REQUEST FOR QUOTE

pennsylvania
DEPARTMENT OF GENERAL SERVICES

Commissioning Agent Services

CARLISLE READINESS CENTER RENOVATION

Project No.
DGS C-0961-0039

Technical Submission

aramark
ENGINEERING SOLUTIONS

2400 Market Street
Philadelphia, PA 19103

INTRODUCTION LETTER

September 9, 2024

Re: Commissioning Agent Services for DGS C-0961-0039, Carlisle Readiness Center

To Sherri Hankal:

We are pleased to respond and provide a proposal and cost estimate for Commissioning Agent Services during the design review and construction phase stages of the Department of General Services Project No. DGS C-0961-0039, Carlisle Readiness Center.

Aramark is familiar with the DGS requirements for design and construction and has worked on many projects for DGS and the Client Agency, DMVA. Currently, Aramark is providing commissioning services for the North Central Secure Treatment Unit, the Quehanna Motivational Boot Camp, Penn West CalU Science Building, the Wilkes-Barre CRC, and the Plymouth Meeting – Horsham RC to name a few.

Manas Vaidya is slated as the project manager for this project. Manas is a mechanical and industrial engineer with over ten years' experience. His home office in Harrisburg, PA is within 22 miles to the project, allowing for great efficiency in travel time and minimizing project expenses. Chris Skalski, P.E., BCxP will provide client relationship support and assist with inspections and testing; and Frank Snyder Jr., P.E., LEED AP, CxA will support electrical commissioning. Additionally, Manas will be supported by Allison Bailey, P.E., Boyd Hoats, and Tim Russ. Most of these team members have worked on projects for DGS and in addition, this team has performed similar tasks for many of our references listed within our response.

We understand from review of provided documents and participating in the pre-bid conference several important items that are further detailed within our project understanding. The project has sustainability goals and project constraints that we are familiar with and will utilize our lessons learned and similar project experience to support the team starting immediately after award with the OPR development. This project will have us attend thirty (30) construction meetings including ten (10) potential ad-hoc meetings for more active commissioning agent participation and support change order review and maintaining project schedule. We discuss use of our commissioning management software, CxAlloy, that can be used effectively amongst the entire commissioning team for most commissioning documentation tasks and can also be uploaded to eBuilder.

We look forward to continuing and strengthening our relationship with the Department of General Services. Should you have any questions regarding this proposal, please contact Chris Skalski, Senior Manager, directly at 484-368-4180 or via email at skalski-christopher@aramark.com.

Sincerely,

Brian Lee, P.E.
Vice President, Engineering Solutions
Authorized Signatory of Aramark Management Services Limited Partnership

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A. CONTRACTOR PRIOR EXPERIENCE

For more than 40 years, Aramark Engineering Solutions has demonstrated proven expertise in developing and implementing energy management programs that promote sustainability and conserve energy. We bring a customized approach based on the individual drivers of each organization. As one of the largest third-party commissioning agents in the United States, our unique operational expertise distinguishes our service from our competitors.

Our commissioning philosophy is guided by the following three tenets:

1. Provide a facility that operates to support the program.
2. Verify systems achieve peak efficiency.
3. Confirm building infrastructure is readily maintainable by the operators.

Our services will further facilitate a seamless transition to the operations group and provide a technical resource to support building operations.

FACILITIES COMMISSIONED

- Recreation centers (athletic & aquatics)
- Campus & performing arts centers
- Large classroom, academic, and computer facilities
- Museums, libraries & cultural institutions
- Science, research, vivarium, BSL3 and laboratory
- Residential halls
- K-12 Schools and Campuses
- Heating, cooling plants and major electric infrastructure
- Retro-commissioning of existing buildings and systems

Experience At A Glance

Total Projects Commissioned: **900+**

Total GSF Commissioned: **70+ Million**

Constructed Value of Commissioned Projects: **$11.2 Billion**

Select Aramark Commissioning Clients

- Baylor University
- City University of New York
- Centenary College
- Drew University
- Edinboro University
- Franklin & Marshall College
- George Washington University
- Institute for Advanced Study
- NYS Office of Mental Health
- Ohio State University
- Penn State University
- Princeton University
- Rutgers, State University of New Jersey
- State of Pennsylvania (PADGS)
- University of Pittsburgh
- University of Kentucky
- University of Pennsylvania
- Washington College
- West Chester University
- West Virginia University

PLYMOUTH MEETING / HORSHAM READINESS CENTERS
PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES, PLYMOUTH MEETING/ HORSHAM, PA

CONTACT:
Paul M. Artale, RLA
717-787-5118
partale@pa.gov

GROSS SQUARE FEET:
51,000

CX SERVICES:
Design Review
Submittal Reviews
Site Inspections
Pre-Fx Checklists
Functional Testing
Owner Training

SCHEDULE:
Summer 2023-In progress
(est. 2025)

The Department of General Services is renovating the Plymouth Meeting Readiness Center and Plymouth Meeting Annex and Building 350 at the Biddle Air Guard Base in Horsham, PA.

