

TAB A PROCEDURES & PROCESS

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TAB A: PROCEDURES & PROCESS

1. Introduction: Consultant Roles and Responsibilities

1.1 Contracts

- 1.1.1 The Consultant's role and responsibility is to conduct the design process and provide coordination and assistance throughout the process and construction phases of the project.
- 1.1.2 The Consultant's role may vary from project to project based in part on the type of project as well as the contracting or delivery method being used. UNLV, as the Owner, utilizes several types of delivery methods for projects and as such the consultant's role, responsibility as well as contractual relationship with the University may differ depending on type.
- 1.1.3 The basis of professional services and document submittal standards for UNLV projects are per UNLV Documents. The appropriate documents will be included by reference in professional services contracts. It is intended that the standards and requirements for document submittals at each design phase are the same for each delivery method, with the exception of a Design-Build contract, which may have a modified submittal structure, particularly at the schematic design and/or proposal phase of the design-build process. UNLV Documents are referenced in these Design Guidelines and are available from our UNLV Purchasing Department.

These include the following:

- a. **Design-Bid-Build:** The Design Consultant will contract directly with UNLV using the following UNLV Standard Form of Agreements. Typically under this method, the Consultant's scope of services shall include full consultant and engineering services from Programming through Construction Administration.
 - 1) UNLV Standard Form of Agreement between Owner and Architect.
This Agreement may be used to obtain A/E Services for developing Scoping Documents which will be utilized to bid to a Design-Build team.
 - 2) UNLV Exhibit A: Initial Information
 - 3) UNLV Standard Form of Agreement for Small Commercial Projects may be used by UNLV on smaller tenant improvement projects and as determined appropriate.
 - 4) UNLV Standard Form of Agreement between Owner and Contractor for Construction on competitively bid projects.
 - 5) UNLV Standard Form for Small Commercial Projects may be used on smaller tenant improvement projects and as determined appropriate.
- b. **Design-Build:** The Lead Design Consultant as part of the Design-Build team is contracted directly to the General Contractor. The scope of services as noted in the Agreement, typically have the Lead Design Consultant with their sub-consultants and others in the design-build team taking the design forward from the concept drawings at a Schematic Design level. The concept drawings will have been prepared by another consultant under a separate contract.
 - 1) UNLV Standard Form of Agreement between Owner and Design-Builder.
 - 2) UNLV Exhibit A: Terms and Conditions & Exhibit B: Determination of the Cost of the Work.

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- c. **Construction Manager:** The Design Consultant will contract directly with UNLV and the design services and document submittal requirements are much the same as for a Design-Bid-Build; however, the Consultant's services shall be provided in conjunction with the services of a Construction Manager. This shall be the case for both a Construction Manager at Risk (CMAR) and where a Construction Manager is not the Constructor. The consultant will work closely with the CMAR throughout the design process in developing the design and documents to meet the Owner's budget and schedule.
 - 1) UNLV Standard Form of Agreement between Owner and Architect.
 - 2) UNLV Exhibit A: General Conditions of the Contract for Construction for contracting with the CMAR.
- c. **Furniture, Fixtures & Equipment (FF&E):** There will be instances as noted in this document, where FF&E will be part of the consultant's scope, and thus the consultant will be required to work with contracts for procurement.
 - 1) UNLV Standard Form of Agreement between Owner and Vendor for Furniture, Furnishings and Equipment.
 - 2) UNLV General Conditions of the Contract for Furniture, Furnishings, and Equipment.

1.2 Building: Design Standards

- 1.2.1 Overall design standards, as provided in **TAB B** of this document, are intended to guide consultants, contractors and vendors in the design, construction and facilities industry with information on what systems, elements and specific requirements result in a successful facility at UNLV and that performs to an acceptable minimum level over the life of the facility.
- 1.2.2 The standards are critical for the Owner to operate and maintain functional educational and support facilities in an efficient, effective and predictable manner to support a successful institution of higher learning.
- 1.2.3 **TAB C** of this document provides in greater detail specifics on material and systems that Owner prefers. As noted, these are provided in order to standardize typical building elements and systems as much as possible throughout the University.

1.3 Campus Master Plan

- 1.3.1 The planning and design of all facilities, as well as exterior spaces must conform to the latest version of the UNLV Comprehensive Campus Master Plan and Midtown UNLV Precinct Plan. The Master Plan is available on-line at <https://www.unlv.edu/masterplan>. Additionally, as appropriate to the location of a proposed project, the Consultant shall coordinate with the Master Plan(s).
- 1.3.2 During the programming and schematic design phase, the Consultant shall coordinate with the Master Plan(s) and identify how proposed designs address master plan requirements. Owner shall review and comment on the project designs.

1.4 Sustainability

- 1.4.1 Owner is committed to continually improve its advocacy for sustainable and energy/water efficient technologies in the classroom, in research, and in the facilities. Innovative ideas and best practices will be utilized to achieve this aspiration within limits of funding and resource availability. Refer to **TAB B** for details on sustainability measures and project

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impacts, including but not limited to LEED equivalence/certification progress and other measures.

1.5 Codes and Regulatory Agencies

- 1.5.1 The Nevada State Public Works Board (SPWB) is the Building Official for UNLV projects. All codes adopted by the SPWB apply to codes for UNLV projects. All SPWB requirements for applications, plan reviews, approvals, inspections and other items as the Building Official must be complied with. More information about the SPWB may be found at: <http://www.spwb.state.nv.us/>.
- 1.5.2 The Nevada State Fire Marshal (SFM) regulates and performs reviews for fire, life safety and other code related items for UNLV projects. Applications, plan review, deferred submittals; approval of submittals and inspections must be made to and coordinated with the SFM for UNLV Projects. More information about the SFM may be found at: <http://fire.state.nv.us/>.
- 1.5.3 The SFM has inter-local agreements with local Nevada fire departments related to plan reviews, reviews of deferred submittals, inspections and approvals/acceptance. The local fire department to be coordinated with must be determined based on the location of the UNLV project (i.e. UNLV Maryland Campus: Clark County, UNLV Shadow Lane Campus: City of Las Vegas, etc.). Requirements of both the SFM and the local fire department must be coordinated and satisfied.
- 1.5.4 Other entities may review plans, submittals, and/or inspect and approve elements of UNLV Facilities. These entities must be coordinated with for any applications, plan review, submittals, inspections, approvals or other items. Elements that need to be addressed for applications, reviews, inspections and approvals include but are not limited to food service, boilers, backup generators, elevators, emissions generating building items/equipment, licensing requirements and other items. These entities include but are not necessarily limited to, depending on facility element or issues:
 - a. State Health Department
 - b. Clark County Health Department
 - c. Clark County Department of Air Quality
 - d. Clark County Water Reclamation District (design, construction or other appropriate vendor and project communication and collaboration must occur with CCRWD during the design phase of projects, and other project phases as-is necessary, to ensure compatibility and compliance with CCWRD regional standards and service rules, for CCWRD/publicly-owned water treatment works and facilities.
 - e. State Elevator Inspector
 - f. State Boiler Inspector
 - g. Local Fire Department (City, County, etc.)
 - h. Others as determined during preliminary code analysis or other review.
- 1.5.5 The Design Consultant shall make themselves familiar with all possible code entities and their requirements at the start of project.

1.6 Utilities

- 1.6.1 The Design Consultant and engineers shall start interfacing with the Utility companies as early in the planning and design process as soon as possible. Consultant shall work with the Owner and the utility/agency for design reviews during schematic design and design development to determine and address process and technical issues, and design determination.
- 1.6.3. Submittals to utilities shall occur as soon as possible after these issues have been resolved and shall be coordinated with the project schedule and the utility/agency

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requirements, process and timelines to meet project schedule requirements for approvals and construction. It is preferred that submittals be made prior to the completion of construction documents, and that approved utility/agency documents be included in bid/buy-out documents.

