



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

State of West Virginia
Contract

Order Date: 09-22-2021

CORRECT ORDER NUMBER MUST APPEAR
 ON ALL PACKAGES, INVOICES, AND
 SHIPPING PAPERS. QUESTIONS
 CONCERNING THIS ORDER SHOULD BE
 DIRECTED TO THE DEPARTMENT
 CONTACT.

Order Number:	CCT 0211 4004 GSD2000000020 3	Procurement Folder:	662743
Document Name:	EOI: Building Four Renovations	Reason for Modification:	Change Order No. 2 is issued to increase the contract per the attached documentation.
Document Description:	EOI: Building Four Renovations		
Procurement Type:	Central Contract - Fixed Amt		
Buyer Name:	Melissa Pettrey		
Telephone:	(304) 558-0094		
Email:	melissa.k.pettrey@wv.gov		
Shipping Method:	Best Way	Effective Start Date:	2020-04-24
Free on Board:	FOB Dest, Freight Prepaid	Effective End Date:	2022-04-23

VENDOR		DEPARTMENT CONTACT		
Vendor Customer Code:	000000160802	Requestor Name:	Robert P Kilpatrick	
PERFIDO WEISKOPF WAGSTAFF + GOETTEL LLC 408 BLVD OF THE ALLIES		Requestor Phone:	304-352-5491	
PITTSBURGH PA 152191301 US		Requestor Email:	robert.p.kilpatrick@wv.gov	
Vendor Contact Phone:	412-391-2884 Extension: 232	<div style="font-size: 48px; font-weight: bold;">22</div> <div style="font-size: 24px; font-weight: bold;">FILE LOCATION _____</div>		
Discount Details:				
Discount Allowed	Discount Percentage			Discount Days
#1 No	0.0000			0
#2 Not Entered				
#3 Not Entered				
#4 Not Entered				

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION 112 CALIFORNIA AVENUE, 5TH FLOOR CHARLESTON WV 25305 US	DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION BLDG 4 112 CALIFORNIA AVE CHARLESTON WV 25305 US

Total Order Amount: \$2,008,604.00

Purchasing Division's File Copy

ENTERED

PURCHASING DIVISION AUTHORIZATION DATE: <i>Tara</i> 10/1/2021 ELECTRONIC SIGNATURE ON FILE	ATTORNEY GENERAL APPROVAL AS TO FORM <i>John S. Green</i> DATE: _____ ELECTRONIC SIGNATURE ON FILE	ENCUMBRANCE CERTIFICATION <i>[Signature]</i> 10/14/2021 DATE: _____ ELECTRONIC SIGNATURE ON FILE
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10/13/2021

Extended Description:

Change Order No. 2

Change Order No. 2 is issued to increase the original contract according to all terms, conditions, prices and specifications contained in the original contract including all authorized change orders.

Original Contract Price:	\$1,978,000.00
Change Order #2 Increase Requested:	\$ 30,604.00
New Contract Price:	\$2,008,604.00

No other changes.

Renewal Years Remaining: 2

Line	Commodity Code	Quantity	Unit	Unit Price	Total Price
1	81101508	0.00000		0.000000	\$2,008,604.00
Service From	Service To	Manufacturer	Model No		
2020-04-24	2022-04-23				

Commodity Line Description: A/E Svcs: Building Four Renovations Project

Extended Description:

A/E Services: Building Four Renovations Project

August 26, 2021

Scot Casdorff
Architecture & Engineering Manager
WV Department of Administration
General Services Division
112 California Avenue,
Charleston, WV 25305

RE: #22010.00 West Virginia Building Four Renovations
Change Order for Additional Services – Programming Modifications

Dear Scot,

Per WV GSD's direction, PWWG will partially reprogram Building Four as outlined in your 5/26/2021 email. See Attachment 1.

Based on this email, PWWG will provide programming modifications for the fourth and seventh-floor tenants, respectively the Worker's Compensation Board of Review and the Office of Tax Appeals. This will include the following:

- Reviewing all tenant comments noted in the attached email (Attachment 1).
- Revising the fourth and seventh-floor plans per the tenant's comments.
- Reissue the revised floor plans to WV GSD and tenants for their review. PWWG will schedule an online video conference with WV GSD and tenants to review and discuss the revised plans. PWWG will provide additional options and/or revisions to the plan layouts, if necessary.
- Once plan changes are finalized, PWWG to schedule an online meeting with our consultant, NV5, to review and discuss the A/V and Security infrastructure for the fourth and seventh-floor tenants. A set of revised A/V and Security plans will be reissued for WV GSD and tenant's review. Modifications, based on this review, will be implemented, if necessary.
- Revising the fourth and seventh reflected ceiling plans.
- Finalized fourth and seventh-floor plans will be reissued to Capitol Business Interiors for their use.