This project consists of three existing buildings to be renovated on two separate campuses approximately 12 miles apart: Plymouth Meeting Readiness Center (PMRC) and Plymouth Meeting Annex (PMA) at 1046 Belvoir Road Plymouth Meeting, PA 19428, and Building 350 on Langley Street at the Biddle Air Guard Base in Horsham, PA 19090.

Functional uses of the Horsham building include administrative, multi-purpose room, training areas, vehicle storage area, and a storage area. Support areas include a locker room and restrooms

The Plymouth Meeting building wil include a kitchen area, drill hall & vault areas along with a locker room, restroom, and mechanical room.

The Horsham Building is undergoing equipment start-up and controls commissioning and will be functionally tested in the near future. The Plymouth Meeting Readiness Center is undergoing early construction.

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
QUEHANNA MOTIVATIONAL BOOT CAMP – BUILDING D ADDITION

This project includes the construction of single story, approximately 12,000 square feet of a New Addition to existing building D at the Quehanna Motivational Boot Camp for the Pennsylvania Department of Corrections. The new building addition will consist of public lobby area, administration offices, multipurpose hall, visitation hall, and services spaces.

The one-floor building will include one RTU, several wall heaters, and electrical and plumbing systems. The project is currently in the beginning stages.

The systems and equipment to be commissioned are:

- Protective systems including fire suppression and fire alarm systems.
- Plumbing systems including domestic hot water systems.
- Heating, ventilating, air conditioning and refrigeration systems (HVAC) including heat generation, refrigeration, ventilation, and HVAC control systems.
- Electrical systems including power distribution, lighting, and controls, and emergency generator systems.
- communications systems including voice/data and sound/video systems.
- Electronic safety and security systems including security, alarm, and detection systems.

LOCATION:
Karthaus, PA

GROSS SQUARE FEET:
12,000

CONSTRUCTION COST:
$4.85 Million

CX SERVICES:
Submittals Review
Installation Inspections
Performance Verification
Operations Training

CONTACT:
Daniel S. Hemphill
Project Coordinator
717-678-3759

SCHEDULE:
2023-In progress (est. 2024)

This project is currently finishing construction installation. Some of the issues identified include:

- Spare conduits were blocking access to the VAV power/control panels. Coordination required to maintain access.
- A wire support for the suspended ceiling grid was observed to be preventing 90° opening of the VAV doors in the Training Room 129.
- VAVs observed to be installed without gasketed bottom side access doors.
- Victaulic sprinkler head hoses were not being installed in accordance of FM Global requirements as required in the specs. Hoses installed per FM are required to have a 7" bend radius and are limited on number of 90-degree bends based on length of hose. Most hoses installed to date need to be reworked to meet requirements. Issue applies throughout project as necessary.

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
FORT INDIANTOWN GAP NEW YOUTH CHALLENGE CENTER

LOCATION:
Lebanon County, PA

GROSS SQUARE FEET:
15,500

PROJECT COST:
$4 Million

CX SERVICES:
MEP, building envelope, building automation review, post occupancy analysis, HVAC&R technical requirements review, coordination of testing and balancing services

CONTACT:
Paul Hadginske
717-787-6482
phadginske@pa.gov

PROJECT SCHEDULE:
2021-2023

This project consists of a new approximately 15,500 GSF multi-purpose facility which will include a gym/multi-purpose area, full-service kitchen, restrooms and hand washing stations, a physical exercise room, health suite, loading dock and building support and storage spaces. It will be located adjacent to the drill field and their living quarters, the new facility will serve as the "hub" for the 150 cadets for their meals, physical fitness, lectures, graduation, and other public events.

Aramark performed comprehensive commissioning of the facility's systems through the Design, Construction and Acceptance, and Occupancy and Operations/Warranty phases. The process included design reviews, commissioning coordination meetings, final system readiness checklists and functional performance tests preparation, field observation site visits, operations and maintenance manual reviews, air and hydronic test and balance report reviews, operation and maintenance training session reviews, system functional performance testing, systems manual submission, and final commissioning report submission.

COMMISSIONING RESULTS:

Select issues that were identified and successfully resolved include:

- All RTUs - it was observed in the gas firing cabinet that low voltage control wiring and pressure switch poly tubing was in direct contact with burner elements and also the hot flue gas piping. Without corrective actions, the internal wiring of the units would have failed causing the units to no longer or function or even catch on fire.
- Independent isolation shutoff valves needed to be added to all gas-fed kitchen equipment downstream of the reducers. Properly including the local manual shut-off hand valves per the design enables on-site personnel to manual shut-off the gas feed to each individual piece of gas served equipment in the kitchen for maintenance and safety purposes.
- MAU interface was not complete. Interface module needed setup to talk to the hood as the unit was not currently under control via the BMS. The corrective actions ensured proper communications with the BMS.
- Control wiring for RTU-5 duct smoke detection and control found never to be landed and shutdown sequencing inoperable. Correction of this issue ensures proper operation of the FA and smoke safety shutdown system in the need of a life safety event.

