the event of a bona fide emergency, the selection may be made without using the usual professional services procurement procedures.

Written Determination

A written determination shall be made in advance and signed by the VP Administration & Finance documenting the nature and basis of the emergency and authorizing procurement of A/E services (and related corrective work, if applicable) on an emergency basis. The written determination shall be made part of the project file.

Contact A/E Firm(s)

JMU shall contact one or more A/E firms who have demonstrated a capability to do the necessary work in a timely manner (either through previous contracts or on their Forms JMUAЕ-1 through AE-6). JMU should describe to the A/E the nature of the work and the necessary time frame for accomplishing the work. A commitment should be requested from

the firm(s) that if it is selected for the work, it will provide the services within the required time frame.

Negotiation

JMU shall negotiate with the selected firm to establish a fee for the work on a LUMP SUM basis or on a UNIT COST (hourly rate) basis with a NOT TO EXCEED AMOUNT.

Award

JMU shall award a contract using Form JMUCO-3 or JMUCO-3.2 for the work and shall issue and post a written notice stating that the contract is being awarded on an emergency basis, identify the work being procured, identify the firm selected and the date of award of the contract. Typically, use of the JMUCO-3 is recommended unless the scope of the A/E services will be extremely limited and the fees are not expected to exceed \$10,000. JMU will post the award notice on eVA.

Purchase Order

JMU will issue a Purchase Order after the notice of award.

3.1.8.2 Category B – Small Purchase Professional Services Procurement

Category B procurements of professional services are used for projects where the total fees (including reimbursable expenses) are expected to not exceed \$80,000. All contracts initiated as Category B procurements will typically be awarded to DSBSD certified businesses. Consideration will be given to number and value of previous university contracts awarded to each firm. JMU will seek to maximize the participation of qualified Virginia firms interested in doing such work for the University to avoid favoritism or the appearance of favoritism.

JMU will use the following procedures:

1. Advertise and post a notice at least once a year requesting qualifications from A/E firms interested in providing services to the university on small projects where the fee will be \$80,000 or less.
2. The Request for Qualifications (RFQ) should be similar to an RFP which lists the information desired and the general types of work to be procured using these procedures.
3. Require the A/E response to RFQ to include Forms JMUAЕ-1 through AE-6, emphasizing their qualifications for the type of small projects for which they seek consideration.
4. Statements of qualifications (Forms JMUAЕ-1 through AE-6) and RFQ responses shall be accepted at any time to allow new firms to be considered for work and to allow A/E firms to update their qualification forms to show current information.
5. JMU will establish a listing of responding A/E firms by qualification or discipline/capability and file RFQ responses by category for use in selecting A/E firms for interview.
6. Issue a purchase order on eVA at request for project services. *Use of Contract form JMUCO-3 may be applied if deemed necessary.*

3.1.8.3 Category C – Standard Professional Services Procurement

Professional services with fee amounts expected to be greater than \$80,000 are procured by competitive negotiation. The Building Committee shall base the selection on qualifications, suitability, and capability followed by competitive fee versus scope of work negotiations with the selected A/E. These procedures may optionally be used for smaller fee contracts. These procedures may also be optionally used for smaller fee contracts.

Request for Proposal

JMU will prepare a Request for Proposal (RFP).

Advertisement

JMU will post a notice of the advertisement for RFPs on eVA. JMU may publish the notice in a newspaper in the general area of the project.

Evaluation

JMU will receive, evaluate, and rank the respondents based on the data contained in the Forms JMUA-E-1 through JMUA-E-6, and submittals of each respondent with respect to the criteria listed in the RFP. The evaluation criteria shall include factors for past and proposed use of small businesses.

Verification

JMU will verify that the top ranked A/Es proposed for interview are properly registered with the APELSCIDLA Board and licensed to provide A/E services in Virginia. Any respondent shall be properly registered and licensed. JMU will also verify the DSBSD certification status, if applicable. Additionally, JMU verifies that the A/Es are not debarred or enjoined.

Associations

Contracting with an association of firms, such as joint ventures or associated A/E's, involves additional business and legal considerations. Factors to be considered include:

1. Whether the association is a registered or licensed entity authorized to offer the necessary services in Virginia;
2. The nature of each party's responsibilities to the other and to JMU;
3. The professional liability insurance coverage of the association;
4. The association's organization and management structure;
5. Each firm's financial condition and stability with respect to fulfilling its obligations under the contract; and,
6. Whether the parties to the association are jointly and severally liable for the work.

Prior to selecting an association for fee negotiation for possible contract award, JMU shall request a review of the association's legal documents. The review shall be accomplished by JMU's staff legal counsel.

Associations not legally constituted and authorized to offer the requested services in Virginia at the time of the closing date of the RFP will be deemed "not responsive".

Interviews

JMU will interview a minimum of the top two ranked respondents who are deemed to be fully qualified, responsible, and suitable on the basis of their initial responses. Discussions of fees, rates, design costs, etc., shall not be included in these evaluations or the interviews. Allow the A/E to present more detailed information on the RFP criteria; on specific qualifications and expertise of the personnel proposed to be assigned to the project; on the concepts, methods and approaches proposed for the design; and other pertinent information. Evaluate responses of each interviewed firm along with other material and data submitted, the A/E's past performance, and responses from references, and rank order the firms as best suited for the project. Proprietary information from respondents shall not be disclosed to the public or to the competitors provided such proprietary information in the RFP response is appropriately noted as proprietary information exempted from public disclosure as required by the Code of Virginia, § 2.2-4342, F.

Negotiation

JMU will negotiate with the A/E ranked first as to overall suitability and qualifications. If JMU cannot reach agreement on a fee amount based on compliance with all of the JMU MANUAL requirements, the negotiations shall be formally terminated in writing. JMU shall then proceed to negotiate with the A/E ranked second. If not successful, the negotiations with the second ranked are terminated in writing and JMU proceeds to the third ranked. It is understood that at any time, negotiations may be terminated and the project re- advertised.

It is anticipated that the fee amount negotiated will cover all the services required. It is recognized that unforeseen circumstances may arise, requiring resolution. Accordingly, at the time of negotiation, the hourly rates for the various technical personnel classifications must be set forth in the MOU for use in determining a reasonable fee for additional services.

Award Process

1. The Building Committee recommends the selected A/E to the Vice President of Administration & Finance (VP A&F).
2. The terms of the agreement shall be recorded in a written and signed MOU and attached to the Form JMUCO-3 signed by the VCCO, Director FP&C and the A/E.
3. JMU will post a Notice of Award on eVA.
4. JMU will issue a Purchase Order at request for projects services

3.1.8.4 A/E Term Contracts

A/E Term Contracts are a useful and effective tool for JMU in managing the planning, maintenance, and renovation programs and quickly handling emergency procurement of professional services. Term contracts shall include the terms and conditions and pricing for work which may be issued during the term of the contract. The following policy governs the use of these contracts.

Applicability

Term Contracts for A/E services may be used for engaging one or more A/E firms to provide investigations, cost estimates, designs, and related services for multiple small projects for a period of time subject to the limitations below. The projects must require similar expertise.

Some advantages for JMU include a reduction in the cost and time of advertising for services, a shorter response time from the A/E, and an improved efficiency and clarity in the production

of the contract documents for JMU. For the A/E, it is usually more cost effective to provide the services on multiple small projects for the same university. Examples of Term A/E Contracts include: feasibility studies, cost studies, designs of small capital and construction projects and maintenance reserve project designs.

Request for Proposals

The RFP shall include a description of the nature and types of the potential projects, the disciplines or expertise required by this Term A/E Contract, and the nature of services expected to be required. The RFP shall also describe factors pertinent to the evaluation and selection process.

Advertisement for the Term Contract

The notice of the RFP shall be made on eVA. The notice may also be published in a newspaper of general circulation statewide or in the general area of the anticipated projects, or both.

Term Contracts Not Exclusive

The term contract is not exclusive. JMU may issue separate RFPs for similar work and other projects as the need may occur.

Multiple Contract Awards from a Solicitation

JMU may issue multiple awards for Term A/E Contracts, but not more than four (4) per discipline.

Contract Limit

No A/E, including any subdivisions or branches thereof, may at any time have in effect more than one (1) A/E Term Contract with JMU.

Fees

The fee for the services on each Project Order shall be negotiated individually on a lump sum basis considering the Scope of Services required, the estimated man-hours required for each skill level/discipline and the labor rates agreed upon and listed in the MOU attached to the term contract. If the time required to perform the work cannot be reasonably estimated, the A/E may be directed to proceed with the work on an hourly basis with a maximum or not-to-exceed amount. The compensation shall be determined by the A/E's certified record of man-hours expended by classification, skill level and discipline, and the hourly rates for each as listed in the MOU.

Any individual Project Order fee shall not exceed the negotiated fee of the contract, unless approved by the VP A&F through an approval of a Determination and Findings, and the aggregate total of fees for all Project Orders issued during any term of the Term A/E Contract shall not exceed the negotiated amount per the contract.

The Memorandum of Understanding attached to the term contract will document the negotiated acceptable labor rates for the various A/E classifications, skill levels and disciplines. These rates will be used by JMU for arriving at lump sum fees and for any hourly rate work authorized by JMU for Project Orders issued under the Term Contract resulting from the solicitation.

If a Project Order is to be performed on a lump sum basis, the A/E shall determine a lump sum based on the Scope of Work required, the estimated man-hours required for each classification, skill level and discipline and the labor rates agreed upon during the contract negotiations.

Contract Term

Term contracts shall be limited to one year, or when the cumulative total project fees reach the maximum cost authorized, whichever occurs first. Such contracts may be renewable for up to four additional one-year terms at the option of JMU.

When the aggregate total of all Project Orders, including Change Orders to those Project Orders, reaches the term dollar limit, no further Project Orders may be issued during that term.

It is understood that the A/E's work under the Project Orders issued may not be completed during the contract's term; however, all terms and conditions of the contract, including all rights and obligations, shall survive until the work is completed, except JMU's right to issue, and the A/E's right to accept, additional Project Orders. JMU and the A/E are obligated to fulfill the requirements of all Project Orders issued, including Change Orders, even though the term for issuing new Project orders has concluded.

JMU may, at its sole discretion, renew the Contract for up to four additional one-year Contract Terms, provided the option to renew was indicated in the RFP. If JMU exercises its option to renew, the next Contract Term shall begin one year from the date of the first Contract Term or previous renewal. A new aggregate limit shall apply to the new Contract Term, without regard to the dollar amounts of Project Orders issued during the previous year of the Contract. Any unused amounts may carry forward to the next Contract Term. Subsequent renewals shall follow the same procedures.

Project Orders

Project Orders authorize the A/E to perform work for a lump sum amount or at the hourly rates, as agreed to and set forth in the A/E Term Contract. A requisition/purchase order shall be used to award each Project Order. *(A Form JMUCO-3.1a may be used if deemed necessary)*

Although the potential exists for multiple project orders during the Contract Term, JMU does not represent or guarantee that the A/E will receive any Project Orders.

The Scope of Work offered to the Term Contract A/E shall include a definition of the product required and a request for a fee proposal based on the rates in the Term Contract. If the A/E and JMU cannot agree on the scope of work and/or the number of hours or lump sum fee, JMU shall offer the Scope of Work to another Term Contractor.

Procedures for Selection of an Architect or Engineer for a Term A/E Contract:

1. Draft a Request For Proposal (RFP).
2. Advertise: Same as Category C procurements.
3. Receive, evaluate, and rank the respondents.
4. License: Verify that all A/E's are properly licensed to offer services in Virginia.
5. Interview: The Selection Committee shall conduct interviews with two or more offerors deemed fully qualified, responsible and suitable. Repetitive informal interviews are

- permissible.
6. Selection: Rank the interviewees.
 7. Negotiation: Negotiate with the highest ranked offeror(s) to agree upon the special terms and conditions, if any, and the hourly rates which pertain to the Contract. Note that the hourly rates negotiated for the original term will remain fixed for all subsequent term contract renewals. If negotiations, including hourly rates and other terms and conditions are not successful, the negotiations shall be formally terminated (in writing).
 8. Award: If the negotiations are successful, JMU will award a Term Contract to no more than 4 selected firms, unless approved with a Determination and Findings by the VP A&F.
 9. Documentation: Execute Contract using a Contract Form JMUCO-3.1. The Notice of Award is also posted on eVA.
 10. Subsequent Project Orders: When JMU has work to be performed, JMU may offer Project Orders to the A/E in accordance with the Contract. Individual purchase orders will be processed through eVA.

Contract Forms to Be Used

JMU shall issue a Purchase Order/Requisition for each individual Project Order. *JMU may attach a JMUCO-3.1a form if deemed necessary.*

Terms and Conditions for Professional Services

Terms and conditions for professional services contracts are provided in Form JMUCO-3a. The JMUCO-3a shall be made a part of all contracts for A/E services and shall not be modified without approval of JMU legal counsel.

3.1.9 eVA Business-to-Government Vendor Registration

When procuring construction, professional services and non-professional services, attach the applicable vendor registration statement (either DGS-30-384 or DGS-30-385) to the following documents: Request for Proposals, Notice of Invitation for Bids, Notice of Intent to Award, Notice of Award, A/E Contracts and Construction Contracts.

Use DGS-30-384 when the quantity of orders that will be issued is known, and insert that number in the blank provided (e.g., one, twelve, monthly, etc.)

Use DGS-30-385 when the quantity of orders that will be issued is unknown.

These statements may be downloaded from the [DGS Forms Center](#).

3.1.10 Audits

The A/E, by signing the Contract, agrees to retain all books, records, and other documents relative to the contract for five (5) years after final payment, or until audited by JMU, whichever is sooner. JMU, its authorized agents, and/or State auditors shall have full access to and the right to examine any of the materials during said period.

3.2 Fees and Payments for A/E Services

3.2.1 Architectural and Engineering Fees

JMU's policy is to compensate Architects and Engineers in a fair and reasonable manner for providing the

high quality services required by the JMU MANUAL. Compensation or fees should be negotiated based on the scope of work for the particular project, the estimated effort (man-hours) necessary to accomplish the work, and hourly rates comparable to those earned by other equally competent architects, engineers, technicians, and support personnel in JMU. This Section provides guidance for determining fair and reasonable fees by using a detailed fee proposal describing the services to be provided and showing the estimated man-hours by discipline and skill level and the corresponding hourly rates for each.

3.2.2 A/E Fee Proposal Standards and Guides

The A/E is expected to be thoroughly familiar with the JMU MANUAL and the definitions, scope of services, submittal requirements, technical criteria and standards, standard procedures, and standard forms required. These basic requirements, combined with the specific project requirements, are the basis for the fee proposal.

Competitive negotiations for professional services are based on qualifications. However, most often all of the A/E firms selected for interview are fully qualified technically to provide the services required for the project and the ranking of the A/E's is based on other factors such as recent experience on a similar project, A/E workload and perceived ability to meet the schedule, or similar factors. Therefore, the top ranked firm is considered "fully qualified technically and best suited" for the work. With this in mind the intention is to negotiate hourly rates and fees for services which are fair and reasonable to the A/E and JMU.

3.2.2.1 Plans and Specifications

The A/E should be aware and keep in mind that there are differences between private work and university work. Particularly, the A/E must conform to JMU MANUAL requirements for describing and specifying the work to be performed as part of the construction contract. The A/E must also conform to the requirements of the Governing Rules as clarified and expanded upon in the JMU MANUAL.

3.2.2.2 Personnel Classifications and Hourly Rates

The following shall be used as guidance by the A/E in developing its fee proposal and by JMU in evaluating the proposal and negotiating the fees for services.

A/E Project Technical Personnel

Technical personnel shall be construed to mean the A/E's Project Manager, architects (licensed), engineers (licensed) by discipline, designers including non-licensed architects and engineers, project inspector, surveyor, survey team, interior designer, landscape architect, drafters or CADD operators, estimator, specifications writer, typist/clerical staff and field inspectors.

"Principals", "Partners", "Associates", "CEO" and similar titles are generally considered by JMU to be administrative and/or management functions whose costs have been included in the overhead markup of the rates for technical categories.

Technical activities which are performed by principals, etc., are categorized for fee negotiations, for change orders, and for hourly rate payment at the rates indicated for the technical activity or function that the Principal, etc., may be performing, not at a higher "Principal" rate. See the descriptions of Personnel Classifications below.

Hourly Rates

The hourly rates proposed for the various classifications, categories, disciplines, and skill levels should be comparable to the average actual salary of qualified and competent persons in that skill level as marked up or adjusted for overheads and profit. Overhead markup consists of direct technical salary overhead (or "fringes") such as payroll taxes and insurances, vacation, holidays, health insurance premiums, and other benefits and of general office overhead such as administrative salaries, rent, utilities, business and liability insurances, telephone, equipment rental and depreciation, travel, promotion, etc. Hourly rates agreed to shall be the "marked-up" rates including all overheads and profit.

General review, negotiations, supervision and such by the principals or other senior personnel are usually considered part of the general office overhead expense included in the hourly rates or the activity is part of the "project management" function.

JMU shall have the right to require the A/E to submit documentation to support the proposed hourly rates with mark-up factors proposed for use in the fee negotiations and fee determination when the proposed hourly rates exceed what JMU considers the "norm" for the area. The average hourly rates by classification, including markups which are negotiated and accepted in fee negotiations, shall be recorded and listed in the Memorandum of Understanding which is appended to the A/E contract.

A/E accounting methods and procedures for determining overhead and "marked-up" hourly rates often vary. For instance, policies on vacation, sick leave, holidays and employer contributions to insurance vary from A/E to A/E. Methods of tracking man-hours and expenses vary depending on whether the A/E is determining its overhead rates or the profitability of each project. The procedures presented herein use the "tax return" approach where general materials, supplies, depreciation of computers and software, insurances, and such, are treated as general office overhead expenses.

The negotiated rates should be comparable to those of similarly experienced and qualified personnel in those classifications in firms providing similar services.

Technical Personnel Classifications

The following personnel classifications, categories, disciplines and skill levels descriptions are recognized as those directly involved with the coordination, planning, quality control and delivery of the A/E services required for the project:

A/E Project Manager / Coordinator - An experienced and licensed architect or engineer who has overall responsibility for the planning, design, coordination of all disciplines, quality assurance and delivery of the A/E services to JMU.

Note: A Principal of the A/E firm may perform this function, especially in a small firm. In larger firms a Principal, Associate or similarly "titled" person of the A/E firm may be assigned this responsibility. Regardless of title, the function is the same and the marked-up rate should be comparable to Project Managers of other firms.

Architect (Professional) - A licensed architect who has the knowledge, skills and experience to

perform all architectural services required for the project and who is qualified to be in "responsible charge" of the architectural aspects of the project.

Cost Estimator - Skills required include knowledge of building systems and components, the ability to read plans and specifications, the ability to make quantity takeoffs and apply pricing, the ability to obtain pricing information from reliable sources and adjust/apply such information to the specific project conditions and the ability to present a cost estimate with proper back up documentation.

CADD / Drafters - The skills required of this level position include drafting plans, sections and details to scale from sketches and data; modifying typical sections and details to be project/situation specific; and other miscellaneous duties supporting the preparation of contract documents.

Note: Depending on the personnel, organization and operation standards of the A/E, Designers (Architects and Engineers), Drafters, or both may be required to use CADD or have CADD skills.

Designer (Architects and Engineers) - Architects and/or engineers who by education, practical experience or a combination of education and experience have the knowledge and skills to perform analyses, calculations, and/or detailing for portions of a project in a particular discipline. This level person usually has either a degree and is gaining experience to become certified - licensed - registered or has many years of experience in layouts, detailing and/or calculations and works under the supervision of a licensed professional.

Engineers - Structural, Mechanical, Electrical, Civil (Professional) - A licensed professional engineer who has the knowledge, skills and experience to perform the analyses and design, to prepare the documents for the particular discipline and to be "in responsible charge" of that discipline.

Landscape Architect - A licensed landscape architect who has the knowledge, skills and experience to provide the design and documents for the site landscaping for the project.

Interior Design - A certified interior designer who has the knowledge, skills and experience to provide the interior design services and documents for the project.

Note: The layout of spaces, selection of finishes, and similar functions are Basic Services whether the A/E uses an Architect or an Interior Designer. "Additional Service of an Interior Designer" for Fee calculations / negotiations on state work relate to furnishings and accessories which are not part of the construction contract and are further explained in Section 3.2.2.3 of this JMU MANUAL.

Specification/Report Writer - A professional level architect or engineer skilled in writing technical specifications for building and site related systems, equipment and components. The Writer shall also be skilled in preparing contract documents and understand the basic legal requirements and applications thereof.

Typist/Clerical - Skills required include knowledge of the terms and procedures of the design and construction process and a proficiency in the use of word processing and spreadsheet applications used in the production of specifications, reports and associated typing and clerical functions.

3.2.2.3 Additional Services

The Terms and Conditions of the A/E Contract, Form JMUCO-3a, describes the Basic Services required of the A/E as well as the responsibilities of JMU and typical Additional Services that JMU requests the A/E to perform.

The A/E and university will normally determine the Additional Services (i.e. services in addition to the "Basic Services" identified in the JMU MANUAL) required of the A/E prior to or during contract negotiation and negotiate the fees for such services at the same time as the basic services fee negotiation. The Additional Services to be provided by the A/E and the compensation for such shall be set out in the Contract or the MOU. Once the contract is signed, any extra services required will be a change in scope and shall be authorized in writing by Change Order using Form HECO-11a/e. Any Change Order authorizing work to be performed which does not stipulate a fixed sum amount for the work shall be subject to audit by JMU for a period of three (3) years following completion of the Contract.

3.2.2.4 Computer Services

Computer use is commonplace in the A/E profession for analyses, designs, drafting (drawings), word processing (specifications) and estimating. As such, the computer is a "tool" used by the technical person to produce his/her product. These "tools" are purchased and depreciated or leased and are, therefore, considered a part of the A/E's office overhead expense included in its overhead. Only specialized computer services required by JMU which must be acquired from an outside vendor are considered for payment in fee negotiations.

Computerized analyses and designs for building systems, word processing, and data processing utilized by the A/E to provide Basic Services are normally considered by JMU to be a part of the project design effort and are not an additional service required by JMU.

Specialized outside computer analysis services required by JMU for the project may be treated as an additional service. The compensation for such specialized computer analyses may be a negotiated lump sum or a reimbursable expense. The allowable reimbursable expense method will normally be the actual charge made by an outside computer service organization plus 10% for A/E overhead and profit.

3.2.2.5 Special Consultants

Consultants engaged by the A/E to augment the A/E's staff to provide the required A/E services are considered by JMU to be part of the A/E's staffing for the project.

JMU may require the use of a special consultant with a particular expertise related to some feature of the project. The Architect / Engineer shall engage such a required consultant, subject to JMU's approval, and incorporate such work in the services for the project. The compensation for such consultant shall be negotiated and set out in the MOU and included in the total A/E fee. The A/E will normally be allowed to markup JMU approved direct cost to the A/E of such special consultant by 10% for the A/E's overhead and profit.

3.2.2.6 Reimbursable Expenses

1. The costs of long distance phone calls, postage and similar expenses incurred by the A/E in the performance of the Contract are considered by JMU to be a part of the A/E's overhead expenses and are not normally reimbursable.
2. JMU shall reimburse the Architect/Engineer for the reproduction of drawings, specifications,

- and other documents required for initial schematic, preliminary, working drawing and Bid Set submittals in accordance with the policy in Chapter 5 at the actual costs plus 10% markup for handling. If re-submittals are required to correct deficiencies and/or complete the documents for submittal, the cost of reproduction for these submittals shall be borne by the A/E unless waived by JMU.
3. Where the A/E is engaged by JMU to secure the reproduction of the Bid/Proposal Documents, the A/E may be reimbursed for the actual direct cost of reproduction plus a markup of 10% to account for the A/E's overhead and handling cost in securing this service for JMU. The cost of reproduction and sending addenda to address university review comments, clarify or supplement the Bid/Proposal Documents and/or correct errors or omissions are considered to be an expense of the A/E and shall not be included in the allowable reimbursement costs.
 4. JMU shall reimburse the Architect/Engineer for the actual costs of overnight or second day shipping of submittals and /or shop drawings when such method of shipping is directed by JMU. JMU should establish a budget amount for such reimbursements and include same in the Contract amount and as a line item in the MOU breakdown of the Fee.
 5. Compensation for travel and living expenses associated with the performance of the project scope of work will be included in the fee negotiated and set out in the MOU as a lump sum amount for travel and/or subsistence for each particular facet of the work where travel compensation is proposed by the A/E.
 6. The A/E may be reimbursed for travel and living expenses of technical personnel while traveling in the discharge of duties in connection with extra services authorized by JMU. The travel rates and the per diem rates for lodging and subsistence shall not exceed the maximum amounts allowable for such expenses in JMU's Travel Regulations. Records supporting such requests for reimbursement shall be subject to audit by JMU and/or the State Auditor.
 7. Each item / account planned for reimbursement should have a "budget" amount established and included in the Contract with the condition that payment for these items will be subject to proper authorization and documentation. Further, the Contract Amount will be adjusted upward or downward by Change Order, as appropriate, based on the actual amounts approved for reimbursement.
 8. JMU will normally pay the University Building Official for the first schematic submittal review, the first preliminary submittal review, the first working drawing review and the review of the one corrected and highlighted bid set of documents. If additional submittals and reviews are required, JMU may require the A/E to reimburse JMU (by change order to the A/E contract or otherwise) for the actual costs of such additional review unless the A/E can submit justification satisfactory to JMU demonstrating why the A/E should not be held accountable / responsible for such costs."

3.2.2.7 Interior Design

The A/E's basic architectural services includes sizing of spaces for the intended function, providing diagrammatic furniture layouts to the client to confirm functional layouts, and the selection and specification of building fixtures and finishes which are necessary to provide a complete and useable facility and/or which are included in the construction contract.

"Interior design" as used in this JMU MANUAL as an additional service pertains to the design, selection, arrangement and color coordination of furniture, furnishings and accessories. These items include but are not limited to desks, chairs, lamps, tables, screens, planters, artwork, draperies and similar public area furnishings which are procured separately from the construction contract.

The interior designer shall verify the actual building surface finish colors applied by the Contractor and coordinate the selection of colors, fabrics and textures with the building colors. The interior design services also include the coordination with and preparation of procurement materials for JMU Procurement Department for the furniture, furnishings and accessories.

Examples of the scope of work for interior design services for furniture, furnishings and decorations when procured as an A/E additional service or as a separate contract are listed below. The person providing these services is referred to herein as the Interior Designer.

Selection of furniture, furnishings, and accessories including but not limited to sofas, chairs, tables, screens, planters, art work, carpets, draperies, etc.

- Utilize and coordinate with VCE if applicable
- If the items are available on a term contract which JMU can utilize, the interior designer will recommend the proper item, color, fabric, finish, etc. for JMU to procure.
- If the items are not available on an existing term contract, the interior designer will prepare written justifications for JMU stating why items are available on an existing contract are not suitable. If procurement of the items not available on an existing term contract is approved, the interior designer will prepare adequate specifications and other data necessary for university procurement.

The interior designer shall select and coordinate all colors, fabrics, etc., with the colors of the building finishes. Although building finishes are selected by the A/E during design and finalized during the review of Contractor submittals, the interior designer shall verify actual Contractor applied finishes through on-site verification and/or coordination with JMU Project Manager.

At the beginning of each project the Interior Designer shall provide .pdf and AutoCad drawings of each floor to Procurement Services.

The Interior Designer shall meet with the project's key leaders to determine/establish the appropriate furniture layout for each office, making every effort to ensure consistency and standardize.

The Interior Designer shall provide furniture layouts utilizing the actual furniture, sized correctly, within each space.

All fabric chosen for seating shall meet or exceed 100,000 DR's/Double Rub (abrasions), and be selected for ease of cleaning. Designer shall also provide "memo samples" of each fabric specified for the project.

The interior designer shall prepare presentation boards as designated by JMU to show furniture placement plans, catalog cutouts of furniture, furnishings and accessories, color samples, material swatches of draperies, carpets and fabrics.

The interior designer shall prepare a minimum of three interior design 8-1/2 x 11 inch binders/packages with accompanying floor plan sheets and deliver to JMU Project Manager. One additional binder shall be designated for Procurement Services. One electronic version of

the binder shall also be shared with the Project Manager for appropriate distribution within JMU. These binders/packages shall include but are not limited to:

1. Floor plans at 1/4" = 1'- 0" or larger scale indicating locations of all furniture, furnishings and accessories. These items should be identified with an item number keyed to the presentation boards and the furniture procurement list.
2. Procurement lists identifying all items to be purchased by model number, contract number (for term contracts), identification number and description (for non-contract items), quantity, price, etc. Care shall be taken in the selection of all items to ensure that delivery times are reasonably within JMU's schedule and state contracts, if applicable, will not be expired at the time of purchase.
3. Photographic color reproduction or color copies of the presentation boards reduced to fit 8-1/2 x 11 inch binder or package.
4. Specifications, drawings and other supporting data for standard procurement and special order items (draperies, custom-built screens or dividers, art work, etc.)

The interior designer shall advise, as needed, when changes must be made as a result of changes in requirements, non-availability of items or materials previously selected, etc.

The interior designer shall provide placement sheets for each room/area, listing each item of furniture or equipment that will go into the area.

3.2.3 A/E Fee Proposal Worksheet (Form HECO-2.3)

The Architect/Engineer shall prepare a detailed fee proposal using the Form HECO-2.3. The hourly rates and the man-hours proposed should relate to the rates and times required for a qualified and competent person in that skill level to perform the work. Supplemental information shall be attached as necessary to support the proposed drawings, hourly rates and man-hour estimates. Guides for the use of the form are as follows:

- Disciplines/Classifications commonly used are indicated on the form. Additional classifications may be listed.
- Hourly rates should be the average for those persons in that skill level/discipline/classification.
- Indicate the drawing size and proposed/estimated number of sheets for each discipline. Attach a proposed or estimated list of drawings.
- Enter the estimated (proposed) number of hours for each discipline/skill level and multiply times the Hourly Rate to yield the Estimate Cost.
- CADD line is for drafting hours to produce a CADD basic plan for each level, wing or area to use as a base sheet for the various disciplines. The man-hours to produce the individual sheets for each discipline, whether manually or CADD, should be shown for the applicable discipline.
- Spec/Report Writer effort includes the mark up and edit of standard and/or master specification sections and writing any required special sections.
- Typist effort includes typing new specification sections and editing masters on the word processing program.
- Cost Estimate effort includes the takeoff of quantities and the application of prices to produce the Cost Estimate in the required format.
- Solicitation Assistance service includes the effort of the Professional to conduct the Pre-Bid/Proposal Conference, assist in opening Bids/Proposals, and evaluate the bids/bidders/proposals/offerors for

responsiveness and responsibility. It also includes the clerical level effort to receive document deposits, issue solicitation documents, receive/review returned bid / proposal documents and return deposits / issue refunds.

- Shop Drawing Review includes the professional/technical level effort to review shop drawings and other submittals to determine compliance and conformance with the requirements of the Contract Documents and the markup / approval of same. It also includes the clerical level effort to log submittals in and out, to copy markups from the reviewer's master review set to the copies being returned to the Contractor and others, and the distribution of same.
- Record Drawing preparation includes the efforts of a drafting level person to transfer data from the Contractor's "As Built" set of drawings and specs to the "Record Copy" reproducible. This work also includes the Professional / Technical Level effort to compare the "As Built" to the "Record Copy" for correctness.
- Construction Observation and Administration includes the professional/technical level effort to perform the onsite inspections/observations, job meetings, payment request evaluations and administrative functions required by the contract and the clerical level effort to type minutes of meetings and similar functions.
- The Additional Services portion of the Worksheet is generally self-explanatory for the items listed. If those items are proposed to be provided by outside consultants / subcontractors (excludes architectural, structural, mechanical, & electrical disciplines which are considered the A/E), the subcontract negotiated amount may be marked up 10% by the A/E for A/E overhead and profit. In-house additional services should be computed using the estimated man-hours and marked up hourly rates similar to the Basic Services Fee Proposal.

3.2.4 Proportioning of the A/E Fee and Payments

Payments to the Architect or Engineer for Design Phase and Construction Phase Services shall be based on the negotiated fee amount as proportioned for each phase of the project. The amount approved for progress payments shall be based on JMU's judgment of the proportion of the work on that phase or facet which has been completed versus the work required / value of that phase or facet. The A/E fee shall be proportioned for each phase or facet of the work and shown in the A/E Contract or in the MOU. The proportioning of the fee should account for and show the negotiated amount for the following phases or facets of work:

- Pre-design services (Additional Services such as studies and similar activities.)
- Design Phase services include:
 - Schematic phase
 - Preliminary phase
 - Working drawing phase
- Construction Procurement phase services
- Construction phase services include
 - Shop drawing/submittal reviews and admin
 - Site visits, inspections and admin
 - Project closeout
- Maintenance & Operations Manuals
- Record Drawings
- Budgeted Reimbursable Amounts
- Additional services (itemize)

In addition to the proportional amount due for Design Phase or Construction Phase Services, the A/E shall

be entitled to payment for authorized additional services performed and for authorized reimbursable costs incurred during the period.

Where JMU contracts with the A/E for less than or more than the basic services indicated for the various phases, the proportioning of the fee may be adjusted accordingly and shown in the Memorandum of Understanding.

Where a detailed breakdown of the A/E fee is not provided in the CO-2.3 Fee Proposal Worksheet used for negotiations, the total negotiated A/E fee (excluding additional services and reimbursables) will be proportioned as follows:

Design Phase Services = 75 % of Total Fee Construction Phase Services = 25 % of Total Fee

In consideration of the services required by the JMU MANUAL, the proportioning of the A/E fee for progress payments during the various parts of the Design Phase and the Construction Phase will be as follows:

Design Phase Services

1. Schematic Design Phase - Value of the Schematic Phase is 20% of the Design Phase Fee. This phase is complete when outstanding issues are resolved and the schematics are approved by JMU.
2. Preliminary Plans and Specifications (Design Development Phase) - Value of the Preliminary Phase is 30% of the Design Phase Fee. However, a proportional part may be billed monthly during the development of the documents. This phase is complete when outstanding issues are resolved and the preliminaries are approved by JMU.
3. Working Drawings and Specifications (Construction Documents Phase) – Value of the Working Drawings Phase is 50% of the Design Phase Fee. However, a proportional part may be billed monthly during the development of these documents. This phase is complete when outstanding issues are resolved, all changes have been made to the documents, and the working drawings and specifications are approved by JMU.

Note: JMU may withhold as retainage an amount not exceeding 5% of the dollar value of progress payments for the Design Phase Fee until the Working Drawings, including all corrections required to resolve review comments, are finally completed and acceptable.

Construction Phase Services

1. Construction Procurement Phase – Value of this phase is 5% (maximum) of the fee amount for Construction Phase Services and is due upon award of the construction contract or rejection of bids/proposals (unless the A/E is obligated to redesign at no additional fee). Reimbursement for reproduction expenses for bidding documents would also be payable.
2. A/E Construction Period Services – Value of this phase is 90% of the Construction Phase Services fee amount. This 90% is usually prorated over the total construction period including the 30 days allowed for punch list corrections and billed monthly during the construction phase as construction progresses.
3. Project Closeout Phase – The remaining 5% of the fee (or sum as stipulated in the Contract or MOU) for Construction Phase Services is allocated to closeout and Record Drawing preparation. It shall be payable when the A/E's services for the project are fully completed and "Record" drawings and specifications are delivered to university, as set forth in Chapter 7.

3.2.4.1 Payments to the A/E

Payments to the A/E shall conform to the requirements in Section 21 of the Terms and Conditions of the A/E Contract, Form HECO-3a.

3.2.4.1.1 GCPay

Training on the use of the system is available from GCPay at www.gcpay.com.

The Commonwealth of Virginia establishes all fees for the use of GCPay. Information regarding fees can be found at www.dgs.virginia.gov. Access to and instructions for the use of the GCPay statewide contract are available at the Department of General Services website.

3.2.4.2 Payments by the A/E

Payments by the A/E to its consultants, subcontractors and suppliers shall conform to the requirements in Section 22 of the Terms and Conditions of the A/E Contract, Form HECO-3a.

3.2.5 Determining Charges for Changes in the Scope of Work

3.2.5.1 Changes to the Scope of Services

JMU shall notify the A/E in writing when a change in scope or “extra services” is required. JMU and A/E shall develop a defined scope for the services and the A/E shall prepare a fee proposal for such work. A lump sum fee will normally be negotiated and agreed on and a written change order (HECO-11a/e) issued before the extra work is performed (i.e., changes in the plans or specifications, models, studies, etc.). In such cases, the fee negotiations will be based on the defined scope change or work to be done, the estimated technical personnel time to accomplish the work times the rates listed in the Memorandum of Understanding, and any reimbursable expenses authorized.

When the scope cannot be defined to allow a reasonable estimate of time required, JMU may authorize the additional work at the hourly rates or unit costs listed in the Memorandum of Understanding. In such cases, JMU shall establish maximum fee limits, as applicable. Work beyond the maximum fee limit shall require justification and JMU's approval prior to proceeding with further additional work.