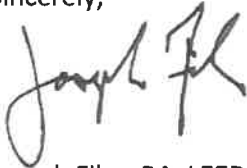
Additional Service for Programming Modifications

Based on the preceding information, we proposed a lump sum fee of \$ 7,604.00, which we understand will be a change order to the existing contract. This fee consists of the following:

PWWG Sr. Associate	@ \$ 133.00 / hour	20 hours	\$ 2,660.00
PWWG Associate	@ \$ 103.00 / hour	48 hours	\$ 4,944.00
Total			\$ 7,604.00

If you have any questions or require additional information, please don't hesitate to call or email me.

Sincerely,



Joseph Filar, RA, LEED AP
Senior Associate

- cc: Robert P. Kilpatrick – General Services
- Greg Melton – General Services
- Anthony Pitassi – Perfido Weiskopf Wagstaff + Goettel
- Maria Swarts – Perfido Weiskopf Wagstaff + Goettel
- Kevin Wagstaff – Perfido Weiskopf Wagstaff + Goettel

Via Email
2 pages + Email attachments 2 pages
2021-08-26_WVGSD B4_ADD'L FEE_Program Revisions.docx

August 17, 2021

Scot Casdorff
Architecture & Engineering Manager
WV Department of Administration
General Services Division
112 California Avenue,
Charleston, WV 25305

RE: #22010.00 West Virginia Building Four Renovations
Change Order for Additional Services – HVAC Redesign

Dear Scot,

Per WV GSD's direction, PWWG and Tower Engineering will redesign the Building Four HVAC system from a VAV air distribution (DD design) to a 4-pipe with DOAS, as outline in your 7/23/2021 email that included the following attachments:

- Word document "Building 4 HVAC Design Objectives for 4-Pipe DOAS 2021-07-23"
- PDF '2020-12-11 Bldg #4 SD Review Comments' (by ZDS)

Based on these documents from the owner, an online video conference was scheduled on 8/13/2021 with WV GSD and their third-party commissioning firm (ZDS), Tower Engineering, and PWWG to review Tower's preliminary draft of the 4-pipe fan coil system w/ DOAS. At the conclusion of the meeting, during which Tower presented their revised systems narrative and Revit HVAC drawings, it was agreed to proceed with the redesign of the HVAC system and issue the revised HVAC DD submission to ZDS for review, as soon as possible.

Please note the revised HVAC strategy will not affect Plumbing, Fire Protection or Electrical enough to warrant reissuing DD packages for those disciplines. Therefore, Tower will revise and reissue their HVAC DD package around 8/27/2021 and complete their construction documents by 12/3/2021 (16 weeks starting from 8/13/2021).

PWWG is currently proceeding with the construction document phase and will coordinate with Tower's redesign of the HVAC system. A revised project schedule is attached for your review and comment. As noted above, Tower requires 16 weeks to complete the CDs, with a start date of 8/13/2021. If there is anything you would like to discuss in terms of the project schedule, please contact Joe Filar.

Scot Casdorff
General Services Division
August 17, 2021
PAGE 2 OF 2

Additional Service for HVAC Redesign

We have enclosed a copy of Tower Engineer's proposal dated July 30, 2021, for your reference. The proposed fee for these additional services is a lump sum cost of \$20,815.00.

Tower Engineering, Inc. Fee		\$18,100.00
Including PWWG Mark-Up @ 15%	\$18,100 x 1.15 =	\$20,815.00

Optional Additional Service for HVAC Revision Cost Estimate

Tower and PWWG recommend that the DD phase cost estimate be updated to reflect the revised HVAC design. If you choose to revise the DD estimate, the proposed fee for these additional services is \$2,185.00.

Morgan P&CC, Inc. Fee		\$1,900.00
Including PWWG Mark-Up @ 15%	\$1,900 x 1.15 =	\$2,185.00

PWWG is not requesting an additional services fee for our work beyond the 15% markup included in the above proposed fees. If you have any questions or require additional information, please don't hesitate to call or email me.

