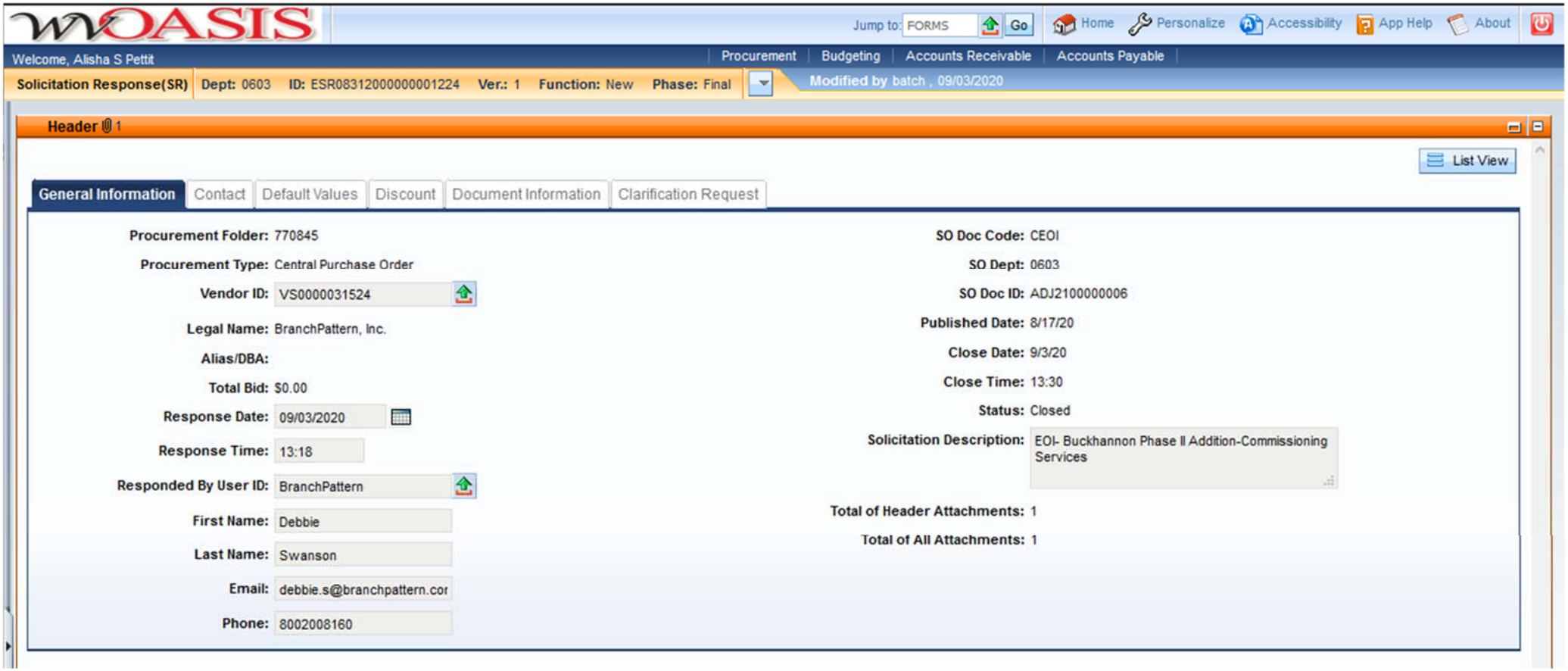
The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.


WVOASIS
Jump to: FORMS Go
Home
Personalize
Accessibility
App Help
About
Welcome, Alisha S Pettit
Procurement
Budgeting
Accounts Receivable
Accounts Payable
Solicitation Response(SR) Dept: 0603 ID: ESR08312000000001224 Ver.: 1 Function: New Phase: Final
Modified by batch , 09/03/2020
Header 1
List View
General Information
Contact
Default Values
Discount
Document Information
Clarification Request
Procurement Folder: 770845
Procurement Type: Central Purchase Order
Vendor ID: VS0000031524
Legal Name: BranchPattern, Inc.
Alias/DBA:
Total Bid: $0.00
Response Date: 09/03/2020
Response Time: 13:18
Responded By User ID: BranchPattern
First Name: Debbie
Last Name: Swanson
Email: debbie.s@branchpattern.cor
Phone: 8002008160
SO Doc Code: CEOI
SO Dept: 0603
SO Doc ID: ADJ2100000006
Published Date: 8/17/20
Close Date: 9/3/20
Close Time: 13:30
Status: Closed
Solicitation Description: EOI- Buckhannon Phase II Addition-Commissioning Services
Total of Header Attachments: 1
Total of All Attachments: 1

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Solicitation Response

Proc Folder:	770845
Solicitation Description:	EOI- Buckhannon Phase II Addition-Commissioning Services
Proc Type:	Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2020-09-03 13:30	SR 0603 ESR08312000000001224	1

VENDOR

VS0000031524
BranchPattern, Inc.

Solicitation Number: CEOI 0603 ADJ2100000006

Total Bid: 0 **Response Date:** 2020-09-03 **Response Time:** 13:18:27

Comments:

FOR INFORMATION CONTACT THE BUYER
Tara Lyle
(304) 558-2544
tara.l.lyle@wv.gov

Vendor
Signature X **FEIN#** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	EOI- Buckhannon Phase II Addition- Commissioning Services				0.00

Comm Code	Manufacturer	Specification	Model #
81101508			

Commodity Line Comments: N/A

Extended Description:

EOI- Buckhannon Phase II Addition- Commissioning Services per the attached documentation.