Note: Many of the revisions or requirements included in a Revision to the JMU MANUAL are made to reflect changes in the *Code of Virginia* or other requirements which must have immediate compliance. Therefore, a revision to the JMU MANUAL shall be effective on the date stipulated and shall apply to any and all projects for which an approved HECO-6 has not been issued as of the date printed on the revision.

Prior to approval of Preliminary Design, revisions to the JMU MANUAL can generally be incorporated in the A/E's work with little or no additional effort. If the A/E claims that incorporating the revision into its services requires extra work, the A/E must notify JMU of this claim and submit documentation to JMU to clearly support such claim within 60 days of the distribution date of the revision.

If, after the approval of Preliminary Design and before the approval of Working Drawings, the A/E determines that including changes resulting from the revision will require additional work on his part, the A/E shall, within 60 days of the distribution date of the revision, provide to JMU an itemized list of the additional work required by the revision. JMU shall then provide direction to

the A/E and, if appropriate, issue a change order for the work.

The A/E's shall ensure that the documents submitted for review contain the latest design requirements, the latest editions of forms, and the latest editions of the standard Instructions to Bidders/Offerors and the General Conditions.

3.2.5.2 Hourly Rates for Changes in Work

JMU and the A/E shall at the time of fee negotiations establish and record in the Memorandum of Understanding the nominal hourly rates for all technical personnel categories, disciplines and/or skill levels to be used to calculate A/E fees for extra services or changes in the work. The hourly rates listed shall include all markups and adjustments for taxes, insurances, benefits, overhead, profit, etc. Acceptable categories are indicated in Section 3.2.2.2.

Technical activities by principals, such as Project Manager, Architect, or Engineer, are categorized for payment at the rates indicated for the technical activity or function being performed.

3.2.5.3 Overtime for Changes in Work

No overtime requiring rates higher than regular rates shall be considered for payment for additional services.

3.2.5.4 Invoices for Changes in Work

Invoices or statements of expenses incurred by the A/E for reimbursables and for work authorized to be performed on an hourly rate or unit cost basis shall be rendered to JMU monthly. Invoices shall be supported by a certified accounting of the time expended by date, by person, and the skill level of the work being done. (e.g. Drafting would be paid for at the "drafting" rate regardless of who does the work – principal, draftsman or trainee.) Statements shall show the cost during that period and indicate the status of the authorized work. The reporting of these costs shall be in such form and detail as required by JMU. The A/E's disbursement and job records shall be subject to audit by JMU for work done on a reimbursable and/or hourly or unit cost basis. JMU shall notify the A/E of any defect or deficiency in the invoice including supporting data within ten (10) days after receipt of same, and payment of approved invoices, or portions thereof, shall be made within 30 days after receipt of the invoice.

3.2.5.5 Audit of A/E's Records

Any Change Order authorizing work to be performed which does not stipulate a fixed sum amount for the work shall be subject to audit by JMU and/or State Auditor for a period of three (3) years following completion of the Contract. Also, any authorization for payment of reimbursable expenses shall be subject to audit by JMU and/or the State Auditor for a period of three (3) years following completion of the Contract.

3.2.6 Changes to A/E Contract

Changes in the Scope of Work and/or Cost of the A/E Contract (Form JMUCO-3 and JMUCO-3.2) will be documented through the execution of a Form HECO-11a/e, A/E Contract Change Order. Any A/E contract change order which increases the original contract amount by more than 25 percent or \$50,000, whichever is greater, must have the prior approval of the VP A&F. The first Change Order which causes the cumulative total of Change Orders to exceed \$50,000 or 25 percent of the original Contract Price, whichever is greater, and all subsequent A/E Change Orders which increase the Contract Amount must have the prior approval of the VP A&F. Submit the HECO-11a/e in two copies to UDC for approval.

3.2.7 Informal Alternative Dispute Resolution

Pursuant to §53 *Rules Governing Procurement of Goods, Services, Insurance and Construction by a Public Institution of higher Education of the Commonwealth of Virginia (Rules)*:

“A. Contractual claims, whether for money or other relief, shall be submitted in writing no later than 60 days after final payment. However, written notice of the contractor’s intention to file a claim shall be given at the time of the occurrence or beginning of the work upon which the claim is based. Nothing herein shall preclude a contract from requiring submission of an invoice for final payment within a certain time after completion and acceptance of the work or acceptance of the goods. Pendency of claims shall not delay payment of amounts agreed due in the final payment.

B. The Institution shall include in its contracts a procedure for consideration of contractual claims. Such procedure, which may be contained in the contract or may be specifically incorporated into the contract by reference and made available to the contractor, shall establish a time limit for a final decision in writing by the institution. If the Institution has established administrative procedures meeting the standards of §55 of these Rules, such procedures shall be contained in the contract or specifically incorporated in the contract by reference and made available to the contractor. The Institution may require the submission of contractual claims pursuant to any contract to Alternative Dispute Resolution (ADR) as an administrative procedure.

C. A contractor may not invoke administrative procedures meeting the standards of §55 of these Rules, if available, or institute legal action as provided in §54, prior to receipt of the Institution’s decision on the claim, unless the Institution fails to render such a decision within the time specific in the contract.

D. The decision of the Institution shall be final and conclusive unless the contractor appeals within six months of the date of the final decision on the claim by the Institution by invoking administrative procedures meeting the standards of §55 of these Rules, if available [No administrative appeals procedure pursuant to §55 of the Rules has been established for contractual claims under these contracts] or in the alternative by instituting legal action as provided in §54.

Notice: Written notice of claim shall be sent to:

Director of Procurement Services
James Madison University
Procurement Services
752 Ott Street, MSC 5720
Harrisonburg, VA 22807

James Madison University Action:

Upon receiving the written claim the Director of Procurement, Director of Engineering and Construction, and the AVP of Business Services will review the written materials relating to the claim and decide whether to discuss the merits of the claim. If such discussion is to be held, the aforementioned JMU representatives will contact the claimant and arrange such discussion. The manner of conducting such discussion will be as the JMU representatives and claimant mutually agreed upon.

The JMU representatives will mail the decision to the claimant within fifteen (15) days after the JMU

representatives' receipt of the claim unless the time is extended by the AVP & Directors. The decision will state the reason for granting or denying the claim.

3.3 Restriction on Promotional Materials by A/E and Contractor

The design and contract documents for construction on university-owned property are owned by JMU. Therefore, use of these work products in advertising or promotional literature, or a statement that JMU endorses the work product of an A/E or Contractor is prohibited without the express written permission of JMU. Identifying designs or construction as the work product of an A/E or Contractor in client lists, responses to RFPs and in promotional literature through the use of photographs, renderings, drawings (not contract documents) and descriptions of project is permitted after construction is substantially complete.

CHAPTER 4 – REGULATORY REQUIREMENTS FOR ALL BUILDINGS ON UNIVERSITY PROPERTY

*JMU has chosen to utilize the services of DEB to perform all aspects of review and approval of the VUSBC and applicable accessibility code. Further, JMU accepts DEB authority as stated in sections 4, and 5 of the current CPSM in their entirety. **Therefore, JMU also accepts the current CPSM Chapter 4 as written with only the following exceptions. The numbering in this section reflects the section in the CPSM that has been modified by JMU.***

This chapter contains university standards which clarify the applications of Virginia Uniform Statewide Building Code (VUSBC) requirements as they pertain to buildings on university property, university and DEB standards as they pertain to buildings on university property, and technical requirements for all university-owned buildings and structures. The requirements in Chapter 4 prescribe standards and requirements for buildings on university property which may be higher than the minimum requirements for the private sector owner but are necessary to meet the energy, performance, maintenance, safety, and accessibility standards for public buildings. JMU and A/E shall design facilities to the standards and requirements stated in this chapter, regardless of project funding source or project delivery method.

4.0 Administration

The Higher Education Restructuring Act of 2005 and the related James Madison University Level III delegates authority for Building Code enforcement in university buildings to a University Building Official (UBO), and to the Virginia Department of Fire Programs (VDFP) acting through the State Fire Marshal's Office (SFMO). The Department of Housing and Community Development (DHCD) is charged with adopting a Uniform Statewide Building Code and the State Fire Marshal's Office (of the Department of Fire Programs) is charged with providing assistance to the UBO in enforcing the Building Code and inspecting University-owned buildings (Code of Virginia § 36-98.1) and buildings on University owned property.

Forms: CO forms referenced in Chapter 4 of the CPSM (CO-5, CO-6, and CO13.3) shall per this Manual be replaced with HECO-5, HECO-6, and HECO13.3.

4.12.12 Procurement of Asbestos Consulting Services (*CPSM Section Noted, content modified*)

Persons licensed by the Virginia Department of Professional and Occupational Regulation as asbestos inspectors, asbestos project monitors, asbestos project designers, asbestos management planners and asbestos analytical laboratories are considered as asbestos consultants and shall be procured according to the guidelines established for non-professional services in the *Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and their Vendors*.

Asbestos project designers provide services which may necessitate competitive negotiation where qualification factors as well as price should be used to determine the most suitable provider of the services.

4.13.3 Lead Testing (*CPSM Section Noted, content modified*)

Owners with multiple facilities with pending renovation projects should procure an indefinite delivery unit price contract with a qualified, licensed lead testing firm to provide test reports as required for its facilities at the start of each planning process. This non-professional service procurement shall be in compliance with *University* procurement procedures and the *Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and their Vendors*.

4.17 Erosion and Sediment Control and Stormwater Management Plans and Specifications (***CPSM Section Noted, content modified***)

Refer to the [JMU Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management](#) for current requirements. Compliance with the erosion and sediment control and stormwater management requirements is mandatory for all regulated university projects. Requirements shall be included in the specifications to assign to the contractor (as part of the contract) the responsibility of erosion and sediment control and stormwater management at all sites (on or off the owner's property) of borrowing, wasting, or stockpiling of soil products. A statement similar to the following shall be used:

The Contractor shall be responsible for satisfying any and all erosion and sediment control (ESC) and stormwater management (SWM) requirements for any land disturbing activities, including but not limited to, on-site or offsite borrow, on-site or offsite stockpiling or disposal of waste materials. Before undertaking any land disturbing activity for which the plans do not specifically address erosion and sediment control and stormwater management, the Contractor shall contact the JMU Stormwater Coordinator to determine what ESC and SWM measures are necessary. The Contractor shall completely satisfy all requirements of the Virginia Tech Site and Infrastructure Development, including providing a designated, certified "Responsible Land Disturber" as defined in 9VAC25-850-10 before continuing with the concerned activity.

4.19.2 Building Maintenance Official (***CPSM Section Noted, content modified***)

As provided in The Virginia Maintenance Code (Part III of the VUSBC), the Department of General Services acts through the Division of Engineering and Buildings as the Building Maintenance Official. The Director of the Division of Engineering and Buildings is the Building Maintenance Official for buildings and structures on state-owned property and is called the State Building Maintenance Official in this Manual.

The Building Maintenance Official hereby requires and directs that each and every state agency which has real property (land and buildings) shall comply with maintenance provisions of the Virginia Maintenance Code.

The VUSBC prescribes that building maintenance regulations are to be complied with in the repair and maintenance of existing structures and equipment. The purpose is to ensure public safety, health, and welfare through proper building maintenance, repair, and use and continued compliance such as accessibility and energy conservation.

The Sr. VP of admin and Finance or designee shall be responsible and accountable to the State Building Maintenance Official for compliance with the maintenance provisions of Part III, Chapter 1, (13VAC5-63) of the VUSBC. To facilitate the administration and operations of JMU's compliance with the Maintenance Regulations, the Sr. VP of admin and Finance or designee has assigned an Agency Building Maintenance Representative to respond to complaints of non-compliance and to assure that JMU complies with the Maintenance Regulations. The Agency Building Maintenance Representative shall be the on-site representative of the State Building Maintenance Official for compliance at JMU. The Agency Building Maintenance Representative shall receive complaints, resolve the issues and otherwise assure compliance with the Maintenance Regulations for JMU. The Agency Building Maintenance Representative shall submit a report to the Building Official upon request. The report, generated by the University's Computerized Maintenance Management System shall itemize all complaints/requests received, the action taken and any other noteworthy activities that may have been performed under VUSBC.

CHAPTER 5: PROJECT SUBMITTAL STANDARDS

5.0 General (*CPSM Section Noted, content modified*)

JMU has chosen to utilize the services of DEB to perform all aspects of review and approval of the VUSBC and applicable accessibility code. Further, JMU accepts DEB authority as stated in sections 4, and 5 of the current CPSM in their entirety. Therefore, JMU also accepts the current CPSM Chapter 5 as written with only the following exceptions. The numbering in this section reflects the section in the CPSM that has been modified by JMU.

There are differences between work prepared for clients in the private sector and work prepared for agencies of the Commonwealth of Virginia. The Commonwealth cannot limit bidding to a selected list of contractors known to do good work. Unless contractors are prequalified for the project in accordance with Chapter 7, any licensed contractor may bid on a Design-Bid-Build project delivery. Since the knowledge and experience of the contractors bidding on the project is an unknown, drawings and specification requirements must be clear, concise and provide thorough detailing of existing and proposed construction.

Design is the sole responsibility of the A/E. Specifications which require the contractor to provide engineering design are not acceptable unless the products specified for contractor design are closed engineered systems. Closed engineered systems include: pre-engineered buildings, manufactured mechanical equipment, prefabricated trusses, and precast and common steel structural connections. Other systems can be defined as closed engineered systems if approved by the Director, Division of Engineering and Buildings.

In order to encourage competition required in the expenditure of public funds, performance specifications that define a desired result or assembly, or reference recognized standards to define a desired result or assembly, are strongly preferred. If performance specifications are not practical, and a manufactured product must be used to define a desired result of assembly, then three manufacturers and three products shall be referenced. Do not reference both manufactured products and performance criteria because conflicts in the performance criteria and the product performance create unnecessary conflicts. Sole source and proprietary specifications are not allowed without prior written authorization, as identified in the JMU Manual, Chapter 6.

Forms: CO forms referenced in Chapter 5 of the CPSM (2, 4, 5, 6, 8 13, and 9) shall per this Manual be replaced with HECO-2, HECO-4, HECO-5, HECO-6, HECO-8, HECO-13 (all versions) and JMUCO-9(all versions).

5.0.2 Capital Project Initiation (*CPSM Section Noted, content modified*)

JMU will be authorized to initiate the design of a Capital construction project upon receipt of an approved HECO-2. Depending on the project documentation previously submitted and the action wording on the HECO-2, one or more of the following design progress phases for review by the Division of Engineering and Buildings may be required.

- Schematic Design
- Preliminary Design
- Working Drawings, including Addenda

Minimum requirements for data, drawings, specifications, and cost estimates to be included in the submittal for the indicated phases are described in this chapter and the referenced Appendices.

For pool projects, a completed CR-2 form shall be submitted as part of the Schematic submittal indicating, in sufficient detail, construction costs (detail provided in A/E estimate), soft costs, delivery method, anticipated bid date, anticipated construction duration, project square footage, and all anticipated project funding sources.

5.1 Non-Capital Outlay Construction Projects

5.1.1 General (*CPSM Section Noted, content modified*)

Construction or improvement projects undertaken on state property which are not classified as Capital Outlay projects are not required to follow the capital outlay (HECO-2, HECO-4, HECO-5, HECO-6 and HECO-8) submittal and approval process. However, the Non-Capital Construction Projects are subject to review and permitting by the State Building Official (Director, Division of Engineering and Buildings) for conformance to the Virginia Uniform Statewide Building Code including its referenced standards and for the technical standards and policy requirements of the Manual. "Changes in Group Classification" of existing state-owned buildings also require the submittal of information for the review and approval of the State Building Official and issuance of a new Certificate of Use and Occupancy.

5.1.2 Issuance of Building Permit (*CPSM Section Noted, content modified*)

Projects/Work on state property shall be designed by and the documents sealed, signed and dated by Virginia-licensed Architect(s) and/or Engineer(s) in accord with the Building Permit Policy for Construction, State-Owned Buildings and Structures (Appendix P, CPSM). Working drawings ready for bidding and the appropriate information for the Building Permit (HECO-17) shall be submitted to the Building Official (DEB/DEB) for review and issuance of a Building Permit. Refer to the Building Permit Policy in Appendix P, CPSM for further information.

Some interior renovation or modification projects which do not involve a Change in Group Classification or projects to alter systems regulated by the USBC may be permitted under the Building Official's Annual Permit to JMU. JMU shall follow the procedures and keep records of such work as set forth in the Annual Permit issued to the University.

5.1.3 Issuance of Certificate of Use and Occupancy (*CPSM Section Noted, content modified*)

The Non-Capital Construction Project Work shall be inspected by a licensed Architect or Engineer, or by other qualified and approved inspector, for conformance with the VUSBC as shown on the approved plans and specifications. JMU shall submit the forms HECO-13.1a, HECO-13.1b, HECO-13.2a, HECO-13.3b, the Fire Marshal's report and recommendation, and other applicable certificates or reports along with the Form HECO-13.3, Certificate of Use and Occupancy, to DEB/DEB when requesting that a Certificate of Use and Occupancy be issued.

Renovation-only projects (not involving an addition to an existing building) or which do not involve a change in use or occupancy for the existing building will not be issued a Certificate of Use and Occupancy upon completion. JMU shall submit Form HECO-13.4 (Building Permit Closeout) along with Forms HECO-13.1, HECO-13.2, HECO-13.3b, HECO-13.1b and a final inspection report from the State Fire Marshal in order to close the permit when the construction is completed. The project is not complete as long as any deficiencies identified by DEB, the State Fire Marshal, or the A/E have not been completed, corrected or otherwise resolved.

5.1.4 Change in Use or Occupancy (*CPSM Section Noted, content modified*)

If JMU proposes to change the Group classification of an existing building or a portion thereof, the VUSBC requires that a new Certificate of Use and Occupancy be obtained. The building shall comply with the Virginia Rehabilitation Code (VRC) unless it a Group I-2 or I-3 occupancy. If the building is a Group I-2 or I-3 occupancy, the Virginia Construction Code (VCC) is applicable instead.

5.3 Specification Standards

5.3.9.1 Non-Proprietary and Performance Specifications (*CPSM Section Noted, content modified*)

This is the preferred method of specifying materials, equipment and systems. A non-proprietary specification shall be written either as (a) a generic performance specification (preferred); or as (b) a specification naming a minimum of three manufacturers with model or series numbers.

(a) A generic performance specification must be written to describe the required characteristics, performance standards, capacities, quality, size or dimensions, etc. of the item or system. A minimum of three manufacturers must be able to meet all requirements shown in the specification. The specification shall not be contrived to exclude any of the three manufacturers or to benefit any one manufacturer over any of the other manufacturers. The performance specification shall not name manufacturers or brand name products.

(b) A non-proprietary manufacturer/model number type specification must list at least three manufacturers with their respective model numbers. Each of the listed manufacturers/model numbers must have been determined by the A/E to meet the specifications and be acceptable. If a named manufacturer pre-packages or pre-assembles its item or system, the model number shall be specified. If the named manufacturer(s) custom builds the item or system, naming of model numbers is not required.

The manufacturer/model specification must describe the required characteristics, performance standards and capacities which will be used to determine equal products as allowed by Section 26 of the General Conditions. Do not specify extraneous characteristics that do not relate to the product's performance or suitability for the project. If only two acceptable manufacturers can be found and documented by model number but other equal products are acceptable if found by the bidder, the A/E may request permission from the *AVP Business Services*, to list only those two manufacturers but consider equals if proposed by the Contractor.

5.3.9.2 Proprietary Specifications (*CPSM Section Noted, content modified*)

A specification is proprietary if it specifies a product / requirements which only one manufacturer can meet but the product is available from multiple vendors or sources. Although a proprietary specification should be avoided because it restricts competition, circumstances such as space limitations, mandatory performance standards, compatibility with an existing system, etc., may leave no other reasonable choice (see below).

Two typical situations that may require proprietary specifications are:

- when only two manufacturers or suppliers provide an acceptable product or system, when there are no equals and when no substitutions are allowed; or

- when there is only one manufacturer but two or more vendors or suppliers can purchase the material and compete to provide the product or system to contractors or bidders.

Proprietary specifications may be used when the *JMU Project Manager* requests and receives, in writing, authority from the *AVP Business Services* to use a proprietary specification. *The Project Manager* must request authority as soon as the need for the specification is recognized, preferably in the preliminary design stage but definitely prior to submission of Working Drawings. The request shall explain why the proprietary specification is necessary. If approved to use a proprietary specification, the specification shall state that that “the product specified shall be used to the exclusion of all others and no other product will be considered to be equal.”

5.3.9.3 Sole Source Specifications (*CPSM Section Noted, content modified*)

A specification is sole source when it names only one manufacturer or product to the exclusion of others, or when it is contrived so that only one manufacturer, product, or supplier can satisfy the specification. Because it eliminates all competition, it can be used only in the most exceptional circumstances and under the strictest conditions. A product, piece of equipment or service which is available only thru an area franchised vendor is also considered to be a Sole Source item.

It is the policy of the Commonwealth of Virginia that contracts be awarded on a competitive basis and that the use of a sole source procurement be limited to those instances where only one source is practically available which will meet the specific requirements of the project.

The Project Manager shall obtain approval from the *AVP Business Services* to use a sole source specification / procurement for any and all items of material, equipment or services proposed to be included in the construction contract procurement. Submit the request to the *AVP Business Services* with back-up justification.

Prior to advertising the project, JMU shall either procure the sole source item and specify it as Owner furnished/Contractor installed or JMU shall negotiate a fixed price for the item or system with the sole source vendor and require that the vendor provide the specified Sole Source Work as a subcontract to the bidder/offeror who is awarded the contract. In the latter case, the solicitation shall show the vendor’s name and the subcontract price for the item/system to be included in the Contractor's price.

5.3.12.1 Submittals Prior to Bid Receipt (*CPSM Section Noted, content modified*)

The A/E shall not require samples, shop drawings, or similar materials to be submitted for approval prior to receipt of bids/proposals. The specifications must contain sufficient information to describe to the contractor and bidders/offerors the performance and quality standards that will be used to evaluate the submittals.

5.3.12.2 Bidder Experience (*CPSM Section Noted, content modified*)

Number of years of experience, or time in business, shall not be specified as a basis for award of contract. This applies not only to contractors, but also to suppliers of equipment.

5.3.12.3 Prequalification of Special Systems (*CPSM Section Noted, content modified*)

Complex and/or sensitive systems such as locking systems, detention equipment and security control systems for prisons often require manufacturers with a proven history of reliable, operable equipment in special situations with minimal malfunctions, as well as subcontractors

who are experienced installers of that manufacturer's products. In such instances, JMU and A/E should develop the necessary documents to prequalify the manufacturers and/or subcontractors prior to bidding. The names of those prequalified shall be listed in the bid documents for use by all general contract bidders.

5.5 Design Initiations / Pre-Design Conference (*CPSM Section Noted, content modified*)

JMU shall arrange for a pre-design conference at DEB for all Capital Projects. Participants should include JMU's Capital Outlay/Construction Representative, the JMU Project Manager, the DEB Review Team and the A/E's Project Manager and responsible designer in each discipline (architect, civil, structural, mechanical, electrical and others if needed). Where the A/E and the JMU Project Manager are both experienced in the Capital Outlay process and JMU determines that a pre-design conference is not needed for the project, JMU shall notify the DEB Director, in writing, of the decision.

The purpose of the pre-design conference is to clarify to all parties involved the procedures, needs and requirements for the particular project. Therefore, it may be beneficial to all for an A/E providing services for the first time on state work to have the pre-design conference before the fees and terms of the A/E Contract are finalized.

The following is a sample of topics that may be included in the pre-design conference agenda:

- Introduction of Attendees
- Role of DEB
- Authorized Communications
- Design not to exceed Construction Budget
- Proposed Design Schedule
- Requirements of the Manual related to the *Governing Rules*, Chapters 4-7 of the Manual and Fire Safety Reviews
- Clarification / Resolution of Budget Development Comments
- Submittal Contents
- Review Requirements
- Intent of Review Comments
- Waivers and Code Modifications
- Sole Source / Proprietary Specifications
- Use of Standard CO Forms and Formats
- Value Engineering
- Prequalification of Contractors
- Other Regulatory Reviews
- Design Approach
- Project Scope to include:
 - Functional layout requirements
 - Type of occupancy and activities to be housed
 - Capacity requirements of spaces and/or building
 - Exterior finish or appearance requirements
 - Interior finish requirements
 - Types of construction or materials required
 - Style and character of building desired
 - Special considerations such as expansion

- Floor and Roof Live Load, Wind Load, and Seismic Criteria
- Special HVAC or environmental requirements
- Fuel Analyses & Selection
- Special electrical power or lighting requirements
- Schedule requirements for design and for occupancy
- Geotechnical data
- Location of Projects in flood-prone areas
- Site particulars and requirements
- A/E's questions and clarifications

5.9 Bid Forms and Procedures

5.9.1 Instructions to Bidders (*CPSM Section Noted, content modified*)

Use the standard Instructions to Bidders, Form JMUCO-7a. Do not retype or modify the Instructions to Bidders, JMUCO-7a, without permission from the Director, JMU Procurement Services. Information on where bid documents can be viewed and shipping charges, if any, should be placed in the advertisement and Notice of Invitation for Bids.

5.9.2 Unit Price Bids (*CPSM Section Noted, content modified*)

Unit price bids without estimated quantities shall not be requested on the bid form. Unit prices may be used only where the required quantity cannot be reasonably determined by the bidders from the documents. (e.g. total length of piles required, total length of caissons, amount of rock excavation, etc.) See Section 6.0.7 for guidance on unit price bids.

In such case, an estimated quantity of the unit of construction is provided by the University (and its A/E) on the bid form; the quantity as provided on the bid form and the unit price inserted by the bidder are multiplied together to give a lump sum amount; and the lump sum amount is added with the other base bid amounts to determine the total base bid amount. Use the wording and format shown on the Sample Bid Form Format, to allow an adjustment to the Contract Price based on the actual quantities provided and approved in the Work. It is not appropriate to list small or insignificant estimated quantities for unit prices on the bid form.

5.9.3 Bid Form Preparation (*CPSM Section Noted, content modified*)

Bid Forms shall be prepared using the format and wording shown on the Sample Bid Form Format. The Bid Form shall state the basis for determining the low bidder for award of the contract as shown on the Sample Bid Form. The contractor's Disqualification Statement and the Immigration Reform and Control Act of 1986 statement shall be included on each bid form. See Section 5.10 of this Chapter for requirements and procedures concerning Additive Bid Items.

Inclusion or use of "Allowances" in the Bidding is not permitted. Options are to specify the work in the documents and bid competitively with the rest of the project OR procure the work separately and include the subcontractor's name and price on the Bid Form similar to the method used for "HVAC monitoring" on Standard Bid Form Format.

5.9.4 Prequalification of Contractors or Subcontractors (*CPSM Section Noted, content modified*)

As per §14 of the *Governing Rules*, prospective bidders may be prequalified for bidding on projects. (Prequalification criteria, procedures, and appeal process requirements are provided in Chapter 7 of the Manual.)

5.9.5 Advertising (*CPSM Section Noted, content modified*)

JMU shall notify the A/E in writing when final working drawings and specifications have been approved. JMU shall establish a time and place for receiving bids. *JMU will notify DEB of Bid Receipt Dates.* The A/E shall use this information in completing the Advertisement, the 'Posting' and the Notice of Invitation for Bids.

For all work in excess of \$3,000,000.00 a minimum period of 30 days shall be allowed from date of the original advertisement / Posting of Notice to the date of bid receipt (Chapter 780 4.4.01.y.6). Projects estimated to cost less than \$3M may be advertised for shorter periods of time such as 21 or 14 days, but no less than the 10 days required by the *Governing Rules*.

§4 of the *Governing Rules* requires that Invitations for Bid (IFB) be posted on eVA, the Department of General Services' central electronic procurement website. In addition to posting electronically, the IFB may also be advertised in a newspaper. When advertising in the newspaper, JMU will use the 'short form' Notice posting.

Newspapers which are considered to have daily statewide circulation in Virginia are the Richmond Times-Dispatch, the Norfolk Virginian-Pilot, the Roanoke Times & World News and the Washington Post. The project may also be advertised in the Daily News Record newspaper which serves the area where the project is located. A Notice of the Invitation for Bids shall be posted in a designated public area used for posting of such notices. For optimum exposure, the advertisement should also be filed with organizations that regularly advertise and report construction bid data. Advertisements in other newspapers may be advantageous for large projects.

The Agency may authorize the A/E to advertise in the newspaper in the name of, and at the expense of the Agency, for construction bids in accordance with Code of Virginia § 2.2-4303.

5.9.6 eVA Vendor Registration (*CPSM Section Noted, content modified*)

When procuring construction, professional services and non-professional services, reference the applicable vendor registration statement (either DGS-30-384 or DGS-30-385) to the following documents: Request for Proposals, Invitation for Bids, Notice of Intent to Award, Notice of Award, A/E Contracts and Construction contracts.

Use DGS-30-384 when the quantity of orders that will be issued is known, and insert that number on the blank provided (e.g., one, twelve, monthly, etc.)

Use DGS-30-385 when the quantity of orders that will be issued is unknown.

5.10 Additive Bid Items (*CPSM Section Noted, content modified*)

The A/E is responsible for the development and design of the project to meet the scope and to be within the Design-Not-to-Exceed Construction Budget identified in the A/E contract. The Work included in the Total Base Bid shall provide a complete and functional facility meeting all Code, accessibility and safety requirements. When the project cost estimate indicates that the Total Base Bid for the project scope may not be within the available funds, JMU and A/E should consider what features would be negotiated out if

bids are over budget and include that Work as Additive Bid Items for cost or budget control. After JMU and A/E have incorporated reasonable cost containment measures in the design, Additive Bids Items may be used for budget control subject to the following limitations:

- When additive bid items are approved for use, a maximum of four (4) Additive Bid Items may be included. Such Additive Bid Items are not intended to be a pricing exercise for the bidders.
- The total cost estimate of the Total Base Bid plus all Additive Bid Items shall not exceed 110% of the 'Construction Cost' on the JMUCO-6 for Capital Outlay Projects or 110% of the Budget for Non-Capital Projects
- Additive Bid Items shall be structured to minimize additional effort necessary to prepare the bid.
- Additive bids shall not be used to provide essential elements of the project, such as connection to water supply, required lighting levels, or adequate HVAC capacity, or Work without which the building would not be habitable, functional or safe.
- The Work/Design as described in the Base Bid shall be of the level of quality required for the project. Additive bids shall not be used as a shopping list to upgrade, substitute for, or delete for credit any part of the Work included in the Base Bid.
- Only the term Additive Bid Item shall be used. Use of the term 'Alternate' is not permitted.
- The Work included in each Additive Bid Item shall produce a complete component which may be incorporated into the work in the Base Bid.
- Each Additive Bid Item shall be independent of other Additive Bid Items.
- None of the Additive Bid Items shall compromise the work in the Base Bid and other Additive Bid Items for compliance with Code, accessibility or safety requirements.
- Additive Bid Items shall be sequenced so the most essential Additive is listed first.
- When the project bids are received and opened, the low bidder shall be determined based on the lowest bid which combines the Total Base Bid Amount plus the total amount of the Additive Bid Items, taken in sequence, which JMU in its sole discretion decides to accept/award.
- Out-of-sequence selection of Additive Bid Items is prohibited, even if such manipulation would fit within the available funding.
- Negotiation of Additive Bid Item amounts is prohibited. Negotiations are allowed only for the Base Bid Work. If negotiations are required to allow the award of the Base Bid, the inclusion of any of the Additive Bid Items in the contract may not be considered in discussions during the negotiations, even if the negotiations of the Base Bid amount would yield sufficient savings to include an Additive Bid Item. Permission to negotiate with the low bidder on Capital projects must be obtained from the AVP Business Services.

5.12 Reviews and Approvals

5.12.8 Print and Release of Bid Documents: *(CPSM Section Noted, content modified)*

When authorized to advertise for bid by the approved HECO-6 or other CO forms contact the DEB Program Management Section at (804) 225-3769 to notify DEB of the Bid Receipt Date.

5.14 Value Engineering (VE) *(CPSM Section Noted, content modified)*

Capital Projects with a project cost greater than \$5,000,000 shall have a 40-hour Value Engineering (VE) Study conducted on the design. (See Code of Virginia § 2.2-1133.) The study shall be conducted by a qualified VE Team concurrent with the preliminary (40%) design review utilizing the five-step job plan as recognized by the Society of American Value Engineers (SAVE). A presentation of the study results shall be made to JMU.

For projects that (i) are designed utilizing either the Design-Build or Construction Manager at Risk construction delivery method, (ii) have the value engineering process as an integral component, and (iii) have been granted an appropriate waiver by the VP A&F shall participate in all cost savings decisions before modifications to the design may be finalized. Prior to the issuance of any permits, DEB shall be provided a summary of cost savings that have been incorporated into the design as well as potential cost savings that were considered but not incorporated. The summary shall be reviewed and recommendations made to the Director of DEB.

5.14.2 Procurement of the VE Study (*CPSM Section Noted, content modified*)

JMU shall procure the services of a Value Engineering consultant using non-professional services procurement procedures, per the Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and their vendors. RFP evaluation factors should include the experience, qualifications and expertise of each proposed team member.

The VE response to the RFP shall include the proposers list of proposed and alternate team members and their respective resumes representing their various disciplines/areas of expertise, together with the certified (CVS) team leader's qualifications and discipline shall be submitted with the proposal and approved at the time of negotiations. Changes to or substitutions to the approved VE team configuration shall be submitted in writing to JMU for approval.

The typical VE Team will be composed of:

1. VE Team Leader (CVS) **
2. Architect
3. Structural Engineer
4. Mechanical Engineer
5. Electrical (or Civil) Engineer
6. Typing, Clerical and Estimating support staff as necessary

** The principal person responsible for pre-study work, assembling, editing and reproducing the recommendations generated by the Value Engineering Team Study. C.V.S. must edit and sign the final report.

CHAPTER 6: DESIGN & PROCUREMENT CRITERIA, POLICIES AND GUIDELINES

Chapter 6 sets forth the design and procurement guidelines for use in developing plans and specifications for construction and renovation of university facilities. These guidelines shall be followed unless a waiver in writing is granted by the AVP Business Services.

6.0 Design Criteria and Guidelines

JMU design criteria and guidelines for the design of buildings constructed on university-owned property shall be followed by the A/E with respect to the design and procurement of the project. If the A/E determines that there is a valid reason for not conforming to the criteria or guides, the A/E must present their findings and justification to use differing criteria to JMU for approval by the AVP Business Services.

6.0.1 JMU Design Standards

Not Used Covered in 6.0

6.0.2 Plans, Sections and Details of Equipment or Systems

6.0.2.1 Design Intent

The drawings shall have sufficient plans, sections and details to generally indicate the intended equipment or system configuration in the space. Recognizing that it is often necessary to use some piece of equipment as a basis for designing, dimensioning and detailing, the drawings (but not the specifications) may be noted to indicate that the A/E has designed or detailed around a particular brand of equipment. In doing so, the A/E shall ensure that there is adequate space, capacity, etc., available to accommodate the other brands indicated in the specifications. See Section 5.3.9 of this Manual for requirements concerning the use of brand names and models.

6.0.2.2 Basis of Design

Where a particular manufacturer's product is indicated as the basis for design and detail, the following statement shall be placed on the drawing with appropriate noting/references:

"The design [detail] [section] shown is based on [manufacturer and model] equipment and is intended only to show the general size, configuration, location, connections and support for equipment or systems specified with relation to the other building systems. See specification Section [xxx] for technical requirements pertaining to the equipment."

6.0.3 Proprietary and Sole Source Procurement Procedures

6.0.3.1 Proprietary Specifications

In general, JMU's policy is to allow competitive bidding to the greatest extent practicable and to limit the proprietary procurement to only that material and/or work which has been justified and approved. From time to time, a situation arises in which only a single product will perform the required function. In such cases, the A/E should forward a request through the Project Manager justifying the use of the proprietary product for approval by the AVP Business Services.

Proprietary or Sole Source requirements shall not be used unless it is conclusively established that no substitute will serve the purpose. Timely submittal of the request is required to avoid delays

in the work. Use of proprietary items/specifications is prohibited unless formal written approval has been requested by the A/E and approved by the AVP Business Services.

6.0.3.2 Proprietary Specification Language

If proprietary specification authorization is granted, specify the item by manufacturer's name and catalog number, followed by "notwithstanding any other provision of this contract, no other product will be acceptable" or language of similar import. When the approved proprietary product is available from the manufacturer to two or more vendors or approved installers who regularly work in the area of the project, the product may be included in the project specifications for competitive bidding.

6.0.3.3 Sole Source or Franchised Vendors

When the proprietary product is available only through a sole source provider or installer and the AVP Business Services, acting upon request of the A/E, determines that it is in the best interests of JMU (by approval of the JMUCO-18 Sole Source Procurement Request), JMU shall procure the proprietary product, including installation where applicable, in accordance with the Governing Rules.

The sole source provider or installer shall be indicated on the Solicitation.

6.0.4 Separate Contracts for Material and Equipment

As an alternative to Proprietary and Sole Source Procurement Procedures, the proprietary procurement shall be deleted from the scope of the Work being solicited (the project plans and specifications) and a separate contract procured by JMU for such work.