Sincerely,



Kevin Wagstaff, AIA, LEED AP
Principal-in-Charge

cc: Robert P. Kilpatrick – General Services
Greg Melton – General Services
Anthony Pitassi – Perfido Weiskopf Wagstaff + Goettel
Maria Swarts – Perfido Weiskopf Wagstaff + Goettel
Joe Filar – Perfido Weiskopf Wagstaff + Goettel

Via Email
2 pages + Email attachments 9 pages
2021-08-17_WVGSDB4_PWWGHVAC Redesign.docx

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

Building 4 HVAC Design Objectives for 4-Pipe with DOAS:

Perimeter conditioning - 4 pipe application to all floors including basement. Fan Coil with outside air option or induction units to DOAS.

Acceptable Manufacturers: Price, Titus, Trane, Carrier, or Rosemex, or equal

Core conditioning - Fan powered Fan coils - 4 pipe (All Floors) with outside air option.

Acceptable Manufacturers: Price, Titus, Trane or Carrier, or equal.

DOAS - Make-Up Air system, Plate & Frame Cube HX, Preheat, Face & Bypass dampers & reheat, Cooling coil.

Acceptable Manufacturers: AAon, Trane, Carrier or equal

Fire tube Boilers N+1 w/ integral circulators as primary loop. See below for secondary loop information.

Acceptable Manufacturers: Lochinvar, HTP, Camus, or equal

HW Pump station, N+1, End suction is preferred, Inline is acceptable if service can be performed without climbing a ladder. VFD, 70%, 70%, & 70%.

Acceptable Manufacturers: Armstrong, Bell & Gossett, Grundfos, Taco or equal

CW Pump Station, N+1, End suction is preferred, Inline is acceptable if service can be performed without climbing a ladder. VFD, 70%, 70% & 70%.

Acceptable Manufacturers: Armstrong, Bell & Gossett, Grundfos, Taco or equal

DDC Control – The State standardizes in Trane Ensemble controls and wish to incorporate this control system into the new HVAC design. Devices must be scalable to work with Trane Logic processors.

Piping Design - Perimeter loop risers shall be installed in the reverse return method to eliminate balance valves at all devices. Both hot water and chilled water systems shall feed from the upper floors and collect in the lower floor or basement and return to the assigned pump stations.

Both HW & CW circulating loops serving the core of the building should be Direct Return. It is suggested to employ balance valves to regulate system flow at each floor loop and a bypass system to promote continual minimum flow during low load conditions.

December 11, 2020

Mr. Scot Casdorff, PE
WV Department of Administration
General Services Division
112 California Avenue, 5th Floor
Charleston, WV, 25305

RE: Building #4 Peer Review/Commissioning Services

Dear Scot:

