



**Maryland Stadium Authority**  
**Request for Proposals**  
**Building Commissioning Services**  
**Renovation Projects at M&T Bank Stadium**

**Issue Date: September 21, 2023**

**KEY INFORMATION SUMMARY SHEET**

**MARYLAND STADIUM AUTHORITY**

**Request for Proposals  
Building Commissioning Services  
Renovation Projects at M&T Bank Stadium**

**RFP Issue Date:** September 21, 2023

**Procurement Officer:** Yai Waite  
Maryland Stadium Authority  
351 West Camden Street, Suite 300  
Baltimore, Maryland 21201  
Phone: 443-602-0681  
E-mail: [ywaite@mdstad.com](mailto:ywaite@mdstad.com)

**Procurement Method:** Competitive Sealed Proposals

**MBE Participation Goal:** 12% overall; no subgoals

**Pre-Proposal Conference:** September 27, 2023 at 11:00 a.m. (Local Time)

**Closing Date and Time  
Technical Proposals:** October 13, 2023 at 1:00 p.m. (Local Time)

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## SECTION 1

### GENERAL INFORMATION

#### 1.1 Summary Statement

The Maryland Stadium Authority (hereinafter “MSA”) is issuing this Request for Proposals (hereinafter “RFP”) for Building Commissioning Services to select a qualified Offeror to implement and manage the commissioning process for the M&T Bank Stadium Renovations Project (the “Project”). The project scope will include, but is not limited to, the commissioning of newly built aluminum entrances, storefronts and windows, brick veneer, metal panels, and new MEP systems which include but are not limited to AHUs, DOAS units, energy recovery modules, make-up air units, air-cooled condensing units, VRF systems, heat pumps, ductless split AC units, terminal heaters, pumps, exhaust fans, VFDs, DDC Control Systems, lighting controls, emergency generator, automatic transfer switch, chiller plant, heating water plant, domestic hot and cold water system, storm and sanity systems, and lightning protection.

A detailed summary of the scope of the work of the project and a tentative construction schedule is included in section 3 of this RFP.

#### 1.2 Abbreviations and Definitions

For purposes of this RFP, the following abbreviations and terms have the meanings indicated below:

- a. **Architect/Engineer (“A/E”)** - The team responsible for providing professional engineering, architectural, and design services for the Project. The A/E is Gensler (hereinafter “A/E”).
- b. **Basis of Design (BOD)** – Narrative of Owner’s project requirements and conceptual design developed during the programming phase.
- c. **Building Enclosure Commissioning (BECx)** - The process by which the design and constructed performance of building enclosure materials, components, assemblies and systems are validated to meet defined objectives and requirements of the project, as established by the owner. (Source: NIBS 3-2012).
- d. **Building Enclosure Commissioning Authority (BECxA)** - Entity that is designated to formally document the project-specific Building Enclosure Commissioning. This entity should be trained, experienced and knowledgeable in the process of building enclosure commissioning and possess basic architectural and building science knowledge of the design, performance, systems, and construction related to the building enclosure. The BECxA role



may be accomplished by the BES, CxA or an additional member to the team. (Source: NIBS 3-2012).

- e. **Building Enclosure Specialists (BES)** - This person or party is deemed an “expert” in the building enclosure systems anticipated to be used on the proposed building and possesses the experience and technical qualifications to design, critique, validate and support the team in the project development and construction validation. (Source: NIBS 3-2012).
- f. **COMAR** - Code of Maryland Regulations (available at <http://www.dsd.state.md.us>).
- g. **Contract** - The written agreement entered into between MSA and the selected Offeror. The Contract will include all general terms and conditions, and will incorporate the entire RFP, including any amendments and addenda to the RFP, and all or indicated portions of the selected Offeror’s proposal. A sample contract is attached hereto as **Attachment J**.
- h. **Consultant** – The selected Offeror pursuant to the terms of this RFP.
- i. **Commissioning Agent (CxA)** – Person responsible for ensuring the building systems are installed and operating in accordance with the project design.
- j. **Commissioning Authority** –An entity identified by the Owner who leads, plans, schedules, and coordinates the commissioning team to implement the commissioning process. (Source: ASHRA 0-2005).
- k. **Commissioning Team** – The individuals responsible for implementing and executing the commissioning process.
- l. **Construction Manager (CM)** – A third party engaged by the Owner to provide pre-construction and construction management services. The CM is Gilbane Building Company (hereinafter “CM”).
- m. **eMMA** - eMaryland Marketplace Advantage (<https://emma.maryland.gov>).
- n. **LEED** - A third-party certification program and the nationally accepted benchmark for the design, construction, and operation of high performance green buildings developed by the U.S. Green Building Council (USGBC).
- o. **Local Time** – Time in the Eastern Time Zone as observed by the State.
- p. **MBE** –Minority Business Enterprise certified by the Maryland Department of Transportation (hereinafter “MDOT”).
- q. **MSA** – Maryland Stadium Authority ([www.mdstad.com](http://www.mdstad.com)).

- r. **MSA Business Hours** – 8:30 a.m. to 5:00 p.m., local time, Monday through Friday, excluding State holidays.
- s. **MSA Procurement Policies** – MSA procurement policies and procedures (available at [www.mdstad.com](http://www.mdstad.com)).
- t. **Notice to Proceed (NTP)** – A formal notification issued by the Procurement Officer that directs the Consultant to perform work and establishes the date on which the work is to commence on a Project.
- u. **Offeror** - An entity that submits a Proposal in response to this RFP.
- v. **Procurement Officer (PO)** – The MSA representative responsible for this RFP. MSA may change the Procurement Officer at any time and will provide written notice to the Offerors of any such change.
- w. **Project** – The M&T Bank Stadium Renovations Project includes, among other things, aluminum entrances, storefronts, and windows, brick veneer, and new MEP systems which include AHUs, DOAS units, energy recovery modules, make-up air units, air-cooled condensing units, VRF systems, heat pumps, ductless split AC units, terminal heaters, pumps, exhaust fans, VFDs, DDC Control Systems, lighting controls, emergency generator, automatic transfer switch, and lightning protection. More detail included throughout this RFP.
- x. **Project Manager (PM)** - The MSA representative that is primarily responsible for monitoring the daily activities of the Contract and for providing technical assistance to the Consultant.
- y. **Project Team** – The Maryland Stadium Authority; the Client; the A/E, CM and consultants, and any other consultant/entity the MSA may engage to participate in the effort.
- z. **Proposal** - The submission provided by Offerors in response to this RFP.
- aa. **RFP** - This Request for Proposals.
- bb. **Selection Committee**- The representatives selecting the Consultant.
- cc. **State** – State of Maryland.

### 1.3 Contract Type

The contract that results from this RFP will include a fixed fee for professional services and a contingency amount to be used by MSA in its sole discretion. After execution, the Contract amount shall not be exceeded without the necessary contract modification.

#### **1.4 Contract Duration**

The term of the Contract will be for a period necessary to complete the scope of work and as agreed upon by MSA and the Consultant.

#### **1.5 Procurement Officer**

The sole point-of-contact for purposes of this RFP is the Procurement Officer listed below:

Yai Waite  
Maryland Stadium Authority  
351 West Camden Street, Suite 300  
Baltimore, Maryland 21201  
Cell: 443-602-0681  
Email: ywaite@mdstad.com

MSA may change the Procurement Officer at any time and will provide written notice to the Offerors if any such change occurs.

#### **1.6 Pre-Proposal Conference and Site Visit**

A virtual pre-proposal conference (“Conference”) will be held on **September 27, 2023 at 11:00 a.m. (Local Time)**. Please use the link below to register:

[https://us02web.zoom.us/meeting/register/tZorce2prjsvE9Wdv8wgzMW\\_eiQM2R1Y4Cl#/registration](https://us02web.zoom.us/meeting/register/tZorce2prjsvE9Wdv8wgzMW_eiQM2R1Y4Cl#/registration)

A site visit will be held on October 2, 2023 at 10:00 a.m., Local Time.

<https://www.eventbrite.com/e/site-visit-rfp-commissioning-svcs-renovation-projects-mt-bank-stadium-tickets-722220108787?aff=oddtcreator>

#### **1.7 The Project Manager**

The Project Manager is:

Kelly Smulovitz  
Maryland Stadium Authority  
333 West Camden Street, Suite 500  
Baltimore, Maryland 21201

MSA may substitute the PM at any time. Prior to Contract award, written notice of any substitution will be provided to Offerors and, if post award, to the Consultant.

## **1.8 e-Maryland Marketplace Advantage**

In order to receive a Contract award, a vendor must be registered on eMMA. Registration is free. Go here to register: <https://procurement.maryland.gov> Click on “New Vendor? Register Now” to begin the process and follow the prompts.

## **1.9 Questions**

Questions regarding this RFP shall be submitted electronically in Word or PDF formats via the following link no later than **October 3, 2023 at 1:00 p.m. (Local Time)**:

<https://mdstad.sharefile.com/r-r981533f9c84747a1b5545b340d31dfbb>

Please include information regarding the name of the firm, representative’s name, and contact information. Based on the availability of time to research and communicate an answer, the Procurement Officer will decide whether an answer can be given before the proposal closing date. Answers to all substantive questions that have not previously been answered, and are not clearly specific to the requestor, will be responded via addendum.

## **1.10 Technical Proposals - Closing Date and Time**

To be considered, Technical Proposals must be uploaded to the following link no later than **October 13, 2023 at 1:00 p.m. (Local Time)**:

<https://mdstad.sharefile.com/r-r39ebc2b4ed0144c89ac429fc7174aaof>

Requests for an extension of this date and time will not be granted. Offerors shall allow sufficient electronic transmission time to ensure timely receipt. Proposals received by MSA after the deadline will not be considered. Proposals will not be reviewed publicly.

## **1.11 Oral Presentations**

MSA reserves the right to conduct virtual or in-person oral presentations. In the event that MSA exercises its right, short-listed Offerors will be required to make virtual oral presentations to the Selection Committee. Significant representations made by an Offeror during their oral presentation must be confirmed in writing. All such representations will become part of the Offeror’s Proposal and are binding if a Contract is awarded as a result of this RFP. The tentative date for Oral Presentations is October 23-25, 2023. In your Technical Proposal, please state your availability for the dates provided. Typically, oral presentations will follow a specified format and generally be limited to 45 minutes [30 minutes for the presentation and 15 minutes for questions]. The Procurement Officer will notify the short-listed Offerors with details and instructions prior to the presentation.

The presentation must consist of, but not be limited to, a discussion of the Offeror's specific approach to the project, understanding of the scope of work, and how it intends to execute the work within schedule and budget.

### **1.12 Duration of Offer**

Proposals submitted in response to this RFP are irrevocable for **180 days** following the closing date for proposals, the deadline for the submission of Best and Final Offers ("BAFO"), if requested, or the date any protest concerning this RFP is finally resolved. This period may be extended at the Procurement Officer's request only with the Offeror's written agreement.

### **1.13 Offeror's Affidavit**

- a. Bid/Proposal Affidavit. Each Offeror shall complete and submit the Bid/Proposal Affidavit attached hereto as **Attachment A** with the Offeror's Technical Proposal.
- b. Contract Affidavit. A successful Offeror will be required to complete a Contract Affidavit in the form attached hereto as **Attachment C** and provide to MSA within five (5) business days after notification of proposed recommendation of award of the Agreement. An executed Contract Affidavit should not be submitted with an Offeror's Proposal.
- c. Contract Affidavit. A successful Offeror will be required to complete a Contract Affidavit in the form attached hereto as **Attachment C** and provide to MSA within 5 business days after notification of proposed recommendation of award of the Contract. An executed Contract Affidavit should not be submitted with an Offeror's Proposal.
- d. Corporate Diversity Addendum and Affidavit. Each Offeror shall complete and submit the Corporate Diversity Addendum and Affidavit attached hereto as **Attachment L** with the Offeror's Technical Proposal.

### **1.14 Acceptance of Terms and Conditions**

By submitting a Proposal, the Offeror if selected for award, shall be deemed to have accepted all of the terms and conditions set forth in this RFP including all attachments.

### **1.15 Procurement Method**

The Contract resulting from this RFP will be awarded in accordance with the Competitive Sealed Proposals process under Section 3 (C) of MSA's Procurement Policies. MSA's Procurement Policies are available for review on MSA's website or may be obtained by contacting the Procurement Officer.

### **1.16 Arrearages**

By submitting a response to this RFP, an Offeror represents that it is not in arrears in the payment of any obligations due and owing the State of Maryland, including, by way of example only, the payment of taxes and employee benefits, and that it will not become so in arrears during the term of the Contract if selected for contract award.

### **1.17 Revisions to the RFP**

- a. If the RFP is revised before the Proposal Closing Date, MSA shall post any addenda to the RFP on eMMA and MSA's website and shall endeavor to provide such addenda to all prospective Offerors that were sent this RFP or are otherwise known by the Procurement Officer to have obtained this RFP. It remains the responsibility of all prospective Offerors to check eMMA and MSA's website for any addenda issued prior to the Proposal Submission Deadline.
- b. Acknowledgment of the receipt of all addenda to this RFP issued before the Proposal Closing Date shall be included in the Transmittal Letter accompanying the Offeror's Technical Proposal.
- c. Addenda made after the Proposal Closing Date will be sent only to those Offerors that remain under award consideration as of the issuance date of the addenda.
- d. Acknowledgement of the receipt of addenda to the RFP issued after the Proposal Closing Date shall be in the manner specified in the addendum notice.
- e. Failure to acknowledge receipt of an addendum does not relieve the Offeror from complying with the terms, additions, deletions, or corrections set forth in the addendum, and may cause the Proposal to be deemed not reasonably susceptible of being selected for award.

### **1.18 Cancellations; Discussions**

MSA reserves the right to cancel this RFP, to accept or reject any and all proposals, in whole or in part, received in response to this RFP, to waive or permit cure of minor irregularities, and to conduct discussions with any or all qualified or potentially qualified Offerors in any manner necessary to serve the best interests of MSA. This may be followed by submission of Offeror-revised Proposals and best and final offers ("BAFO"). MSA also reserves the right, in its sole discretion, to award a contract based upon written proposals received, without prior discussions or negotiations.

### **1.19 False Statements**

MSA incorporates by reference the provisions of Section 11-205.1 of the State Finance and Procurement Article of the Annotated Code of Maryland regarding truthfulness in the information included in the Contract documents. Offeror shall comply with the obligations set forth therein, including, without limitation, the following:

- a. In connection with a procurement Contract, a person may not willfully:
  1. Falsify, conceal, or suppress a material fact by any scheme or device;
  2. Make a false or fraudulent statement or representation of a material fact;  
or
  3. Use a false writing or document that contains a false or fraudulent statement or entry of a material fact.
- b. A person may not aid or conspire with another person to commit an act under subsection of this section.
- c. A person who violates any provision of this section is guilty of a felony and on conviction is subject to a fine not exceeding \$20,000 or imprisonment not exceeding five years or both.

### **1.20 Minority Business Enterprise**

Minority Business Enterprises are encouraged to respond to this solicitation.

- a. An overall MBE subcontractor participation goal as identified in the Key Information Summary Sheet has been established for this procurement, representing a percentage of the total contract dollar value, including all renewal option terms, if any. All subcontractors named by the Offeror as part of their MBE Schedule must be certified with the Maryland Department of Transportation (MDOT).
- b. Notwithstanding any subgoals established for this RFP, the Contractor is encouraged to use a diverse group of subcontractors and suppliers from any/all of the various MBE classifications to meet the remainder of the overall MBE participation goal.
- c. By submitting a response to this solicitation, the Offeror acknowledges the overall MBE subcontractor participation goal and subgoals and commits to achieving the overall goal and subgoals by utilizing certified minority business enterprises, or requests a full or partial waiver of the overall goal and subgoals.

An Offeror that does not commit to meeting the entire MBE participation goal must submit a request for waiver with its proposal submission that is supported by good faith efforts documentation to meet the MBE goal made prior to submission of its proposal as outlined in **Attachment D-1B**, Waiver

Guidance. Failure of an Offeror to properly complete, sign, and submit **Attachment D-1A** at the time it submits its technical Proposal will result in the rejection of the Proposal and the Offeror being deemed not reasonably susceptible of being selected for award.

d. Attachments

a) D-1 to D-5 – The following Minority Business Enterprise participation instructions, and forms are provided to assist Offerors:

- Attachment D-1A MBE Utilization and Fair Solicitation Affidavit & MBE Participation Schedule (must be submitted with Proposal)
- Attachment D-1B Waiver Guidance
- Attachment D-1C Good Faith Efforts Documentation to Support Waiver Request
- Attachment D-2 Outreach Efforts Compliance Statement
- Attachment D-3A MBE Subcontractor Project Participation Certification
- Attachment D-3B MBE Prime Project Participation Certification
- Attachment D-4A Prime Contractor Paid/Unpaid MBE Invoice Report
- Attachment D-4B MBE Prime Contractor Report
- Attachment D-5 Subcontractor Paid/Unpaid MBE Invoice Report

b) The Offeror shall include with its Proposal a completed MBE Utilization and Fair Solicitation Affidavit (**Attachment D-1A**) whereby:

1. The Offeror acknowledges the certified MBE participation goal and commits to make a good faith effort to achieve the goal and any applicable subgoals, or requests a waiver, and affirms that MBE subcontractors were treated fairly in the solicitation process; and
2. The Offeror responds to the expected degree of MBE participation, as stated in the solicitation, by identifying the specific commitment of certified MBEs at the time of Proposal submission. The Offeror shall specify the percentage of total contract value associated with each MBE subcontractor identified on the MBE participation schedule, including any work performed by the MBE prime (including a prime participating as a joint venture) to be counted towards meeting the MBE participation goals.
3. The Offeror requesting a waiver should review **Attachment D-1B** (Waiver Guidance) and **D-1C** (Good Faith Efforts Documentation to Support Waiver Request) prior to submitting its request.

c) If the Offeror fails to submit a complete Attachment D-1A with the technical proposal as required, the Procurement Officer will deem the Proposal not reasonably susceptible of being selected for award.

d) Offerors are responsible for verifying that each MBE (including any MBE



prime and MBE prime participating in a joint venture) selected to meet the goal and any subgoals and subsequently identified in Attachment D-1A is appropriately certified by the Maryland Department of Transportation and has the correct NAICS codes allowing it to perform the committed work.

- e) Within ten (10) Business Days from notification that it is the recommended awardee or from the date of the actual award, whichever is earlier, the Offeror must provide the following documentation to the Procurement Officer:
  - 1. Outreach Efforts Compliance Statement (**Attachment D-2**);
  - 2. MBE Subcontractor/Prime Project Participation Certification (**Attachment D-3A/3B**); and
  - 3. Any other documentation required by the Procurement Officer to ascertain Offeror responsibility in connection with the certified MBE subcontractor participation goal or any applicable subgoals.
  - 4. Further, if the recommended awardee believes a waiver (in whole or in part) of the overall MBE goal or of any applicable subgoal is necessary, the recommended awardee must submit a fully-documented waiver request that complies with COMAR 21.11.03.11. If the recommended awardee fails to return each completed document within the required time, the Procurement Officer may determine that the recommended awardee is not responsible and, therefore, not eligible for Contract award. If the Agreement has already been awarded, the award is voidable.
- f) A current directory of certified MBEs is available through the Maryland State Department of Transportation (MDOT), Office of Minority Business Enterprise, 7201 Corporate Center Drive, Hanover, Maryland 21076. The phone numbers are (410) 865-1269, 1-800-544-6056, or TTY (410) 865-1342. The directory is also available on the MDOT website at <http://mbe.mdot.maryland.gov/directory/>. The most current and up-to-date information on MBEs is available via this website. Only MDOT-certified MBEs may be used to meet the MBE subcontracting goals.
- g) An Offeror that requests a waiver of the goal or any of the applicable subgoals will be responsible for submitting the Good Faith Efforts Documentation to Support Waiver Request (**Attachment D-1C**) and all documentation within ten (10) Business Days from notification that it is the recommended awardee or from the date of the actual award, whichever is earlier, as required in COMAR 21.11.03.11.
- h) All documents, including the MBE Utilization and Fair Solicitation Affidavit & MBE Participation Schedule (**Attachment D-1A**), completed and submitted by the Offeror in connection with its certified MBE participation commitment shall be considered a part of the Agreement and are hereby expressly incorporated into the Agreement by reference thereto. All of the referenced documents will be considered a part of the Proposal for order of precedence purposes (see Sample Contract – **Attachment J**).
- i) The Offeror is advised that liquidated damages will apply in the event the

Contractor fails to comply in good faith with the requirements of the MBE program and pertinent Contract.