- 1.6.4 Any submittals to utilities must be coordinated with the Owner to ensure submittal information is correct and meets Owner's standards. This typically includes Owner name, contact information, and any terms and conditions of agreements or contracts related to submittals. Issues relative to formal Owner name for utilities (which may be UNLV or Board of Regents of the Nevada System of Higher Education, on behalf of the University of Nevada, Las Vegas, depending on the agreement), indemnity language, insurance language and terms and conditions for agreements and contracts (which many times include easement or easement-like language or other property and legal issues) must be addressed with the Owner prior to submittal to utilities.

1.7 General Construction Requirements and Construction Staging/Operations

1.7.1 General

- a. Pursuant to NRS 338.075, any contract for construction work for which the estimated cost exceeds \$250,000 shall be subject to the provisions of NRS 338.020 through 339.090, including but not limited to payment of prevailing wages, regardless of whether the construction work qualifies as a "public work" as defined by NRS 338.010. (REV 01)
- b. In accordance with NRS 279.500, Contractor agrees that the Project is subject to the Prevailing Wage Act, NRS 338.010 through 338.094 inclusive. Contractor agrees to comply with the Prevailing Wage Act and all other provisions of NRS that are applicable to the Project. Contractor shall obtain a State of Nevada Public Works Number as required by the State Labor Commissioner. Contractor shall use the State Labor Commissioner's prevailing rate of per diem wages in the locality in which the improvements are to be constructed for each craft or type of workman needed to construct the improvement. Subject to the provisions of applicable law, Contractor agrees not to pay less than the specified prevailing rate of wages to the contractor and its employees selected to construct the improvements. Contractor will include the substance of the prevailing wages requirement of this Section as contractual language in all contracts and lower tier subcontracts. In addition, all solicitations and contracts shall contain the applicable prevailing wage rates. Contractor will monitor compliance to the payment of prevailing wages pursuant to Nevada Administrative Code § 338. Contractor shall keep accurate records showing the name, occupation and actual per diem wages paid to each employee used in connection with construction of the improvements. Such records shall be open to inspection and reproduction by the Owner during normal business hours. Contractor will send one (1) copy of each wage report to Owner.
- c. Construction staging and operations must be planned during the design phase of the project and properly validated by the Contractor.
- d. Construction staging and operations shall minimize impacts to existing access, parking, pedestrians, facilities, infrastructure, etc.
- e. Construction staging and operations shall address safety at the project and surrounding area.
- f. All planning must be coordinated with Owner's typical operations and special events
- g. Contractor must provide clear, well located/sized, professional and weather resistant signage to address impacts of construction staging (i.e. project access, public vehicular and pedestrian access, restricted access, other considerations.)

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- h. Contractors, superintendents, foremen, subcontractors, and other contractor staff must park all vehicles in areas approved by Owner, and must purchase appropriate classification of parking permit from UNLV Parking in the Public Safety Building. These permits are only good in the Naples Lot north of CSB (Campus Services Building) in what is considered Lot M. The student permit rate applies to these permits. It is required that the design and construction team must coordinate all parking/staging with Owner. Construction supervisors periodically requiring parking close to the construction site can purchase vendor permits upon approval.
 - i. Contractor to coordinate access and activities in areas impacted by project scope both inside and outside the main limits of construction, i.e. access/work in operating areas, restrooms, IDF rooms, labs, classrooms, offices, and other spaces. Coordination with Owner for items such as access, signage, notification to users and other items is required.
 - j. Design must take into account construction staging and construction operations impacts. It is critical that impacts from construction and construction staging/operations are minimized for Owner operations, activities, special events, parking supply, access, vehicular and pedestrian access, safety, utility disruptions and other considerations.
 - k. Construction staging plans and impacts, in drawing format to match design documents at Design Development and Construction Document phase, must be submitted to the Owner for approval. These construction staging plans should include but not be limited to considerations for area of construction staging, fencing, access, signage, operations management, disruptions to utilities, infrastructure, pedestrian and vehicular access, and alternate plans for typical site operations. Where design-bid-build is the delivery method, the construction staging plans and impacts shall be a part of the bid documents.
 - l. Contractor is to provide a submittal for their construction staging plan and impacts per the design documents. Contractor submittal shall address all items for construction staging and operations, including but not limited to those above. Contractor's construction schedule shall clearly show any coordination with Owner events and construction staging and operations impacts and approaches shall be reflected in the schedule to work around and not disrupt Owner events. Any deviations to the bid document construction staging and operations plan shall be approved by the Owner, and any cost impacts for these changes shall be the sole responsibility of the Contractor in their original bid cost submittal.
 - m. Where Design-Build and Design-CMAR project delivery methods are used, the Contractor shall work with the design team during the design process to propose and develop the construction staging and operations plan, and shall collaborate on the agreed proposal for the construction staging and operations plan as a part of the Design Development and Construction Document submittals. The Contractor shall agree to the approved staging plan as a part of their GMP.
- 1.7.3 Management during construction
- a. Contractor shall actively manage construction and staging operations during the construction process. If issues come up regarding construction staging and operations that affect Owner operations, Owner events, or operations relative to the construction project, Owner and Contractor shall work together to address these issues. Issues of safety, pedestrian and vehicular access, utility disruption
- 1.7.4 Cleanup, Repair and Closeout
- a. Contractor shall clean-up all areas and affected by construction staging and operations, and shall repair any damage that did not exist prior to the start of any

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construction staging or activities to the project area or that was caused by the Contractor outside of the project area (i.e. access, out-of-fence work areas, etc.)

2. Document Submittal Standards

2.1 General

- 2.1.1 Following are general notes relative to documents produced for the project. More detail as to specific requirements are included in the following section as well as outlined in the Professional Services Agreements.
- 2.1.2 A high standard of professionalism in Architectural, Engineering and Consultant drawings, specifications, and calculations is required. The Planning and Construction Department reserves the right to reject any work, which does not meet the accepted standards of professional representation for Architectural, Engineering or Consulting practices.
- 2.1.3 Proprietary specifications shall be avoided except in those cases where the product is designed to match others in use at a particular facility as approved by the Owner. In cases involving a unique or novel product, the use of which is deemed to be in the best interest of the Project, with the Owner's approval, only one product or manufacturer need be listed. The use of such products shall be approved by the Owner prior to specification.
- 2.1.4 Otherwise all products used for a project shall be described in the specifications and shall be non-proprietary except as noted in the paragraph above. A specific product may be identified as "basis for design" provided that the reference to that product is followed by the wording "or APPROVED Equal". Submission for an "Approved Equal" shall include a comparison of the major characteristics of the product used as the basis of design with that proposed as an equal. A list of "approved" Manufacturers may be referenced also.

2.2 Conflicts

- 2.2.1 Any conflict between these guidelines and standards shall be resolved by using the more conservative or stringent requirement unless specifically directed otherwise by the Owner.
- 2.2.2 Furthermore, no Plan Check or approval shall relieve the Consultant of the responsibility for developing a project in full compliance with these Guidelines, adopted codes and regulations, and applicable federal, state and local laws.

2.3 Plan Check: State Public Works Board

- 2.3.1 The Consultant with the Owner's Project Manager shall verify the specific numbers of stamped and signed contract document sets that are required to be submitted for plan review by the SPWB, State Fire Marshal and all other regulatory and applicable entities. The normal number of signed and sealed sets for plan check for the State agencies are two for each entity (SPWD and State Fire Marshal).

3. Design Submittal Milestones and Requirements

3.1 Introduction

- 3.1.1 The following sections/paragraphs outline the Owner's expectations for programming, design and construction administration. These requirements are to be taken in conjunction with the specific "Phase" requirements as outlined in the Professional Services Agreements and Scope of Services.

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- 3.1.2 The Submittals are separated by phases from Programming to Post Construction. At the end of each phase are forms that may be required by the Project Manager as a checklist to assure that the specific requirements for that phase have been completed.
- 3.1.3 The intent of describing submittal requirements is to provide a common document that will be used by the Project Manager and the Owner to determine the exact scope of the A/E contract. These submittal requirements may be abbreviated, depending on the size and scope of the project, with the Owner approval. Copies of the final requirements may be incorporated, after editing in the A/E contract.
- 3.1.4 It should be noted that there is a formal UNLV review process at the conclusion of each milestone/ phase of work/ submittal.