6.0.5 Work that is "Not in Contract"

Work outside of the general contract, that is Not In Contract (NIC) for bidding but is to be included in the construction, shall be coordinated with the contract documents in one of the following ways.

6.0.5.1 Contractor-Purchased / Contractor-Installed – Option 1 (Subcontractor designated/price set by JMU)

Drawings and specifications must be included that describe the work including: scope of work, materials, installation, testing, and quality control. The Solicitation must include a statement that informs the General Contractor to accept the subcontract and coordinate the work as if the General Contractor had selected the subcontractor. The Solicitation shall also include the negotiated price of the subcontract to be included in the Bid. An example of this is a pre-selected Building Automation Systems subcontractor.

6.0.5.2 Contractor-Purchased / Contractor-Installed – Option 2 (Materials contract assigned by JMU)

Drawings and specifications must be included that describe the work including: scope of work, materials, installation, testing and quality control. The Solicitation must include the price of the materials contract and a statement that informs the General Contractor of the intent to assign a specific materials contract, and directs the General Contractor to accept and install the materials and coordinate the work as if the General Contractor had purchased the materials. An example of this is laboratory or kitchen equipment.

6.0.5.3 Owner-Purchased / Contractor-Installed

Drawings and specifications must be included that describe the work including: scope of work, materials, installation, testing, and quality control. The Solicitation must include a statement that informs the General Contractor of the intent to provide specific materials in a specific location, and directs the General Contractor to accept and install the materials and coordinate the work as if the General Contractor had purchased the materials. An example of this is existing or pre-purchased laboratory or kitchen equipment. JMU pays the supplier directly for the materials.

6.0.5.4 Owner-Purchased / Owner-Installed (or installed by Owner's Separate Contractor)

The Solicitation must include a statement that informs the General Contractor of the intent to perform specific work in a specific location, and directs the General Contractor to allow the work to proceed, and coordinate the work of the owner and other contractors. An example of this is medical equipment.

6.0.6 Approvals, Equals, and Substitutes

6.0.6.1 Approvals and / or Submittals Prior to Bidding/Soliciting

The Solicitation Documents shall not require samples, shop drawings, or similar materials to be submitted for approval prior to receipt of bids/proposals.

6.0.6.2 Approvals of Submittals

The specifications must contain sufficient information to describe to the contractor and bidders/offerors the performance and quality standards that will be used to evaluate the submittals.

6.0.6.3 Brand Names

Unless otherwise stated in the specifications, the name of a certain brand, make or manufacturer denotes the characteristics, quality, workmanship, economy of operation and suitability for the intended purpose of the article desired, but does not restrict bidders/offerors to the specific brand, make, or manufacturer. The brand names are shown to convey to the Contractor the general style, type, character and quality of article specified. If brand names are listed in the specifications, specify a minimum of three (3) brands with model numbers.

6.0.6.4 Equal Materials, Equipment or Assemblies

Any brand, make or manufacturer of a product, assembly or equipment which in the opinion of the A/E is the equal of that specified, considering quality, capabilities, workmanship, configuration, economy of operation, useful life, compatibility with design of the work, and suitability for the intended purpose, will be accepted unless rejected by JMU as not being equal. Also, the use of recycled materials and equipment is permitted provided that the equipment and materials have been deemed an equal per Section 26.b of the General Conditions.

6.0.6.5 Substitute Materials, Equipment or Assemblies

The General Conditions permit the Contractor to propose a substitute or alternate material, product, equipment, or assembly which deviates from the requirements of the Contract Documents but which the Contractor deems will perform the same function and have equal capabilities, service life, economy of operations, and suitability for the intended purpose. Examples of substitutes or alternates include proposing to substitute "precast concrete" for "cast-

in-place concrete” floors or to substitute “precast concrete panels” for “masonry” walls. The Contractor’s proposal must include any cost differentials proposed.

JMU would have the A/E provide an initial evaluation of such proposed substitutes to include a recommendation on acceptability and indicate the A/E’s redesign fee to incorporate the substitution in the design. If the proposed substitute is acceptable to JMU, a Change Order would be proposed to the Contractor to accept the substitute and to deduct the cost of the A/E redesign fee and the proposed cost savings from the Contractor’s Contract amount. JMU will have the right to limit or reject substitutions at its sole discretion.

6.0.7 Unit Prices

Certain aspects of construction projects, such as the depth to suitable foundation bearing for footings, piles or caissons, or the locations and amount of rock to be encountered and removed often must be estimated based on limited factual data. In such situations, to ensure fairness for JMU, the Bidders and the successful bidding Contractor, estimated quantities are shown for unit pricing and determining the low bidder. A statement is included on the Bid Form stating that actual quantities will be measured for the listed work and that the Contract Price will be adjusted upward or downward by change order to reflect the actual quantities involved times the Contractor’s unit price shown on the Bid Form (unless such prices have been modified by the Contract). See Standard Bid Form Format.

6.0.7.1 Implementation of Unit Prices

Where unit prices are used to competitively bid work which may vary depending on actual conditions encountered, the following method shall be used:

1. The A/E shall provide on the Bid Form the unit price schedule to include an estimated quantity of each work task or material listed. The estimated quantities should be reasonably accurate based on the best available information and the designers experience and judgment.
2. The bidders insert the unit prices for each and extend the estimated quantity times unit price to yield a cost.
3. The extended costs are then added to the part base bids for other work to give a total base bid.
4. A statement shall be included on the Bid Form stating that the payment for work listed in the unit price schedule will be based on actual quantities of listed items required for completion of the work.

Examples of Unit Price Method and Wording

Base Bids for Parts C, D and E shall be based on the estimated quantities indicated to be provided complete and in accordance with the applicable portions of the plans and specifications. Payment amounts for each of these items will be based on the actual quantities authorized, provided and approved times the unit costs indicated by the bidder. The final contract amount shall be adjusted upward or downward based on the actual payment amounts versus the bid amounts for PARTS C, D and E.

Part C. - Excavation of Additional Unsuitable Material

Excavation of unsuitable material, where authorized or directed, below the levels required for the Work in Parts A and B and backfill with compacted material per specifications. (price per cubic yard; final amount shall be adjusted up or down based on actual quantity authorized)

Estimated quantity of 150 cubic yards @ \$ _____ per cubic yard = \$ _____
 (A/E fills in estimated quantity to be included in bid)

Part C = _____ Dollars \$ _____

Part D. - Piling (Example for Timber Piling)

Timber piling provided complete in place in accordance with the plans and specifications (Priced per each pile at the indicated length):

40' Timber Piling 60 ea. @ \$ _____ ea. = \$ _____

30' Timber Piling 20 ea. @ \$ _____ ea. = \$ _____

Part D = _____ Dollars \$ _____

Part E. - Caissons (Example for Caisson Foundations)

Cast-in-place concrete caissons complete in place in accordance with the plans and specifications (Priced per linear foot of caisson complete and accepted for each caisson diameter):

36 inch Diameter 250 linear feet @ \$ _____ / linear feet = \$ _____

48 inch Diameter 175 linear feet @ \$ _____ / linear feet = \$ _____

Part E = _____ Dollars \$ _____

If rock excavation is required, use the following:

Part ____ - Excavation of Rock Material: (Example)

Excavation of rock material, where authorized or directed, and proper disposal off-site of excess material, complete per specifications. (Price per cubic yard; final price shall be adjusted up or down based on actual quantity authorized):

Estimated quantity of ____ cubic yards @ \$ _____ / cubic yard = \$ _____

Part ____ = _____ Dollars \$ _____

If rock excavation with backfill is required, use the following:

Part ____ - Excavation of Rock Material at Trenches: (Example)

Excavation of rock material, where authorized or directed, and proper disposal off-site of excess material and backfill with compacted trench fill material per specifications. (Price per cubic yard; final price shall be adjusted up or down based on actual quantity authorized):

Estimated quantity of ____ cubic yards @ \$ _____ / cubic yard = \$ _____

Part ____ = _____ Dollars \$ _____

6.0.8 Procurement of Furnishings and Loose Equipment

Loose equipment and furnishings are generally items moveable or portable versus permanently installed. It includes such items as fire extinguishers, but not FE cabinets; residential refrigerators; unattached residential stoves; unattached furniture; and other similar furnishings or loose equipment. JMU shall purchase loose equipment using the procedures described in the Higher Education Purchasing Manual and/or the JMU Small Purchasing Procedures.

6.0.9 Built-In Equipment

Built-in equipment comprises special purpose equipment or furnishings which are permanently built in or attached to general building construction. It includes such items as laboratory fixtures, kitchen cabinets, commercial laundry equipment, auditorium seating, stage rigging, AV equipment, security equipment, and so forth. Built-in equipment may be procured in the following ways provided the procurement complies with the Governing Rules.

1. Solicit the built-in equipment as part of the Construction Contract.
2. Solicit prior to receipt of bids/proposals on the Construction Contract where the successful bidder/offeror agrees to be assigned as a subcontractor to the Construction Contractor. That price and vendor's name are then listed on the solicitation using wording as shown on the sample "Bid Form (Standard Format)" for inclusion in the Construction Contract bids/proposals.
3. Solicit the built-in equipment to be furnished and installed as a separate contract for both procurement and installation.

6.1 General Design Standards

6.1.1 Guidelines for Space Planning

These guidelines are used for evaluating areas of common types of spaces. The guidelines are intended to help in planning space sizes and for calculating and justifying Capital Budget Requests space and area requirements. In the actual design of the project the agency may choose to make some spaces larger than the indicated guideline area and compensate by reducing the area allocated to other spaces. The use of areas greater than those indicated are not considered to be a valid justification for an increase in the authorized project square footage. Spaces which exceed the guidelines, any special space needs or special features required may need further explanation or justification in the Basis of Design.

Space Category & Type of Room or Space	Area Guideline	Remarks
Private Offices		
Agency Head or Department Director (Position requires confirmation by General Assembly)	196 sf	14' x 14'
Agency Head or Department Director	150 sf	10' x 15'
Assistant Director & Confidential Staff (Confidential Staff: describe position & why private office space is needed)	120 sf	10' X 12'
Open Offices		
Professional Staff Supervisor	96 sf	8' x 12'

Professional Staff & Support Admin. Supervisor	64 sf	8' x 8'
Contractors/Auditors	48 sf	6' x 8'
Field Staff, Floating Staff, Recep. & Support Admin.	48 sf	6' x 8'
Special Space Requirements		
Examining/Medical Rooms	100 sf	10' x 10'
Testing, Training, Hearing Rooms: Seminar Seating	15 sf	per person
Testing, Training, Hearing Rooms: Auditorium	10 sf	per person
Interview Areas	80 sf	8' x 10'
Reception Room, 1-5 visitors	144 sf	12' x 12'
Over 5 visitors, add:	10 sf	per person
Conference Room, 1st 10 chairs	25 sf	per person
Over 10 chairs, add:	15 sf	per person
Assembly / Auditorium, Meeting, Theater, Lecture Hall/Room		
Fixed Seats (incl. aisle space)	10 sf	per seat
Chairs, not fixed	10 sf	per person
Tables and Chairs	15 sf	per person
Standing/Observation Space	3 sf	per person
Educational Spaces		
Classroom, 10 - 49 stations	20 sf	per station
Classroom, 50 - 99 stations	15 sf	per station
Lecture, over 100 stations	10 sf	per station
Laboratory, Biology & Chemistry	45 sf	per station
Laboratory, Engineering	60 sf	per station
Laboratory, Physics or Geology	40 sf	per station
Laboratory, Art & Architecture	60 sf	per station
Lab Storage, Biology & Chemistry	10 sf	per station
Lab Storage, Engineering	10 sf	per station
Lab Storage, Physics or Geology	8 sf	per station
Lab Storage, Art & Architecture	10 sf	per station
Dormitory		
Bedroom	115 sf	per bed
Lounge & Recreation Space	25 sf	per bed
Storage Space	10 sf	per bed
Library		
Stack Space	0.08 sf	per book
Reading Space	10 sf	per user
Library Services	2.5 sf	per user
Food Service, Food Courts, Dining Halls		
Dining Areas	15 sf	per seat
Serving Line and Counters	1.5 sf	per seat

Kitchen and Food Preparation	2.5 sf	per seat
Food Storage	1.5 sf	per seat
Dishwashing Area	0.7 sf	per seat
Receiving Area	0.4 sf	per seat
Waste or Garbage Area	0.3 sf	per seat
Recreation Buildings	5 sf	per person
Bleacher Seats	20 sf	per locker
Locker Area	50 sf	per station
Weight Room	20 sf	per person
Exercise and Aerobics Area	20 sf	per person

6.1.1.1 Additional Clarifications

- Field Office Personnel who are routinely out of the office 50% or more of the normal work week shall be restricted to open office space.
- When evaluating conference or reception space, consider the “peak” or highest number of users at any one time on a frequent basis during a weekly period (4-5 times per week.)
- Conference Rooms are not typically sized for full staff meetings.
- File Storage is an area where Agencies may be able to save money by evaluating file storage practices. High density storage options or purging files on a regular basis may significantly reduce the amount of real estate needed over time.
- If the total number of private offices is greater than the total number of open office workstations, add 30 % to the total of all Personnel, Support and Special spaces for circulation.
- If the total number of private offices is less than the total number of open office workstations, add 35% to the total of all Personnel, Support and Special spaces for circulation.
- Handicapped accessibility will require additional area for maneuvering clearance.

6.1.2 Building Efficiency Ratios

6.1.2.1 General

Building efficiency is the ratio of Assignable Area to Gross Building Area expressed as a percentage and is determined based on the definitions and calculation procedures shown below. The minimum building efficiency ratios are a composite of the ratios or factors taken from recognized standards and are based on the definitions and procedures shown below. The minimum building efficiency ratios are intended to provide achievable minimum standards for design of an efficient, functional layout.

The definitions and procedures described below shall be used to determine the “Building Efficiency Ratio”. Use the VUSBC definition of Building Area for determining the allowable area for the building for code compliance.

(Higher Education Agencies should note that the SCHEV guidelines for determining space needs or justification considers not only the assignable space (classroom, laboratory, etc.) but also all spaces which directly serve that space as being part of the “program space”. Likewise, the SCHEV

area and use factors for “program space” are based on their definitions without regard to actual layout.)

6.1.2.2 Definitions

Gross Area (GSF): The total area of all floors of a building measured to the exterior face of the exterior walls, or to the horizontal projection of the roof or floor above for areas that are not provided with exterior walls. This is not to be confused with the definition of “Area, Building” in the Virginia Construction Code which is used for building area limitations.

Assignable Area (ASF): The area or the sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant, including every type of space functionally usable by an occupant except “Non-assignable Areas” defined below. The area of a closet or private toilet within an office or suite space shall be included in the calculation of the assignable area of that space. Assignable square footage shall include only program-related spaces; however, not all program related spaces are necessarily considered assignable.

Non-assignable Area: The area or the sum of all areas on all floors of a building not available for assignment to building occupants but which are necessary for the general operation of the building. Non-assignable space areas include corridors, stairs, lobbies, foyers, atria, entry vestibules, walls, columns, elevators, mechanical shafts, toilets (common and public), janitors closets, custodial, circulation, mechanical, HVAC and utility spaces, structural areas and open (shaft and atrium) spaces.

Custodial Area: That portion of the non-assignable area which is the sum of all areas of the building used for its protection, care, and maintenance. These include janitor’s closets, storage areas for custodial supplies and equipment, trash rooms, and custodial locker rooms.

Circulation Area: That portion of the non-assignable area which is required for physical access to other spaces, whether directly bounded by partitions or not. Circulation space includes corridors, elevator shafts, stairs, loading platforms, entry vestibules, foyers, atria, lobbies, tunnels and bridges. When determining circulation area, only spaces required for general access should be included. Aisles which are used for circulation within open office suites, auditoriums and other work areas are included in the calculation of the assignable area.

Mechanical Area: That portion of the non-assignable area designed to house mechanical/HVAC equipment, mechanical shafts, plumbing and sprinkler risers, electrical equipment rooms / closets, telephone and communications equipment rooms / closets, other utility services, and common or public (non-private) toilet facilities.

Structural Area: That portion of the non-assignable area which cannot be occupied or put to use because of the presence of structural features of the building. Included are columns, exterior walls, fire walls, and permanent partitions.

6.1.2.3 Calculations

The areas shall be determined from the actual floor plans for the facility. Assignable square feet (ASF) as a percentage of gross square feet (GSF) shall be no less than the ratios listed below. Exceptions to these building efficiency factors must be approved by the Director, JMU Engineering and Construction. Requests must be supported by written justification stating why these ratios cannot be obtained.

6.1.2.4 Building Efficiency Ratios

Building Type	Ratio: ASF to GSF
Office Building w/partitioned offices	70%
Office/Classroom Building (where classrooms are 29% or less of the assignable area)	70%
Office Building w/open office layout	90%
Classroom Building	66%
Classroom & Office Building (where classrooms are 70% or more of the assignable area)	66%
Health/Fitness Building with gymnasium & classrooms	85%
Health/Fitness Building (gyms, classrooms, pool, handball courts)	80%
Hospital or Infirmary	60%
Engineering/Laboratory Building	72%
Instructional Shop Building	90%
Library Building	75%
Fine Arts Building	72%
Science Building w/Laboratories	65%
Physical Plant Service Building	85%
Student Union	75%
Dormitory Housing w/ common use toilets	65%
Apartment or Townhouse Style Housing	90%
Suite Style Housing w/ private toilets	80%
Auditorium / Theater	70%
Dining Facility	72%
Warehouse	93%
Maintenance Garage	85%

6.1.2.5 Design Efficiency Rating

Design Efficiency Rating is a rating of the design efficiency as it relates to construction cost for the proposed design. The A/E shall design the project to achieve the highest Design Efficiency Rating as practical for the intended purpose.

6.1.3 High Performance Buildings Act - Design

JMU and our architects / engineers shall ensure that new construction and renovation of buildings is performed in accord with the following minimum standards for energy conservation and environmental performance. Individuals who perform the compliance modeling must have obtained a Building Energy Modeling Professional Certification such as ASHRAE Certification. Similar qualifications will be considered individually.

When entering the design phase for: 1) construction of a new building greater than 5,000 gross square feet in size, or 2) renovation of a building greater than 5,000 gross square feet where the cost of renovation exceeds 50 percent of the value of the building, the new construction and/or renovation shall be designed and constructed in accord with either method A, B or C of the following energy conservation and environmental performance standards.

A. Leadership in Energy and Environmental Design (LEED for New Construction & Major Renovations)

Demonstrate compliance by submitting a copy of the USGBC LEED certification to DEB after receipt by JMU.

B. Green Globes

Obtain a minimum of 2 Globes.

Demonstrate compliance by submitting a copy of the Green Globes certification to DEB after receipt by JMU.

C. Virginia Energy Conservation and Environmental Standards (VEES)

Comply with the ICC International Green Construction Code, Public Version 1.0, dated March 2010 as modified herein. Public Version 1.0 of ICC International Green Construction Code will remain in effect unless modified by a DEB Notice even if updated versions of the code are released. The minimum requirements to comply with the Virginia Energy Conservation and Environmental Standards determined by the Division of Engineering and Buildings are identified in the attached Compliance Matrix. Incorporate the following modifications into the ICC International Green Construction Code:

1. Chapters 1 and 3 are not used.
2. Chapters 2 and 12 are for reference only.
3. Appendices A, B, C, and D are not used.
4. Required code sections in Chapters 4 through 11 are listed in the Compliance Matrix.
5. When a Code Section is listed in the Compliance Matrix, and associated Code sub-sections are not listed, compliance with all sub-sections is required.
6. Where Code sub-sections are listed, only those Code sub-sections listed are required.
7. Disregard references to Table 302.1.
8. Modifications to required code sections are described in "Remarks" column of Compliance Matrix.
9. Project Electives determined by JMU.
10. Documentation requirements listed in the ICC International Green Construction Code are only required to be submitted to JMU at JMU's request.
11. Change "Code Official" to "JMU."
12. Change "AHJ" to "JMU."

6.1.3.1 High Performance Buildings Act - Submittal Procedure

Schematic Design

Determine if the project is subject to the High Performance Building Act (HPBA). The schematic design narrative shall indicate if the project is subject to the HPBA and, if subject, the method of compliance. (LEED, Green Globes, VEES)

If the compliance method is by LEED or Green Globes, JMU will use DEB's review for compliance with the HPBA, the review will end with the completion of the schematic design review. Once certification is completed, obtain a certificate from the University and submit a record copy to DEB. If the VEES method is chosen, the following applies:

Preliminary Design

Submit a copy of the completed Virginia Energy Conservation and Environmental Standards Compliance Matrix, provided in the DGS Forms Center, to DEB for review. Indicate where compliance documentation can be found. If there are sections where compliance cannot be achieved, indicate why. The matrix will be reviewed by DEB and will be returned to JMU and A/E if revisions need to be made or marked as approved. When approved, the matrix shall be used in the working drawing preparation.

Working Drawings

Use the matrix to ensure that items required by VEES are included in each discipline. DEB will use the approved matrix as part of their review to assure all required elements are included in the working drawings.

During Construction

The A/E shall document the items required by VEES. The University is to verify the documentation.

Completion

When the requirements of VEES have been completed, submit the Compliance Matrix Verification to DEB, signed and dated. If requested, plaques are available from DEB.

6.1.4 Structural Design Guidelines

6.1.4.1 Roof Load

The minimum design superimposed load for flat roofs and roofs with a slope of less than four (4) inches per foot shall be as required by the VUSBC. Greater live, snow and/or combination loads shall be used where local experience, calculations, drifting or other conditions dictate.

Actual design loads shall be calculated for live load, snow load, ice, water, and combination of these loads, but shall be no less than the minimum superimposed load required by code.

6.2 CIVIL & SITEWORK DESIGN STANDARDS

6.2.1 Earthwork

The A/E shall consider the recommendations in the geotechnical/soils report in developing the design.

6.2.2 Drawings

Details of the following conditions will be required:

1. Over-excavation and replacement with suitable materials.
2. Subsurface profiles (boring logs) and limits showing the extent of rock, existing fill materials, water and existing unsuitable bearing materials.

3. Specific notes shall state that earthwork is included in the base bid. Earthwork beyond the extent indicated will be considered for an extra cost, only if necessary and approved by the A/E, and not a result of the contractor's failure to maintain site/excavation stability, drainage or protection from frost penetration.

6.2.3 Earthwork Specifications

Specifications shall be definite, not general.

1. Coordinate Specifications with the Drawings.
2. Include a geotechnical/soils report in the Project Manual and a disclaimer stating that the report is not part of the Contract Documents each time this report is referenced.
3. Specifications for materials and instructions shall state whether they are included in the base bid or will be an extra cost item.
4. Rock excavation shall be included in the base bid to the extent that locations are sufficiently identified in the geotechnical/soils report. See Section 6.2.5.
5. Earthwork specifications shall include soil and aggregate material definitions for all materials used in the project. The soil materials shall be defined by a recognized soil classification system, such as the Unified Soil Classification System or the AASHTO Soil Classification System.

The definitions below are by the Unified system. The aggregates shall include gradations required for each material. All A/E standard specifications shall be edited to conform to the following requirements.

6.2.4 Structural Fill and Backfill

Generally restricted to GW, GP, GM, SM, SW, and SP unless other materials are specifically approved by the soils engineer or firm that conducted the on-site soils evaluations. SC, CL, and ML might be considered in some situations with the approval of the soils engineer.

6.2.4.1 General Fill and Backfill

Includes all classifications of materials noted above.

6.2.4.2 Unsuitable Materials

Includes OL, MH, CH, OH and PT, saturated material which in the judgment of the soils engineer cannot be aerated to be made acceptable, uncompacted fill (for structural bearing conditions), fill with unacceptable quantities of non-soil products, or other materials judged unsuitable by the soils engineer.

6.2.4.3 Aggregates

They may include porous backfill, pipe bedding, under slab fill, any special blend or open-graded material required for a special bearing or drainage use.

6.2.4.4 Moisture Content of Soil Materials

Laboratory tests are generally conducted on samples to determine the maximum density of soils, usually achieved at optimum moisture content. Field conditions during construction prevent attaining and maintaining the optimum moisture content. This requires that a tolerance for departure from this optimum must be specified. This tolerance is generally specified in the range of plus or minus 3% to 5% from the optimum moisture content without significantly affecting the ability to achieve the specified density.

6.2.4.5 Quality Assurance and Testing

The specifications shall list the tests required to be performed on the Work (i.e. ASTM, AASHTO, VDOT or other test procedures) and stipulate the values to be achieved.

6.2.5 Rock Excavation

Where rock excavation is likely to be encountered, the site shall have an adequate number of soundings taken. The designer shall use this data to show on the plans enough assumed rock profiles over the entire area to be excavated to identify clearly the condition assumed for the base bid. The specifications shall state the method of volume calculation and pay lines to be used.

The designer shall calculate and state in the Bid Form (See example in Section 6.0.7.1) an estimated quantity of rock to be excavated based on the assumed rock profiles. The bidder shall indicate a unit cost by which his bid for the rock excavation is calculated. This bid item shall be added to the other bid items to establish the Lump Sum Bid. The final net contract payment for rock excavation shall be adjusted (plus or minus) based on the actual quantity of rock excavated. This price shall include disposal of excess. General rock pay width shall be based on 18" outside of a neat wall face; or vertical projection from the extremities of the base, whichever is greater. Trench rock quantity shall be based on the widths stated in the specifications.

Rock excavation shall be defined as hard bed rock, boulders or similar material requiring the use of rock drills and/or explosives for removal. The criteria for classification of general excavation as rock shall be that material which cannot be removed by a track mounted D-8 dozer with a heavy ripper or 3/4 CY track mounted shovel with appropriate scoop. The criteria for trench rock shall be that material which cannot be removed by a 3/4 CY track mounted back hoe with a proper width bucket. The trench unit price shall only apply to material below the general grading level.

When the overburden is removed and the rock surface is exposed, the A/E shall verify that the material is of a hardness which qualifies it for classification as rock excavation. Actual profiles shall then be taken. The net difference between the actual rock excavation and that estimated volume shown in the Proposal shall be applied times the contract unit price for adjustment of the final payment.

6.2.6 Erosion and Sediment Control Requirements

The Department of Environmental Quality requires submittals for Erosion and Sediment Control, Stormwater Management and a Virginia General Discharge Permit. JMU operates its own MS4 Erosion and Sediment Control, and Stormwater Management program; all drawing shall be submitted to JMU for approval.

6.2.6.1 Plans and Specifications

Requirements shall be included in the specifications to assign to the contractor (as part of the contract) the responsibility of erosion and sediment control and stormwater management at all sites (on or off JMU's property) of borrowing, wasting or stockpiling of soil products. A statement similar to the following shall be used:

"The Contractor shall be responsible for satisfying any and all erosion control (EC) and stormwater management (SWM) requirements for any land disturbing activities, including but not limited to, on-site or offsite borrow, on-site or offsite stockpiling or disposal of waste materials. Before undertaking any land disturbing activity for which the plans do not specifically address erosion control and stormwater management, the Contractor shall contact JMU Stormwater Management office to determine what EC and SWM measures are necessary. The Contractor shall

completely satisfy all requirements of JMU Stormwater Management before continuing with the concerned activity. The Contractor shall provide on-site, a person certified as a 'Responsible Land Disturber' as defined in materials.

(Note: This instruction may be added to one appropriate specification section - such as Erosion and Sediment Control or Earthwork - with a reference made to that section each time borrow, waste or stockpiling is mentioned in other sections.)

6.2.7 Minimum Standards for Parking

A/E shall coordinate with JMU Parking Services and receive approval for the plan.

6.3 Concrete Design Standards

Include the following special requirements in the specifications for Cast-in-Place Concrete:

1. ACI 301, Specification for Structural Concrete for Buildings (current edition) shall be incorporated by reference as the standard unless otherwise modified.
2. Field tests of fresh concrete shall include Sampling - ASTM C172, Slump - ASTM C143, Making and Curing Test Specimens - ASTM C31, Air Content - ASTM C173 or ASTM 231, and Unit Weight - ASTM C138.
3. JMU shall engage the services of the concrete testing laboratory to perform the sampling, cylinder preparation and delivery, testing and reporting. The Contractor shall be responsible for adequate advance notice to the testing laboratory for the contractor's concrete pours/placement.

Individuals performing the field tests of fresh concrete shall have proper training, qualifications, and be certified as a Concrete Field Testing Technician-Grade I by the American Concrete Institute or other recognized certification conforming to the minimum requirements of the American Concrete Institute's certification. This certification requires the successful completion of a written and performance examination on the applicable ASTM test methods of this section. ICC certification is also acceptable.

6.4 Masonry Design Standards (Reserved)

6.5 Steel Design Standards (Reserved)

6.6 Wood & Plastics Design Standards (Reserved)

6.7 Thermal & Moisture Protection Design Standards

6.7.1 Waterproofing & Drainage for Subsurface Structures

No state buildings for human or equipment occupancy shall be designed with building systems (such as ductwork) or basement floor levels below the water table. Varying degrees of subsurface water content require the following minimum waterproofing and drainage techniques.

6.7.1.1 Soils with Little or No Obvious Water Content

1. Waterproof walls and provide any suitable waterproofing protection board.
2. Provide perforated type drainage pipe with gravel surrounding.
3. Backfill with suitable material that has some porosity.

6.7.1.2 Damp to Wet Soils with No Obvious Water Source

1. Waterproof walls and provide protection board. Note: If geotechnical type drainage board is used, protection board may not be required.
2. Provide perforated type drainage pipe and (if necessary) surround with full height gravel to the underside of the impervious soil or material. An approved geotechnical type drainage board may be used in lieu of the full height gravel at the contractor's option.
3. Provide impervious soil or material at finish grade.

6.7.1.3 Walls or Floors Below the Groundwater Table

1. Delete the lowest floor or space below the highest calculated groundwater table possible, or
2. Raise the level of the lowest top of floor structure above the top of the highest calculated groundwater table possible, and follow the waterproofing techniques listed above.

6.8 Doors & Windows Design Standards

6.8.1 Operable Sash

Unless impractical, it is recommended that operable windows be provided in areas that can create effective cross ventilation in the building if required due to failure of HVAC system. Operable sashes shall be provided with lockable operators.

6.9 Finishes Design Standards (Reserved)

6.10 Specialties Design Standards

6.10.1 Nuisance Bird Control

When dealing with nuisance birds, it is important to minimize the risk of affecting non-target species. The use of an integrated wildlife damage management plan, where multiple methods are implemented to reduce or eliminate damage is recommended. These methods can include harassment (loud noise, distress calls, visual frightening devices), chemical deterrents (repellents, roost inhibitors), physical barriers (netting, anti-perching devices, structural repairs) and habitat modification (vegetation management, eliminating sources of food and water). Control methods should be chosen as appropriate for the treatment area and to selectively control the target species. Some methods may be impractical, illegal, or aesthetically undesirable in some locations, so alternatives should be considered in these circumstances. If considering any methods of nuisance bird control, please contact your local office of the United States Department of Agriculture, or the Virginia Department of Game and Inland Fisheries for advice. When using sticky, polybutene-based roost inhibitors to deter pigeons from roosting, the designer should be aware of the product's effect on the target species and if there are any residual effects to other species or the environment. The designer should be aware of nearby sources of food and cover that may attract migratory birds to the treatment area. The designer may reconsider the use of the product or take additional steps to ensure that smaller, non-target birds do not become entangled in or harmed by the product. The product should be used in such a manner as to target the intended species only and applied in areas where the risk of affecting non-target species is minimal. Physical exclusion devices such as netting or porcupine wires may be used instead of or in addition to chemical repellents in these areas.

6.11 Built-In Equipment Design Standards (Reserved)

6.12 Furnishings Design Standards (Reserved)

6.13 Special Construction Design Standards (Reserved)

6.14 Vertical Transportation Design Standards

6.14.1 Final Acceptance for Elevators

Include the following statement in all Elevator Specifications:

“As a part of final acceptance of the project and in accordance with the General Conditions, the Contractor shall have a Qualified Elevator Inspector (QEI) conduct a full Acceptance Inspection and Test in accordance with ASME/ANSI A17.1 before final acceptance by JMU. The Contractor shall obtain from the elevator contractor and/or manufacturer and furnish to the Owner all data affecting the elevator installation or modification, including ‘as-installed’ circuit and control wiring diagrams and maintenance manuals.”

6.14.2 Elevator Microprocessors

If microprocessor control systems are provided for elevators, include the following:

1. In the general portion of the elevator specification include the following:

Repair Requirements: “For elevator microprocessor control system, provide maintenance diagnostic tools, electrical schematic wiring diagrams, and any access codes and passwords required for all maintenance functions, including diagnostics, adjustments, and parameter reprogramming. Tools may be hand held or built into the control system and shall function for the life of the equipment. Tools provided shall be usable throughout the life of the equipment without the requirement to return to the manufacturer. Provide complete operations and maintenance manuals including diagnostics instructions for troubleshooting the microprocessor system.”

2. In the products portion of the elevator specification include the following under the Control Equipment description:

Solid-State Control: “Elevator controller shall be solid-state microprocessor based for dispatch and motor control.”

6.15 Mechanical and Plumbing Design Standards

6.15.1 Rainwater Harvesting (Reserved)

6.15.2 Building Automation Systems Design and Procurement

Current Building Automation Systems (BAS) and Energy Monitoring and Control Systems (EMCS) have proprietary protocol and programs which limit their ability to tie-in or interface with the systems of other manufacturers or vendors. It is essential that JMU give careful consideration and attention to the planning, procurement, pricing, and implementation of their BAS and EMCS requirements and expansions.

6.15.2.1 Planning

The planning for a BAS or EMCS shall include consideration and evaluation of the following:

- Will the BAS/EMCS serve a single or multiple buildings?

- What functions, control and data gathering activities will the BAS/EMCS provide?
- Will the BAS/EMCS be tied-in to a Central Station?
- Will the Central Station provide only monitoring and data gathering functions?
- Will the Central Station Operator be able to control the BAS/EMCS functions at the separate or remote building?
- Does JMU have a BAS/EMCS currently installed at this location, campus, etc.?
- How many vendors have a BAS or EMCS at this location?
- Which vendors actively serve systems in this general area?
- Has JMU obtained cost data for comparison for installation costs and for service/maintenance costs on similar systems? (This is necessary if JMU intends to procure the BAS/EMCS as a sole source or competitively procured system.)

6.15.2.2 Policy on BAS / EMCS Competition

The Governing Rules contain the statutory procurement methods, requirements and restrictions. The BAS/EMCS be competitively procured unless specific approval has been obtained to use Sole Source procurement. Unless otherwise approved, Building Automation Systems (BAS) or Energy Management Control Systems (EMCS) shall be specified using performance or non-proprietary specifications. This should result in maximum competition and best cost for JMU/the state.

6.15.2.3 Building Automation System Evaluation

To expedite the review of the BAS/EMCS system for a project, the A/E, with input from JMU, shall provide the information required by the Building Automation Systems Questionnaire form (Form DGS-30-222) to describe the currently existing BAS's and shall submit to DEB not later than with the preliminary drawing submittal. The information provided by this questionnaire is essential in the DEB review of the proposed system at working drawings design stage.

6.15.2.4 BAS/EMCS Procurement

One of the following methods should be used to procure the BAS/EMCS for the project:

6.15.2.4.1 Method 1: Non-Proprietary / General Contract Bidding

All vendors may bid on the work. No special approvals are required. A Non-proprietary BAS/EMCS performance specification is included in the bid documents for competitive bidding along with all other work.

6.15.2.4.2 Method 2: Proprietary / General Contract Bidding

Where two vendors each have a BAS/EMCS currently in operation at the site and/or where JMU has made a determination in writing that only 2 or 3 vendors will be acceptable and all others are excluded, the JMU Project Manager may obtain approval from the AVP Business Services, to proprietarily specify that the BAS/EMCS bidders be restricted to those vendors listed in the specifications. The successful subcontract bidder would be required to perform the work required by the documents just as any other subcontractor.

6.15.2.4.3 Method 3: Sole Source Separate Procurement

Prior to completing the Working Drawings, JMU must make a determination in writing that only one vendor can meet JMU's requirements for the BAS/EMCS and obtain approval for a Sole Source procurement of the BAS/EMCS work. Once the use of sole source procurement is approved, JMU must decide if the University will supervise and manage the vendor or if JMU

will assign the BAS/EMCS vendor's contract to the project (General) Contractor to supervise and manage.

JMU shall then negotiate a price with the sole source vendor for the specified BAS/EMCS work and/or tie-in on the basis of the specifications and the contract management procedures selected and commit the agreement to writing.

If the (General) Contractor will be tasked with coordinating and supervising the BAS/EMCS vendor/subcontractor, the price and the name of the vendor for this automation work shall be placed on the Bid Form using the wording shown on the Sample Bid Form Format provided in the DGS Forms Center. The (General) Contractor Bidder is required to include this subcontract price plus any markups for supervision, coordination and profit in its bid and to be responsible for this work just as if the bidder had selected this subcontractor itself.

When using this Method 3, any part of the HVAC control system, fire alarm system, valves, dampers, etc., which do not have to be Sole Source shall be procured competitively.

If JMU elects Method 3, measures must be taken to ensure the cost and configuration of the system are reasonable such as using cost data for installation and for service/maintenance on similar systems for comparison.