### **1.21 Incurred Expenses; Economy of Preparation**

MSA will not be responsible for any costs incurred by an Offeror in preparing and submitting a proposal, making an oral presentation, providing a demonstration or performing any other activities related to this RFP. Proposals should be prepared simply and economically, providing a straightforward, concise description of how the Offeror proposes to meet the requirements of this RFP.

### **1.22 Protests/Disputes**

Any protest or dispute related to this RFP or a resulting Agreement shall be subject to Section 10 of MSA's Procurement Policies and Procedures and the relevant provisions of the Agreement.

### **1.23 Public Information Act Note**

- a. The Offeror should give specific attention to the clear identification of those portions of its Proposal that it considers confidential and/or proprietary commercial information or trade secrets, and provide justification why such materials, upon request, should not be disclosed by MSA under the Public Information Act, Md. Code Ann., General Provisions Article, Title 4 Offerors are advised to read carefully the requirements set forth in Section 4.e(b) herein regarding identification of confidential or proprietary information. (See also RFP Section 1.31 "Confidentiality").
- b. This information should be identified by page and section number and placed after the Title Page and before the Table of Contents in the Technical Proposal and if applicable, separately in the Financial Proposal.
- c. Offerors are advised that, upon request for this information from a third party, the Procurement Officer is required to make an independent determination whether the information must be disclosed.

### **1.24 Offeror Responsibilities**

- a. The Offerors shall be able to provide all goods and services required by this RFP and the successful Offeror shall be responsible for Agreement performance including any subcontractor participation.
- b. All subcontractors must be identified, and a complete description of their roles relative to the Proposal must be included in the Offeror's Proposal. If applicable, subcontractors utilized in meeting the established MBE participation goal(s) for this solicitation shall be identified as provided in the appropriate attachment(s) to this RFP (see Section 1.20 "Minority Participation

Enterprise”).

- c. If an Offeror is the subsidiary of another entity, all information submitted by the Offeror including but not to, references and financial reports, or experience and documentation (e.g. insurance policies, bonds, letters of credit) used to meet the minimum qualifications, if any shall pertain exclusively to the Offeror, unless the parent organization will guarantee the performance of the subsidiary. If applicable, the Offeror’s Proposal shall contain an explicit statement, signed by an authorized representative of the parent entity, stating that the parent entity will guarantee the performance of the subsidiary.
- d. A performance guarantee by a parent entity of the Offeror under this section will not automatically result in crediting the Offeror with the experience or qualifications of the parent under any evaluation criteria pertaining to the actual Offeror’s experience and qualifications. Instead, the Offeror will be evaluated on the extent to which MSA determines that the experience and qualifications of the parent are applicable to and shared with the Offeror, any stated intent by the parent to be directly involved in the performance of the Agreement, and the value of the parent’s participation as determined by MSA.

#### **1.25 Patents, Copyrights, and Intellectual Property**

- a. If the Consultant furnishes any design, device, material, process or other item that is covered by a patent or copyright or that is proprietary to or a trade secret of another, it shall obtain the necessary permission or license to permit MSA to use such item.
- b. The Consultant will defend or settle, at its own expense, any claim or suit against MSA alleging that any such item furnished by the Consultant infringes any patent, trademark, copyright, or trade secret. If a third party claims that a product infringes that party’s patent, trademark, copyright or trade secret, the Consultant will defend MSA against that claim at the Consultant’s expense and will pay all damages, costs, and attorney’s fees that a court finally awards, provided MSA: (i) promptly notifies Consultant in writing of the claim; and (ii) allows the Consultant to control, and cooperates with the Consultant in, the defense and any related settlement negotiations. The obligations of this paragraph are in addition to those stated in the next paragraph.
- c. If any product(s) furnished by the Consultant become, or in the Consultant’s opinion is/are likely to become, the subject of a claim of infringement, the Consultant will, at its option and expense: (i) procure for MSA the right to continue using the applicable item; (ii) replace the product with a non-infringing product substantially complying with the item’s specifications; or (iii) modify the item so that it becomes non- infringing and performs in a substantially similar manner to the original item.

### **1.26 Non-Availability of Funding**

If the General Assembly fails to appropriate funds or if funds are not otherwise made available for continued performance for any fiscal period of a Contract succeeding the first fiscal period, the Contract shall be canceled automatically as of the beginning of the fiscal year for which funds were not appropriated or otherwise made available; provided, however, that this will not affect the rights of the Consultant and/or MSA under any termination clause in the Contract. The effect of termination of the Contract hereunder will be to discharge the Consultant, and MSA from future performance of the Contract, but not from their rights and obligations existing at the time of termination. The Consultant shall be reimbursed for the reasonable value of any nonrecurring costs incurred but not amortized in the price of the Contract. MSA shall notify the Consultant as soon as it has knowledge that funds may not be available for the continuation of the Contract for each succeeding fiscal period beyond the first.

### **1.27 Financial Disclosure**

The Consultant shall comply with §13-221 of the State Finance and Procurement Article of the Annotated Code of Maryland, which requires that every person that enters into contracts, leases, or other agreements with the State or its agencies during a calendar year under which the business is to receive in the aggregate, \$100,000 or more, shall, within 30 days after the aggregate value of these contracts, leases or other agreements reaches \$100,000, file with the Secretary of the State of Maryland certain specified information to include disclosure of beneficial ownership of the business.

### **1.28 Non-Exclusive Use**

Neither this RFP nor any resulting Contract shall be construed to require MSA to use any Offeror or exclusively use the Consultant for the services described in this RFP. MSA reserve the right to obtain services of any nature from other sources when it is in the best interest of MSA to do so and without notice to any party. MSA makes no guarantees that it will purchase any products or services from the Consultant resulting from this RFP.

### **1.29 Sustainability Policies**

MSA is committed to procuring all supplies, services, maintenance, construction, and architect-engineer services in a manner consistent with the promotion of sound environmental practices.

### **1.30 Payments by Electronic Fund Transfer**

By submitting a response to this RFP, the Offeror agrees to accept payments by electronic funds transfer (EFT) unless the State Comptroller's Office grants an exemption from this method of payment. The awarded CM shall register using the

COT/GAD X-10 Vendor Electronic Funds Transfer (ETF) Registration Request form. MSA will provide the required EFT forms to the awarded Offeror. Requests for exemption are strictly the responsibility of the awarded CM.

### **1.31 Confidentiality**

Subject to the Maryland Public Information Act and any other applicable laws, all confidential or proprietary information and documentation relating to either party to a Contract resulting from this RFP (including without limitation any information or data stored within the Consultant's computer systems) shall be held in absolute confidence by the other party. Each party shall, however, be permitted to disclose relevant confidential information to its officers, agents, and employees to the extent that such disclosure is necessary for the performance of their duties under the Contract, provided that the data may be collected, used, disclosed, stored, and disseminated only as provided by and consistent with the law. The provisions of this section shall not apply to information that (a) is lawfully in the public domain; (b) has been independently developed by the other party without violation of the Contract; (c) was already in the possession of such party; (d) was supplied to such party by a third-party lawfully in possession thereof and legally permitted to further disclose the information; or (e) such party is required to disclose by law.

### **1.32 Loss of Data**

In the event of loss of any MSA data or records where such loss is due to the intentional act or omission or negligence of the Consultant or any of its subconsultants or agents, the Consultant shall be responsible for recreating such lost data in the manner and on the schedule set by the Procurement Officer. The Consultant shall ensure that all data is backed up and recoverable by the Consultant.

### **1.33 Non-Hiring of Employees**

No official or employee of the State, as defined in State Government Article §15-102, Annotated Code of Maryland, whose duties as such official or employee include matters relating to or affecting the subject matter of this procurement, shall, during the pendency and term of a resulting Contract, and while serving as an official or employee of the State, become or be an employee of the Consultant or any entity that is a subconsultant on said Contract.

### **1.34 Nondiscrimination in Employment**

The Consultant agrees: (a) not to discriminate in any manner against an employee or applicant for employment because of race, color, religion, creed, age, sex, marital status, sexual orientation, national origin, ancestry, or disability of a qualified individual with a disability; (b) to include a provision similar to that contained in subsection (a) above in any subcontract except a subcontract for

standard commercial supplies or raw materials; and (c) to post, and to cause subconsultants to post, in conspicuous places available to employees and applicants for employment, notices setting forth the substance of this clause.

### **1.35 Contingent Fee Prohibition**

The Consultant warrants that it has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson or commercial selling agency working for the Consultant, to solicit or secure a Contract, and that it has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson or commercial selling agency, any fee or other consideration contingent on the making of a Contract.

### **1.36 Commercial Nondiscrimination**

As a condition of entering into this Contract, Contractor represents and warrants that it will comply with the State's Commercial Nondiscrimination Policy, as described under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland. As part of such compliance, Contractor may not discriminate on the basis of race, color, religion, ancestry, national origin, sex, age, marital status, sexual orientation, sexual identity, genetic information or an individual's refusal to submit to a genetic test or make available the results of a genetic test or on the basis of disability, or otherwise unlawful forms of discrimination in the solicitation, selection, hiring, or commercial treatment of subcontractors, vendors, suppliers, or commercial customers, nor shall Contractor retaliate against any person for reporting instances of such discrimination. Contractor shall provide equal opportunity for subcontractors, vendors, and suppliers to participate in all of its public sector and private sector subcontracting and supply opportunities, provided that this clause does not prohibit or limit lawful efforts to remedy the effects of marketplace discrimination that have occurred or are occurring in the marketplace. Contractor understands that a material violation of this clause shall be considered a material breach of this Contract and may result in termination of this Contract, disqualification of Contractor from participating in State contracts, or other sanctions. This clause is not enforceable by or for the benefit of, and creates no obligation to, any third party.

As a condition of entering into this Contract, upon the request of the Commission on Civil Rights, and only after the filing of a complaint against Contractor under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland, as amended from time to time, Contractor agrees to provide within 60 days after the request a complete list of the names of all subcontractors, vendors, and suppliers that Contractor has used in the past four (4) years on any of its contracts that were undertaken within the State of Maryland, including the total dollar amount paid by Contractor on each subcontract or supply contract. Contractor further agrees to cooperate in any investigation conducted by the State

pursuant to the State Commercial Nondiscrimination Policy as set forth under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland, and to provide any documents relevant to any investigation that are requested by the State. Contractor understands that violation of this clause is a material breach of this Contract and may result in Contract termination, disqualification by the State from participating in State contracts, and other sanctions.

### **1.37 Political Contribution Disclosure**

The Consultant shall comply with Election Law Article, §§14-101 to 14-108, Annotated Code of Maryland, which requires that every person that enters into Contracts, leases, or other agreements with the State, a county, an incorporated municipality, or its agencies, during a calendar year in which the person receives in the aggregate \$100,000 or more, shall file with the State Board of Elections a statement disclosing contributions in excess of \$500 made during the reporting period to a candidate for elective office in any primary or general election. The statement shall be filed with the State Board of Elections (1) before a purchase or execution of a lease or Contract by the State, a county, an incorporated municipality, or their agencies, and shall cover the preceding two calendar years; and (2) if the contribution is made after the execution of a lease or Contract, then twice a year, throughout the Contract term, on: (a) February 5, to cover the 6-month period ending January 31; and (b) August 5, to cover the 6-month period ending July 31.

### **1.38 Verification of Registration and Tax Payment**

Before a corporation can do business in the State, it must be registered with the Department of Assessments and Taxation, State Office Building, Room 803, 301 West Preston Street, Baltimore, Maryland 21201. It is strongly recommended that any potential Offeror complete registration prior to the closing date for receipt of Proposals. An Offeror's failure to complete registration with the Department of Assessments and Taxation may disqualify an otherwise successful Offeror from final consideration and recommendation for Contract award.

### **1.39 MBE and Prevailing Wage Compliance System**

As part of MSA's commitment to assist firms in complying with legal and Contractual requirements, MSA maintains a web-based MBE and prevailing wage compliance system. The system was designed to provide various work-flow automation features that improve the project reporting process. This system will monitor Contract compliance for all Program Contracts. The prime firm, its first-tier consultants, and all MBE participation subconsultants awarded Contracts will be required to use the web-based system to submit project information including, but not limited to, certification of payments made and received and certified payroll records (if the Contract includes prevailing wage and/or workforce development requirements). MSA may require additional information related to

the Contract to be provided electronically through the system at any time before, during, or after Contract award.

**1.40 Maryland Law**

This RFP shall be construed, interpreted, and enforced according to the laws of the State of Maryland.



## SECTION 2

### **OFFEROR'S QUALIFICATIONS**

At a minimum, Offerors shall meet the following qualifications to be considered for award:

#### **2.1 Qualifications**

- a. Offeror shall be a firm specializing in providing commissioning services and experienced in establishing, overseeing, monitoring, tracking, and reporting commissioning requirements;
- b. Offeror shall have significant experience participating in all phases of construction including design review, submittal review, construction monitoring, owner training, O&M review, post acceptance, final and post occupancy commissioning;
- c. Offeror shall have significant experience in developing and implementing project specific commissioning plans for new construction projects;
- d. Offeror shall demonstrate a minimum of seven (7) years of experience providing fundamental and enhanced building enclosure commissioning services;
- e. Offeror shall demonstrate knowledge of LEED accreditation requirements and building techniques;
- f. Offeror shall have a minimum of three (3) years of experience in developing building and systems maintenance plans;
- g. Offeror shall have experience with complex integration of new systems in buildings 60,000GSF or larger;
- h. Offeror shall have experience with large public gathering venues such as athletic facilities, hotels/conference centers, convention centers, educational facilities, office buildings, etc; and,
- i. Offeror shall meet the insurance requirements stated in the Sample Contract, **Attachment J.**

## **SECTION 3**

### **PURPOSE AND SCOPE OF WORK**

#### **3.1 Purpose**

The MSA is issuing this Request for Proposals to implement and manage building commissioning services for the M&T Bank Stadium Renovations project (the “Project”) in Baltimore, MD. MSA is seeking a commissioning firm to implement the commissioning process in the renovated facility. The objective of commissioning is to ensure that all energy-related and other building systems installed are performing per the design intent and provide documented confirmation that the renovated facility systems fulfill the operational, functional, and performance requirements of MSA, its occupants, and the maintainability standards of the Operation and Maintenance (O&M) personnel. To reach this goal, it is necessary for the commissioning process to fully document and implement the project requirements for system function, performance, and maintenance, as well as to verify and document compliance with these criteria throughout design, construction, start-up, and the post occupancy period of operation for mechanical, electrical, plumbing, lighting, AV, and life safety systems. Commissioning services shall be performed on all mechanical, electrical, plumbing, IT/AV, and building enclosure systems. The selected Offeror will work closely with the Project Team in a cooperative and coordinated fashion.

The commissioning process will systematically document that the specified components and systems have been properly manufactured, installed, and are functioning as specified. This process shall be completed through pre-functional checkout and system functional testing to verify and document the proper operation of all equipment in various modes, critical alarms, and under anticipated performance conditions.

The Consultant will work closely with the MSA, the CM, the A/E, and other project participants in a cooperative and coordinated fashion. The MSA will deliver the project via Construction Manager at risk method. The CM on the job is Gilbane and the A/E is Gensler.

#### **3.2 Scope of Services**

The Consultant will be responsible for all commissioning activities in accordance with ASHRAE and NIBS Guidelines on a single project, inclusive of design input and reviews, installation verification, equipment startup, pre-functional checkout, and full system functional testing. Commissioning services will be provided for 12 months after substantial completion of each phase. Testing, verification and reporting on the performance of all commissioned systems is to be completed in a systematic fashion based on an approved project-specific commissioning plan.

Consultant will be responsible for testing, evaluating, and confirming the proper integration of new equipment installed as part of the Project.

At a minimum, the Consultant will commission the following systems:

- Mechanical & Plumbing Systems and Equipment
  - Air Handling Units
  - DOAS Units
  - Energy Recovery Modules
  - Make-Up Air Units
  - Air Cooled Condensing Units
  - Variable Refrigerant Flow Systems
  - Heat Pumps
  - Ductless Split AC Units
  - Terminal Heaters
  - Pumps
  - Exhaust Fans
  - VFDs
  - DDC Control Systems
  - VAVs
  - FCUs
  - Chiller Plant
  - Domestic Hot Water
  - Domestic Cold Water
  - Heating Water Plant
  - Stormwater Pumps
  - Sanitary Pumps
  - Stormwater Retention Facilities
- Electrical Systems & Equipment
  - Automatic Transfer Switches
  - Lighting and Daylighting Controls
  - AV Controls
  - Lightning Protection

- Motor Controllers
- Transformers
- Panelboards
- Grounding Systems
- Emergency Generator Connections
- Building Enclosure Systems
- Special Systems
  - Kitchen equipment

After substantial completion but prior to final acceptance, the Consultant shall work with the Project Team to capture trending data on all commissioned equipment from a continuous seven (7) calendar day period, confirming satisfactory system performance.

The M&T Bank Stadium Renovation Project consists of the following four phases:

1. 2024 Projects

- a. For the 2024 projects listed below, construction will take place from January 2024 – August 2024. Above ceiling mechanical work is anticipated to move quickly and will require commissioning agent to staff accordingly as to not delay the project.
- b. Club Level Renovation – Replace all existing mechanical equipment on club level, renovate restrooms, and replace all finishes / lighting throughout. No major changes to mechanical equipment, replace in kind.
- c. Suite Level Hallways and Entrances - Replace all existing mechanical equipment on suite level hallways and replace all finishes / lighting throughout. No major changes to mechanical equipment, replace in kind.
- d. Chairman Suites – Completely renovate the current press level and turn it into suites, a large kitchen, and a lounge space. All associated MEP and finishes are included with this scope. There is anticipated to be a lot of AV / IT work with this project. The new space is approximately 30,000 SF.
- e. Press Relocation – Relocate the press from the current press level to lower suite level. All associated MEP and finishes included with this scope. There is anticipated to be a lot of AV / IT work with this project. The new space is approximately 9,000 SF.
- f. Miller Lite Building – Replace the tent in the SE corner with a two story beer hall. First floor will be enclosed with glass and the second floor will be an outside rooftop bar. Building is approximately 13,000 SF.

