# - General Requirements

## General

### Basic Services to be provided by the Commissioning Agent (“CxA”) shall consist of the activities and stages set forth in [**Article 2**,](#_bookmark0) including normal **Fundamental** **Commissioning, Limited Fundamental Commissioning,** and **Enhanced Commissioning** services for the Project.

## Consultation

### The CxA shall attend regular meetings with the A/E, Contracting Authority/Owner. The CxA shall consult with the Contracting Authority/Owner, and A/E regarding site use and improvements and the selection of materials, building systems, and equipment. The CxA shall provide recommendations to the Contracting Authority/Owner, and A/E on construction feasibility; actions designed to minimize adverse effects of labor or material shortages; time requirements for procurement, installation and construction completion; and factors related to construction cost, including estimates of alternative designs or materials, budgets and possible economies.

### At all appropriate times throughout performance of the Services, the CxA shall contact, meet, consult, and otherwise coordinate with the Contracting Authority/Owner, A/E, CM if any, governmental authorities with jurisdiction over the Project, and others for the purpose of facilitating the Project’s design and construction.

### The CxA shall provide reports and other Project information through the Contracting Authority/Owner’s web- based tools:

#### The University’s web- based Project Management System, e-Builder.

# - Basic Services

## Overview

### Commissioning is a quality assurance process that works to ensure that the building’s design intent is fully realized. A systematic approach is employed to review, verify and document that the specified components and systems have been designed, installed, started up properly and then functionally tested to verify and document proper operation through all modes and conditions. A final commissioning report document or Systems Manual is produced that will outline the events and findings of the commissioning project. It will include an accounting of all findings, final resolutions and recommendations. Commissioning does not replace or eliminate any requirements for reviews, inspections or other quality control measures by any other firm, organization, or party. The A/E, CM if any, Contractors, and Project Manager, as applicable, maintain their obligations as a function of their roles and responsibilities. The process begins in the design stages and extends through project completion, closeout, and warrantee reviews. Functional testing of the systems may include actual seasonal systems tests.

## Sustainable Design Requirements

### This Project shall be designed and constructed in accordance with the requirements of the Sustainable Design and Construction Policy.

### The sustainability goals established for this Project by the Owner are to comply with OSU Building Design Standards Division 18 – Sustainability.

### The CxA serves as the Owner’s contractual representative and as such will act in the Owner’s best interest by following accepted industry and professional standards and meeting the requirements as defined in OSU Building Design Standards Division 18 – Sustainability.

### The CxA shall provide professional commissioning services in order to confirm that major building systems in newly completed facilities are good operational systems that are low on maintenance and operating costs and perform interactively according to the Contract Documents.

### The CxA is not an employee of or in contract with the A/E, or CM if any, on the project and will work independently from both; however, the CxA will collaborate with both throughout the design and construction process to meet deadlines and provide feedback to the Owner and the design team as the process moves forward.

### The CxA shall perform services with professional standards of skill, care and reasonable diligence in accordance with generally accepted commissioning practices, and the terms of this Agreement.

### Basic Commissioning Services provided by the CxA are defined as services starting in the design stage through seasonal testing and/or first year warranty period. The CxA shall review design documents, develop a commissioning specification, and develop and coordinate the execution of a testing plan, which includes observing and documenting system’s performance to ensure that systems are functioning in accordance with the design intent of the Contract Documents and the Owner’s objectives.

#### Fundamental Commissioning Services provided by the CxA include the following:

##### Review the OPR, BOD and Project Design

##### Develop and implement a Cx plan

##### Confirm incorporation of Cx requirements into the construction documents.

##### Develop pre-functional checklists

##### Develop functional checklists

##### Verify system testing execution

##### Maintain an issues and benefits log throughout the Cx process

##### Prepare a final Cx process report

##### Document all findings and recommendations and report directly to the owner throughout the process.

##### Additional requirements as defined in OSU Building Design Standards Division 18 – Sustainability and this exhibit.

#### Limited Fundamental Commissioning provided by the CxA include the following:

##### Develop and implement a Cx plan

##### Develop pre-functional checklists

##### Develop functional checklists

##### Verify system testing execution

##### Maintain an issues and benefits log throughout the Cx process

##### Prepare a final Cx process report

##### Document all findings and recommendations and report directly to the owner throughout the process.

##### Additional requirements as defined in OSU Building Design Standards Division 18 – Sustainability and this exhibit.

#### Enhanced Commissioning provided by the CxA include the following:

##### All tasks listed in 2.2.7.1 Fundamental Commissioning Services

##### Review contractor submittals

##### Verify inclusion of systems manual requirements in construction documents

##### Verify inclusion of operator and occupant training requirements in construction documents

##### Verify systems manual updates and delivery

##### Verify operator and occupant training delivery and effectiveness

##### Verify seasonal testing

##### Review building operation within 10 months after substantial completion with operating staff and occupants, including a plan for resolution of outstanding commissioning-related issues.

##### Develop and ongoing commissioning plan

##### Additional requirements as defined in OSU Building Design Standards Division 18 – Sustainability and this exhibit.

### The CxA may provide commissioning services through one or more Consultants employed by the CxA. Any Consultant shall be an independent party with no affiliations to a design team or participating contractors in a facilities program. All Consultants shall be approved by the Contracting Authority/Owner before providing services. The Contracting Authority/Owner retains the discretion to reject the services of a Consultant to provide commissioning services. The Contracting Authority/Owner retains the discretion to reject a Consultant for a specific project.