3.2 Schedule

- 3.2.1 Developing and maintaining the Project Schedule is critical to the success of the project. The Consultant with the Owner's Project Manager shall review the draft schedule established by the Owner in the Project Overview Document and establish a more detailed Project Schedule. The schedule shall establish milestones, review periods, as well as include meeting dates with the Users, Planning & Construction, code officials, utility companies, consultants, etc. Consultant must identify meetings that need to be scheduled but are not yet scheduled and list descriptions and critical dates for items that require input or decisions by the Owner.
- 3.2.2 The schedule will meet the contract dates and will include adequate review and approval times for the Owner at each of the submittal or presentation stages.
- 3.2.3 The Project Schedule shall be reviewed and updated as required at each Milestone Submittal.
- 3.2.4 The schedule shall include important milestones that impact the overall design, approval and construction activities, such as Owner events and activities that must be considered in the project scheduling (i.e. Thomas and Mack Events, scheduled conferences, competitions and other events that may impact schedule, and must be considered in the planning.)
- 3.2.5 The schedule shall include periods for Owner review and regulatory reviews. Unless stated and approved in writing by the Owner otherwise, the following review periods shall be maintained in all design, design-build and construction schedules, as applicable. If the Consultant or Contractor is able to ascertain alternate regulatory review period lengths that are credible, these shall be discussed with the Owner.

Owner Schematic Design Review: 21 calendar days

Owner Design Development Review: 21 calendar days

Owner Construction Document Review: 21 calendar days

Plan Check Review: 90 calendar days (coordinate with any staged or fast-track plan check processes)

Phases of design following review periods may commence after the Owner provides comments in writing. Comments shall be addressed by the Consultant or Contractor in writing through updated drawings and a submittal using the Owner's comments as a format to directly respond to comments. Consultant or contractor shall advise Owner of any risks in proceeding with next phase of design while responding to Owner's written comments from previous phase of design. Owner and consultant or contractor shall work cooperatively to address comments and not disrupt the project schedule or any GMP

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commitments through the comment response process, resulting in a compliant and acceptable design within Owner approved project parameters.

3.3 Project Overview Document

- 3.3.1 It is the thorough and all inclusive upfront planning and programming of the project that will set the course for the project and ultimately the final success.
- 3.3.2 Following is the outline for the Project Overview Document that the Owner will prepare, and which the Consultant will receive upon award of the project. In the case of Design-Build, this information may be part of the solicitation (RFP). This document will require validation by the Consultant as they start Programming.
- 3.3.3 The Project Overview will include the following:
 - a. General Scope Outline: Defines general space types and functions such as undergraduate wet labs, general classrooms, faculty offices, etc.
 - b. Defined Program Assumptions: Defines program assumptions, what specific needs have to be met, and planning for flexibility for the future. This may include benchmarking with peer institutions as necessary.
 - c. Range of Gross Square Feet to be delivered.
 - d. Site Options and Site Preference(s), as applicable, including parking impacts and resolution options.
 - e. Compliance and objectives relative to Campus Master Plan.
 - f. Major Master Plan Objectives/Assumptions: Such as participation in Midtown UNLV, matching design elements of other UNLV facilities, etc.
 - g. Building Density: Size of footprint and number of stories, massing.
 - h. Building Efficiency Target: Efficiency of Net to Gross Square Feet
 - i. Level of LEED Certification Equivalence. Silver is required as a minimum.
 - j. Application of the Owner's Design Standards: Any exemptions to be listed.
 - k. Design Standards: In addition to the UNLV Design Standards, specific information to guide quality levels of interior and exterior finishes mechanical systems and other important project elements.
 - l. Building Systems (HVAC, Conveying, etc.)
 - m. Special systems (wet labs, auditoria, etc.)
 - n. Safety and environmental requirements
 - o. Plant Investment Fees: These are to be accounted for in the project budget.
 - p. Project Schedule: Completion of project and critical dates to be maintained.
 - q. Project Delivery Method: Design-Build, Design-Bid-Build, Design-CMAR, Lease-Purchase combined with one of the previous methods, other.
 - r. Milestones for Presentation and Approvals: Milestones when project must be presented to the Program Vice President/Cabinet Member, Senior Vice President for Business Affairs, President, Cabinet or other major presentations. Milestones may be at the completion of programming, conceptual design, schematic design, prior to proceeding with construction documents, etc.

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3.4 Program Document

- 3.4.1 A well developed and comprehensive project program is a key element to defining a project and its parameters. Once a Project Overview is received for a project, a programming process is to proceed to better define the project within the parameters of the Project Overview. This programming process may be an internal Planning and Construction process or may engage outside consultants to assist, or may be a combination of the two. An Owner's Project Advisory Steering Committee is expected to participate in the development of this document.
- 3.4.2 The Project Program shall further define the project to provide detailed information for a design-build solicitation or the design process of the A/E who will design the project (this A/E may or may not be involved in the development of this Project Program). The Project Program shall include:
- a. Project Overview: This document shall be attached for reference and guidance.
 - b. List of Spaces: List of spaces that will be provided in the project. This list shall also include the following information:
 - c. Size of space – net square feet
 - d. Number of each type of space, if multiples (i.e. offices, classrooms, etc.)
 - e. Factors for Gross Square Footage based on Project Overview Building Efficiency Targets – this must be validated for feasibility.
 - f. Adjacency requirements of spaces
 - g. Spaces shall be group according to program assignments, as well as location in building. Project Program should make presumptions about floor level locations of spaces.
 - h. Summary description of function of each space
 - i. General/Specific Requirements of each space:
 - 1) Detailed description of functional requirements and features
 - 2) Building Systems and related infrastructure requirements – general or specific
 - 3) Finish requirements/levels/types
 - 4) Lighting requirements or preferences
 - 5) Security requirements
 - 6) Acoustical requirements
 - 7) Special features, functional
 - 8) Furniture and Equipment required and to be supported
 - 9) All gender/family restroom
 - 10) Lactation room or pod
 - j. Project Cost Estimate
 - 1) A project cost estimate is generated based on assumptions about project hard costs, soft costs and the cost of furniture and equipment for the particular building type. The project estimate is reviewed by the PM and the Planning and Construction supervisors for compliance with the Project Overview Document. Plant Investment Fees (PIF's) once formally defined shall also be a part of the Project Cost Estimate.
 - k. Project Schedule Updated

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- I. Special factors that will impact project (approvals, site conditions, access, infrastructure, others issues that need to be addressed.)
- 3.4.3 The Project Program will also validate the Project Overview Document in writing, through a tabular list.

Furniture and Equipment Plan as a part of the Project Program:

- 3.4.4 The Project Program shall provide specific information relative to Furniture and Equipment. The Furniture and Equipment Plan defines both the overall F&E required for the project as a whole (building-wide F&E items like network and VOIP equipment), and the anticipated Furniture and Equipment needs of the facility for each specific space.
- 3.4.5 The Furniture and Equipment Plan is to define equipment types or specific pieces of equipment as possible, and provide cut sheets or other documents as available to define the operating parameters of this equipment (building systems and related infrastructure needs, HVAC demands, electrical/plumbing requirements, space needs, structural requirements, access and loading/install requirements, other items.)
- 3.4.6 If it is only feasible to define broad Furniture and Equipment needs in the Project Program, then the Project Manager and/or A/E Consultant shall develop a detailed Furniture and Equipment Plan during schematic design, so that the schematic design can define the requirements to support the furniture and equipment in the facility. This must be carefully coordinated with the other schematic design requirements/documents and the design-build solicitations as well, as applicable.
- 3.4.7 The Owner's Project Manager will work very closely with the A/E Consultant as applicable and will work with the Project Advisory Steering Committee and the defined user and technical advisors to this committee to create the Furniture and Equipment Plan.
- 3.4.8 The Furniture and Equipment Plan must be consistent within the objectives of the Project Overview Documents and requirements for the project relative to scope, budget/cost, quality and schedule.
- 3.4.9 The Project Furniture and Equipment may include, but is not limited to:
 - a. Furniture (Office, classroom, conference room, non-fixed laboratory, etc.)
 - b. IT equipment (computers, printers, software/related licenses, head-in/IDF room equipment, wireless equipment, etc.)
 - c. Telecommunications equipment (switches, VOIP equipment, telephones, voicemail licenses, etc.)
 - d. Custodial equipment
 - e. Facilities management equipment for O&M
 - f. Security Cameras (excluding conduit/cabling and other building infrastructure)
 - g. Alarm Systems (excluding conduit/cabling and other building infrastructure)
 - h. Emergency Phones (excluding conduit/cabling and other building infrastructure)
 - i. Tackboards
 - j. Whiteboards
 - k. Non-built-in shelving/storage equipment and mail/delivery equipment
 - l. Free-standing lockers
 - m. Non-fixed equipment that are not a part of the construction scope of work.