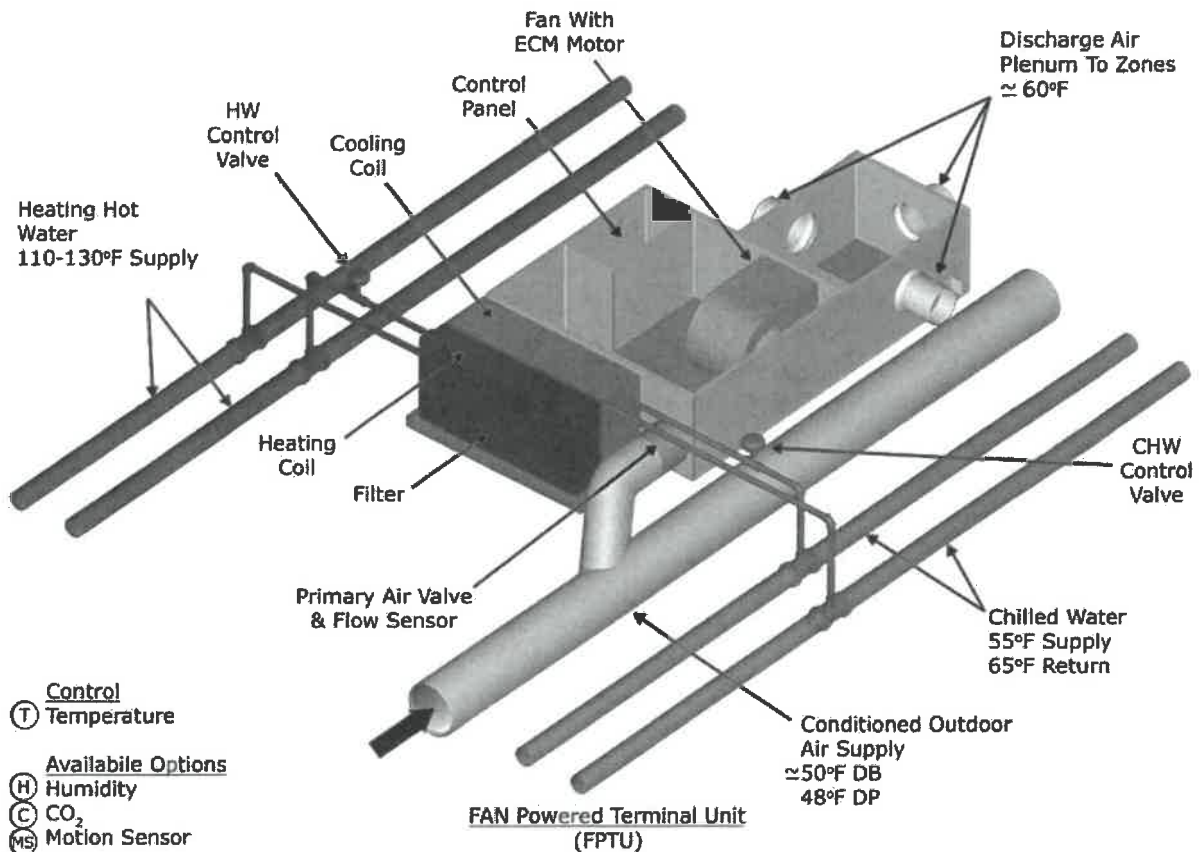
We have reviewed the November 18, 2020 Owner Review WV Capitol Complex Building #4 Schematic Design Project Manual prepared by Perfido Weiskopf Wagstaff + Goettel (PWWG) and their consultants limited to HVAC systems and Vertical Transportation systems. We also reviewed the available SD drawings H201, H203, H206, H207 and Trane Custom Air Handler drawing dated 11/06/2020 for suggestions to assist the GSD in meeting your goals and objectives.

System Selection Comments:

After reviewing the Schematic Design narrative, we would recommend including evaluation of a Dedicated Outside Air System (DOAS) with a sensible cooling only fan powered induction VAV box with reheat where that's applicable terminal unit design. The DOAS primary air inlet delivers ventilation air to the terminal box and handles latent loads in the space. Second, a cooling coil is located on the units' induced air inlet either with or without heating capabilities. A DOAS system provides conditioned outside air ducted directly to space to meet ASHRAE 62 code required ventilation rates which helps ensure sufficient ventilation air is supplied where needed and sized for handling the spaces latent loads. Central AHU's using mixed air which is what is proposed in the SD submission requires careful analysis to ensure the appropriate outdoor air is supplied to the space since air supplied through mixed air is not the same as 100% outside air.

The industry is moving away from large central air systems and moving towards decentralized systems to reduce energy and long-term operating costs. The specific heat for water is much higher than air which allows it to be distributed with less transport energy than can be accomplished with ducted air systems. The reason behind this industry move is to minimize fan energy consumed in the building. Using smaller fans equipped with ECM motor technology helps to maximize diversity savings while using highly efficient motors. This design approach would drastically shrink the two custom AHU's located in the indoor mechanical space to much smaller unit(s) dedicated to only the required outside air for the building. By selecting a DOAS unit approach that is specifically designed to treat outside air and dehumidification most efficiently you can minimize long term energy and operating costs. The other benefit of a central DOAS unit would be the overall reduction of duct sizes throughout the facility. If the central DOAS system is sized properly it could also limit the amount of condensate on the terminal unit coils and allow for some downsizing of the terminal units. This HVAC system type is supported by ASHRAE as a High-Performance Building Design. This type of system may also impact the need for the

proposed 5th floor VRF temporary system which assists in cost savings if phasing issues can be addressed.



The concept diagram above is shown just to convey the concept. The heating coil as an example could be located on the discharge side of the fan powered box when heating is necessary instead of the return side. The primary air valve is from the DOAS system.

Drawings Comments:

Drawing H201 First Floor HVAC Plan: Supply ductwork main shows 34"x8" leaving the main duct shaft. Recommend staying within a maximum aspect ratio of 4 to 1 or less. If a DOAS system approach were used, then this ductwork would be smaller and could then meet the aspect ratio.

Drawing H203 Third Floor HVAC Plan: Supply ductwork main shows 34"x8" leaving the main duct shaft. Recommend staying within a maximum aspect ratio of 4 to 1 or less. If a DOAS system approach were used, then this ductwork would be smaller and could then meet the aspect ratio.

