|  |  |
| --- | --- |
| **OFPC Project Number:** | *XXX-XXX* |
| **Project Title:** | *Enter Project Title as it will appear in the CIP* |
| **Institution:** | *Enter Name of Institution* |
| **Version Number:** | *001* |
| **Revision Date:** | *Month Day, Year* |

**Section I – *Owner’s Project Requirements* Approval**

* 1. The Office of Facilities Planning and Construction (OFPC) and *Institution Name* are in agreement that the Owner’s Project Requirements (OPR) listed herein adequately identify, describe and document the needs of the project.
	2. Approval of the *OPR* indicates an understanding of the purpose and content described in this document.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| OFPC Project Manager  |  |  |  |  |  |
| *Print Name* | *Signature* | *Date* |
| OFPC Senior Project Manager  |  |  |  |
| *Print Name* | *Signature* | *Date* |
| OFPC Regional Program Manager  |  |  |  |
| *Print Name* | *Signature* | *Date* |
| User’sExecutive |  |  |  |
| *Print Name* | *Signature* | *Date* |
| Institution’s Executive |  |  |  |
| *Print Name* | *Signature* | *Date* |

* 1. Executive Summary

The Owner’s Project Requirements (OPR) documents the users’ needs and requirements for a building project. This document continues to build upon the Statement of Need and other supporting information. The information gathered in the OPR Workshops held from *Month Day, Year* through *Month Day, Year* will be used to generate and confirm the Facility Program and Design documents.

In general, the information gathered at the OPR sessions was agreed to by all stakeholders. This indicates consistency in the needs and requirements for this project. However, there were *No.* items that were categorized as “No-consensus,” as follows:

1. *No-consensus*
2. *No-consensus*

Additional information about these no-consensus items can be found in the Appendix. These no-consensus items will be discussed further internally with *Enter Parties* with direction to be given during the forthcoming Facility Program develop meetings.

The needs and requirements documented in this OPR clearly indicate that major project stakeholders are at consensus with the direction and requirements for this project with only two items listed above to be resolved as the project moves forward on its timeline. Therefore, it is the recommendation of OFPC to proceed with the Pre-Design Phase, which includes the Basis of Design and the Facility Program using this OPR as a metric to compare and contrast against.

* 1. **OPR Change Control Strategy** – The OPR will be utilized as a “living document” throughout the project’s design and construction. If changes to the OPR are necessary, the following *Change Approval Process* and *OPR Version History* below will help to ensure appropriate deliberation and documentation.
	2. **OPR Change Approval Process** - Any changes to the OPR must be reviewed and signed off through the process indicated below, starting with the Project Manager. (CPFM = Campus Planning and Facilities Management)

|  |  |  |
| --- | --- | --- |
| **Level of Authority** | **Sign-off Date** | **Stakeholder Groups** |
| **OFPC** | **User Officers** | **Institution Facilities Officers** |
| **Senior Executive** |  |  |  |  |
| **Executive** |  |  |  |  |
| **Executive** |  |  |  |  |
| **Senior Project Manager** |  |  |  |  |
| **Project Manager** |  |  |  |  |

* 1. OPR Version History - All changes and versions are to be documented using this chart. “Date Approved” is date of final approval via OPR Change Approval Process, above.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Change No.** | **Original****OPR Requirement** | **New****OPR Requirement** | **Reason****for Change** | **Date Approved** |
| 001 |  |  |  | mm/dd/yyyy |
| 002 |  |  |  | mm/dd/yyyy |
| 003 |  |  |  | mm/dd/yyyy |
| 004 |  |  |  | mm/dd/yyyy |
| 005 |  |  |  | mm/dd/yyyy |

# Section II – Introduction - This section briefly describes the mission and vision of the Institution, and how the project and the *Owner’s Project Requirements* document will ensure success.

2.1 The “Owner’s Project Requirements” (OPR) report documents the needs and functional requirements of a project and the expectations of how the finished building will be used and operated. While the planning process will consider many alternatives, the OPR goal is the development of a specific project plan that will be carried out in the future. The OPR process assumes that:

* the Statement of Need and project objectives are identified in advance of the OPR development.
* the project scope definition, Total Project Cost (TPC), appropriate codes and standards, and overall schedule duration for the project are established as part of the OPR development process prior to submitting a project to the Board of Regents (BOR) for approval and inclusion in the CIP.

In this regard, the OPR is intended to be an extension of the Project Planning Form which U.T. System and the Institutions have historically used for the project submittal during the BOR approval process.

*Additional* *Content…*

2.2 **Mission of the Institution**

2.3 **Mission of the User**

# Section III – General Project Information - This section briefly describes the approach the project will use to address the academic/business/health problem, including assumptions and limitations to the project.