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- n. Specialty program equipment (i.e. research, teaching, broadcast, athletic, etc.)
- 3.4.10 Items that are sometimes considered F&E and other times considered construction items are to be specifically discussed. These items typically include (but are not limited to):
 - a. Data/telecommunications cabling (to be budgeted for and delivered in the construction contract unless otherwise approved by the Owner.)
 - b. Audio-Visual, videoconference systems and equipment (building services and infrastructure are to be in the construction contract. Coordinate with Owner as the requirements for Audio-Visual, videoconference systems and equipment to be in the construction contract per Owner's requirements).
 - c. Fixed tables and chairs (to be budgeted for and delivered in the construction contract)
 - d. Window blinds (to be budgeted for and delivered in the construction contract)
 - e. Interior signage, way-finding signage (to be budgeted for and delivered in the construction contract)
 - f. Fume hoods or other fixed laboratory equipment (to be budgeted for and delivered in the construction package, particularly for items that affect building commissioning or require hard infrastructure connections.)
- 3.4.11 The Furniture and Equipment Plan shall include:
 - a. Project Program Space in which Furniture and Equipment is located
 - b. Furniture and Equipment Type/Name
 - c. Quantity of Furniture and Equipment
 - d. Estimated Unit Cost of Furniture and Equipment per line
 - e. Total Cost of Furniture and Equipment per line
 - f. Backup Cut-sheet Binder for Furniture and Equipment for detailed description of technical requirements and information, as well as any other information (options, finishes, etc.) If this cannot be fully delivered in the Project Program – this must be completed during schematic design so the A/E can integrate these items in the design. This must be carefully coordinated with schematic design and any design-build solicitation/development as well.
 - g. If Furniture and Equipment is to be reused/ moved into a project from existing location(s), it is to be accounted for in the plan with its associated costs (decommissioning, moving, reinstall, other....).
 - h. Cost categories at summary levels shall account for the following overall costs. These costs should be calculated in addition to the specific F&E items as summary estimated costs:
 - 1) Design
 - 2) Freight/Delivery
 - 3) Handling/Installation
 - 4) Escalation
 - 5) Moving Allowance
 - 6) Contingency

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- i. Overall Project Furniture and Equipment to support the entire project. These items may not be assigned to a specific room but the support the entire facility operation. Items may include:
 - 1) Network and Telecommunications head-in and IDF room equipment
 - 2) Custodial Equipment
 - 3) Facilities Maintenance Equipment for O&M
 - 4) Wireless Data Nodes
 - 5) Security Cameras
 - 6) Alarm Systems
 - 7) Emergency Phones
 - 8) Data/telecommunications cabling
 - 9) Audio-Visual, videoconference systems & equipment
 - 10) Window blinds
 - 11) Interior signage, way-finding signage
 - 12) Trashcans: all spaces

3.5 Program Validation

- 3.5.1 In the case that the Project Program is developed by the Owner without the assistance of an A/E or a consulting team, once an A/E is selected a Program Validation and Preliminary Site Analysis shall be developed.
- 3.5.2 For a design-build project – this shall be a part of the RFP requirements for the design-build project, for the design-builder to submit with their proposal response to the RFP. For other project delivery methods, the A/E shall perform the Project Program Validation and Preliminary Site Analysis prior to engaging in further design.
- 3.5.3 The Project Program Validation shall be based on the Owner's developed Project Program. The A/E shall develop an assessment and report of all elements of the Owner's developed Project Program. This A/E assessment and report shall advise on areas where the A/E believes the Project Program to be complete and accurate and areas where the A/E recommends further development, inclusion of additional information or differing assessments for Owner consideration.
- 3.5.4 If information is not in the Owner's Project Program that is required as a part of the general Project Program then the A/E shall provide it (i.e. Room Data Sheets). The Project Program Validation should provide a document with comprehensive/defined information as defined in the Project Program as outlined above, and is not to be a report with general responses to an Owner developed Project Program.

3.6 Site Analysis

- 3.6.1 The Preliminary Site Analysis is to be prepared by the A/E, and shall show several options for project site alternatives per the Project Overview Document. Project site alternatives shall take into account issues such as:
 - a. Project Overview concerns such as building footprint, massing and efficiency
 - b. Evaluation of the site's proposed use and location for consistency with the land use proposals of relevant campus planning documents
 - c. Thorough civil analysis of topography and proposed surface drainage, grading, etc.

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- d. Parking
 - 1) A parking count/requirement analysis per the Owner's parking requirements (coordination with Owner's Parking and Transit services)
 - 2) Any other regulatory parking analysis
 - 3) Parking to be provided with the project
 - 4) Parking displacement potentially caused by the project (which is to be minimized) and any associated cost to the project for stalls displaced or taken out of service for staging.
 - 5) Strategies to replace displaced parking
 - 6) Cart (Owner's staff on-campus carts) parking and charging locations
 - e. Staging and Contractor Parking strategies and areas (location and site area footprint, impacts)
 - f. Utility, underground and other technical and infrastructure issues and points of connection/service
 - g. Impacts to access by emergency services, both temporarily or long-term
 - h. Siting impacts for LEED Silver equivalency or sustainable/green building design objectives
 - i. Identification of solar orientation, prevailing winds and local wind and breeze conditions
 - j. Conceptual determination of the project site boundaries, including future development phases if required. Determine horizontal control points for construction. Identify paved areas and proposed materials
 - k. Identification of site opportunities including views and solar access
 - l. Identification of vehicular access (visitor, delivery, garbage collection and fire/emergency, bicyclists), parking areas and/or parking access, pedestrian routes from campus and from parking areas, and ADA access from campus and from parking areas. Cart parking and cart path. Location(s) for recycle bins.
 - m. Identification of trash (dumpster) locations adjacent to the building. Graphically show that there is adequate access for the largest vehicle that will serve the building.
 - n. Identification of site constraints, such as trees to be preserved, floodplain locations, and potential wind tunnel effects.
 - o. Aesthetic considerations – views, exterior space
 - p. Identification of possible environmental impacts and mitigation measures during construction, and interruption of campus circulation patterns and utilities services.
 - q. Other impacts to the Owner based on siting alternatives
- 3.6.2 Submit a narrative and graphic summary of the conclusions drawn from the evaluation.

3.7 Design Milestone Checklists

- 3.7.1 At each milestone of the Design Process, the Consultant in conjunction with the Owner's Project Manager is required to complete a check list. Payment for each project milestone/phase shall be contingent upon verification by the Project Manager that the submittal is complete and information accurate, and upon approval by the Executive Director of Planning and Construction.

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- 3.7.2 Check lists will be provided electronically to the Consultant by the Owner. They are included here for guidance on the minimum requirements to be met at each Milestone/Phase. These are in conjunction with specific Milestone requirements of the Contract.
- 3.7.3 Specific requirements per Milestone/Phase are noted as follows prior to the Checklist.

3.8 Schematic Design

- 3.8.1 The Consultant and design team shall produce a minimum of **three (3) conceptual/ schematic design options**, which significantly vary from each other, for review by the Project Planning Committee as part of their early Schematic Design Process. This will be required on all projects, unless waived by the Owner's Project Manager due to project size and scope and except for design-build solicitations, which shall follow the Owner's Standards and requirements of the RFQ/RFP.
- 3.8.2 For each project, a **detailed analysis of the cost of operation and maintenance** of the building shall be completed to identify and evaluate measures for the conservation of energy. The analysis shall include operation and maintenance cost comparisons of at least three different HVAC system types or variations of a UNLV Design Standards compliant system type as appropriate and determined by the Owner.
- 3.8.3 **LEED:** The Consultant and design team shall conduct a session with Planning and Construction as well as the users to identify areas of most importance in designing to a LEED Silver Equivalency level, whether the project is being certified or not. The group, led by the Consultant shall complete the LEED scorecard that will be used as the guide throughout the project.