Drawing H206 Sixth Floor HVAC Plan: Supply ductwork main shows two 34"x8" leaving the main duct shaft. Recommend staying within a maximum aspect ratio of 4 to 1 or less. If a DOAS system approach were used, then this ductwork would be smaller and could then meet the aspect ratio.

Drawing H207 Seventh Floor HVAC Plan: AHU-1 & AHU-2 are shown sharing one side together. Verify that proper service clearances for future repairs to the AHU's can occur including but not limited to changing out fans, coils, etc. The drawing shows limited access around three sides for AHU-2 and all four sides on AHU-1. If a DOAS system approach were used, then space required could be much smaller than the space allocated for AHU-1 & AHU-2 which could assist in service clearances. The energy recovery wheels are shown at 4000 cfm each which if that represents the outside air requirements for the building then the total DOAS capacity could be near 8000 cfm

instead of 46,000 CFM shown for the total air flow for AHU-1 & AHU-2. Even if the total DOAS capacity increases to account for the outside air introduced directly into the equipment instead of the space (assumes a 25% increase for effectiveness in accordance with ASHRAE 62) the DOAS system air flow is still a fraction of the size of the proposed central AHU's.

Trane Custom Air Handler Concept Drawing & HVAC Systems Narrative related to two central station AHU's: If this approach is chosen then these need reviewed during the design development phase when more details are shown. Some initial considerations include the following:

1. Consider fan array/fan wall configuration for both the supply and return/relief fans to reduce fan energy and improve acoustics instead of single large fans. Fan array/fan wall consists of multiple smaller fans which provides for ease of servicing in the future and can be designed to some backup capacity in the event of a single fan failure out of the fan array. This concept could also be considered for a DOAS system.
2. Consider electronic filtration to replace the combination MERV 8 + MERV 13 filters identified at keynote #12 on the drawing. Technology exists today that replaces both these filters with a single filter unit that can provide from a MERV 13 to MERV 16 while extending the filter media changeouts to 5 years or longer. This technology also can lower the total fan energy required when compared to loaded MERV 8 filter + loaded MERV 13 filters.
3. Consider blow thru arrangement for the supply fan(s) to potentially eliminate the air blender (keynote #11 on drawing). Air blenders are used for improving mixing of outside air and return air but increase the total fan HP requirements which increases energy usage. A blow thru supply fan arrangement could provide the desired air blending while eliminating the need for an air blender providing long term lower energy and operating cost savings.
4. Verify duct sizes meet ASHRAE recommended velocities and pressure drops for high performance building designs and acoustic for reduced energy and operating costs and acoustics for a quiet system. Keynote 3 shows a 36"x54" return air opening for 21,000 cfm which is over 1,555 FPM velocity when lower velocities are common for a quieter system. It would be beneficial to provide a duct sizing criteria table to the narrative that also includes how diffusers and registers will be sized.

HVAC Systems Narrative Comments:

1. Design Conditions: Verify design comfort temperatures outlined in the narrative meet GSD's objectives.
 - a. Office spaces are often designed at air conditioning temperatures below 75°F db to meet varying comfort levels for the HVAC equipment selection and to give flexibility in operating the space. The facility may operate at 75°F or higher temperatures but if the capacity is not included in the initial design then that flexibility may not be in the system.
 - b. Charleston outdoor air heating design temperatures are customarily at 0°F instead of ASHRAE Weather data value of 10.6°F. The WV Department of Education has incorporated the 0°F into their Policy 6200 as an example for the design of WV schools which is more stringent than ASHRAE Weather data. Verify if GSD's heating design should be in accordance with ASHRAE weather data or what is more customary for schools and other facilities in the area.
 - c. ASHRAE design guide for Dedicated Outside Air Systems (DOAS) outside air summer design conditions recommends using the peak dew point and/or peak enthalpy conditions for dehumidification.
2. Thermostat Setpoints for Comfort Areas: Unoccupied heating setpoint of 60°F and holiday setback temperature of 50°F may take a significant amount of time to recover prior to reoccupying the space for a building with this much mass. These setpoints could easily be modified through the Building Automation System (BAS) where necessary during occupancy to fit the needs; however, discussing this design intent before constructed is helpful to know

how to best operate the building once occupied and to clarify the Basis of Design (BOD). The VRF system proposed for the 5th floor typically has a very slow recovery time for heating where this may be the most evident unless that area is supplemented with the heating hot water system.