* 1. *Statement of Need*
	2. *Project description*
	3. *Historical significance (e.g., Archeologically or historically significant site? Does project scope include alteration, renovation, or demolition of a building 50 years or older that has not been designated as a historic landmark?)*
	4. *Site selection (e.g., identification of possible site(s) for the facility along with factors influencing their selection; including ownership, existing easements and other title issues, adjacencies, accessibility to utility connections, and similar information). The site ultimately selected for the project must be subjected to a Category 1A land title survey submitted ot the UT System Real Estate Office for review and approval, in addition to boundary survey, topographic survey, and other site information needed by the project team.*

**Section IV - Investment Metrics** - This section briefly lists the metrics provided by the Institution to determine if the completed project is a good investment decision (i.e., a success). This information is required as part of the Board of Regents’ Design Development Approval process. *Metrics may include:*

* 1. *Utilization of hospital beds*
	2. *Number of research grants*
	3. *Classroom utilization*
	4. *Utilization of parking garage spaces*
	5. *Efficiency of office space*

**Section V – Capital Expenditures** - This section lists the capital expenditure information required by the UT System Office of Business Affairs in order for a project to be submitted and approved by the Board of Regents in the Capital Improvement Program (CIP). Expenditure information shall include:

* 1. **Funding Sources**
	2. **Total Project Cost** **(TPC)**
	3. **Projected Expenditure Timeline**, including how much of the Total Project Cost (TPC) will be spent in each fiscal year per funding source, following its addition to the CIP. All fiscal years must sum to the TPC.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Funding** **Source** | **FY 2011** | **FY 20120** | **FY 2013** | **FY 2014** | **FY 2015** |
|  |  |  |  |  |  |
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* Unless there are unusual circumstances, funding sources shall be spent in the following priority order: PUF Debt, TRB Debt, RFS Debt, and then Institutional Funds.
* If/when a Project returns to the BOR for additional approvals, projected expenditure timeline must be updated.
	1. **Pro Forma** - To be used for projects that are fully or partially self-supporting with forecasts that match the length of the debt (e.g., 20 years, 30 years, etc.)
* Forecast all operating revenue and expenses associated with the project.
	+ *Content Area*
* Arrive at a “net income” for the Project in each forecasted year.
	+ *Content Area*
* Forecast debt service on the Project using approved debt assumptions.
	+ *Content Area*
* Divide “net income” by debt service in each forecasted year.
	+ *Content Area*
	1. **Updated Six Year Forecast -** To be used for projects that are not self-supporting.
* Add the new Project and its incremental debt into the Future Debt tab.
	+ *Content Area*
* Build in incremental revenues and expenses associated with the project into the Statement of Revenues, Expenses, and Changes in Net Assets (SRECNA).
	+ *Content Area*
* Estimate all capital costs and forecast all operating expenses associated with the project.
	+ *Content Area*
	1. **Budget Requirements**
* *Content Area*

**Section VI - Codes and Regulations -**- This section briefly lists the federal, state and local codes that constrain/guide the project must comply with.

* 1. Owner’s Design Guidelines
	2. Institution’s Design and Construction Standards
	3. International Building Code *(refer to Owner’s Design Guidelines for which edition applies)*
	4. International Mechanical Code *(refer to Owner’s Design Guidelines for which edition applies)*
	5. International Plumbing Code *(refer to Owner’s Design Guidelines for which edition applies)*
	6. National Electrical Code *(refer to Owner’s Design Guidelines for which edition applies)*
	7. National Fire Protection Association (NFPA) 101 Life Safety Code *(refer to Owner’s Design Guidelines for which edition applies)*
	8. ASHRAE 90.1-2004
	9. ASHRAE 62.1-2004
	10. International Energy Conservation Code-2004
	11. Texas Accessibility Standards (TAS)
	12. For new elevators: ASME 17.1 codes for elevators and escalators (2007 edition)
	13. International Fire Code (coordination with City of Austin Fire Department) *(refer to Owner’s Design Guidelines for which edition applies)*
	14. SECO submittal
	15. Institution’s Stormwater Management Plan

**Section VII - Preliminary Project Milestone Dates**

* Institution Approves Facility Program *Month Day, Year*
* Board of Regents Approval of Design Development Documents *Month Day, Year*
* Texas Higher Education Coordinating Board Approval *Month Day, Year*
* OFPC Issues Notice to Proceed for Construction *Month Day, Year*
* OFPC Issues Certificate of Substantial Completion *Month Day, Year*
* User Achieves Operational Occupancy *Month Day, Year*

# Section VIII – Requirements for Project Success – *Refer to the Appendix for the workshop processes used to generate the requirements. Refer to the Appendix for Discussion Notes regarding the following requirement categories.*

Requirements were identified from all participating stakeholders in response to open ended questions. After each workshop the responses were sorted, grouped and labeled into categories, which represented requirements relating to the same general topic or area of interest.

**Requirement Categories**

1. **Aesthetics (Interior, Exterior Design & Landscaping)**
2. **Audio/Visual**
3. **Codes, Accessibility, and Energy Efficiency**
4. **Commissioning**
5. **Communication / Information Technology**
6. **Constructability**
7. **Energy Efficiency**
8. **Environmental Health and Safety**
9. **Environmental & Sustainability**
10. **Equipment & Systems**
11. **Fire & Life Safety**
12. **Indoor Environment Quality**
13. **Operations and Maintenance**
14. **Parking, Transportation, & Accessibility**
15. **Restrictions and Limitations**
16. **Security**
17. **Structural, Vibration, & Seismic**
18. **Utilities**

**8.1 Aesthetics (Interior, Exterior Design, & Landscaping) -** *The focus of the exterior design and landscaping criteria addressed producing a design that is complementary of the surrounding environment and the U.T. Austin Master Plan. Additionally the landscape design can enhance and create a safe and inviting environment for faculty and students.*