3.9 Schematic Design Checklist

Project Name: _____

Project Number: _____

File Code: _____

Date Prepared: _____

Prepared by: _____

		A/E Initials	P & C Initials
1	Meet with UNLV Project Steering Committee to present Schematic Design Submittal.	_____	_____
2	Meet with UNLV President and/or VP of Business Affairs (if applicable).	_____	_____
3	Architectural deliverables (minimum requirements):		
a.	Title sheet;	_____	_____
b.	Site plan (Refer to Standards Manual - Consultants);	_____	_____
c.	Site plan indicating all existing conditions and how it will be impacted;	_____	_____
d.	Floor plans (Refer to Standards Manual - Consultants);	_____	_____
e.	Building elevations indicating major materials and finishes, elevations of major building elements and overall height of building;	_____	_____
f.	Building sections indicating major areas and volumes, separation and rated walls;	_____	_____
g.	Preliminary reflected ceiling plans;	_____	_____
h.	Perspective sketches, if required;	_____	_____
i.	Study models; if required;	_____	_____

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j	Preliminary exiting plan and code analysis, including ADA analysis;	_____	_____
k	Area efficiency calculations (Refer to Standards Manual - Consultants);	_____	_____
l	Presentation boards depicting major material and finish selections;	_____	_____
m	Plans indicating space allocations and partition locations;	_____	_____
n	Furniture layout;	_____	_____
o	Equipment layout;	_____	_____
p	Presentation boards depicting major furniture and furniture finish selections;	_____	_____
q	Furniture and Equipment Plan has been developed, submitted to Owner, and review comments have been received and addressed.	_____	_____
r	Narrative including the following:	_____	_____
i	General project scope (refer to Standards Manual - Consultants);	_____	_____
ii	Describe the impact of the project on the existing building and site elements	_____	_____
iii	Program summary (refer to Standards Manual - Consultants);	_____	_____
iv	Evaluation of cost estimate including suggestions for cost reduction if necessary. Identify bid alternates so that base bid is between 90% and 95% of the construction budget;	_____	_____
v	Project schedule (refer to Standards Manual - Consultants): Include major milestones, assumptions, schedule constraints, coordination with Owner events and other factors.	_____	_____
vi	Description of major building systems;	_____	_____
vii	Description of major materials, finishes and quality standards;	_____	_____
viii	Investigation of alternate systems, materials and equipments;	_____	_____
ix	List regulatory agencies having authority & any deadlines for submission;	_____	_____
x	List utility companies requirements including connection and/or permit fees, deadlines and schedules;	_____	_____
xi	Description of how the consultant has applied their quality control procedures to the Schematic Design submittal.	_____	_____
4	Civil Engineering Deliverables:		
a	Plans indicating:		
i	Horizontal control points for construction	_____	_____
ii	Fire protection systems and fire truck access to site and buildings;	_____	_____
iii	Drainage systems;	_____	_____
iv	Paving;	_____	_____
v	Vehicular & pedestrian access to site and buildings and site circulation, including accessibility requirements;	_____	_____
b	Preliminary utility plan including on-site and off-site utility work;	_____	_____
c	Preliminary grading plan;	_____	_____
d	Site plan indicating all existing conditions and how it will be impacted;	_____	_____
e	Narrative describing:		
i	Condition of existing facilities and the impact of the work on the existing facilities including existing utilities capacity, access and location;	_____	_____
ii	Identification of potential materials, systems and equipment, and their criteria and quality standards;	_____	_____
iii	Investigation of availability and suitability of alternative materials, systems and equipment;	_____	_____
iv	Regulatory agency and utility reviews required, including fees, deadlines and schedules.	_____	_____

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- 5 Structural design deliverables:
 - a Preliminary foundation plan; _____
 - b Preliminary framing plans noting critical clearances; _____
 - c Preliminary load calculations; _____
 - d Analysis of structural load distribution (particularly for irregular structures) and 3-D structural analysis based on building complexity _____
 - e Narrative for describing:
 - i Condition of existing facilities and the impact of the work on the existing facilities; _____
 - ii Identification of potential materials, systems and equipment, and their criteria and quality standards; _____
 - iii Investigation of availability and suitability of alternative materials, systems and equipment; _____
 - iv Approving authority reviews required, including deadlines and schedules. _____

- 6 Mechanical narrative covering the following:
 - a Recommended HVAC systems and equipment and their criteria and quality standards, based on analysis of at least three potential HVAC systems; _____
 - b Investigation of availability and suitability of alternative materials, systems and equipment; _____
 - c Approximate space requirements for HVAC systems and equipment; _____
 - d Energy conservation concepts; _____
 - e Energy/fuel sources; _____
 - f Plumbing fixtures and equipment, including suggested locations for water heaters _____
 - g Fire sprinkler system; _____
 - h Condition of existing facilities and impact of work on existing facilities (if applicable); _____
 - i Approving authority reviews required including fees, deadlines and schedules. _____

- 7 Electrical narrative covering the following:
 - a Anticipated power service and distribution; _____
 - b Anticipated lighting requirements and design concepts; _____
 - c Anticipated telephone and communication systems and design concepts; _____
 - d Fire detection and alarm systems; _____
 - e Emergency and stand-by power systems; _____
 - f Security systems _____
 - g Special electrical systems; _____
 - h Approximate space requirements for electrical equipment and systems; _____
 - i Condition of existing facilities and impact of work on existing facilities (if applicable); _____
 - j Identification of potential materials, systems and equipment, and their criteria and quality standards; _____
 - k Investigation of availability and suitability of alternative materials, systems and equipment; _____
 - l Approving authority reviews required including fees, deadlines and schedules. _____

- 8 Landscape design deliverables;

a Conceptual plan including the following:

- ### 3.10 Design Development

3.10.1 Design development phase documents shall include drawings and preliminary specification developed from the schematic design documents. The design development phase documents shall provide greater detail as required to confirm or adjust all aspects of the schematic design documents and shall include a revised cost estimate reflecting the more detailed development.

- 3.10.2 Based on the approved schematic design documents and any adjustments authorized by the Owner in the project program, schedule, or construction budget, the Consultant shall prepare, design development documents consisting of drawings and other documents as necessary to fix and describe the size and scope of the project as pertains to architectural, structural, mechanical and electrical systems, materials, and other such elements as may be appropriate.

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structural sub-consultants, and any other major sub-consultants as applicable) shall each provide a summary presentation pertaining to their portion of the submittal. Approval of the design development submittal shall be condition of final payment for that phase of design.

3.11 Design Development Checklist

Project Name: _____
Project Number: _____
File Code: _____
Date Prepared: _____
Prepared by: _____

		A/E Initials	P & C Initials
1	Meet with UNLV project Steering Committee to present Schematic Design Submittal.	_____	_____
2	Meet with UNLV President and/or VP of Business Affairs (if applicable).	_____	_____
3	Architectural documents to establish final scope, relationships, form, size and appearance including:		
a	Title sheet.	_____	_____
b	Refined site plan;	_____	_____
c	Construction site plan (refer to Standards Manual - Consultants);	_____	_____
d	Representative site details;	_____	_____
e	Refined floor plans, dimensioned and annotated;	_____	_____
f	Floor plans with furniture and equipment layout;	_____	_____
g	Floor finish plans;	_____	_____
h	Enlarged plans, dimensioned and annotated;	_____	_____
i	Refined building elevations;	_____	_____
j	Refined building sections;	_____	_____
k	Wall sections	_____	_____
l	Refined reflected ceiling plans coordinated with MPE elements;	_____	_____
m	Interior elevations, indicating Architectural elements and finish materials;	_____	_____
n	Wall assemblies;	_____	_____
o	Door, window and hardware schedules;	_____	_____
p	Typical construction details;	_____	_____
q	Finish schedules;	_____	_____
r	Final presentation boards that display exterior and interior finishes with finishes properly labeled regarding location and application (2 sets);	_____	_____
s	Equipment layouts;	_____	_____
t	Refined exiting plan and code analysis;	_____	_____
u	Project Manual that includes a preliminary version of all specifications sections to be included in the Construction Documents;	_____	_____
v	Narrative including:		
i	General project scope (refer to Standards Manual - Consultants);	_____	_____
ii	Describe the impact of the project on the existing buildings and site elements.	_____	_____