3. Will the Automatic Temperature Control System be tied into the campus wide Trane Building Automation System (BAS) system or will it be stand-alone BAS system?
4. Clarify if the 5th Floor air cooled variable refrigerant flow (VRF) system will only be used during construction and then fully replaced with systems consistent within the remaining portions of the facility.
5. Clarify the intent on dehumidification for the temporary VRF system. Will the 5th floor temporary DOAS units have reheat? VRF equipment is not designed to be able to dehumidify very effectively and typically needs some form of dehumidification at the DOAS equipment to work most effectively.
6. Define the version of ASHRAE 90.1 used for the design. It is assumed the design will meet the State adopted ASHRAE 90.1-2010 edition. Clarify any deviations from meeting this edition to assist in documenting the Basis of Design (BOD).
7. Verify utility rates used in energy analysis are consistent/reasonable with the actual costs paid for electric and gas at \$0.089/kwh electric and \$0.916/therm for gas.
8. Consider designing heating hot water system to maximize the efficiency of the condensing heating hot water boilers, ideally the peak heating hot water supply temperature is 140°F unless an extreme weather event occurs to maximize the condensing operation of the boilers.
9. Consider N+1 for building pumps instead of primary and backup assuming anticipated turn down of pumps justifies this approach. Each pump could be sized for 50% of peak capacity. Alternatively consider two pumps operating in parallel sized for say 60-75% capacity each to improve the wire-to-water efficiency on the building chilled water and heating hot water pumps. Consider the best efficient pump for the application (i.e., base mounted or in-line). The narrative currently shows "in-line" type pumps for the largest chilled water pumps. Clarify how the necessary bypass is being addressed for the variable water volume pumps so the pumps do not deadhead when only using two-way control valves. Minimum flow for pumping is commonly about 25% of design flow to prevent deadheading and overheating of the water at the pump.
10. Consider adding clarifying language to define how the heating hot water system will be designed. What is the design intent maximum flow rates being considered? Will noise/acoustics be addressed in the piping system design by using low velocities in sizing the piping? Will antifreeze be utilized? What will the target design delta T be for hot water coils?
11. Server room: Clarify if the Server room will need backup cooling. Narrative describes independent DX heat pump with remote air-cooled condenser. Consider using chilled water coil to take advantage of using the central chilled water system since it runs year-round and likely uses less energy than DX heat pump system and then only use the DX heat pump for backup in the event the central chilled water is not available.
12. VAV terminal units: Clarify if VAV terminal units with reheat will be able to turn down to 20% of rated airflow. If a DOAS with sensible cooling only fan powered VAV box with reheat where that's applicable terminal unit design system is used then this could minimize reheat since only OA is provided to each VAV box.
13. General Exhaust: Clarify if any form of energy recovery will be considered for the general exhaust system.
14. Duct Systems: Clarify if ductwork upstream of VAV boxes is lined or only downstream of VAV boxes is lined. Verify duct sizes to meet ASHRAE recommended practices for high performance designs and energy efficiency including the following:
 - a. Supply ductwork low pressure – 0.08 in. w.c. per 100 feet.
 - b. Return ductwork – 0.04 in. w.c. per 100 feet.

- c. Exhaust ductwork – 0.05 in. w.c. per 100 feet.
 - d. Diffusers and registers, including the balancing dampers sized with a static pressure drop not to exceed 0.08 in. w.c. unless a space dictates a different value.
 - e. Limit flexible ductwork to 5 feet (fully stretched) or less. Hanging straps, if used, need to use a saddle to avoid crimping the inside cross-sectional area. For ducts 12 inches or smaller in diameter, use a 3-inch saddle; those larger than 12" should use a 5-inch saddle.
15. Define proposed metering for the ability to manage the utilities for the building in accordance with ASHRAE 90.1-2010 tied into the Building Automation System incorporated to meet GSD's goals and objectives into the design considering:
- a. Chilled water energy usage from the central plant.
 - b. Natural gas usage separated between HVAC and domestic hot water plumbing.
 - c. Electric usage for building.
 - d. Submetering of usage for HVAC equipment, lighting, and plug loads.

Vertical Transportation Systems Narrative Comments:

1. Clarify the elevators will meet the current WV State Fire Code and the West Virginia Department of Labor requirements in addition to the codes defined.

Please let us know if you have any questions or need any additional information.