**Requirements collected during OPR process:**

1. *Align landscape design with the maintenance budgets and University standards.*
2. *Design exterior public use spaces to be “cool” and inviting and strive to reduce “heat-island” effect on Campus. Consider the use of water, shade structures, and protect and integrate existing trees.*
3. *Design roof system facade to mask any roof mounted equipment. Have pathways on roof for maintenance of equipment.*
4. *Drip irrigation is a good goal, but UT Austin has experienced problems on campus with squirrels chewing the piping.*
5. *Extend existing pathway between Liberal Arts Building, pools and west side of Waller Creek to 21st Street.*
6. *Follow the human scale goal of the master plan.*
7. *Integrate the “water steps” fountain feature (that is in Peter Walker’s East Mall plan) and this new building.*
8. *Make this building a gateway to campus as a celebration of academics.*
9. *Provide a design so that faculty, staff, students, and public can easily identify the new building as part of the institution and its purpose.*
10. *Provide ease of maintenance/cleaning of spillage from food carts so that cleaning water runoff does not enter storm water system.*
11. *Provide exterior study and gathering spaces along the north and east sides of the building.*
12. *Provide lightweight green roofs with indoor/outdoor connections.*
13. *Provide microclimatic issues in courtyards created by building systems, reflectivity, solar gain, air circulation, etc.*
14. *Provide use of landscaping to “bio filter” storm water run-off and integrate this landscape as an integral element in the overall design (i.e., “bio-swales”).*
15. *Take advantage of views to and from creek.*
16. *Understand social issues of outdoor spaces (how it will be used in terms of gathering spaces, passage, circulation, and campus “cut-throughs”).*
17. *Use native and naturalized species.*
18. *Use the principals of Crime Prevention through Environmental Design during design of landscaping and selection of materials. Dwarf varieties will lessen areas of concealment and poor lines of sight.*
19. *Utilize efficient irrigation strategies to minimize water waste.*
20. *Utilize paving materials that minimize heat gain and where possible, minimize storm water run-off (i.e., permeable paving).*
21. *Adequate space should be provided for student traffic in corridors that join classrooms.*
22. *As much as possible, provide views to outside for all regularly occupied spaces.*
23. *Break room, lounges, and collaborative spaces should be located to encourage interactions between faculty and students.*
24. *Buffer noise in stairwells.*
25. *Building must have spaces for small groups of faculty/students to gather.*
26. *Built-in drawers, if installed, should be able to withstand at least 30 lbs of paper without buckling.*
27. *Corridor alcoves are necessary, but should be shallow (for observation).*
28. *Create interior spaces that relate to the exterior landscape features in terms of form and function.*
29. *Define the occupant limits in the building assembly areas.*
30. *Department suites need to be serviceable yet visually open.*
31. *Design for natural light without spaces becoming overheated.*
32. *Design MEP system for space efficiency.*
33. *Design restrooms so that space is available to place books in stalls and near lavatories and that the space is TAS compliant.*
34. *Do not locate elevator machine rooms or electrical equipment below bathrooms, kitchens, or other water sources.*
35. *Encourage departments to share common support spaces like conference rooms, labs, computing facilities, computer testing lab. and specialized teaching spaces.*
36. *Ensure that the open design concept and “student hub” concept allow for a secure, private, and quiet work space.*
37. *Every department housed in the building should have enough space so that all have adequate room for offices, conference rooms, filing/storage, computer labs, research labs, reception, and general student use areas.*
38. *Graduate student spaces should be integrated into departments and not segregated.*
39. *Graduate students must have adequate, individual, but shared space; close enough to faculty so that frequent interaction is possible with each other and with faculty.*
40. *Include a gender neutral restroom and a comfort room.*
41. *Keep service areas out of view, but integrated with building.*
42. *Layout the floors like the best urban neighborhoods with clear circulation, eyes on the street, and public hangout areas (town squares.).*
43. *Limit/control natural light in classrooms and instructional areas to reduce glare.*
44. *Locate non-main electrical rooms in interior spaces, stacked, and not landlocked by elevators/stairs/mechanical spaces.*
45. *Main electrical and mechanical spaces need ready access to the exterior for removal/replacement of large components.*
46. *Minimize the use of vertical open space for more than two floors for cost and operational reasons.*
47. *Note that no live animals will be housed in this building.*
48. *Place restrooms in areas that are convenient to office users, but not so much that office users constantly hear such traffic.*
49. *Provide mail room locations and identify how they function.*
50. *Provide quiet and private places for faculty, staff, and students to work. Take into consideration the noise from the pool complex when locating types of spaces.*
51. *Provide space in offices for lots of bookshelves.*
52. *Provide space to house attic stock & minimal maintenance items. Valves, faucets, valve tag lists, half size drawings, and O&M’s shall be provided.*
53. *Provide visual and physical connections between floors.*
54. *Recognize and address different needs of research space. Need ample work space and lab space for faculty and grad students to work collaboratively (Collaboratorium).*
55. *There should be common areas for students to congregate that are non-departmental.*

**8.2 Audio/Visual -** *The audio/visual infrastructure (conduit, etc.) will be installed by the contractor and the Owner will pull wires, and install most equipment, except as noted below. A/V design needs to consider the possibility of future modifications.*

**Requirements collected during OPR process:**

* 1. *A/V equipment and installation requires a TPC FF&E budget allowance. The project construction cost includes Contractor provided infrastructure for equipment.*
	2. *Contractor furnishes and installs Owner specified motorized projection screens and lighting control interfaces.*
	3. *Contractor will install Owner-furnished projector mounts and speakers in areas not accessible with an 8 foot ladder.*
	4. *Contractor-provided infrastructure includes empty conduit, pull strings, pull boxes, classroom termination boxes, and power receptacles.*
	5. *Control incoming noise from street and adjoining spaces for classrooms.*
	6. *Coordinate and plan layout for network, telephones, security, and AV infrastructure to ease maintenance and upgrades.*
	7. *Coordinate with Owner-furnished video and phone conferencing capabilities in small and large conference rooms.*
	8. *Design structural, MEP utilities, etc. to reinforce (not conflict) with A/V systems and instructional areas.*
	9. *Provide adequate cooling where A/V equipment is located. The Owner will provide heat loads to A/E team early to enable this requirement.*
	10. *Provide video fiber from selected classrooms, meeting rooms, labs, and public space to the MDF closet. Determine spaces that require video fiber connections during programming.*