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iii	Program summary (refer to Standards Manual - Consultants);	_____	_____
iv	Identification and resolution of code issues;	_____	_____
v	Evaluation of cost estimate including suggestions for cost reduction and value engineering if necessary. Identify bid alternates so that base bid is between 90% and 95% of the construction budget	_____	_____
vi	Project schedule (refer to Standards Manual - Consultants);	_____	_____
vii	Description of major building systems;	_____	_____
viii	List of regulatory agencies contacted and written summary of meetings including:	_____	_____
	1 Date of meeting;		
	2 List of attendees;		
	3 Summary of results.		
xi	List of all Utilities contacted and written summary of meetings including:	_____	_____
	1 Date of meeting;		
	2 List of attendees;		
	3 Summary of results;		
	4 Current status of project submittal;		
	5 Connection and/or permit fees.		
x	Description of how the Consultant has applied their Quality Control procedures to the Design Development submittal including coordination with sub-consultants and Owner consultants.	_____	_____
4	Civil Engineering Deliverables:		
a	Final site plans indicating drainage, paving, curbs, gutters & sidewalks and fire lanes;	_____	_____
b	Final utility plan including connections, coordinated with MEP;	_____	_____
c	Final grading plan;	_____	_____
d	Final site plan indicating all existing conditions and the impact of the work;	_____	_____
e	Representative details.	_____	_____
5	Structural design deliverables:		
a	Final structural design criteria and loads;	_____	_____
b	Updated plans including dimensions;	_____	_____
c	Preliminary sizing of major structural components;	_____	_____
d	Floor and roof framing plans;	_____	_____
e	Major building sections/elevations;	_____	_____
f	Representative details;	_____	_____
g	Preliminary structural specifications;	_____	_____
6	Mechanical Engineering deliverables:		
a	Mechanical plans indicating:		
i	HVAC equipment locations;	_____	_____
ii	Main HVAC ductwork and piping systems layouts with sizes and one-line diagrams;	_____	_____
iii	Required chases for ductwork and piping;	_____	_____
iv	Each thermal zone identified.	_____	_____
v	Coordination of mechanical systems with other disciplines for space requirements, duct/line	_____	_____

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	routing, access and other mechanic coordination issues.		
b	HVAC equipment schedule, including sizes and capacities;	_____	_____
c	Temperature control system schematic diagrams;	_____	_____
d	Plumbing plans indicating:		
i	Plumbing fixture/equipment locations;	_____	_____
ii	Main plumbing piping systems layouts with sizes and invert elevations.	_____	_____
e	Plumbing fixture schedule:	_____	_____
f	Preliminary technical specifications for all materials, systems and equipment;	_____	_____
g	Preliminary HVAC load calculations;	_____	_____
h	Locations of fire sprinkler system components;	_____	_____
i	Narrative including:		
i	Identification of energy conservation methods;	_____	_____
ii	Catalogue cuts on all HVAC equipment and plumbing fixtures.	_____	_____
7	Electrical Engineering deliverables:		
a	Lighting, power and communications systems plans;	_____	_____
b	Sizes, capacities and locations of major system components;	_____	_____
c	Cut sheets for all equipment;	_____	_____
d	Light fixture schedule;	_____	_____
e	Catalogue cuts on all light fixtures;	_____	_____
f	Required chases and clearances for conduit and cabling;	_____	_____
g	Model Energy Code compliance calculations;	_____	_____
h	One-line diagrams illustrating power distribution, with separate riser diagrams for different power systems (i.e. house power, controls power other power);	_____	_____
i	Life safety system components identified and located;	_____	_____
j	Preliminary technical specifications for all materials, systems and equipment;	_____	_____
k	Provide data port counts and cable number counts.	_____	_____
8	Landscape design documents, to establish final scope for landscape work.	_____	_____
9	Interior Design deliverables to include preliminary furniture specifications including photos/cut sheets and dimensions, and estimate quantities. (if applicable)	_____	_____
10	Updated detail line item construction cost estimate to include all sixteen Master Specification Divisions.	_____	_____
11	Provide updated schedule.	_____	_____
12	Furniture and Equipment Plan has been updated, submitted to Owner, and review comments have been received and addressed.	_____	_____
13	LEED/Sustainability		
a	Review and update LEED Checklist and provide a list of sustainability measures and their relationship to the Owner's Design Standards.	_____	_____
14	The documents comply with UNLV Design Standards.	_____	_____
15	UNLV comments received and addressed in documents.	_____	_____
16	The consultant has received a copy of the UNLV General Conditions to coordinate with consultant's Supplemental General Conditions.	_____	_____
17	University approval of Design Development.	_____	_____

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- 18 Provide a data copy to the Owner in a data format acceptable to the Owner of the approved complete Schematic Design submittal. _____

3.12 Construction Documents

General Requirements

- 3.12.1 From approved design development documents, prepare and satisfactorily complete within the time allowed, construction documents and a detailed construction cost estimate.
- 3.12.2 The Construction Documents submittal shall be stamped and signed by each of the responsible disciplines, and sets noted as '100% Construction Documents.'
- 3.12.3 Fast Track Option: The Owner must be in agreement with the fast track plan check/permit and construction plan. Any fast track approach is undertaken at the risk of the construction vendor. Any fast track delivery approach must limit risk on non-compliant work, changes, plan check/permit risk or other associated fast track delivery risks. The Owner will not agree to fast track delivery methods where structural design is approved in multiple packages (i.e. a foundation package separate from a superstructure package). All structural items in a fast track delivery approach must be plan checked and permitted within one submittal package to the Building Official and plan check/ approval entities. On fast track projects, such as for a Design-Build or CMAR project, the Consultant and team shall be prepared to do phased or multiple bid packages. These may include but are not necessarily limited to:
- a. Bid Package 1: Site, Foundation/ Structure Bid Package
 - b. Bid Package 2: Tenant Improvements, Interiors Bid Package
- 3.12.4 Bid Alternates, as approved by the Owner, shall be clearly identified on the drawings and in the specifications.

3.13 Required Review and Approvals

- 3.13.1 The Consultant shall obtain and address review comments from the State agencies listed below (as applicable). This may include submitting applications for plan reviews and inspections and provisions for inspections to be coordinated with the constructor of the project.
- a. State Public Works Board (including issuance of building permit)
 - b. State Fire Marshal
 - c. Clark County or City Fire Department (depending on which campus the project resides on) for sprinkler and alarm review and approval.
 - d. State Health Department
 - e. State Department of Transportation
 - f. State Environmental Protection Division
 - g. Clark County Health Department
 - h. Clark County Department of Air Quality (Coordinate with Owner and its Risk Management and Safety Department, including BACT Analysis for Generators, Cooling Towers, Boilers and other emission producing equipment)
 - i. State Elevator Inspector
 - j. State Boiler Inspector

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- k. Other agencies as may be applicable
- 3.13.2 The Consultant shall obtain and address review comments as applicable from county and/or local government agencies, including, but not limited to, those listed below.
- 3.12.3 Review comments that either conflict with State requirements or which substantially affect the project cost shall be brought to the attention of the State for resolution.
 - a. Local Utility and Public Works Departments (City, County, etc... as applicable)
 - b. Local Fire Department (City, County, etc... as applicable)
 - c. Community Development and/or Zoning and Planning Department, as required and with advance Owner approval for coordination purposes.
- 3.13.4 Owner's Facility Management & Planning and Construction shall sign off on all equipment specified for the project prior to approval for bidding. Consultant shall review all equipment in specifications with Owner.