2. 2025 Projects

- a. For the 2025 project listed below, construction will take place from January 2024 – August 2025.
  - b. Service Level Renovation - Currently service level is only about half finished. The remainder of the service level will be excavated and finished with suites, clubs, locker room space, interview space, and other misc. uses. Newly finished space is about 45,000 SF.
  - c. Chiller Plant – A new chiller plant will be built to either serve just M&T, or to serve the Warehouse, Oriole Park, and M&T. The plant will be between 3,600 and 5,300 tons.
3. 2026 Projects
- a. For the 2026 projects listed below, construction will take place from roughly January 2025– August 2026.
  - b. Plazas - On the outside of the building, there will be several plazas and buildings built. It is anticipated that roughly four - three story building will be built.
  - c. Parking Garage - A 350 space parking garage will be built on the south side of the stadium.
4. Facility Condition Assessment Projects
- a. As part of a facility condition assessment done of M&T Bank Stadium, it was concluded that all mechanical and plumbing equipment needs to be replaced. This does not included ductwork or piping except what is needed to make the connections to the new equipment. A schedule of equipment from original construction to help determine rough quantities is included in the bid document. This is not a 100% inclusive list and items added with renovations over time are not listed. The intent is to replace the equipment as one of the renovation projects above moves through a space. If an area is not getting renovated, the equipment will be replaced at a time within the project schedule that is in the best interest of the project.

Commissioning agent will be responsible for the scope listed in tis RFP for all projects listed above. Construction scheduled are anticipated to be very tight and timing will not allow for waiting on commissioning agent. Bidders must be able to have teams available quickly to meet the demands of the schedule. Same / next day reports will be required to be able to repair issues found quickly.

The scope of work includes the following general tasks.

- a. Serve as the Commissioning Agent (CxA) and Building Enclosure Specialists (BES) (herein after *Commissioning Authority*) for the Project.
  - 1. Provide Commissioning Services and deliverables in accordance with this RFP and ASHRAE Guideline 0-2005.
  - 2. Provide Building Enclosure Commissioning services and deliverables in

accordance with this RFP and NIBS Guideline 3-2012.

- b. Conduct formal design reviews and document in a formal report. The design review report must also address completeness of design documents regarding system performance, operability, maintainability, energy efficiency and sustainability of the overall design during the pre-construction phase. At a minimum, the design reviews must confirm the design complies with the current statutes of State energy codes. Formal reviews are required, at the conclusion of each phase of A/E document submission (DD, CD 70%, and CD 95%). The timing of the award of the commissioning contract will not allow for all phases of review for the 2024 projects. Only final design review will be required for the 2024 projects. Full review at each submission will be required for the 2025 and 2026 projects.
- c. Develop full commissioning specifications (requirements) for all mechanical, electrical, plumbing, special systems, and building enclosure equipment and systems tailored to scale and complexity of the project. Coordinate with and integrate into the project specifications produced by the Project Team.
- d. Coordinate a design phase controls integration meeting for the building energy management system and temperature controls integration with the Project Team to discuss EMS and equipment control integration issues, and sequences of operations between equipment, and systems, to ensure that integration issues such as point matrix delineation and operational sequences of commissioned systems are clearly described in the specifications.
- e. Coordinate commissioning activities and required meetings with the Project Team through both the design and construction phases, along with final acceptance, turnover and certification of the project.
- f. Conduct, schedule, manage the commissioning kick off meeting during the design phase with the A/E, and hold another kick off meeting for the CM & sub-contractors during the construction phase of the project. Provide a detailed commissioning schedule with durations delineated to integrate with the overall project schedule. The Commissioning Authority shall work with CM's Project Scheduler to integrate commissioning activities into overall project schedule.
- g. Develop, implement and track a project-specific commissioning plan incorporating the requirements from the Project's commissioning specifications and include all project-specific equipment pre-functional checklists, startup checkout forms, detailed commissioning schedule, and issues log templates.
  - 1. Commissioning plan shall be developed in accordance with ASHRAE Guideline 0-2005 and NIBS Guideline 3-2012 to include all mechanical, electrical, plumbing, and building enclosure systems and equipment
- h. At a minimum, the Commissioning plan shall include:

1. Brief overview of the commissioning process.
  2. Identification of the roles of primary commissioning participants and their responsibilities.
  3. Define the proper communication protocols and methods for distribution of information amongst the Project Team.
  4. Review of the Basis of Design.
  5. List of all commissioned features and systems including a master list of all pertinent equipment and systems.
  6. Description of the management, communication and reporting of the plan.
  7. Outline of the commissioning scope, including submittal review, observation, start-up, testing, and mock-up inspection.
  8. List of the expected written work products: pre-functional checklists of commissioned equipment, startup checkout forms, issues log tracking forms, functional test procedures and forms, and other reports mandated.
  9. Detailed commissioning schedule with durations delineated for the equipment to be commissioned.
  10. Description of the rigor and scope of testing including sampling method. All major equipment including central plant equipment, (air handling units, etc.) must be fully tested and may not be sampled.
- i. The Commissioning Authority must review the construction documents during the design phase to ensure that each commissioned feature or system meets the Basis of Design (BOD) relative to functionality, reduction in energy use & atmosphere protection, water use reduction, ease of maintenance, affordability, indoor environmental quality and local environmental impacts.
  - j. Review and comment on project submittals as it pertains to: commissioning and compliance with contract documents, any deviation for energy efficiency requirements of the specified equipment, as well as warranty provisions.
    - Generate and distribute a list of submittals requiring the Commissioning Authority's review.
  - k. Review and comment on project specific mock-ups as it pertains to the building enclosure system(s).
  - l. Perform site visits to observe general construction progress for preparation of commissioning activities.
  - m. Witness component and equipment startup to ensure that startup efforts are performed in accordance with the commissioning plan, contract documents, and manufacturer requirements.
  - n. Witness component testing to ensure that proper procedures are followed. Direct the execution of all functional performance testing with the trade contractors. All equipment must be fully tested, no sampling is allowed.
    - Included as part of the 12-month post occupancy warranty period, provide

opposite season testing of HVAC equipment and systems.

- o. Monitor and report on the training of operation and maintenance personnel. Review the draft-training plan and trainer qualification.
- p. Perform 10-month post-acceptance pre-warranty end review of outstanding commissioning issues, operational deficiencies, equipment failures, building operator and occupant complaints, and results from EMS systems monitoring and trending. Document all systems operation, maintenance, performance, systems alterations and changes, and re- testing and re-commissioning needs, as required.
- q. Conduct commissioning meetings during the construction phase, inspect, test, log and track all deficient items. Responsible for generating and managing a master issues log and ensure issues are addressed. This report is to be produced and submitted to the Owner, CM, A/E and responsible contractor on an ongoing basis. Commissioning is anticipated to be at a fast pace so reports must keep up. Additionally, a written list of all outstanding commissioning issues and any testing that is scheduled for a later date must be included. All outstanding environmentally or economically responsive feature deficiencies must be corrected or listed in the commissioning report. All completed functional tests should be listed in an appendix to the commissioning report
- r. Develop and complete the final commissioning report at the completion of all commissioning activities including seasonal start-ups. The Final Commissioning Report shall be developed in accordance with ASHRAE Guideline 0-2005 and NIBS Guideline 3-2012 and include, at a minimum:
  - 1. Final version of lessons learned and benefits resulting from commissioning. Design phase as well as construction phase considerations should both be addressed.
  - 2. Completed record of all pre-functional checklists, startup checkout forms, final results of functional tests including trending data demonstrating satisfactory system performance over seven (7) calendar days, and enclosure test records.
  - 3. Building maintenance plan as defined in Section 3.2(t) and Building Enclosure Preventative Maintenance Program as defined in Section 3.2(u).
  - 4. Signed letter confirming the commissioning plan has been successfully executed and the design intent of the Project has been achieved.
- s. Review the assembly of O&M manuals by the Contractor documenting design criteria, design assumptions and limitations, system descriptions, operating parameters, performance capabilities, and maintenance requirements as stipulated in the contract documents.
- t. Develop a specific Building Maintenance Plan (“BMP”) for the entire building’s critical systems in accordance with the design, manufacturer’s



recommendations. This specific BMP development is to be completed prior substantial completion of the project and shall address all systems within the scope of commissioning.

- Critical systems include, but are not limited to, HVAC and associated controls, life safety, electrical, lighting, and plumbing systems.
- u. Develop a specific Building Enclosure Preventative Maintenance Plan in accordance with manufacturer recommendations, to be submitted prior to substantial completion.

### **3.3 Schedule**

The schedule outlining the current project timelines are listed above in the Scope of Services section of this RFP.

## **SECTION 4**

### **PROPOSAL SUBMISSION AND REQUIREMENTS**

#### **4.1 Solicitation Process**

The solicitation will follow a multi-step process to select the successful Offeror.

1. Step 1– Submission of Technical Proposal

Offerors will submit a technical Proposal in accordance with Section 4.3 to demonstrate their experience (including meeting the minimum requirements and ability to execute the Project successfully). Upon receipt of the technical Proposals, proposals will be reviewed and those deemed responsible and reasonably susceptible of being selected for award will be reviewed by the Selection Committee. Offerors must respond to all requirements of the RFP. Offerors that fail to do so shall be deemed not reasonably susceptible of being selected for award.

2. Step 2 – Review of Technical Proposals

The Selection Committee will review technical Proposals and rank the Proposals according to technical merit. Based on their achieved technical rankings, selected Offerors will be “short-listed” to participate in the oral presentation phase of the procurement.

3. Step 3 –Short-list and Oral Presentation

Short-listed Offerors will be asked to attend a virtual oral presentation. Offerors that are not short-listed will be notified that they are not reasonably susceptible of being selected for award.

4. Step 4 – Selection for the Financial Proposal Phase

After oral presentations and based on achieved rankings, the Selection Committee will select which short-listed firms will be requested to submit a financial Proposal. Offerors that are not short-listed will be notified that they are not reasonably susceptible of being selected for award.

5. Step 5 – Recommendation for Award

The Offeror deemed to provide the best value (Technical and Financial) to the Project by the Selection Committee will be recommended for award. The Offeror deemed to provide the best value (Technical and Financial) to the Project by the Selection Committee will be recommended for award.

## 4.2 Submission – General Requirements

Offerors shall submit proposals labeled “**Request for Proposals – Building Commissioning Services – M&T Bank Stadium Renovations – Request for Proposals – Volume I – Technical Proposal**”. All pages of each proposal volume must be consecutively numbered from beginning (Page 1) to end (Page “x”). The final page shall state “Final Page”.

Technical proposals shall be uploaded electronically to the link provided in Section 1.10 of the RFP, as revised by any addendum. **The electronic submissions (formatted as .pdf file) shall include the firm’s name in the file name and shall be formatted so each page can be legibly printed in 8 ½” x 11” format.**

## 4.3 Volume I – Technical Proposal

This section provides specific instructions for submission of the Offeror’s Technical Proposal. The Technical Proposal shall follow the format provided below.

### a. Transmittal Letter

A transmittal letter must be included in the Technical Proposal. The purpose of this letter is to transmit the proposal to the Procurement Officer. The transmittal letter should be brief and signed by an individual who is authorized to commit the Offeror to the services and requirements as stated in this RFP.

### b. Title and Table of Contents

The Technical Proposal shall begin with a title page bearing the name and address of the Offeror, point of contact information (including e-mail address), and the title of this RFP. A table of contents for the Proposal should follow the title page. Information claimed to be confidential shall be clearly identified. **Unless there is a compelling case, an entire proposal** should not be labeled confidential. Only those portions that can reasonably be shown to be proprietary or confidential should be so labeled.

### c. Executive Summary

The Offeror shall condense and highlight the contents of the technical Proposal in a separate section titled “Executive Summary.” The summary shall acknowledge the receipt of any amendments or addenda associated with this RFP and identify its tax identification number. The Executive Summary shall not exceed two (2) pages. The summary shall identify any exceptions the Offeror has taken to the RFP requirements and/or sample Contract – **Attachment J**. Offerors shall also identify any joint ventures at the time of submission, if any, and the roles these relationships will have in the performance of a Contract. Upon MSA’s request,

Offerors shall make available within 24 hours the joint venture scope of work documents and/or agreement.

**Warning: Exceptions to terms and conditions may result in having the proposal deemed as not reasonably susceptible of being selected for award. If an Offeror takes no exception, the Executive Summary should so state.**

**d. Work Plan and Offeror's Experience**

Section 3 (Scope of Work) of the RFP, provides Offerors with information on the desired outcome of this solicitation. At a minimum, Offerors shall address the following:

1. Demonstrate that they meet the qualifications set forth in Section 2 (Offeror's Qualifications) of the RFP.
2. Offeror's organization and how it intends to complete the scope of work outlined in the RFP. Please provide a general description of your company's approach to the commissioning process for the specific Project and identify some potential challenges and proposed course of action plans.
3. The Offeror shall convey project related experience by completing the Experience Form included as **Attachment K**.
4. Schedule:  
Offerors shall include a detailed schedule of activities and durations.
5. Experience:  
The names, titles, and resumes of key management personnel (staffing plan) directly involved with managing the work that will be required under the Contract.
6. Provide work samples of the following deliverables:
  - Issues Log
  - Commissioning Plan
  - Final Commissioning Report (including pre-functional checklist, start-up forms, and final results of functional testing)
  - Building Maintenance Plan
  - Building Enclosure Preventative Maintenance Plan

Note: During proposal evaluation, MSA reserves the right to require that the Offeror provide a copy of its most current Annual Report or audited Statement of Financial Condition to include a Balance Sheet, Income Statement and Cash Flow Statement or other acceptable financial information. These documents may be relied upon in any determination regarding the Offeror's financial responsibility.

**e. Other Required Submissions**

In addition, Offerors must submit the following items in the Technical Proposal:

- A. Completed Bid/Proposal Affidavit (**Attachment A**);
- B. Completed Conflict of Interest Information/Affidavit and Disclosure (**Attachment B**);
- C. Work Capacity Summary Form for Key Management and Personnel, including subconsultants (**Attachment G**); and,
- D. Verification from the Offeror's insurance carrier/provider identifying the Offeror's current policy limits and current deductible amounts, including coverage limits for Commercial General Liability, Excess Liability, Automobile, Worker's Comp/Employer Liability, and any additional insurance coverages held by the Offeror are to be identified and submitted.
- E. A completed Corporate Profile (**Attachment E**).
- F. An accurately completed and signed MBE Form D1- "MBE Utilization and Fair Solicitation Affidavit and MBE Participation Schedule" (see Attachment D). Per COMAR regulation 21.11.03.09.C (5), failure to include and/or accurately complete this form shall result in a determination that the proposal is not susceptible for award (**Attachment D**).
- G. Corporate Diversity Affidavit and Addendum (**Attachment L**).

#### **4.4 Volume II - Financial Proposal**

##### **a. Required Submissions**

Short-listed Offerors will receive additional instructions regarding the submission of the financial proposal. Any Offeror requested to submit a financial proposal must submit the following items in the Financial Proposal:

1. The sample pricing form is included in this RFP as **Attachment H**.

## **SECTION 5**

### **EVALUATION CRITERIA AND SELECTION PROCEDURE**

#### **5.1 Evaluation Criteria**

Evaluation of the Proposals will be performed by the Selection Committee and will be based on the criteria set forth below. Technical criteria shall be given more weight than financial criteria.

#### **5.2 Technical Criteria**

Criteria used to rate the Technical Proposal includes, without limitation, the following:

- a. Adequacy of the Work Plan presented to provide the proposed services; adequacy of the Offeror's proposed work approach, and sample Inspection forms.
- b. Experience and qualifications of the Offeror and its key management personnel (Staffing Plan), with specific emphasis on similar projects.
- c. Past Performance and Offeror References
- d. Work Capacity.
- e. Oral Presentation (if required)
- f. Overall Quality of Submission.

#### **5.3 Financial Criteria**

All qualified short-listed Offerors will be given a score based on their evaluated financial proposal. The score for each other financial proposal will be determined on a pro-rata basis compared to the lowest evaluated financial proposal.

#### **5.4 Reciprocal Preference**

Although Maryland law does not authorize procuring agencies to favor resident Offeror in awarding procurement contracts, many other states do grant their resident businesses preferences over Maryland contractors. Therefore, as described in COMAR 21.05.01.04, a resident business preference may be given if: a responsible Offeror whose headquarters, principal base of operations, or principal site that will primarily provide the services required by this RFP is in another state submits the most advantageous offer; the other state gives a preference to its residents through law, policy, or practice; and the preference does not conflict with a federal law or grant affecting the Contract. The preference given

will be identical to the preference that the other state, through law, policy, or practice gives to its residents.

## **5.5 General Selection Process**

- a. The Contract will be awarded in accordance with the competitive sealed proposals process under Section 3(C) of MSA's Procurement Policies.
- b. Prior to award of a Contract pursuant to this RFP, MSA may require any and all Offerors to submit such additional information bearing upon the Offeror's ability to perform the Contract as MSA may deem appropriate. MSA may also consider any information otherwise available concerning the financial, technical and other qualifications or abilities of the Offeror.
- c. MSA may hold discussions with any or all Offerors judged reasonably susceptible of being selected for award, or potentially so. MSA also reserves the right to develop a short-list of Offerors deemed most qualified based upon their Technical Proposals and conduct discussions with only the short-listed Offerors. However, MSA also reserves the right to make an award without holding discussions. Whether or not discussions are held, MSA may determine an Offeror to be not responsible or not reasonably susceptible of being selected for award, in its sole and absolute discretion, at any time after the initial closing date for receipt of proposals and the review of those proposals.

## **5.6 Award Determination**

Upon completion of all evaluations, discussions and negotiations, and reference checks, the Procurement Officer will recommend award of the contract to the responsible Offeror whose proposal is determined to be the most advantageous to MSA considering technical evaluation factors and price factors as set forth in this RFP. The award is subject to approval by the MSA Board of Directors.

## ATTACHMENTS

All attachments can be accessed via the following Share File link:  
<https://mdstad.sharefile.com/d-s252b3f4f9f574b98adf42fa51ff863a5>

- A. ....**BID/PROPOSAL AFFIDAVIT**
- B. ....**CONFLICT OF INTEREST AFFIDAVIT**
- C. .... **CONTRACT AFFIDAVIT**
- D. .... **MBE INSTRUCTIONS AND FORMS**
- E. ....**CORPORATE PROFILE**
- F. ....**DESIGN DEVELOPMENT DOCUMENTS**
- G. .... **CAPACITY SUMMARY SHEET**
- H. .... **PRICING FORM**
- I. .... **ANTICIPATED PROJECT SCHEDULE (see individual project schedules in Section 3)**
- J. .... **SAMPLE CONTRACT (to be issued via addendum)**
- K. .... **EXPERIENCE FORM**
- L. .... **CORPORATE DIVERSITY AFFIDAVIT**
- M. .... **EXHIBIT 1: MBE RESEARCH FACTORS (to be issued via addendum)**



**Attachment A**

**BID/PROPOSAL AFFIDAVIT**

**Attachment A. Bid/Proposal Affidavit**

**A. AUTHORITY**

I hereby affirm that I, \_\_\_\_\_ (name of affiant) am the \_\_\_\_\_ (title) and duly authorized representative of \_\_\_\_\_ (name of business entity) and that I possess the legal authority to make this affidavit on behalf of the business for which I am acting.