**8.3 Codes, Accessibility, and Energy Efficiency -** *In addition to the Codes and Regulations stipulated in Section 6 above, the following requirements and considerations were stated.*

**Requirements collected during OPR process:**

1. *Achieve institution goal of 30% better than ASHRAE 90.1. Consider higher performance for reduced environmental impacts.*
2. *Adhere to minimum security standards that are currently being developed by ITS and UTPD. (Includes: Cost of system, annual monitoring fee, and false alarm fee.). Will need to re-visit during design.*
3. *Clarify the code/regulatory requirements dictating emergency power for atrium smoke evacuation in the early stages of design.*
4. *Collect and store rainwater for irrigation or other approved systems.*
5. *Consider a static pressure reset strategy.*
6. *Consider designing for a “net zero fossil fuel” building.*
7. *Consider incorporating renewable energy resources (solar, wind) to supply at least portions of building power or utility needs.*
8. *Consider robustness of fan selection - e.g. use “backward incline air foil,” (if it is decided not to use vane axial fans.)*
9. *Consider use of passive heating, cooling, and lighting design strategies.*
10. *Consider using solar preheat of water to reduce operating costs.*
11. *Consider vane-axial fans in air handling units.*
12. *Design to LEED Silver or higher.*
13. *Evaluate alternative energy options via life cycle cost basis for decision by institution.*
14. *Identify proprietary equipment or systems that are over and above the institution Design and Construction Standards required for this capital project.*
15. *In lieu of OFPC standard, use firelock galvanized fittings and couplings for fire protection — NO zero-flex.*
16. *Include reuse of re-claimed water, fin water, rain water, etc. for irrigation, and cooling tower make-up.*
17. *Meet existing institution standards for utilities.*
18. *Provide a 100-year structure that is straight and plumb.*
19. *Provide accessibility features that are as fully and universally integrated as possible. Use common accessible entrances with wheelchair access throughout, using a logical layout—not segregated access.*
20. *Provide low static, (3-4 inch) low pressure air distribution systems.*

**8.4 Commissioning -** *Commissioning begins at the start of design and is integrated throughout the design and construction of the project. An effective commissioning process supports the successful occupation, operation, and maintenance of the building throughout its life. The process of training is especially important as the building nears substantial completion and as fire/life safety systems come on-line. While the commissioning agent is contracted through U. T. System, the institution will be involved in the development of the commissioning plan and its execution.*

**Requirements collected during OPR process:**

1. *A/E to provide accurate and detailed as-builts of all buried utilities to the institution at the completion of the project (sewer, gas, etc.) based on a contractor provided markups.*
2. *All systems must be completely functioning before calling for inspections and training; commissioning testing includes equipment, systems, and systems integration.*
3. *Demonstrate the proper functioning of provided utilities before building occupancy/turnover.*
4. *Design and construct the building to include all equipment and infrastructure necessary to conduct testing and maintenance on all facility systems (e.g., floor drains for sprinkler testing).*
5. *Develop an approved “project substantial completion plan” (between UT Austin and OFPC), including milestones for the general contractor, especially regarding security system contracts and security documents to be submitted to UT for review.*
6. *Emergency systems are to be tested for all combinations of failure under full load.*
7. *Provide performance/functional test procedures for all installed systems with the 100% CD submittal.*
8. *Provide the descriptions of methods to benchmark energy performance (measurement and verification) at substantial completion, which is repeatable at regular intervals.*
9. *The A/E shall provide detailed sequence of operation documentation for the HVAC system. The Commissioning agent will review.*
10. *The Commissioning agent through OFPC will provide written documentation to UT Austin technical staff that all systems function as designed, all training is complete, and all record documentation has been turned over to UT Austin. Provide training requirements and specifications.*
11. *The commissioning process shall be managed such that the project team (including the Owner) can jointly certify when the project has achieved Substantial Completion and can therefore transfer responsibility for maintaining the building from OFPC to the institution. (Note: There may be phased activation and multiple substantial completion dates.)*
12. *The Contractor shall perform window and curtain wall leak testing at the earliest possible point of construction.*
13. *The Contractor shall provide as-built documents and operations and maintenance manuals for all major equipment and systems. The Commissioning agent will review documentation for applicability and relevance to the project.*
14. *Users and institution staff are to be properly trained; train staff after all testing is complete.*
15. *Institution will provide requirements for as-built documentation. The Contractor and A/E shall work together to provide record documents in a user-friendly electronic format per detailed requirements.*

**8.5 Communications / Information Technology -** *The focus of the information technology criteria addressed the requirement for wireless internet access and the locations of IT and communications pathways.*