Sincerely,



Todd A. Zachwieja, P.E., CEM, LEED AP
Principal, Chief Executive Officer



Ted A. Zachwieja III, P.E., CEM
Chief Technical Officer

WV STATE BUILDING 4 RENOVATIONS

Task Name	Start Date	End Date	Duration (Calendar Days)	Percent Complete
WV State Office Building No. 4	7/6/2020	7/13/2023	1102	33%
PRE-DESIGN PHASE				
Kick-off Mtg & Info Gathering	7/6/2020	7/8/2020	2	100%
Revit Model	7/8/2020	8/15/2020	38	100%
Site Survey	8/17/2020	8/22/2020	5	100%
Programming	7/27/2020	8/20/2020	24	100%
Tenant Interviews and Test Fits	7/27/2020	8/31/2020	35	100%
Owner Review and Approval	9/1/2020	10/6/2020	35	100%
SCHEMATIC DESIGN				
Prepare SDs	10/6/2020	11/12/2020	37	100%
SD Submission	11/20/2020	11/21/2020	1	100%
SD Cost Estimate	11/23/2020	12/17/2020	24	100%
Owner Review and Approval	12/21/2020	1/4/2021	14	100%
NV5 / WVOT IT Mtg	12/17/2020	12/18/2020	1	100%
DESIGN DEVELOPMENT				
Prepare DD Documents	1/4/2021	3/12/2021	67	100%
CBI / PWWG Coordination meeting	1/21/2021	1/22/2021	1	100%
Capitol Bldg Comm - Matl Submission for April Mtg	2/1/2021	3/5/2021	32	100%
<i>SHPO On-Site Review/Walkthrough</i>	3/2/2021	3/3/2021	1	100%
DD Cost Estimate	3/5/2021	3/12/2021	7	100%
DD Submission	3/12/2021	3/13/2021	1	100%
Capitol Bldg Commission Meeting and Presentation	4/21/2021	4/22/2021	1	100%
Programming Revisions (4th & 7th Flr)	4/1/2021	6/20/2021	80	100%
Owner 3rd-party review	3/13/2021	4/3/2021	21	100%
Owner Review and Approval	3/15/2021	7/23/2021	130	100%
Submit Program Revisions to CBI	8/20/2021	8/20/2021	0	0%
HVAC Systems Revisions (Revised DD Submission)	8/2/2021	8/27/2021	25	0%
Revised DD Owner / 3rd Party HVAC Review and Approval	8/28/2021	9/7/2021	10	0%
Revised DD (MEP) Cost Estimate	8/28/2021	9/7/2021	10	0%
CONSTRUCTION DOCUMENTS				
WV FM Variance Submission	7/30/2021	8/14/2021	15	100%
Prepare CDs (16 weeks)	8/13/2021	12/3/2021	112	6%
1st Round of CBI Workstation coordination	9/1/2021	9/21/2021	20	0%
50% Review Submission to WV GSD	10/8/2021	10/9/2021	1	0%
50% Owner / 3rd Party HVAC Review and Approval	5/12/2021	5/19/2021	7	0%
CBI Workstation coordination	9/1/2021	9/21/2021	20	0%
90% Review Submission to WV GSD	11/11/2021	11/12/2021	1	0%
90% Owner / 3rd Party HVAC Review and Approval	11/22/2021	11/29/2021	7	0%
WV FM Plan Review Submission	11/22/2021	11/23/2021	1	0%
CD Cost Estimate	11/3/2021	12/3/2021	30	0%
100% CD Submission	12/3/2021	12/4/2021	1	0%
BIDDING/PROCUREMENT				
Procurement Review	12/4/2021	1/18/2022	45	0%
Bidding	1/18/2022	2/17/2022	30	0%
Pre-Bid Meeting	1/28/2022	1/29/2022	1	0%
Bid Question Deadline	2/7/2022	2/8/2022	1	0%
Bid Opening	2/17/2022	2/18/2022	1	0%
Contract Award	2/18/2022	3/20/2022	30	0%
CONSTRUCTION				
General Construction (16 months)	3/20/2022	7/13/2023	480	0%
AV Equipment Bid Package	3/5/2023	4/4/2023	30	0%
FFE CBI Install	6/13/2023	7/13/2023	30	0%



115 Evergreen Heights Drive, Suite 400, Pittsburgh, Pennsylvania 15229-1346
Phone: 412.931.8888, Fax: 412.939.2525, Email: tower@estower.com