State of West Virginia

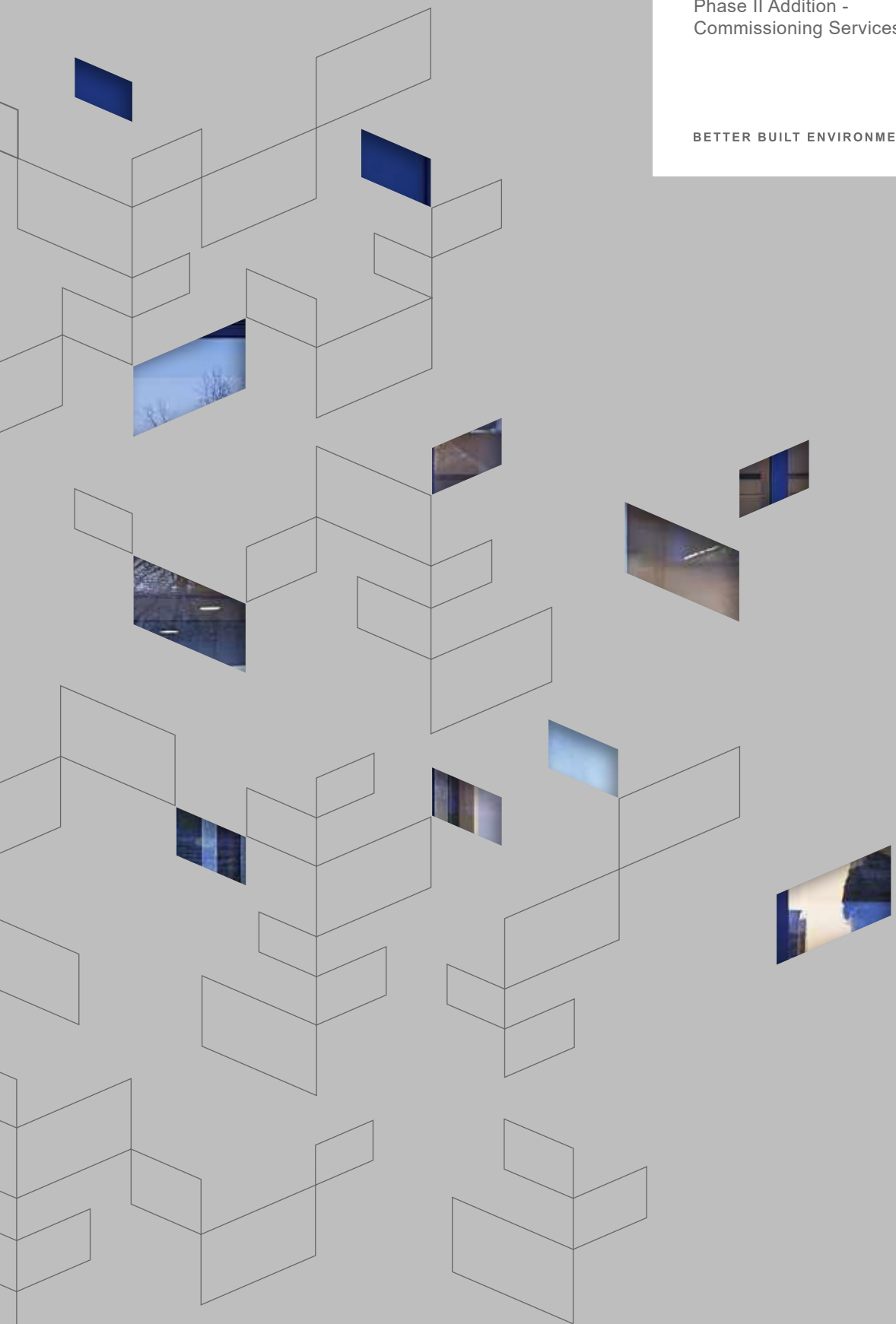
SUBTITLE

EOI - Buckhannon Phase II Addition - Commissioning Services

DATE

September 3, 2020

BETTER BUILT ENVIRONMENTS®



BranchPattern

BranchPattern

September 3, 2020

State of West Virginia
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

RE: Buckhannon Phase II Addition-Commissioning Services; 0603 ADJ2100000006

To Whom It May Concern:

BranchPattern is excited to work with the State of West Virginia to provide Commissioning services for the Buckhannon Phase II Addition. Our experience as one of the largest Commissioning Providers in the United States allows us to provide greater quality assurance for this project. Key elements of our proposal include:

1) Extensive Military Experience

BranchPattern has provided testing, validation, commissioning, and construction administration services across various military branches, contracting organizations, and other government agencies nationwide. This includes the Army National Guard, the United States Army Corps of Engineers, United States Air Force, and the Department of Veterans Affair. We also regularly work with other Federal entities, including the General Services Administration, the National Parks Services, and others.

Thus, we have significant experience and a keen understanding with the current, and continuously evolving, Department of Defense standards.

2) Total Building Commissioning

Our team provides more holistic quality assurance during design reviews. In addition to testing MEP systems, we bring together all our specialisms to verify performance throughout the integrated systems. Our team includes an Enclosure Commissioning Specialists and a TAB Analysts who will work with the project design team to enhance design as well as help avoid costly issues with these additional systems.

3) Protecting Your Investment

Our approach focuses on the long-term performance and durability of your facility. Our commissioning team will help you avoid costly failures and premature deterioration of your building, protecting your investment in both the building and your people.

Thank you for your consideration and we look forward to the opportunity to serve the State of West Virginia.