### The CxA is not responsible for design or general construction scheduling, cost estimating, construction management, or performing corrective work, but may assist with problem solving or addressing non-conformance issues or deficiencies.

### The CxA shall provide Basic Commissioning Services under this Agreement for the following systems:

#### Heating, ventilating, air conditioning, and refrigeration (“HVAC&R”) systems, mechanical and passive, and associated controls;

#### Lighting and daylighting controls;

#### Domestic hot water systems;

#### Renewable energy systems if applicable;

#### Emergency power systems; and

#### Other building systems and/or elements as indicated by the OSU Project Manager.

### The CxA shall perform commissioning tasks in general conformance with the following schedule:

#### Design Stages:

##### Assist the Owner with development of the OPR and BOD,

##### Develop Project-specific commissioning specifications, and

##### Develop the Commissioning Plan.

#### Construction Stage:

##### Develop Pre-Functional and Functional Testing procedures,

##### Coordinate commissioning activities,

##### Verify installation requirements were achieved,

##### Verify operation of all commissioned systems,

##### Validate testing and balancing through independent system testing, and

##### Communicate and track deficiencies.

#### Occupancy and Operation Stage:

##### Seasonal testing,

##### Monitoring of space conditions through data-loggers, and

##### Verification that all deficiencies have been closed out.

### The CxA shall:

#### Provide review and analysis of the A/E’s design documents including, but not limited to, drawings, specifications, and other design submittals at the conclusion of each of the following stages:

##### Program Verification Stage,

##### Schematic Design Stage,

##### Design Development Stage, and

##### Construction Documents Stage

#### Attend meetings with the Contracting Authority/Owner, A/E, and CM if any; and

#### Provide reports and checklists related to its activities at this stage to the Owner.

* + 1. The CxA shall receive and review the A/E’s design documents and submit its comments to the Contracting Authority/Owner.

## Pre-Functional Testing

### During Pre-Functional Testing, the CxA shall:

#### Review and analyze submittal documents;

#### Attend meetings with the Contracting Authority, Owner, A/E, and CM if any;

#### Perform site visits and equipment, systems and work verifications; and

#### Provide reports and checklists related to its activities at this stage to the Owner.

## Functional Testing

### During Functional Testing, the CxA shall:

#### Review and analyze submittal documents independent of the A/E, and CM if any;

#### Attend meetings with the Contracting Authority, Owner, A/E, and CM if any;

#### Perform site visits and conduct equipment, systems and work verifications;

#### Participate in systems and equipment start-up activities;

#### Perform functional testing, re-testing, and verifications; and

#### Provide reports and checklists related to its activities at this stage to the Owner.

### The CxA shall functionally test all major HVAC equipment and a percentage of miscellaneous equipment as agreed upon with the Contracting Authority/Owner. If functional testing reveals consistent problems, the CxA shall test a larger sampling in accordance with established industry standards.

## Preliminary Commissioning Plan and Report

### The CxA shall provide a Preliminary Commissioning Plan indicating commissioning roles and responsibilities, expectations and lines of communications at the initial Commissioning Kickoff at the start of construction.

### The CxA shall provide their Preliminary Commissioning Report, except seasonal and warranty commissioning, to the Contracting Authority/Owner, A/E, CM if any, and affected Contractors upon the completion and verification of the issues log, within 30 days of the final functional testing.

## Seasonal Testing

### During Seasonal Testing, the CxA shall:

#### Attend meetings with the Contracting Authority, Owner, A/E, and CM if any;

#### Perform site visits and conduct equipment, systems and work verifications over the heating and cooling seasons during the first year of occupancy;

#### Perform functional testing, re-testing, and verifications; and

#### Provide reports and checklists related to its activities at this stage to the Owner.

## Final Report

### The CxA shall provide its final Commissioning Report, including seasonal and warranty commissioning, to the Contracting Authority/Owner, A/E, CM if any, and affected Contractors.

### Performance Evaluations.

#### The Contracting Authority shall evaluate the CxA’s performance during the progress of the Work, at completion of a phase of the Project, completion of the Project, or both. The Contracting Authority shall retain the evaluation(s).

##### The CxA may request a copy of the completed evaluation(s). If the CxA wishes to comment or take exception to any rating or remark, the CxA shall send a response in writing to the Contracting Authority within 30 days of receiving the evaluation(s).

##### The Contracting Authority may use the evaluation(s) in determining the qualifications of the CxA for future contracts.

##### The Contracting Authority may request information from the CxA for use in evaluating the Contractor’s or the Contracting Authority’s performance. If such information is requested, the CxA shall comply in a timely and responsive manner.

# - Additional Services

## General Requirements

### Services Not Included in Basic Services.

#### The CxA shall provide Commissioning of systems not listed in [**Article 2**](#_bookmark0) as Additional Services only when identified in the **Agreement Form** or otherwise approved in writing by the Contracting Authority/Owner.

#### The services listed in the **Agreement Form** shall be paid as provided in this Agreement, in addition to payment for the Basic Services; however, the CxA shall not be compensated for any Additional Services made necessary by any act or omission of the CxA or any of the CxA’s Consultants.

#### Unless waived by the Contracting Authority in writing, authorization to provide Additional Services must be obtained prior to providing the Additional Services.

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