



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

**Request for  
 Quotation**

RFQ NUMBER
PTR11003

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
FRANK WHITTAKER 304-558-2316

VENDOR

RFQ COPY  
 TYPE NAME/ADDRESS HERE

SHIP TO

DIVISION OF PUBLIC TRANSIT  
 BUILDING 5, ROOM 906  
 1900 KANAWHA BOULEVARD, EAST  
 CHARLESTON, WV  
 25305-0432 304-558-0428

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
08/16/2010				

BID OPENING DATE: 08/18/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
***** ADDENDUM NO. 2 *****						
THIAS ADDENDUM IS ISSUED TO PROVIDE THE ATTACHED BID CLARIFICATION, TECHNICAL QUESTIONS AND ANSWERS, AND LEED SCORE SHEET.						
BID OPENING DATE AND TIME HAVE NOT CHANGED.						
***** END ADDENDUM NO. 2 *****						
0001	1	EA		968-20		
BUILDING CONSTRUCTION						
***** THIS IS THE END OF RFQ PTR11003 ***** TOTAL:						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE	TELEPHONE	DATE	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS**  
**REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
5. Payment may only be made after the delivery and acceptance of goods or services.
6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at [www.state.wv.us/admin/purchase/vrc/hipaa.htm](http://www.state.wv.us/admin/purchase/vrc/hipaa.htm) and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

**INSTRUCTIONS TO BIDDERS**

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).

## Little Kanawha Bus Administrative and Maintenance Facility

Addendum No.: 2  
 Issue Date: August 9, 2010  
 Architects Project No.: 118985  
 Bid Opening: 1:30 p.m. August 18, 2010

This addendum forms a part of the Contract Documents and modifies the original Contract Documents dated **June 28, 2010** as noted below. Acknowledge receipt of this Addendum by inserting the number and issue date of this addendum in the blank space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of **6 pages** and the attached documents:

A2.1 – Specification Section 019113 – General Commissioning Requirements - 5 pages

### CHANGES TO BIDDING REQUIREMENTS:

1. N/A

### CHANGES TO CONDITIONS OF THE CONTRACT (DIVISION 1):

#### Question:

*This project bids August 18, 2010. Award of this project will probably be September 18, 2010 with the Pre-Construction being around October. Should the winter be a winter like last year would a winter shut-down take affect or will the Owner require wintertime construction activities during the winter months.*

2. CLARIFICATION to Section 013200 Paragraph 2.1 as follows:
  1. Should there be abnormal seasonal variations causing delays to the Contractor's Schedule, the contractor shall document and request adjustment to the construction time through the Contract Modifications Procedures as defined in Section 012600 paragraph 1.4.B.

#### Question:

*Can the General Contractor use an employee that has been certified for Leed Consulting from their Company to manage the Leed Requirements.*

3. REVISE Section 019113 – General Commissioning Requirements as per attachment "A2.1".

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 And Maintenance Facility  
 Project No. – 118985

ADDENDUM NUMBER 2

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### CHANGES TO SPECIFICATIONS (DIVISIONS 2 THRU 16):

Question:

*Will General Contractor be responsible for water & power usage once the permanent utilities are within the building until substantial completion?*

4. DELETE in Section 015000 paragraphs 3.2.D., 3.2.E.1. and 3.2.I.2. entirely.  
ADD in Section 015000 paragraph 3.1.C as follows:

C. Contractor shall be responsible for all utility costs, coordination arrangements throughout the construction until Substantial Completion.

### CHANGES TO DRAWINGS:

Question:

*The test bores that were conducted all seem to stop at about six to seven foot. I assume since the cut is minimal and the footings are only in ground a few feet, the depth of the test bores was adequate for the construction foundation design of the buildings. Was the Geo-tech requested to bore at the minimum depths needed to meet the foundation design or did the Geo-tech stop his bore due to encountering solid material? Evidence around the edge of the site indicates that rock excavation may take place.*

5. The Geotechnical Investigation Report dated March 2010 and in located in the Specifications for reference and the borings were taken to a depth of the bore to encountering solid material. Foundation design was based upon the recommendations given in the report.