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
NORTH CENTRAL SECURE TREATMENT UNIT – HVAC UPGRADES

The North Central Secure Treatment Unit is a juvenile justice facility on the grounds of Danville State Hospital located in Danville, PA and is operated by the Department of Human Services Office of Children, Youth, and Families. The Bureau of Juvenile Justice Services operates the buildings to provide treatment, care, and custody services for adjudicated youth. It includes an Admissions Building (male program), Green Building (female program) and Reed Building (female program). The Green and Reed buildngs can be occupied by 24 residents in each building. All buildings are enclosed by security fencing.

In each Building, the HVAC equipment has reached the end of its operational life and is failing.

Goals of the project:

- Replace aged and failing equipment.
- Improve energy efficiency.
- Provide system redundancy.
- Improve environmental control, safety, and comfort.
- Improve the serviceability of the systems.

LOCATION:
Danville, PA

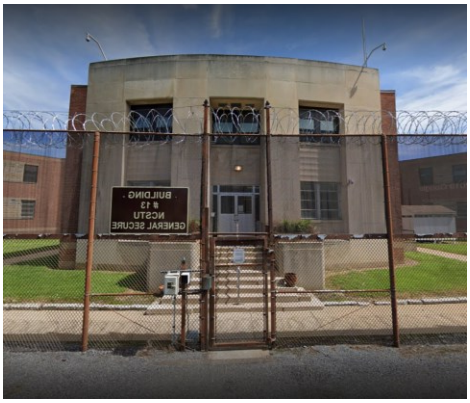
GROSS SQUARE FEET:
80,027

CX SERVICES:
Develop Owner's Project Req, Cx Plan, Cx Specs, Functional Test Forms, Final Cx Report
Design Review
Submittal Reviews
Site Inspections
Pre-Fx Checklists
Functional Testing
Owner Training

CONTACT:
Erin M. McCulley, RA, LEED AP BD+C
Department of General Services
(717) 346-5959

SCHEDULE:
2023-In progress (est. 2025)

We have provided comments regarding the design phase and have identified 10 items that need to be reviewed. The comments include:



- Aramark found that multiple times it stated that all supply air terminals are 250 CFM unless otherwise noted however, there was nothing noted. Clarification was requested on how the same CFM satisfies all spaces regardless of size, occupancy, equipment, and exterior load.
- The plans for the Green building call for roof mounted exhaust fans but the schedules show fans only for the Reed building.
- Duct plans and exhaust fans were not shown for the Reed building.
- All AHUs are scheduled with the same CFM and OA CFM, Clarification was requested again on how the same units satisfy all spaces regardless of size, occupancy, equipment, and exterior load.
- The MBH as schedule for the AHU HW coils is not consistent with the CFM, EAT/LAT and GPM EWT/LAT scheduled.

B. PROJECT UNDERSTANDING AND APPROACH

PROJECT UNDERSTANDING

This project includes the renovation of a Field Maintenance Shop (+/- 9,400 square feet) and an addition (approximately 22,000 square feet). The addition will provide the unit with administrative areas, assembly area, supply/warehouse, maintenance training bay, storage, physical fitness, locker room, restrooms, showers, weapons storage, and any other support functions for this National Guard Readiness Center. The Field Maintenance Shop will include a training bay and storage areas. The facility operational information notes a unit authorized strength of 89 personnel that will be operated out of the facility for one weekend a month, and for two weeks out of the year. The facility is also projected to support three full-time occupants throughout the week. This project has a construction budget (BCA) of $22,930,000 and an expected construction duration of 426 days commencing in March 2025.

There are several overarching project goals, values, and conditions of satisfaction that will be incorporated throughout the Cx process. This will start with the OPR development and workshop and our planned construction phase on-site presence with construction meetings and commissioning meetings. We understand that values and conditions of satisfaction are summarized by a durable, modern, appealing, and multi-faceted facility; decisions transparent to all stakeholders; and delivering a building with a 50-year life expectancy while minimizing use of energy and water resources.

We understand there are three specific project constraints related to cost-effectiveness, timeline, and site location adjacent to the Carlisle Fairgrounds. With our planned on-site presence with construction meetings and commissioning meetings, we will work with the team in the OPR workshop and in the re-occurring meetings to proactively address and manage these items. We will also incorporate the project values and conditions of satisfaction information within the OPR and they will be guiding principles for the Cx process.

We are familiar with DGS projects utilizing Executive Order 2019-01 and Sustainability requirements. We understand the project will not be required to be submitted for LEED Certification. The building will be designed with Sustainable goals and design practices such as designing the building for a minimum 50-year life expectancy, achieving a 10% reduction in energy consumption over ANSI/ASHRAE/IES Standard 90.1.2016, and lighting illuminance level goals, to name a few. Throughout the project we'll review equipment and systems for conformance with the International Energy Conservation Code (IECC).