**Requirements collected during OPR process:**

1. *Provide redundant and independent cooling system if there is a data center.*
2. *Determine voice (POTS, voice over IP), data and cable TV requirements during design. All systems to meet ITS Telecom and Networking standards.*
3. *IT needs are to be met for each department, specifically in labs.*
4. *Provide as-builts of voice and data locations.*
5. *Provide communication pathway to point-of-entry (POE).*
6. *Provide pathways with excess capacity between classrooms, instructional areas, and MDF closets.*
7. *Provide wireless coverage throughout the building and exterior spaces.*
8. *Telecom and other often accessed pathways should avoid offices and classrooms and run in public hallways whenever possible.*
9. *The Main Distribution Facility (MDF) needs adequate cooling, power, and room for growth.*
10. *Institution will install the wired and wireless network equipment through an institutionally managed cost.*

**8.6 Constructability -** *The focus of the construction consideration criteria addressed safety and access and coordination with neighbors during construction.*

**Requirements collected during OPR process:**

* 1. *Any and all RFI’s or change orders that concern security or security items need to be approved by both UTPD and the ITS security design team.*
	2. *Campus, design team, and construction team shall work together to devise a strategy to meet public safety, security, and access needs while allowing construction to proceed as normal as possible.*
	3. *Ceiling space in classroom instructional areas should be accessible with 6 or 8 foot ladder with 2x2 “drop” ceiling grid, except for high ceiling areas defined by the Architect.*
	4. *Consider the location for construction offices within the building/construction site.*
	5. *Construction staging needs to be designed early—with or without fountain project in place.*
	6. *Coordinate this project with other adjacent projects.*
	7. *Coordinate utility interruptions, Contractor will provide least amount of utility disruptions.*
	8. *During construction coordinate parking requirement and street closures with PTS then UTPD.*
	9. *Establish interim life safety measures during construction.*
	10. *Everyone needs to have a general tolerance during construction; coexist, be a good partner.*
	11. *Identify direct artery streets available for construction, delivery access and staging.*
	12. *Implement best practices for tree protection, i.e. utility trenching, etc.*
	13. *Maintain a secure facility at all times during construction.*
	14. *Maintain the Gregory Gymnasium loading dock access throughout construction and completion.*
	15. *Minimize dust during construction to protect pool water.*
	16. *Provide a termite barrier around the building foundation.*
	17. *Provide clear and safe student and public pathways during construction.*
	18. *Provide construction staging within project area.*
	19. *Schedule deliveries during construction for the least amount of disruption.*
	20. *Use locally available materials such as concrete in lieu of steel, as much as budget allows.*

# 8.7 Energy Efficiency *- This section briefly describes the goals of the Institution, the design team and the maintenance staff for meeting for meeting or exceeding building codes and standards.*

1. *Project shall comply with Title 24 building energy efficiency standards.*
2. *HVAC system shall be at least 15% more energy efficient than ASHRAE Standard 90.1 (current version)*
3. *Lighting systems offer cost effective energy savings potential, and lighting fixtures and/or controls shall be selected to exceed Title 24 minimum efficiency requirements by 10% or greater.*
4. *High efficiency HVAC equipment offers cost effective energy savings, and HVAC equipment shall be selected that exceeds Title 24 minimum efficiency requirements by 10% or greater.*
5. *Additional energy efficiency measures that provide cost effective energy savings shall be included wherever feasible.*
6. *Other Institution and User requirements: (e.g., orientation, sitting, day-lighting, cool roof, natural ventilation, landscaping)*

# 8.8 Environmental and Sustainability Requirements *- This section briefly describes the goals of the Institution for meeting sustainable goals such as Leadership in Energy and Environmental Design (LEED). Refer to UT System policy UTS169 (Sustainability Practices). Items may include:*

1. *Project shall meet LEED-NC 2.2 requirements to achieve a minimum certification level of Silver*
2. *Other Institution and User requirements: (e.g., Institution priorities among possible LEED points)*

Documentation of the *OPR* is a step required for compliance with LEED-NC 2.2 EA Prerequisite 1 for Fundamental Commissioning of the Building Energy Systems. This template is a guide for the project manager to collect the information recommended in the LEED-NC Version 2.2 Reference Guide. The information should be developed by the project team in collaboration with the Institution.

**8.9 Environmental Health and Safety -** *The focus of the environmental health and safety criteria addressed the demolition of the RAS building, and water run-off into Waller Creek. As well, clean air needs to be assured through limiting VOC’s inside the building and limiting exterior fumes from getting in to the building.*

**Requirements collected during OPR process:**

1. *Design and construct the building to reduce the attractiveness of campus to bats, birds, bees, and rodents; use integrated pest management techniques.*
2. *Design building entries to keep bus fumes out.*
3. *Design the outside air intake to be at higher/roof level to allow for better source of clean air.*
4. *For building demolition, determine locations of any/all hazardous materials, such as asbestos, lead, mercury, and PCB. Architect will hire an environmental consultant. Institution inspects buildings and can assist. Contractor will perform the actual abatement and demolition.*
5. *Improve storm water run-off quality and reduce run-off quantity to LEED goals.*
6. *Provide adequate number of emergency showers, eyewash stations, hand washing sinks, chemical resistant bench tops, and chemical storage cabinets as needed in the lab areas, as approved in early design phases by institution EHS.*
7. *Provide pretreatment of storm water where appropriate, (i.e., oil/water separator).*
8. *Provide sufficient number of trash and “recyclables” containers in the outdoor areas.*
9. *Use environmentally friendly (e.g,. low VOC) materials and conserve energy where possible without compromising safety.*
10. *UT Austin shall provide clear direction as to discharge component of elevator sump pumps and any treatment required due to new code interpretation.*