Question:

*Gas Line to the west and south of the proposed building. Where is this line being relocated to?*

6. CLARIFICATION: See Key Note # 9 CU-101; relocate where indicated on drawing.

Question:

*Will the pervious concrete pavement require a curb around the perimeter or a gravel berm?*

*What are the chances that the Pervious Concrete can be changed to Asphalt Paving.*

*This sheet indicates that privacy slates are required in the fencing. The details on sheet C-504 does not indicate privacy slates. Are privacy slates required?*

7. CLARIFICATION to Sheet C-101 as follows:

- A. No curb and gutter or gravel berms were designed along the perimeter of the pervious pavement. The only curbing on the project abuts the sidewalks around the building.
- B. Traditional asphalt pavement cannot be substituted for the pervious concrete pavement indicated in the plans.
- C. Privacy slates are only required on the north facing section of the 8'h chainlink security fence.

Question:

*The site may be short of usable compactable material. Who is responsible for hauling in material should the site not be balanced?*

*The site shows evidence of very little topsoil. Will the Contractor be required to transport topsoil to the site for seeding & mulching in the disturbed areas?*

8. CLARIFICATION to Sheet CG-101 as follows:

- A. It is the responsibility of the Contractor to haul in usable compactable material in the event the site does not balance.
- B. It is the responsibility of the Contractor to furnish and augment existing on-site top soil to the extent required on the plans.

Question:

*Gas Line to the west and south of the proposed building. Where is this line being relocated to?*

9. CLARIFICATION: See Key Note # 9 CU-101; relocate where indicated on drawing.

Question:

*The existing gas meter and regulator is in the area of the south that requires about a nine foot fill. The drawings do not indicate the relocation of the meter. I would assume when relocating the gas line the meter will be relocated as well. Are we to pull the meter then reinstall in the same location after the embankment is complete?*

10. CLARIFICATION: See General note # 9 CU-101; a new tap, meter and regulator will need to be installed by the utility company. Gas line from meter to building and generator is by the contractor.

Question:

*The perk test notes show that the test holes hit rock at five feet two inches. The septic tank is five feet eleven inches. Looks as though we will be excavating rock for the septic system. Should we have in the base bid this rock excavation or will this excavation be a part of the unit pricing?*

11. CLARIFICATION: The Unit Prices are for unforeseen conditions only. As the borings indicate, the Contractor should anticipate the soils conditions accordingly and the work within the anticipated conditions as a base bid. If conditions are different than indicated by the soils report, the Unit Prices would be utilized for those unforeseen conditions.

Question:

*Looks as though all indications on the drawings point out that all the ceilings in the administration building will have a gypsum board ceilings. Is this correct?*

*Will all the penetrations through the gypsum board through-out the entire administration building have to be fire caulked or just the ceiling and walls of the corridors and mechanical rooms?*

12. CLARIFICATION to Sheets A-301, A-302, A-303 & A304 - Sections through the administrative office areas as follows:

- A. Sections show hat channels and gypsum board on the underside of the metal truss bottom chord.
- a. The hat channels and gypsum board is continuous under the administrative area.
  - b. All areas with suspended ceilings below are to be minimally taped and spackled.
  - c. All areas without suspended ceilings shall be finished drywall, primed and painted.
  - d. All areas with rated walls surrounding (ex. Mechanical/ electrical rooms) shall have Type X drywall, finished, primed, painted and fire caulking at all penetrations.
  - e. All areas which do not have rated wall surrounding shall be 5/8" drywall and have all penetration sealed with caulking.

Question:

*The continuous metal flashing around the perimeter. Will this flashing match the e.f.i.s or the brick veneer? If the metal can not be ordered in a matching color, will painting the flashing be permissible?*

13. CLARIFICATION to Sheets A-301, A-302, A-303 & A304 as follows: Color of the Cap Flashing between brick veneer and EIFS shall be as selected from the manufacturer's standard colors. See Specifications section 076200 2.1.