The building envelope is inclusive of building shell, exterior wall assemblies, and roof assemblies. We will focus on the new roof system for the new facility with improved roof insulation to meet current energy code requirements. There are also Anti-Terrorism Force Protection (ATFP) measures particularly for openings that will be reviewed. One specific item reviewed during the pre-bid meeting that will be a focus is window testing for leakage in the renovation which will be incorporated into the Cx process.

The HVAC system will be designed to meet Department of Defense and Unified Facility Criteria requirements. Ventilation air and exhaust air shall be provided in accordance with ASHRAE standards and International Building Codes for all spaces within the Readiness Center. The construction documents show equipment and systems of which we are very familiar. There are rooftop air handling units, split systems,

a vehicle exhaust system, several exhaust fans, kitchen hoods, gas-fired hot water boilers and pumps, make-up air handling unit, dehumidifiers, and terminal units. A 100% sampling of equipment will be commissioned. Most of the mechanical equipment will require interfacing to the building automation system and we've found issues on several projects previously on improper coordination with all the required vendors on-site concurrently leads to integration and/or operational issues. We'll review the equipment start-up and ATC integration coordination process early and often in meetings to ensure the right vendors and personnel are on-site concurrently to facilitate proper integration and system operation.

The building automation system will be provided by Automated Logic Corporation in which we are intimately familiar with from working on several other DGS projects. Utility service sub-metering (water, gas, electrical) is planned and will be included in the commissioning program.

The plumbing systems have multiple gas-fired domestic hot water heaters, circulation pumps, and downstream thermostatic mixing valves.

The electrical system will include all electrical power distribution, lighting, data/telephone, security, fire alarm/mass notification systems to meet Department of Defense (DOD), Unified Facilities Criteria (UFC), International Building Code (IBC), National Fire Protection Association (NFPA) requirements, and Americans with Disabilities Act (ADA). New circuits will be provided for all HVAC equipment, plumbing equipment, and kitchen equipment as required by the Using Agency.

For lighting, LED type lighting is planned throughout the facility, including manual, occupancy, and daylighting control systems. LED type emergency lighting systems utilizing self-contained and integral battery systems are planned as required by IBC.

The fire alarm scope will be limited to the points of interface between the HVAC and fire alarm system ensuring all required dampers are closing when the fire alarm is initiated.

With regard to security systems, there will be intrusion detection and building access control systems with a Cx focus on card reader system and anti-terrorism measures are implemented. For communication systems, we will ensure that all communication ports are checked out and verified operational.

PROJECT APPROACH

It is evident that in order to truly assist in the short- and long-term success of this project, our commissioning plan requires a unique and varied blend of technical, operational, and engineering expertise. The challenges involved in the construction of this project focus around:

1. Project schedule
2. Complex building systems
3. Increased integration of systems and components
4. MEP technical expertise
5. Project turnover and operations expectations

We are familiar with these significant challenges through our extensive commissioning, operations backgrounds, and experience with capital and operation teams. Our focus is to "bridge the gap" between the construction teams, design teams, project management, and operations groups. Our solution to these challenges is to develop and integrate a unique commissioning program that will provide collaboration

between teams, verify that the design intent (installation and performance) is met, establish parameters for acceptance of the construction/end users, and integrate turnover/operations smoothly and effectively.

A summary of the solutions are outlined in the following bullets.

- Creating partnerships and leading collaboration within the project and construction teams.
- Providing "on-site" representation to focus and coordinate the commissioning efforts.
- Coordinating and integrating teams of professionals in supporting corrective actions.
- Establishing parameters and testing requirements for system acceptance as opposed to component acceptance.
- Exercising the systems throughout operating ranges, safety, and emergency conditions.

Aramark will develop a program specifically geared towards the Carlisle Readiness Center project. Aramark will work directly for the PADGS and provide an unbiased, objective view of the systems installation, operation, and performance. As part of the owner's building systems commissioning process, Aramark will cooperate with and coordinate all commissioning activities with the project manager, design professionals, construction manager, and contractors. This process is not to take away or reduce the responsibility of the design team or installing contractors, but to provide a finished and fully operational product in accordance with design intent.

Our scope of services consists of the following focused efforts:

PROFESSIONAL COMMISSIONING SERVICES – PHASE APPROACH

DESIGN REVIEW PHASE

Regarding anticipated schedule the design for this project is nearing completion. Commissioning on-boarding and Owner's Project Requirements development will occur in September 2024. Final construction documents are to be complete by October 2024. Construction will start in March 2025, has a duration of 426 days and finish construction in May 2026. The commissioning team leader will develop, organize, implement, observe, document, and lead the commissioning effort in a manner that furthers the success of the project. This effort will not only minimize the impact on project schedule, but also promote efficient system startup and turnover. A summary of activities in this phase consists of:

A. **Commissioning Plan (Cx Plan)** – Provide written document that outlines the overall process, organization, responsibilities, schedule, allocation of resources, and documentation requirements of the Commissioning Process to verify and document that the design, construction, and operation of the facility meet the Owner's Project Requirements (OPR). This document will be developed immediately after award in September 2024 and be distributed for review concurrent with the OPR workshop.