**8.10 Equipment & Systems -** *The focus of the equipment criteria addressed access, maintainability, and energy conservation. Requirements to minimize noise and vibration into classrooms and offices were identified.*

**Requirements collected during OPR process:**

1. *Alert the A/E team in programming of any equipment that is sensitive to vibrations.*
2. *Avoid remote access to elevator machine rooms (e.g. across roofs or inside custodial closets or offices).*
3. *Design ceiling fixtures so that they can be maintained and accessed easily.*
4. *Do NOT provide a Variable Frequency Drive controller for fire systems.*
5. *Equipment is defined as any major system equipment needed to support the primary building functions.*
6. *If humidification is required, use deionized water. Humidification must be provided by a Clean Steam generator.*
7. *Limit noise from air handling systems, machine rooms, and elevators into offices, classrooms, and labs.*
8. *Minimize MEP serviceability points.*
9. *Motion Control Engineering (MCE) brand controls are required on elevators; ensure that electrical, security, HVAC, fire safety sprinklers, and plumbing interfaces meet A17.1 code.*
10. *Provide a descriptive points list for all building automation system points.*
11. *Provide a remote drain separate and in addition to the drain on the standpipe.*
12. *Provide a separate panel for smoke control and use the same manufacturer as fire alarm manufacturer.*
13. *Provide adequate space for maintenance and replacement of equipment, including any utilities pathway(s).*
14. *Provide any crane or lifting devices for all equipment over 500 pounds.*
15. *Provide redundant water feeds and steam pressure reducing stations.*
16. *Provide the correct size, type, and locations of elevators to handle traffic patterns and maintenance requirements for building functionality.*
17. *Provide two backflow preventers at bypass for domestic cold water and water softening of incoming city water for hot water only.*
18. *Use Schedule 40 pipe on sprinkler system. Do not use schedule 10 (MIC).*
19. *Where possible, cluster individual room controls (thermostat, security, lights, etc.) into a common place on the wall.*
20. *Where possible, stack mechanical and electrical rooms, piping chases, etc. vertically.*

**8.11 Fire Safety and Life Safety -** *The focus of the fire/life safety criteria addressed operational procedures, design requirements, testing requirements, and coordination with the institution and the city. If the building design includes an atrium there will be special code and smoke evacuation requirements, and these may need to be reviewed with the city.*

**Requirements collected during OPR process:**

1. *Coordinate Fire Department access to site with visible fire department building connection adjacent to vehicle access roads.*
2. *Coordinate testing with institution’s notification requirements. Consider date and time for final testing of fire protection systems. Avoid testing during finals.*
3. *Coordinate with UT System insurance/underwriter requirements (OFPC).*
4. *Design needs to take into consideration actual use and type of devices used (fire alarm) –such as beam detection (false alarms).*
5. *Ensure that all the building safety features are easily accessible.*
6. *Identify fire alarm notification, suppression, and shut down procedures.*
7. *If there is a data center, consider a pre-action fire suppression system.*
8. *Keep alarm pulls away from entry into high-traffic areas, especially narrow corridors, as allowable by code.*
9. *Provide a fire alarm system that contains voice capability and provide for linkage to UTPD.*
10. *Provide appropriate road access for emergency vehicles.*
11. *Provide ease of maintenance of building fire safety equipment, sprinklers, etc.*
12. *Provide pedestrian (access-egress) gathering and assembly points.*
13. *Provide sequence of operation for HVAC-integrated systems, and smoke evacuation system.*
14. *Provide shut down of HVAC units from fire alarm system at motor starter.*
15. *Set up fire alarm and fire suppression for easy testing.*

# 8.12 Indoor Environmental Quality - This section briefly describes the goals of the Users for occupancy comfort. *Items may include:*

1. *Indoor lighting requirements: [List any specific non-standard requirements. e.g., pendant-mounted lighting, illumination requirements, special applications.]*
2. *Occupant lighting control requirements: [List any non-standard requirements. e.g., multi-mode controls for assembly spaces]*
3. *Thermal comfort requirements: [List any non-standard temperature or humidity requirements]*
4. *Ventilation and filtration requirements: [List any non-standard requirements]*
5. *Occupancy HVAC control requirements: [List any non-standard requirements. e.g., integration with existing control systems]*
6. *Acoustic environment requirements: [List any non-standard requirements. e.g., local noise sources requiring mitigation, spaces such as classrooms that require low background noise and short reverberation times]*
7. *Other Institution and User requirements: [e.g., natural ventilation, operable windows, daylight, views]*

**8.13 Operations and Maintenance -** *The operation and maintenance criteria addressed necessary custodial infrastructure and the building automation system (BAS). Since this building will provide a cross-roads for pedestrian movement, it is important to make sure that there are no conflicts between maintenance, operations, and pedestrian traffic.*