Question:

*This detail shows the brick veneer columns resting on a turn down slab. The foundation plan on Sheet SB-100 indicates a 2'-4" x 2'-4" x 1'-8" deep footing. I would assume the foundation plan would be correct. Is this detail indicating that the concrete between the columns will have a 2'-6" turn-down slab?*

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14. CLARIFICATION to Section 1 on sheet A-302 as follows: The section shows a turn down slab **between** the brick veneer columns. Columns foundations (should have been shown in dashed lines) are to be as designed on per SB-100 Foundation Plan and Footing Schedule.

Question:

*Who is responsible for supplying and installing these items,*

15. CLARIFICATION to Sheet A401 As Follows:

1. **Vehicle Lift** - Equipment shall be furnished and installed by Owner. Power wiring by Contractor, verify power requirements with owner.
2. **Wash Water Reclaim Pumps and Filters** - See Drawing P-403 for details, equipment shall be furnished and installed by reclaim system supplier. Contractor to coordinate with equipment supplier and install plumbing piping and power wiring as required in the proximity of equipment connections.
3. **Tire Changer** - Equipment shall be furnished and installed by Owner. Power wiring by Contractor.
4. **Wheel Balancer** - Equipment shall be furnished and installed by Owner. Power wiring by Contractor.
5. **Reclaimed Oil Tanks** - See Drawing P-403 for details, Trench drains, underground water storage tanks and reclaim piping shall be furnished and installed by Contractor. Electrical conduit and wiring by Contractor. Contractor shall coordinate with wash water system equipment supplier.
6. **Oil, Transmission, Antifreeze, Reclaimed Oil Tanks** - See Drawing P-402 for details, drums and fluid shall be furnished by Owner.
7. **Vehicle Exhaust System** - See Drawings M-101 & M-401 for details, equipment shall be furnished and installed by the Contractor. Support steel by Contractor.
8. **Lubrication and Power Reel System** - See Drawings P-102 & P-402 for details, equipment shall be furnished and installed by Contractor. Support steel by Contractor.

Architect's Clarifications:

16. REVISE the ceiling height in rooms 103, 108, 110 and 111 reading 8'-0" to read 9'-0".
17. ADD General Note #1 on Sheet A-301; Maintenance Bay, Coordinate support steel for Lubrication Hose Reels and Vehicle Exhaust Reels with pre-engineered metal building manufacturer. Contractor to furnish and install support system as required, provide shop drawing of structural support for approval. See equipment details on drawings P-403 and M-401 as reference.
18. DELETE General Note # 6. On Sheet A-401; No fire lines or sprinklers are included in this project.
19. REVISE Sheet SB-100; sheet reference in plan note in parking bay from F-403 to P-403.
20. REVISE the note on 1 / SB-100 reading 8" GRADE BEAM to read 6". Refer to the Footing Schedule and Detail 4 / S-501.

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21. REVISE Coded Note #3 on sheet P-102; Contractor to provide electronic pulse meter at water meter for LEED "Measurement and Verification". This shall be tied into the building monitoring system, see M-701. Coordinate with Water Company.
22. ADD General Note #3 on sheet P402; Provide one 10 gage 304 SS containment pan under lubrication drums. Allow 4" minimum distance from drum to pan edge. Approximate size is 100"x30"x8"deep. Provide shop drawing for approval.
23. DELETE all reference to DH-2 in room 107 on Sheet M-101;
24. DELETE all reference to DH-2 in Room 107 on Sheet E-201.
25. REVISE Coded Note #12 on sheet E-201; Contractor to provide electronic pulse meter at electric meter for LEED "Measurement and Verification". This shall be tied into the building monitoring system, see M-701. Coordinate with Power Company.
26. DELETE all reference to DH-2 in Panel PP, circuit 38, 40, 42 on Sheet E-901.

**END OF ADDENDUM**



ADDENDUM # 2 – ATTACHMENT "A2.1"  
 Little Kanawha Bus Administrative and Maintenance Facility

SECTION 019113 - GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. OPR and BoD documentation are included by reference for information only.