B. **Owner's Project Requirements (OPR)** – Collate information provided in the Program Development Study, Design drawings to develop a draft Owner's Project Requirements (OPR) document for team review. Working with the DGS Design Project Manager, Design Professional, and the Client Agency facilities maintenance staff conduct an OPR workshop by October 2024 to finalize the project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information. Provide descriptions of the following: a) primary purpose of Project, b) environmental and sustainability goals, c) energy efficiency goals, d) indoor environmental quality requirements, e) desired equipment/system quality, reliability, and maintenance requirements, f) facility operation and maintenance requirements including requisite personnel training and orientation.

CONSTRUCTION PHASE

A pivotal aspect of our commissioning program is enabling team reviews and inspections of the systems in their area of expertise (i.e., mechanical, electrical, and plumbing). Deficiencies and outstanding issues are documented in the commissioning database. The intent of the database is to generate a comprehensive list for the project manager to distribute to the design and construction teams for response and action. Subsequent to each focused inspection, a progress report will be issued detailing the deficiencies, resolution actions, and status of each item. We will maintain a current status for each item on the deficiency list as well as document the resolution actions in the final report. The commissioning team leader will act as the point person and bring up issues to the construction and design teams. The focus of the construction installation phase will include the following:

a. **Submittal Review** – Identify and review Contractor submittals applicable to systems/assemblies being commissioned. Identify issues that might result in rework or change orders. Verify the following: a) conformance with Owner's Project Requirements (OPR) and Basis of Design (BoD), b) achievement of operations and maintenance requirements, c) enablement of performance testing. All submittal reviews and correspondence must take place in eBuilder.

b. **Job Construction Meetings** – CxA shall attend regular job construction meetings as necessary to ensure the systems are properly installed, operated, and tested, and are functioning correctly to meet the design intent. Commissioning agent shall report on key activities, discuss findings or coordinate inspection times with Construction project team at each meeting. Meetings may be attended virtually until installation begins and then shall be attended in person after. Participate in one (1) meeting every two (2) weeks, three (3) hours each, totaling (30) thirty total meetings. In addition, ten (10) ad-hoc on-site meetings are planned to accommodate potential construction, observation, testing and equipment inspection matters. During the pre-bid meeting our understanding is we'll have an active role in change order review and how it impacts schedule which we can review during these meetings.

c. **Commissioning Meetings** – CxA shall hold regularly scheduled jobsite Commissioning Meetings with all project stakeholders to review important aspects of equipment, HVAC system, and Controls System installation. Review and document necessary installation details, system testing procedures, and documentation requirements. For efficiency commissioning meetings shall coincide with job construction meetings when possible. Review project schedule in the commissioning meetings and establish due dates and milestones for contractor accountability. Keep meeting minutes and include in the Final Cx Report. Utilize our commissioning management software CxAlloy for meetings and meeting minutes and upload PDF files to eBuilder.

d. **Construction Observation and Testing** – Verify that the performance of the systems/assemblies being commissioned, as installed, meet the Owner's Project Requirements (OPR), Sustainability Criteria, Basis of Design (BoD), and Contract Documents. Furnish test procedures and checklists prior to equipment installation. Prepare a pre-functional test for each test. Test procedures shall list the entities responsible for executing each test. Collect completed pre-functional test results from installation contractors prior to field verification inspections. Post results to e-Builder. Provide installation inspections. Direct, witness, and document tests. Evaluate test results and verify that installed systems/assemblies meet the criteria for the Project. Sign off with installation contractor on every item to be commissioned. Photographically document installed condition of every item to be commissioned. Include tag name label in photo and store in e-Builder with tag name referenced in file name. Utilize our commissioning management software CxAlloy for pre-functional tests, installation observation reports, etc. and upload PDF files to eBuilder.

e. **Issues and Resolution Log** – Develop Issues Log containing open and continuing items, status, and name of person/organization responsible for resolution. For each issue identify: tag name of device or system, date issue recorded, name of person recording issue, name of responsible person, date responsible person was notified, date issue was resolved, name of person signing off on resolution, status of issue resolution (not corrected, corrected, accepted without correction), notes, and other fields that may be required. Utilize our commissioning management software CxAlloy for issues and resolution logs and upload PDF files to eBuilder.

f. **Systems Manual** – During the design and construction of the project, the design and construction documents should be assembled into the systems manual. This assembly of documents provides the details and history of the design and construction of the building and information needed to properly operate the building. The systems manual should be formatted in such a way that it can be updated throughout the life of the building as systems are modified, replaced, or updated. The systems manual includes the final OPR; final BOD; construction record document; approved submittals; completed startup checklists, verification checklists, functional and performance checklists; all settings documentation; all calibration forms; all programming documentation; verified sequence of operation; a facility guide; all training records; and the commissioning report.