6.15.2.5 Design and Specification of BAS / EMCS

6.15.2.5.1 Schematic Submittal

Indicate if a BAS/EMCS will be required for the project. If required, the submittal shall indicate which method JMU intends to use to procure the system.

6.15.2.5.2 Preliminary Submittal

Include a copy of the Sole Source procurement request approval or the Proprietary procurement request approval from the AVP Business Services if Method 2 or Method 3 are proposed for use.

6.15.2.5.3 Working Drawings

If either Method 1 or Method 2 above are selected for use, the A/E shall include the following BAS/EMCS information in the documents at the working drawing submittal:

- Performance specifications
- Sequence of operation
- Input / Output Summaries
- Control schematics
- Equipment (front-end computer, etc.) locations
- Control legend

If Method 3 above is selected for use, the Engineer shall require the BAS/EMCS vendor to provide the following to DEB at the working drawing stage (and prior to JMU's final agreement to the scope of work and the price):

- A breakdown of the vendor's proposed cost including materials, markups, subcontractors, labor and training.
- A completed input/output summary similar to the one shown as Form DGS-30-223, including a cost per point broken out into major types. (i.e., A.I., A.O., D.I, D.O., etc.)
- Control schematics and sequence of operation including interface with any other control system, and software functions that will be incorporated into the system.
- Details of any major additions to the system front-end/operator interface hardware and software.

6.15.3 Pressure Vessel Design Standards

All fired or unfired pressure vessels whether a part of an equipment package or an entire piece of equipment shall be specified to comply with the ASME Code. The specifications shall require that the pressure vessel be so stamped in an easily identifiable location and that the manufacturer's data indicating ASME compliance be submitted.

Comply with the Boiler and Pressure Vessel Rules and Regulations enforced by the Virginia Department of Labor and Industry.

6.16 Electrical Design Standards

6.16.1 Lightning Protection Systems

6.16.1.1 Determining if a Lightning Protection System is Required

The most recent edition of NFPA 780 shall be used to evaluate lightning protection systems, and to determine if a system is required. For new facilities, and solar array installations the A/E shall evaluate the building to determine if a lightning protection system is required. A lightning protection system is not required where either:

- A. The Annual Threat of Occurrence (Nd) is less than the Tolerable Lightning Frequency (Nc), as calculated in the Simplified Risk Assessment (L.5).
- B. The Total Risk (R) is less than the maximum Tolerable Risk (RT), as calculated in the Detailed Risk Assessment, for each type of loss relevant to the structure (L.6).

Provide a note on the project cover sheet or electrical cover sheet specifying the risk factors and specify if a lightning protection system is required. Risk evaluation documentation shall be made available upon request.

Photovoltaic array installations shall be provided with a lightning arrester either at the array or at the output of the inverter to protect downstream equipment regardless of the risk factor.

6.16.1.2 Photovoltaic Installations

Photovoltaic array installations shall be provided with ma lightning arrester either at the array or at the output of the inverter to protect downstream equipment regardless of the risk factor.

6.16.1.3 Lightning Protection System Labeling and Certification

Initial certification or re-certification by inspection is required for all lightning protection systems which are installed or modified as part of a construction project. The inspection shall be performed by either:

- A. Underwriters Laboratories under the most recent edition of UL 96A: Standard for Installation Requirements for Lightning Protection Systems.
- B. A Lightning Protection Institute certified inspector under the appropriate Lightning Protection Institute master certificate inspection.

The inspection shall certify the final installation to obtain a master label for all elements to include the facility and services entering the facility.

The installation contractor shall provide a third party master label inspection to JMU prior to project close out. Should the contractor not be able to obtain a complete master label, JMU shall provide the remaining certification at their expense prior to issuance of a final Certificate of Use and Occupancy or Building Permit Close Out. These are typically part of UL 96A, Chapter 13. Planning and coordination of inspections shall be conducted during the design phase, and shall be coordinated with JMU.

6.16.2 Busway Installation

Include the following paragraph in specifications for busway systems:

“The busway shall not be energized until the A/E has received and reviewed a letter from the Contractor and a Commonwealth of Virginia Licensed Professional Engineer provided by the Contractor, certifying that the installation was inspected and it was determined that the entire bus duct system has been properly installed in accordance with the bid documents, including approved shop drawings and/or manufacturer’s instructions for this project.”

The certification of this work shall include the torqued pressure used to tighten bolts at all spliced joints in the busway system.

6.16.3 Electrical Room drawings

All electrical rooms shall be drawn at a minimum of ¼” scale. All required clearances with text or faded dashed lines. All required door swing, and door hardware shall be noted and cross referenced to architectural drawings if submitted as a set.

6.16.4 Elevator Machine Rooms

Elevator machine rooms shall be drawn at a minimum of ¼” scale. Show all equipment to be provided by others. All required clearances with text or faded dashed lines. Provide all power and lighting as required by the latest adopted codes. Provide lighting with either a battery backup or from a generator.

6.16.5 Electrical Details

The following items require details to include all dimensions, materials, and location of construction to include distance above or below floor/finished grade:

- Duct bank

- Under/through footing penetrations
- Housekeeping/equipment pads
- Lighting switching – by tick marks, switch notation, or drawing notes. Lighting circuits are always required regardless of how the switching is indicated.
- Grounding detail for service entrance and individual transformers. Provide grounding conductors and electrodes: Sizes, materials, and associated conduits. Use of “per NEC” is not acceptable.
- Grounding riser diagram where generators, transfer switches, main-tie-main switchboards, or separately derived systems (aside from individual transformers) exist.
- ARC flash warning labels as required by NEC 110.16.

6.16.6 Emergency Systems (NEC 700)

All equipment, conductors, and conduits associated with emergency systems shall be clearly identified with drawing notation and physical labels. Emergency systems will be kept separate from all other systems as described in the NEC. All loads associated with emergency systems shall be required to be life safety.

6.16.7 Legally Required Standby Systems (NEC 701)

All equipment, conductors, and conduits associated with legally required standby systems shall be clearly identified with drawing notation and physical labels.

6.16.8 Optional Standby Systems (NEC 702)

All equipment, conductors, and conduits associated with optional standby systems shall be clearly identified with drawing notation and physical labels. Optional standby systems may share conduit and enclosures as permitted in the NEC.

6.16.9 Electrical Calculations

Provide the following calculations during the design process prior to submittal of working drawings:

- COMCheck verification
- Demand load for all switchboard, panelboards, and feeders to multiple loads in tabular form with 25% spare capacity.
- Voltage drop calculations showing no more than 2% for feeders, 3% for branch circuits, and 2% for exterior branch circuits that feed lighting or equipment not mounted to the building.
- Photometrics of emergency lighting along the entire path of egress at same scale as floor plan included in working drawing submittal. NOTE: If egress paths are not indicated on the plan, it will be assumed that the lighting levels for the entire room or area will need to meet the required illumination levels required by the VCC.
- All lighting and lighting calculations shall be provided in accordance with the 10th edition of the Illuminating Engineering Society of North America (IESNA) Handbook, and applicable energy codes.

6.16.10 Use of MC Cable

Also reference the JMU Design and Construction Guidelines.

Metal-clad (MC) cable may be used if the following conditions are met:

New Construction

1. MC Cable is used for branch wiring only.
2. A separate neutral conductor must be provided for each phase conductor in the cable assembly.
3. When running into a panel where the ceiling spaces are inaccessible, conduit (3/4" minimum) shall be run from the panel to a junction box in the nearest accessible ceiling.
4. Conduit shall be run neatly in straight, parallel runs, with proper support, and limited sag.

Renovation

1. per NEC
2. A separate neutral conductor must be provided for each phase conductor in the cable assembly.

6.16.11 Conduit as Ground is Not Permitted

Conduit shall not be used as ground. Where conduit has been used as ground in existing facilities, ground conductors, bonding jumpers and clamps shall be provided for all affected work to provide a separate grounding conductor in conduit back to the source of the branch circuit or feeder. Complete details shall be included on working drawings.

6.16.12 Fire-Rated Walls

All fire rated walls shall be noted on power and lighting sheets. Fire ratings shall match ratings indicated on architectural sheets.

6.16.13 Door Hardware Requirements

All door swing and door hardware requirements for transformer/electrical vaults, electrical rooms, generator rooms, or elevator machine rooms shall be noted on the electrical drawings as well as on the architectural sheets.

6.16.14 Clearance Markings

A 2" wide yellow line shall be painted on all concrete floors in electrical rooms and closets indicating the electrical working space as defined by the NEC. The space dimensions shall be provided by the design professional on the contract drawings. Stencil "NO STORAGE – ELECTRICAL WORKING SPACE" in 2" high, yellow letters centered in the space outlined area.

6.16.15 Mechanical Equipment

Provide coordination between mechanical and electrical drawings for means of disconnect for all mechanical equipment. Where a means of disconnect must be provided by the electrical contractor, provided coordinated drawings specifying the location, means of support, and means of connection to the equipment. Group disconnects to reduce mounting hardware requirements, supports, and roof penetrations.

Dashed or faded outlines shall be provided for all mechanical equipment on drawings. Provide notes as required to indicate clearances for maintenance, installation, or provisions for servicing. Coordinate with mechanical drawings where possible.

All mechanical equipment used to evacuate smoke, fumes, or provide heating in support of life safety equipment such as sprinkler pipes, shall be provided a circuit breaker locking device in the associated panelboard. Verify that such equipment qualifies for NEC 700, 701, or 702 systems.

6.16.16 4-Wire Delta Systems

No 4-Wire Delta systems are permitted to be used in new construction. Where 4-wire delta systems exist, they may be reused, but all elements of the system must be brought up to NEC standards when modified. Modification includes disconnection, connections, and reconfiguring of any part of the system. Provide labels, grounding, color coded conductors, etc. as required by the latest edition of the NEC.

6.16.17 Circuit and Equipment Designations

All circuit designations shall be provided in such a manner that any drawing sheet may stand on their own for purpose of circuit designation. Circuits shall be provided with circuit numbers, conductor and conduit sizes as a minimum. All equipment designations shall be provided in such a manner that any drawing sheet may stand on its own for purpose of equipment designation. No references to index sheets shall be used for the purpose of identification of circuits or equipment.

6.16.18 Incandescent Lights

As part of the preliminary design submittal, the agency shall submit the rationale for selecting incandescent and contact information for the person(s) requiring the use of incandescent fixtures.

6.16.19 Environmental Initiative Documentation

All design aspects to include existing conditions, material use and disposal, and commissioning shall be documented on the drawings and identified as being mandatory for the evaluation of the project with respect to the certification being sought.

6.16.20 Points of Contact

All pertinent points of contact for construction efforts shall be documented in the drawings to include Owner representatives, construction managers, utilities, and communications contractors where known.

6.16.21 Dig Notice

Where digging is required as part of the construction effort, include the following on the working drawings: "Contact Miss Utility at 811, 1-800-552-7001, or <http://www.missutilityofvirginia.com> and JMU Facilities Utility Locators no less than 72 hours prior to excavation and do not disturb the soil until dig ticket for both has been processed."

6.16.22 Marinas, Boat Yards, Docks and Floating Buildings

All electrical installations subject to NEC Article 553 and 555, shall be provided the following additional safeguards, as approved by the agency:

1. Shore power circuits shall be provided one of the following: a. Ground fault monitoring: Notification of ground fault conditions shall be provided by indicator lights and sounders, or a beacon. The notification device(s) may be located at the branch circuit source, or at the marine power outlet, or both. Notification devices shall be visible to the general public. Notification devices will require a reset that is not accessible by the general public. Fault current threshold may be adjusted to no more than 10mA. Supplemental notification to remote panel is permitted, but indicators must be visible to the general public.

b. Shore power GFCI: A ground fault shall open all poles of any shore power circuit where a ground fault is detected at the circuit breaker in the distribution panel. Class A or Class B GFCI protection is acceptable.

c. Distribution power GFCI: A ground fault shall open the main circuit breaker of any panel providing shore power when a ground fault is detected at the distribution panel. Fault current threshold shall be adjusted to a maximum of 80mA.

d. An emergency power off button shall be located at the head of each pier, dock, gangway and on the dock such that there is no more than a 100 foot travel path to a button from any place on the floating structure to include finger piers or other such extensions to the dock. Each button shall:

i. Be a red latching plunger.

ii. Have a minimum diameter of 2".

iii. Be provided in a clear weatherproof cover.

iv. Be accessible to the general public without locks or latches.

v. Mounted between 36 and 48" above the dock surface.

vi. Labeled "EMERGENCY ELECTRICAL SHUT OFF" in 1" high reflective white letters on a red background.

vii. Shunt-trip the circuit breakers to feeders providing electrical service to the dock where button is located.

viii. Activate a siren, >75dB, at the button and at the head of the dock when depressed.

2. All 15 and 20 amp, 120V power circuits present on docks, floating building, or buildings within 50 feet of the 100 year minimum shore line. Class B GFCI is permitted for locations over water, Class A shall be required in all other locations.

3. A ground fault shall open the main circuit breaker of any panel on docks, floating buildings, or buildings within 50 feet of the 100 year minimum shore line when a ground fault is detected at the distribution panel. Fault current threshold shall be adjustable to a maximum of 300mA.

4. Docks shall be configured such that power connections between the marine power outlet and vessels shall be unobstructed. Cords shall not be required to be routed over surfaces, under water, or through a conduit to be connected to a vessel.

5. Commissioning: All commissioning shall be third party, accomplished as a condition of DEB, and be conducted according to Chapter 4 of "Commissioning Building Electrical Systems", NECA 90-2004. Commissioning shall be accomplished for all service ground, groundings system elements, Ground-fault protection Systems, relays, and breakers.

6. The engineer shall provide a third party stray voltage study as a condition of DEB. A stray voltage measured at more than 2 volts will require documented corrective measures. The study shall:

a. Be accomplished with all power connections complete and power applied to all marina power outlets.

b. Use a voltmeter with greater than 20M. input resistance and 50mV accuracy.

i. Voltage samples shall be accomplished by driving a metal probe 6" into the earth, or a 1' long metal probe or wire submerged below the water surface where samples are to be in the water.

ii. Voltage samples shall be accomplished with and without a 5K. load resistor across the meter input.

iii. Provide voltage samples relative to the neutral bus and ground bus for each voltage sample, and be recorded with 3 significant digits.

c. Provide voltage samples at each panelboard and transformer at the equipment location and 1', 5', and 10' from the equipment.

d. Provide voltage samples at each shore power connection at connection location and in the water 5' from the connection.

6.16.23 Aluminum Conductors

Aluminum conductors shall not be used.

CHAPTER 7: CONSTRUCTION PROCUREMENT AND ADMINISTRATION

7.0 General

In 2016 the General Assembly authorized (Chapter 780) James Madison University, as part of a five-year pilot program, to exercise additional financial and administrative authority as set out in each of the three functional areas of information technology, procurement and capital projects as set forth and subject to all the conditions in 2.0, 3.0, and 4.0 of the second enactment of Chapter 824 and 829 of the Acts of Assembly of 2008 except that (i) any effective dates contained in Chapter 224 and 829 of the Acts of Assembly of 2008 are superseded by the provisions of this item and (ii) the institution is not required to have a signed memorandum of understanding with the Secretary of Administration regarding participation in the non-general fund decentralization program in subsection C of 2.2-1132 in order to be eligible for the additional capital outlay project authority.

In accordance with **the Act**, the James Madison University Board of Visitors (BOV) approved the resolution for policy and procedures to comply with **the Act** on June 3, 2016. In accordance with the adoption, James Madison University (JMU) hereby adopts the James Madison University Higher Education Capital Outlay (HECO) Manual (JMU Manual). The JMU Manual sets forth standards, policies, terms, conditions, and procedures to be followed by James Madison University, including all departments and colleges, in procuring Capital Professional Services and Capital Construction Services to comply with **the Act**.

JMU was granted additional authority as a Tier II institution with Capital Outlay Pilot status under the Code of Virginia, Higher Education Management Act (the Act) and subject to the Pilot status for Capital Outlay as authorized by the 2016 General Assembly (Chapter 780). The Governing Rules for Procurement (the Rules) establish the procurement policy for JMU in substitution to the Code of Virginia 2.2-4300 (VPPA). Additionally, after successful fulfillment of requirements through the "Pilot Program", James Madison University applied to be governed by Article 4 of **the Act** and adopt Level III status as an institution of Higher Education. Approval was given by the Governor and a Management Agreement dated November of 2018 was signed by James Madison University (JMU) and The Commonwealth of Virginia; Chapter 125.

In compliance with the Act, Chapter 780 (2016), Chapter 125 (2019), and Secretary of Administration CM/DB Procedures this Manual serves to notify DGS/DEB, the A/E, Contractor, and other entities involved in regulating, proposing, or contracting with JMU for design, construction, and capital outlay projects of the procedures JMU applies to the management of its Capital Outlay Program. The Act provides that:

Tier III agencies have control over all capital outlay procedures regardless of the source of funds (General Fund or other). For pool funded projects, this control begins once the project has been funded by the Governor's Designee (6-PAC). Tier III agencies have the option of selecting their Building Official; JMU will continue to utilize DEB/DEB as the University Building Official (UBO).

The CPSM defines a "capital project" as the acquisition of any interest in land, including improvements on the acquired land at the time of acquisition, new construction, improvements, or renovations. The term shall not include any capital lease.

The Governing Rules defines "construction" as building, altering, repairing, improving, or demolishing any structure, building, or highway, and any draining, dredging, excavation, grading, or similar work upon real property.

For purposes of this Manual, "construction" includes new construction, reconstruction, renovation, restoration, major repair, demolition and all similar work upon land, buildings and ancillary facilities owned or to be acquired by JMU with the exception of highway construction undertaken by the Department of Transportation.

All Construction Work, for both capital and non-capital projects (over \$1 Million), shall be procured in accordance with this Manual regardless of the source of funds by which the contract is to be paid. Non-Capital work (under \$1 Million) may be procured as non-professional services in accordance with the Governing Rules and the Higher Education Manual and is not subject to the requirements of this Manual. If there is doubt, either contact Procurement Services for guidance or use the procedures of this Manual for procurement of construction.

7.0.1 Capital vs Non-capital Projects

Subject to changes in legislation, a Capital Project (major capital outlay project) is defined as a construction project with a total project cost of \$3 million or more or that creates new building square footage of 5,000 square feet or more. Construction projects that fall below the \$3 million or 5,000 square footage threshold are referenced as non-capital projects. Several non-capital sub-projects may be aggregated into an Umbrella Capital Project. Maintenance Reserve with multiple sub-projects is an example of an umbrella capital project. A capital sub-project may be performed as a non-capital project subject to the authority granted in the form HECO-2 Authority to Initiate a Capital Outlay Project.

Contract Documents for Capital, Maintenance Reserve, and Non-Capital (over \$1 million) construction projects that require Plans and Specifications prepared by an A/E shall include the General Conditions of the Construction Contract ([HECO-7](#)). Supplemental General Conditions may be used to modify the HECO-7. JMU, at its discretion, may include a Supplemental General Condition to waive the requirements of the HECO-7 as it relates to the Builders' Risk insurance for certain projects upon verification with JMU's Department of [Risk Management](#) that its insurance will provide adequate coverage.

All university required HECO and JMUCO Project forms can be found on the JMU HECO Manual Forms website at jmu.edu/hecom/forms.shtml.

7.0.2 The Building Committee

For every major capital project (regardless of funds source), JMU shall establish a Building Committee. This requirement may be satisfied by one or more committees, dependent upon the needs and the project volume of JMU. The committee shall be appointed by the AVP Business Services or his or her designee.

7.0.2.1 Authority and Purpose

The Building Committee assists throughout the project, including as required selecting architects, engineers, and construction contractors to carry out planning, design, construction, or other services and making recommendations for selection.

7.0.2.2 Composition of Building Committees

The Building Committee is assigned based on individual knowledge of the functional, operational, and technical requirements of the project and may include representation from the following areas as needed for the project:

- a. University Contracting Officer (required, ex-officio, organizes and staffs the meetings)
- b. Representatives of the end-users department for the proposed new/renovated facility

- c. Facilities Planning & Construction
- d. Facilities Operations
- e. University legal counsel (ex-officio, advisor)
- f. Other representatives as deemed appropriate by the AVP Business Services

7.0.3 University Contracting Officer

The University Contracting Officer for capital outlay design and construction resides in the office of Procurement Services and maintains professional procurement certifications applicable to the duties of the position. Training and certification as a Virginia Construction Contracting Officer (VCCO) and other procurement designations are applicable. If JMU does not have a VCCO, each construction and professional service procurement shall be reviewed and approved by a university procurement professional knowledgeable in the administrative procedures used in selecting design and construction professionals, the development of a project design scope, the techniques for negotiating an A/E and contractor fees, and the content and preparation of MOUs.

7.0.4 Authorization to Advertise Solicitation (HECO-6)

Authorization to solicit is given on completion of technical review(s) of the project documents by the UBO and approval of the Project HECO-6 for Capital Projects. For non-capital projects, it is recommended that the documents be reviewed by the UBO at the preliminary design stage (before development of working drawings) in addition to a final review of the working drawings before advertising for bids or proposals. Failure to do so puts JMU at risk for change orders if bids or proposals are based on documents which do not conform to the requirements of this JMU Manual

7.0.5 Work Performed by Other than Public Contract

Unless waived by the action wording on the approved HECO-2, university work force personnel shall submit electronically their plans and specifications bearing the seal of the responsible architect and/or engineer for UBO review, approval, and Building Permit prior to beginning work. The format and instructions for submittals are outlined in Chapter 5 of this JMU MANUAL.

The wording on the HECO-2 establishes the design phase documents required for capital project review. The wording "to proceed" waives the requirement for design phase reviews and forms HECO-4, HECO-5, and HECO-6. However, this does not relieve JMU (or their A/E or contractor) from compliance with all applicable building codes and standards nor does it relieve JMU from submitting the plans/sketches and the specifications/work description (i.e. working drawings) as necessary to obtain a Building Permit for the work.

7.0.6 Small Businesses Procurement Plan

JMU is committed to increasing participation of Virginia Department of Small Business and Supplier Diversity (DSBSD) Certified (i) small businesses (ii) small woman-owned businesses, and (iii) small minority-owned businesses. JMU expects Contractors to provide for significant participation of small businesses, businesses owned by women and minorities through partnerships, joint ventures, subcontracts, or other contractual opportunities. All bids/proposals shall include a small business participation plan.

For capital projects, reporting shall be on a form template provided upon contract award (also can be found on JMU HECOM Forms website. Contractor shall submit form to each pay request by attaching to GC Pay **and** electronically to the Procurement department @ swamreporting@jmu.edu . Accurate Reporting of sub-contractors is a requirement for all A/E's and Contractors awarded Work.

JMU may set a level of small business participation above executive requirements at its discretion. Unless the bidder is a certified small business at the time of bid receipt, bids shall be considered non-responsive if the minimum level established is not met. Proposals shall be evaluated and provided with the points deemed appropriate for the submitted plan. Any plan shall become a requirement of the contract.

7.0.6.1 Small Business Set Asides

JMU may set aside construction projects up to \$100,000 for small businesses at its discretion, and as identified within the solicitation.

7.0.6.2 Small Business Certification

The contractor shall provide DSBSD certification of all small business subcontractors as soon as practicable after signing of the contract.

7.0.7 Audits

In order to assure compliance with contract requirements, including small business subcontracting plans, JMU shall contractually provide for appropriate auditing of vendors and contracts. Such audits shall include the right to make on site audits at any time during the term of the applicable contract or certification.

7.0.8 Bonds

7.0.8.1 Bid Bond

Per Governing Rules §28:

- A. Except in cases of emergency, all bids or proposals for construction contracts in excess of \$1 million shall be accompanied by a bid bond from a surety company selected by the bidder that is authorized to do business in Virginia, as a guarantee that if the contract is awarded to the bidder, he will enter into the contract for the work mentioned in the bid. The amount of the bid bond shall not exceed five percent of the amount bid.
- B. No forfeiture under a bid bond shall exceed the lesser of (i) the difference between the bid for which the bond was written and the next low bid, or (ii) the face amount of the bid bond.
- C. Nothing in this section shall preclude JMU from requiring bid bonds to accompany bids or proposals for construction contracts anticipated to be less than \$1 million.

7.0.8.2 Performance and Payments Bonds

Per Governing Rules §29:

1. Upon the award by JMU of any (i) public construction contract exceeding \$1 million awarded to any prime contractor or (ii) public construction contract exceeding \$1 million awarded to any prime contractor requiring the performance of labor or the furnishing of materials for buildings, structures, or other improvements to real property owned by JMU, the contractor shall furnish to JMU the following bonds:
 - A. Except for transportation-related projects, a performance bond in the sum of the contract amount conditioned upon the faithful performance of the contract in strict conformity with the plans, specifications, and conditions of the contract. For transportation-related projects, such bond shall be in a form and amount satisfactory to JMU.
 - B. A payment bond in the sum of the contract amount. The bond shall be for the protection

of claimants who have and fulfill contracts to supply labor or materials to the prime contractor to whom the contract was awarded, or to any subcontractors, in furtherance of the work provided for in the contract, and shall be conditioned upon the prompt payment for all materials furnished or labor supplied or performed in the furtherance of the work. "Labor or materials" shall include public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the site.

- C. Each of the bonds shall be executed by one or more surety companies selected by the contractor that are authorized to do business in Virginia.
- D. The bonds shall be payable to the Commonwealth of Virginia naming also JMU.
- E. Each of the bonds shall be filed with JMU, or a designated office or official thereof.
- F. Nothing in this section shall preclude JMU from requiring payment or performance bonds for construction contracts below \$1 million.
- G. Nothing in this section shall preclude the contractor from requiring each subcontractor to furnish a payment bond with surety thereon in the sum of the full amount of the contract with such subcontractor conditioned upon the payment to all persons who have and fulfill contracts that are directly with the subcontractor for performing labor and furnishing materials in the prosecution of the work provided for in the subcontract.

7.0.8.3 Alternative Forms of Security

Per Governing Rules §30:

- A. In lieu of a bid, payment, or performance bond, a bidder may furnish a certified check or cash escrow in the face amount required for the bond.
- B. If approved by JMU's General Counsel or his or her equivalent, a bidder may furnish to JMU a personal bond, property bond, or bank or savings institution's letter of credit on certain designated funds in the face amount required for the bid, payment or performance bond. Approval shall be granted only upon a determination that the alternative form of security proffered affords protection to JMU equivalent to a corporate surety's bond.

7.0.9 Conflict of Interest

JMU seeks to maintain the highest level of public trust in its procurement process which includes avoiding conflict of interest and perceptions of conflict of interest. Refer to University Policy 1106 for information relating to requirements regarding conflict of interest.

7.0.10 Evaluation of the Contractor

(also see Denial of Prequalification Section 7.2.3.6.)

Upon completion of the Construction Contract, the A/E may be required to complete a HECO-14b (Opinion of Contractor's Performance). An evaluation may also be completed by the University PM. The evaluation will emphasize the evaluator's opinion of the quality of construction, timeliness of the Work and conformance with the Project schedule, timeliness of Shop Drawings Submittals, number, and validity of CM/Contractor requests for clarification of Drawings and Specifications intent, resolution of construction problems, and cooperation.

The A/E and university may also complete a JMUCO-14b evaluation on any individual Subcontractor or Supplier performing Work on the Project to note above average, below average, or poor performance. JMU may provide a copy of this evaluation to the Contractor.

If the Contractor wishes to comment on the evaluation, dispute any part of the evaluation, or offer its side of the issue, the CM/Contractor may submit a response to JMU. The CM/Contractor's response may be attached to and made a part of JMU evaluation form for future reference.

The completed evaluation shall be retained in JMU Contractor Evaluation Files for review and consideration by future selection panels. JMU may also share completed evaluation forms with other institutions and government agencies.

The Procurement VCCO is responsible for maintaining Contractor Evaluation Files.

7.0.11 Debarment and Enjoinment

A contractor may be debarred or enjoined under certain circumstances. JMU will follow the procedures outlined in the Commonwealth's "Debarment and Enjoinment Procedures for Construction" found at [Debarment and Enjoinment](#).

No award shall be made to a contractor known to be currently debarred or enjoined by the Commonwealth of Virginia, or the United States Federal Government.

7.1 Construction Procurement

7.1.1 Principles of Competition

It is the intent of JMU to seek competition in procurement actions to the greatest degree possible. Competitive sealed bidding or alternative construction contracting options may be used as deemed appropriate by JMU and as approved in writing by the VP Administration and Finance with a D&F. Alternative contracting options include: Prequalification, Construction Management (all types), Competitive Negotiations, and Design/Build. (*Rules § 4*)

Furthermore, it is JMU's intent to seek high quality construction services at reasonable cost, that all procurement procedures be conducted in an open, fair, and impartial manner with avoidance of any impropriety or appearance of impropriety, that all qualified vendors have access to university business and that no offeror be arbitrarily or capriciously excluded. Competition will be sought to the maximum feasible degree while allowing JMU flexibility in fashioning details of such competition. (See Rules § 3)

The construction procurement procedures identified in this manual apply to all university construction projects exceeding \$1M regardless of the source of funds. Construction, or repair or replacement in kind, or remodeling or renovation and Maintenance Reserve projects are subject to the bidding and procurement procedures identified in this Manual.

The relative size and technical complexity of the construction contract is used to determine the appropriate procurement method to be administered in accordance with procedures described in this chapter and at the sole discretion of JMU.

7.1.2 Advertisement, Public Notice

Projects shall be publicly advertised as stipulated for each procurement method as identified in this Chapter. Public notice of Invitation for Bids (IFB), Request for Qualifications (RFQ), or Request for Proposals

(RFP) should be publicly posted for a period of time long enough for contractors to adequately respond. All solicitations must be posted on the DGS central electronic website [eVA](#) for a minimum of 10 days or as required by procurement procedures when the procurement is not made from a prequalified pool of contractors or term contract. Public notice may also be published in a newspaper of general circulation and/or on other appropriate websites. In addition, solicitations may be solicited directly from potential contractors which shall include businesses selected from a list of [DSBSD](#) certified contractors.

7.2 Methods for Construction Procurement

7.2.1 Competitive Sealed Bid

There are multiple processes under competitive sealed bidding based on the value of construction. JMU may choose to prequalify bidders or subcontractors using procedures in Section 7.2.3.1.

7.2.1.1. Construction up to \$1,000,000

Construction up to and including \$1 Million shall typically be procured as goods and services under Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and their Vendors. Procurement methods may include direct awards as per small purchase procedures, awards to “on demand” prequalified contractors per established procedures, established cooperative contracts (including JOC), IFB and competitive negotiation. Procurement method shall be determined by the Procurement Contracting Officer (Buyer) with input from the Project Manager and as needed the Director of Procurement Services reviewing factors such as project timeline, budget, and complexity to determine method in the best interest of the University. When public posting of a solicitation is required the posting will typically be 30 days prior to the bid/proposal due date, but shall be no less than 10 days; posting days for these purchases are at the discretion of the Contracting Officer (Buyer).

7.2.1.2 Construction over \$1 Million - \$3 Million

Construction over \$1 Million but not greater than \$3 Million shall typically be procured utilizing Competitive Sealed Bidding (IFB). With the approval of the Director of Procurement and AVP Business Services competitive negotiation may also be utilized. Request for approval documents shall include justification for a competitive negotiation process, shall outline criteria of award, and shall list risks associated by not utilizing the Sealed Bid process. The solicitation shall also then outline the justification for utilizing the competitive negotiation process. When public posting of a solicitation is required the posting will typically be 30 days prior to the bid/proposal due date, but shall be no less than 10 days; posting days less than 30 days requires the documented approval of the AVP Business Services. Documentation shall be kept on file.

7.2.1.3 Construction over \$3 Million

The construction delivery method other than Design/Bid/Build for a capital project shall be requested by the Director of Engineering and Construction in consultation with the Director of Procurement Services. A written determination shall be made in advance that competitive sealed bidding is not practicable or fiscally advantageous. The Determination & Finding shall document the basis for the determination to use CM@R or DB utilizing criteria listed above. JMU shall submit the D&F to DGS for evaluation of the selected procurement method. DGS will make its recommendation as to whether the use of CM or DB is appropriate for the specific project. This review shall be completed and render its written recommendation within a five working day period. The written recommendation shall be maintained in the procurement file. Final

recommendation will be approved in writing by the VP Administration and Finance (VP A&F). The following critical components will be considered in recommending the appropriate construction delivery method for each project:

- Construction Cost (typically in excess of \$26M per SOA Procedures for CM@Risk)
- Project Complexity (difficult site location, unique equipment, specialized building systems multifaceted program, accelerated schedule, historic designation, or intricate phasing or some other aspect that makes competitive sealed bidding not practical). For DB simplicity is a critical criteria.
- Building Use
- Project Timeline
- Project Phasing
- Necessity of Value Engineering and/or Constructability Analysis Concurrent with Design
- Quality Control/Vendor Prequalification Needs
- Cost/Design Control Needs
- Need for single point of contact (Design-Build)
- Overall benefits to the university

Reporting:

The University will report on selected project delivery methods annually or as needed upon request by the Department of General Services.

7.2.1.5 Capital Competitive Sealed Bids – Design-Bid-Build (IFB)

Design-Bid-Build is the traditional method for building and renovation where JMU, working with its consulting A/E, designs the project, solicits bids through an Invitation for Bids (IFB), and awards the construction contract to the lowest responsive and responsible bidder (General Contractor/GC) to build the project. The following general procedures shall be used for competitive sealed bidding.

1. Develop clear and concise scope of work including plans & specifications (bid documents). See the requirements outlined in Chapter 5.
2. Use CO-7 General Conditions of the Construction Contract.
3. Payment and Performance Bonds are required for any capital construction project.
4. Establish a bid receipt date that is 30 days after the IFB solicitation in eVA.
5. Advertise for bids, providing public notice by posting to eVA and soliciting other resources as appropriate.
6. Conduct a Prebid Conference if/as advertised in the IFB.
7. Issue Addendum as required.
8. Receive bids by the deadline specified in the IFB or subsequent Addenda. Date/time stamp each bid as it is received.
9. Publicly open and announce bids the next business day at the specified time.
10. Evaluate bids to determine lowest responsive and responsible bidder. If less than two bids are received, an award may be made after written justification is included with the procurement file justifying price reasonableness.

11. Post notice of intent to award or notice of award in the location normally used for this purpose.

7.2.2.1 Invitation for Bids

The Invitation for Bids (IFB) for competitive sealed bid construction projects typically include the following standard forms:

- DGS-30-054, General Conditions of the Construction Contract, Form HECO-7;
 - DGS-30-055, Instructions to Bidders, Form JMUCO-7a;
 - DGS-30-256, Notice of Invitation to Bid;
 - DGS-30-220, Bid Form;
 - DGS-30-076, Workers Compensation Certificate of Insurance, Form JMUCO-9a;
 - DGS-30-084, Standard Performance Bond; Form HECO-10;
 - DGS-30-088, Standard Labor and Material Payment Bond, Form HECO-10.1;
 - DGS-30-090, Standard Bid Bond, Form HECO-10.2;
 - DGS-30-092, Change Order, Form HECO-11;
 - DGS-30-104, Schedule of Values and Certificate for Payment, Form HECO-12;
 - DGS-30-108, Affidavit of Payment of Claims; Form HECO-13
 - DGS-30-112, Certificate of Completion by A/E or Project Manager, Form HECO-13.1;
 - DGS-30-116, Certificate of Substantial Completion by A/E, Form HECO-13.1a;
 - DGS-30-136, Certificate of Completion by Contractor, Form HECO-13.2
 - DGS-30-140, Certificate of Substantial Completion by Contractor, Form HECO-13.2a;
- Various other documents described in Chapter 5. See the JMU [HECO Manual Forms Center](#) for a description and links to required forms.

7.2.2.2. Bid Period Activities

7.2.2.2.1 Prebid and Preproposal Conferences

Information concerning A/E preparations for bidding including the preparation of bid documents, the Invitation for Bids, the Instructions to Bidders (Form JMUCO-7a), the Bid Form, and advertising are described in Chapter 5.

Prebid or Preproposal Conferences provide an opportunity to clarify critical aspects of solicitations, eliminate ambiguities or misunderstandings, and permit contractor input. Conferences will be scheduled to allow time for proper notification and scheduling by interested contractors.

Attendance at conferences or site visits may be optional or mandatory. Conferences should be mandatory only when the project is significantly complicated or a site visit is required to observe existing conditions since mandatory conferences may limit competition. If mandatory attendance is stipulated, only bids or proposals from those contractors represented at the conference will be accepted.

7.2.2.3 Addenda to the Bid Documents

Addenda shall be issued as necessary to clarify or correct information in the bid documents, to respond to questions raised by the bidders, and/or to modify the bid receipt date. All addenda shall be approved by JMU prior to issuance.

No oral explanation in regard to the meaning of the drawings and specifications shall be made and no oral instructions shall be given to the bidders prior to the receipt of bids.

Addenda shall identify JMU, the project title, the 11-digit project code, and the specific items to be modified. Addenda shall be written in a clear and concise manner. Each item shall identify the location in the documents of the item to be changed (e.g. plan sheet number and view or specification section and paragraph number) and describe the change to be made (e.g. change dimension in Section from x'-xx" to y'-yy" or delete wording in Section 09999, paragraph 3 (b) as written and replace with the following words ".....").