1.2 SUMMARY

- A. Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.
- B. This Section includes the following:
  - 1. Commissioning: Commissioning is the systematic process of ensuring that all building systems perform interactively according to the design intent and the Owner's operational needs. This is achieved through actual verification of performance. The commissioning process shall encompass and coordinate the traditionally separate functions of system documentation, equipment startup, control system calibration, testing and balancing, performance testing and training.
  - 2. Commissioning during construction is intended to achieve the following specific objectives according to the Contract Documents:
    - a. Verify that applicable equipment and systems are installed according to the manufacturer's recommendations and to industry accepted minimum standards and that they receive adequate operational checkout by installing subcontractors.
    - b. Verify and document proper performance of equipment and systems.
    - c. Verify that O&M documentation left on site is complete.
    - d. Verify that the Owner's operating personnel are adequately trained.
  - 3. The Commissioning process does not take away from or reduce the responsibility of the Contractor to meet the Contract Documents.
- C. Related Sections:
  - 1. Division 22 Section "Commissioning of Plumbing" for commissioning process activities for plumbing systems, assemblies, equipment, and components.
  - 2. Division 23 Section "Commissioning of HVAC" for commissioning process activities for HVAC&R systems, assemblies, equipment, and components.
  - 3. Division 26 Section "Commissioning of Electrical Systems" for commissioning process activities for electrical systems, assemblies, equipment, and components.
  - 4. Division 27 Section "Commissioning of Communications" for commissioning process activities for communications systems, assemblies, equipment, and components.

ADDENDUM # 2 – ATTACHMENT "A2.1"  
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5. Division 28 Section "Commissioning of Electronic Safety and Security" for commissioning process activities for electronic safety and security systems, assemblies, equipment, and components.

1.3 DEFINITIONS

- A. OPR: Owner's Project Requirements. The Owner's Project Requirements, which will be supplied to the Contractor by the Owner, is the documentation of the primary thought processes and assumptions behind design decisions that were made to meet the design intent. A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- B. BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- C. CxA: Commissioning Authority. The CxA directs and coordinates the day-to-day commissioning activities. The Contractor will hire the CxA as a subcontractor with the following provisions: the CxA is a disinterested employee or subcontractor of the general contractor, engineering firm, or an independent consultant. Disinterested means an employee or subcontractor who has no project responsibility other than commissioning this project. The CxA needs to provide documented experience in at least two building projects and have a high level of experience in energy systems design, installation and operation, commissioning planning and process management, and hands-on field experience.
- D. Commissioning Plan: An overall plan developed by the CxA after bidding that provides the structure, schedule, and coordination planning for the commissioning process.
- E. Construction Checklist: A list of items to inspect and elementary component tests to conduct to verify proper installation of equipment, provided by the CxA to the contractor. Construction Checklists are primarily static inspections and procedures to prepare the equipment or system for initial operation (e.g., belt tension correct, oil levels OK, labels affixed, gages in place, sensors calibrated, etc.). However, some construction checklist items entail simple testing of the function of a component, a piece of equipment, or system (such as measuring the voltage imbalance on a three phase pump motor of a chiller system). Construction checklists augment and are combined with the manufacturer's start-up checklist. Even without a commissioning process, Contractors typically perform some, if not many, of the construction checklist items the CxA will recommend. However, few Contractors document in writing the execution of these checklist items. Therefore, for most equipment, the subcontractors execute the checklists on their own. The CxA only requires that the procedures be documented in writing and does not witness much of the completion of construction checklists, except for larger or more critical pieces of equipment.
- F. Data Logging: Monitoring flows, currents, status, pressures, etc. of equipment using stand-alone data loggers separate from the control system.
- G. Deferred Functional Tests: FTs that are performed later, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design, or other site conditions that prevent the test from being performed.