g. **Pre-Functional and Functional Performance Testing** – Confirm manufacturer's startup of individual equipment components (Pre-Functional Performance Testing) by receiving completed checklists for all devices and systems; inspect every device and system for correct installation per the project manual requirements, manufacturer's installation instructions, and applicable codes and standards; review checklists during inspection; sign off on all correct installations; reject and reinspect all substandard installations; prepare, distribute, direct completion of, witness, and document full functional performance testing of each system and system component; and confirm proper operation of all control sequences for each season operation and document in cx report. The functional testing sampling rate is 100%. Utilize our commissioning management software CxAlloy for pre-functional tests, functional performance testing reports, etc. and upload PDF files to eBuilder.

h. **Training Plans and Records** – Review, pre-approve, and verify training of the Client Agency personnel by the Contractor (CxA firm), to operate and maintain systems/assemblies being commissioned. Include training plan, training materials, and records in final Systems Manual. Verify training by attendance of same. Provide video records of training conducted. Deliver video records as part of the final commissioning report. Video may be provided by others or by Commissioning Agent.

i. **End of Warranty Cx** Report – Provide post-occupancy operation commissioning, including incomplete, delayed, and seasonal testing, as well as warranty issues. Post-occupancy operations shall begin at Substantial Completion and shall continue through to the end of the warranty period. Conduct opposite season testing in appropriate weather conditions approximately 6-months after completion of initial testing. Conduct a complete warranty inspection and investigation 9 months after the commencement of warranty coverage for each system commissioned. Report all deficiencies in equipment performance. Document all reporting and follow-up in e-Builder.

j. **Preliminary and Final Cx Report** – A preliminary commissioning report should be prepared that shows the commissioning progress and equipment performance to date at the time the Certificate of Occupancy is issued. At the completion of the project the final commissioning report should be assembled and provided to the owner and others as required by the OPR and local jurisdiction requirements. This report includes the final commissioning plan, copy of design and submittal review reports, all startup, inspection, verification, functional and performance test forms and reports, the verified sequence of operation, the final Issues and Resolutions log, and summary report of the performance of commissioned systems.

SYSTEMS TO BE COMMISSIONED IN READINESS CENTER

- Building Assembly Systems including Building Shell, Exterior Wall Assemblies, and Roof Assemblies. Building exterior includes Anti-Terrorism Force Protection (ATFP) measures.
- Protective Systems including Fire Suppression and Fire Alarm Systems. This scope is limited to the points of interface between the HVAC and Fire Alarm Systems.
- Plumbing Systems including Domestic Hot Water and Pumping Systems.
- Heating, Ventilating, Air Conditioning, and Refrigeration Systems (HVAC) including Heat Generation, Heat Pump, Ventilation, and Building Automation Systems.
- Electrical Systems including Power Distribution, Lighting and Controls.
- Communications Systems including Voice/Data and Sound/Video Systems.
- Electronic Safety and Security Systems including Security, Alarm, and Detection Systems.

SYSTEMS TO BE COMMISSIONED IN FIELD MAINTENANCE SHOP (FMS)

- Window Replacements, Roof Replacement, HVAC, Electrical and Plumbing upgrades
- Fire alarm upgrades including interface with Readiness Center installation and BAS

C. GEOGRAPHIC LOCATION

Manas Vaidya, the proposed project manager, works out of his home office in Harrisburg, PA which is only 22 miles to the project site. Other key supporting team members Tim Russ (Harrisburg, PA) and Frank Snyder (Dallastown, PA) are located in the Harrisburg region as well within 25-50 miles of the project site. Travel time will not be required for reimbursement as travel will be performed on the employee's time.

D. PROJECT WORK PLAN

I. Schedule of Milestones

DESIGN REVIEW PHASE – SEPTEMBER 2024 – MARCH 2025

- Conduct Owner's Project Requirements (OPR) workshop and develop OPR.
- Develop and provide the Cx Plan.
- Team meetings.

CONSTRUCTION PHASE – MARCH 2025 THROUGH MAY 2026

- Perform submittals review.
- Conduct Cx kick-off meeting with contractors.
- Attend construction meetings.
- Hold regular commissioning meetings and provide meeting minutes.
- Develop pre-functional test forms and provide to contractors.
- Conduct construction observation and testing.
- Develop and maintain issues and resolution log.
- Witness start-up of Cx systems.
- Perform functional performance testing of Cx systems.

- Develop and deliver Systems Manual.
- Review, pre-approve and verity training of personnel.
- Develop Preliminary Cx Report

ACCEPTANCE PHASE – MAY 2026 THROUGH FEBRUARY 2027

- Develop End of Warranty Cx report.
- Develop Final Cx report.

II. **Indicate all resources need to complete the assignment including staff assignments, consultants, and reimbursements.**

Aramark will perform all commissioning activities with its own personnel. Staff assignments are indicated in the organizational chart. Reimbursements will be submitted for mileage only which is detailed in Section C above.

III. **Note inefficiencies or risks to successful implementation, and any planning efforts to mitigate issues such as travel distance, schedule conflicts and required coordination.**

Aramark has no scheduling conflicts associated with performing the commissioning requirements of this project.