**Requirements collected during OPR process:**

* 1. *Accommodate operations and maintenance needs by providing pathways, parking, and storage that do not conflict with student/faculty/staff traffic.*
	2. *All maintenance and mechanical rooms are to be accessible using a custodial key way.*
	3. *Coordinate the location of trash and recycling with the services that will collect it.*
	4. *Design for required utility maintenance and other activities (such as sewer inspection, cleaning, rehabilitating; grease trap maintenance; etc.).*
	5. *Design to custodial space requirements (meeting room, manager’s office, etc.)*
	6. *Determine requirements of system repair parts (to be included in specifications), as well as attic stock requirements of critical components and design adequate storage.*
	7. *Include appropriate custodial infrastructure:*
	8. *Electrical outlets designated for custodial & maintenance operations; outlets are maximum of 75 feet apart and preferred 3 feet off the floor. Also include plugs in stairwells.*
	9. *Restroom floor drains provided to accommodate water overflow.*
	10. *Must be able to clean all architectural finishes with custodial services approved products.*
	11. *Storage space for building specific items such as floor/ceiling tiles, light bulbs, etc.*
	12. *Important parameters of all main and backup systems are to be monitored by the building automation system; building automation sequence (BAS) of operation is to be documented and approved by maintenance personnel.*
	13. *Ensure BAS infrastructure system remains intact and is extended via BAC-net to new building.*
	14. *Interface with campus-wide central monitoring and control systems (i.e. HVAC, security, and other critical systems).*
	15. *Optimize access to equipment rooms and equipment for anticipated maintenance, and provide work clearances around equipment to meet codes, UT Austin standards (available on-line at PMCS website), as well as manufacturer’s recommendations.*
	16. *Provide appropriate maintenance access including loading dock and freight elevator for removal and replacement of major mechanical equipment. Crane access may be required.*
	17. *Provide coordination for economical means of exterior window washing.*
	18. *Provide for comfort and well being of occupants through sustainable cleaning processes (per OS-1).*
	19. *Provide for ease of trash handling.*
	20. *Provide for trash pickup, movement to/from, and dumpster locations.*
	21. *Provide vehicle access to a raised loading dock, preferably with a lift, with proximity to a freight elevator.*

**8.14 Parking, Transportation, & Accessibility-** *There is very limited space for any parking needs at this project site.*

**Requirements collected during OPR process:**

1. *Design to avoid pedestrian accidents.*
2. *No disruptions in public right of ways (ROW’s).*
3. *Provide access and parking for short term visitors.*
4. *Provide at least two University vehicle parking spots.*
5. *Provide parking drop-off spaces.*
6. *Provide sufficient number of bicycle racks for adequate security of bicycles.*
7. *Provide way-finding with simple directions for visitors – during construction.*
8. *Provide way-finding with simple directions for visitors – post-occupancy.*
9. *Retain current traffic flow pattern – during construction*
10. *Retain current traffic flow pattern – post-occupancy.*

**8.15 Restrictions & Limitations *-*** *A number of challenges and issues that could affect the success of this project were identified in response to Question #4. The design and construction team will have little control over some of these issues, such as the approved project budget and the weather during construction. Other issues may be controlled through careful considerations during design and construction, including maintaining effective communications with all stakeholders, a design that is sensitive to the project’s context and requirements, and smart scheduling.*

**Ideas gathered during OPR process:**

1. *Accommodating the needs of constituents.*
2. *Balanced resolution when it comes to program goals vs. performance goals.*
3. *Balancing scope, schedule and budget.*
4. *Budget constraints, i.e. Not enough money.*
5. *Consensus on aesthetics early and often.*
6. *Cost escalation is unpredictable. Lengthy delays to the project could have a significant impact on the budget.*
7. *Design and function of the fire safety air pressurization systems.*
8. *Design and location and design of the required fire command room.*
9. *Design of building’s interior promotes hostility and balkanization among occupant departments.*
10. *Designing the project in the “Business as usual” way without adequate collaboration & communication among design team and between design team & users.*
11. *Funding sources not talking to each other. (Capital budget and O&M budget)*
12. *Fund-raising limitations or difficulties.*
13. *Inadequate space/flexibility for academic programs to grow/change.*
14. *Insufficient communication (clear description of needs) by the users to the design team.*
15. *Lack of communication between landscape maintenance groups and design team (re: budgets, maintenance needs).*
16. *Losing program SF due to high costs or escalations.*
17. *Making “small plans” (setting low goals).*
18. *Not designing for the future can hurt the success. No business-as-usual.*
19. *Not enough quality control with regard to construction and inspection during the construction phase of project.*
20. *Not following the SWPPP during all phases of construction.*
21. *Not keeping an open mind.*
22. *Not keeping outages to a minimum and providing advance notice when they are necessary.*
23. *Not notify EHS of wastewater pretreatment devices for our approval.*
24. *Not providing a clean and safe construction site.*
25. *Payback period with the goal of a 100-year building.*
26. *Scope creep and the management of it.*
27. *Staff, faculty and student reluctance to relocate.*
28. *The amount of time the department will spend in temporary locations can be a disservice to our students.*
29. *To construct a building which cannot adapt to new technologies and changes the needs of the future graduates.*
30. *Using the landscape and outdoor spaces budget as a “cost cutting” line item or “slush fund.”*

**8.16 Security -** *The focus of the security criteria addressed exterior lighting, landscape, hardscape, and building access control. Security is especially important due to this building’s proximity to Waller Creek and its position as pedestrian cross-roads.*