**B. CERTIFICATION REGARDING COMMERCIAL NONDISCRIMINATION**

The undersigned Bidder/Offeror hereby certifies and agrees that the following information is correct: In preparing its Bid/proposal on this project, the Bidder/Offeror has considered all Bid/proposals submitted from qualified, potential subcontractors and suppliers, and has not engaged in “discrimination” as defined in § 19-103 of the State Finance and Procurement Article of the Annotated Code of Maryland. “Discrimination” means any disadvantage, difference, distinction, or preference in the solicitation, selection, hiring, or commercial treatment of a vendor, subcontractor, or commercial customer on the basis of race, color, religion, ancestry, or national origin, sex, age, marital status, sexual orientation, sexual identity, genetic information or an individual’s refusal to submit to a genetic test or make available the results of a genetic test, disability, or any otherwise unlawful use of characteristics regarding the vendor’s, supplier’s, or commercial customer’s employees or owners. “Discrimination” also includes retaliating against any person or other entity for reporting any incident of “discrimination”. Without limiting any other provision of the solicitation on this project, it is understood that, if the certification is false, such false certification constitutes grounds for the State to reject the Bid/proposal submitted by the Bidder/Offeror on this project, and terminate any contract awarded based on the Bid/proposal. As part of its Bid/proposal, the Bidder/Offeror herewith submits a list of all instances within the past four (4) years where there has been a final adjudicated determination in a legal or administrative proceeding in the State of Maryland that the Bidder/Offeror discriminated against subcontractors, vendors, suppliers, or commercial customers, and a description of the status or resolution of that determination, including any remedial action taken. Bidder/Offeror agrees to comply in all respects with the State’s Commercial Nondiscrimination Policy as described under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland.

**B-1. CERTIFICATION REGARDING MINORITY BUSINESS ENTERPRISES.**

The undersigned Bidder/Offeror hereby certifies and agrees that it has fully complied with the State Minority Business Enterprise Law, State Finance and Procurement Article, § 14-308(a)(2), Annotated Code of Maryland, which provides that, except as otherwise provided by law, a contractor may not identify a certified minority business enterprise in a Bid/proposal and:

- (1) Fail to request, receive, or otherwise obtain authorization from the certified minority business enterprise to identify the certified minority bid/proposal;
- (2) Fail to notify the certified minority business enterprise before execution of the contract of its inclusion in the Bid/proposal;
- (3) Fail to use the certified minority business enterprise in the performance of the contract; or
- (4) Pay the certified minority business enterprise solely for the use of its name in the Bid/proposal.

Without limiting any other provision of the solicitation on this project, it is understood that if the certification is false, such false certification constitutes grounds for the State to reject the

Bid/proposal submitted by the Bidder/Offeror on this project, and terminate any contract awarded based on the Bid/proposal.

**B-2. CERTIFICATION REGARDING VETERAN-OWNED SMALL BUSINESS ENTERPRISES.**

The undersigned Bidder/Offeror hereby certifies and agrees that it has fully complied with the State veteran-owned small business enterprise law, State Finance and Procurement Article, § 14-605, Annotated Code of Maryland, which provides that a person may not:

- (1) Knowingly and with intent to defraud, fraudulently obtain, attempt to obtain, or aid another person in fraudulently obtaining or attempting to obtain public money, procurement contracts, or funds expended under a procurement contract to which the person is not entitled under this title;
- (2) Knowingly and with intent to defraud, fraudulently represent participation of a veteran-owned small business enterprise in order to obtain or retain a Bid/proposal preference or a procurement contract;
- (3) Willfully and knowingly make or subscribe to any statement, declaration, or other document that is fraudulent or false as to any material matter, whether or not that falsity or fraud is committed with the knowledge or consent of the person authorized or required to present the declaration, statement, or document;
- (4) Willfully and knowingly aid, assist in, procure, counsel, or advise the preparation or presentation of a declaration, statement, or other document that is fraudulent or false as to any material matter, regardless of whether that falsity or fraud is committed with the knowledge or consent of the person authorized or required to present the declaration, statement, or document;
- (5) Willfully and knowingly fail to file any declaration or notice with the unit that is required by COMAR 21.11.13; or
- (6) Establish, knowingly aid in the establishment of, or exercise control over a business found to have violated a provision of § B-2(1) -(5) of this regulation.

**C. AFFIRMATION REGARDING BRIBERY CONVICTIONS**

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business (as is defined in Section 16-101(b) of the State Finance and Procurement Article of the Annotated Code of Maryland), or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities including obtaining or performing contracts with public bodies has been convicted of, or has had probation before judgment imposed pursuant to Criminal Procedure Article, § 6-220, Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other state or federal law, except as follows (indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the business):

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**D. AFFIRMATION REGARDING OTHER CONVICTIONS**

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities including obtaining or performing contracts with public bodies, has:

- (1) Been convicted under state or federal statute of:
  - (a) A criminal offense incident to obtaining, attempting to obtain, or performing a public or private contract; or
  - (b) Fraud, embezzlement, theft, forgery, falsification or destruction of records or receiving stolen property;
- (2) Been convicted of any criminal violation of a state or federal antitrust statute;
- (3) Been convicted under the provisions of Title 18 of the United States Code for violation of the Racketeer Influenced and Corrupt Organization Act, 18 U.S.C. § 1961 et seq., or the Mail Fraud Act, 18 U.S.C. § 1341 et seq., for acts in connection with the submission of Bids/Proposals for a public or private contract;
- (4) Been convicted of a violation of the State Minority Business Enterprise Law, § 14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland;
- (5) Been convicted of a violation of § 11-205.1 of the State Finance and Procurement Article of the Annotated Code of Maryland;
- (6) Been convicted of conspiracy to commit any act or omission that would constitute grounds for conviction or liability under any law or statute described in subsections (1)— (5) above;
- (7) Been found civilly liable under a state or federal antitrust statute for acts or omissions in connection with the submission of Bids/Proposals for a public or private contract;
- (8) Been found in a final adjudicated decision to have violated the Commercial Nondiscrimination Policy under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland with regard to a public or private contract;
- (9) Been convicted of a violation of one or more of the following provisions of the Internal Revenue Code:
  - (a) §7201, Attempt to Evade or Defeat Tax;
  - (b) §7203, Willful Failure to File Return, Supply Information, or Pay Tax,
  - (c) §7205, Fraudulent Withholding Exemption Certificate or Failure to Supply Information;
  - (d) §7206, Fraud and False Statements, or
  - (e) §7207 Fraudulent Returns, Statements, or Other Documents;
- (10) Been convicted of a violation of 18 U.S.C. §286 Conspiracy to Defraud the Government with Respect to Claims, 18 U.S.C. §287, False, Fictitious, or Fraudulent Claims, or 18 U.S.C. §371, Conspiracy to Defraud the United States;
- (11) Been convicted of a violation of the Tax-General Article, Title 13, Subtitle 7 or Subtitle 10, Annotated Code of Maryland;
- (12) Been found to have willfully or knowingly violated State Prevailing Wage Laws as provided in the State Finance and Procurement Article, Title 17, Subtitle 2, Annotated Code of Maryland, if:

- (a) A court:
    - (i) Made the finding; and
    - (ii) Decision became final; or
  - (b) The finding was:
    - (i) Made in a contested case under the Maryland Administrative Procedure act; and
    - (ii) Not overturned on judicial review;
- (13) Been found to have willfully or knowingly violated State Living Wage Laws as provided in the State Finance and Procurement Article, Title 18, Annotated Code of Maryland, if:
- (a) A court:
    - (i) Made the finding; and
    - (ii) Decision became final; or
  - (b) The finding was:
    - (i) Made in a contested case under the Maryland Administrative Procedure act; and
    - (ii) Not overturned on judicial review;
- (14) Been found to have willfully or knowingly violated the Labor and Employment Article, Title 3, Subtitles 3, 4, or 5, or Title 5, Annotated Code of Maryland, if:
- (a) A court:
    - (i) Made the finding; and
    - (ii) Decision became final; or
  - (b) The finding was:
    - (i) Made in a contested case under the Maryland Administrative Procedure act; and
    - (ii) Not overturned on judicial review; or
- (15) Admitted in writing or under oath, during the course of an official investigation or other proceedings, acts or omissions that would constitute grounds for conviction or liability under any law or statute described in §§ B and C and subsections D(1)—(14) above, except as follows (indicate reasons why the affirmations cannot be given, and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of the person(s) involved and their current positions and responsibilities with the business, and the status of any debarment):

**E. AFFIRMATION REGARDING DEBARMENT**

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities, including obtaining or performing contracts with public bodies, has ever been suspended or debarred (including being issued a limited denial of participation) by any public entity, except as follows (list each debarment or suspension providing the dates of the suspension or debarment, the name of the public entity and the status of the proceedings, the

name(s) of the person(s) involved and their current positions and responsibilities with the business, the grounds of the debarment or suspension, and the details of each person's involvement in any activity that formed the grounds of the debarment or suspension).

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**F. AFFIRMATION REGARDING DEBARMENT OF RELATED ENTITIES**

I FURTHER AFFIRM THAT:

- (1) The business was not established and does not operate in a manner designed to evade the application of or defeat the purpose of debarment pursuant to Sections 16-101, et seq., of the State Finance and Procurement Article of the Annotated Code of Maryland; and
  - (2) The business is not a successor, assignee, subsidiary, or affiliate of a suspended or debarred business, except as follows (you must indicate the reasons why the affirmations cannot be given without qualification):
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**G. SUBCONTRACT AFFIRMATION**

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, has knowingly entered into a contract with a public body under which a person debarred or suspended under Title 16 of the State Finance and Procurement Article of the Annotated Code of Maryland will provide, directly or indirectly, supplies, services, architectural services, construction related services, leases of real property, or construction.

**H. AFFIRMATION REGARDING COLLUSION**

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business has:

- (1) Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the accompanying Bid/proposal that is being submitted; or
- (2) In any manner, directly or indirectly, entered into any agreement of any kind to fix the Bid/proposal price of the Bidder/Offeror or of any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the accompanying Bid/proposal is submitted.

**I. CERTIFICATION OF TAX PAYMENT**

I FURTHER AFFIRM THAT:

Except as validly contested, the business has paid, or has arranged for payment of, all taxes due the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, State Department of Assessments and Taxation, and Department of Labor, Licensing, and Regulation, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.

**J. CONTINGENT FEES**

I FURTHER AFFIRM THAT:

The business has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency working for the business, to solicit or secure the Contract, and that the business has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency, any fee or any other consideration contingent on the making of the Contract.

**K. CERTIFICATION REGARDING INVESTMENTS IN IRAN**

- (1) The undersigned certifies that, in accordance with State Finance and Procurement Article, §17-705, Annotated Code of Maryland:
  - (a) It is not identified on the list created by the Board of Public Works as a person engaging in investment activities in Iran as described in State Finance and Procurement Article, §17-702, Annotated Code of Maryland; and
  - (b) It is not engaging in investment activities in Iran as described in State Finance and Procurement Article, §17-702, Annotated Code of Maryland.
- (2) The undersigned is unable to make the above certification regarding its investment activities in Iran due to the following activities:  

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**L. CONFLICT MINERALS ORIGINATED IN THE DEMOCRATIC REPUBLIC OF CONGO (FOR SUPPLIES AND SERVICES CONTRACTS)**

I FURTHER AFFIRM THAT:

The business has complied with the provisions of State Finance and Procurement Article, §14-413, Annotated Code of Maryland governing proper disclosure of certain information regarding conflict minerals originating in the Democratic Republic of Congo or its neighboring countries as required by federal law.

**M. PROHIBITING DISCRIMINATORY BOYCOTTS OF ISRAEL**

I FURTHER AFFIRM THAT:

In preparing its bid/proposal on this project, the Bidder/Offeror has considered all bid/proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor, vendor, or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity on the basis of Israeli national origin, or residence or incorporation in Israel and its territories. The Bidder/Offeror also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. Without limiting any other provision of the solicitation for bid/proposals for this project, it is understood and agreed that, if this certification is false, such false certification will constitute grounds for the State to reject the bid/proposal submitted by the Bidder/Offeror on this project, and terminate any contract awarded based on the bid/proposal.

**N. I FURTHER AFFIRM THAT:**

Any claims of environmental attributes made relating to a product or service included in the bid or bid/proposal are consistent with the Federal Trade Commission's Guides for the Use of Environmental Marketing Claims as provided in 16 C.F.R. §260, that apply to claims about the environmental attributes of a product, package or service in connection with the marketing, offering for sale, or sale of such item or service.

**O. ACKNOWLEDGEMENT**

I ACKNOWLEDGE THAT this Affidavit is to be furnished to the Procurement Officer and may be distributed to units of: (1) the State of Maryland; (2) counties or other subdivisions of the State of Maryland; (3) other states; and (4) the federal government. I further acknowledge that this Affidavit is subject to applicable laws of the United States and the State of Maryland, both criminal and civil, and that nothing in this Affidavit or any contract resulting from the submission of this Bid/proposal shall be construed to supersede, amend, modify or waive, on behalf of the State of Maryland, or any unit of the State of Maryland having jurisdiction, the exercise of any statutory right or remedy conferred by the Constitution and the laws of Maryland with respect to any misrepresentation made or any violation of the obligations, terms and covenants undertaken by the above business with respect to (1) this Affidavit, (2) the contract, and (3) other Affidavits comprising part of the contract.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

**By:**

\_\_\_\_\_  
*Signature of Authorized Representative and Affiant*

**Printed Name:**

\_\_\_\_\_  
*Printed Name of Authorized Representative and Affiant*

**Title:**

\_\_\_\_\_  
*Title*

**Date:**

\_\_\_\_\_  
*Date*



**Attachment B**

**CONFLICT OF INTEREST AFFIDAVIT**

**Attachment B. Conflict of Interest Affidavit and Disclosure**

**Reference COMAR 21.05.08.08**

A. "Conflict of interest" means that because of other activities or relationships with other persons, a person is unable or potentially unable to render impartial assistance or advice to the State, or the person's objectivity in performing the contract work is or might be otherwise impaired, or a person has an unfair competitive advantage.

B. "Person" has the meaning stated in COMAR 21.01.02.01B (64) and includes a Offeror, Contractor, consultant, or subcontractor or sub-consultant at any tier, and also includes an employee or agent of any of them if the employee or agent has or will have the authority to control or supervise all or a portion of the work for which a Proposal is made.

C. The Offeror warrants that, except as disclosed in §D, below, there are no relevant facts or circumstances now giving rise or which could, in the future, give rise to a conflict of interest.

D. The following facts or circumstances give rise or could in the future give rise to a conflict of interest (explain in detail — attach additional sheets if necessary):

E. The Offeror agrees that if an actual or potential conflict of interest arises after the date of this affidavit, the Offeror shall immediately make a full disclosure in writing to the procurement officer of all relevant facts and circumstances. This disclosure shall include a description of actions which the Offeror has taken and proposes to take to avoid, mitigate, or neutralize the actual or potential conflict of interest. If the contract has been awarded and performance of the contract has begun, the Contractor shall continue performance until notified by the procurement officer of any contrary action to be taken.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: \_\_\_\_\_ By: \_\_\_\_\_

(Authorized Representative and Affiant)

**SUBMIT THIS AFFIDAVIT WITH BID/PROPOSAL**

**Attachment C**

**CONTRACT AFFIDAVIT**

## Contract Affidavit

**A. AUTHORITY**

I hereby affirm that I, \_\_\_\_\_ (name of affiant) am the \_\_\_\_\_ (title) and duly authorized representative of \_\_\_\_\_ (name of business entity) and that I possess the legal authority to make this affidavit on behalf of the business for which I am acting.

**B. CERTIFICATION OF REGISTRATION OR QUALIFICATION WITH THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION**

I FURTHER AFFIRM THAT:

The business named above is a (check applicable box):

- (1) Corporation -  domestic or  foreign;
- (2) Limited Liability Company -  domestic or  foreign;
- (3) Partnership -  domestic or  foreign;
- (4) Statutory Trust -  domestic or  foreign;
- (5)  Sole Proprietorship.

and is registered or qualified as required under Maryland Law. I further affirm that the above business is in good standing both in Maryland and (IF APPLICABLE) in the jurisdiction where it is presently organized, and has filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and Taxation. The name and address of its resident agent (IF APPLICABLE) filed with the State Department of Assessments and Taxation is:

Name and Department ID Number: \_\_\_\_\_

Address: \_\_\_\_\_

and that if it does business under a trade name, it has filed a certificate with the State Department of Assessments and Taxation that correctly identifies that true name and address of the principal or owner as:

Name and Department ID Number: \_\_\_\_\_

Address: \_\_\_\_\_

**C. FINANCIAL DISCLOSURE AFFIRMATION**

I FURTHER AFFIRM THAT:

I am aware of, and the above business will comply with, the provisions of State Finance and Procurement Article, §13-221, Annotated Code of Maryland, which require that every business that enters into contracts, leases, or other agreements with the State of Maryland or its agencies during a calendar year under which the business is to receive in the aggregate \$200,000 or more shall, within 30 days of the time when the aggregate value of the contracts, leases, or other agreements reaches \$200,000, file with the Secretary of State of Maryland certain specified information to include disclosure of beneficial ownership of the business.

**D. POLITICAL CONTRIBUTION DISCLOSURE AFFIRMATION**

I FURTHER AFFIRM THAT:

I am aware of, and the above business will comply with, Election Law Article, Title 14, Annotated Code of Maryland, which requires that every person that enters into a procurement contract with the State, a county, or a municipal corporation, or other political subdivision of the State, during a calendar year in which the person receives a contract with a governmental entity in the amount of

\$200,000 or more, shall file with the State Board of Elections statements disclosing: (a) any contributions made during the reporting period to a candidate for elective office in any primary or general election; and (b) the name of each candidate to whom one or more contributions in a cumulative amount of \$500 or more were made during the reporting period. The statement shall be filed with the State Board of Elections: (a) before execution of a contract by the State, a county, a municipal corporation, or other political subdivision of the State, and shall cover the 24 months prior to when a contract was awarded; and (b) if the contribution is made after the execution of a contract, then twice a year, throughout the contract term, on or before: (i) May 31, to cover the six (6) month period ending April 30; and (ii) November 30, to cover the six (6) month period ending October 31.

E. DRUG AND ALCOHOL FREE WORKPLACE

(Applicable to all contracts unless the contract is for a law enforcement agency and the agency head or the agency head's designee has determined that application of COMAR 21.11.08 and this certification would be inappropriate in connection with the law enforcement agency's undercover operations.)