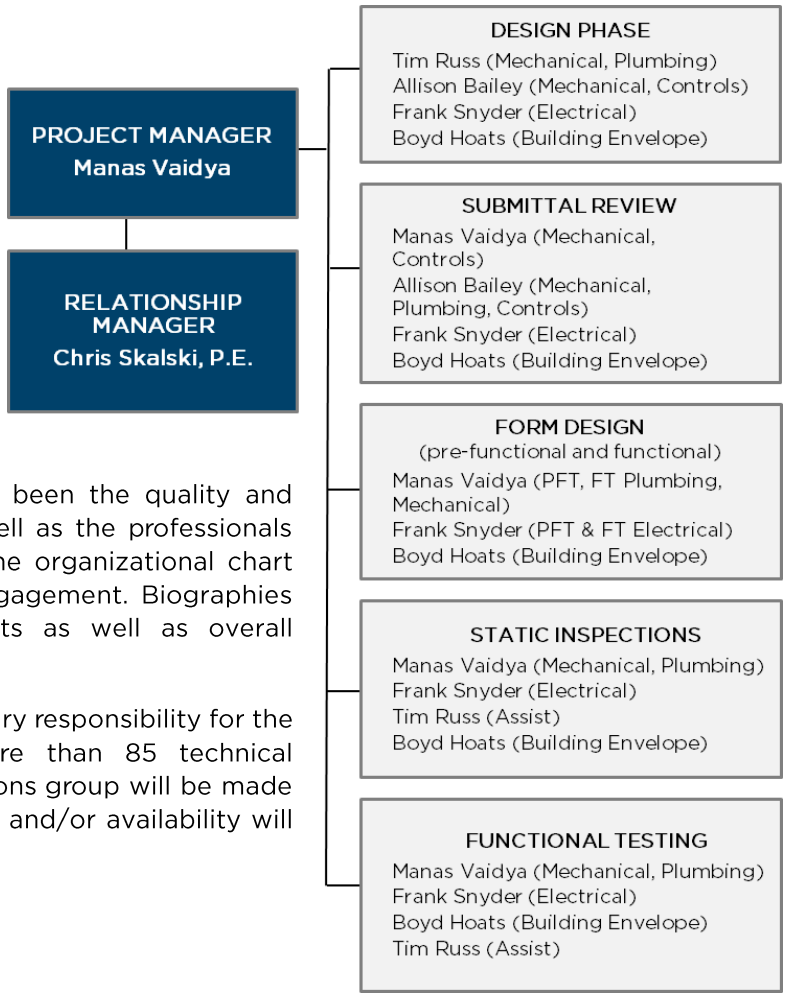
IV. **Indicate the anticipated number of hours required for completion of the work described in the Scope of Work (Attachment A). See financial proposal for further task breakdown.**

A. Design Phase (OPR, Cx Plan, Design Meetings): 26 hours
B. Construction Phase: 470 hours
    1) Construction and Cx meetings: 132 hours
    2) Cx documentation (Submittals, Issues list, PFT checklist, FT forms): 118 hours
    3) Site work (Installation observation, PFT verification, FT): 220 hours
C. Training Phase (Training coordination): 8 hours
D. Warranty Phase (Opposite season testing, post-occupancy warranty review): 16 hours
E. Final Documentation (Preliminary and Final Cx report, Systems Manual) : 48 hours

E. PROJECT PERSONNEL AND QUALIFICATIONS

All of Aramark's engagements rely on our experienced professional staff to function as the catalyst for the success of the overall program. Our staffing strategy for managing this relationship expertly and efficiently is straightforward:

- Provide PADGS with a qualified commissioning agent to lead the overall program and serve as the primary contact person.
- Support PADGS with a core technical team comprised of individuals with the requisite technical experience and skill sets.
- Provide experienced "quality assurance" resources to verify that the highest level of quality services is provided.



The success of our approach has always been the quality and consistency of our senior leadership as well as the professionals that comprise the core technical team. The organizational chart illustrates the proposed team for this engagement. Biographies including experience with similar projects as well as overall expertise are included on the next pages.

Although the proposed staff will have primary responsibility for the proposed engagement, any of the more than 85 technical professionals within the Engineering Solutions group will be made available to PADGS if their skills, expertise, and/or availability will add incremental value to this engagement.

Aramark's Engineering Solutions group consists of more than 85 technical professionals including: Professional Engineers (PE), Certified Building Commissioning Professionals, LEED Accredited Professionals (LEED AP) and other technical designations. We verify that each facility's operating, maintenance, and program support requirements are met during construction and renovation.

- (17) Professional Engineers (PE)
- (13) Certified Energy Managers (CEM)
- (4) Certified Measurement Verification Professionals (CMVP)
- (2) Certified Building Commissioning Professionals (BCxP)
- (6) LEED® Accredited Professionals (LEED AP)
- (3) LEED® Green Associates
- (3) Project Management Professionals (PMP)
- (2) Commissioning Process Management Professionals (CPMP)

MANAS VAIDYA

Cx Manager

- Lamar University
  Master of Engineering
  Industrial Engineering
- Rajiv Gandhi Technical University
  Bachelor of Engineering
  Mechanical Engineering
- Certified Six Sigma Green Belt Professional

Mr. Vaidya is a mechanical and industrial engineer with over ten years' experience and a background in plant maintenance engineering, systems analysis, energy management, and BAS/energy management end devices. On behalf of Aramark, Mr. Vaidya provides professional commissioning services to various clients in the south-central Pennsylvania region.