One copy of all Addenda shall be submitted to the UBO and the regional State Fire Marshal's Office at the same time and by the same means as the Addenda are issued to the bidders (most typically through eVA).

7.2.2.3.1 Major Clarifications or Corrections

Addenda to clarify or correct significant information in the Bid Documents shall be issued at least 6 days prior to the bid receipt date. Addenda which add work to the project, which provide significant information (affecting price, time, quality, or quantity) which must be considered by subcontractors and suppliers, or which contain many pages of corrections must be issued at least 6 days prior to the date set for receipt of bids or the bid date must be delayed to allow 6 days from addendum issue to bid date.

7.2.2.3.1 Minor Clarifications

Addenda which serve primarily to provide clarifications or corrections that do not require significant changes to the Bid documents and can be covered in a one page Addendum may be issued up to 3 days prior to bid date. Addenda which only delay or cancel the date for receipt of bids should be issued at least 24 hours prior to the date and time set for bid receipt. In the event of inclement weather closings or delays at JMU the receipt date shall be extended by at least one day, but notification may occur less than 24 hours in advance of the original closing date/time.

7.2.2.4 Bid Receipt, Opening & Evaluation

The opening and announcement of all bids received shall be made public (see Rules § 4.3.b.3). JMU representative receiving the bids for construction shall be thoroughly trained and knowledgeable of the proper procedure for receiving and documenting bids. This person will typically be a certified VCCO or a person acting under the supervision of JMU VCCO. The person must be focused on receiving the bids, documenting the receipt, opening the bids properly, and evaluating the bid information.

JMU Contracting Officers will refer to the Checklist for Receiving and Opening Bids in the current version of the CPSM.

7.2.2.5 Notice of Award or Intent to Award

Once the bid evaluation is complete, the successful low bidder has been determined, and JMU has approval to award a contract, JMU will post a notice of award and may also post a notice of intent to award, JMUCO-9.1. The notice shall also be updated on [eVA](#) VBO posting.

7.2.3.6 Authority to Award A Capital Outlay Project Contract

When the apparent low responsive and responsible bidder / contractor is determined for a capital project, a tabulation of bids and a Form HECO-8, Approval to Award Contract shall be prepared. The Contracting Officer will prepare the contract documents. Following approval of the HECO-8 and with the recommendation by the Contracting Officer, the contract for award to the lowest responsive and responsible bidder will be routed for approval and execution.

Low Bid Equal to or Less Than Estimate

If the low bid is equal to or less than the construction estimate on the approved HECO-6 or authorizing advertising document, the HECO-8 may be prepared for approval by the designated university Contracting Officer and subsequently routed for signatures. The HECO-8 shall reflect the proposed construction contract amount (low and additives taken), A/E fees, project inspection, equipment, other, and construction contingency. Note that remaining funds may de-allotted and held pending project completion.

No commitment, verbal or written, shall be made until bids have been reviewed and approved by the Contracting Officer and the HECO-8 is fully approved. When the HECO-8 is approved, a contract can be awarded.

Low Bid Exceeds Estimate

If the low bid exceeds JMU's estimate of construction costs shown on the approved HECO-6 or authorizing advertising document, JMU may:

1. Accept the bid if funds are available within the approved total project budget; or
2. Request authority to infuse additional funds sufficient to award a contract; or
3. Request authority to negotiate; or
4. A combination of the any of the above; or
5. Reject all bids.

7.2.3.7 Infusion of Funds

If JMU elects to infuse additional funds and accept the low bid, Director of Procurement or designee will document the following: a revised HECO-2, the HECO-8, a copy of the bid tabulation, a copy of the Bid Form submitted by the successful low bidder, a copy of the JMUCO-9b, Post-Bid Modification if appropriate, and request to award the contract.

For state funded projects, the HECO-2 request to infuse additional funds and above supporting documentation is submitted to DGS for approval. Concurrently, AVP Planning & Budget or designee will submit a request for DPB to approve the infusion of funds into the project. No commitment, verbal or written, shall be made until infusion of funds has been reviewed and received approval from DPB and DEB. When the HECO-2 is approved by DEB, a contract may be awarded.

7.2.3.8 Provisions for Negotiation with Low Bidder

Unless canceled or rejected, a responsive bid from the lowest responsible bidder shall be accepted as submitted, except that if the bid from the lowest responsible bidder exceeds available funds, JMU may negotiate with the apparent low bidder to obtain a contract price

within available funds. (See Rules §15) If there is some term of the contract that may be subject to negotiation or requires clarification, JMU has the right to do so. When the low bid exceeds the approved construction budget and the conditions and right to negotiate were included in the bid documents JMU may negotiate with the lowest responsive and responsible bidder as outlined below. In general, bids which are less than 10 percent over budget can reasonably be negotiated.

If the changes required to reach a construction cost within the available budget involve significant re-design and/or scope modifications, JMU should reject all bids. The project may then be re-designed and updated bid documents may be re-bid.

7.2.3.8.1 Authority to Negotiate

The AVP Business Services may approve negotiation with the apparent low bidder after review of the bid tabulation, the specifics of the request and the justification submitted by JMU Project Manager or Contracting Officer.

The request for approval to negotiate may include the following information with written documentation:

- a) Pre-bid estimate of construction cost from the approved HECO-6 or other documentation
- b) Tabulation of bids and bidders
- c) Name of recommended university negotiator
- d) Name of architect/engineer firm's advisor(s)
- e) A list of the items or work proposed to consider in the negotiation. (VE recommendations previously rejected shall be considered.)

In the interest of time, the AVP Business Services may give verbal approval followed by written authorization to begin negotiations.

7.2.3.8.2 Documentation of Revisions

Negotiations shall be documented on a completed Form JMUCO-9b, Post-Bid Modification, and the final negotiated price shall be entered on Form HECO-8 for approval to award the contract. The project budget on the HECO-8 shall show the proposed construction contract amount (negotiated contract amount), A/E fees, project inspections, equipment, and construction contingency if funds are available for such contingency. No commitment, verbal or written, shall be made until bids have been reviewed and approval to award the contract. When the HECO-8 is approved, a contract may be awarded.

The A/E, as part of his basic services, shall advise JMU as to the functional, operational, safety, and code aspects of all proposed changes in the work. The A/E shall also advise JMU the appropriateness of the dollar value of each change. Once the negotiations are complete, the A/E shall assist the Project Manager or Contracting Officer in preparing the documentation of the negotiations and prepare any sketches, details, or other modifications to the plans and specification to clarify the work to be performed by the Contractor. This documentation shall be made part of the contract.

All changes to previously approved project specifications and drawings are subject to approval by the UBO.

7.2.3.9 Rejection of All Bids

JMU, at its sole discretion, may choose to reject all bids and not award a contract.

7.2.3.10 Protest Of Award Or Intent To Award

Any bidder who desires to protest the award or decision to award a Contract shall submit such protest in writing to the JMU Director of Procurement, no later than ten days after the award or the announcement posting of the intent to award, whichever occurs first. No protest shall lie (i.e. be sustained or have a basis) for a claim in which the selected bidder or offeror is not a responsible bidder.

The written protest shall include the basis for the protest and the relief sought. JMU shall issue a decision in writing within ten days of the receipt of the protest stating the reasons for the action taken. This decision shall be final unless the bidder or offeror appeals within ten days of the written decision by instituting legal action as provided for in the Governing Rules § 50.

Stay of award during protest (Rules § 52): An award need not be delayed for the period allowed a bidder or offeror to protest, but in the event of a timely protest, no further action to award the contract will be taken unless there is a written determination that proceeding without delay is necessary to protect the public interest or unless the bid or offer would expire.

7.2.3.11 Award Of The Construction Contract

After receipt of an approved HECO-8, a written contract may be entered with the contractor using the Form JMUCO-9. A copy of the Notice of Award, Form JMUCO-9.1a, shall be **publicly posted** concurrent with the notice to the Contractor that his bid has been accepted.

7.2.3.12 Refund of Deposits For Drawings And Specifications

At JMU's sole discretion, bid documents may be distributed electronically by file transfer or by simply downloading at plan rooms, in which case there should be no deposit charged. It is the A/E's responsibility to provide electronic bid documents in a read-only format which is readily usable by JMU and by all bidders.

In the event JMU elects to distribute paper bid documents, a deposit may be charged. All checks used as a deposit for the purpose of securing plans and specification shall be made payable to the A/E or the entity tasked with distribution of the bid documents. If documents are returned in good condition within 10 days after bid opening, checks will be returned or a refund issued to the contractor. The A/E may require separate payment of a nominal shipping charge where the Contractor requests shipment rather than pickup of bid document sets. Shipping charges are intended to reflect only the cost of packaging and shipping the documents and are not refundable to the plans holders. Likewise, the charge for distribution via removable electronic media (DVDs, flash drives, and the like) shall be minimized to cover direct costs only and no refund will be provided.

7.2.2 Competitive Negotiation (Rfq / Rfp)

Negotiated project delivery methods typically involve a two-step process:

- 1) Solicitation through a Request for Qualifications (RFQ and Pre-qualifying potential contractors to identify the best qualified Contractors for the project;

- 2) Solicitation through a Request for Proposals to identify a Contractor for construction contract award.

There are several contractual methods for delivery of a competitively negotiated construction project including design-build, construction management at risk (CMAR), construction management agency (CMA), and negotiated construction contracts.

Procurement process may involve multiple phases. In a two-step process, each of these methods is initiated with a procurement process for Prequalification (see Section 7.2.3.1).

7.2.2.3 Construction Management (CM at Risk; CM Agency)

Construction Management is an alternate construction delivery method to Competitive Sealed Bids in which JMU holds two primary contracts: a contract for professional A/E design services and also a two-phase contract with the CM. CM at Risk is typically limited to projects above \$26,000,000. With proper justification and approval from the VP of A&F, lower dollar projects may be approved for this procurement method.

1. Construction Management at Risk (CM at Risk) with design phase (preconstruction) services is a negotiated project delivery method that entails a commitment by the Construction Manager (CM) to deliver the project within a competitive Fixed Fee based on negotiations. The CM acts as consultant to JMU in the Document Review Phase, but as the equivalent of a General Contractor (GC) during the Procurement and Construction Phases. Here the CM takes bids/proposals for each Construction Subcontractor Package in an "open book" environment and is awarded a fixed price contract(s) to construct the project.
2. Construction Management Agency (CM Agency), contracted with or without Design Phase Services, is a negotiated project delivery method where the CM acts as JMU's General Contractor (GC) staff in the management of a construction project or program, where the CM is responsible to JMU for managing the planning, design, construction, and post construction phases, or portions thereof. The CM represents the interests of JMU in its dealings with other construction professionals, and with other private and public entities. In this scenario JMU directly awards and holds all construction contracts which are managed by the CM Agent.

Standard documentation and forms can be reviewed at the [JMU HECO webpage](#).

7.2.2.3.1 Approval to use Construction Management

1. A written determination shall be made in advance that competitive sealed bidding is not practicable or fiscally advantageous. The Determination & Finding shall document the basis for the determination to use CM@R utilizing criteria listed above.
2. JMU shall submit the D&F to DGS for evaluation of the selected procurement method. DGS will make its recommendation as to whether the use of CM is appropriate for the specific project. This review shall be completed and render its written recommendation within a five working day period. The written recommendation shall be maintained in the procurement file.
3. Prior to making a final determination as to the use of CM@R for a specific construction project, a covered institution shall have in its employ or under contract a licensed architect or engineer with professional competence appropriate to the project who shall advise JMU regarding the

use of CM@R for that project and will assist JMU with the preparation of the Request for Proposal and evaluation of proposals.

4. If JMU elects to proceed with the project using a CM@R procurement method despite the recommendation of DGS to the contrary, JMU shall state in writing its reasons therefore and any justification for not following the recommendation and submit it back to DGS. The written statement of JMU decision not to follow the recommendation shall also be maintained in the procurement file.
5. JMU's justification for the use of CM@R shall be included in the RFQ and RFP.

7.2.2.3.2 General Guidelines

The following general guidelines apply to the use of a CM contract.

- Use of construction management is limited to the critical components as stated in section 7.2.1.3.
- A construction management contract will be initiated no later than the completion of the project schematic design phase unless prohibited by authorization of funding restrictions.
- The Request for Qualifications for a design-build or construction management procurement will include language to substantiate the construction delivery method and identify sealed bidding not being practicable and/or fiscally advantageous.
- The Request for Qualifications will include criteria for contractor selection. Prior CM@R experience or experience with DEB shall not be required as a prerequisite for award of a contract. However, in the selection of a contractor, JMU may consider the experience of each contractor on comparable projects.
- The Request for Qualifications evaluation process will result in a short list of three to five offerors to receive the Request for Proposals.
- The Request for Qualifications will be posted for no less than 30 days on eVA, the Commonwealth statewide electronic procurement system; postings may be identified by selecting the appropriate Construction "category."
- The CM may only self-perform 10% of the work, and for the remaining 90% of the work must seek publicly advertised competition to the maximum extent practicable.
- The GMP is established at the completion of working drawings.
- As the approving authority for the selection of the appropriate method for capital outlay construction, the VP A&F may authorize exceptions to these General Guidelines on a project specific basis.

7.2.2.3.3 Contractor Selection Procedures – Construction Management

1. The AVP Business Services may approve any changes to the previously established Building Committee. A licensed architect or engineer shall be employed or under contract to advise in the use of CM@R.
2. Construction Manager Selection is a two-step process:

Step 1: Selection of Qualified Offerors

- A. JMU will conduct a Prequalification process in accordance with Section 7.2.3.1) to determine which offers are qualified to receive a Request for Proposals (RFP).

- B. A Request for Qualifications will be issued and the responses evaluated to establish a short list comprised of between 3 and 5 offerors. If available the short-list shall include 1 DSBSD certified small-business that meets the minimum requirements for pre-qualification. The basis of selection shall be JMU's evaluation of which Qualification Statements demonstrate the greatest conformance with the requirements set forth in the RFQ.

Step 2: Selection of a Construction Manager

- A. Request for Proposals (RFP) will be sent to the short list of 3 to 5 firms with a request for submission of formal proposals. RFP's may request the following information as appropriate:
- A lump sum fee for Services in accordance with the scope of services included in the RFP.
 - A General Conditions Fee based upon an anticipated duration set by JMU and detailed in a specific listing of General Condition's items and their associated cost.
 - (See worksheet [DGS-30-468](#)).
 - An Insurance and Taxes Fee expressed as a rate (percentage) to include all insurance costs such as general liability insurance, builder's risk insurance, payment and performance bonds, and any other insurance costs that are required by the contract and any taxes such as local business licenses or other taxes that are required for the completion of the work expressed as a percentage. The Insurance and Taxes Fee is to be inclusive of all items, other than design or CM contingencies, CM Fee, or General Conditions Fee, that will be included in addition to the cost of the work in establishing the Guaranteed Maximum Price and the final contract value.
 - A CM/GC Fee to include all home office expenses, overhead and profit during the construction phase of the Contract.
- B. Selection of the Construction Manager will be based upon Committee evaluation of the RFQ and RFP responses and conformance with the criteria contained within the RFP. Suggested criteria for the RFP evaluation include:
- Appropriately licensed and in good standing as a Class A General Contractor in the Commonwealth of Virginia.
 - Ability to obtain appropriate insurance coverage for the project.
 - Appropriate bonding capacity.
 - A listing of experience of at least three projects of similar scope, complexity, and delivery method including construction cost, schedule, and university or architect representative's contact information.
 - A listing of at least three past performance questionnaires completed by professional references.
- C. The CM Fee and the Preconstruction Services Fee shall be evaluated based upon the sum of those fees and not individually.
- D. The Committee will evaluate and rank the proposals. After evaluation and ranking the Committee shall:
- Conduct negotiation with two or more offerors submitting the highest ranked

proposals.

- Should JMU determine, in writing and at its sole discretion, that only one offeror is fully qualified or that one offeror is clearly more highly qualified than the others under consideration, a contract may be negotiated and awarded to that offeror.
- The Committee shall make its recommendation on the selection of a construction manager to the VP A&F based on its evaluations and negotiations. The contract shall be awarded to the offeror who is fully qualified and has been determined to have provided the best value in response to the Request for Proposal.
- Upon approval of VP A&F JMU will issue the HECO-8, Approval to Award Construction Contract.
- JMU will notify all offerors who submitted proposals which offeror was selected for the project.
- When the terms and conditions of multiple awards are so provided in the RFP, awards may be made to more than one offeror

7.2.2.3.4 Construction Management at Risk Contract Terms

CM at Risk contracts are generally structured into two separate and distinct contract phases:

- A. Phase 1: Pre-Construction Phase Services: Form JMUCO-9CM(1)
These services are subject to the Terms and Conditions for Non-Professional Services and will be performed for a stipulated or fixed amount.
- B. Phase 2: Construction Phase Services: Form JMUCO-9CM(2)
These services are contingent upon the CM at Risk providing an agreeable Guaranteed Maximum Price (GMP) proposal to JMU.
 - a. The contract may stipulate that the CM may self-perform no more than 10% of the work, and, for the remaining 90% of the work, the CM must seek subcontractors through publicly advertised competition to the maximum extent practicable.
 - d. Ideally the GMP is established at the completion of working drawings. However, in the event of phased permitting where the drawings and specifications are not complete for portions of the project, but where early release packages have been bid and permitted, JMU shall use JMUCO-9CM(ER) for the release of the work for those packages. Early release packages shall be established based upon approved working drawings for the work of that package and the value of the early release shall serve as an interim GMP for the work pending the full GMP for the project. The intermediate packages shall correspond with the partial permits being issued (example: clearing & grubbing, grading, or site utilities) or shall be for long lead items that need to proceed in order to maintain the project schedule (example: mill orders for structural steel).

Prior to approving the HECO-8 for early release packages JMU may consider alternate funds sources to supplement the allotted funding or identify scope of work that can be eliminated to reduce the project cost without impacting the program function or code compliance of the building.

If a GMP cannot be agreed upon, the Contract for Phase 1 is concluded and JMU will not enter into a Phase 2 contract with the CM at Risk. At this point in the process with the documents substantially complete, and after review and approval by the VP A&F, the project may be bid using standard competitive sealed bidding procedures. If the project is bid using standard competitive sealed bid procedures, then the construction contingency of the CM process would no longer be applicable. Allowances and contingencies may not be applicable using the standard Design-Bid- Build process.

Alternatively, if factors remain that sustain the benefit of the CM at Risk process, with the approval of the VP A&F, JMU may request a GMP from the other short-listed CM at Risk proposers.

7.2.2.3.5 General Notes

- The Contractor must be licensed in Virginia by DPOR as a Class A Contractor.
- A “Pre-Construction” meeting may be conducted with the UBO to coordinate the documents that will be required for the Building Permit and partial permits that may be issued for early phases of the work.
- JMU will submit design development and construction documents to the UBO for review and issuance of a building permit.
- JMU is required to contract for independent Structural and Special Inspections, paid for by the project separately from the CM contract. See Appendix M in current CPSM for further information.
- JMU will ensure that the work is inspected by other than the Contractor to assure conformance with the plans and specs – usually by JMU’s Project Inspector.
 - Inspections by the UBO and State Fire Marshal’s Office Representatives are required.
 - A Certificate of Occupancy is required.
 - The Contractor must use all applicable CO- Forms and Contracts for the project.
 - The GMP construction contract form JMUCO-9CM(2) will incorporate JMU CM @ Risk Construction Phase Scope of Services made project specific.

These procedures may be modified as needed specific to a particular project with the approval of the VP A&F using a D&F. Standard documentation, forms and formats may be found at the [JMU HECOM website](#).

7.2.2.4 Competitive Negotiation

Competitive Negotiation is a negotiated project delivery method that involves a commitment by the Contractor to deliver the project within a firm fixed price based on the terms of the contract and 100% design documents as amended during the negotiation process. In Competitive Negotiation, price is not required to be the determining factor in selection, although it may be, and JMU has the flexibility to negotiate with Offerors to arrive at a mutually agreeable Contract.

7.2.2.4.1 Approval to Use Competitive Negotiation Contracts

JMU shall document in writing using a D&F the decision to use Competitive Negotiation procedures. The documentation shall justify and substantiate that Competitive Negotiation is more advantageous than a competitive sealed Bid Construction Contract with a GC and shall indicate how JMU will benefit from using Competitive Negotiation. JMU shall submit

the D&F to DGS for evaluation of the selected procurement method Final recommendation shall be approved by the VP A&F.

Standard documentation and forms can be reviewed at the [JMU HECO](#) webpage.

7.2.2.4.2 Procedures

See Section 7.2.2.3 Construction Management (CM). These procedures may be modified with the approval of the VP A&F using a D&F. However, in all cases the stage of design shall be one hundred percent (100%) final construction documents for procurement of a Competitively Negotiated Construction Contract.

7.2.2.5 Design-Build (D/B)

Design-Build is a negotiated project delivery method which combines professional architectural and engineering design services with construction services under one negotiated contract agreement. This method reduces one aspect of Owner risk by assigning a single entity responsibility for all phases of a project. The following procedures will guide the procurement of all negotiated construction contracts for Design-Build Contracts.

Standard documentation and forms can be reviewed at the [JMU HECO](#) webpage.

7.2.2.5.1 Approval to use Negotiated Construction Contracts

1. A written determination shall be made in advance that competitive sealed bidding is not practicable or fiscally advantageous. The Determination & Finding shall document the basis for the determination to use DB utilizing criteria listed above.
2. JMU shall submit the D&F to DGS for evaluation of the selected procurement method. DGS will make its recommendation as to whether the use of DB is appropriate for the specific project. This review shall be completed and render its written recommendation within a five working day period. The written recommendation shall be maintained in the procurement file.
3. Prior to making a final determination as to the use of DB for a specific construction project, a covered institution shall have in its employ or under contract a licensed architect or engineer with professional competence appropriate to the project who shall advise JMU regarding the use of DB for that project and will assist JMU with the preparation of the Request for Proposal and evaluation of proposals.
4. If JMU elects to proceed with the project using a DB procurement method despite the recommendation of DGS to the contrary, JMU shall state in writing its reasons therefore and any justification for not following the recommendation and submit it back to DGS. The written statement of JMU decision not to follow the recommendation shall also be maintained in the procurement file.
5. JMU's justification for the use of DB shall be included in the RFQ and RFP.

7.2.2.5.2 General Guidelines.

- Design/Build contracts are intended to minimize the project risk for JMU and to reduce the delivery schedule by overlapping the design phase and construction phase of a project.
- VP A&F shall approve a written D&F that sealed bidding is not practicable and/or fiscally advantageous as stated in section 7.2.1.3.
- The justification for using D/B should be stated in the Request for Qualification and Request for Proposals.
- Any exceptions to the procedures shall be approved, in advance, by the VP A&F.

7.2.2.5.3 Contractor Selection Procedures – Design/Build

- A. The AVP Business Services shall appoint a Building Committee. A licensed architect or engineer shall be employed or under contract to advise in the use of Design/Build

- B. Develop detailed Criteria Standards (Bridging Documents) for inclusion in the D/B RFP solicitation. JMU may procure an A/E firm using the professional services procurement process to assist with development of the bridging documents. Bridging documents should be project specific, particularly with regard to existing conditions, but may include:
 1. Survey of site
 2. Soil borings/geotechnical reports
 3. Program describing building use and functional requirements
 - a. Various user groups/space
 - b. Specific operational requirements
 - c. Specific equipment demands
 - d. Square footage
 - e. Architectural restrictions
 4. Schematic floor plans showing building dimensions
 5. Site restrictions (access, staging area, traffic control, work hours, etc.)
 6. Schedule constraints
 7. Master planning documents (if available)
 8. Any additional data that is pertinent to the project.

- C. Design/Build Contractor Selection is a two-step process

Step 1: Selection of Qualified Offerors

- A. JMU will conduct a Prequalification process in accordance with Section 7.2.3.1 to determine which offers are qualified to receive a Request for Proposals (RFP).

- B. JMU will issue a Request for Qualifications (RFQ) including the criteria to be used to evaluate RFQ responses and other relevant information including any unique capabilities or qualifications that will be required of the contractor.

- C. The RFQ responses will be evaluated to establish a short list comprised of between 3 and 5 offerors. If available the short-list shall include 1 DSBSD certified small-business that meets the minimum requirements for pre-qualification. The basis of selection shall be JMU's evaluation of which Qualification Statements demonstrate the greatest conformance with the requirements set forth in the RFQ.

Step 2: Selection of a Design Build Contractor

- A. At least 30 days prior to the date established for the submission of proposals a Request for Proposal (RFP) will be sent to the short list of 3 to 5 firms.
- B. The RFP will contain information on the criteria for award, as well as JMU's project facility requirements, building and site criteria, available site and survey data, and other criteria documentation to inform the shortlisted DB offerors.
- C. Sealed Technical Proposals as described in the RFP shall be submitted to JMU Procurement Officer along with separately sealed Cost Proposals. Cost proposals shall be secured and kept sealed until evaluation of the Technical Proposals and design adjustments are completed.
- D. The Committee will evaluate the Technical Proposals based on the criteria contained in the RFP. DB offerors will be informed of any adjustments necessary to make their Technical Proposals fully compliant with the requirements of the RFP. JMU may require that offerors make design adjustments necessary to incorporate project improvements and/or additional detailed information identified during design development.
- E. The offerors may amend their Cost Proposal as a result of adjustments in their Technical Proposal.
- F. After evaluation and ranking the committee shall conduct negotiations with two or more offerors submitting the highest ranked proposals. Cost is a critical component in evaluations.
- G. The Committee will make its recommendation to VP A&F for the selection of a design builder based on its evaluation of the technical and cost proposals and all amendments thereto. The contract shall be awarded to the offeror who is fully qualified and has been determined to have provided the best value in response to the Request for Proposals.
- H. JMU may make a presentation to the University Board of Visitors (BOV) and/or the AARB for approval of each proposed design. Alternatively, JMU may wait until the Cost Proposals are opened and then submit the winning design for BOV and AARB approval.
- I. A HECO-8 Approval to Award Construction Contract will be prepared for approval.
- J. JMU will notify all offerors whose submitted proposals which offeror was selected for the project. When term and conditions of multiple awards are so provided in the RFP, awards may be made to more than one offeror.

7.2.2.5.4 General Notes

- Builder shall be licensed as a Class A Contractor in Virginia by DPOR.
- Responsible design professionals shall be licensed in Virginia by DPOR as Architects and Professional Engineers.
- Design shall conform to the scope as authorized by the HECO-2.
- Design shall conform to JMU's design standards and technical requirements as referenced in this manual.

- Use of all applicable CO-Forms, contracts, etc. for the project, including the HECO-7DB and JMUCO-9DB, is required.
-
- Coordinate a “pre-design” meeting with the UBO to coordinate the documents that will be required for a building permit. Determine whether partial building permits will be issued.
- Submit documents to UBO for review and building permit.
- Contract for independent Structural and Special Inspections, paid for by JMU separately from the D/B contract. See Appendix M in current CPSM for more information.
- The Work shall be inspected by other than the D/B Contractor, to assure conformance with the plans and specs – usually by JMU’s project inspector.
- Inspections by the State Fire Marshal are required.
- Inspections by UBO are required.
- A Certificate of Use and Occupancy is required.

7.2.2.6 Design-Build Procurement for a Prototype Building

The procedures for utilizing Design-Build procurement for a prototype building are similar to the basic procedures above, except as follows:

Select a prototype design to use (plans and specifications). Make the changes required for adapting the prototype design to the specific site. JMU will make a presentation to the AARB for approval of the prototype at each specific location.

7.2.3 Additional Methods for Construction Procurement

7.2.3.1 Prequalification Procedures (RFQ)

JMU may prequalify contractors for construction services and limit consideration of bids or proposals to prequalified contractors. The procedures contained in this section shall be used for prequalification of contractors for both Term Contracts and for individual construction projects. JMU may prequalify general contractors or selected subcontractors or both. Any prequalification of contractors and/or subcontractors shall be conducted sufficiently in advance of the bid receipt date to allow potential contractors a fair opportunity to complete the process. (see Rules § 14)

7.2.3.1.1 Objective

For projects that will be procured by Competitive Sealed Bids (Design-Bid-Build), the objective of prequalification shall be to identify as many fully qualified Offerors as possible to bid on the proposed work. For projects that will be procured by Competitive Negotiation (CM at Risk, CM Agency, Design-Build, etc.) the objective of prequalification shall be to determine which Offerors’ submissions demonstrate the greatest conformance with the requirements set forth in the Request for Qualifications (RFQ), resulting in a “short list of not less than 3 and not more than 5 Offerors.

7.2.3.2.1 Prequalification Timeline

JMU shall advertise for the RFQ on [eVA](#), and shall post the advertisement in the public area where Invitations to Bid and Requests for Proposals are generally posted. The date set in the RFQ for receipt of the Standard Form for Contractor's Statement of Qualifications shall be at least thirty (30) calendar days from the date of the eVA advertisement.

At least 21 days prior to the date established for submission of bids or proposals under the procurement of the contract for which the prequalification applies, JMU shall advise in writing each contractor who submitted an application whether that contractor has been prequalified.

7.2.3.4 Prequalification Forms

The Standard Form for Contractor's Statement of Qualifications, *Contractor's Statement of Qualifications* (HECO-16) shall be the application form submitted by contractors when applying to be prequalified for a particular construction project. The JMUCO-16 Qualification criteria for Experience (II) shall be customized to address qualifications specific to the proposed construction project for which qualification is intended. Contractors with the qualifications and experience to satisfactorily complete the proposed project will not be arbitrarily excluded.

7.2.3.5 References

References supplied by the contractor in JMU-CO16.

7.2.3.6 Denial of Prequalification

JMU shall deny prequalification to any contractor who does not have the requisite Virginia license issued by the Virginia Board of Contractors to perform work in Virginia pursuant to [Code of Virginia](#) § 54.1-1100 et seq.

The Governing Rules § 14.C permits JMU to deny prequalification to any contractor if JMU finds one of the following:

- 1 . The contractor does not have sufficient financial ability to perform the construction contract. If a performance bond is required, evidence that the contractor can acquire a surety bond from a corporation included on the United States Treasury list of acceptable surety corporations in the amount and type required for the project shall be sufficient to establish financial ability.
- 2 . The contractor does not have appropriate experience to perform the construction project in question;
- 3 . The contractor or any officer, director or university thereof has had judgments entered against him within the past 10 years for breach of contracts for governmental or nongovernmental construction, including, but not limited to, design-build or construction management;
- 4 . The contractor has been in substantial noncompliance with the terms and conditions of prior construction contracts with JMU without good cause. If JMU has not contracted with a contractor in any prior construction contracts, JMU may deny prequalification if the contractor has been in substantial noncompliance with the terms and conditions of comparable construction contracts with another public body without good cause. JMU may not utilize this provision to deny prequalification unless the facts underlying such substantial noncompliance were documented in writing in the prior construction project file and such information relating thereto given to the contractor at that time, with the opportunity to respond;
- 5 . The contractor or any officer, director, owner, project manager, procurement manager or chief financial official thereof has been convicted within the past 10 years of a crime related to governmental or nongovernmental construction or contracting;
- 6 . The contractor or any officer, director or owner thereof is currently debarred pursuant to an established debarment procedure from bidding or contracting by any public body, agency of another state or agency of the federal government;

7. The contractor failed to provide to JMU in a timely manner any information requested by JMU relevant to subdivisions 1 through 6 above.

7.2.3.2 Emergency Procurement

In case of an emergency, a contract may be awarded without competitive sealed bidding. However, such procurement shall be made with such competition as is practicable under the circumstances. A written determination of the basis for the emergency and for the selection of the particular contractor shall be included in the contract file. If over \$100,000.00 as a minimum, JMU shall post a written notice that the contract is being awarded on an emergency basis and identifying that which is being procured, the contractor selected, and the date on which the contract was or will be awarded. This notice shall be posted in a designated public area, which may be eVA or in a newspaper of general circulation, on the day JMU awards or announces its decision to award the contract, whichever occurs first, or as soon thereafter as is practicable. (see Rules §5.F)

7.2.3.3 PPEA Procurement

The “Public-Private Education Facilities and Infrastructure Act of 2002” (PPEA) includes provisions that allow JMU to work with private developers to design and construct a facility. JMU holds a single contract with the successful proposer for both the design and construction of the specific project. University procedures for PPEA (Public Private Education Facilities and Infrastructure Act of 2002) procurement methods can be found on the [JMU PPEA Guidelines](#) website. Projects utilizing PPEA still require building code inspection by the building code Authority Having Jurisdiction and must comply with the VUSBC. JMU’s technical design and procurement standards should be incorporated and made part of in the Comprehensive Agreement to assure the overall university goals for stewardship, quality and lifecycle costs are met.

7.2.3.4 Energy Performance-Based Procurement

Energy performance-based contracts may be procured by JMU. University projects utilizing an ESCO type contract must comply with the VUSBC and are subject to inspection by the UBO.

7.3. Construction Administration Procedures

7.3.1 Prebid Conference

If a prebid conference or project showing is held (whether optional or mandatory), representatives of JMU and the A/E shall attend. JMU shall make the project location or building available to the attendees (prospective bidders) for their observation or inspection.

The A/E shall conduct such conference or showing. The agenda for the prebid conference shall include the following:

1. Introductions of A/E and university representatives
2. Summary of the work by citing or reading portions of:
 - a. Notice of Invitation for Bids
 - b. Instructions to Bidder
 - c. Prebid Question Form
 - d. Bid Form
 - e. Supplemental General Conditions

- f. Special Conditions
 - g. General Requirements
 - h. Site constraints, phasing requirements, or other requirements that affect the sequence or staging of the work
 - i. Other conditions or requirements included in the bid documents that should be called to the attention of the bidders
3. Questions from the floor - **A/E shall answer only those questions where the response is to direct the questioner's attention to a particular portion of the bid documents.** ALL OTHER QUESTIONS SHOULD BE RECEIVED IN WRITING OR DOCUMENTED BY THE A/E AND RESPONDED TO IN WRITING IN AN ADDENDUM.
 4. The A/E should issue an Addendum to include a copy of the attendees' sign-in sheet and the questions posed with the response to each. JMU and the A/E must be careful not to provide any information, instruction, or clarification to prebid attendees which is not made available to all potential bidders.

7.3.2 Addenda to the Bid Documents

Addenda shall be issued as necessary to clarify or correct information in the bid documents, to respond to questions raised by the bidders, and/or to modify the bid receipt date. All addenda shall be approved by JMU prior to issuance.

No oral explanation in regard to the meaning of the drawings and specifications shall be made and no oral instructions shall be given to the bidders prior to the receipt of bids.

Addenda shall show JMU name, the project title, the 11 digit project code, and the specific items to be modified. Addenda shall be written in a clear and concise manner. Each item shall identify the location in the documents of the item to be changed (e.g. plan sheet number and view or specification section and paragraph number) and describe the change to be made (e.g. change dimension in Section from x'-xx" to y'-yy" or delete wording in Section 09999, paragraph 3 (b) as written and replace with the following words ".....")

AE shall ensure addenda that changes drawings or specifications have one copy submitted to the UBO and the appropriate regional State Fire Marshal's Office (as appropriate).

7.3.2.1 Major Clarifications or Corrections

Addenda to clarify or correct significant information in the Bid Documents should be issued at least 6 days prior to the bid receipt date. Addenda which add work to the project, which provide significant information (affecting price, time, quality, or quantity) which must be considered by subcontractors and suppliers, or which contain many pages of corrections may be issued at least 6 days prior to the date set for receipt of bids or the bid date may be delayed to allow 6 days from addendum issue to bid date.

7.3.2.2 Minor Clarifications

Addenda which serve primarily to provide clarifications or corrections that do not require significant changes to the Bid documents and can be covered in a one page Addendum may be issued up to 3 days prior to bid date. Addenda which only delay or cancel the date for receipt of bids should be issued at least 24 hours prior to the date and time set for bid receipt. In the event of inclement weather closings or delays at JMU the receipt date shall be extended by at least one day, but notification may occur less than 24 hours in advance of the original closing date/time.

7.3.3 Construction Management - Pre-Construction Phase

The Preconstruction Period shall include the following meetings and deliverables along with any other items indicated in the CM Contract for Pre-Construction Phase Services (JMUCO-9CM(1)):

Project Kick-off Meeting

Meeting including JMU project manager, A/E, CM at Risk, and other personnel as required. At a minimum the following items shall be addressed as part of the meeting:

- Status of project drawings/specifications.
- Schedule constraints.
- Key building components.
- Key site limitations or work rules related to the project.
- Project budget.
- SWaM sub-contractor expectations.
- Each team member's roles and responsibilities.

Project Schedule

With input from JMU and A/E, the CM shall produce a CPM (Critical Path Method) project schedule for use by the project team during the pre-construction phase of the project. The CM shall update this schedule on a bi-weekly basis or as requested by JMU. The project schedule shall include:

- Key milestones.
- A construction schedule projecting the major construction activities' sequence and durations
- Activities indicating the production of design documents for the various stages of design and phases of permitting.
- The various activities related to the CM at Risk's preconstruction effort such as completion of the cost studies, solicitation of bids, and development of the GMP.
- Activities and major decisions that are the responsibility of JMU.