Sincerely,

Pete Jefferson, Principal
Pete.J@branchpattern.com
412 727 8388

> **"The project team was responsive and resolved any issue quickly...the Offut Air Force Base project was handled in an organized and professional manner that is unparalleled."**

US Army Corps of Engineers

Donald L. Schlichting, Medical Logistics Flight Commander/Facility Operations Manger
55th Medical Group
US Army Corps of Engineers

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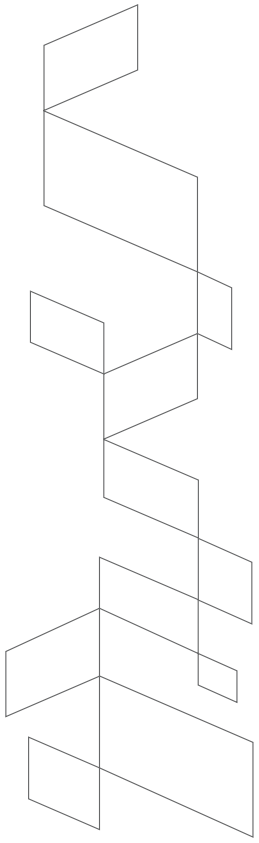


Embrace the Story Behind Every Door

Company Overview

BranchPattern is a building consultancy committed to
Improving Life through Better Built Environments®.

People are at the core of everything we think, create and do. We are a building consultancy dedicated to creating better built environments through our many interwoven specialisms.

Our beliefs are rooted in nature which has taught us that true sustainability sits at the intersection of human experience and environmental stewardship.

BranchPattern's specialists use that knowledge to integrate services that draw from the fields of engineering, social science, architecture, construction, and building science.

Nationwide Military Experience

In addition to our long history working with local, state, and federal agencies, BranchPattern has served many agencies for the Department of Defense and Department of Homeland Security such as the Army National Guard, multiple districts of the Army Corps of Engineers, United States Air Force, and the Federal Bureau of Investigation. With a portfolio encompassing a wide variety of project types for these agencies, **we have served on more than 120 military projects in 50+ cities and bases** covering many areas of expertise.

The map below illustrates BranchPattern's rich technical background as well as our depth and breadth of experience in military projects nationwide.

Staffing Plan

Our proposed team has a history of working on military projects. They are familiar with the expectations and requirements of involved in working on a federal project. *Below is our organization chart.*

Pete Jefferson

PE, WELL FACULTY, LEED AP, HBDP

Project Executive

Rich Compton

LEED AP

—

Project Manager & Commissioning Agent

Stuart Shell

AIA, LEED AP, RESET AP

—

Enclosure Commissioning Lead

Jacob Altland

CXT, NEBB TAB CT, OSHA 10, LEED GA, EPA 608U

—

Commissioning Technician

Pete Jefferson

PE, WELL FACULTY, LEGACY LEED AP, HBDP

Project Executive

Education

B.S. Mechanical Engineering, University of Nebraska-Lincoln

Licenses/Registrations

Professional Engineer: WV
WELL Accredited Professional
High-Performance Building Design Professional
Legacy LEED Accredited Professional

Affiliations

ASHRAE, AIA, IWBI, USGBC, ULI

Relevant Experience

Army Aviation Support Facility
Wyoming Army National Guard | F. E. Warren AFB, WY
151,000 sf | MEP Engineering

Morgantown City Hall Facade Restoration | Morgantown, WV
35,000 sf | Building Performance Modeling, Commissioning & Testing

Fort Carson Division HQ Band Training Facility | Fort Carson, CO
11,000 sf | Building Performance Modeling, Commissioning & Testing, Green Building Certification
LEED v2.2 Gold Certified

Pikes Peak Summit Complex & Army High Altitude Research Lab | Colorado Springs, CO
26,000 sf | Building Performance Modeling, Commissioning & Testing, Ecological Building Consulting, Green Building Certification
Pursuing LEED v4 Silver
Pursuing Living Building Challenge
Pursuing Net-Zero Energy Use

Soldier Family Assistance Community Center | Fort Carson, CO
15,000 sf | Commissioning & Testing, Green Building Certification
LEED v2.2 Gold Certified

USAF Aircraft Maintenance Hangar
Dover Air Force Base | Dover, DE
84,173 sf | Building Performance Modeling, Commissioning & Testing

Pete brings a whole-systems perspective and a deep knowledge of ecological design to his project teams to achieve high-performance buildings. He uses his background in mechanical engineering to look at the building as an integrated system, where climate, architecture and systems must work harmoniously to yield the best outcomes for his clients and for the people who occupy his buildings. Over the last 19 years, Pete has continued to complete some numerous high-performance buildings, including seven LEED Platinum and Net Zero Energy projects.

Pete grew up in a military family, with parents that served in the U.S. Navy until retirement. Having attended DoD schools overseas in Europe and Asia (including during the Operation Desert Storm), he is always mindful of the impact that these projects have on both service members and their families.

As Project Executive, Pete is responsible for working with the State of West Virginia to establish Owner's Project Requirements which will define the measurable targets for the project. He is ultimately responsible for ensuring that BranchPattern delivers outstanding commissioning results and customer service.

Rich Compton

LEED AP

Project Manager & Commissioning Agent

Education

B.S. Mechanical Engineering, Atlantic Southeastern University

Licenses/Registrations

LEED Accredited Professional

Relevant Experience

NNMC Bethesda | Washington DC
1.6 Million sf | Commissioning & Testing

National Institute of Health | Washington DC
20 Buildings | Commissioning & Testing

Arlington Public School System | Arlington, VA
300,000 sf | Commissioning & Testing

Internal Revenue Service Headquarters | Washington DC
2.4 Million sf | Commissioning & Testing

Adelphi Research Laboratories | Washington DC
13 Buildings | Commissioning & Testing

Federal Aviation Administration | Washington DC
900,000 sf | Commissioning & Testing

Naval Surface Warfare Center Carderock Division | Washington DC
7 Camps | Commissioning & Testing

National Gallery of Art | Washington DC
1.2 Million sf | Commissioning & Testing

Bureau of Printing & Engraving | Washington DC
2.1 Million sf| Commissioning & Testing

Rich is a project manager with 34 years of experience increasing operational effectiveness and coordinating teams in a variety of challenging management positions. He has a rich career with a history of working on energy savings projects, creating energy conservation measures, and business planning & decision making. He is an effective communicator who proven success with strategic and tactical plans in rapidly changing situations.