3.14 Construction Documents Checklist

Project Name: _____

Project Number: _____

File Code: _____

Date Prepared: _____

Prepared by: _____

		A/E Initials	P & C Initials
1	Line item construction cost estimate submitted at 50%. Evaluation of cost estimate including identifying areas for cost reductions, if necessary. Identify bid alternates so that base bid is between 90% and 95% of the construction budget.	_____	_____
2	Line item construction cost estimate submitted at 95%. Evaluation of cost estimate including identifying areas for cost reductions, if necessary. Identify bid alternates so that base bid is between 90% and 95% of the construction budget.	_____	_____
3	100% construction document approval by the University including:		
	a Supplemental General Conditions (coordinated with UNLV General Conditions);	_____	_____
	b Bid alternates;	_____	_____
	c Bid Proposal Form;	_____	_____
	d Narrative including the following:		
	i General project scope (Refer to Standards Manual - Consultants);	_____	_____
	ii Describe the impact of the project on the existing buildings and site elements;	_____	_____
	iii Program summary (Refer to Standards Manual - Consultants);	_____	_____
	iv Identification and resolution of code issues;	_____	_____
	v Project schedule (Refer to Standards Manual - Consultants)	_____	_____
	e Minimum calculations required		
	i Structural Calculations		
	1 Complete vertical and lateral loads	_____	_____
	2 Programs used shall be identified and results documented.	_____	_____
	ii Mechanical Calculations (Note – all mechanical calculations to confirm compliance with ASHRAE and other standards per UNLV Design Guidelines.	_____	_____

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	1	Heating, Ventilating, and Air Conditioning Calculations	_____	_____
	2	HVAC load calculations.	_____	_____
	3	Building envelope compliance calculations.	_____	_____
	4	Air handler/fan e.s.p. calculations.	_____	_____
	5	Duct static regain calculations.	_____	_____
	6	Pump head calculations.	_____	_____
	7	Expansion tank sizing calculations.	_____	_____
	8	General summary of central plant equipment selection criteria.	_____	_____
iii		Plumbing Calculations		
	1	CW pipe sizing calculations.	_____	_____
	2	HW pipe sizing calculations.	_____	_____
	3	Gas pipe sizing calculations.	_____	_____
	4	Roof drain pipe sizing calculations.	_____	_____
	5	Miscellaneous pipe sizing calculations.	_____	_____
	6	Water heater sizing calculations.	_____	_____
	7	Sand/oil and/or grease interceptor sizing calculations.	_____	_____
	8	Special equipment calculations.	_____	_____
iv		Electrical Calculations		
	1	Model energy code compliance calculations.	_____	_____
	2	Lighting calculations.	_____	_____
	3	Feeder voltage drop calculations.	_____	_____
	4	Short circuit calculations.	_____	_____
	5	Service load calculation.	_____	_____
4		The consultant has performed a quality control review of the 100% construction documents all disciplines	_____	_____
5		Provide a narrative description of how the consultant has applied their quality control procedures to the Construction Documents submittal.	_____	_____
6		The UNLV General Conditions have been coordinated with the Consultant's Supplemental General Conditions.	_____	_____
7		All applicable sections of the technical specifications are consistent with the requirements of the General Conditions and the Supplementary General Conditions of the contract.	_____	_____
8		As certain utility company connection permit fees, and fees for work by the utility company.	_____	_____
9		All applicable utility companies have reviewed and approved the relevant construction documents. (Provide a list of all relevant utility companies and the approval date.)	_____	_____
10		The approved utility documents are incorporated in the 100% set.	_____	_____
11		The construction documents have been submitted to all regulating agencies. List agencies and submittal dates. Provide written confirmation that approval was obtained from the following:		
	a	State Public Works Board (or designated plans checker)	_____	_____
	b	State Fire Marshal	_____	_____
	c	State Health Depart.	_____	_____
	d	State Department of Transportation	_____	_____
	e	State Environmental Protection Division	_____	_____

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f	Clark County Health Department	_____	_____
g	Clark County Department of Air Quality	_____	_____
	Clark County Water Reclamation District	_____	_____
h.	State Elevator Inspector	_____	_____
i.	State Boiler Inspector	_____	_____
j	Other agencies as may be required	_____	_____
12	Revise construction documents as required in response to plan checking comments and revise cost estimate (if applicable).	_____	_____
13	Provide updated schedule.		
14	Verify and update from DD phase - data port counts and cable number counts.	_____	_____
14	Update finish/materials boards as required.	_____	_____
15	LEED/Sustainability		
a	Review and update LEED Checklist and provide a list of sustainability measures and their relationship to the Owner's Design Standards.	_____	_____
16	The documents comply with UNLV Design Standards.	_____	_____
17	UNLV comments received and addressed in documents.	_____	_____
18	Meet with the University to present and review the Construction Documents after all plan check comments have been incorporated.	_____	_____
19	Provide a data copy to the Owner in a data format acceptable to the Owner of the approved complete Schematic Design submittal.	_____	_____

3.15 Bid Documents Phase

- 3.15.1 From approved construction documents, the Consultant shall prepare and satisfactorily complete the bid documents within the time allowed. Consultant shall coordinate all front end documents and Division 1 requirements with Owner's standards.
- 3.15.2 This section applies primarily to Design-Bid-Build and CMAR projects (for CMAR projects this section relates to the bid/buyout phase).
- 3.15.3 Bid documents prepared by the Consultant shall include the drawings, specifications and addenda. The Owner will provide one copy of the following documents for duplication and incorporation into the project manual:
 - a. Invitation to Bid.
 - b. Instructions to Bidders.
 - c. Wage Scales.
 - d. Bid Proposal Form.
 - e. Owner-Contractor Agreement.
 - f. General Conditions of the Contract.
- 3.15.4 The intent of the bid documents and the Consultant's construction cost estimate shall be to provide a project that can be completed within the construction budget, not including contingency.
- 3.15.5 The Consultant shall assemble, print and bind the required number of sets of bid documents, and shall distribute the sets as directed by the Owner.
- 3.15.6 Provide assistance in soliciting and obtaining bids from properly licensed contractors.
- 3.15.7 Issue all required addenda to contractors bidding the project. No addenda shall be issued less than seventy-two (72) hours before the bid time established in the Invitation to Bid.
- 3.15.8 Attend the bid opening and any pre-bid conferences

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- 3.15.9 Review all bids received and provide the Owner with a recommendation for the award of the construction contract.
- 3.15.10 In accordance with the Owner's Agreement with the Architect, if the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services is exceeded by the lowest bona fide bid or negotiated proposal, the Owner shall
 - a. give written approval of an increase in the budget for the Cost of the Work;
 - b. authorize rebidding or renegotiating of the Project within a reasonable time;
 - c. terminate in accordance with the Agreement;
 - d. in consultation with the Architect, revise the Project program, scope, or quality as required to reduce the Cost of the Work; or
 - e. implement any other mutually acceptable alternative.
- 3.15.11 If the Owner chooses to proceed under the Owner's Agreement with the Architect, the Architect, without additional compensation, shall modify the Construction Documents as necessary to comply with the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services, or the budget as adjusted per the Agreement.
- 3.16 **Substitutions**
 - 3.16.1 Substitutions will not be permitted at the Bid Phase for Design-Bid-Build projects. This shall be clearly delineated in the Division 1 Bid Documents.
 - 3.16.2 For Design-Build projects, any and all substitution requests shall be submitted with the proposal response to the RFP.
 - 3.16.3 CMAR projects: All substitutions must be submitted and approved prior to the Bid/buyout phase.
- 3.17 **Construction Administration Phase**
 - 3.17.1 The Consultant shall provide construction administration services as described in the Agreement between the Owner and Architect/Consultant.
 - 3.17.2 The Construction Administration Phase shall commence with the issuance of the Notice to Proceed, and terminate when the Owner issues a Notice of Completion.
 - 3.17.3 The Consultant shall provide administration of the Contract between the Owner and the Contractor as set forth in the Owner's Agreement with the Architect and the General Conditions of the Contract for Construction.
 - 3.17.4 The Consultant shall attend the preconstruction conference. The Consultant shall prepare and submit a list of significant issues to be addressed at the preconstruction conference.
 - 3.17.5 Site Visits
 - a. The number of site visits shall per the Owner's Agreement with the Architect. At a minimum the consultant shall make weekly site visits with appropriate sub-consultants in attendance based on the scope of work being performed in the construction process.
 - b. Site visits shall be coordinated with the Owner's Project Manager.
 - c. The Consultant and appropriate sub-consultants shall attend all regularly scheduled job-site meetings.
 - 3.17.6 Interpretations
 - a. The Consultant will be the interpreter of the Drawings and Specifications. The Consultant shall, within a reasonable time, render such written interpretations as

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may be necessary for proper execution of the Work. All interpretations and decisions by the Consultant shall be consistent with the intent of the Contract Documents. Notwithstanding any other terms of this Agreement, it shall be the responsibility of the Consultant to notify the Owner of any installation, practice, method, means or material contrary to or not in accordance with the Construction Documents, which is discovered by the Consultant through the proper exercise of its responsibilities as defined by this Agreement.