Prior to Aramark, Mr. Vaidya was most recently a Systems Specialist for Siemens where he performed installation, startup, troubleshooting, commissioning, and repair on computerized temperature control systems which control HVAC equipment such as roof top units, air handlers, VAV boxes, heat pumps, chillers, pumps, cooling towers, boilers, and heat exchangers.

Manas is slated as the Project Manager for this project. His primary responsibility is to ensure that all of the commissioning tasks as described within this response are completed. Also, he will review submittals for the mechanical and controls systems; and design the pre-functional and functional test forms and perform static inspections and functional testing on the mechanical and plumbing systems.

TIM RUSS

Cx Manager

- Milwaukee School of Engineering
  Systems Engineering
  Edge Certification
- 24 Years Experience
- OSHA 30 Certification

Mr. Russ is a seasoned professional with more than 24 years' experience in temperature controls, fire alarm systems, access controls, smoke control systems, customer service and financial management. He has been recognized for an exceptional record in process improvement and supervising programs/projects in a high-pressure environment under limited time constraints. Prior to Aramark, Mr. Russ was a Sr. System Specialist where he was responsible for performing complex installation, startup, and commissioning of building automation system equipment.

Tim is proposed in a support role for this project. He will provide design reviews for the mechanical and plumbing systems and assist with static inspections and functional testing.

ALLISON BAILEY, P.E.

Senior Cx Manager

- 10 Million GSF Commissioned
- 55+ Commissioning Projects (Project Manager)
- Ohio State University
  Bachelor of Science
  Mechanical Engineering
- Professional Engineer (KY, OH, and WV)

Ms. Bailey is a mechanical engineer with more than 28 years of experience in HVAC design, DDC control programming, HVAC system troubleshooting, project management, and project coordination.

Currently, Allison supports commissioning programs throughout the region and is involved in all design reviews as the design lead and mechanical systems reviewer. She is also project manager for the new Twin Valley Behavioral Health Hospital in central Ohio. Allison performs over 40 design reviews per year and has most recently reviewed multiple projects for Nemours, renovations at M&T Bank Stadium, and various other projects for Penn State University and PA DGS.

Allison is proposed in a support role for this project. She will lead the Design Review Team and provide design reviews of the mechanical and control systems and submittal reviews of mechanical, plumbing, and controls systems.

FRANKLIN R. SNYDER, JR., P.E., LEED AP, CxA
Cx Manager

- Penn State University Bachelor of Science Mechanical Engineering Technology
- Penn State University Associate of Arts Mechanical Engineering Technology
- Energy Management Professional (EMP)

Mr. Snyder has more than 37 years' experience including building commissioning, sustainable design consulting, and mechanical, electrical and fire protection engineering services.

His typical project responsibilities include planning, scheduling, conducting, and coordinating all phases of facility related MEP/FP system design and commissioning work. Previous related project experience includes the Penn State Indoor Sports Complex.

Frank is proposed in a support role for this project. He will provide design reviews, conduct submittal reviews, design the forms, and perform static inspections and functional testing of the electrical systems.

BOYD HOATS, JR
Project Manager

- University of Tennessee - Knoxville
- Bachelor of Architecture
- Luzerne County Community College Associates Degree in Architectural Engineering

Mr. Hoats is a project manager with 32 years of comprehensive project management experience. Mr. Hoats is also the architectural CPM with Aramark's Facility Condition Assessment and Commissioning teams, where he utilizes his extensive expertise in assessing building envelope conditions, recommending solutions to correct deficiencies, and insuring the proper implementation of the design documents. He is currently providing building envelope commissioning services to several of our clients in the PA area, including projects for Allegheny Health Network. He has also worked on projects for Penn State University and Penn State Health.

Boyd is proposed in a support role and will provide design reviews, conduct submittal reviews, design the forms, and perform static inspections and functional testing of the building envelope.

CHRIS SKALSKI, P.E., LEED AP, BCxP
Cx Senior Engineer

- 8.0 Million GSF Commissioned
- 60 Commissioning Projects (Project Manager)
- 50 Commissioning Projects (Cx Agent)
- University of Pennsylvania Bachelor of Science Mechanical Engineering

Mr. Skalski is a Professional Engineer and LEED Accredited Professional with 21 years of experience as a building commissioning agent, including extensive experience in HVAC and plumbing systems design, building automation, and DDC systems.

On behalf of Aramark, Mr. Skalski is the commissioning team leader for several of Aramark's higher education and healthcare clients. His responsibilities include engineering design reviews, installation quality assurance, pre-functional/performance testing, initiation of corrective actions, and operator training.

Chris will be responsible for quality control as well as major issue resolution on this project.