As Project Manager and the Commissioning Agent, Rich will be responsible for design reviews, creating the commissioning plan and will direct the testing of building systems.

Stuart Shell

AIA, LEED AP, RESET AP

Enclosure Commissioning Lead

Education

Masters of Science Architectural Engineering, University of Nebraska-Lincoln
B. Architecture, Illinois Institute of Technology

Licenses/Registrations

Registered Architect
League Certified Instructor
LEED Accredited Professional
WELL Accredited Professional
RESET Accredited Professional

Relevant Experience

Morgantown City Hall Facade Restoration | Morgantown, WV
35,000 sf | Building Performance Modeling, Commissioning & Testing

Buckley Medical/Dental Clinic Renovation & Expansion
Buckley Air Force Base | Aurora, CO
21,736 sf | Building Performance Modeling, Commissioning & Testing
LEED Silver Certified

Maintenance Hangar
Dover Air Force Base | Dover, DE
84,173 sf | Building Performance Modeling, Commissioning & Testing

Clinic Renovation
Whiteman Air Force Base | Knob Noster, MO
56,506 sf | Green Building Certification
Certified LEED v4 Certified

Pikes Peak Summit Complex & Army High Altitude Research Lab | Colorado Springs, CO
26,000 sf | Building Performance Modeling, Commissioning & Testing, Ecological Building Consulting, Green Building Certification
Pursuing LEED v4 Silver
Pursuing Living Building Challenge
Pursuing Net-Zero Energy Use

As a Registered Architect with a master's degree in architectural engineering, Stuart specializes in high-performance envelopes and hygrothermal analysis to promote durability, sustainability and efficiency. He uses thoughtful but targeted analysis to predict envelope performance and anticipate issues related to moisture intrusion, indoor air quality and thermal performance. Stuart draws on his first career as a project architect to identify possible issues early. He is trained in testing procedures to verify assembly performance in the field, such as ASTM E1105 for water intrusion.

Stuart is experienced in providing detailing assistance to design teams and developing solutions for repairs on various building envelopes, including rainscreen façades curtain wall, windows, roofing and waterproofing.

Should Building Enclosure Commissioning (BECx) services be desired, Stuart will create the testing plan and witness selected tests and assemblies.

Jacob M. Altland

CxT, NEBB TAB CT, OSHA 10, LEED GA, EPA 608U

Commissioning Technician

Licenses/Registrations

Commissioning Technician
NEBB TAB CT
OSHA 10
LEED Green Associate
EPA 608U

Relevant Experience

Squadron Operations
Nebraska Air National Guard | Lincoln, NE
17,630 sf | Commissioning & Testing

Maintenance Hangar
Nebraska Air National Guard | Lincoln, NE
136,100 sf | Building Performance Modeling

Pikes Peak Summit Complex & Army High Altitude Research Lab | Colorado Springs, CO
26,000 sf | Building Performance Modeling, Commissioning & Testing, Ecological Building Consulting, Green Building Certification
Pursuing LEED v4 Silver
Pursuing Living Building Challenge
Pursuing Net-Zero Energy Use

Children's Museum Lab
Children's Museum of Pittsburgh | Pittsburgh, PA
50,000 sf | Building Performance Modeling, Commissioning & Testing, Green Building Certification
LEED v4 Gold Certified

Advanced Robotics Manufacturing Institute
Carnegie Mellon University | Pittsburgh, PA
62,000 sf | Commissioning & Testing
Pursuing LEED v4

Center for Advanced Manufacturing, South Omaha Campus
Metropolitan Community College | Omaha, NE
58,200 sf | Commissioning & Testing

Jacob provides keen insights on air and water flows in controlled air environments, enabling him to validate systems. He has more than 5 years of field experience in the operation and troubleshooting of environmental and energy management control systems. Coming from a background in testing and balancing, Jacob is familiar with working alongside contractors to help ensure that systems are working in a variety of conditions through precision adjustment.

As the Commissioning Technician, Jake will provide field support and observations throughout the commissioning process. His background in testing and balancing (TAB) will be used to ensure the building performs through a variety of seasons and conditions.

Grand Island Readiness Center

Nebraska Army National Guard

Commissioning Testing Provides Best Practices for Maintenance of Building Systems

The Grand Island Readiness Center is used to train 226 full- and part-time soldiers in aviation. Additional soldiers visit for other trainings & skills development. The building includes an assembly hall, administrative offices, recruiting center, fitness center, maintenance training bay, lockers, classrooms, kitchen, storage and POV/GOV parking.

BranchPattern was selected for this project due to our expertise with similar projects throughout the nation. Our team provided Commissioning & Testing services as a 2nd-Party to make sure the Owner's Project Requirements were met and all installations were done in compliance with the design intent.

Our Commissioning team did all systems operations Functional Performance Testings (FPTs) for HVAC systems, lighting/power and plumbing systems. This project was unique as it was a very High Performance Building Design. HVAC systems consist of water source heat pumps where heat is transferred through water loops to a geo-thermal well field, heat was then injected into the ground during the cooling hours and heat was extracted from the ground during heating hours of the season. High Bay Hanger space was heated by radiant floor systems to maximize the comfort in the occupied areas. Domestic hot water was also heated by the ground loop to get the best energy performance. Our team validated the operation of these unique systems for all seasons and occupancies before the project manuals were finalized for operation and the maintenance team.

