University of Texas at Austin
Sarah & Charles Seay Building Addition
Final Commissioning Report

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Prepared For:
University of Texas at Austin

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2.0 EXECUTIVE SUMMARY

2.1 OVERVIEW

In May of 2019, Sebesta Blomberg, now NV5, an engineering, commissioning, energy management and facilities support services firm, initiated by University of Texas at Austin, commenced the Commissioning Process (Cx) for the Sarah and Charles Seay Building (SEA) Addition.

The new addition will be connected to the existing Seay Building. The building will provide additional office space and research areas to benefit the Department of Psychology, College of Liberal Arts (COLA). The building addition covers approximately 35,000 square feet.

As the Commissioning Authority for the project, NV5 (CxA) incorporated a process that consists of systematically documenting the specified components and systems that have been designed, installed, and started up properly, and then functionally tested to verify and document proper operation and Owner Project Requirements through all sequences of operation and conditions. Commissioning efforts were handled by completing specific tasks during the Design Phase, Construction Phase, and Warranty Phase of the project.

2.2 PROJECT APPROACH

The Executive Summary of the commissioning final report reflects the commissioning approach, review documents, field observation reports, functional performance testing, results and findings documented during this commissioning process. The summaries and referenced field notes are intended to present the University of Texas at Austin a detailed analysis for the completed process.

NV5 provided commissioning services in a multi-phased approach throughout the project inclusive of design, construction, acceptance, and post-occupancy phases through a collaborative team approach. The commissioning team provided recommendations to the entire project team for coordinating and implementing the commissioning activities in a logical, sequential, and efficient manner, using systematic and consistent protocols and centralized documentation.

During the Design Phase of the project, three separate design packages (SD-DD-CD phases) were reviewed by NV5 for commissioning and equipment access. All comments were communicated to the project delivery team which went through a comment/response/back-check process to ensure all concerns brought up were properly addressed.

During the Construction Phase of the project system checklists were developed and implemented to confirm that the selected systems were ready for final functional performance testing. A copy of these checklists is included in this report. Furthermore, onsite construction observation site visit reports (12) were conducted during major milestone or equipment startups. Upon verification of system readiness for functional testing, 113 Functional Performance Tests (FPT) were executed. Our efforts resulted in 101 issues reported to various responsible parties. For a description of each corrective action a complete issues log is included in this report.

2.3 EQUIPMENT COMMISSIONED

The Seay Building Addition consists of 123 pieces of equipment that went through the Commissioning process. This section lists each of these pieces of equipment and the physical attributes associated with them. Within the following section is the projects complete Equipment List of Mechanical, Electrical and Plumbing equipment.

Equipment commissioned:

- SEA Equipment Matrix

2.4 FIELD OBSERVATIONS/SITE VISITS

During the construction phase of the project, 12 field observation site visits were conducted.

- SEA Field Observation Reports

2.5 DESIGN REVIEWS

During the design of the project, design reviews were conducted to ensure that the design complied with the OPR, comment back checks were performed and open unresolved comments were tracked to resolution.

- Schematic Design Review 100 SD%
- Construction Document Review 95 CD%

2.6 PREFUNCTIONAL CHECKLISTS

During the Construction Phase of the project checklists were developed and implemented to confirm that the selected systems were ready for final functional performance testing.

- SEA-Electrical Pre-Functional Checklists
- SEA-Mechanical Pre-Functional Checklists
- SEA-Plumbing Pre-Functional Checklists

2.7 FUNCTIONAL PERFORMANCE TESTS

During the Construction Phase of the project, NV5 prepared Functional Performance Tests (FPT) that detailed systematic procedures used to verify and execute system operations under all operating conditions. 251 test were performed and completed. This listing below includes all FPT's executed for the project.

- SEA-Electrical Functional Tests
- SEA-Mechanical Functional Tests
- SEA-Plumbing Functional Tests
- Entire Facility Integrated Test

2.8 ISSUES

A total of 101 issues were identified during the commissioning efforts for the project. As of August 21, 2022, 99 issues were closed. Below is a complete issues log.

- SEA-Construction Issues

3.0 APPENDICES

3.1 COMMISSIONING PLAN

The Commissioning Plan provides details for the implementation of the commissioning process as related to the project. It verifies that all systems reflect the design intent, that building systems are complete and functioning properly upon occupancy, and that the new systems integrate with existing building systems and infrastructure where appropriate. It identifies the members of the Commissioning Team, assigns the roles and responsibilities of each member, and includes specific details required to implement the various commissioning activities.

- SEA Commissioning Plan

3.2 COMMISSIONING SPECIFICATIONS

The project team utilized a suite of commissioning specifications located within the project manual. These documents include 019100 Cx spec, and divisional Cx specs.

- Commissioning Specification 01 91 00
- Commissioning Specification 23 08 00

- Commissioning Specification 23 08 01
- Commissioning Specification 26 08 00

3.3 OWNER PROJECT REQUIREMENTS (OPR)

The Owner's Project Requirements (OPR) is a written document that details the functional requirements of a project and the expectations of how it will be used and operated. The functional requirements may include environmental and sustainability goals, energy efficiency goals, indoor environmental quality requirements, equipment and systems expectations and building occupant and O&M personnel requirements. The OPR forms the basis from which all design, construction, acceptance and operational decisions are made.

The Owner documents the OPR with assistance from the design team. The design team utilizes the OPR to develop the Basis of Design. The Commissioning Authority reviews the OPR for completeness and clarity and utilizes the OPR to develop the Commissioning Plan.

The Basis of Design (BOD) is a written document developed by the design team based on the OPR that records the concepts, calculations, decisions and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards and guidelines. The BOD includes both narrative descriptions and lists of individual items that support the design process.

The Commissioning Authority reviews the BOD for completeness and clarity and utilizes the BOD with the OPR as benchmarks in the design review process.

- SEA – Owner's Project Requirement
- SEA – Basis of Design

3.4 BLANK FUNCTIONAL TESTS

An appendix of blank functional performance tests have been included in the appendix. These are the tests used by the Commissioning Authority in the Commissioning process. These tests can be used by the facilities maintenance staff throughout the life of the building to keep the systems "fine-tuned" and functioning properly. It is recommended to perform a functional test after any program changes, major repairs, or fresh start-ups after being commissioned.

- SEA - Blank Functional Test

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