ADDENDUM #2 – ATTACHMENT “A2.1”  
Little Kanawha Bus Administrative and Maintenance Facility

- H. Deficiency: A condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents.
- I. Design Intent: A dynamic document that provides the explanation of the ideas, concepts, and criteria that are considered to be very important to the owner. It is initially the outcome of the programming and conceptual design phases.
- J. Factory Testing: Testing of equipment on-site or at the factory by factory personnel with a Project Manager present.
- K. Functional Performance Test: Test of the dynamic function and operation of equipment and systems using manual (direct observation) or monitoring methods. Functional testing is the dynamic testing of systems (rather than just components) under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure setpoint). Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc. The systems are run through all the control system's sequences of operation, and components are verified to be responding as the sequences state. Traditional air or water test and balancing is not functional testing in the commissioning sense of the word. Testing and balancing's primary function is setting up the system flows and pressures as specified, while functional testing is verifying that which has already been set up. The CxA develops the functional test procedures in a sequential written form, coordinates, oversees, and documents the actual testing, which is usually performed by the Installer or vendor. Functional tests are performed after construction checklists and startup are complete.
- L. Indirect Indicators: Indicators of a response or condition, such as a reading from a control system screen reporting a damper to be 100% closed.
- M. Manual Test: Using hand-held instruments, immediate control system readouts, or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the “observation”).
- N. Monitoring: The recording of parameters (flow, current, status, pressure, etc.) of equipment operation using data loggers or the trending capabilities of control systems.
- O. Non-Compliance or Non-Conformance : See Deficiency.
- P. Over-Written Value: Writing over a sensor value in the control system to see the response of a system (e.g., changing the outside air temperature value from 50°F to 75°F to verify economizer operation). See also “Simulated Signal.”
- Q. Owner-Contracted Tests: Tests paid for by the Owner outside the Contractor's contract and for which the CxA does not oversee. These tests will not be repeated during functional tests if properly documented.
- R. Sampling: Functionally testing only a fraction of the total number of identical or near-identical pieces of equipment.
- S. Seasonal Performance Tests: Functional Tests that are deferred until the system(s) will experience conditions closer to their design conditions.

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- T. Simulated Condition: Condition that is created for the purpose of testing the response of a system (e.g., applying a hair dryer to a space sensor to see the response in a VAV box).
- U. Simulated Signal: Disconnecting a sensor and using a signal generator to send an amperage, resistance, or pressure to the transducer and DDC system to simulate a sensor value.
- V. Startup: The initial starting or activating of dynamic equipment, including executing construction checklists.
- W. Test Procedures: The step-by-step process that must be executed to fulfill the test requirements. The CxA develops the test procedures.
- X. Test Requirements: Requirements specifying what modes and functions, etc. shall be tested. The test requirements are not the detailed test procedures. The test requirements for each system are specified in the respective section of the Contract Documents.
- Y. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.
- Z. Trending: Monitoring using the building control system.

#### 1.4 COMMISSIONING TEAM

- A. Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to, representatives of the Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.
- B. Members Appointed by Owner:
  1. Representatives of the facility user and operation and maintenance personnel.
  2. Architect and engineering design professionals.

#### 1.5 OWNER'S RESPONSIBILITIES

- A. Provide the OPR documentation to the CxA and Contractor for information and use.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.
- C. Provide the BoD documentation, prepared by Architect and approved by Owner, to the CxA and Contractor for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

#### 1.6 CONTRACTOR'S RESPONSIBILITIES

- A. Find and subcontract the CxA: The CxA is the designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process. Refer to Part 1.3 DEFINITIONS C.

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- B. Contractor shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:
1. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
  2. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
  3. Attend commissioning team meetings held on a biweekly basis.
  4. Integrate and coordinate commissioning process activities with construction schedule.
  5. Review and accept construction checklists provided by the CxA.
  6. Complete electronic construction checklists as Work is completed and provide to the Commissioning Authority on a weekly basis.
  7. Review and accept commissioning process test procedures provided by the Commissioning Authority.
  8. Complete commissioning process test procedures.

1.7 CxA'S RESPONSIBILITIES

- A. Organize and lead the commissioning team.
- B. Provide commissioning plan.
- C. Convene commissioning team meetings.
- D. Provide Project-specific construction checklists and commissioning process test procedures.
- E. Verify the execution of commissioning process activities using random sampling. The sampling rate may vary from 1 to 100 percent. Verification will include, but is not limited to, equipment submittals, construction checklists, training, operating and maintenance data, tests, and test reports to verify compliance with the OPR. When a random sample does not meet the requirement, the CxA will report the failure in the Issues Log.
- F. Prepare and maintain the Issues Log.
- G. Prepare and maintain completed construction checklist log.
- H. Witness systems, assemblies, equipment, and component startup.
- I. Compile test data, inspection reports, and certificates; include them in the systems manual and commissioning process report.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 019113

