

A. General Design and Construction Requirements

1. Introduction

This portion of the Facility Standards includes general design and construction requirements for use by the Consultant in the course of a project at the University of Chicago.

2. General Design Requirements

a) Owners Project Requirements

The Owner's Project Requirements (OPR) will typically be initiated by the University in the Program Planning or Project Initiation Phase of the project to assist the Consultant in communicating the University's objectives and criteria for the proposed project. Information about the project is gathered from the users and operators of the proposed facility by the Facilities Services Project Manager or University's representative. The Consultant will then assist in the development of the OPR document. The OPR document is intended to be modified during the design process as the project's objectives and criteria are refined. The Consultant will develop the project Basis of Design (BOD) in response to the OPR to show how the design of the project meets the intended goals. In projects requiring LEED certification, the OPR and BOD documents are necessary steps in complying with the commissioning prerequisite.

The information contained in the OPR supplements any programming data. Depending on the extent of the programming data, the OPR may also include design goals, performance criteria, budgets, schedules, success criteria, and any additional University directives.

The following guidelines are to be considered in collecting information for the OPR, along with any specialized project requirements:

1. University and User Requirements

- i. Purpose
- ii. Program
- iii. Use
- iv. Schedule
- v. Budget
- vi. Flexibility
- vii. Future expansion
- viii. Quality of materials
- ix. Operating and maintenance costs
- x. Serviceable life expectancy

The Facilities Services Facility Standards (FS)² is a living document which is subject to change.

Please refer to the latest version of the document in accordance with Exhibit C of the contract agreements.

2. Environmental and Sustainability Goals

- i. LEED certification requirements
- ii. LEED checklist with environmental or sustainability priorities

3. Energy Efficiency Goals

- i. Overall energy efficiency goals relative to local energy code or ASHRAE standards
- ii. List of energy efficiency measures that provide cost effective energy savings
- iii. List of other measures (such as orientation, daylighting, etc.) that impact energy use

4. Indoor and Outdoor Environmental Quality Requirements

- i. For major or specific usage areas, list of:
 - Occupancy schedules
 - Thermal comfort requirements
 - Desired user comfort adjustability
 - Ventilation, exhaust, and filtration requirements
 - After-hour usage accommodations
 - Indoor lighting requirements
 - Occupant lighting control requirements
 - Acoustic expectations
 - Health and hygiene requirements
 - Accessibility requirements
 - Vibration requirements
 - Adjacent building or space issues
- ii. Other requirements (such as operable windows, views, etc.)

5. Equipment and System Expectations

- i. For major or specific usage areas, list of:
 - Building envelope or assembly requirements (such as humidity control, glazing, etc.)
 - Special HVAC equipment requirements (such as equipment type, quality, etc.)
 - Special lighting requirements (such as lamp types different from standards)
 - Special communications, AV, or security requirements
 - Serviceability and life expectancy
- ii. Other system requirements (such as specific energy targets, desired technologies, etc.)
- iii. Warranty requirements

6. Occupant and O&M Personnel Expectations

- i. Description of HVAC and lighting system operation and by whom
- ii. Level of training required for occupants, maintenance, and facilities personnel

b) Basis of Design

The project Basis of Design (BOD) will typically be developed by the Consultant in the Programming or Schematic Design Phase of the project in response to the Owner's Project Requirements (OPR) to show how the design of the project meets the intended goals. The BOD document is intended to be updated throughout the design process as the project's objectives and criteria are refined. In projects requiring LEED certification, the OPR and BOD documents are necessary steps in complying with the commissioning prerequisite.

The following guidelines are to be used in documenting the BOD deliverables, along with any specialized project requirements:

1. Owner and User Requirements

- i. Description of primary design assumptions
- ii. Program verification
- iii. Schedule
- iv. Cost estimate
- v. Phasing or expansion description if required
- vi. Quality of materials description

2. Environmental and Sustainability Goals

- i. LEED credit achievement status
- ii. Environmental or sustainability priorities achievement status

3. Energy Efficiency Goals

- i. Overall energy efficiency intentions relative to local energy code or ASHRAE standards
- ii. Life cycle cost analysis
- iii. Energy model

4. Indoor and Outdoor Environmental Quality Requirements

- i. For major or specific usage areas, design assumptions or criteria for applicable requirements:
 - Occupancy schedules
 - Thermal comfort requirements
 - Desired user comfort adjustability
 - Ventilation, exhaust, and filtration requirements
 - After-hour usage accommodations
 - Indoor lighting requirements
 - Occupant lighting control requirements
 - Acoustic expectations
 - Health and hygiene requirements
 - Accessibility requirements
 - Vibration expectations

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- Adjacent building or space safeguards
- ii. Other design assumptions, such as diversity factors

5. Equipment and System Expectations

- i. For major or specific usage areas, description of:
 - Building envelope or assemblies
 - HVAC systems and equipment
 - Lighting systems and equipment
 - Special communications, AV, or security systems
 - Serviceability and life expectancy
- ii. System selection rationale for each system
- iii. Design criteria for each system
- iv. Sequence of operation if applicable
- v. Warranty expectations if applicable

6. Occupant and O&M Personnel Expectations

- i. Description of HVAC and lighting system operation and by whom
- ii. Level of training required for occupants, maintenance, and facilities personnel

3. Construction Requirements

a) General Conditions of the Construction Agreement

The Consultant is responsible for reviewing and coordinating their documentation with Exhibit A, General Conditions of the Construction Agreement. Any project-specific supplementary General Conditions will be included in the Consultant's project manual.

b) Site Logistics Plan

Depending on the scope and location of the project, the Consultant may be required to develop a Site Logistics Plan during the design phase, showing, but not limited to, vehicular construction access, delivery and staging areas, trailer locations, protected landscaped areas, contractor parking, and rigging considerations. Temporary means of rerouting vehicular, pedestrian and accessible traffic during construction may need to be considered as well. The development of these logistical concepts does not relieve the Contractor of any responsibilities for the project's site safety or means and methods.

c) Working in Historic Spaces or Buildings

The Consultant should exercise care in renovations associated with historic or culturally significant projects at the University. Specific project concerns should be addressed as part of the OPR and reflected in any Heritage Resources documentation provided by the FS Project Manager. Additional reviewing entities may also be involved in the approval process.

4. References

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The Consultant is to be familiar with the Professional Agreement and associated exhibits, the Construction Agreement and General Conditions in the execution of the Consultant's professional services.