Project Goals & Objectives

The National Guard was focused on the space requirements and wanted to comply with the currently codes for energy performance. Our team aimed to reduce the energy by 35% from current code compliance as a baseline. Additionally, because the National Guard was on a strict budget, we implemented an integrated design process with the architect team to help keep cost low.





Photos courtesy of RDG Planning & Design

Location

Grand Island, NE

Project Manager

Shane Martin, Facilities Mgmt
Nebraska Army National Guard
2433 NW 24th St.
Lincoln, NE 68524
402 309 8456
shane.m.martin@us.army.mil

Type of Project

New Construction

Metrics

101,000 sf

$17.2 Million

North Omaha Readiness Center

Nebraska Army National Guard

Commissioning of Building Systems Provided Solutions to Known and Unknown Issues

BranchPattern provided Commissioning on the North Omaha Readiness Center post-construction and-occupancy. This Readiness Center is a joint facility with the local police force. The building is regularly utilized for training as well as pre-mission staging. The building systems consists of a water-source heat pump system with energy recovery ventilation. The Commissioning services focused on building system functionality and energy efficiency. Through this commissioning process multiple issues were identified and remedied that improved comfort, energy efficiency and maintenance requirements.

Project Goals & Objectives

Our team created a Preventive Maintenance Plan to assist facilities professionals with the tough decisions of how to allocate funds in their budget. Because personnel are often tempted to defer regular maintenance, and react to maintenance issues as they become a "problem," the Preventive Maintenance Plan was designed to move the facility professional from a reactive mode, into a pro-active mode. A pro-active maintenance model allows the facility professional to keep equipment in optimum condition, extending the life of the equipment, reducing energy usage, evening maintenance budgeting, and minimizing the possibility of an unplanned, unbudgeted catastrophic failure.

Location

Omaha, NE

Project Manager

Mark Stockstell, Lieutenant Colonel
Nebraska Army National Guard
402 309 7451

Type of Project

Study

Metrics

14,000 sf

$5.8 Million





Photos courtesy of RDG Planning & Design

Maintenance Hangar

Nebraska Army National Guard

Commissioning of Systems Provides Solutions to Increase Efficiency and System Longevity

BranchPattern is providing commissioning services for the Nebraska Air National Guard's Building 600 Maintenance Hangar at the Lincoln Air National Guard Base in Lincoln, Nebraska. This building is being renovated to improve functional efficiencies, space utilization, and energy conservation and to bring the building's fire protection, safety, communications, and electrical systems up to code, as well as to update the interior architectural finishes. Building 600 was constructed starting in 1954 and has undergone several updates and modifications over the last 50 years.

The building consists of 3 main areas; the maintenance hangar floor, the east side two-story maintenance and administration area, and the west side two-story maintenance and administration area, which does not include the hangar mezzanine or roof penthouses.

Building 600 currently serves as a maintenance hangar for the KC-135 aircraft and provides space for the Wing Command Headquarters, maintenance and mission support administrative offices, maintenance and repair shops, and several miscellaneous functions including a small fitness area and locker room.

Project Goals & Objectives

The goal of the commissioning process for this project was to ensure that systems were designed and constructed to achieve Nebraska Air National Guard's project requirements and ultimately provide Nebraska Air National Guard with a fully functional facility.

The commissioning process was crucial in the identification and tracking of numerous equipment and operational deficiencies. Many of the issues were simple to resolve but if not addressed, would have guaranteed problematic system operations for the lifetime of the facility. The commissioning process allowed for the team to quickly provide a clear path to the responsible parties for resolving any exposed issues before the facility was occupied.

Location

Lincoln, NE

Project Manager

Jeremy Rupprecht, Sergeant First Class
Nebraska Army National Guard
2433 NW 24th St.
Lincoln, NE 68524
402 309 8280
jeremy.m.rupprecht.civ@mail.mil

Type of Project

Renovation

Metrics

136,100 sf

$20 Million

Squadron Operations

Nebraska Army National Guard

Team's Wealth of Experience Provides Valuable Touchstone for Commissioning Tricky System

BranchPattern is providing commissioning services for the Nebraska Air National Guard's Building 2945 Squadron Operations at the Lincoln Air National Guard Base in Lincoln, Nebraska. This building is being renovated to improve functional efficiencies, space utilization, and energy conservation and to bring the building's fire protection, safety, communications, and electrical systems up to code, as well as to update the interior architectural finishes.

Building 2945 was constructed starting in 1993 and has undergone some minor updates and modifications since its construction. The Squadron Operations building currently houses the Operations Group, Command Post, Intel Group, Crew COMM with secured entrance, workroom and shared briefing room, Wing Planning, Flight Planning and Scheduling, Briefing Auditorium, Break Room/Kitchen, Restrooms/ Locker Rooms, AFE, support and storage area, and Mechanical Room. Building 2945 currently serves as the headquarters for Squadron Operations.

Project Goals & Objectives

The goal of the commissioning process for this project was to ensure that systems were designed and constructed to achieve Nebraska Air National Guard's project requirements and ultimately provide Nebraska Air National Guard with a fully functional facility.

The commissioning process was crucial in the identification and tracking of numerous equipment and operational deficiencies. Many of the issues were simple to resolve but if not addressed, would have guaranteed problematic system operations for the lifetime of the facility. The commissioning process allowed for the team to quickly provide a clear path to the responsible parties for resolving any exposed issues before the facility was occupied.