3.17.7 Change Orders

- a. Change orders are modifications of the construction documents during the construction phase of the Project. The Consultant shall prepare Change Orders and Construction Change Directives for review and approval by the Owner. All change orders must have prior approval of the Owner, in accordance with Owner policy in order to process payment. The Consultant shall prepare drawings, specifications and other supporting documentation as required to facilitate changes in the Work. The Consultant shall review and evaluate proposals from the Contractor regarding changes in the Work.
- b. The Consultant shall have authority to order minor changes in the Work that do not involve an adjustment in the Contract Sum or an extension of the Contract Time. Such minor changes shall be consistent with the intent of the Contract Documents and shall be implemented only through written order.

3.17.8 Submittals: Submission / Reviews

- a. One of the most important tasks of the Consultant in the construction administration phase is review of submittals. Consequently, submittal requirements must be clearly identified in the contract documents. The Consultant shall review shop drawings and submittals for conformance with the Contract Documents. Shop drawings and submittals shall be reviewed and returned to the General Contractor within 14 days of receipt thereof, or as stipulated in the Owner's Agreement with the Architect and the General Conditions of the Contract for Construction. All submittals shall have Owner review prior to any orders being placed or items released for fabrication, unless Owner waives this requirement.
- b. Based upon site observations and the Contractor's Requests for Payment, the Consultant shall review and evaluate the amounts claimed by the Contractor. Requests for payment shall be reviewed each month at the project site with the Contractor and the Owner's Project Manager.
- c. Contractor/constructor shall submit equipment lists as a part of their bid or buyout phase, and all equipment shall be in compliance with the design and specifications for the project. If the contractor/constructor submits any equipment not compliant with the design and specifications, the contractor/constructor shall provide equipment in compliance with the design and specifications.
- d. Submittals for license, software or other agreements/contracts that are required to be signed by Owner must be submitted as a formal submittal with adequate time for Owner review, negotiation and approval (i.e. 90-120 days in advance of signature).

3.17.9 Contractor's As-Builts

- a. The Consultant and sub-consultants shall continually monitor and evaluate the progress and quality of the Contractor's as-built drawings being maintained on site, which shall indicate the complete project as constructed, including dimensioned locations and sizes of buried utility lines. At a minimum, the Consultant and his consultants shall review the as-built drawings each month, prior to evaluating the Contractor's Request for Payment.

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3.17.10 Close-Out/Commissioning

- a. Project closeout and commissioning is a joint activity, which the Consultant must participate in and coordinate to ensure that the project is completed in a timely manner, and ready to be used and operated by the Owner. The contract documents must clearly indicate the requirements imposed on the Contractor so those claims for extra work or time delays do not result from the process. Accordingly, the Consultant and his sub-consultants are advised to note the responsibilities of all parties in the contract documents, at the pre-construction meeting, and at the final phase of the project.
- b. The Consultant and its applicable sub-consultants shall attend and participate in the commissioning of all systems, in coordination with the third-party commissioning consultant.
- c. At such time that the Contractor states that the Project is complete the Consultant shall conduct a review (or reviews) of the Project and shall prepare a punch-list identifying all noted deficiencies. Consultant shall follow-up on punchlist items for ongoing status until punchlist items are complete and resolved.
- d. The Consultant shall conduct observations to determine the date of Substantial Completion and the date of final completion. Upon completion the Consultant shall receive and forward to the Owner all records, written warranties and related documents required by the Contract Documents and assembled by the Contractor.
- e. The Consultant shall review all Operating & Maintenance manuals for compliance with the project specifications, prior to submitting to the Owner. All Operating & Maintenance manuals shall be provided to the Owner in hardcopy and .pdf format.

3.17.11 Record Drawings

- a. The Consultant shall prepare a set of reproducible record drawings showing changes in the Work made during construction based on the as-built drawings and other data furnished by the Contractor to the Consultant. This responsibility may not be assigned to the Contractor.
- b. Reproducible record drawings shall be 3 mil mylar with matt finish on both sides, unless Owner approves another reproducible record drawing hard format. The drawings shall incorporate all pertinent revisions and changes that occurred during the course of construction. All revisions and changes shall be properly drawn and noted by a qualified CAD person. Each transparency sheet shall be prominently noted "Record Drawing" and shall be signed and dated by the Consultant or Engineer of record. The reproducible transparencies shall all be of the same standard size and furnished at no added cost to the Owner.
- c. In addition to the record drawings, the Consultant shall furnish the Owner a record set of reproducible computer compact disks in Revit .rvt and AutoCad .dwg and Acrobat .pdf formats acceptable to the Owner. The drawings on the compact disks shall not include the Consultant's stamp and each drawing shall be identified in the lower right hand corner as "Record Drawing". Each computer disk shall include a copy of all externally referenced drawings.
- d. In a case where the record drawings have been prepared utilizing a software program other than Revit .rvt and AutoCAD to create the drawings, the drawing files shall be converted to Revit .evt and AutoCAD .dwg files prior to submitting them to the Owner.

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3.18 Post Construction Services

- 3.18.1 The Consultant and his consultants shall attend a nine-month (9 month) warranty inspection at the Project site and shall prepare a list of any warranty issues observed during the inspection.
- 3.18.2 The Consultant shall provide written opinions or interpretations regarding warranty items for the duration of the warranty period.
- 3.18.3 Approval by the Owner of any of the documents associated with this project shall in no way affect or limit the responsibilities of the Consultant.

3.19 Variance Procedures

- 3.19.1 Should the Consultant determine that any of the requirements contained here-in for the project are not practically attainable, the Consultant may request in writing, to the Owner's Project Manager, a variance from that requirement. The request shall identify the requirement, the hardship that requirement places upon the project, and a proposed alternative recommendation and/or solution. The proposed alternative shall be clearly explained in terms of how it will be of equivalent or greater value to the project without adversely affecting the usability of the project for its intended purpose, the health and safety of occupants and visitors, or the overall quality of the construction.
 - a. Variances requests shall be submitted by the completion of the Schematic Design Phase for design-bid-build projects. No variance requests from the Owner's Standard and Design Guidelines will be accepted after this phase.
 - b. Projects being performed as design-build shall have any and all variance requests submitted as part of the GMP submittal at the proposal response to the RFP. For CMAR projects, the variance requests shall be submitted during the phase of design at which the item for which a variance request is applicable, and in no case later than the submittal of the GMP. Any deviation from the Owner's technical and design standards must be submitted and approved as part of the initial submittal.

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REQUEST FOR VARIANCE FORM

Instructions:

1. Complete form in type written text.
2. Be sure to include your name, firm, and telephone number.
3. Provide as much justification for request as possible. Attach additional sheets if necessary and reference the on this form.
4. Please limit requests to one item or subject per form.
5. Return form via email to Owner's Project Manager for Owner's review.

Date: _____

Name of Submitter: _____

Telephone: _____

Company: _____

Email: _____

Please consider the following revision/variance to the UNLV Design Guidelines and Technical Standards.
The nature of this request (circle one):

Addition

Revision

Deletion

Section Number or Other Reference Code: _____

Revision Requested (attach additional sheets if necessary):

Reason or Justification for Revision (attach additional sheets if necessary):