**Requirements collected during OPR process:**

1. *As much as possible, this project needs to provide a safe environment for faculty, students, staff and visitors.*
2. *Assess institution’s security intent related to this building, and identify external and internal security requirements for this project using 360 degree scope; roof, walk all access points (all six sides: roof, four sides, and underground areas/tunnel[s]).*
3. *Confirm locations of security cameras with ITS, UTPD, and Users.*
4. *Consider minimizing the number of keys and utilize as much as possible keycards instead of keys.*
5. *Define secure access and alarm point location(s).*
6. *Design must be able to physically secure Liberal Arts space from Student Activity Center.*
7. *Design the spaces such that Advising and other personnel are clearly visible but have acoustic privacy with students to limit the need for panic buttons.*
8. *Identify all security door installations during design.*
9. *Identify any special security requirements early in project design so that these can be easily incorporated into the design.*
10. *Institution Police Department will identify the existing security problems at the proposed site and surrounding area, including city property.*
11. *Integrate security both in system type and door hardware for Phase I and Phase II Liberal Arts spaces.*
12. *Provide BACS proxy-card reader security on elevators for floor access and control after hours instead of key switches.*
13. *Provide building access that is easily controlled by the facility management and UTPD—achieved by BACS and electronic locks.*
14. *Provide complete security system devices, including but not limited to BACS, article protection devices, and surveillance devices, as well as the pathways and wiring for such devices.*
15. *Provide direct, lockable access to mechanical and electrical spaces.*
16. *Provide duress buttons where requested by the user and confirmed with UTPD.*
17. *Provide lighting around the building that creates gradual changes for areas of darkness and areas of light, thus providing better night vision.*
18. *Provide UTPD help call boxes at exterior locations (the number and placement depends on the building footprint). Ensure that call boxes are easy to see and access, especially along Waller creek.*
19. *Use building access control system (BACS) access control or keys throughout (no standalone card system).*
20. *Utilize the concepts of crime prevention through environmental design (CPTED) principles in the following areas: Lighting, landscaping, hardscape, and physical security. Create territorial reinforcement that is easily defensible, both interior and exterior of building.*
	1. *Use design and landscape to discourage use for undesirable activities.*
	2. *Provides clear lines of sight for security purposes. Exterior lighting provides security and attraction for events but does not create excessive light trespass and light pollution.*
	3. *Exterior lighting—wall and pole mounts to meet a minimum of UT standards and to celebrate after hours entrances.*

**8.17 Structural, Vibration, & Seismic *-*** *Structural considerations are focused on providing a building that provides adequate floor-to-floor heights and a maximum structural grid for flexibility and expansion.*

**Requirements collected during OPR process:**

1. *Alert the A/E team in programming of any anticipated special structural loads e.g. libraries, hi-density files, server rooms, etc.*
2. *Design structure for any known or expected vertical or horizontal expansions.*
3. *Design end bays slightly shorter than typical interior bays to help with efficiency of structural design.*
4. *Minimize transfer girder conditions, i.e. columns removed for larger open spaces.*
5. *Provide a building structure that allows for utility penetration in most locations.*

**8.18 Utilities -** *The utilities discussion addressed the need for a new ductbank section for electrical feed, metering of utilities, and access to utility spaces. In addition, there is a need to verify the existing utilities locations before construction. There is also a possibility of food vendors located outside (perimeter) of this building, and there may be a requirement for water and/or electrical service for vendor carts. The specific electrical/power requirements for a potential data center or server-room are unknown at this time.*

**Requirements collected during OPR process:**

1. *Address storm water issues and don’t overload the city system. Inspect the site storm sewer system to confirm it meets design requirements, and repair or upgrade if necessary.*
2. *As appropriate, size the utilities to support future adjacent development (e.g. new fountain).*
3. *Consider use of rainwater and grey water for flushing toilets.*
4. *Consider various reset strategies for energy savings.*
5. *Coordinate power, data, and HVAC controls in rooms with furniture layouts, and provide potential furniture layouts early in design to enable this coordination.*
6. *Coordinate institution and utility construction with surrounding areas; minimize impacts and utility outages to existing customers.*
7. *Design spaces to meet the requirements for mechanical rooms and utility pathways.*
8. *Design the HVAC systems for 16-degree Fahrenheit minimum differential (chilled water) temperatures.*
9. *Determine any need for emergency generator power.*
10. *Determine the need for, and provide if necessary, utilities for outdoor venues.*
11. *Eliminate water piping (except for required sprinklers) from electric rooms (per code).*
12. *Identify utility sources early in design.*
13. *Identify utility sources for temporary construction activities.*
14. *If there is a data center, it will require conditioned power, such as with a large UPS, and/or independent circuits.*
15. *Large classrooms with fixed seating, requires a minimum of 10% of seats to be wired with data and power.*
16. *Contractor will provide adequate verification and complete review of existing on-site underground features prior to construction (via pot holing, topological data, etc.).*
17. *Plan for loop feed, 12KV primary distribution power via new duct bank section.*
18. *Provide adequate space for the main electric room, and adequate access and egress for removal and /or replacement of main transformers and switchgear.*
19. *Provide local (in-room) control of thermostat settings, within reasonable boundaries (+/- 2 degrees Fahrenheit from set point).*
20. *Provide redundant steam pressure reducing stations.*
21. *Provide separate metering for all building utilities.*
22. *Provide two separate water feeds to the building.*
23. *Secondary, building power distribution is to be 480V, via liquid filled main transformers and double-ended draw out switchgear.*
24. *The project team is to identify all critical and non-standard building automation system monitoring/control points and accurately document for review and approval by institution.*
25. *Utilize existing, or provide new, utility tunnels wherever appropriate.*
26. *Evaluate existing easements and the need for obtaining new easements for utility connections for each of the potential site(s) under consideration for the project.*

**APPENDIX** - This section includes attachments documenting the OPR Workshop and everyone’s input, including a summary of the questions asked, requirements provided, comments made, rankings, and workshop other workshop notes.

*A.1 Workshop Agenda*

*A.2 Attendees*

*A.3 Project Directory*

*A.4 Flip Charts and Notes*

*A.5 OPR Feedback*