Location

Lincoln, NE

Project Manager

Jeremy Rupprecht, Sergeant First Class
Nebraska Army National Guard
2433 NW 24th St.
Lincoln, NE 68524
402 309 8280
jeremy.m.rupprecht.civ@mail.mil

Type of Project

Renovation

Metrics

17,630 sf

$6.2 Million

Morgantown, West Virginia City Hall

Safety Concerns Spur Facelift for Historic Building

Although not deemed dangerous, the parapet over the main entrance of the Morgantown, West Virginia City Hall hangs directly over the sidewalk creating cause for concern for visitors. A grant awarded by the West Virginia State Historic Preservation Office valued at $37,000 creates an opportunity for the city's engineering department to make necessary updates to the front of the 90-year-old building.

Due to the historic significance of the building, our services focused on safeguarding the long-term durability of the existing fabric. For example, the old windows must be restored rather than replaced. The old limestone must be cleaned and reapplied to the building. These older materials cause need for creative solutions.

BranchPattern conducted hydrothermal modeling to understand the impact of structural upgrades and added insulation on moisture performance.

Project Goals & Objectives

The purpose of the thermal study was to establish a baseline understanding of moisture transport in the walls that can inform future modifications to the wall design.

Our team was able to determine that both the existing brick and stone mass wall designs are serviceable and adding insulation might be acceptable depending on which material the owner decided to go with for the building.

Location

Morgantown, WV

Project Manager

Matthew Echard, Associate & Sr. Structural Engineer
Alpha Associates, Incorporated
209 Prairie Avenue
Morgantown, WV
26501
304 296 8216 x139
matthew.echard@
thinkalphafirst.com

Type of Project

Renovation

Metrics

5,100 sf

$37,000

Fort Carson Division HQ Band Training Facility

Energy-Efficient Facility Moves Base Closer to Net-Zero

BranchPattern design, inspected and supported the commissioning process for the HVAC, Plumbing and General Lighting systems for the new state-of-the-art , environmentally friendly Fort Carson Division HQ Band Training Facility.

The facility is designed to seat the entire 40-Soldier band with the energy efficient design being a prominent feature of the new building. **This project included the first installation of a geothermal heat pump system at Fort Carson.** The building was completed both under-budget and two months early. It includes: a main practice hall; rooms for both the Jazz Ensemble and Popular Music Performance Teams; a recording studio; and nine soundproof individual practice modules. The new facility allows at least four different Music Performance Teams to properly rehearse at the same time.

Project Goals & Objectives

Fort Carson is among the first military installations to commit to achieving net-zero energy and water usage across the entire base. As such, they have set aggressive energy reduction targets in all of their new buildings. By consuming very little energy relative to similar buildings, this project supports the net-zero energy mission.

Location

Fort Carson, CO

Project Manager

Tom Kapels, Architect
TK Architecture
3150 Richmond Dr.
Colorado Springs, CO
80922
402 525 9320
tkapels@tk-architecture.com

Type of Project

New Construction

Metrics

24,000 sf

$5.5 Million

Impacts

LEED Gold Certified

4. Project and Goals

Vendors should discuss any anticipated concepts and proposed methods of approach for achieving each of the listed goals and objectives:

The following contains our commissioning approach to achieve the State's goals and objectives.

4.1 Attend pre-design, design, construction and post-construction meetings as pertains to duties outlined in ASHRAE 189.1 Section 10.3.1.2.

In accordance with ASHRAE 189.1 Section 10.3.1.2., our team brings conducts the following meetings from pre-design to post-construction phase and brings added value to each as follows:

PRE-DESIGN

Owner's Project Requirements (OPR) Meeting

BranchPattern will conduct interviews with appropriate owner's personnel, as well as design and consulting team members. Our goal is to confirm that documents identifying the performance requirements of the Owner can be tracked through completion of the project.

DESIGN

Design Phase Kick-Off Meeting

We will establish the purpose and proposed process for commissioning the design and to review the OPR and Cx Plan with the Design team, commissioning activities, schedules, documentation requirements, and communication and reporting procedures.

Design Review Meetings

We will work with the design team and identify design errors and omissions and improving the “commissionability” of the project systems during the design reviews. We will focus on looking for design issues that may lead to inefficient system operation and wasted energy, as well as identify places where energy efficiency measures might fail once they are integrated with the rest of the system.

CONSTRUCTION

Construction Kick-Off Meeting

We will establish the purpose and proposed process for commissioning and to review the Construction Phase Cx Plan with the Construction team, commissioning activities and schedules, documentation requirements and communication and reporting procedures.

OAC Meetings

Participation in OAC meetings during design and construction will focus on transparency and a candid and comprehensive review of details of upcoming work. In addition to a focus on project budget and schedule, our team will be fully immersed in reviewing outstanding changes, project logistics, quality control items, and status updates.

POST

10-Month Warranty Meeting

In addition to seasonal testing and resolution verification, BranchPattern will coordinate and direct the 10-month warranty review. Our team will interview the operations & maintenance staff to identify and document any issues that the State may wish to act upon prior to the end of the contractor’s warranty period. This review typically will entail current building operations, status of outstanding issues related to the commissioning process, any problems or concerns facility staff have with operating the building as compared to the originally-intended operations, suggestions for improvements to systems, and potential areas for repair that may be resolved under current warranty or under the original construction contract.

Planning Project Kick-Off

To kick-off the project, BranchPattern conducts the following activities below. Taking these initial steps help ensure that this project receives a specific and comprehensive execution strategy to address Buckhannon's project goals and objectives.

Buckhannon key stakeholders meeting to confirm the goals & objectives for each project

Discuss Cx team staffing & identify if additional Cx specialists are needed

Collect guidelines, parameters, and Owner's Project Requirements

Review schedules and prioritization of requirements

4.2 Conduct reviews of the design documents to ensure compliance with owner's project requirements and the project specifications.