I CERTIFY THAT:

- (1) Terms defined in COMAR 21.11.08 shall have the same meanings when used in this certification.
- (2) By submission of its Proposal, the business, if other than an individual, certifies and agrees that, with respect to its employees to be employed under a contract resulting from this solicitation, the business shall:
  - (a) Maintain a workplace free of drug and alcohol abuse during the term of the contract;
  - (b) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of drugs, and the abuse of drugs or alcohol is prohibited in the business' workplace and specifying the actions that will be taken against employees for violation of these prohibitions;
  - (c) Prohibit its employees from working under the influence of drugs or alcohol;
  - (d) Not hire or assign to work on the contract anyone who the business knows, or in the exercise of due diligence should know, currently abuses drugs or alcohol and is not actively engaged in a bona fide drug or alcohol abuse assistance or rehabilitation program;
  - (e) Promptly inform the appropriate law enforcement agency of every drug-related crime that occurs in its workplace if the business has observed the violation or otherwise has reliable information that a violation has occurred;
  - (f) Establish drug and alcohol abuse awareness programs to inform its employees about:
    - (i) The dangers of drug and alcohol abuse in the workplace;
    - (ii) The business's policy of maintaining a drug and alcohol free workplace;
    - (iii) Any available drug and alcohol counseling, rehabilitation, and employee assistance programs; and
    - (iv) The penalties that may be imposed upon employees who abuse drugs and alcohol in the workplace;
  - (g) Provide all employees engaged in the performance of the contract with a copy of the statement required by §E(2)(b), above;
  - (h) Notify its employees in the statement required by §E(2)(b), above, that as a condition of continued employment on the contract, the employee shall:
    - (i) Abide by the terms of the statement; and
    - (ii) Notify the employer of any criminal drug or alcohol abuse conviction for an offense occurring in the workplace not later than 5 days after a conviction;

- (i) Notify the procurement officer within 10 days after receiving notice under §E(2)(h)(ii), above, or otherwise receiving actual notice of a conviction;
  - (j) Within 30 days after receiving notice under §E(2)(h)(ii), above, or otherwise receiving actual notice of a conviction, impose either of the following sanctions or remedial measures on any employee who is convicted of a drug or alcohol abuse offense occurring in the workplace:
    - (i) Take appropriate personnel action against an employee, up to and including termination; or
    - (ii) Require an employee to satisfactorily participate in a bona fide drug or alcohol abuse assistance or rehabilitation program; and
  - (k) Make a good faith effort to maintain a drug and alcohol free workplace through implementation of §E(2)(a)—(j), above.
- (3) If the business is an individual, the individual shall certify and agree as set forth in §E(4), below, that the individual shall not engage in the unlawful manufacture, distribution, dispensing, possession, or use of drugs or the abuse of drugs or alcohol in the performance of the contract.
- (4) I acknowledge and agree that:
- (a) The award of the contract is conditional upon compliance with COMAR 21.11.08 and this certification;
  - (b) The violation of the provisions of COMAR 21.11.08 or this certification shall be cause to suspend payments under, or terminate the contract for default under COMAR 21.07.01.11 or 21.07.03.15, as applicable; and
  - (c) The violation of the provisions of COMAR 21.11.08 or this certification in connection with the contract may, in the exercise of the discretion of the Board of Public Works, result in suspension and debarment of the business under COMAR 21.08.03.

F. CERTAIN AFFIRMATIONS VALID

I FURTHER AFFIRM THAT:

To the best of my knowledge, information, and belief, each of the affirmations, certifications, or acknowledgements contained in that certain Bid/Proposal Affidavit dated \_\_\_\_\_, and executed by me for the purpose of obtaining the contract to which this Exhibit is attached remains true and correct in all respects as if made as of the date of this Contract Affidavit and as if fully set forth herein.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: \_\_\_\_\_

By: \_\_\_\_\_ (print name of Authorized Representative and Affiant)  
 \_\_\_\_\_ (signature of Authorized Representative and Affiant)

**Attachment D**

**MBE INSTRUCTIONS AND FORMS**

## Attachment D. Minority Business Enterprise (MBE) Forms

### D-1A MBE UTILIZATION AND FAIR SOLICITATION AFFIDAVIT & MBE PARTICIPATION SCHEDULE

#### **PART 1 - INSTRUCTIONS**

***PLEASE READ BEFORE COMPLETING THIS DOCUMENT***

**This form includes Instructions and the MBE Utilization and Fair Solicitation Affidavit & MBE Participation Schedule which must be submitted with the bid/proposal. If the bidder/offeror fails to accurately complete and submit this Affidavit and Schedule with the bid or proposal, the Procurement Officer shall deem the bid non-responsive or shall determine that the proposal is not reasonably susceptible of being selected for award unless the inaccuracy is determined to be the result of a minor irregularity that is waived or cured in accordance with COMAR 21.06.02.04.**

1. Contractor shall structure its procedures for the performance of the work required in this Contract to attempt to achieve the minority business enterprise (MBE) subcontractor participation goal stated in the Invitation for Bids or Request for Proposals. Contractor agrees to exercise good faith efforts to carry out the requirements set forth in these Instructions, as authorized by the Code of Maryland Regulations (COMAR) 21.11.03.
2. MBE Goals and Subgoals: Please review the solicitation for information regarding the Contract's MBE overall participation goals and subgoals. After satisfying the requirements for any established subgoals, the Contractor is encouraged to use a diverse group of subcontractors and suppliers from the various MBE classifications to meet the remainder of the overall MBE participation goal.
3. MBE means a minority business enterprise that is certified by the Maryland Department of Transportation ("MDOT"). Only MBEs certified by MDOT may be counted for purposes of achieving the MBE participation goals. In order to be counted for purposes of achieving the MBE participation goals, the MBE firm, including a MBE prime, must be MDOT-certified for the services, materials or supplies that it is committed to perform on the MBE Participation Schedule. A firm whose MBE certification application is pending may not be counted.
4. Please refer to the MDOT MBE Directory at <https://mbe.mdot.maryland.gov/directory/> to determine if a firm is certified with the appropriate North American Industry Classification System ("NAICS") Code **and** the product/services description (specific product that a firm is certified to provide or specific areas of work that a firm is certified to perform). For more general information about NAICS codes, please visit <https://www.census.gov/eos/www/naics/>. Only those specific products and/or services for which a firm is certified in the MDOT Directory can be used for purposes of achieving the MBE participation goals. **CAUTION:** If the firm's NAICS Code is in graduated status, such services/products may not be counted for purposes of achieving the MBE participation goals. A NAICS Code is in the graduated status if the term "Graduated" follows the Code in the MDOT MBE Directory.
5. **Guidelines Regarding MBE Prime Self-Performance.** Please note that when a certified MBE firm participates as a prime contractor on a Contract, a procurement agency may count the distinct, clearly defined portion of the work of the Contract that the certified MBE firm performs with its own workforce toward fulfilling up to, but no more than, fifty-percent (50%) of the overall



MBE participation goal, including up to one hundred percent (100%) of not more than one of the MBE participation subgoals, if any, established for the Contract.

- ✓ In order to receive credit for self-performance, an MBE prime must be certified in the appropriate NAICS code to do the work and must list its firm in the MBE Participation Schedule, including the certification category under which the MBE prime is self-performing and include information regarding the work it will self-perform.
  - ✓ For the remaining portion of the overall goal and the remaining subgoals, the MBE prime must also identify on the MBE Participation Schedule the other certified MBE subcontractors used to meet those goals or request a waiver.
  - ✓ These guidelines apply to the work performed by the MBE Prime that can be counted for purposes of meeting the MBE participation goals. These requirements do not affect the MBE Prime's ability to self-perform a greater portion of the work in excess of what is counted for purposes of meeting the MBE participation goals.
  - ✓ Please note that the requirements to meet the MBE participation overall goal and subgoals are distinct and separate. If the contract has subgoals, regardless of MBE Prime's ability to self-perform up to 50% of the overall goal (including up to 100% of any subgoal), the MBE Prime must either commit to use other MBEs for each of any remaining subgoals or request a waiver. As set forth in Attachment 1-B Waiver Guidance, the MBE Prime's ability to self-perform certain portions of the work of the Contract will not be deemed a substitute for the good faith efforts to meet any remaining subgoal or the balance of the overall goal.
  - ✓ In certain instances where the percentages allocated to MBE participation subgoals add up to more than 50% of the overall goal, the portion of self-performed work that an MBE Prime may count toward the overall goal may be limited to less than 50%. Please refer to the Governor's Office of Small Minority & Women Business Affairs' website for the MBE Prime Regulations Q&A for illustrative examples.  
[http://www.goMDsmallbiz.maryland.gov/Documents/MBE\\_Toolkit/MBEPrimeRegulation\\_QA.pdf](http://www.goMDsmallbiz.maryland.gov/Documents/MBE_Toolkit/MBEPrimeRegulation_QA.pdf)
6. Subject to items 1 through 5 above, when a certified MBE performs as a participant in a joint venture, a procurement agency may count a portion of the total dollar value of the Contract equal to the distinct, clearly-defined portion of the work of the Contract that the certified MBE performs with its own forces toward fulfilling the Contract goal, and not more than one of the Contract subgoals, if any.
7. The work performed by a certified MBE firm, including an MBE prime, can only be counted towards the MBE participation goal(s) if the MBE firm is performing a commercially useful function on the Contract. Please refer to COMAR 21.11.03.12-1 for more information regarding these requirements.
8. **Materials and Supplies: New Guidelines Regarding MBE Participation.**
- ✓ Regular Dealer (generally identified as a wholesaler or supplier in the MDOT Directory): Up to 60% of the costs of materials and supplies provided by a certified MBE may be counted towards the MBE participation goal(s) if such MBE is a Regular Dealer of such materials and supplies. Regular Dealer is defined as a firm that owns, operates, or maintains a store, a warehouse, or any other establishment in which the materials, supplies, articles, or equipment are of the general character described by the specifications required under the contract and are bought, kept in stock, or regularly sold or leased to the

public in the usual course of business; and does not include a packager, a broker, a manufacturer's representative, or any other person that arranges or expedites transactions.

*Example for illustrative purposes of applying the 60% rule:*

*Overall contract value: \$2,000,000*

*Total value of supplies: \$100,000*

*Calculate Percentage of Supplies to overall contract value: \$100,000 divided by \$2,000,000 = 5%*

***Apply 60% Rule - Total percentage of Supplies/Products 5% x 60% = 3%***

***3% would be counted towards achieving the MBE Participation Goal and Subgoal, if any, for the MBE supplier in this example.***

- ✓ **Manufacturer:** A certified MBE firm's participation may be counted in full if the MBE is certified in the appropriate NAICS code(s) to provide products and services as a manufacturer.
- ✓ **Broker:** With respect to materials or supplies purchased from a certified MBE that is neither a manufacturer nor a regular dealer, a unit may apply the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, fees, or transportation charges for the delivery of materials and supplies required on a procurement toward the MBE contract goals, provided a unit determines the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. A unit may not apply any portion of the costs of the materials and supplies toward MBE goals.
- ✓ **Furnish and Install and other Services:** The participation of a certified MBE supplier, wholesaler, and/or regular dealer certified in the proper NAICS code(s) to furnish and install materials necessary for successful contract completion may be counted in full. Includes the participation of other MBE service providers in the proper NAICS code(s) may be counted in full.

**9. Dually certified firms. An MBE that is certified in more than one subgroup category may only be counted toward goal fulfillment of ONE of those categories with regard to a particular contract.**

*Example: A woman-owned Hispanic American (dually certified) firm may be used to fulfill the women-owned OR Hispanic American subgoal, but not both on the same contract.*

10. CAUTION: The percentage of MBE participation, computed using the percentage amounts determined for all of the MBE firms listed in PART 3, MUST meet or exceed the MBE participation goal and subgoals (if applicable) as set forth in PART 2- for this solicitation. If a bidder/offeror is unable to meet the MBE participation goal or any subgoals (if applicable), then the bidder/offeror must request a waiver in PART 2 or the bid will be deemed not responsive, or the proposal not reasonably susceptible of being selected for award. You may wish to use the attached Goal/Subgoal Worksheet to assist in calculating the percentages and confirming that your commitment meets or exceeds the applicable MBE participation goal and subgoals (if any).

11. If you have any questions as to whether a firm is certified to perform the specific services or provide specific products, please contact MDOT's Office of Minority Business Enterprise at 1-

800-544-6056 or via email to [mbe@mdot.state.md.us](mailto:mbe@mdot.state.md.us) sufficiently prior to the submission due date.

**Subgoals (if applicable)**

Total African American MBE Participation:	_____	%
Total Asian American MBE Participation:	_____	%
Total Hispanic American MBE Participation:	_____	%
Total Women-Owned MBE Participation:	_____	%

**Overall Goal**

Total MBE Participation (include all categories):	_____	%
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**PART 2 - MBE UTILIZATION AND FAIR SOLICITATION AFFIDAVIT &  
MBE PARTICIPATION SCHEDULE**

**This MBE Utilization and Fair Solicitation Affidavit and MBE Participation Schedule must be completed in its entirety and included with the bid/proposal. If the bidder/offeror fails to accurately complete and submit this Affidavit and Schedule with the bid or proposal as required, the Procurement Officer shall deem the bid non-responsive or shall determine that the proposal is not reasonably susceptible of being selected for award.**

In connection with the bid/proposal submitted in response to the Request for Proposals for Building Commissioning Services - Renovation Projects at M&T Bank Stadium, I affirm the following:

1. **MBE Participation (PLEASE CHECK ONLY ONE)**

I acknowledge and intend to meet IN FULL the overall certified Minority Business Enterprise (MBE) participation goal of 12 percent, no subgoals.

Therefore, I am not seeking a waiver pursuant to COMAR 21.11.03.11. I acknowledge that by checking the above box and agreeing to meet the stated goal and subgoal(s), if any, I **must** complete PART 3 - MBE Participation Schedule and Part 4 Signature Page in order to be considered for award.

**OR**

After making good faith outreach efforts prior to making this submission, I conclude that I am unable to achieve the MBE participation goal and/or subgoals. I hereby request a waiver, in whole or in part, of the overall goal and/or subgoals I acknowledge that by checking this box and requesting a partial waiver of the stated goal and/or one or more of the stated subgoal(s) if any, I must complete Part 3, the MBE Participation Schedule and Part 4 Signature Page for the portion of the goal and/or subgoal(s) if any, for which I am not seeking a waiver, in order to be considered for award. I acknowledge that by checking this box and requesting a full waiver of the stated goal and the stated subgoal(s) if any, I must complete Part 4 Signature Page in order to be considered for award.

### **Additional MBE Documentation**

I understand that if I am notified that I am the apparent awardee or as requested by the Procurement Officer, I must submit the following documentation within 10 working days of receiving notice of the potential award or from the date of conditional award (per COMAR 21.11.03.10), whichever is earlier:

- (a) Good Faith Efforts Documentation to Support Waiver Request (Attachment D-1C)
- (b) Outreach Efforts Compliance Statement (Attachment D-2);
- (c) MBE Subcontractor/MBE Prime Project Participation Statement (Attachments D-3A and 3B);
- (d) Any other documentation, including additional waiver documentation if applicable, required by the Procurement Officer to ascertain bidder or offeror responsibility in connection with the certified MBE participation goal and subgoals, if any.

I understand that if I fail to return each completed document within the required time, the Procurement Officer may determine that I am not responsible and therefore not eligible for contract award. If the contract has already been awarded, the award is voidable.

### **Information Provided to MBE firms**

In the solicitation of subcontract quotations or offers, MBE firms were provided not less than the same information and amount of time to respond as were non-MBE firms.

## PART 3 - MBE PARTICIPATION SCHEDULE

SET FORTH BELOW ARE THE (I) CERTIFIED MBEs I INTEND TO USE, (II) THE PERCENTAGE OF THE TOTAL CONTRACT VALUE ALLOCATED TO EACH MBE FOR THIS PROJECT AND, (III) THE ITEMS OF WORK EACH MBE WILL PROVIDE UNDER THE CONTRACT. I HAVE CONFIRMED WITH THE MDOT DATABASE THAT THE MBE FIRMS IDENTIFIED BELOW (INCLUDING ANY SELF-PERFORMING MBE PRIME FIRMS) ARE PERFORMING WORK ACTIVITIES FOR WHICH THEY ARE MDOT-CERTIFIED.

Prime Contractor	Project Description	Project/Contract Number
	CX Services- Renovation Projects at M&T Bank Stadium	

LIST INFORMATION FOR EACH CERTIFIED MBE FIRM YOU AGREE TO USE TO ACHIEVE THE MBE PARTICIPATION GOAL AND SUBGOALS, IF ANY. **MBE PRIMES:** PLEASE COMPLETE BOTH SECTIONS A AND B BELOW.

### SECTION A: For MBE Prime Contractors ONLY (including MBE Primes in a Joint Venture)

<p>MBE Prime Firm Name: _____</p> <p>MBE Certification Number: _____</p> <p>(If dually certified, check only one box.)</p> <p><input type="checkbox"/> African American-Owned  <input type="checkbox"/> Hispanic American- Owned  <input type="checkbox"/> Asian American-Owned  <input type="checkbox"/> Women-Owned  <input type="checkbox"/> Other MBE Classification</p> <p>NAICS code: _____</p>	<p>Percentage of total Contract Value to be performed with own forces and counted towards the MBE <b>overall participation goal</b> (up to 50% of the overall goal): _____% <b>Please refer to Item #8 in Part 1- Instructions of this document for new MBE participation guidelines regarding materials and supplies.</b></p> <p>Percentage of total Contract Value to be performed with own forces and counted towards the <b>subgoal</b>, if any, for my MBE classification (up to 100% of not more than one subgoal): _____%</p> <p><input type="checkbox"/> Supplier, wholesaler and/or regular dealer (count 60%)  <input type="checkbox"/> Manufacturer (count 100%)  <input type="checkbox"/> Broker (count reasonable fee/commission only)  <input type="checkbox"/> Furnish and Install and other Services (count 100%)</p> <p><b>Complete the applicable prompt (select only one) from prompts A-C below that applies to the type of work your firm is self-performing to calculate amount to be counted towards achieving the MBE Participation Goal and Subgoal, if any.</b></p> <p><b>A. Percentage amount of subcontract where the MBE Prime firm is being used for manufacturer, furnish and install, and/or services</b> (excluding products / services from suppliers, wholesalers, regular dealers and brokers) ___%</p> <p><b>B. Percentage amount for items of work where the MBE Prime firm is being used as supplier, wholesaler, and/or regular dealer</b> (60% Rule).  Total percentage of Supplies/Products ___% x 60% = ___%</p> <p><b>C. Percentage amount of fee where the MBE Prime firm is being used as broker</b> (count reasonable fee/commission only) ___%</p> <p>Description of the work to be performed with MBE prime's own forces:  _____  _____</p>
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**SECTION B: For all Contractors (including MBE Primes and MBE Primes in a Joint Venture)**

<p>MBE Firm Name: _____</p> <p>MBE Certification Number: _____</p> <p>(If dually certified, check only one box.)</p> <p><input type="checkbox"/> African American-Owned</p> <p><input type="checkbox"/> Hispanic American- Owned</p> <p><input type="checkbox"/> Asian American-Owned</p> <p><input type="checkbox"/> Women-Owned</p> <p><input type="checkbox"/> Other MBE Classification</p> <p>NAICS code: _____</p>	<p><b>Please refer to Item #8 in Part 1- Instructions of this document for new MBE participation guidelines regarding materials and supplies.</b></p> <p><input type="checkbox"/> Supplier, wholesaler and/or regular dealer (count 60%)</p> <p><input type="checkbox"/> Manufacturer (count 100%)</p> <p><input type="checkbox"/> Broker (count reasonable fee/commission only)</p> <p><input type="checkbox"/> Furnish and Install and other Services (count 100%)</p> <p><b>Complete the applicable prompt (select only one) from prompts A-C below that applies to the type of work that the MBE firm named to the left will be performing to calculate the amount to be counted towards achieving the MBE Participation Goal and Subgoal, if any.</b></p> <p><b>A. Percentage of total contract amount where the MBE firm is being used for manufacturer, furnish and install, and/or services</b> (excluding products/services from suppliers, wholesalers, regular dealers and brokers) ___ %</p> <p><b>B. Percentage of total contract amount for items of work where the MBE firm is being used as supplier, wholesaler, and/or regular dealer (60% Rule).</b> Total percentage of Supplies/Products ___% X 60% = ___ %</p> <p><b>C. Percentage amount of fee where the MBE firm is being used as broker</b> (count reasonable fee/commission only) ___ %</p> <p>Description of the work to be performed: _____ _____</p>
<p>MBE Firm Name: _____</p> <p>MBE Certification Number: _____</p> <p>(If dually certified, check only one box.)</p> <p><input type="checkbox"/> African American-Owned</p> <p><input type="checkbox"/> Hispanic American- Owned</p> <p><input type="checkbox"/> Asian American-Owned</p> <p><input type="checkbox"/> Women-Owned</p> <p><input type="checkbox"/> Other MBE Classification</p> <p>NAICS code: _____</p>	<p><b>Please refer to Item #8 in Part 1- Instructions of this document for new MBE participation guidelines regarding materials and supplies.</b></p> <p><input type="checkbox"/> Supplier, wholesaler and/or regular dealer (count 60%)</p> <p><input type="checkbox"/> Manufacturer (count 100%)</p> <p><input type="checkbox"/> Broker (count reasonable fee/commission only)</p> <p><input type="checkbox"/> Furnish and Install and other Services (count 100%)</p> <p><b>Complete the applicable prompt (select only one) from prompts A-C below that applies to the type of work that the MBE Firm named to the left will be performing to calculate the amount to be counted towards achieving the MBE Participation Goal and Subgoal, if any.</b></p> <p><b>A. Percentage of total contract amount where the MBE firm is being used for manufacturer, furnish and install, and/or services</b> (excluding products/services from suppliers, wholesalers, regular dealers and brokers) ___ %</p> <p><b>B. Percentage of total contract amount for items of work where the MBE firm is being used as supplier, wholesaler, and/or regular dealer (60% Rule).</b> Total percentage of Supplies/Products ___% X 60% = ___ %</p> <p><b>C. Percentage amount of fee where the MBE firm is being used as broker</b> (count reasonable fee/commission only) ___ %</p> <p>Description of the work to be performed: _____ _____</p>