GENERAL COMMISSIONING REQUIREMENTS

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Little Kanawha Bus Maintenance Facility - February 2010

Owner: West Virginia Division of Public Transit  
 Architect: Ron L. Boien, AIA - Michael Baker, Jr., Inc.  
 LEED Designer: Leslie Crowder, LEED AP - Michael Baker, Jr., Inc.  
 MEP Engineer: David Hilliard - Michael Baker, Jr., Inc.  
 Landscape Architect: Laura Cox, PLLC - Michael Baker, Jr., Inc.  
 Civil/Struct. Engineer: Pat Fogarty, PS, PE - Michael Baker, Jr., Inc.

LEED NC v3 - New Construction & Major Renovation					Pls	Critical Path / Next Steps	Responsibility		Status	Construction Costs
32	14	0	0	Total Proposed Project Score	110		Dir.	Coord.		
Certified 40-49 points Gold 60-79 points Silver 50-59 points Platinum 80+					Y= Yes M+= Most Likely M= Less Likely N= No					
7	6	0	0	<b>Sustainable Sites</b>	26					
Y	M+	M-	N	Prereq 1	Construction Activity Pollution Prevention	0			Construction	
				Credit 1	Site Selection	1			Design	
			5	Credit 2	Development Density & Community Connectivity	5			Design	
			1	Credit 3	Brownfield Redevelopment	1			Design	
	6			Credit 4.1	Alternative Transportation: Public Transportation Access	6	Confirm project site is within 1/4 mile of a bus stop for at least 2 bus lines		Design	
	1			Credit 4.2	Alternative Transportation: Bicycle Storage & Changing Rooms	1	Provide lockers, showers, and changing rooms for at least 20% of building occupants		Design	
3				Credit 4.3a	Alternative Transportation: Low-Emitting and Fuel-Efficient Vehicles	3	Provide preferred parking for Alternative Fuel Vehicles for 5% of total parking spaces		Design	
				Credit 4.3b	Alternative Transportation: Low-Emitting and Fuel-Efficient Vehicles	3	Provide parking for at least 5% of total parking spaces for Alternative Fuel Vehicles		Design	
	2			Credit 4.4	Alternative Transportation: Parking Capacity	2	Provide parking for at least 20% of total parking spaces		Design	
	1			Credit 5.1	Site Development: Protect or Restore Habitat	1	Protect or restore at least 1% of natural habitat on the project site		Construction	
	1			Credit 5.2	Site Development: Maximize Open Space	1	Provide at least 1% of the project site with open space that meets local zoning requirements		Design	
1				Credit 6.1	Stormwater Design: Quantity Control	1	Use pervious paving for at least 5% of the project site		Design	
1				Credit 6.2	Stormwater Design: Quality Control	1	Use pervious paving for at least 5% of the project site		Design	
1				Credit 7.1	Heat Island Effect: Non-Rooftop	1	Use shade from landscaping and open pavement systems for at least 50% of non-rooftop		Construction	
1				Credit 7.2	Heat Island Effect: Rooftop	1	Use reflective roofing for at least 50% of the project site		Design	
				Credit 8	Light Pollution Reduction	1	Use shielded, semi-enclosed, or fully enclosed lighting fixtures		Design	
6	3	0	0	<b>Water Efficiency</b>	10					
Y	M+	M-	N	Prereq 1	Water Use Reduction	0			Design	
2				Credit 1.1	Water Efficient Landscaping: Reduce by 50%	2	No irrigation provided		Design	
2				Credit 1.2	Water Efficient Landscaping: No Potable Water Use on Irrigation	2	No irrigation provided		Design	
2	2			Credit 2	Innovation: Water-Efficient Technologies	2			Design	
				Credit 3.1	Water Use Reduction: 30% Reduction	2			Design	
				Credit 3.2	Water Use Reduction: 25% Reduction	0			Design	
		1		Credit 3.3	Water Use Reduction: 40% Reduction	1			Design	