We will perform a design review with the purpose of aligning the Owner expectations with the Basis of Design (BOD). The alignment of OPR and BOD gives both the CxA and the owner the opportunity to verify that the team is aware of all project requirements and is addressing them accordingly. When reviewing design documents, we will identify design errors and omissions and improving the "commissionability" of the project systems during the design reviews. We will focus on looking for design issues that may lead to inefficient system operation and wasted energy, as well as identify places where energy efficiency measures might fail once they are integrated with the rest of the system. Our flexibility and adaptability will help ensure we deliver a building that meets the State's needs.

4.3 Develop a commissioning plan for testing of equipment, systems and controls as outlined in ASHRAE 189.1 Section 10.3.1.2.

In accordance with ASHRAE 189.1 Section 10.3.1.2., our project-specific commissioning specifications and plan will provide clear and comprehensive contractual responsibilities to the installing contractors to assign roles, clarify documentation, assess schedule, and promote coordination.

4.4 Verify the installation and performance of the systems to be commissioned, including completion of the construction checklist and verification.

We perform testing to verify that each component operates as intended under various conditions and modes of operation. Systems run through all the sequences of operation and proper response of components are verified. Testing proceeds from components to subsystems, subsystems to systems, and finally to interlock and connect between systems.

4.5 Verify that a systems manual has been prepared that includes Operations and Maintenance documentation, full warranty information and provides operating staff the information needed to understand and operate the commissioned systems as designed.

We understand that once the building is operational, questions arise; it is our responsibility that the most accurate and clear resources are available to your staff. We will coordinate the training so it is detailed and appropriate. We will see that the operations staff has the tools to properly monitor and prove proper and reliable operation, including the systems manual, re-commissioning management manual, final commissioning report, and an accurate set of as-built records. Our warranty visit will assist in document operational problems, equipment failures or potential liabilities to be resolved by the contractor prior to the end of warranty.

4.6 Complete preliminary and final commissioning reports.

The Final Report includes organized and complete documentation of all project Commissioning activities. The report serves as a reference for Buckhannon as well as to help aid future maintenance staff in the parameters and operation of their building systems. All Commissioning process documentation, including completed pre-functional checklists, executed functional test forms, and the master issues log highlighting any issues open or unresolved will be included in the final Commissioning Report.

In addition to our methods outlined on the previous page, below are our Top 5 Key Activities for Managing a Project we have identified to be manage the State's project expertly and efficiently:

Understanding the Needs

We format your requirements for the facility into clear, measurable, enforceable language as the Owner's Project Requirements that are aligned with your goals.

Concurrently, we will convene the commissioning team to address any questions and identify unresolved issues that may impact building performance. Our commissioning plan will define the expectations and key deliverables for each team member. Throughout the process, we will maintain a focus on several performance indicators, including systems integration, indoor environmental quality and maintainability.

Systems Integration

As equipment and interconnectivity of systems becomes more complex, early coordination is critical.

To achieve systems integration, we work with the State's facilities staff and the project team to help ensure the design documents and submittals are comprehensive, and performance parameters are clearly integrated for installation by the contractors. Our tests will be extensively coordinated and comprehensive at the component and system level to include all equipment interactions. We will also review the system to optimize controls system setpoints, including static and differential pressure control setpoints and reset limits.

TOP

5

KEY ACTIVITIES FOR MANAGING A PROJECT

Sustainability & Occupant Comfort

Our passion is to provide a sustainable and comfortable building environments minimizing the risk of building-related health problems while increasing its wellness and that of its occupants.

Our evidenced-based process is designed to help align building and operational capabilities with occupant wants and needs. Our engineers and TAB specialists can fine-tune and fix systems while our social scientists and architects can assure occupant needs and facility operations are aligned.

Testing Seasonal Conditions

Offseason testing provides validation during peak conditions.

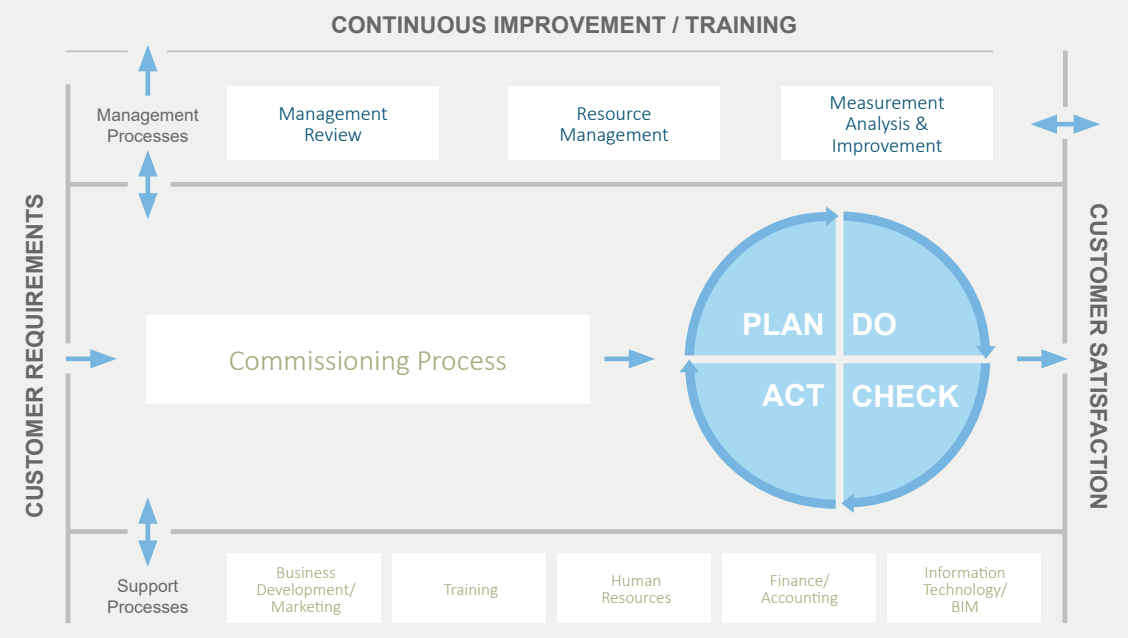
Tests on respective HVAC equipment will be executed, if possible, during both the heating and cooling season. Some overwriting of control values to simulate conditions will be conducted. The central plant will have its efficiency bench-marked for later use by operations staff. Functional testing shall be done using conventional manual methods, control system trend logs and read-outs or stand-alone data loggers, to provide a level of confidence in proper system function, as deemed appropriate by the CxA and the State.