July 30, 2021

Joseph Filar, RA, LEED AP
Senior Associate
Perfido Weiskopf Wagstaff + Goettel
408 Boulevard of the Allies
Pittsburgh, PA 15219-1301
jfilar@pwwgarch.com

**Re: West Virginia State Capitol Campus
Building #4 Renovation
Add Service – HVAC Redesign
Consulting Engineering Proposal**

Dear Joe,

Please find below the amendment to our base fee for additional consulting services. The additional service is based upon the direction given via email from Scot Casdorff on July 20, 2021 and includes the following additional scope of work:

- Revise the HVAC system to a 4-pipe system with a dedicated outside air system.
- Revise the MEP Design Development drawings and reissue the Design Development submission to reflect these changes. We are estimating **three weeks** upon approval to revise the drawings and reissue the DD set.

Fee: Our additional fee for the services identified above will be a lump-sum of \$18,100.00 and upon approval will be added to our current contract amount.

Upon approval of the Design Development submission, this change will have no further effect on the schedule or fee during the Construction Document and Construction Administration phases.

Please contact me with any questions you may have.

Very truly yours,

A handwritten signature in black ink that reads "T. Steffanie Bako". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

T Steffanie Bako, P.E.
Principal
Tower Engineering, Inc.

M2020060

ACCEPTED BY

_____ PWVG

DATE _____



September 22, 2021

Joseph Filar, AIA
Perfido Weiskopf Architects
408 Boulevard of the Allies
Pittsburgh, PA 15219-1301


Re: WV State Office Building 4

Dear Mr. Filar:

MORGAN PROPERTY & CONSTRUCTION CONSULTANTS, INC. proposes to provide estimating and consulting services to complete the additional HVAC changes, budget estimates for the referenced project in accordance, for a total cost of \$1,900.00.

If you have any questions, please contact me.

Sincerely,



Morgan P. Kronk
(412) 977-6735

Post Office Box 15540 ▼ Pittsburgh, PA 15244

Telephone: 412/787-0720

FAX: 412/787-0730

email: morgan@mpcci.net



APPROVED
[Signature]
9/29/21

STATE OF WEST VIRGINIA
DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES DIVISION
State Capitol
Charleston, West Virginia 25305

Allen L. McVey
Cabinet Secretary

Gregory L. Melton
Director

MEMORANDUM

To: Melissa Pettrey, Senior Buyer, State Purchasing Division
From: Cody Taylor, Procurement Specialist, General Services Division
Date: September 14, 2021
Ref: GSD662743, Change Order #2 Justification

Cody Taylor

Melissa:

Please allow this memorandum to serve as written explanation and justification for our request for Change Order #2 to increase CCT 0211 GSD2000000020, with Perfido Weiskopf Wagstaff & Goettel (PWWG), for the Building 4 Renovations Project, in the amount of \$30,604.00, to a new contract total of \$2,008,604.00 per the attached documentation and the explanation given below.

We are requesting an increase of \$30,604.00, to cover design changes and cost estimates.

Tower Engineering is to Redesign the HVAC system per the 3rd Party Peer Reviewer (ZDS) and Agencies agreement that a new design was warranted. ZDS and the Agency have decided to change the initial design from a VAV air distribution (DD design) to a 4-pipe fan coil system with DOAS. The redesigned system will have better airflow and lower energy and operations costs as it takes less energy to heat air than it does water. This redesign cost is \$20,815.00. Additionally, PWWG is to give new cost estimates for the HVAC redesign at a cost of \$2,185.00. This equates to a net increase of \$23,000.00 for the cost estimate and redesign of the Building 4 HVAC System.

PWWG is to partially reprogram Building 4 per Agency request. A tenant's needs were changed by Legislature after initial designs were done. The reprogramming will cover areas of the fourth and seventh floor. This is to be a net increase of \$7,604.00.

Change Order #2 is to cover the additional costs of the design services for the reprogramming of floors four and seven, the redesign of the Building 4 HVAC, and the cost estimation for the Building 4 HVAC's new design.

The Agency made the determination that these changes were warranted and approves the contract to be increased as detailed below:

Original Contract Amount	=	\$1,978,000.00
Change Order #1	=	\$30,604.00
Revised Contract Amount	=	\$2,008,604.00

The net change to-date to this contract, by change order, including this request, is \$30,604.00, or 1.5% of the original contract award value.

If you have any questions or need additional information, please contact me via email at Cody.G.Taylor@wv.gov or by phone at (304) 957-7187