<p>MBE Firm Name: _____</p> <p>MBE Certification Number: _____</p> <p>(If dually certified, check only one box.)</p> <p><input type="checkbox"/> African American-Owned</p> <p><input type="checkbox"/> Hispanic American- Owned</p> <p><input type="checkbox"/> Asian American-Owned</p> <p><input type="checkbox"/> Women-Owned</p> <p><input type="checkbox"/> Other MBE Classification</p> <p>NAICS code: _____</p>	<p><b>Please refer to Item #8 in Part 1- Instructions of this document for new MBE participation guidelines regarding materials and supplies.</b></p> <p><input type="checkbox"/> Supplier, wholesaler and/or regular dealer (count 60%)</p> <p><input type="checkbox"/> Manufacturer (count 100%)</p> <p><input type="checkbox"/> Broker (count reasonable fee/commission only)</p> <p><input type="checkbox"/> Furnish and Install and other Services (count 100%)</p> <p><b>Complete the applicable prompt (select only one) from prompts A-C below that applies to the type of work that for the MBE firm named to the left will be performing to calculate the amount to be counted towards achieving the MBE Participation Goal and Subgoal, if any.</b></p> <p><b>A. Percentage of total contract amount where the MBE firm is being used for manufacturer, furnish and install, and/or services (excluding products/services from suppliers, wholesalers, regular dealers and brokers) ___%</b></p> <p><b>B. Percentage of the total contract amount for items of work where the MBE firm is being used as supplier, wholesaler, and/or regular dealer (60% Rule).</b> Total percentage of Supplies/Products ___% X 60% = ___%</p> <p><b>C. Percentage amount of fee where the MBE firm is being used as broker (count reasonable fee/commission only) ___%</b></p> <p>Description of the work to be performed: _____ _____</p>
<p>MBE Firm Name: _____</p> <p>MBE Certification Number: _____</p> <p>(If dually certified, check only one box.)</p> <p><input type="checkbox"/> African American-Owned</p> <p><input type="checkbox"/> Hispanic American- Owned</p> <p><input type="checkbox"/> Asian American-Owned</p> <p><input type="checkbox"/> Women-Owned</p> <p><input type="checkbox"/> Other MBE Classification</p> <p>NAICS code: _____</p>	<p><b>Please refer to Item #8 in Part 1- Instructions of this document for new MBE participation guidelines regarding materials and supplies.</b></p> <p><input type="checkbox"/> Supplier, wholesaler and/or regular dealer (count 60%)</p> <p><input type="checkbox"/> Manufacturer (count 100%)</p> <p><input type="checkbox"/> Broker (count reasonable fee/commission only)</p> <p><input type="checkbox"/> Furnish and Install and other Services (count 100%)</p> <p><b>Complete the applicable prompt (select only one) from prompts A-C below that applies to the type of work that the MBE firm named to the left will be performing to calculate the amount to be counted towards achieving the MBE Participation Goal and Subgoal, if any.</b></p> <p><b>A. Percentage of total contract amount where the MBE firm is being used for manufacturer, furnish and install, and/or services (excluding products/services from suppliers, wholesalers, regular dealers and brokers) ___%</b></p> <p><b>B. Percentage of total contract amount for items of work where the MBE firm is being used as supplier, wholesaler, and/or regular dealer (60% Rule).</b> Total percentage of Supplies/Products ___% X 60% = ___%</p> <p><b>C. Percentage amount of fee where the MBE firm is being used as broker ___%</b></p> <p>Description of the work to be performed: _____ _____</p>

CONTINUE ON SEPARATE PAGE IF NEEDED



**PART 4 – SIGNATURE PAGE**

**To complete Affidavit committing to MBE(s) or requesting waiver,  
Bidder/Offeror must sign below:**

**I solemnly affirm under the penalties of perjury that: (i) I have reviewed the instructions for the MBE Utilization & Fair Solicitation Affidavit and MBE Schedule, and (ii) the information contained in the MBE Utilization & Fair Solicitation Affidavit and MBE Schedule is true to the best of my knowledge, information and belief.**

\_\_\_\_\_  
Bidder/Offeror Name  
*(PLEASE PRINT OR TYPE)*

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Address

\_\_\_\_\_  
Printed Name and Title

\_\_\_\_\_  
City, State and Zip Code

\_\_\_\_\_  
Date

**SUBMIT THIS AFFIDAVIT WITH BID/PROPOSAL**

## D-1B WAIVER GUIDANCE

### GUIDANCE FOR DOCUMENTING GOOD FAITH EFFORTS TO MEET MBE PARTICIPATION GOALS

In order to show that it has made good faith efforts to meet the Minority Business Enterprise (MBE) participation goal (including any MBE subgoals) on a contract, the Offeror must either (1) meet the MBE Goal(s) and document its commitments for participation of MBE Firms, or (2) when it does not meet the MBE Goal(s), document its Good Faith Efforts to meet the goal(s).

#### I. Definitions

**MBE Goal(s)** – “MBE Goal(s)” refers to the MBE participation goal and MBE participation subgoal(s).

**Good Faith Efforts** - The “Good Faith Efforts” requirement means that when requesting a waiver, the Offeror must demonstrate that it took all necessary and reasonable steps to achieve the MBE Goal(s), which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient MBE participation, even if those steps were not fully successful. Whether the Offeror that requests a waiver made adequate good faith efforts will be determined by considering the quality, quantity, and intensity of the different kinds of efforts that the Offeror has made. The efforts employed by the Offeror should be those that one could reasonably expect the Offeror to take if the Offeror were actively and aggressively trying to obtain MBE participation sufficient to meet the MBE contract goal and subgoals. Mere *pro forma* efforts are not good faith efforts to meet the MBE contract requirements. The determination concerning the sufficiency of the Offeror's good faith efforts is a judgment call; meeting quantitative formulas is not required.

**Identified Firms** – “Identified Firms” means a list of the MBEs identified by the procuring agency during the goal setting process and listed in the procurement as available to perform the Identified Items of Work. It also may include additional MBEs identified by the Offeror as available to perform the Identified Items of Work, such as MBEs certified or granted an expansion of services after the procurement was issued. If the procurement does not include a list of Identified Firms, this term refers to all of the MBE Firms (if State-funded) the Offeror identified as available to perform the Identified Items of Work and should include all appropriately certified firms that are reasonably identifiable.

**Identified Items of Work** – “Identified Items of Work” means the Proposal items identified by the procuring agency during the goal setting process and listed in the procurement as possible items of work for performance by MBE Firms. It also may include additional portions of items of work the Offeror identified for performance by MBE Firms to increase the likelihood that the MBE Goal(s) will be achieved. If the procurement does not include a list of Identified Items of Work, this term refers to all of the items of work the Offeror identified as possible items of work for performance by MBE Firms and should include all reasonably identifiable work opportunities.

**MBE Firms** – “MBE Firms” refers to firms certified by the Maryland Department of Transportation (“MDOT”) under COMAR 21.11.03. Only MDOT-certified MBE Firms can participate in the State's MBE Program.

#### II. Types of Actions Agency will Consider

The Offeror is responsible for making relevant portions of the work available to MBE subcontractors and suppliers and select those portions of the work or material needs consistent with the available MBE subcontractors and suppliers, so as to facilitate MBE participation. The following is a list of types of actions the procuring agency will consider as part of the Offeror's Good Faith Efforts when the Offeror fails to meet the MBE Goal(s). This list is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

##### A. Identify Proposal Items as Work for MBE Firms

###### 1. Identified Items of Work in Procurements

- (a) Certain procurements will include a list of Proposal items identified during the goal setting process as possible work for performance by MBE Firms. If the procurement provides a list of Identified Items of Work, the Offeror shall make all reasonable efforts to solicit quotes from MBE Firms to perform that work.
- (b) Offerors may, and are encouraged to, select additional items of work to be performed by MBE Firms to increase the likelihood that the MBE Goal(s) will be achieved.

###### 2. Identified Items of Work by Offerors

- (a) When the procurement does not include a list of Identified Items of Work or for additional Identified Items of Work, Offerors should reasonably identify sufficient items of work to be performed by MBE Firms.

- (b) Where appropriate, Offerors should break out contract work items into economically feasible units to facilitate MBE participation, rather than perform these work items with their own forces. The ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the Offeror of the responsibility to make Good Faith Efforts.

## **B. Identify MBE Firms to Solicit**

### 1. MBE Firms Identified in Procurements

- (a) Certain procurements will include a list of the MBE Firms identified during the goal setting process as available to perform the items of work. If the procurement provides a list of Identified MBE Firms, the Offeror shall make all reasonable efforts to solicit those MBE firms.
- (b) Offerors may, and are encouraged to, search the MBE Directory to identify additional MBEs who may be available to perform the items of work, such as MBEs certified or granted an expansion of services after the solicitation was issued.

### 2. MBE Firms Identified by Offerors

- (a) When the procurement does not include a list of Identified MBE Firms, Offerors should reasonably identify the MBE Firms that are available to perform the Identified Items of Work.
- (b) Any MBE Firms identified as available by the Offeror should be certified to perform the Identified Items of Work.

## **C. Solicit MBEs**

### 1. Solicit all Identified Firms for all Identified Items of Work by providing written notice. The Offeror should:

- (a) provide the written solicitation at least 10 days prior to Proposal opening to allow sufficient time for the MBE Firms to respond;
- (b) send the written solicitation by first-class mail, facsimile, or e-mail using contact information in the MBE Directory, unless the Offeror has a valid basis for using different contact information; and
- (c) provide adequate information about the plans, specifications, anticipated time schedule for portions of the work to be performed by the MBE, and other requirements of the contract to assist MBE Firms in responding. (This information may be provided by including hard copies in the written solicitation or by electronic means as described in C.3 below.)

### 2. “All” Identified Firms includes the MBEs listed in the procurement and any MBE Firms you identify as potentially available to perform the Identified Items of Work, but it does not include MBE Firms who are no longer certified to perform the work as of the date the Offeror provides written solicitations.

### 3. “Electronic Means” includes, for example, information provided *via* a website or file transfer protocol (FTP) site containing the plans, specifications, and other requirements of the contract. If an interested MBE cannot access the information provided by electronic means, the Offeror must make the information available in a manner that is accessible to the interested MBE.

### 4. Follow up on initial written solicitations by contacting MBEs to determine if they are interested. The follow up contact may be made:

- (a) by telephone using the contact information in the MBE Directory, unless the Offeror has a valid basis for using different contact information; or
- (b) in writing *via* a method that differs from the method used for the initial written solicitation.

### 5. In addition to the written solicitation set forth in C.1 and the follow up required in C.4, use all other reasonable and available means to solicit the interest of MBE Firms certified to perform the work of the contract. Examples of other means include:

- (a) attending any pre-Proposal meetings at which MBE Firms could be informed of contracting and subcontracting opportunities; and
- (b) if recommended by the procurement, advertising with or effectively using the services of at least two minority focused entities or media, including trade associations, minority/women community organizations, minority/women contractors' groups, and local, state, and federal minority/women business assistance offices listed on the MDOT Office of Minority Business Enterprise website.

#### **D. Negotiate with Interested MBE Firms**

Offerors must negotiate in good faith with interested MBE Firms.

1. Evidence of negotiation includes, without limitation, the following:
  - (a) the names, addresses, and telephone numbers of MBE Firms that were considered;
  - (b) a description of the information provided regarding the plans and specifications for the work selected for subcontracting and the means used to provide that information; and
  - (c) evidence as to why additional agreements could not be reached for MBE Firms to perform the work.
2. The Offeror using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration.
3. The fact that there may be some additional costs involved in finding and using MBE Firms is not in itself sufficient reason for the Offeror's failure to meet the contract MBE goal(s), as long as such costs are reasonable. Factors to take into consideration when determining whether an MBE Firm's quote is excessive or unreasonable include, without limitation, the following:
  - (a) dollar difference between the MBE subcontractor's quote and the average of the other subcontractors' quotes received by the Offeror;
  - (b) percentage difference between the MBE subcontractor's quote and the average of the other subcontractors' quotes received by the Offeror;
  - (c) percentage that the MBE subcontractor's quote represents of the overall contract amount;
  - (d) number of MBE firms that the Offeror solicited for that portion of the work;
  - (e) whether the work described in the MBE and Non-MBE subcontractor quotes (or portions thereof) submitted for review is the same or comparable; and
  - (f) number of quotes received by the Offeror for that portion of the work.
4. The above factors are not intended to be mandatory, exclusive, or exhaustive, and other evidence of an excessive or unreasonable price may be relevant.
5. The Offeror may not use its price for self-performing work as a basis for rejecting an MBE Firm's quote as excessive or unreasonable.
6. The "average of the other subcontractors' quotes received" by the Offeror refers to the average of the quotes received from all subcontractors. Offeror should attempt to receive quotes from at least three subcontractors, including one quote from an MBE and one quote from a Non-MBE.
7. The Offeror shall not reject an MBE Firm as unqualified without sound reasons based on a thorough investigation of the firm's capabilities. For each certified MBE that is rejected as unqualified or that placed a subcontract quotation or offer that the Offeror concludes is not acceptable, the Offeror must provide a written detailed statement listing the reasons for this conclusion. The Offeror also must document the steps taken to verify the capabilities of the MBE and Non-MBE Firms quoting similar work.
  - (a) The factors to take into consideration when assessing the capabilities of an MBE Firm, include, but are not limited to the following: financial capability, physical capacity to perform, available personnel and equipment, existing workload, experience performing the type of work, conduct and performance in previous contracts, and ability to meet reasonable contract requirements.
  - (b) The MBE Firm's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of Proposals in the efforts to meet the project goal.

#### **E. Assisting Interested MBE Firms**

When appropriate under the circumstances, the decision-maker will consider whether the Offeror made reasonable efforts to assist interested MBE Firms in obtaining:

1. The bonding, lines of credit, or insurance required by the procuring agency or the Offeror; and
2. Necessary equipment, supplies, materials, or related assistance or services.

### III. Other Considerations

In making a determination of Good Faith Efforts the decision-maker may consider engineering estimates, catalogue prices, general market availability and availability of certified MBE Firms in the area in which the work is to be performed, other Proposals or offers and subcontract Proposals or offers substantiating significant variances between certified MBE and Non-MBE costs of participation, and their impact on the overall cost of the contract to the State and any other relevant factors.

The decision-maker may take into account whether the Offeror decided to self-perform subcontract work with its own forces, especially where the self-performed work is Identified Items of Work in the procurement. The decision-maker also may take into account the performance of other Offerors in meeting the contract. For example, when the apparent successful Offeror fails to meet the contract goal, but others meet it, this reasonably raises the question of whether, with additional reasonable efforts, the apparent successful Offeror could have met the goal. If the apparent successful Offeror fails to meet the goal, but meets or exceeds the average MBE participation obtained by other Offerors, this, when viewed in conjunction with other factors, could be evidence of the apparent successful Offeror having made Good Faith Efforts.

### IV. Documenting Good Faith Efforts

At a minimum, the Offeror seeking a waiver of the MBE Goal(s) or a portion thereof must provide written documentation of its Good Faith Efforts, in accordance with COMAR 21.11.03.11, within 10 Business Days after receiving notice that it is the apparent awardee. The written documentation shall include the following:

#### A. Items of Work (Complete Good Faith Efforts Documentation Attachment D-1C, Part 1)

A detailed statement of the efforts made to select portions of the work proposed to be performed by certified MBE Firms in order to increase the likelihood of achieving the stated MBE Goal(s).

#### B. Outreach/Solicitation/Negotiation

1. The record of the Offeror's compliance with the outreach efforts prescribed by COMAR 21.11.03.09C(2)(a). **(Complete Outreach Efforts Compliance Statement - D-2).**
2. A detailed statement of the efforts made to contact and negotiate with MBE Firms including:
  - (a) the names, addresses, and telephone numbers of the MBE Firms who were contacted, with the dates and manner of contacts (letter, fax, e-mail, telephone, etc.) **(Complete Good Faith Efforts Attachment D-1C- Part 2, and submit letters, fax cover sheets, e-mails, etc. documenting solicitations);** and
  - (b) a description of the information provided to MBE Firms regarding the plans, specifications, and anticipated time schedule for portions of the work to be performed and the means used to provide that information.

#### C. Rejected MBE Firms (Complete Good Faith Efforts Attachment D-1C, Part 3)

1. For each MBE Firm that the Offeror concludes is not acceptable or qualified, a detailed statement of the reasons for the Offeror's conclusion, including the steps taken to verify the capabilities of the MBE and Non-MBE Firms quoting similar work.
2. For each certified MBE Firm that the Offeror concludes has provided an excessive or unreasonable price, a detailed statement of the reasons for the Offeror's conclusion, including the quotes received from all MBE and Non-MBE firms proposing on the same or comparable work. **(Include copies of all quotes received.)**
3. A list of MBE Firms contacted but found to be unavailable. This list should be accompanied by an MBE Unavailability Certificate (see **D-1B - Exhibit A** to this Part 1) signed by the MBE contractor or a statement from the Offeror that the MBE contractor refused to sign the MBE Unavailability Certificate.

#### D. Other Documentation

1. Submit any other documentation requested by the Procurement Officer to ascertain the Offeror's Good Faith Efforts.
2. Submit any other documentation the Offeror believes will help the Procurement Officer ascertain its Good Faith Efforts.

**D-1B - Exhibit A**  
**MBE Subcontractor Unavailability Certificate**

1. It is hereby certified that the firm of \_\_\_\_\_  
(Name of Minority firm)

located at \_\_\_\_\_  
(Number) (Street)

\_\_\_\_\_  
(City) (State) (Zip)

was offered an opportunity to bid on Solicitation No. \_\_\_\_\_

in \_\_\_\_\_ County by \_\_\_\_\_  
(Name of Prime Contractor's Firm)

\*\*\*\*\*

2. \_\_\_\_\_ (Minority Firm), is either unavailable for the work/service or unable to prepare a Proposal for this project for the following reason(s):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\*\*\*\*\*

\_\_\_\_\_  
(Signature of Minority Firm's MBE Representative) (Title) (Date)

\_\_\_\_\_  
(MDOT Certification #) (Telephone #)

\*\*\*\*\*

3. To be completed by the prime contractor if Section 2 of this form is not completed by the minority firm.

To the best of my knowledge and belief, said Certified Minority Business Enterprise is either unavailable for the work/service for this project, is unable to prepare a Proposal, or did not respond to a request for a price Proposal and has not completed the above portion of this submittal.