Progress Meetings

Meetings shall be held on a bi-weekly basis or as requested by JMU. The following items shall be addressed as part of the meeting:

- Status of project drawings/specifications
- Schedule status
- Outstanding issues related to key building components or systems.
- Any changes in site limitations or work rules related to the project.
- Project budget status
- Project savings opportunities.

7.3.4 Construction Management - Construction Phase

The Construction Phase shall include the following meetings and deliverables along with any other items indicated in the CM Contract for Construction Period Services (JMUCO-9CM(2)):

The CM shall coordinate and manage the Work to be performed by all of the subcontractors through to

project completion and final acceptance, including punch-list work. The CM shall be responsible for keeping the project on schedule, and ensuring that the subcontractors furnish materials and perform the work according to the construction documents.

The following is a partial list of contract administration activities that the CM shall perform in cooperation with the A/E and commissioning agent for all subcontracts:

- Keeping records
- Reporting progress
- Controlling schedules
- Conducting meetings
- Processing submittals
- Processing progress payments
- Coordinating/scheduling/monitoring safety
- Inspecting
- Monitoring testing
- Responding to requests for information (RFI's)
- Processing contract change orders
- Maintaining as-built drawings
- Performing photographic services
- Performing other services
- Coordination of construction sequences and phases
- Generation and presentation to JMU of construction phasing
- Confirm existing conditions
- Coordination and scheduling of university provided inspection forms

7.3.5 Record Keeping

Examples of documents and files to be maintained (but not limited to) are:

- Correspondence
- Annotated submittals, including approved shop drawings, product data, and samples
- Formal and pending contract change orders and directives with documentation
- Value engineering change proposals
- Claims and supporting documentation
- Minutes from progress meetings
- Budget records to include invoices and supporting documentation
- Documentation of all clarifications and decisions
- Documentation of all dust, noise, fumes or vibrations complaints and their resolution
- Inspection and progress reports
- CM's monthly status reports
- Construction Trade, material, and equipment contracts/purchase orders
- Construction drawings and specifications updated on a current basis to record changes and selections made
- Addenda
- Permits, certificates, and governmental approvals
- Phone logs and memos

- Expense records
- Warranties and guarantees
- Project photographs
- Commissioning paperwork and certifications
- Record Drawings

7.3.6 Progress Reporting

The CM will submit bi-weekly reports to JMU's project manager and A/E on the status of construction, including updated copies of all logs maintained at the site for change orders, claims, submittals, etc. The CM will submit monthly reports by the 5th working day of each month in 8 1/2" x 11" format including the following information:

- Update of the master project schedule with analysis
- Inspection report, list of inspections that the contract documents require, and deficiencies, delays, and omissions
- Summary of outstanding and potential problems and issues, including notices of intent to file claims
- Summary of issues resolved, decisions reached, clarifications, instruction, commissioning etc.
- Submittal log
- Progress photos
- Minutes from meetings held during the month
- CM Contingency log
- Change Order Proposal (COP) log
- Request for Information (RFI) log

7.3.7 Schedule Control

The CM shall generate, at project's beginning, a master project schedule chart. This schedule shall break down all CM and subcontractor project activities through substantial completion in accordance with the requirements of the General Conditions (HECO-7CM). It shall also include University activities which impact the schedule and JMU's occupancy requirements. It shall be kept up to date to reflect construction phasing and commissioning activities.

The CM shall continuously monitor actual progress against the schedule and identify any delays or potential delays. If the CM encounters or anticipates delays, it will recommend recovery actions to JMU's project manager to mitigate the delays and implement approved, remedial measures.

7.3.8 Progress Meetings

Progress meetings shall be held a minimum of two times per month, or more often as JMU's project manager deems necessary to facilitate the efficient completion of the project. Normally the following will attend the progress meetings:

- University's project manager
- University's inspector
- CM project manager and CM superintendent
- A/E representative(s)
- Subcontractor superintendent(s), as needed
- Facilities operations and maintenance representative(s), as needed
- Parking services representative (parking permitting), as needed

- Campus police representative (security/traffic control), as needed

A typical agenda for the progress meetings is as follows:

- Progress update
- Commissioning status
- Schedule update w/ upcoming activities (next 30 days/critical dates)
- Submittal status
- RFI status
- Change Order Proposal (COP) log
- Change Order Log
- CM contingency status
- Payment request review
- Issues / old and new
- New business

The CM shall prepare and promptly distribute minutes from each meeting to JMU, A/E, and subcontractors

7.3.9 Inspection

The CM shall have the overall responsibility for scheduling, coordinating, and inspecting all of the subcontractors' workmanship, materials, and equipment to ensure conformity with requirements of the contract documents (including the contract drawings and specifications, subsequent contract change orders, and approved submittals). The CM will make quality determinations based on the records and inspections to ensure complete contract compliance, to protect JMU against defects, deficiencies, omissions, and delays. Throughout construction the CM will maintain an up-to-date "rolling punch list" of defects, deficiencies, delays, and omissions as well as corrective actions taken. The CM will prepare and maintain inspection reports according to the JMU Manual inspection and acceptance requirements.

7.3.10 Coordinate/Monitor Testing

Under direct contract to JMU the independent certified testing company(s) will be responsible for conducting the required verification tests, retaining all samples, and for submitting test results to JMU, A/E, and CM. The CM will review the subcontracts, identify all tests required by the contract documents to be performed by the testing company(s), and prepare a complete testing schedule. The Commissioning Agent will be integral to the generation of this schedule. The CM's responsibilities with regard to testing shall include:

- Coordination with testing university for scheduling of test
- Verifying that tests are conducted as scheduled
- Witnessing tests selected by the CM, A/E, Commissioning Agent and University's project manager
- Reviewing test and retesting results and documenting with contract documents
- Retaining test and retesting records
- Summarizing significant test results in progress reports
- Notifying immediately JMU of test failures and, with A/E, planning corrective actions
- Overseeing corrective actions and retesting until issue resolution

7.3.11 Requests for Information

The CM shall coordinate responses from the CM, A/E, and University to the subcontractors' requests for

information. The CM will consult with the A/E on technical matters, including requests for interpretations of the meaning and intent of the drawings and specifications, or with JMU on administrative matters. The CM is responsible for facilitating information requests to keep response times to a minimum. The CM will maintain copies of the final answers to information requests as part of the project records.

7.3.12 Photography

The CM is responsible for procuring at its expense; construction photographs of items that may be the subject of subcontractor claims, or that require documentation. The photographer will label each photograph with at least the following:

- Project, building, city, state
- Name of construction trade contractor
- Date and time taken
- Description of weather conditions
- Subject matter and view point
- Name of CM, photographer, and observer, if any

7.3.13 Project Commissioning

JMU shall engage a third-party commissioning agent to conduct an enhanced commissioning of building systems. Prior to this, the CM shall coordinate a systematic process to ensure that the mechanical, electrical and plumbing (MEP), audio-visual and all other systems are fully functional in accordance with the design intent generated by the project documents and JMU's operational needs, and the personnel charged with maintaining and operating them are trained (not merely familiarized) to perform operation and maintenance. The CM shall work with the A/E to coordinate and implement a systematic process to ensure that the mechanical, electrical and plumbing (MEP), audio-visual and all other designated systems are fully operational and compliant with the contract documents. The personnel charged with maintaining and operating them shall be trained to the point that they are fully capable of operating and maintaining the building systems to perform in accordance with the Project's design intent and JMU's operational needs.

The CM will ensure that the subcontractors have a complete understanding of the systems testing and commissioning requirements placed on them by the contract through the A/E. This includes, but is not limited to, providing single-line diagrams and sequences of operations as required.

7.3.14 Project Close-Out

The CM shall secure and transmit to the A/E all warranties, operations and maintenance JMU MANUALS, and similar submittals required by the contract documents, for approval by the A/E, before delivery to JMU. The CM shall also deliver all keys, record documents, and maintenance stocks to JMU.

7.3.15 Partial Building Permits

When Construction Management at Risk and Design-Build procedures are used, the opportunity may exist for construction to start before the complete building design has been finalized. This results in an overlap of the design and construction time frames. The overlap compresses the overall time schedule for the project slightly. Partial building permits (using "code compliance documents") can be issued for early construction. If partial permitting is used, a separate building permit submittal shall be made for each portion of the work. Subsequent building permits shall supersede any previously issued partial permits with the full building permit governing the project once that permit is issued. The manner in which the project is separated into partial permits shall be subject to the approval of the UBO.

The minimum required submittal for Design-Build, Construction Management at Risk and PPEA project documents is the complete working drawing submittal as described in JMU Manual Chapter 5.

An advantage of using these delivery methods is the ability to start construction before the complete building design has been finished. Partial building permits are issued to JMU upon request and compliance with the following procedure.

Partial building permits may include a combination of the following:

- Sitework and below grade utilities;
- Foundation;
- Superstructure;
- Shell (exterior walls and roof) and building core.

A full building permit supersedes the partial building permits, and incorporates all previously- issued partial building permits.

In order to issue partial permits, the State Building Official must agree that the building's design is code compliant. Before JMU submits completed working drawings for early permits, such as sitework, JMU must submit interim documents (code compliance drawings and code compliance summary & calculations) that include enough information for DEB to ascertain code compliance. This interim submittal is termed "code compliance documents".

7.3.15.1 Submittal Requirements for Partial Building Permits

The prerequisite for receiving a partial building permit is approval of code compliance documents and submittal of specific working drawings. See Section 7.3.15.2 below for information on code compliance documents.

Once approval of code compliance documents has been received, JMU shall submit electronically drawings and technical specification sections for partial building permits. The drawings and technical specifications shall consist of the specific drawing sheets and specification sections relevant to the work for which a partial building permit is requested. The scope of the work shall be clearly defined on the drawings. The work shall be a discrete portion of work. The documents shall display the signed, dated seals of the responsible design professionals.

For example, a partial building permit submittal for sitework, below grade utilities and foundations (including waterproofing) could include civil, architectural and structural working drawings; and technical specifications for earthwork, utilities, concrete, and thermal & moisture protection. A partial building permit issued for superstructure (including fireproofing) could include architectural and structural working drawings; and technical specifications for concrete, masonry, metals, wood and thermal & moisture protection.

The partial building permit will reference the specific documents submitted for the work of that permit.

7.3.15.2 Code Compliance Documents

Code compliance documents consist of code compliance drawings and code compliance summary

& calculations. These documents, once approved, pave the way for JMU to submit working drawings for partial building permits. Code compliance documents are not necessarily the same as standard “preliminary phase” submittal documents or “early trade packages”. Early trade or bid packages are sets of working drawings and technical specifications that are assembled by the A/E for the contractor’s use in bidding specific trade portions of the work.

The following information, data and drawings comprise the minimum acceptable information for a code compliance document submittal if partial building permits will be sought. Refer to Appendix C of current CPSM for written/narrative requirements.

The central focus of the code compliance documents is to establish all essential building design elements which make up the systems proposed for the building. All professional design disciplines have the responsibility to coordinate their work with the information shown on the code compliance drawings and written in the code compliance summary & calculations.

7.3.16 A/E Services During the Construction Period

The following basic services, described in the General Conditions of the Construction Contract, HECO-7, shall be provided by the A/E of record and shall not be delegated to others unless specifically excluded in the A/E contract:

- Attend preconstruction meeting
- Make design changes required by uncovered hidden conditions
- Interpret plans & specifications
- Where the documents specify or show a means, method, sequence, technique or procedure, determine acceptability of substitute means, methods, sequence, techniques or procedures proposed by the contractor
- Provide additional details as necessary to clearly describe what is required to be constructed
- Prepare and issue or validate all field orders and all university directed and/or authorized Change orders involving any matters or items of technical nature which affect the integrity of the exterior architectural, structural or fire safety systems or which affect the integrity or operation of the mechanical, plumbing, or electrical systems.
- Clarify discrepancies in documents
- Review and approve submittals
- Reject non-conforming submittals including sprinkler shop drawings & submittals.
- Furnish approved copies of sprinkler submittals to the regional State Fire Marshal’s Office.
- Verify conformance of submittals with plans and specifications
- Approve or reject alternate or substitute materials proposed by contractor
- Approve or reject equipment and materials proposed by contractor
- Resolve conflicts between manufacturer installation instructions vs. plans and specifications
- Advise on acceptable procedures where installation instructions are not provided
- Approve or reject contractor’s proposed modifications to structural and other building systems
- Advise University on technical matters related to the project
- Perform required special inspections as listed in the approved CO-6a and CO-6b

Note: If the A/E’s contract has been appropriately modified, University directed and/or authorized change orders and field orders on non-technical matters such as landscaping, finishes, colors, and similar items which do not affect the architectural appearance or the structural, fire safety, mechanical or electrical system integrity may be handled by a qualified licensed professional on JMU or separate consultant’s staff.

7.3.16.1 Other A/E Services During the Construction Period

The following construction period services shall also be provided by the A/E as part of his periodic site visit basic services unless specifically deleted by the A/E contract in its Memorandum of Understanding (MOU):

- Conduct preconstruction meeting
- Confirm in writing, all verbal orders given by the A/E to the contractor and/or project inspector
- Transmit University's orders to contractor
- Review contractor's HECO-12 Schedule of Values, continuation sheets, and approve for acceptable level of breakdown, acceptable allocation of costs, proper listing of 'unit price' work shown on the Bid Form, and separate listing of change order costs.
- Verify quantities of unit price work and prepare change orders as appropriate for quantities actually performed or incorporated in the Work. See appropriate Appendix of current CPSM for change order procedures.
- Review proposed work plan & schedule
- Review schedule for adequate time to review submittals
- Review/recommend approval of project CPM schedule per Section 19 of the HECO-7, General Conditions of the Construction Contract
- Report on Contractor adherence to schedule
- Review/approve progress graph
- Approve Contractor's proposed type of temporary heat as it may affect protection of construction
- Advise University on construction matters related to the project
- Make site visits and provide written report
- Determine progress and quality of the Work
- Recommend suspension of Work
- Inspect/spot check Work for conformance with the Contract Documents and the codes and installation / workmanship standards therein. (e.g. reinforcing clearances and laps per ACI; ductwork conforming to SMACNA; wiring conforming to NEC; etc.)
- Note and report defects and deviations in the Work
- Identify to Project Inspector any specific checks or inspections to be made as the Work progresses including what to look for
- Require defective Work to be removed and redone
- Reject inferior or poor workmanship
- Reject Work which does not conform to Contract Documents requirements
- Require Contractor to make repairs or changes deemed necessary
- With University's approval, suspend Work which depends on non-conforming Work until an acceptable correction or replacement is provided by the Contractor
- Approve repair/restoration of damaged work
- Inspect roof and advise when ready for roof survey
- Approve HECO-12 and Schedule of Values format, content and breakdown
- Schedule and conduct monthly pay meeting
- Review HECO-12 pay request vs. work done & materials stored & certify amount
- Certify monthly pay requests
- Receive Contractor's affidavit of payment of claims
- Review Contractor requests/claims for extension of time

- Review Contractor claims for extras
- Verify Project is ready for substantial completion inspection prior to actual inspection
- Conduct Substantial Completion Inspection and prepare punch list
- Complete and sign Certificate of Substantial Completion, HECO-13.1a
- Conduct Final Completion Inspection
- Complete and sign Certificate of Completion, HECO-13.1
- Coordinate Operation & Maintenance Manuals and other project closeout documents & submit to University
- Prepare Record Drawings

7.3.17 Construction Project Management by University or Consultant

All Construction Project Management / Contract Administration activities not specifically required above to be performed by the A/E may be performed by JMU or by JMU's Project Management / Project Inspection Consultant. JMU or its consultant may then perform the functions listed in Section 7.3.16.1 above.

7.3.17.1 Alternate Construction Contract Administrator

If JMU relieves the A/E of responsibility for issuing Field Orders and/or Change Orders or rejecting Work, the person designated by JMU to issue the Field Orders or Change Orders or reject the work or have authority to render decisions on the project shall be a Virginia licensed Architect or Professional Engineer who is experienced, knowledgeable and qualified to make the judgment on the matter.

A copy of all Change Orders related to technical matters or conformance to the applicable Codes and standards along with a copy of the justification and the recommendation of the "Delegated Review Authority" shall be forwarded to the UBO for approval as to code compliance.

The UBO shall review and recommend approval or disapproval on all proposed change orders related to technical matters to assure continued conformance to the Code and adherence to requirements.

7.3.17.2 University's Design Representative

JMU may designate an on-site Project Manager to be JMU's designated representative on the project. In such case, the Project Manager shall be the person through whom JMU and the A/E generally convey written decisions and notices to the Contractor and receive information and notices from the Contractor.

JMU may also delegate from the Architect/Engineer to the Project Manager certain inspection, verification, acceptance, rejection, and administrative duties and authority. The scope of the Project Manager's authority is limited to that authorized by JMU. JMU shall provide the Contractor and the A/E information in writing defining the limits of the Project Manager's authority.

7.3.18 Preconstruction Meeting

The General Conditions of the Construction Contract (Form HECO-7) requires that prior to the start of construction, and no later than 15 calendar days after the Notice to Proceed, a Preconstruction meeting shall be held. Attendees should include JMU's Project Manager and Project Inspector, the A/E's Representative including representatives of each design discipline involved in the project, Fire Marshal's Office representative, the Contractor's Project Manager and Superintendent (and Scheduler, if Contractor

desires), and representatives of the Contractor's major Subcontractors. A Safety Representative from University Public Safety may also be invited.

The purpose of the preconstruction meeting is to clarify and discuss the specifics related to, but not limited to, the following:

1. Persons involved from each entity and their chain of authority.
2. Names, addresses, telephone numbers, procedures and formats to be used for Requests for Information (RFI), Requests for Clarification (RFC), Requests for Proposals (RFP), shop drawing and sample submittals, and notices.
3. Contractor's proposed construction schedule.
4. University's sequencing requirements, if any.
5. Schedule of Values and Certificate for Payment (Form HECO-12) requirements and procedures.
6. Procedures for shop drawing, product data and samples submittals.
7. Procedures for handling Field Orders and Change Order Form HECO-11.
8. Procedures for Contractor's request for time extension, if any.
9. Construction site requirements, procedures and clarifications to include:
 - Manner of conducting the Work
 - Work site specialties such as dust and erosion control, stormwater management, project signs, clean up and housekeeping, temporary facilities, utilities, security, and traffic
 - Safety
 - Layout of the Work
 - Quality control, testing, inspections and notices required
 - Site Visits by the A/E
 - University's Project Inspector duties
 - Running Punch List
 - As-Built Drawings
10. Monthly Pay Meeting
11. Requirement for the Contractor to furnish JMU a list of hazardous materials that may be brought onto the job site. If additional material, not on the initial list, is to be brought to the job site, JMU shall be given 48-hour prior notification.
12. Project Close-Out requirements and procedures.

7.3.19 Hazardous Materials

Prior to the start of construction, the Contractor shall furnish JMU a list of hazardous materials that may be brought onto the job site. If additional material, not on the initial list, is to be brought to the job site, JMU shall be given 48-hour prior notification. When requested by JMU, the Contractor shall furnish JMU with material safety data sheets for any materials to be brought onto the job site.

7.3.20 Monthly Pay Meeting

The intention is that the Contractor, JMU and the A/E have timely exchange of information and cooperate to accomplish the Work as required by the Contract Documents. The Contractor is responsible for managing the Work, obtaining approvals and requesting clarifications on a timely basis. JMU and its A/E are responsible for making a reasonable effort to provide timely responses to the Contractor.

Section 36 of the General Conditions of the Construction Contract establishes the requirement for a monthly pay meeting which will usually be held at or near the Work site. In addition to University, A/E and Contractor representatives, the following representatives, at a minimum, should be available to attend

portions of the meeting, as applicable or necessary:

- University's Project Inspector
- Contractor's Project Superintendent
- A/E representative familiar with the contract requirements and technically qualified to determine progress of each discipline as required.

The following additional topics should be included, as a minimum, in the monthly pay meeting agenda:

1. Observations of status, quality and workmanship of work in progress
2. Validation of the Schedule of Values and Certificate for payment
3. Conformance with proposed construction schedule
4. Outstanding Requests for Information Requests for Clarification and Requests for Proposal
5. Submittals with action pending
6. Status of pending Change Orders
7. Status of Running Punch List items
8. Work proposed for coming pay period
9. Discussions of any problems or potential problems which need attention

7.3.21 Other Meetings

The A/E and/or JMU may include requirements for other meetings, such as progress meetings, coordination meetings, subcontractor pre-construction meetings and/or partnering meetings, in the Contract Documents, in the Special Conditions or in Division 1 of the Specifications.

7.3.22 Access to Work

Refer to the General Conditions of the Construction Contract.

7.3.23 Authority of the A/E During Construction

Unless JMU specifically designates an on-site Project Manager to act as JMU representative, the A/E shall act as the representative, but not the agent, of JMU during the construction phase. The A/E shall have authority to endeavor to secure the faithful performance by University and Contractor of the Work under the Contract to include the following:

- Review the Contractor's submittals for conformance to the requirements of the contract documents and return copies to the Contractor with appropriate notations.
- Interpret the requirements of the drawings and specifications and issue Field Orders to the Contractor as may be required.
- Recommend to JMU suspension of the Work (in whole or in part) whenever such suspension may be necessary to ensure the proper execution of the Contract.
- Reject, in writing, Work, including material, installation or workmanship, which does not conform to the requirements of the drawings and specifications.
- Determine the progress and quality of the Work, subject to the right of JMU to make an overriding decision to the contrary.
- Upon request by the Contractor, the A/E shall confirm, in writing within ten (10) days, any verbal order or determination made by the A/E.

7.3.24 Changes in Work

The A/E shall have no authority to approve or order changes in the Work which alter the design concept or which call for an extension of time or a change in the contract price. When such changes are in order, the A/E shall prepare the appropriate documents for JMU's approval and issue same to the Contractor.

7.3.25 University's Decisions

JMU shall have the right, but not the duty, to countermand any decision of the A/E and to follow or reject the advice of the A/E, including but not limited to acceptance of the Work, as it deems best. In those instances where the A/E has been given authority to act, the A/E shall promptly do so, but in the case of disagreement between A/E and JMU, the decision of JMU shall be final.

7.3.26 Orders to the Contractor

All orders from JMU to the Contractor shall normally be transmitted through the A/E but may be communicated directly to the Contractor and the A/E by JMU. JMU must be aware that any order issued directly to the Contractor without first consulting with the A/E may put JMU at risk.

7.3.28 Construction Methods

The A/E shall not be responsible for construction means, methods, techniques, sequences or procedures (other than those expressly specified in Contract Documents), or for safety precautions and programs in connection with the Work, and the A/E shall not be responsible for the Contractor's failure to carry out the Contractor's own responsibilities.

7.3.29 Project Management Consultant

Should JMU choose to employ a different A/E or a Project Management Consultant to perform any portion of the services listed in Section 7.3 above, the status, authority and responsibilities of the A/E or Project Management Consultant so employed shall be the same as that of the former A/E with regard to that service.

7.3.30 Schedule of Values and Certificate for Payment

The General Conditions of the Construction Contract, Form HECO-7, describe in Sections 20 and 36 the requirements for completing the Schedule of Values and Certificate for Payment, Form HECO-12, and for providing documentation of Work performed and for properly stored materials.

The A/E, as part of Basic Services is required to review and approve the format and breakdown of the initial Schedule of Values and to review, evaluate, verify, and approve the Contractor's monthly submittal of the HECO-12 documentation requesting payment. As previously described in this Chapter, JMU may delete this service from the A/E Contract and assign the function and responsibility to the designated Project Manager when approved by the AVP Business Services.

The procedures and requirements in Sections 20 and 36 of the General Conditions are incorporated herein by reference. The following clarifies and amplifies the specified procedures associated with the HECO-12.

7.3.30.1 Schedule of Values

The A/E shall require the Contractor to provide the Schedule of Values using the ASTM Uniformat II cost breakdown structure totaling the amount of the Contract broken down into a sufficient level of detail (commensurate with the size of the project) to allow the A/E to verify the work completed. If the total project has multiple floors, parts, or phases, the Contractor shall prepare appropriate

schedules of values to facilitate review of and justification for payments.

Unless waived by the AVP Business Services, JMU and A/E shall require the Contractor to use the HECO-12 spreadsheet template. This spreadsheet is available for download from the Forms Center or on GCPay.

JMU shall retain and file a copy of the final approved HECO-12.

7.3.30.2 Payment of Stored Materials

If the Contractor requests, or intends to request, payment for materials stored in an approved and secure manner, the Schedule of Values must indicate the amount for labor and the amount for materials, and in a supplement thereto must include an itemized list of materials for that trade or work section. The material breakdown shall be in sufficient detail to allow verification of the quantities required for the project, the quantities delivered, the Work completed, and the quantities stored on or off the site.

All off-site stored materials for which payment is being sought shall be scheduled for installation within 6 months and are subject to inspection and consideration of insurance coverages.

7.3.30.3 Required Pay Request Forms

All requests for payment shall use page 1 of the Schedule of Values and Certificate for Payment (Form HECO-12), and page 1 shall be completed, signed and submitted by the Contractor with each payment request.

7.3.30.4 GCPay

Use of the web-based service, GCPay, for all pooled-funded capital outlay projects that include funds provided by the Six-Year Capital Outlay Plan Advisory Committee (i.e. Chapter 1 and other Pooled Projects) is mandatory. At this time, the state's use of GCPay is optional for other capital projects. GCPay is mandatory for all capital projects at JMU. The monthly fee for using this system is paid by the project General Contractor. Payment requests for General Contractors and A/Es, and all project costs (equipment, testing, moving, move coordination, etc.), shall be accounted for in this system. Training on the use of the system is available from GCPay at www.gcpay.com. Access to and instructions for the use of the GCPay statewide contract are available at the Department of General Services website.

7.3.30.5 Completed Work

The "Value of Work Completed" portion of the Form HECO-12 shall be completed, the Contractor's certification completed and signed and the appropriate substantiating material attached to each request for payment.

The HECO-12, Schedule of Values and Certificate for Payment, shall be completed, signed and submitted by the Contractor with each payment request.

7.3.30.6 Payment for Labor Progress

The labor progress for any item may be calculated based upon the estimated percentage of Work complete up through 50 percent. Thereafter, the evaluation of labor progress shall be based upon the effort required to complete that item or task. The material progress shall be calculated as the dollar cost of materials used in relationship to the amount estimated as necessary to complete a

particular element of Work. When calculating material progress, credit shall be given for installed material as well as that stored on the site and any material stored off site which has been certified by the A/E in accordance with the General Conditions.

7.3.30.7 A/E's Certification of Payment Request

Based on the periodic observations at the site and on the Contractor's Schedule of Values and Certificate for Payment (HECO-12), the A/E shall determine the amount owed the Contractor, shall mark the application as necessary, and shall issue the Certificate for Payment to JMU with recommended amounts for payment shown.

Where the amount recommended for payment differs from the amount requested on the Contractor's Application, a copy of the marked Schedule of Values and Certificate of Payment shall be furnished to the Contractor. The issuance of a Certificate of Payment shall constitute a representation by the Architect/Engineer to JMU that the Contractor is entitled to payment in the amount indicated. By issuing a Certificate of Payment (HECO-12), the A/E shall not be responsible for making any examination to ascertain how and for what purpose the Contractor has used the monies paid on account of the contract sum.

7.3.31 Construction Change Orders

Construction change orders may be necessary during the course of construction. No change order shall be issued, regardless of cost that significantly increases the approved scope of the project as shown on the approved HECO-2 or as set forth in the project enabling language or Preplanning Study without prior approval.

Change orders are most commonly necessitated by unforeseen site or building conditions; errors or omissions in the contract documents; an opportunity to reduce the operating cost of the facility under construction; technology changes occurring since contract award which must be incorporated in the project; or a change in JMU requirement.

All changes involving the contract price, whether decrease or increase or performance time shall be documented in an approved contract change order (Forms HECO-11 and HECO-11a) to the construction contract. See current CPSM for Capital Projects and Non-Capital Projects Change Order instructions.

7.3.31.1 Vice President Administration & Finance

JMU may authorize changes in the construction contract. However, Change Orders involving an increase in contract price of more than 25% or \$50,000, whichever is greater, shall have the prior written approval of the VP A&F or his designee. When a change order increases the contract price and the cumulative total of change orders exceeds the original contract amount by more than 25% or \$50,000, whichever is greater, that change order and any subsequent change order that increases the contract amount shall have the prior approval of the VP A&F or his designee.

7.3.31.2 Justification

JMU justification section of the HECO-11a on all change orders shall:

1. Include a written statement by JMU outlining the proposed cost sharing by the responsible design professional when the change results from an error or omission, or
2. Answer the following questions when the change is generated by a change in JMU requirement:

- a. When was the change in University requirement known?
- b. If before bidding, why were the changes excluded from the bid package?
- c. Why can the Work not be packaged and bid separately?
- d. What quantitative impact will the lack of this change have on University service delivery?

7.3.31.3 Cumulative Amount

The total cumulative amount for all change orders for a single contract shall not exceed the construction contingency provided on the approved HECO-8. JMU may infuse additional funds or transfer funds to the contingency line item from another line item of the Total Project Budget or another Appropriation. For pooled-funded projects the request should go through DEB to DEB, DGS and DPB. All requests shall be submitted on a revised HECO-2 and a revised HECO-8 with appropriate written justification for an increase in construction contingency.

7.3.32 Inspection of Work

Section 16 of The General Conditions of the Construction Contract, Form HECO-7, describes the requirements, responsibilities and authorities for inspection of the construction Work and for correction of deficiencies and/or defects found. The A/E as part of Basic Services is required to visit the site, observe the Work in place, observe the Work in progress and evaluate the Contractor's conformance to the requirements of the Contract Documents. As previously described in this Chapter, JMU may elect to delete this service from the A/E Contract and assign the function and responsibility to the designated Project Manager.

The procedures and requirements in Section 16 of the General Conditions are incorporated herein by reference. The following clarifies and amplifies the specified procedures associated with the inspection of the Work.

7.3.32.1 Inspection by A/E

A representative of the A/E firm (or JMU's professional/technical staff when design is accomplished in-house) shall be available to answer questions from the Project Inspector or in-house craftsmen and shall make visits as necessary to clarify plans and specifications.

Appropriate representatives of the A/E or University professional technical staff shall visit the site at least twice each month to observe the progress and quality of work, to determine if the work is proceeding in accordance with the Contract documents and to review the Contractor's Application for Payment (Form HECO-12). A qualified person in each design discipline of the project which had work performed during the pay period being verified or which will have work to perform during the upcoming pay period shall attend the monthly pay meeting. The Memorandum of Understanding shall indicate the minimum number and/or frequency of site visits by the A/E.

The A/E shall provide to JMU and the Contractor after each visit to the site, a written report indicating the date, time of day, weather conditions and the names of the persons representing the A/E who participated in the visit. The A/E shall inspect and spot check Work for compliance with the Contract Documents and the codes, installation and workmanship standards therein. Identify to the Project Inspector any specific checks or inspections to be made as he inspects the Work as it progresses. The report shall advise JMU of any problems that were noted and shall compare the A/E's observations of the actual progress of the Work with that reported by the Contractor.

On the basis of his on-site observations, the A/E shall make every reasonable effort to guard JMU against defects and deficiencies in the Work of the Contractor. He shall have the authority to inspect the Work, to note and report defective Work and deviations from the Contract Documents to JMU, to reject same, and to recommend to JMU the suspension of the Work when necessary to prevent defective Work from proceeding or being covered.

It is essential that the A/E and the Project Inspector work together, observe and inspect the Work, and regularly communicate to assure that work being performed conforms to the Contract Documents.

7.3.32.2 University's Project Inspector/Clerk of the Works

Except as provided below in Section 7.3.32.2.1, JMU shall designate a specific individual to serve as inspector on every project whenever work on the project is in progress. Waiver of this requirement must be approved by the VP A&F. The name of the inspector shall be shown on the Form HECO-8. Where completion of a Form JMUCO-8 is not required, the name of the project inspector will be identified in the project file. The Project Inspector shall be knowledgeable of and have reasonably convenient access to the codes and standards referenced in the Contract Documents which stipulate the requirements for installation and workmanship on the trades involved in the Work. (e.g. ACI, SMACNA, NFPA, NEC, ICC, ASHRAE, etc.)

Persons designated to inspect work regulated by the VUSBC must be licensed Architects or Professional Engineers, persons certified in their respective areas of competence by DHCD, persons certified in their respective trade by DPOR or persons otherwise approved by the UBO as having the necessary knowledge and competence by education and experience to inspect the assigned work.

7.3.32.2.1 Small Projects

For small or simple trade contract projects, a Building and Grounds employee or a member of the administrative staff may serve as the Project Inspector. JMU, at its discretion, may designate an inspector for projects accomplished using in-house forces. The duties of the inspector will be consistent with the size and complexity of the job and similar to those listed in the following paragraphs.

7.3.32.2.2 Inspector's Use of Facilities

The firm, individual, or University staff providing these inspection services (the Inspector) shall furnish all labor, materials, and resources for full-time Project Inspector/Clerk of the Works services during the construction of the project. The Inspector shall be a duly authorized and qualified person who shall be available while Work is in progress on the site.

On new construction and larger renovation projects, the Inspector should be provided with a jobsite office or trailer. If the contractor is to provide this office/trailer, have the A/E include this requirement in the Special Conditions of the Specifications.

The A/E shall provide the Project Inspector with a copy of all approved shop drawings, submittals, samples, schedules, change orders, clarifications, supplemental information, and other pertinent correspondence and material for the Inspectors use at the jobsite.

7.3.32.2.3 Inspector's Responsibilities

The duties and functions of the Project Inspector including those listed in the General Conditions of the Construction Contract, Form HECO-7, are described in appropriate Appendix of the current version of CPSM.

7.3.32.3 State Fire Marshal Inspections

The Regional Office of the State Fire Marshal shall be responsible for the Fire Marshal inspection of new and renovated state building construction in accordance with the agreement between the Department of General Services and the Department of Fire Programs. (Refer to appropriate Appendix in current version of CPSM)

7.3.32.4 Other Inspectors

All other inspectors and testing personnel called for in the specifications as well as inspectors from the Department of Labor and Industry shall be provided access to the project as their duties require. JMU will procure the services of independent laboratories or firms to provide JMU's inspection and testing services for all Structural and Special Inspections.

7.3.32.5 Commissioning Inspection of HVAC Systems

The Project Inspector shall observe the Contractor's pre-functional performance testing including, but not limited to, pressure tests, flushing, cleaning, testing, balancing, adjusting and startup of equipment and the testing of automatic controls and report his observations to the A/E. The A/E shall schedule his periodic inspections of the HVAC systems to be present for such testing, balancing, adjusting and start-up of HVAC equipment and the testing of automatic controls to assure that these systems function properly.

Some sophisticated HVAC systems for facilities such as laboratories, medical science facilities, and archival storage facilities have minimal tolerances for deviations in temperature, humidity and/or air changes and, therefore, may require special commissioning or test/inspection services to assure the precise conditions required.

Commissioning requirements specific to LEED Certification may be required. The criteria should be described in the project specifications.

JMU may secure these services from the A/E as additional services or as extra services or the services may be procured from an independent testing or commissioning agent depending on the services required and the capabilities of the possible vendors or consultants. These additional commissioning services may include, but are not limited to:

- Calibrate every instrument (sensor, switch, controller, etc.) in the system. (Note that Basic Service commissioning will utilize factory calibration.)
- Test three points for each analog instrument for linearity and accuracy.
- Calibrate all flow transmitters for 0%-100% of flow values with 3 point calibration along its span.
- Calibrate all pressure transmitters at three points along its span.
- Calibrate all temperature sensors and include any offsets required.
- Operate all control valves and dampers throughout their entire range. Verify that each actuator will close/open with specified air pressure.

7.3.32.6 Building Official Inspections

Based upon the size and complexity of the project, one or more of the following interim inspections may be required and will be noted on the Building Permit issued for the Project:

1. Underslab Inspection
2. Open Wall Inspection (prior to concealment)
3. Open Ceiling Inspection (prior to concealment)
4. Any other Inspections the Building Official deems necessary to ensure compliance with Code.

A Substantial Completion Inspection is required for all projects. When the Contractor determines that the work, or a designated phase or portion thereof, will be substantially complete and ready for testing and inspection, he shall complete and send HECO-13.2a with a list of the Work he knows to be unfinished or defective to the A/E at least ten (10) days prior to the date he has set for substantial completion. The A/E will forward the HECO-13.2a to JMU and attach a written endorsement, based on his periodic inspections, as to whether or not he concurs that the project, or phase, should be substantially complete on the date set by the Contractor. The A/E will then coordinate and arrange a date on or shortly after the date set by the Contractor for the Substantial Completion inspection to be conducted. See definition of Substantial Completion.

Participants in the substantial completion inspection shall include representatives of the General Contractor, including those of the mechanical, electrical, and major equipment subcontractors, the A/E, JMU, the Director of the Division of Engineering and Buildings or his designee and the State Fire Marshal's office. The A/E shall conduct and document the inspection and compile a written list of the Work or deficiencies noted (punch list) which need to be completed or corrected.