Strong On-Site Presence

On-site presence provides additional avenue for communicating design intent concerns.

BranchPattern will have a presence on-site to confirm that requirements are clear, observations and witness testing is complete, functional testing is comprehensive and reporting of issues and validating resolution is timely.

Quality Assurance/Quality Control



Firmwide, we have implemented and maintained a Quality Management System (QMS), designed by upper management, which conforms to the requirements of BS EN ISO 9001:2008 quality standard.

5 Key Objectives of this System

1. Provide excellent technical documentation and customer service to clients
2. Develop a reputation for quality
3. Deliver processes that enable our employees to thrive
4. Make life easier for our employees
5. Create a system of continuous improvement that adapts to the needs of our staff, clients and the industry

Document Control

All project documentation is kept indefinitely. The firm utilizes a privately hosted Microsoft Active-Directory (AD) server environment for all services. Access control can be administered centrally through AD at the file or folder level. File sharing/ hosting is handled through our private servers and shared externally through our privately hosted NewForma InfoExchange servers. All project emails are filed using NewForma. NewForma is a Project Information Management (PIM) technology which promotes collaboration between individuals, project teams, and across the industry. Using PIM allows the firm to capture, share, manage, and deliver critical information. Username/passwords are centrally managed and synchronized with AD using Azure services wherever possible. Our network bandwidth is only utilized for sanctioned services to prevent malware or virus attacks.

Energize People & Places

Confidentiality Controls

All employees understand the importance of confidential information. Upon hire, every employee of the firm signs a pledge of confidentiality. By signing this pledge, each employee agrees to keep all privileged information, projects, practices, and client contacts strictly confidential. Additionally, if any potential customers are sensitive and confidential in nature, our employees agree to not communicate, disclose, divulge or otherwise use such confidential and sensitive information. If the law requires the release of a clients' confidential information, the firm will notify the client of this request. As a long-standing client of the Department of Defense (DOD), employees are required to comply with DOD Standards which include maintaining a security clearance. Multiple BranchPattern staff have the Homeland Security Presidential Directive 12 (HPSD-12): GSA Contractor Clearance. Through this process they have received favorable results from an FBI National Criminal History Check and a completed NACI investigation

Internal Audit

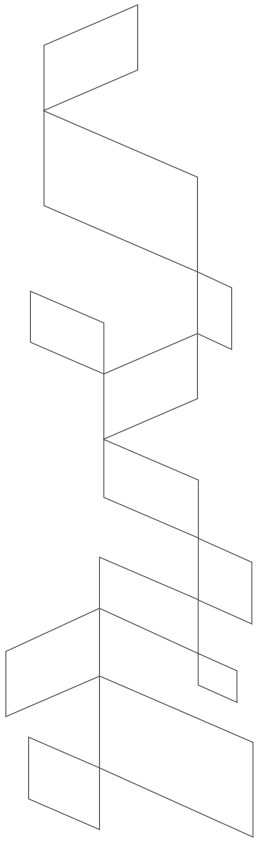
Internal Audits are performed twice a year by internal employees trained in the practice. Auditors look for compliance with the criteria established by our management team for firm compliance with the requirements of ISO 9001:2015. Results of both internal audits are presented to management for corrective action. After the second internal audit has been completed and results are brought into conformance an external audit is conducted by an ISO 9001-2015 certified independent auditor.

Initial and Continual Training of Personnel

Our management team has identified the criteria required to prove competence. Once feedback on any issues has been provided, training is then established to address these items and the system identifies whether the issues have been addressed. The criteria employees are going to be tracked against is monitored and their performance is based on these defined criteria.

Management Review

Impartial and technically competent individuals from the firm provide oversight of the QMS. They identify the company's quality policy, develop flow charts that are to be followed by all employees and identify the criteria that employee performance is being tracked against. These individuals review the performance of the company and make recommendations on any improvements that need to be made.



STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: BranchPattern, Inc.

Authorized Signature: _____ Date: 9-1-20

State of Nebraska

County of Lancaster, to-wit:

Taken, subscribed, and sworn to before me this 1st day of September, 2020.

My Commission expires May 8th, 2020.

AFFIX SEAL HERE GENERAL NOTARY - State of Nebraska
Debora L. Swanson
My Comm. Exp. May 8, 2022

NOTARY PUBLIC Debora Swanson

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Vice President

(Name, Title)

Pete Jefferson, Vice President

(Printed Name and Title)

100 S Commons, Alloy26- Suite 102, Pittsburgh, PA 15212

(Address)

412 727 8388

(Phone Number) / (Fax Number)

pete.j@branchpattern.com

(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

BranchPattern, Inc.

(Company)

Principal

(Authorized Signature) (Representative Name, Title)

Pete Jefferson, Principal

(Printed Name and Title of Authorized Representative)

9-1-2020

(Date)

412 727 8388

(Phone Number) (Fax Number)