\_\_\_\_\_  
(Signature of Prime Contractor) (Title) (Date)

**D-1C**  
**GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST**

PAGE \_\_ OF \_\_

<b>Prime Contractor:</b>	<b>Project Description:</b>	<b>PROJECT/CONTRACT</b>
Offeror Company Name, Street Address, Phone		<b>Solicitation #:</b>

Parts 1, 2, and 3 must be included with this certificate along with all documents supporting your waiver request.

I affirm that I have reviewed **Attachment D-1B**, Waiver Guidance. I further affirm under penalties of perjury that the contents of Parts 1, 2, and 3 of this **Attachment D-1C** Good Faith Efforts Documentation Form are true to the best of my knowledge, information, and belief.

Company:

\_\_\_\_\_  
Company Name (please print or type)

By:

\_\_\_\_\_  
Signature of Authorized Representative

Printed Name:

\_\_\_\_\_  
Printed Name

Title:

\_\_\_\_\_  
Title

Date:

\_\_\_\_\_  
Date

Address:

\_\_\_\_\_  
Company Address

**GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST**  
**PART 1 – IDENTIFIED ITEMS OF WORK OFFEROR MADE AVAILABLE TO MBE FIRMS**

PAGE \_\_ OF \_\_

<b>Prime Contractor:</b>	<b>Project Description:</b>	<b>PROJECT/CONTRACT</b>
Offeror Company Name, Street Address, Phone		<b>Solicitation #:</b>

Identify those items of work that the Offeror made available to MBE Firms. This includes, where appropriate, those items the Offeror identified and determined to subdivide into economically feasible units to facilitate the MBE participation. For each item listed, show the anticipated percentage of the total contract amount. It is the Offeror’s responsibility to demonstrate that sufficient work to meet the goal was made available to MBE Firms, and the total percentage of the items of work identified for MBE participation equals or exceeds the percentage MBE goal set for the procurement. Note: If the procurement includes a list of Proposal items identified during the goal setting process as possible items of work for performance by MBE Firms, the Offeror should make all of those items of work available to MBE Firms or explain why that item was not made available. If the Offeror selects additional items of work to make available to MBE Firms, those additional items should also be included below.

<b>Identified Items of Work</b>	<b>Was this work listed in the procurement?</b>	<b>Does Offeror normally self-perform this work?</b>	<b>Was this work made available to MBE Firms? If no, explain why not.</b>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Please check if Additional Sheets are attached.



**GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST**

**PART 2 – IDENTIFIED MBE FIRMS AND RECORD OF SOLICITATIONS**

PAGE \_\_ OF \_\_

<b>Prime Contractor:</b>	<b>Project Description:</b>	<b>PROJECT/CONTRACT</b>
<i>Offeror Company Name, Street Address, Phone</i>		<b>Solicitation #:</b>

Identify the MBE Firms solicited to provide quotes for the Identified Items of Work made available for MBE participation. Include the name of the MBE Firm solicited, items of work for which quotes were solicited, date and manner of initial and follow-up solicitations, whether the MBE provided a quote, and whether the MBE is being used to meet the MBE participation goal. MBE Firms used to meet the participation goal must be included on the MBE Participation Schedule. Note: If the procurement includes a list of the MBE Firms identified during the goal setting process as potentially available to perform the items of work, the Offeror should solicit all of those MBE Firms or explain why a specific MBE was not solicited. If the Offeror identifies additional MBE Firms who may be available to perform Identified Items of Work, those additional MBE Firms should also be included below. Copies of all written solicitations and documentation of follow-up calls to MBE Firms must be attached to this form. This list should be accompanied by a Minority Contractor Unavailability Certificate signed by the MBE contractor or a statement from the Offeror that the MBE contractor refused to sign the Minority Contractor Unavailability Certificate (**Attachment D-1B - Exhibit A**). If the Offeror used a Non-MBE or is self-performing the identified items of work, Part 4 must be completed.

<b>Name of Identified MBE Firm &amp; MBE Classification</b>	<b>Describe Item of Work Solicited</b>	<b>Initial Solicitation Date &amp; Method</b>	<b>Follow-up Solicitation Date &amp; Method</b>	<b>Details for Follow-up Calls</b>	<b>Quote Rec'd</b>	<b>Quote Used</b>	<b>Reason Quote Rejected</b>
Firm Name: MBE Classification (Check only if requesting waiver of MBE subgoal.) <input type="checkbox"/> African American-Owned <input type="checkbox"/> Hispanic American- Owned <input type="checkbox"/> Asian American-Owned <input type="checkbox"/> Women-Owned <input type="checkbox"/> Other MBE Classification		Date: <input type="checkbox"/> Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> E-mail	Date: <input type="checkbox"/> Phone <input type="checkbox"/> Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> E-mail	Time of Call: Spoke with: <hr/> <input type="checkbox"/> Left Message	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Used Other MBE <input type="checkbox"/> Used Non-MBE <input type="checkbox"/> Self-performing
Firm Name: MBE Classification (Check only if requesting waiver of MBE subgoal.) <input type="checkbox"/> African American-Owned <input type="checkbox"/> Hispanic American- Owned <input type="checkbox"/> Asian American-Owned <input type="checkbox"/> Women-Owned <input type="checkbox"/> Other MBE Classification		Date: <input type="checkbox"/> Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> E-mail	Date: <input type="checkbox"/> Phone <input type="checkbox"/> Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> E-mail	Time of Call: Spoke with: <hr/> <input type="checkbox"/> Left Message	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Used Other MBE <input type="checkbox"/> Used Non-MBE <input type="checkbox"/> Self-performing

Please check if Additional Sheets are attached.

**GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST  
PART 3 – ADDITIONAL INFORMATION REGARDING REJECTED MBE QUOTES**

PAGE \_\_ OF \_\_

<b>Prime Contractor:</b>	<b>Project Description:</b>	<b>PROJECT/CONTRACT NUMBER:</b>
<i>Offeror Company Name, Street Address, Phone</i>		<b>Solicitation #:</b>

This form must be completed if Part 1 indicates that an MBE quote was rejected because the Offeror is using a Non-MBE or is self-performing the Identified Items of Work. Provide the Identified Items Work, indicate whether the work will be self-performed or performed by a Non-MBE, and if applicable, state the name of the Non-MBE. Also include the names of all MBE and Non-MBE Firms that provided a quote and the amount of each quote.

<b>Describe Identified Items of Work Not Being Performed by MBE (Include spec/ section number from Proposal)</b>	<b>Self-performing or Using Non-MBE (Provide name)</b>	<b>Amount of Non-MBE Quote</b>	<b>Name of Other Firms who Provided Quotes &amp; Whether MBE or Non-MBE</b>	<b>Amount Quoted</b>	<b>Indicate Reason Why MBE Quote Rejected &amp; Briefly Explain</b>
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE	\$ _____	_____ <input type="checkbox"/> MBE <input type="checkbox"/> Non-MBE	\$ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE	\$ _____	_____ <input type="checkbox"/> MBE <input type="checkbox"/> Non-MBE	\$ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE	\$ _____	_____ <input type="checkbox"/> MBE <input type="checkbox"/> Non-MBE	\$ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE	\$ _____	_____ <input type="checkbox"/> MBE <input type="checkbox"/> Non-MBE	\$ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE	\$ _____	_____ <input type="checkbox"/> MBE <input type="checkbox"/> Non-MBE	\$ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other
	<input type="checkbox"/> Self-performing <input type="checkbox"/> Using Non-MBE	\$ _____	_____ <input type="checkbox"/> MBE <input type="checkbox"/> Non-MBE	\$ _____	<input type="checkbox"/> Price <input type="checkbox"/> Capabilities <input type="checkbox"/> Other

Please check if Additional Sheets are attached.

**D- 2**  
**OUTREACH EFFORTS COMPLIANCE STATEMENT**

Complete and submit this form within 10 Business Days of notification of apparent award or actual award, whichever is earlier.

In conjunction with the Proposal submitted in response to Solicitation No. \_\_\_\_\_, I state the following:

1. Offeror identified subcontracting opportunities in these specific work categories:

---

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2. Attached to this form are copies of written solicitations (with Proposal instructions) used to solicit certified MBE firms for these subcontract opportunities.

3. Offeror made the following attempts to personally contact the solicited MDOT-certified MBE firms:

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4. **Please Check One:**

- This project does not involve bonding requirements.
- Offeror assisted MDOT-certified MBE firms to fulfill or seek waiver of bonding requirements. (DESCRIBE EFFORTS):

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5. **Please Check One:**

- Offeror did attend the pre-Proposal conference.
- No pre -Proposal meeting/conference was held.
- Offeror did not attend the pre-Proposal conference.

PLEASE PRINT OR TYPE

Company:

---

Company Name (please print or type)

By:

---

Signature of Authorized Representative

Printed Name:

---

Printed Name

Title:

---

Title

Date:

---

Date

Address:

---

Company Address

**D-3A**  
**CERTIFIED MBE SUBCONTRACTOR PARTICIPATION CERTIFICATION**

**INSTRUCTIONS:**

**PRIME CONTRACTOR:** After completing SECTIONS A, B, and D, provide this form to *each* certified Minority Business Enterprise subcontractor (MBE) listed on the MBE Participation Schedule (Attachment D-1A) allowing sufficient time for the MBE to respond within the required timeframe.

**CERTIFIED MBE SUBCONTRACTOR:** Complete SECTION C to acknowledge and certify the information in SECTION A. Return the completed form directly to the Procurement Officer identified in SECTION D within 10 days after notice from the Prime Contractor of the State's intent to award the Contract. Provide a copy to the Prime Contractor.

***IF THIS FORM IS NOT RETURNED WITHIN THE REQUIRED TIME, THE PROCUREMENT OFFICER MAY DETERMINE THAT THE PRIME CONTRACTOR IS NOT RESPONSIBLE AND THEREFORE NOT ELIGIBLE FOR CONTRACT AWARD.***

**SECTION A**

Provided that (Prime Contractor) \_\_\_\_\_ is awarded the State contract in conjunction with Solicitation Number \_\_\_\_\_, (Prime Contractor) \_\_\_\_\_ intends to enter into a subcontract with (Certified MBE Subcontractor) \_\_\_\_\_ with MDOT Certification Number \_\_\_\_\_ committing to participation by (Certified MBE Subcontractor) \_\_\_\_\_ of at least \$ \_\_\_\_\_ which equals \_\_\_\_\_% of the Total Contract Value for the following products/services:

NAICS CODE	WORK ITEM, SPECIFICATION NUMBER, LINE ITEMS OR WORK CATEGORIES (IF APPLICABLE)	DESCRIPTION OF SPECIFIC PRODUCTS AND/OR SERVICES

The Contractor and certified MBE each acknowledge that, for purposes of determining the accuracy of the information provided herein, the Procurement Officer may request additional information, including, without limitation, copies of the subcontract agreements and quotes. The Contractor and certified MBE each solemnly affirms under the penalties of perjury that: (i) the information provided in this Certified MBE Subcontractor Participation Certification is true to the best of its knowledge, information and belief, and (ii) it has fully complied with the State Minority Business Enterprise law, State Finance and Procurement Article §14-308(a)(2), Annotated Code of Maryland which provides that, except as otherwise provided by law, a Contractor may not identify a certified MBE in a Bid/Proposal and:

- (1) fail to request, receive, or otherwise obtain authorization from the MBE to identify the MBE in its Bid/Proposal;
- (2) fail to notify the MBE before execution of the Contract of its inclusion of the Bid/Proposal;
- (3) fail to use the MBE in the performance of the Contract; or
- (4) pay the MBE solely for the use of its name in the Bid/Proposal.

**SECTION B – Prime Contractor**

Signature of Representative:

\_\_\_\_\_

Printed Name and Title:

\_\_\_\_\_

Prime Firm's Name: \_\_\_\_\_

Federal Identification Number: \_\_\_\_\_

Street Address, City, State, Zip Code:

\_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Date: \_\_\_\_\_

**SECTION C – Certified MBE Subcontractor**

Signature of Representative:

\_\_\_\_\_

Printed Name and Title:

\_\_\_\_\_

MBE Firm's Name: \_\_\_\_\_

Federal Identification Number: \_\_\_\_\_

Street Address, City, State, Zip Code:

\_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Date: \_\_\_\_\_

**SECTION D**

*This completed form is due to the Procurement Officer on or before:* \_\_\_\_\_

Solicitation #: \_\_\_\_\_ Solicitation Title: \_\_\_\_\_

Agency/Dept.: \_\_\_\_\_ Procurement Officer: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Street Address, City, State, Zip Code:

\_\_\_\_\_

\_\_\_\_\_

**D-3B**  
**MBE PRIME PROJECT PARTICIPATION CERTIFICATION**

**Please complete and submit this form to attest to each specific item of work that your MBE firm has listed on the MBE Participation Schedule (Attachment D-1A) for purposes of meeting the MBE participation goals. This form must be submitted within 10 Business Days of notification of apparent award. If the Offeror fails to return this affidavit within the required time, the Procurement Officer may determine that Proposal is not susceptible of being selected for Contract award.**

Provided that \_\_\_\_\_ (Prime Contractor's Name) with Certification Number \_\_\_\_\_ is awarded the State contract in conjunction with Solicitation No. \_\_\_\_\_, such MBE Prime Contractor intends to perform with its own forces at least \$ \_\_\_\_\_ which equals to \_\_\_ % of the Total Contract Amount for performing the following goods and services for the Contract:

NAICS CODE	WORK ITEM, SPECIFICATION NUMBER, LINE ITEMS OR WORK CATEGORIES (IF APPLICABLE) For Construction Projects, General Conditions must be listed separately	DESCRIPTION OF SPECIFIC PRODUCTS AND/OR SERVICES	VALUE OF THE WORK

**MBE Prime Contractor**

Company:

\_\_\_\_\_  
*Company Name (please print or type)*

FEIN:

\_\_\_\_\_  
*Federal Identification Number*

Company Address: \_\_\_\_\_

\_\_\_\_\_  
 Phone:

\_\_\_\_\_  
 Printed Name:

\_\_\_\_\_  
 Title:

\_\_\_\_\_  
 By:

\_\_\_\_\_  
*Signature of Authorized Representative*

\_\_\_\_\_  
 Date:

**D-4A**  
**Minority Business Enterprise Participation**  
**Prime Contractor Paid/Unpaid Invoice Report**

Report #:	Contract #:
Reporting Period (Month/Year):	Contracting Unit:
<b>Prime Contractor: Report is due to the MBE Liaison by the 10th of the month following the month the services were provided.</b> <b>Note: Please number reports in sequence</b>	Contract Amount:
	MBE Subcontract Amt:
	Project Begin Date:
	Project End Date:
	Services Provided:

Prime Contractor:		Contact Person:	
Address:			
City:		State:	ZIP:
Phone:	FAX:	E-mail:	
MBE Subcontractor Name:		Contact Person:	
Phone:	FAX:	E-mail:	
Subcontractor Services Provided:			
<b>List all payments made to MBE subcontractor named above during this reporting period:</b>		<b>List dates and amounts of any outstanding invoices:</b>	
	<b>Invoice #</b>	<b>Amount</b>	
	<b>Invoice #</b>	<b>Amount</b>	
1.			1.
2.			2.
3.			3.
4.			4.
<b>Total Dollars Paid: \$</b>		<b>Total Dollars Unpaid: \$</b>	

- If more than one MBE subcontractor is used for this contract, you must use separate **Attachment D-4A** forms. Information regarding payments that the MBE prime will use for purposes of meeting the MBE participation goals must be reported separately in **Attachment D-4B**.
- **Return one copy (hard or electronic) of this form to the following addresses (electronic copy with signature and date is preferred):**

---

Contract Monitor Name

---

Address

---

Email

---

Signature (Required)

---



---

Contracting Unit

---

City, State Zip

---

Phone Number

---

Date

---



**D-4B**  
**Minority Business Enterprise Participation**  
**MBE Prime Contractor Report**

MBE Prime Contractor:	Contract #:
Certification Number:	Contracting Unit:
Report #:	Contract Amount:
Reporting Period (Month/Year):	Total Value of the Work to the Self-Performed for purposes of Meeting the MBE participation goal/subgoals:
<b>MBE Prime Contractor: Report is due to the MBE Liaison by the 10th of the month following the month the services were provided.</b> <b>Note: Please number reports in sequence</b>	Project Begin Date:
	Project End Date:

Contact Person:			
Address:			
City:		State:	
Phone:		FAX:	E-mail:

Invoice Number	Value of the Work	NAICS Code	Description of Specific Products and/or Services

**Return one copy (hard or electronic) of this form to the following addresses (electronic copy with signature and date is preferred):**

Contract Monitor Name	Contracting Unit
Address	City, State Zip
Email	Phone Number
Signature (Required)	Date

**D-5**  
**Minority Business Enterprise Participation**  
**MBE Subcontractor Paid/Unpaid Invoice Report**

Report #:	Contract #:
Reporting Period (Month/Year):	Contracting Unit:
<b>Report is due by the 10th of the month following the month the services were performed.</b>	MBE Subcontract Amt:
	Project Begin Date:
	Project End Date:
	Services Provided:

MBE Subcontractor Name:					
MDOT Certification #:					
Contact Person:					
Address:					
City:		State:		ZIP:	
Phone:		FAX:		E-mail:	
<b>Subcontractor Services Provided:</b>					
<b>List all payments received from Prime Contractor during reporting period indicated above.</b>			<b>List dates and amounts of any unpaid invoices over 30 days old.</b>		
	<b>Invoice Amount</b>	<b>Date</b>		<b>Invoice Amount</b>	<b>Date</b>
1.			1.		
2.			2.		
3.			3.		
4.			4.		
<b>Total Dollars Paid: \$</b>			<b>Total Dollars Unpaid: \$</b>		
Prime Contractor:			Contract Person:		

**Return one copy of this form to the following addresses (electronic copy with signature and date is preferred):**

_____	_____
Contract Monitor Name	Contracting Unit
_____	_____
Address	City, State Zip
_____	_____
Email	Phone Number
_____	_____
Signature (Required)	Date

**Attachment E**

**CORPORATE PROFILE**

**Construction - Corporate Profile**

**Firm Contact Information**

Firm Name: \_\_\_\_\_

Federal ID Number: \_\_\_\_\_

Point of Contact: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Regional Office Address: \_\_\_\_\_  
\_\_\_\_\_

**Firm Background Information**

Year Firm Founded: \_\_\_\_\_

Is the firm MDOT MBE Certified?  Yes      No      If certified, provide the certification number and minority status.

\_\_\_\_\_

Primary Business/Service Provided: \_\_\_\_\_

Number of Years Performing Services: \_\_\_\_\_

Number Full Time Employees (Corporate/Regional Office): \_\_\_\_\_ / \_\_\_\_\_

Provide a brief narrative outlining the firm's history.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Provide a brief narrative outlining what services the firm intends to self-perform.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Provide a brief narrative outlining what services the firm intends to subcontract to others.

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Provide a brief narrative outlining the firm's familiarity with standards, laws and conditions as they apply to the work to be performed under this project.