If the A/E, the Fire Marshal's representative and the Division of Engineering and Buildings representatives agree that this project, or this portion of the project being inspected, is substantially complete in accordance with the contract documents, the A/E shall execute the appropriate Certificate of Partial or Substantial Completion (HECO-13.1a), and submit them to JMU. Attach copies of the punch list, the Contractor's HECO-13.2a, the Certificate of Use and Occupancy HECO-13.3, and other documents as appropriate.

JMU may forward this material to the UBO and request that a Certificate of Occupancy be issued, or JMU may wait to request the Certificate of Use and Occupancy when final completion is achieved. If one or more re-inspections of the Work that the Contractor declared to be Substantially Complete are required because the Work was not substantially complete as stated, the Contractor shall reimburse JMU for the costs of the re-inspections. JMU will not accept the project as Substantially Complete unless the facility (part or whole) is ready for occupancy.

7.3.32.7 Beneficial Occupancy – New Buildings, Additions, & Change of Use Renovations

Once JMU, the A/E, the Contractor, the State Fire Marshal and DEB have confirmed in writing that the facility, or a usable portion thereof, is substantially complete and ready for occupancy, JMU may submit a HECO-13.3 (Certificate of Occupancy) and a HECO-13.3b (Checklist for Beneficial Occupancy) along with copies of the HECO-13.1a, HECO-13.1b (if applicable), HECO-13.2a, Fire Marshal's final acceptance report and other required operations permits to the DEB Director.

The UBO, when satisfied that the project and/or portion of the project is in fact substantially

complete in accordance with the contract documents, may issue written authorization (HECO-13.3) to JMU to occupy the project, or applicable portion thereof, subject to any conditions or stipulations stated thereon.

JMU shall not occupy the facility until the certification from the State Fire Marshal that the project complies with the fire safety requirements and applicable codes and the Certificate of Use and Occupancy (HECO-13.3) issued by the UBO are received. Occupancy of the facility without approval is unlawful and is a misdemeanor. (Code of Virginia § 36-106, as amended)

The following material is required for consideration of a request for a Temporary or Partial Certificate of Use and Occupancy:

1. Floor plans (small scale) showing areas requested for occupancy and exits/egress routes;
2. Type of Occupancy requested: move furniture in for staff, set up/prepare for students, etc.;
3. HECO-13.1a with punchlist from A/E;
4. HECO-13.2a with any attachment from Contractor;
5. HECO-13.3b Checklist for Beneficial Occupancy;
6. State Fire Marshal's report and recommendation;
7. Document stating that the Asbestos Abatement, if any, is complete;
8. HECO-13.3 Certificate of Occupancy with data on entire project and separate sheet showing data on area requested to be occupied.

JMU may take Beneficial Occupancy of a portion or unit of the project before completion of the entire project only with the prior written approval of the UBO.

7.3.32.8 Beneficial Occupancy – Renovations With No Change of Use

For renovations or alterations to existing buildings or portions of buildings which do not constitute a change of use or occupancy classification for the whole building or any part of the building, JMU shall prepare and submit Form HECO-13.4 (Building Permit Closeout). Issuance UBO of an approved HECO-13.4 closes the permit and authorizes re-occupancy of renovated spaces for projects that required the renovation areas to be vacated during construction. If the work has been determined to be substantially complete, but still has work remaining which must be completed under the open permit, JMU shall request re-occupancy of the building or specific spaces by submitting HECO-13.5 (Beneficial Occupancy). HECO-13.5 permits temporary re-occupancy while the remaining work is completed under the open permit between substantial completion and final completion, at which point JMU shall submit HECO-13.4 to close the permit.

The following material is required for consideration of a request for Beneficial Occupancy on projects that will not be issued a Certificate of Use and Occupancy:

1. Floor plans (small scale) showing areas requested for occupancy and exits/egress routes;
2. Type of Occupancy requested: move furniture in for staff, set up/prepare for students, etc.;
3. HECO-13.1a with punch list from A/E;
4. HECO-13.2a with any attachment from Contractor;
5. HECO-13.3b Checklist for Beneficial Occupancy;
6. State Fire Marshal's report and recommendation;
7. Document stating that the Asbestos Abatement, if any, is complete;
8. HECO-13.5 Beneficial Occupancy with data on entire project and separate sheet showing data on area requested to be occupied.

7.3.32.9 Final Completion Inspection

When the Contractor determines that the items listed in the “punch list” have been completed and that the Work is complete and ready for final testing and inspection, he shall complete Form HECO-13.2 and send it to the A/E at least five (5) days prior to the date the Contractor has set for the Work to be ready for Final Inspection. The A/E will forward the HECO-13.2 to JMU and attach a written endorsement, based on his periodic inspections, as to whether or not he concurs with the date set by the Contractor.

The A/E shall receive the Certificate of Completion (HECO-13.2), the Affidavit of Payment of Claims (HECO-13), written guarantees, equipment and operating JMU MANUALS and related documents assembled by the Contractor, review same and turn them over to JMU at the final inspection. The A/E shall record any items noted for completion or correction. He shall promptly follow up on the items and notify JMU, in writing, when they are completed.

The A/E shall conduct the final inspection in coordination with the Contractor and Project Manager. JMU may have other persons participate in the inspection.

If the A/E agrees that the building is complete in accordance with the contract documents, and safe to occupy, the A/E shall execute the “Certificate of Completion by the Architect/Engineer” (HECO-13.1) and deliver it, along with the Record Drawings and all other required material, to JMU for final acceptance of the project.

7.3.32.10 Smoke Control Acceptance Testing

Smoke control acceptance testing is a building code requirement. Contact the DEB lead reviewer to schedule a meeting with the agency, architect, engineers, contractor and smoke control special inspector to review the acceptance testing procedures prior to the anticipated substantial completion inspections.

7.3.32.11 Project Close-Out

The A/E shall file with JMU, the Certificate of Completion by A/E, Form HECO-13.1. The Architect/Engineer shall not be required to file this Certificate of Completion before he, in his professional opinion, believes all construction requirements have been met.

7.3.32.12 Documentation of “As Built” Conditions

The Contractor shall be required at all times to maintain one record set of drawings and specifications in the Superintendent’s office at the project site. This set of documents shall be designated the “As Built” documents and shall be used to record any changes or deviations from the original documents. The A/E shall review this set when he visits the site, and prior to approving the monthly pay request, to assure that the Contractor is making the notations as required. The “As Built” set of documents shall be furnished to the A/E at the completion of the project as a reference for preparing the final “Record” documents.

7.3.32.13 Record Drawings and Specifications

The A/E shall prepare “Record Drawings” showing the “As Built” conditions, locations and dimensions based on the Contractor’s As Built set of drawings and specifications, and other data furnished by the Contractor to the Architect / Engineer. The Record Drawings shall include actual location of piping and utilities as well as all other changes specifically known to the

Architect / Engineer. These Record Drawings shall also include the depths of pilings or caissons if pilings or caissons were in the construction. Record documents shall be provided to JMU in electronic format, in addition to any other physical format required by JMU. Reference JMU Construction Guidelines and Project Manager for further information.

7.3.32.14 Electronic Drawings

Where the drawings were plotted by CADD/BIM drafting onto paper or vellum, the original sealed masters shall be delivered to JMU as described in Section 7.3.32.16 below. The CADD/BIM information shall be modified to show the "As Built" conditions, dimensions, locations, etc. and appropriately noted. Sections, details and/or sketches produced as part of addenda and those prepared during construction to clarify the documents or for Change Order work shall be transferred to and composed on additional drawing sheets for inclusion in the Record Drawing set. Once the CADD/BIM data is completed, the drawings shall be printed (on a transparent, reproducible medium) and stamped "Record Drawings". The Record Drawings are then ready for conversion to electronic formatting (PDF) and delivery to JMU. Providing the original masters of the bid documents and the original Record Drawings is a Basic Service of the A/E.

7.3.32.15 A/E Statement of Preparation on Record Drawings and Specifications

The statement of preparation as shown below shall be affixed to each and every drawing sheet and on the cover and title page of the project JMU MANUAL of a completed set of "Record Documents". The drawings are not required to be sealed and signed. This criterion applies to documents created manually and in electronic formats. It is the expectation of JMU that during the preparation of the Record Drawings and Specifications that the A/E is responsible to ensure that all information from Change Orders, RFIs, CNRs and other forms of document modifications used during the construction of the project are properly incorporated into the final Record Documents.

Statement of Preparation of Record Documents

These Record Documents have been prepared in part based on information provided by the Contractor in accordance with Section 23, Plans and Specifications of the General Conditions of the Construction Contract. The A/E is not responsible for either errors in information provided by Contractor or others, or for information omitted by Contractor from its As-Built Drawings.

A/E of Record/ Date

7.3.32.16 Document Retention Requirements

JMU is responsible for assembling, maintaining and retaining the record construction documents for all renovations, remodels, additions, and new buildings constructed on state owned property in accordance with JMU's records retention policy. The A/E shall provide this documentation electronically in PDF format. JMU may also request additional copies of the record documents in other formats at its discretion.

The Record Documents include the Record Drawings of the As-Built Plans, Specifications, Maps and other pertinent documents. These documents shall be retained until the Building is removed from the state inventory.

7.3.32.17 Ownership of Design Documents

Original drawings and specifications as prepared by the A/E for the project shall be the property of JMU, whether the work for which they are made is executed or not. The A/E shall provide to JMU

at the completion of the job, the original drawings and original copy of the specifications at the time the Record Documents are provided to JMU.

7.3.32.18 Restriction on Promotional Materials by A/E and Contractor

The design and contract documents for construction on state-owned property are owned by JMU. Therefore, use of these work products in advertising or promotional literature, or a statement that a university or institution endorses the work product of an A/E or Contractor is prohibited without the express written permission of JMU. Identifying designs or construction as the work product of an A/E or Contractor in client lists, responses to RFPs and in promotional literature through the use of photographs, renderings, drawings (not contract documents) and descriptions of project is permitted after construction is substantially complete.

7.3.32.19 Maintenance and Operating Manuals

A specific set of operating and maintenance instructions written for the specific project shall be provided to JMU at the final inspection. This shall consist of a compiled document prepared by the A/E team for the project. These documents generally include the operation and control sequencing narrative, the control diagrams, an equipment chart indicating periodic maintenance requirements, and the operation and maintenance for the equipment. All systems needing regular maintenance and requiring adjustments must be covered. The schedule for required minor and major maintenance must be included. Relevant design criteria and assumptions needed to understand the operation of the systems will be furnished in narrative form including the control systems settings and concept of operation. Documentation which does not provide specific data but simply references the drawings, specifications and manufacturers is not acceptable. The compiled documents, along with the Record drawings and specifications, shall be provided to the head of the Buildings and Grounds operation of JMU at the time of final acceptance of the project.

7.3.32.20 Start-Up/Acceptance of Mechanical and Electrical Systems

It shall be the A/E's responsibility to verify that the Contractor has all systems functioning properly per design intent; that equipment has been received per Shop Drawings previously approved by the A/E; that all system components have been adjusted and a record made of final settings; and automatic operating modes have been established for full load ranges prior to notifying JMU that the system is ready for final start-up and acceptance testing.

It is the intent that when the startup inspection team is called together to conduct final inspections and acceptance test that the work be started as scheduled and completed without exceptional delay.

Major or time consuming adjustments or modifications during final inspection shall be avoided. Final inspections requested when the systems are obviously not ready for such testing and inspections may result in a back-charge to the A/E or Contractor for the costs of inspection team visits and related costs. Applicable portions of the above requirements shall be included in the project specifications.

7.3.32.21 Guarantee Period Inspection

Prior to the expiration date of the Contractor's one-year guarantee period, but not before 9 months of this period has elapsed, JMU shall make an inspection of the building, equipment, and/or any other work included in the original Contract to determine whether any defects in materials or workmanship have developed. JMU shall provide the Contractor with written notice of such

defects and shall notify the A/E for advice in the correction of the defects.

CHAPTER 8: CAPITAL OUTLAY PLANNING AND PROJECT APPROVAL

8.0 General

This chapter describes the capital outlay process. It provides instructions on documentation required for approvals at various milestones in the Capital Outlay process.

On all university projects, the HECO-2, HECO-4, HECO-5, HECO-6 and HECO-8 (HECO Forms) shall be submitted to and approved by the VP A&F. Building Official activities remain under the purview of the Director, Division of Engineering and Buildings (the Building Official for Buildings on State Property).

HECO-4, HECO-5 and HECO-6 are only applicable to Design-Bid-Build General Funded projects.

8.1 Capital Project Planning / Budgeting Process

This section generally describes the budget process directly related to the Capital Outlay Program.

- JMU develops its Six (6) year plan for Capital Projects.
- DPB issues its Budget Instructions (usually in February) See the DPB website.
- JMU submits their Capital Budget Requests (CBR) in the Performance Budgeting (PB) system, with project priorities indicated.
- Capital Project submissions are reviewed by DPB and DGS for possible inclusion in the Governor's budget based on program guidance established by the Governor.
- Capital Project submissions are reviewed and considered by the six-pack committee for possible inclusion in the Governor's budget based upon program guidance established by the Governor and input from DPB and DGS
- The Governor presents his Budget to the money committees in December
- "Part 2, Capital Project Expenses" of The Budget Bill contains those Capital Projects the Governor has selected for construction or planning in the coming biennium.
- The General Assembly considers and passes the Acts of Assembly (the Appropriations Act).
- The Governor signs the Acts of Assembly (the Appropriations Act).
- Authorization to proceed with the projects must be granted by the Governor (or his designee) before any planning for or construction can begin.
- Funds are not available to be spent until July 1 of the even numbered years or until action on the Acts of Assembly (the Appropriations Act) is completed.

8.2 Capital Outlay Project Implementation Process

The following generally summarizes the capital outlay project implementation process.

- JMU procures an Environmental Impact Report (or obtains letter from DEQ that EIR is not required for the project). Preparation and submission of an environmental impact report is required for each major state project (Code of Virginia § 10.1-1188). Regulatory authority is assigned to the Virginia Department of Environmental Quality (Va. DEQ) in the Code of Virginia § 10.1-1191. Submission requirements are described in the "Procedure for Environmental Impact Review of Major State Facilities", prepared by the Va. DEQ.
- [NOTE: Code of Virginia § 10.1-1190 provides that the State Comptroller shall not authorize payments of funds for major state projects unless the request is accompanied by written approval of the Governor after his consideration of the comments by DEQ on the environmental impact of the facility.]
- JMU obtains authority to initiate a Capital Outlay Project by submitting Form HECO-2 for approval.
- Issue Notification of Initiation of Environmental Impact Report Process (HECO-2a)

- JMU issues RFP for A/E services, interviews and selects A/E, negotiates fee, awards A/E Contract (Form JMUCO-3 and MOU) (See Chapter 3)
- JMU and A/E attend Pre-design Conference.
- A/E develops and submits Schematic design for approval. Approve Schematic design and receive approval to proceed to Preliminaries. (HECO-4, as applicable)
- A/E develops and submits Preliminary design for approval.
- Conduct VE Study if value of the project authorized construction cost exceeds \$5,000,000, as applicable.
- Issue notice of availability of Preliminary design to local jurisdiction (HECO-5a)
- Obtain approval of design from AARB
- Approve Preliminary design and receive approval to proceed to Working Drawings. (HECO-5)
- A/E develops and submits Working Drawing submittal for approval. Review Working Drawings design. Receive approval of Working Drawings using HECO-6.
- Advertise / Post Notice of Solicitation
- Receive bids/proposals, open and evaluate.
- If within Budget, submit HECO-8 to Award Contract
- If over budget but within range for negotiation, request approval to negotiate. If negotiations successful, prepare JMUCO-9b, Post Bid Modifications to Bid.
- Use Form JMUCO-9 to Award Contract for Construction
- Contractor submits Performance Bond using HECO-10 and Labor and Material Payment Bond using HECO-10.1
- Submit Information for Building Permit, HECO-17. (See Section 8.7).
- For Change Orders to A/E Contract use HECO-11AE
- For Change Orders to Construction Contract, use Form HECO-11 and HECO-11a
- Submit Certificate of Use and Occupancy, Form HECO-13.3, or Beneficial Occupancy, HECO-13.5 followed by Permit Closeout, HECO-13.4 (See Section 8.7)
- Submit Project Completion Report using HECO-14

8.3 Capital Outlay Project Authorization

Appropriated funds will be allotted and authority given to initiate a project, subject to interim approvals, reviews, and progress reporting, upon application from the agency but not before July 1 following General Assembly approval of the Biennial Budget which includes the project. In odd numbered years if a capital outlay project is added to the Budget during the short session, DPB may authorize the project after the Governor and veto session action on the amended Budget.

Architectural or engineering planning for or construction of, or acquisition of any capital project shall not commence or a revision be initiated without prior written approval of the Governor (§ 4-4.01 of the Appropriation Act (the Acts of Assembly)).

Under certain circumstances the Governor may authorize the initiation of Capital Projects under the conditions set forth in § 4-4.01 of the General Provisions of the Acts of Assembly. A project authorized under § 4-4.01 is subject to the Capital Outlay Process, including the submission of E&B Form HECO-2 to request authorization to initiate the project.

8.4 Project Execution

8.4.1 Acquisitions of Real Property

Acquisition of real estate shall be handled as a Capital Outlay Project and is governed by this manual.

To initiate an acquisition, submit an E&B Form HECO-2 and approved by VP A&F. For projects which consist of acquisition and construction, the request to acquire the property must be submitted on a separate E&B Form HECO-2.

8.4.2 Demolition

Demolition of any building, regardless of size and type, shall be authorized by the VP A&F prior to proceeding. Demolitions which are required to permit construction shall be approved through JMU Real Property & Space Management before preliminary drawings are prepared.

8.4.3 Temporary Facilities

Though funding for the modular or industrialized building or prefabricated building may be proposed from maintenance and operating funds. Prior to submitting a requisition (where purchase is involved) or before finalizing any contractual arrangements for lease of a temporary facility, submit plans of the structure to DEB for issuance of a building permit. The plans shall show that the structure meets the requirements of the Virginia Uniform Statewide Building Code or the Virginia Industrialized Building Unit and Mobile Home Safety Regulations and is accessible to the disabled. The plans shall include site location plan, proper anchorage, tie down and utilities for the structure. See Chapters 4 and 8.

Include a site plan indicating the proposed location of the facility. The location of the facility, as well as the aesthetics of the proposed structure, shall be presented to the Art and Architectural Review Board. Prior to occupancy, JMU shall apply to the State Building Official (Division of Engineering and Buildings) for a Certificate of Occupancy for the facility. Form HECO-13.3 TMP shall be completed and be accompanied by a letter report of inspection recommending occupancy of the facility from the Regional State Fire Marshal's Office.

8.4.4 Construction Projects

Capital construction projects are generally executed as described above. (Also see Figure 8.5). The 3-digit agency code and the five digit project code assigned to the project in the Appropriation Act shall be the basic project identifier for the life of the project. For blanket or umbrella appropriations; a project that will be accomplished by separate contracts at multiple locations or acquisitions at multiple locations; or a single project to be accomplished through two or more construction contracts, shall assign a 3-digit sub-project code for each undertaking. Several examples are given below. The agency code, project code and sub-code shall be used on all capital outlay forms and correspondence.

8.4.5 Project Initiation

JMU will submit a "Request for Authority to Initiate Capital Project, HECO-2 via BITS (Building Information Tracking System).

HECO-2: Request for Authority to Initiate Capital Outlay Project

Purpose: To request authority to initiate a project.

Submit: Subsequent to release of the Appropriation Act.

Other Uses:

1. Change in "Movable Equipment & Furnishings" amount,
2. Transfer money into or out of project, and
3. Infuse additional funds.
4. Scope increase or decrease by more than 5%.

When the approved HECO-2 authorizes an agency to "proceed", subsequent submission of the Capital Outlay G.S. Forms E&B HECO-4, HECO-5, HECO-6, HECO-13, HECO-13.1 and HECO-13.2 are waived unless specific submittals are noted on the HECO-2. However, JMU will obtain a Building Permit prior to the start of the construction if the authorized Work requires such a permit. (See Chapter 4)

For General Funded projects the Director, Department of General Services, may authorize minor increases in square footage of a project where the increase is justified (§ 4-4.01 of the Appropriation Act). The Agency head shall submit a written request for such an increase to the Director of Department of General Services stating the necessity and justification for the increase. Any request which would increase the cost of the project beyond the amount appropriated will not be considered.

For General Funded projects the Total Project Budget breakout on the HECO-2 will reflect the results of DPB and DEB review during the budget development process. List sub-projects with sub-project numbers and fund proportioning for each on page 2 and page 3, if needed, on the HECO-2. Appropriate comments and instructions relative to changes from the figures submitted by JMU with the Capital Budget Request will be provided to JMU during or after budget development. The amount of funding shown in the equipment line on the HECO-2 will remain fixed for the life of the project unless a revised HECO-2 is submitted and approved by the DPB to adjust the equipment amount.

HECO-2a Notification of Initiation of Environmental Impact Report Process

Purpose: To notify the chief administrative officer of the local political subdivision of the initiation of the environmental impact report process for a capital project involving new construction costing at least \$500,000.

Submit: To the chief administrative officer concurrent with submission of a HECO-2.

Other Uses: Not Applicable.

The intent of the notification is to enable the locality to comment on the Environmental Impact Report.

8.4.6 Pre-Design Conference

JMU may engage an A/E firm to prepare drawings and specifications upon receipt of the approved HECO-2. Prior to preparation of schematics or the continuation of design beyond the concept presented in the Capital Budget Request, JMU may schedule a pre-design meeting with DEB. The meeting may be held at DEB. Participants may include the DEB lead reviewer for JMU, the A/E, the JMU project manager, the user of the facility and, at DPB's discretion, the DPB budget analyst for JMU. The agenda for the meeting may include:

- Introductions
- Role of DEB
- Authorized Communications
- Project Scope
- Project Budget
- Proposed Design Schedule
- Required Reviews
- Chapters 4 - 7 of the JMU Manual
- Fire Safety Reviews
- Fire Protection System Design
- Clarification/Resolution of Budget Development Comments

- Waivers/Code Modifications
- Content of Review Submission
- Intent of Review Comments
- Design Approach
- Sole Source / Proprietary Specifications
- Use of Standard Procurement / Specification Forms
- Value Engineering
- Other Regulatory Reviews

The A/E shall prepare and distribute minutes of the meeting to all participants within 14 days of the meeting.

JMU may proceed with the project design at the conclusion of designated review period for the pre-design meeting minutes. Agreements on design direction, scope, budget, review comment agreement, etc., reached during the pre-design meeting shall be incorporated in the first review submission.

8.4.7 Schematics

Schematic submittals are usually required for Capital Outlay Projects which have not had a Preplanning Study prepared. Chapter 5 of this manual outlines the requirements for the Schematic submittal. Generally, the Schematic translates JMU's written project functional, spatial and adjacency requirements into a graphic presentation of floor plans, space sizes and relationships, and exterior building elevations. The A/E shall make a schematic presentation to the Art and Architectural Review Board. Additional reviews may be required by the Art and Architectural Review Board.

HECO-4 Application for Approval of Schematics

Purpose: To submit and receive approval of the Schematic submittal and obtain authority to prepare Preliminaries. Use a separate HECO-4 for each sub-project submitted.

Submit: With Schematic submittal when Schematic drawings and data are complete and ready for review.

Other Uses: None

8.4.8 Preliminary Submittal

The next project approval milestone is the submittal of preliminary drawings with the basis of design narrative, building systems and equipment checklist, cost estimates, and HECO-5 submission (in BITS) to DEB and other Agencies for review. Chapter 5 of the JMU Manual outlines preliminary submittal requirements. JMU may arrange for a Value Engineering Study of each project with a total project cost greater than \$5,000,000. The study and JMU action on the study recommendations are a required part of a preliminary submittal. JMU is responsible for making submittals to and obtaining approvals from the other review agencies listed in Chapter 5 of the JMU Manual.

After DEB review and resolution of any differences between JMU action on the VE recommendations and the DEB preliminary review comments, an approved HECO-5 will be issued to authorize preparation of working drawings. Any changes required by the DEB review comments shall be incorporated in the next project submission.

HECO-5: Application for Approval of Preliminary Drawings and Specifications

Purpose: To submit and receive approval of the preliminary drawings and obtain authority to prepare working drawings. Use a separate HECO-5 for each sub-project submitted.

Submit: With the preliminary submittal when preliminary drawings and data are complete and ready for review.

Other Uses: To make adjustments to construction, A/E, Project Inspection and Other Budget Lines as project design develops.

8.4.9 Working Drawing Submittal

The next project approval milestone is the submittal of completed working drawings and specifications by JMU to the DEB and other reviewing Agencies. See Chapter 5 for a listing of other agencies whose review and approvals may be required. A completed HECO-6 and the final cost estimate shall accompany the submittal to DEB. DEB will review the working drawings and specifications and, if appropriate, approve the working drawings.

Some projects (e.g., work on historic landmarks, demolitions, water and wastewater treatment plants, central heating plants, etc.) may require the review of the Department of Health, Department of Historic Resources, and Department of Environmental Quality at both preliminary and working drawing stages. JMU in concert with its A/E shall be responsible for determining when these reviews are necessary and ensuring that the appropriate review Agencies receive the plans and specifications. Changes required by the DEB review comments shall be incorporated in the bid package before the construction documents are released to prospective bidders.

JMU shall submit the number of copies of the revised documents as requested by the DEB lead reviewer before release of the documents to prospective bidders unless otherwise instructed. JMU shall ensure comments of the State Fire Marshal, Division of Soil and Water Conservation, and other reviewing Agencies are received and incorporated in the bid package.

HECO-6: Application for Approval of Working Drawings and Specifications

Purpose: To submit and receive approval of working drawings. Use a separate HECO-6 for each sub-project submitted.

Submit: With the working drawings and when the working drawings are complete and ready for review.

Other Uses: To make adjustments to the Construction, A/E, Project Inspection, and Other budget lines based on final project design.

Even though JMU has “HECO” authority to approve the HECO-2, HECO-5 and HECO-6 for their Capital Outlay projects, DEB review of the Working Drawings / Construction Documents is required before a Building Permit is issued. It is strongly recommended that the Working Drawing plans and specifications be submitted to DEB review prior to release to bidders so that any Codes and Standards deficiencies noted can be corrected prior to bidding. This is a more cost effective process than making corrections by Change Order to the Construction Contract.

JMU shall notify DEB of Bid dates for Capital Outlay projects. The purpose is to assure that state capital projects do not compete with each other or other significant projects for bidders on bid day.

8.4.10 Bid Opening and Contract Award

On the date prescribed, Bids shall be publicly opened and announced as specified in Chapter 7. When the apparent low responsive and responsible bidder is determined, JMU shall prepare a tabulation of bids HECO-8, Approval to Award Contract (HECO-8). If the low bid is equal to or less than JMU's construction estimate on the CO Form authorizing advertising (e.g., HECO-6), the HECO-8 may be approved locally by

JMU's designated Virginia Construction Contracting Officer (VCCO). Submit the approved HECO-8 and the bid tabulation and bid form to DEB.

HECO-8: Approval to Award Contract

Purpose: Authorize the award of a construction contract to the apparent low bidder.

Submit: The approved/signed HECO-8 with the bid tabulation to the DEB after signature by the designated Virginia Construction Contracting Officer (VCCO).

Other Uses: To make changes in the project budget after contract award for all budget lines except "Movable Equipment & Furnishings"

If the low bid exceeds the JMU construction estimate by less than 10%, and if funds are available within the approved total project budget shown on the approved HECO-6, JMU may accept the bid. The designated VCCO shall sign the HECO-8 which shall show the revised project budget breakdown. Submit the approved HECO-8 and the bid tabulation and bid form to DEB as stipulated above.

If the low bid exceeds the agency construction estimate by 10% or more, JMU may:

- 1) Request authority to infuse additional funds,
- 2) Request authority to negotiate with the low bidder, or
- 3) Reject all bids.

To infuse additional funds JMU shall submit a revised HECO-2, a HECO-8 and the bid tabulation and bid form emailed to the DEB for approval of the funding action by DPB.

Authority to negotiate with the low bidder shall be requested from AVP Business Services. Follow the procedures detailed in Chapter 7 to request authority to negotiate.

In all cases where the low bid exceeds the agency construction estimate by more than 10%, approval to award a contract (even after negotiations with the low bidder) shall be required from the VP A&F.

When the HECO-8 has been approved JMU may award a contract to the low bidder.

The project budget on the HECO-8 will reflect the contract award amount, A/E fees, supervision, equipment and a minimum of 5% of the low bid amount, or negotiated amount where negotiation with the low bidder was authorized, for the construction contingency. Remaining funds shall be de-allotted and held by DPB pending project completion. If during the course of construction the contingency is exhausted and additional contingency is required, the agency shall submit a revised HECO-2 and a revised HECO-8. The request shall identify the source of funds for the contingency increase and include an explanation as to why the additional contingency is needed.

8.4.11 Building Permits and Demolition Permits

Working Drawings and Specifications / Construction Documents must be reviewed and approved by DEB prior to issuance of a Building Permit. Do not submit a CO-17 prior to receiving this approval: the CO-17 will be returned to JMU. This applies to capital and non-capital projects. The following shall be submitted to obtain a Building Permit and/or Demolition Permit:

HECO-17: Information for Building Permits Refer to Chapter 4 and Section 8.7.6.

HECO-17.1: Demolition Permit (for demolition of Existing Buildings)

Purpose: To authorize demolition of existing structures on State property. (Interior demolition associated with renovations and repairs is usually covered by the Building Permit.)

Submit: One copy to the Bureau of Capital Outlay Management completed with all information and dates and copies of approval by other relevant State Agencies. One copy will be returned to JMU when signed and approved by the Building Official and the VP A&F.

Other Uses: None

Special Conditions: Request must show dates of approval by the AARB and by Historic Resources (DHR) to demolish the structure. Also show dates of Asbestos Survey and Lead Based Paint Survey. Contract Documents must require proper disposal of Hazardous and Non-Hazardous materials including the proper handling and disposal permits. Authorization is contingent upon approval of the JMUCO-8 for award of the Demolition Contract (or Construction Contract if demolition will be done as part of that contract).

The following attachments are required with the submission of the HECO-17.1:

- AARB Demolition Approval – Copies of front page of the Meeting Minutes with date of the meeting and relevant page(s) in Minutes addressing demolition.
- DHR Demolition Approval – Copy of approval letter / memo from DHR.
- Photographs of exterior and interior of building.
- Other information as deemed appropriate by the Agency to support the application.
- Clarifications of information for HECO-17.1
- Always use the current edition of the HECO-17.1 – available from the JMU HECO Manual Website.
- Surveys of hazardous materials – asbestos and lead paint - shall be complete. If hazardous materials were found and not previously abated, Abatement Designs must be complete and incorporated as part of the Demolition Contract.
- Date of Release by Utilities shall be complete when the HECO-17.1 is submitted with Release dates noted (No future dates accepted). The only exception allowed is when the Releases are required as part of Contractor's work in the Demolition Contract, which shall be noted on the HECO-17.1.

8.4.12 Change Orders to the Construction Contract

Refer to Section 8.7.7.1 for information.

8.4.13 Change Orders to the A/E Contract

Refer to Section 8.7.7.2 for information.

8.4.14 Building Occupancy

Refer to Chapter 4 and Section 8.7.8 for information.

8.4.15 Project Close Out

Every capital project which has an approved HECO-2 authorizing the project to be initiated shall be closed out by the completion and submission of a Project Completion Report, HECO-14. This includes projects which may have been cancelled by JMU and never constructed, projects where funds were reverted, projects which were combined with another project and the funds transferred, and projects where the funding was never allotted.

A project may be reported as 100% complete in the semiannual capital outlay status report when a Certificate of Occupancy, HECO-13.3, has been issued by the State Building Official, or, in the case of

renovation projects where there is no change in use or occupancy classification, when the permit has been closed by issuance of Permit Closeout, HECO-13.4, by the State Building Official.

The Project Completion Report, HECO-14, shall be submitted to DEB as soon as practical after the project is physically complete and the associated administrative steps have been concluded, but no later than 12 months after the owner occupies the building or the work has been accepted as substantially complete. Included in this generalized statement are such things as the contractors submission of warranty, operating manuals, maintenance procedures and other user required documentation; submission of the record drawings by the A/E; release of retainage to the contractor and final payment for any outstanding invoices and other ancillary or associated work/equipment provided by vendors and contractors not associated with the general construction; etc. If the requirements for the project close out as stated above cannot be met within twelve (12) months, the agency shall submit a summary of the outstanding items and an estimated date (within twelve (12) months) that the project can be closed out to DEB.

8.5 Capital Outlay Order Of Procedure

DOCUMENT	USE / ACTION
HECO-2	Authority to Initiate a Capital Outlay Project
HECO-2a	Notice of Initiation of Environmental Impact Report Process
JMUCO-3	Contract for A/E Services to design a Project
HECO-3a	Terms and Conditions of the Professional Services Contract
HECO-4	Approval of Schematics (when Schematics are required)
HECO-5	Approval of Preliminary Design
HECO-5a	Notice to Public Body of Availability of Preliminaries
HECO-6	Approval of Working Drawings (Plans and Specifications) (and Authorization to Advertise for Bids)
HECO-8	Authority to Award a Construction Contract
JMUCO-9	Contract for Construction
HECO-17(HECO-17IND, HECO-17MAN, HECO-17TWR)	Building Permit (for industrialized building, manufactured home, tower, temporary structure, special use permit)
HECO-17.1	Application for Permit to Demolish a Building
HECO-11AE	Change Order to the A/E Contract
HECO-11, HECO-11a	Change Order to the Construction Contract, Justification for Change Order
HECO-13.3(HECO-13.3IND, HECO-13.3MAN, HECO-13.3TWR)	Certificate of Use and Occupancy (for industrialized building, manufactured home, tower)
HECO-13.4	Building Permit Closeout (for projects that will not result in a HECO-13.3)
HECO-13.5	Beneficial Occupancy (for projects that will not result in a HECO-13.3)

HECO-14	Project Completion Report
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8.6 Co Forms Capital Outlay Submission Summary

FORM #	DESCRIPTION	WHEN TO SUBMIT	FORMAT	CPSM CHAP
HECO-2	Initiate Project	As Required to Initiate any project, or for approval of a scope or dollar change to approved project	BITS	8
HECO-2a	Notice to Locality	Initiation of the EIR	Paper, PDF to Chief Administrative Officer of the Locality	8
HECO-2.3	A/E Fee Proposal	A/E submits to Agency	Electronic file	3
JMUCO-3, JMUCO-3.1, JMUCO-3.1a, or JMUCO-3.2	Owner – A/E Contracts	10 days after contract executed(w/ copy of MOU)	Paper, PDF	3, 8
HECO-4	Schematic Approval	With Schematics	BITS	8
HECO-5	Preliminary Approval	With Preliminaries	BITS	8
HECO-5a	Notice to Locality	Completion of Preliminary Documents	Paper- PDF Send to Chief Administrative Officer, Local Political Subdivision	8
HECO-6	Working Drawing	With Working Drawings Approval	BITS	8
HECO-6a	Inspection Statement	With Working Drawings w/HECO-6b attached	Paper, PDF	5
HECO-6b	Special Inspection List	Attached to HECO-6a	Paper, PDF	5
HECO-8	Approval to Award Contract	Within 10 working days of bid opening	BITS(Send Bid Form, Bid Tab, & JMUCO-9b)	7
JMUCO-8b	A/E Performance Evaluation	Upon receipt of Approved HECO-6	pdf	3, 5 (copy to A/E)

JMUCO-9	Owner - Contractor Contract	No submittal to DEB	To Agency File	7
JMUCO-9b	Post Bid Modification(also PDF w/JMUCO-8)	Attached to JMUCO-9	Paper, PDF	7, 8
JMUCO-9.1	Notice of Intent	No submittal to DEB	To Agency File	7
JMUCO-9.1a	Notice of Award	No submittal to DEB	To Agency File	7
HECO-10	Performance Bond	No submittal to DEB	To Agency File w/JMUCO-9	7
HECO-10.1	Payment Bond	No submittal to DEB	To Agency File w/JMUCO-9	7
HECO-11	Change Order to Construction Contract	When Change Order requires VP approval (2 originals)	Paper, PDF w/ HECO-11a justification & backup	7, 8
HECO-11	Change Order to Construction Contract	When Change Order DOES NOT require VP approval	Paper, PDF w/ HECO-11a(or Electronic)	7, 8
HECO-11a	Change Justification	With HECO-11	Paper, PDF	7, 8
HECO-11a/e	Change Order to A/E Contract	When Change Order requires VP approval (2 originals)	Paper, PDF	7, 8
HECO-12	Schedule of Values, Request for Payment	At project close-out	GC-Pay, or Electronic	7
HECO-13	Affidavit - Payment of Claims	With Contractor's Final payment request	Paper, pdf	7
HECO-13.1	A/E Certificate of Completion	After completion of Final Inspection	Paper, pdf	7
HECO-13.1a	A/E Certificate of Substantial Completion	After Substantial Completion Inspection	Paper, pdf with HECO-13.3a	7, 8
HECO-13.1b	Final Report of Structural Inspections	After Substantial Completion Inspection	Paper, pdf with HECO-13.3a	7, 8
HECO-13.1c	PM or PI Certificate of Substantial Completion	After Substantial Completion inspection	Paper, pdf with HECO-13.3a	8
HECO-13.2	Contractor Certificate of Completion	After completion of Final Inspection	Paper, pdf	7

HECO-13.2a	Contractor Certificate Substantial Completion	Before Substantial Completion inspection	Paper, pdf with HECO-13.3a	7, 8
HECO-13.3	Certificate of Use & Occupancy	After Substantial Completion Inspection – Prior to Occupancy	BITS	7, 8
HECO-13.3 IND	Industrialized Building Certificate of Use& Occupancy	After Substantial Completion Inspection Prior to Occupancy	BITS along w/HECO-13.1a, HECO-13.2a, HECO-13.3b & other reports	7, 8
HECO-13.3 MAN	Manufactured Home Certificate of Use& Occupancy	After Substantial Completion Inspection - Prior to Occupancy	BITS along w/HECO-13.1a, HECO-13.2a, HECO-13.3b & other reports	7, 8
HECO-13.3 TWR	Tower Certificate of Use & Occupancy	After Substantial Completion Inspection - Prior to Occupancy	BITS along w/HECO-13.1a, HECO-13.2a, HECO-13.3b & other reports	7, 8
HECO-13.3b	Checklist for Beneficial Occupancy	With HECO-13.3a	Paper, pdf	8
HECO-13.4	Building Permit Close	After Final Completion	BITS along w/ HECO-13.1a, HECO-13.2a, HECO-13.3b & other reports	4, 5
HECO-13.5	Beneficial Occupancy	After Substantial Completion Inspection - Prior to Re-Occupancy	BITS along w/HECO-13.1a, HECO-13.2a, HECO-13.3b& other reports	4
HECO-14	Completion Report	Within 12 months of Building Occupancy	BITS	7, 8
HECO-15	Application for Review Delegation	As required	Paper, PDF	7
HECO-16	Prequalification	As required by RFQ	None	7
HECO-17	Building Permit	After HECO-8 approval for Capital Project; After contract award for non-capital	BITS	7, 8

HECO-17 IND	Building Permit - Industrialized Building	After HECO-8 approval for Capital Project; After contract award for non-capital	BITS	7, 8
HECO-17 MAN	Building Permit - Manufactured Home	After HECO-8 approval for Capital Project; After contract award for non-capital	BITS	7, 8
HECO-17 TWR	Building Permit - Tower	After HECO-8 approval for Capital Project; After contract award for non-capital	BITS	7, 8
HECO-17 TMP	Building Permit - Temporary Structure	After HECO-8 approval for Capital Project; After contract award for non-capital	BITS	7, 8
HECO-17 SPC	Special Use Permit	After HECO-8 approval for Capital Project; After contract award for non-capital	BITS	7, 8
HECO-17.1	Demolition Permit	After DHR & AARB Approvals, before demolition	Paper, PDF to DEB w/attachments	8
JMUCO-18	Sole Source	Before Working Drawings Procurement Approval	Paper, PDF	5

FORMAT TO DEB explanations

Electronic = E-mail or other electronic transmission to a specified electronic address

Paper = Paper copy or original w/signatures sent by US Postal Service or by courier service

Pdf = Indicates that 'scanned' document in 'pdf' format sent electronically to DEB E-mail address may substitute for 'Paper' or PDF copy

BITS = Forms shall be prepared and submitted by agency within BITS application software

FIGURE 8.6

8.7 Co Form Instructions And Requirements

This section describes the CO- Forms used for Capital Construction Projects regardless of the source of funds. Any work which meets the definition of “construction” as defined in this manual and which is regulated by the Uniform Statewide Building Code must be authorized by a Building Permit (Form HECO-17). JMU must prepare and submit an environmental impact report as required for each major state project which costs more than \$500,000. (Code of Virginia § 10.1-1188). See Section 4.18 of the Manual

8.7.1 Capital Outlay Project ‘CO’ Forms for Construction

In addition to these construction related ‘CO’ forms, all capital outlay projects must also follow the approval procedures in the JMU Manual. Unless otherwise indicated in the project authorization wording on the HECO-2.

8.7.2 Annual Permit Designation

The Building Official has determined that certain repair, remodeling and improvement projects can be performed at JMU by JMU forces or by contracting with minimal risk to public safety. Appendix P of the CPSM, Building Permit Policy, identifies those types of projects. To facilitate the process, the Building Official, at his sole discretion, has established an Annual Permit Procedure where JMU may request authority to review, approve, permit and inspect these types of projects locally by submitting the name of an Architect or Engineer on staff who will be the JMU designee responsible to the Building Official for assuring that work done under the Annual Permit Authority is recorded and meets the requirements of the Building Code. After approval of the qualifications of the proposed person, the Building Official will issue a letter to JMU designating the person named in the letter as the designee for review and approval of documents for proposed projects under the Annual Permit and for inspecting such projects to assure compliance with the VUSBC and applicable standards. See Section 4.19.3.1 of the Manual. JMU has obtained this Annual Permit designation.

8.7.3 Demolition of Buildings

Demolition of any building (plant) regardless of size and type shall be authorized by the VP A&F prior to proceeding. This includes obtaining recommendations for approval to demolish the building / structure for the Art & Architecture Review Board and the Department of Historic Resources. Requests for demolitions of existing buildings which must be done to allow for the new construction should be requested and approved by JMU Real Property and Space Management before preliminary drawings for the new construction are prepared. JMU is required to complete and submit HECO-17.1 with attachments including a site plan or aerial image to request authorization to demolish any building or structure on state property.

8.7.4 Temporary Facilities (Other than Tents and Stages)

Though funding for a modular or industrialized building or prefabricated building may be proposed from maintenance and operating funds, such projects are essentially Capital in nature. JMU must assure that the item being leased or purchased will meet the requirements of the VUSBC (Building Code). See Chapter 4 for guidance. Before the item is delivered to the site, JMU should submit plans of the structure to DEB for issuance of a building / foundation permit. The plans shall show that the structure meets the requirements of the Virginia Uniform Statewide Building Code or the Virginia Industrialized Building Unit and Mobile Home Safety Regulations and is accessible to the disabled. The plans shall include site location plan, proper anchorage, tie down and utilities for the structure. See Chapter 4.

Include a site plan indicating the proposed location of the facility. The location of the facility, as well as the aesthetics of the proposed structure, shall be presented to the Art and Architectural Review Board. Prior to occupancy, JMU shall apply to the Building Official (Division of Engineering and Buildings) for a Certificate of Occupancy for the facility. Application shall be made in accordance with the building permit guidelines in Section 8.7.6, Form CO-13.3 IND shall be completed by the Agency, submitted to DEB via BITS and be accompanied by a letter report of inspection recommending occupancy of the facility from the Regional State Fire Marshal's Office.

8.7.5 Construction Projects

Capital construction projects are generally executed as shown in Chapter 8 and outlined in Figure 8.5. The 3-digit agency code and the five digit project code assigned to the project in the Appropriation Act shall be the basic project identifier for the life of the project. Blanket or umbrella appropriations; a project that will be accomplished by separate contracts at multiple locations or acquisitions at multiple locations; or a single project to be accomplished through two or more construction contracts, shall be assigned a 3-digit sub-project code for each undertaking.

Non-Capital Construction projects also must have an identifier for tracking purposes. The identifier is the three digit agency code followed by a five digit code composed on the last two digits of the year in which the project is first submitted to DEB for review followed by the three digit agency code. (e.g. 194-A4194-xxx for DGS) The last three subproject digits are sequential numbers assigned by DEB when the submittal or application is first received. (e.g. 194-A4194-012 for the twelfth DGS non-capital submittal received)

8.7.6 Building Permits

The construction documents submitted for Building Permit shall have sufficient information, sizes, dimensions, details, material descriptions, loads and load capacities, plans, sections, elevations and details for the Building Official to determine that the proposed work conforms to the requirements of the Building Code and applicable standards and policies. For most projects, this submittal will be plans and specifications. For repairs, remodels and minor improvements, it may be plans and specs or sketches with dimensions or even a narrative of the work to be done. In any case, the documentation must describe what is to be done and show that the work will conform to the requirements of the building code and applicable standards and policies.

The submittal of completed working drawings and specifications (or other materials) by JMU to DEB shall be followed, after award of the contract, by the completed project information on HECO-17, Building Permit, in BITS. For work to be permitted under the Annual Permit by the JMU Designee, the documentation must satisfy the designee.

Some projects (e.g., work on historic landmarks, demolitions, water and wastewater treatment plants, central heating plants, etc.) may require the review of the Department of Health, Department of Historic Resources, and Department of Environmental Quality before a Building Permit will be issued. JMU in concert with its A/E shall be responsible for determining when these reviews are necessary and ensuring that the appropriate review Agencies receive the plans and specifications. Changes required by the DEB review comments shall be incorporated in the documents and the Work as a condition of the Building Permit.

HECO-17: Building Permit - for Capital Projects

Purpose: To request approval of Plans & Specifications including addenda and any post-bid modifications for construction upon approval of the HECO-8 authorizing award of the Construction Contract. A separate

Building Permit, HECO-17, may be issued at the discretion of the Building Official for each phase of phased projects or to allow site work to begin pending resolution of deficiencies in the documents.

Submit: HECO-17 in BITS with all data including date of documents, number of addenda and dates, name and license number of Contractor, etc. Submit after the HECO-8 and any other material required to be submitted with the HECO-8 have been approved.

Other Uses: For projects reviewed by a Delegated Review Unit, also submit one (1) complete set of the Plans, Specifications, Addenda and any Post Bid Modification modifying the requirements of the Bid Documents along with the HECO-17.

HECO-17: Building Permit - for Non-Capital Projects

Purpose: To submit and receive approval of construction documents and to receive approval to begin construction.

Submit: After completion of the working drawings / construction documents and after award of the contract. Submit completed HECO-17 in BITS with all applicable information filled in to describe the Work.

Other Uses: To request extension of the Building Permit expiration date.

HECO-17 MAN: Building Permit - for Manufactured Home

Purpose: To request approval of Plans and Specifications to construct foundations and anchorage systems for Manufactured Homes and to install and connect "labeled" Manufactured Homes for temporary or permanent use.

Submit: HECO-17 MAN along with three (3) copies (minimum) of the Floor Plan(s) & Specifications or manufacturer's data with serial #'s and seals, Site Plan, Foundation Plan & details, Anchorage Plan & details, and Entrance / Egress / Access Plan & details which show / describe the work to be performed.

Other Uses: None

Special Conditions: Units proposed to be acquired and/or placed on state property shall conform to the requirements of the Virginia Manufactured Home Safety Regulations (MHSR), shall have the appropriate labels of an Inspection service affixed, and shall have a Virginia Registration Number. See Chapter 4 for guidance for procuring an industrialized building to assure that it will be acceptable for use when delivered to the site.

HECO-17 IND: Building Permit - Industrialized Building

Purpose: To request approval of Plans and Specifications to construct foundations and anchorage systems for Modular or Industrialized Buildings and to install and connect "labeled" Industrialized Buildings for temporary or permanent use.

Submit: HECO-17 IND along with three (3) copies (minimum) of the Floor Plan(s) & Specifications or manufacturer's data with serial #'s and seals, Site Plan, Foundation Plan & details, Anchorage Plan & details, and Entrance / Egress / Access Plan & details which show / describe the work to be performed.

Other Uses: None

Special Conditions: Units proposed to be acquired and/or placed on state property shall conform to the requirements of the Virginia Industrialized Building Safety Regulations (IBSR), shall have the appropriate labels of an Inspection service affixed, and shall have a Virginia Registration Number. See Chapter 4 for guidance for procuring an industrialized building to assure that it will be acceptable for use when delivered to the site.

HECO-17 TMP: Permit / Certificate for Temporary Facility

Purpose: To request authority to erect and use a temporary facility or tent for a relatively short period of time to accommodate specified functions. The application shall specify the use group, the type of

construction, the occupancy load in the facility, the period of time the facility may be used, and any stipulations, conditions and modifications.

Submit: Submit a HECO-17 TMP in BITS with the appropriate data completed. Also include a Site Plan showing the tent location and distances to adjacent building and property lines; a Floor Plan showing EXITS and furnishing layouts; and Tent Material Certificates of Conformance which document indicate Flame Resistance required by NFPA 701. Also submit data on stages, platforms, etc. to be erected. Submit to DEB at least 10 work days prior to the requested occupancy date.

Other Uses: Stages, Platforms, Amusement Devices, etc.

Special Conditions: Request shall indicate date proposed for erection, dates facility to be used, type of use / activity, and date to be taken down. Use of the facility will be subject to planned and unannounced inspections by the Fire Marshal and Building Official representatives.

HECO-17 TWR: Building Permit – Communication Tower

Contact the Division of Real Estate Services (DRES) for instructions. A copy of the application is on the DGS Forms Center website.

Purpose: To request approval of Plans and Specifications to construct foundations and tower structures for Communications Towers. Required for all towers on state property except those in the VDOT Right-of-Way (over which VDOT has jurisdiction) regardless of whether the towers are for state agency use or for use by lessee.

Submit: Submit a HECO-17 TWR in BITS along with five (5) copies (minimum) of the Tower Plan(s) & Specifications or manufacturer's data with load design data, Site Plan, Foundation Plan & details, and Anchorage Plan & details, Professional Engineer's Seals that are signed and dated.

Other Uses: None

Special Conditions: Communications Towers to be constructed / erected by a private sector entity on land leased from a state agency must have approval of the lease from the Division of Real Estate Services (DRES) before a Building Permit will be issued. See Chapter 4 for guidance for Communications Towers.

HECO-17 SPC: Special Use Permit

Purpose: To request approval to temporarily use a structure for a use other than the use under which it was occupied

Submit: Submit a HECO-17 SPC in BITS. Contact DEB for further instructions.

Other Uses: None

Special Conditions: Will vary based upon project characteristics.

8.7.7 Change Orders

Change orders to the contract may be necessary during the course of construction. Change orders are most commonly necessitated by unforeseen site or building conditions; errors or omissions in the contract documents; an opportunity to reduce the operating cost of the facility under construction; technology changes occurring since contract award which must be incorporated in the project; or a change in the agency requirement. All changes to the requirements shown on the Contract Documents MUST be documented by a Change Order to the Contract, regardless of whether the project is "capital" or "non-capital". Changes to the contract amount and/or performance time shall be included in an approved contract change order HECO-11. Change Orders to "capital" contracts shall be justified or explained on the HECO-11a.

8.7.7.1 Construction Change Orders

HECO-11 / HECO-11a: CONTRACT CHANGE ORDER / JUSTIFICATION

Purpose: To request and receive approval of a change in the construction contract time, amount, or both.

Submit: For all locally approved capital outlay project change orders, submit one copy of the HECO-11 and HECO-11a with the contractor back-up cost materials to the DEB within 5 days after the change order is approved and signed. For all change orders requiring the prior approval of the Governor or his designee, submit two copies of the HECO-11 and HECO-11a with one copy of the contractor back-up cost material.

Other Uses: Must be used to document any and all changes to a construction contract (JMUCO-9) using JMU HECO MANUAL procedures. Must also be used to document change orders to maintenance reserve and other non-capital outlay construction contracts.

Special Conditions: Any Change Order which changes work regulated by the Building Code, its referenced Standards, or DEB Standards must be submitted to DEB with copies of the document showing the changes to the regulated systems. DEB review of these Change Orders is to assure compliance with the applicable codes and standards.

Changes involving an increase in construction contract price of more than 25% of the original contract amount or \$50,000, whichever is greater, shall have the prior written approval of the VP A&F or his designee. When the cumulative total of change orders exceeds the original contract amount by more than 25% and \$50,000, any subsequent change order that increases the contract amount, regardless of the amount, shall have the prior approval of the VP A&F or his designee. Prior to starting any work, submit the HECO-11 and HECO-11a to DEB for approval of the contract change with supporting documentation outlined in Chapter 7.

The Agency justification section of the HECO-11a on all change orders shall:

1. include a written statement by the Agency outlining the proposed cost sharing by the responsible design professional when the change results from an error or omission or
2. answer the following questions when the change is generated by a change in agency requirement:
 - a. When was the change in agency requirement known?
 - b. If before bidding, why were the changes excluded from the bid package?
 - c. Why can the work not be packaged and bid separately?
 - d. What quantitative impact will the lack of this change have on the service delivery of the Agency?

An informational copy of all HECO-11's and HECO-11a's approved locally shall be sent to DEB without the supporting documentation.

8.7.7.2 A/E Change Orders

A/E Contract change orders may be necessary during the course of design and/or construction. Change orders are most commonly necessitated by unforeseen site or building conditions; changes in agency requirements; extra services required by the agency; technology changes occurring since contract award which must be incorporated in certain types of projects; or delays in construction which are not attributable to the A/E. All changes involving the contract amount or performance time shall be included in an approved contract change order Form HECO-11a/e.

HECO-11ae: Architect/Engineer Contract Change Order / Justification

Purpose: To request and receive approval of a change in the contract time, amount or both.

Submit: For all change orders requiring the prior approval of the Governor or his designee, submit two copies of the HECO-11a/e with one copy of the A/E back-up cost material.

Other Uses: Used to document all changes to the A/E contract and/or MOU.

Special Conditions: None.

Changes involving an increase in the A/E contract price of more than 25% of the original contract amount or \$50,000, whichever is greater, shall have the prior written approval of the VP A&F or his designee. When the cumulative total of change orders exceeds the original contract amount by more than 25% and \$50,000, any subsequent change order that increases the contract amount, regardless of the amount, shall have the prior approval of the VP A&F or his designee. Submit the HECO-11a/e and HECO-11a to VP A&F for approval of the contract change with supporting documentation indicating how the change in contract amount was determined.

8.7.8 Building Occupancy

The Building Official may approve a building or facility being occupied when it is substantially complete. A new building, addition to a building, or a renovated building with a new use group classification shall not be occupied until the State Building Official issues a Certificate of Use and Occupancy, Form HECO-13.3. JMU shall apply to the DEB for a Certificate of Occupancy by submitting a Form HECO-13.3 in BITS and a HECO-13.3b Checklist for Beneficial Occupancy with the required reports and Certificates of Substantial or Final Completion attached. Requests for Partial or Temporary Occupancy shall also include a small scale floor plan with the subject areas for occupancy noted.

The application shall include a HECO-13.1 or HECO-13.1a (Certificate of Completion or Certificate of Partial/ Substantial Completion by A/E); a HECO-13.1b (Final Report of Structural and Special Inspections); a HECO-13.2 or HECO-13.2a (Certificate of Completion or Certificate of Partial/ Substantial Completion by Contractor); a copy of the Contractor and A/E's punch lists; and a letter or report from the Regional Fire Marshal's Office stating there are no objections to the building being occupied or stating conditions for occupancy of the building; and a HECO-13.3b (Checklist for Beneficial Occupancy). If the A/E's construction visits / inspections were limited, also include a HECO-13.1c (Certificate...by Construction Inspector ...). Projects which have elevators, food service / kitchen facilities, and/or water or waste water treatment facilities are required to be inspected separately and have a certificate of compliance issued by the inspecting entity. Include copies of certificates with the Application for Certificate of Use and Occupancy. The Building Official (Director, Division of Engineering and Buildings) may issue a Certificate of Use and Occupancy when, in his judgment, the building is substantially complete and all life and fire safety elements of the project design are functioning properly.

HECO-13.3 Certificate of Use and Occupancy

Purpose: To authorize the use of a building for its intended function. The certificate shall specify the use group, the type of construction, the occupancy load in the building and all parts thereof, the edition of the Uniform Statewide Building Code under which the building was constructed and any stipulations, conditions and modifications.

Submit: Submit Form HECO-13.3, Certificate of Use and Occupancy, in BITS with HECO-13.1a Certificate of Partial or Substantial Completion by A/E or HECO-13.1, Certificate of Completion by A/E; a completed and signed HECO-13.2a, Certificate of Partial or Substantial Completion by Contractor, or HECO-13.2, Certificate of Completion by Contractor; a HECO-13.3b, Checklist for Beneficial Occupancy; and the Fire

Marshal's Inspection / Acceptance Report to DEB at least 5 work days prior to the requested occupancy date.

Other Uses: None.

Special Conditions: Include copies of certificates for elevators, food service / kitchen facilities, and/or water or waste water treatment facilities as may be applicable for the project.

HECO-13.3 Application - Temporary or Partial Certificate of Use and Occupancy

Purpose: To authorize the use of a building or portion thereof for its intended function. The certificate shall specify the use group, the type of construction, the occupancy load in the building and all parts thereof, the edition of the Uniform Statewide Building Code under which the building was constructed and any stipulations, conditions and modifications concerning the building's use or occupancy.

Submit: Submit Form HECO-13.3, Certificate of Use and Occupancy, in BITS with HECO-13.1a Certificate of Partial or Substantial Completion by A/E with current punch list; a completed and signed HECO-13.2a, Certificate of Partial or Substantial Completion by Contractor including Contractor's list of incomplete work; a HECO-13.3b, Checklist for Beneficial Occupancy; the Fire Marshal's Acceptance Report; and copies of any applicable specialty certificates; to DEB at least 5 work days prior to the requested occupancy date.

Other Uses: None.

Special Conditions: Include a small scale floor plan showing areas proposed to be occupied with requests for Temporary or Partial Occupancy.

HECO-13.3 IND: Certificate of Use and Occupancy – Industrialized Building

Purpose: To authorize the use of a modular or industrialized building for its intended function. The certificate shall specify the use group, the type of construction, the occupancy load in the building, the edition of the Uniform Statewide Building Code under which the building was constructed, the labels and Virginia Registration Number of the units, and any stipulations, conditions and modifications.

Submit: A HECO-13.3 IND, Certificate of Use and Occupancy – Industrialized Building with applicable attachments and the Fire Marshal's Inspection / Acceptance Report to DEB at least 5 work days prior to the requested occupancy date.

Other Uses: None.

Special Conditions: Include a site plan showing the location of this building on the site with distances to adjacent buildings and property lines if not submitted with the HECO-17 IND Building Permit – Industrialized Building.

HECO-13.3 MAN: Certificate of Use and Occupancy – Manufactured Home

Purpose: To authorize the use of a manufactured home for its intended function. The certificate shall specify the use group, the type of construction, the occupancy load in the building, the edition of the Uniform Statewide Building Code under which the building was constructed, the labels and Virginia Registration Number of the units, and any stipulations, conditions and modifications.

Submit: A HECO-13.3 MAN, Certificate of Use and Occupancy – Manufactured Home with applicable attachments and the Fire Marshal's Inspection / Acceptance Report to DEB at least 5 work days prior to the requested occupancy date.

Other Uses: None.

Special Conditions: Include a site plan showing the location of this building on the site with distances to adjacent buildings and property lines if not submitted with the HECO-17 MAN Building Permit – Manufactured Home.

HECO-13.3 TWR: Certificate of Use and Occupancy – Tower

Purpose: To authorize the use of foundations and tower structure for Communications Tower for its intended function. Required for all towers on state property except those in the VDOT Right-of-Way (over which VDOT has jurisdiction) regardless of whether the towers are for state agency use or for use by lessee.

Submit: A HECO-13.3 TWR, Certificate of Use and Occupancy – Tower with applicable attachments and the Fire Marshal's Inspection / Acceptance Report to DEB at least 5 work days prior to the requested occupancy date.

Other Uses: None.

Special Conditions: Communications Towers to be constructed / erected by a private sector entity on land leased from a state agency must have approval of the lease from the Division of Real Estate Services (DRES) before a Building Permit will be issued. See Chapter 4 for guidance for Communications Towers.

8.7.9 Project Close Out

Refer to Section 8.4.15 for information.

CHAPTER 9: MASTER PLANS

9.1 Conformance with Existing Master Plans

- Each capital project should conform to a Site, Region or Master Plan developed by JMU and approved by the Board of Visitors.
- Each capital project shall demonstrate compliance with JMU's MS-4 Plan.

9.2 Site and Utility Drawings

- Utility Plans will be developed and maintained by Facilities Engineering and Construction in conjunction with Facilities Management to insure utility capacities exist to support the Master Plan. Utility facility locations should be coordinated with the Master Plan.
- Current site and utility drawings are intended to depict the current condition of JMU's physical plant. Updates typically occur continually and are published annually. These updates show buildings completed, land acquired, utilities installed, etc.

9.3 Master Plan and Requirements

9.3.1 Preparations

The Master Plan shall be prepared by a Registered Architect, Engineer or recognized Professional Planner and shall include all existing and planned facilities, infrastructure and utility corridors.

- Preparations shall include multiple on campus workshops and forums as determined by the Director, Facilities Planning and Construction.

9.3.2 Intent

The Master Plan shall depict the current land use and future development of the campus / physical plant in an orderly and efficient fashion to maximize resources and provide a planning framework sufficiently flexible to allow response to changing program requirements.

9.3.3 Future Needs

Plans should address needs through the next ten (10) or more years to include future building sites and planned construction. Specifically plan shall:

- Identify potential building sites available for future development and planned construction as outlined in the Capital Program.
- Utilities to future building sites shall be planned for and routed accordingly.
- Generally, the six year plan for capital construction is sufficient for facility siting planning.
- Long range development may be indicated as generalized areas and labeled as to the anticipated use.

9.3.4 Chesapeake Bay Watershed

Future development should be sensitive to the Chesapeake Bay Watershed Development Policies and Guidelines.

- Emphasis should be placed on compatible land use.

9.3.5 Standardization of Content

The criteria and content requirements of this chapter shall apply to all future Master Plans. Materials shall be presented in the following sequence:

- Cover Sheet – “Comprehensive Master Plan for James Madison University:
- Table of Contents
- Narrative Detail
- Maps /Graphics – Current Conditions
- Maps / Graphics – Future Developments
- Site Utility Plans are required separately but will also be included in graphic master plan site and utility plan which records all existing work and is updated manually.

9.3.6 Narrative Information

This information should supplement, not repeat, information contained on drawing or maps.

- **Vision:** Provide a brief narrative describing the vision for the Master Plan outlining existing conditions and future goals. Provide incremental milestones with intended time frames as may be applicable.
- **Existing Conditions:** Provide a brief description for each campus region (Bluestone, Hillside, Lake, Memorial, North Campus, Ridge, Skyline, Village, etc.) outlining the following:
 - Land Use: Identify the general use for each region and note undeveloped land as green space, future building sites, and hazardous materials and / or dump sites, etc. This data shall be used as the initial input for future six-year plans.
 - Identify any and all covenants, easements and preserves established by law or agreement.
 - Visions and plans for future programs, property acquisitions and similar information may be included in the narrative.
 - Facilities: Identify existing facilities and their respective current uses. Identify major deficiencies as may be applicable.
 - Facility condition assessment reports shall be performed by JMU on a rolling 10 year cycle to be completed in two year increments opposite the major modifications to the six year plan. The Master Plan process shall cull all facility assessment reports and include current information within each update.
 - Infrastructure: Briefly describe the capacity and current load of utility plants and energy and utility lines and the general areas of development on the Master Plan that requires increased energy / utility system capacity.
 - Where utilities are provided by commercial or municipal sources, indicate connected capacity and / or any limitations stipulated in the contract / agreement between JMU and the commercial / municipal source (e.g. sewer, water, electric and natural gas).
 - Provide a description and conditional assessment of existing roads and pathway.
- **Planned Development:**
 - Land / Property Acquisitions and Development: Identify property that is intended to be acquired and / or developed. Indicate location, acreage, building square footage, number of floors and construction type as may be applicable.
 - Facilities Modifications: Identify each proposed new or altered building. Include the number of floors, gross square feet and the year construction is anticipated.
 - Identify any buildings which are anticipated to be surplus or demolished. Indicate the name, number and location of the building, the current function, the gross square feet, and the type of construction.
 - Infrastructure: Briefly describe the capacity of proposed new or enlarged energy / utility plants and systems and general areas of development on the Master Plan that requires increased energy / utility system capacity.
 - Identify proposed improvements to pedestrian or vehicular path / road ways. Coordinate

with JMU Transportation Master Plan

9.3.7 Maps

Similar to the narrative, the maps shall distinctly identify both existing conditions and planned development in region level detail.

- **Existing Conditions:** Maps indicating existing conditions shall include the following as a minimum:
 - Vicinity Map: Include a vicinity map that shows the location of the site in Virginia and the overall setting, i.e., on a county road map or a USGS sheet.
 - Topographic Map: A topographic map with contours showing buildings, roads, parking lots, vegetation / tree areas (both improved and unimproved areas), and major pedestrian avenues. Show the Limits of the 100 Year Flood Plain ([EO-45](#) shall apply), RMA – RPA and “wetlands”.
 - Site Plans: A site plan / map without contours showing buildings with name and FAACS number, roads, parking lots, major pedestrian avenues, archeological sites, historic land-marks, dump sites, green spaces, etc.
 - Energy and Utility: A map showing all heating and cooling plants and associated distribution utilities as applicable. Indicate capacities as a ratio of (current use) / (total potential capacity).
 - Water Distribution: A map illustrating potable water distributions, as well as storm and sanitary collection systems. Indicate location of all water meters, including individual building meters and deductive meters for irrigation or cooling towers. Indicate if these meters are electronically metered or not.
 - Facilities Condition: A map indicating by color or hatch patterns facilities which are considered to be in good condition; in need of major repair or renovation (detailed within the narrative) and facilities which have not undergone a facilities assessment within the last six years.
- **Planned Development:** Maps indicating planned development shall include the following as a minimum:
 - Future Development Site Plan: A future development site plan without contours showing existing and future buildings (future facilities will be cross-hatched or highlighted by some other technique), existing and future roads (with traffic direction indicated), areas identified as green space, parking lots and major pedestrian avenues, revised proposed property boundaries, archeological sites, historic landmarks, and uses for land proposed for acquisition.
 - Land Acquisition: If additional land is proposed for acquisition, indicate the proposed use, how this relates to existing use, the location, information on terrain, water courses and bodies of water, 100-year floodplain ([EO-45](#) shall apply), archeological sites and historic landmarks.
 - Surplus Land: If land is anticipated to be surplus, indicate the location and amount of acreage.
 - New or Recently Altered Buildings: For new or altered buildings include the name (function) of the building, the number of floors, the gross square feet, and the year when construction did or is planned to begin.
 - Facility Renewal: Provide a brief outline or matrix for existing facilities in need of major repair or renewal. Where known, indicate the specific scope of work required and type of project required to accomplish the scope (Capital, Non-Capital, Maintenance Reserve and department projects). Type of projects shall include but not be limited to:
 - Building Envelope (roofs, window replacements, siding repair / replacement, pointing and caulking, etc.)
 - Living Systems (systems with moveable parts subject to wear, including mechanical, plumbing, electrical, communication, moveable storage, etc.)
 - Finishes (tile, carpet, paint, wall coverings and substrates, ceiling tiles, etc.)
 - Structure and Substrates (floors, walls and roofs, including structural and non-structural elements)

- Built In Equipment and Systems (systems and equipment built into the facility which generally do not have moving parts but are critical to the building such as building wiring, drainage systems and water distribution systems)
- Compatibility with Use (regardless of condition, report any known facility elements which are not compatible with current use and / or current technology which would impair or restrict the intended use. Such elements may include an incompatible floor plan, insufficient electrical outlets/panels/capacity, ADA accessibility issues, etc.)
- Energy Plants: Indicate location of proposed new or enlarged energy / utility plans and systems and the general areas of development in the Master Plan that requires increased energy / utility system capacity.
- Surplus Buildings: Indicate buildings that are anticipated to be surplus or demolished.

9.3.8 Site and Utility Plans

- Scale: All maps must be to scale of 1 inch equals 50 feet scale (1"=50').
- Contours: Where contours are specified, 2-foot contour intervals area required.
- Exceptions: For tracts of land which are planned for limited development, or contain significant elevation change, smaller scale maps and/or greater contour intervals may be used where approved by the Director, Facilities Planning and Construction.
- Electronic Submittals: For each annual update, AutoCAD drawings shall be prepared in accordance with the current version of James Madison University drawing standards (JMU Construction Guidelines), as may be applicable including:
 - Symbols
 - Layering standards
 - Incorporation of the State Grid System
 - Provide a minimum of four (4) optical disks in AutoCAD format. Both the Disk and the AutoCAD file shall be identified by date in the title. Thumb drives or other solid state storage may be accepted upon request.
- General Site Plan: A site plan with contours showing property boundaries, easements, bench marks or reference points, buildings with name and FAACS number, roads, parking lots, major pedestrian avenues, RMA-RPA-“wetland areas”, 100 year flood plain limits ([EO-45](#) shall apply), and vegetation / tree areas.
 - Political subdivision lines shall be shown and labeled with the name of each jurisdiction, if the facility lies within more than one political subdivision.
- Utility Drawings Without Contours: Utility drawings without contours showing buildings, roads, parking lots, aboveground and buried electrical and communication lines, water distribution lines, natural gas lines and heating and/or cooling distribution lines. For the purpose of clarity, utility drawings shall be subdivided into the following categories:
 - Data and electrical distribution
 - Potable water distribution
 - Storm and sanitary sewer drainage
 - Steam, hot water, chilled water and natural gas distribution
 - Depth of burial (3-dimensional data)
- Utility Drawings With Contours: Utility drawings with contours showing buildings, roads, parking lots and storm drainage and sanitary sewer lines.
- Abandoned Utilities: Utilities known to be abandoned in place shall be identified as such on their respective utility drawing.

9.3.9 Format

The format and content requirements of this chapter shall apply to all future Master Plans.

- Narrative: This information will normally be presented in color on 11' x 17' pages formatted with foldouts as necessary. Information may be provided in tabular form, if such presentation would make it more understandable to the reader.
- Maps: All region maps shall be printed in color and shall meet the following minimum requirements:
 - Scale: All maps must be to scale of 1 inch equals 100 feet scale (1"=100').
 - Contours: Where contours are specified, 5-foot contour interval is required.
 - Exceptions: For tracts of land which are planned for limited development, or contain significant elevation change, smaller scale maps and/or greater contour intervals may be used where approved by the Director, Facilities Planning and Construction.
- Drawing(s) / Site Plan(s): Provide to JMU as directed imprinted and electronic per the JMU Construction Guidelines.
- AutoCAD Standards: AutoCAD drawings shall be prepared in accordance with the current version of JMU drawing standards (JMU Construction Guidelines), as applicable, including symbols, layering standards and incorporation of the State Grid System.

9.3.10 Distribution

- Electronic Distribution: A minimum of six (6) electronic copies shall be required and distributed as per direction of Director of Facilities Planning and Construction.
- Hard Copy Distribution: A minimum of twelve (12) hard copies shall be required and distributed as per direction of Director of Facilities Planning and Construction.
- Presentations to Senior Leadership and Board of Visitors.
- Posting: The current Master Plan shall be posted to the James Madison University web site in an abbreviated web friendly format approved by the Director of Facilities Planning and Construction.

9.3.11 Updates

JMU shall update its site continually in order to ensure the drawings are sufficiently accurate to allow informed decisions for future work.

- Intent: The University site and utility drawings are intended to depict the current "as-built" condition of JMU's physical plant for day to day use in the planning, design and construction activities.
- Each Update shall include all completed site modifications since the previous update, including but not limited to:
 - Recently constructed/demolished buildings
 - New, existing and abandoned utilities
 - Modification to contours for new facilities, storm drainage improvements, etc.
 - Miscellaneous Site Improvements
 - Completed land transactions
 - Plans shall be annotated with: "Current as of (date)".
- "Miss Utility" will notify participating utility providers ("operators") who have utilities on JMU property and will come onto JMU property to mark their utilities upon request. University owned utilities on campus are identified by JMU locate personnel and are tracked by the University Digging Permit System.

- JMU Owned Utilities typically fall into three main categories (Plumbing, Electrical and Information Technology).

CHAPTER 10: REPORTS

10.1 REPORTS

DGS is responsible for coordinating with, and collecting data from, other state agencies to compile three legislatively-mandated reports. These reports are the Capital Outlay Progress Report, the Value Engineering Utilization Report, and the Construction Procurement Report.

10.1.1 Capital Outlay Progress Report

10.1.1.1 Reporting Requirement

Section 4-8.01 of the 2003 Acts of Assembly requires the Department of General Services to submit an annual report to the Senate Finance and House Appropriations Committees on the status of capital outlay projects. Every Agency having a capital outlay project is required to submit a report listing all active capital outlay projects. Active projects are defined as those for which an approved HECO-2 form has been issued. Projects are removed from the report the first reporting cycle following the submittal of the HECO-14 form.

10.1.2 Value Engineering Utilization Report

10.1.2.1 Reporting Requirement

The Director of the Department of General Services is required by the Code of Virginia § 2.2-1133 to report to the Governor and the General Assembly on or before September 15 of each year, the following:

- The number and value of the state capital projects where Value Engineering (VE) was employed;
- The identity of the capital projects for which a waiver of the requirements of § 2.2-1133, B was granted, including a statement of the compelling reasons for granting the waiver.

10.1.3 Construction Procurement Report

10.1.3.1 Reporting Requirement

Under the provisions of the legislation, all Public Bodies must report to DGS, annually, the following information for ALL completed projects greater than \$2M in total project cost:

1. Procurement Method Utilized
2. Construction Budget
3. Actual Construction Cost
4. Expected Timeline
5. Actual Completion Time
6. Any Post Construction Issues

This information is to be reported to DGS by November 1st of each year covering the most recently completed fiscal year. APPENDIX