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Provide a brief narrative clarifying the firm's capacity to perform services as outlined in the solicitation.

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Provide sales volume and project completion data for the most recently completed three-year period. Note that information provided is to be for the regional / local office that would be responsible for completing work under this solicitation.

Volume	Annual Sales	Completed Projects	Largest Project
2019	_____	_____	_____
2020	_____	_____	_____
2021	_____	_____	_____
2022	_____	_____	_____

**Firm References**

Provide three (3) references. Note that references are to be from different projects; that is, only one reference per project is allowed. MSA staff members cannot be considered as a firm's reference.

Project Name: \_\_\_\_\_

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Phone Number and email: \_\_\_\_\_  
Project Relationship: \_\_\_\_\_

Project Name: \_\_\_\_\_

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Phone Number and email: \_\_\_\_\_  
Project Relationship: \_\_\_\_\_

Project Name: \_\_\_\_\_

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Phone Number and email: \_\_\_\_\_  
Project Relationship: \_\_\_\_\_

**Disclosure of Contract Issues; Litigation; Criminal Investigations**

In the last five years, list and discuss any alleged prior or ongoing contract failures (potential judgment/settlement in excess of \$100,000), contract breaches (potential judgment/settlement in excess of \$100,000), other significant civil litigation, and all criminal litigation or investigations, which involved your firm.

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**Failure to Complete**

In the last five (5) years, disclose any projects that your firm was involved with that were not completed.

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**Insurance**

Include current certificates of insurance showing the limits of liability maintained by your firm in each of the following categories: workers' compensation, employer's liability, commercial general liability, automobile liability, umbrella or excess liability, and property insurance.

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**Safety**

Have you received any regulatory citations (e.g. federal or state OSHA) in the last three years? Yes/No

If yes, provide explanation:

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Provide your Workers' Compensation Experience Modification Rates (EMR) for the last 4 years

2019 \_\_\_\_\_

2020 \_\_\_\_\_

2021 \_\_\_\_\_

2022 \_\_\_\_\_

If EMR not applicable, provide explanation \_\_\_\_\_

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**Prepared By:**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



**Attachment F**  
**DESIGN DEVELOPMENT**  
**DOCUMENTS**

- Mechanical and Plumbing schedules from original building construction with the intent of giving an idea for the quantity and type of equipment in the building. Equipment has been added over the years that may not show up on these schedules.
- DD level mechanical schedules for the 2024 projects. These are subject to change as design progresses.

### FAN SCHEDULE

**GENERAL NOTES:**  
 1. MOTOR H.P. SHALL COMPLY WITH ASHRAE 90.1.  
 2. BHP SHALL BE NO GREATER THAN 80% OF THE MOTOR H.P.  
 3. CFM AT SITE ELEVATION OF 20 FT. STATIC PRESSURE AT SEA LEVEL.

**FAN TYPES:**  
 BVS - BELTED VENT SET.  
 CEILING - CEILING MOUNTED FAN.  
 MF - AXIAL FLOW FAN.  
 PRE - POWER ROOF EXHAUSTER.  
 PROPP - PROPELLER.  
 PRS - POWER ROOF SUPPLY FAN.  
 PRV - POWER ROOF VENTILATOR.  
 SQ - SQUARE INLINE CENTRIFUGAL.  
 TA - TUBE AXIAL.  
 TC - TUBULAR CENTRIFUGAL (IN LINE).  
 UBD - UPBLAST DILUTION FAN.  
 VA - VANE AXIAL.

**WHEEL TYPES:**  
 AF - AIR FOIL.  
 BI - BACKWARD INCLINE.  
 FC - FORWARD CURVED.  
 ESP - EXTERNAL STATIC.  
 TS - MAX. TIP SPEED (RPM).

**STARTER TYPES / ACCESS:**  
 A = COMBINATION MAGNETIC ACROSS THE LINE STARTER.  
 B = MANUAL MOTOR STARTER.  
 C = HAND-OFF-AUTO SWITCH, PILOT LIGHT, AND CONTROL TRANSFORMER IN STARTER.  
 D = VARIABLE FREQUENCY DRIVE.  
 E = LINE REACTOR, MAIN DISCONNECT, AND CONTROL RELAY.  
 F = EMERGENCY POWER.

**ACCESSORIES:**  
 1. LINED HOUSING.  
 2. DOUBLE WALL HOUSING.  
 3. WEATHERPROOF HOUSING.  
 4. OSHA BELT GUARD.  
 5. MOTOR COVER.  
 6. FAN CASE WITH WALL SLEEVE.  
 7. ACCESS DOOR.  
 8. HOUSING DRAIN.  
 9. INLET SCREEN.  
 10. OUTLET SCREEN.  
 11. MOTORIZED INLET DAMPERS.  
 12. MOTORIZED OUTLET DAMPERS.  
 13. GRAVITY INLET DAMPERS.  
 14. GRAVITY OUTLET DAMPERS.  
 15. UL 793 BUTTERFLY DISCHARGE DAMPER.  
 16. INLET BELL.  
 17. OUTLET CONE.  
 18. HIGH VELOCITY DISCHARGE CONE.

19. ROOF CURB (24" HIGH).  
 20. WALL CURB.  
 21. COPLANDER SILENCER.  
 22. INLET AIRFLOW STRAIGHTENER.  
 23. INLET AND OUTLET REGAN ATTENUATORS.  
 24. FAN ROLL OUT EQUIPMENT.  
 25. AUTOMATIC BELT TENSIONER.  
 26. SOLID STATE SPEED CONTROLLER (PRE-WIRED).  
 27. SOLID STATE SPEED CONTROLLER (FIELD INSTALLED).  
 28. DISCONNECT SWITCH IN FAN HOUSING (PRE-WIRED).  
 29. DISCONNECT SWITCH IN FAN HOUSING (FIELD INSTALLED).  
 30. FAN INLET PNEUMETRIC AIRFLOW MEASUREMENT RING.  
 31. ELECTRONICALLY COMMUNICATED MOTOR (ECM).  
 32. 1" FILTER (ESP INCLUDES DIRTY FILTER LOSS).  
 33. 2" FILTER (ESP INCLUDES DIRTY FILTER LOSS).  
 34. HAND-OFF-AUTOSWITCH IN MOTOR STARTER.  
 35. CONTROL CIRCUIT TRANSFORMER IN MOTOR STARTER.

36. EXPLOSION PROOF MOTOR WITH NON-SPARKING WHEEL AND DRIVE ASSEMBLY.  
 37. UL 702 LISTING WITH GREASE TROUGH, STEEL DRAIN, HINGED FAN ACCESS.  
 38. UL LISTED FOR SMOKE CONTROL SYSTEM.  
 39. STAINLESS STEEL SHAFT AND HARDWARE.  
 40. ALUMINUM WHEEL AND HOUSING.  
 41. CONCRETE INERTIA BASE (TYPE C).  
 42. REVERSIBLE MOTOR.  
 43. TWO SPEED MOTOR.  
 44. TEAO MOTOR.  
 45. TEFZ MOTOR.  
 46. EXTENDED LIFE LINES.  
 47. SHAFT GROUNDING RING.  
 48. HINGED BASE KIT.

IDENTIFICATION	SYSTEM	DESIGN BASIS	MODEL NUMBER	TYPE	CFM	STATIC PRESSURE (IN. WG)	WHEEL			MOTOR		STARTER		ACCESSORIES	ISOLATORS	ROOF / WALL OPENING	OPERATING WEIGHT (LBS)	ACCESSORIES	REMARKS
							LVL	SIZE	TS	BHP	MIN. HP	RPM	VOLTAGE						
EF-03-C-01	GENERAL EXHAUST	GREENHECK		INLINE	2400	1.5				2.00	4603	A	UNIT MOUNTED	NON-FUSED	--	--	--	--	
RF-9	AHU-9 RETURN FAN	GREENHECK		INLINE	6,825	1.5				5.00	4603	A	UNIT MOUNTED	NON-FUSED	--	--	--	--	

### AIR HANDLING UNIT SCHEDULE

**GENERAL NOTES (APPLIES TO ALL):**  
 1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES FOR INTAKE LOUVER, DAMPER, AND DUCTWORK SYSTEM (EXCLUDES FILTER LOSS).  
 2. SUPPLY FAN TOTAL STATIC PRESSURE (TSP) INCLUDES SCHEDULED DIRTY FILTER LOSS.  
 3. HEATING COIL AIRFLOW IS WINTER DIVERSIFIED. USE FOR COOL LOAD SELECTION, NOT COIL SIZE SELECTION.

4. PREMIUM EFFICIENCY MOTOR  
 5. FILTERS SHALL BE SELECTED AT THEIR HALF LIFE PRESSURE DROP.  
 6. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

**STARTER TYPES / ACCESSORIES:**  
 VFD - FACTORY MOUNTED VARIABLE FREQUENCY DRIVE  
 MMS - MANUAL MOTOR STARTER PROVIDED BY DIVISION 26  
 MAX-X-L - COMBINATION MAGNETIC X-LINE STARTER PROVIDED BY DIVISION 26

**EQUIPMENT ACCESSORIES:**  
 1. HORIZONTAL DRAW-THRU CONFIGURATION  
 2. DIRECT DRIVE FAN  
 3. SINGLE POINT 460/300 ELECTRICAL CONNECTION WITH SEPARATE 120/100 CIRCUIT FOR PREWIRED LIGHTS AND OUTLETS

4. UNIT MOUNTED OUTSIDE AIR AND RETURN AIR DAMPERS  
 5. PROVIDE LOCKABLE DOOR HANDLERS FOR ALL ACCESS DOORS  
 6. REFER TO SHEET 600 FOR DISCHARGE AND RADIATED SOUND POWER LEVELS  
 7. 2" THICK PERFORATED LINER IN FAN SECTIONS  
 8. PROVIDE 3-WAY VALVE AT COOLING COIL AND HOT WATER COILS

**FILTER TYPES:**  
 FLAT FILTER: AAF AAMR301, 30% EFF., MERV 8  
 BAG FILTER: VLE500 TR6, MERV 13  
 PARTICULATE FILTER: AAF VARDCEL SH, 99.99% EFF., MERV 17  
 1 = FLAT FILTER  
 2 = FLAT FILTER & BAG FILTER  
 3 = FLAT FILTER & PARTICULATE FILTER

IDENTIFICATION	AREA SERVED	MFR	MODEL NUMBER	TYPE	PRESSURE CLASS	OUTSIDE AIR CFM		SUPPLY FAN					COOLING COIL										HEATING COIL										ACCESSORIES	FILTER																	
						MIN	MAX	CFM	ESP (IN. WG)	TSP (IN. WG)	QTY	BYPASS (%)	HP	MIN. HP (EA)	VOLT / PH (EA)	STARTER	FLUID	QTY	CFM	MAX. FACE VEL. (FT./MIN)	EAT / DB / WB (°F)	LAT / DB / WB (°F)	SENSIBLE CAPACITY (BTU/H)	TOTAL CAPACITY (BTU/H)	EW / T (°F)	GPM	ROWS	MAX. WATER (GPM)	BRANCH SIZE (IN)	TYPE	FLUID	QTY			CFM	EAT / DB / WB (°F)	LAT / DB / WB (°F)	CAPACITY (BTU/H)	EW / T (°F)	GPM	ROWS	MAX. WATER (GPM)	BRANCH SIZE (IN)	OPERATING WEIGHT (LBS)	MOULDE TYPE	VELOCITY (FPM)					
AHU-9	CHAIRMAN SUITE CLUB	JCI	XT148939	MULTIZONE VAV	MEDIUM	5,850	16,100	16,100	3.50	6.87	2	5.90	15	460/3	VFD	UNIT MOUNTED	1	--	25% E.G.	1	16,100	500	84 / 16.84	53.8 / 53.1	524	736	40	54	112	8 & 9	0.82	7.9	2.1/2	PREHEAT	25% E.G.	1	16,500	45	55	587	200	170	42	8 & 2	0.04	6.3	1.1/2	6,750	1, 2, 3, 4, 5, 7, 8	2	500

### POLLUTION CONTROL UNIT SCHEDULE

**GENERAL NOTES:**  
 1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES FOR GREASE EXHAUST DUCTWORK, COOKING EXHAUST HOOD, DISCHARGE DUCTWORK, EXHAUST PLENUM, AND LOUVER.  
 2. PREMIUM EFFICIENCY MOTORS  
 3. FILTERS SHALL BE SELECTED AT THEIR HALF LIFE PRESSURE DROP

**STARTER TYPES / ACCESSORIES:**  
 MAX-X-L - COMBINATION MAGNETIC ACROSS THE LINE STARTER PROVIDED BY DIVISION 26  
 MMS - MANUAL MOTOR STARTER PROVIDED BY DIVISION 26  
 VFD - VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT. PCU MANUFACTURER SHALL PROVIDE, MOUNT, AND WIRE THE VFD

**ACCESSORIES:**  
 1. HORIZONTAL DRAW-THRU CONFIGURATION  
 2. DIRECT DRIVE FAN  
 4. UL LISTED FIRE DAMPER WITH FUSIBLE LINK  
 7. BAS BACNET INTERFACE  
 8. SINGLE POINT 460/300 ELECTRICAL CONNECTION WITH SEPARATE 120/100 CIRCUIT FOR MISC COMPONENTS  
 10. CARBON FILTER ODOOR CONTROL MODULE  
 11. EXTENDED LIFE FILTER

12. TWO SECTION MODULAR CONSTRUCTION  
 13. FILTER INTEGRITY MONITOR  
 14. PRE-PIPED FOR ANSUL SYSTEM. ANSUL SYSTEM PROVIDED BY COOKING HOOD MANUFACTURER  
 15. INTERFACE WITH COV CONTROLLER PROVIDED BY HOOD MANUFACTURER  
 16. CONTROL PANEL LOCATED REMOTELY FROM PCU. PCU MANUFACTURER SHALL SHIP CONTROL PANEL. LOOSE  
 17. PROVIDE DUCT SUMP AT INLET OF PCU AND WASH DOWN CONTROL PANEL PROVIDED BY PCU MANUFACTURER.

**FILTER TYPES:**  
 ELF FILTER: 90% EFF., MERV 14  
 HEPA FILTER: 99% EFF., MERV 16  
 1 = EXTENDED LIFE FILTER  
 2 = HEPA FILTER  
 3 = ELECTROSTATIC PRECIPITATOR  
 4 = PRE-FILTER: PLEATED 30%, UL 900, CLASS 1  
 5 = BAG FILTER: POCKET, 95%, UL 900, CLASS 1  
 6 = RIGID FILTER: 95% DOP, UL 900, CLASS 1

IDENTIFICATION	ROOM	MANUFACTURER	MODEL NUMBER	CABINET & MODEL SIZE	EXHAUST FAN			FAN MOTOR			STARTER			FILTER SECTIONS			VELOCITY (FPM)	OPERATING WEIGHT (LBS)	INTERLOCK	ACCESSORIES		
					CFM	E.S.P. (IN)	HP	BHP	FLA	ELEC.	SP	TYPE	LOCATION	MODULE TYPE 1	MODULE TYPE 2	MODULE TYPE 3					ODOOR CONTROL	
PCU-02-C-01	PCU PLATFORM	HALTON	POLLUSTOP	8	6,910	1.5	7.7	20	14.1	27	460/300	--	VFD	UNIT MOUNTED	1	2	--	ECOLOGY CENTRAL	500	5,680	AHU-9	1, 2, 7, 8, 10, 11, 12, 13, 14, 16, 17

### FAN COIL UNIT SCHEDULE

**GENERAL NOTES:**  
 1. 1" THROWAWAY FILTERS  
 2. 2" PLEATED THROWAWAY FILTERS  
 3. DISCHARGE AND RETURN AIR GRILLES FOR NON-DUCTED UNITS. REFER TO FLOOR PLANS FOR DUCTED NON-DUCTED UNITS.  
 4. SINGLE POINT ELECTRICAL CONNECTION WITH UNIT MOUNTED NON-FUSED DISCONNECT FOR FAN MOTOR AND ELECTRIC HEATER

**EQUIPMENT ACCESSORIES:**  
 1. 1" THROWAWAY FILTERS  
 2. 2" PLEATED THROWAWAY FILTERS  
 3. DISCHARGE AND RETURN AIR GRILLES FOR NON-DUCTED UNITS. REFER TO FLOOR PLANS FOR DUCTED NON-DUCTED UNITS.  
 4. SINGLE POINT ELECTRICAL CONNECTION WITH UNIT MOUNTED NON-FUSED DISCONNECT FOR FAN MOTOR AND ELECTRIC HEATER

5 = CONDENSATE PUMP WITH SEPARATE 120/100 ELECTRICAL CONNECTION  
 6 = PROVIDE ECM MOTOR WITH CONTROLLER  
 7 = 120 VOLT CONTROL TRANSFORMER, FAN CONTACTOR, AND LOW VOLTAGE TERMINAL STRIP  
 8 = UNIT OR WALL MOUNTED THERMOSTAT. REFER TO FLOOR PLANS FOR THERMOSTAT LOCATION  
 9 = AUXILIARY DRAIN PAN WITH FLOAT SWITCH IN PAN TO TURN OFF FCU UPON DETECTION OF CONDENSATE  
 10 = BAS BACNET INTERFACE  
 11 = SMOKE DETECTORS LOCATED IN SUPPLY AND RETURN AIRSTREAMS AT ALL FCUS WITH AIRFLOW GREATER THAN 2,000 CFM  
 12 = PROVIDE 3-WAY VALVE AT COIL

IDENTIFICATION	AREA SERVED	MODEL NUMBER	TYPE	FAN		COOLING COIL					HEATING COIL					ELECTRICAL			REMARKS												
				CFM	ESP (IN. WG)	QTY	HP	EW / T (°F)	LAT / DB / WB (°F)	SENSIBLE CAPACITY (BTU/H)	TOTAL CAPACITY (BTU/H)	ROWS	MAX. WATER (GPM)	BRANCH SIZE (IN)	GPM	EW / T (°F)	EAT / DB / WB (°F)	LAT / DB / WB (°F)		SENSIBLE CAPACITY (BTU/H)	TOTAL CAPACITY (BTU/H)	ROWS	MAX. WATER (GPM)	BRANCH SIZE (IN)	MCA	MOPP	OSP				
FCU-03-B-01	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-B-02	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-B-03	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-B-04	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-B-05	COACHES BOOTH	FHP-D10	HORIZONTAL	800	--	0.5	3	45 / 57	74 / 61.8	52.0 / 51.8	14,000	16,610	5	2.04	3/4	1.3	150 / 120	70	85	9,720	1	11.3	1/2	2	1/4	460/300	1.8	15	--	52 x51 x 11	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-01	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-02	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-03	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-04	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-05	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-06	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-07	CHAIRMAN SUITE	FNP18	HORIZONTAL	1500	--	0.5	7	40 / 54	74 / 61.8	52.0 / 51.8	35,833	42,573	6	7.02	1	2.0	200 / 170	70	85	25,110	1	0.11	1/2	1	1/3	460/300	5.85	15	--	62 x33 x 17	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-08	COACHES BOOTH	FHP-D10	HORIZONTAL	800	--	0.5	3	45 / 57	74 / 61.8	52.0 / 51.8	14,000	16,610	5	2.04	3/4	1.3	150 / 120	70	85	9,720	1	11.3	1/2	2	1/4	460/300	1.8	15	--	52 x51 x 11	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-09	BROADCAST BOOTH	FHP-D10	HORIZONTAL	800	--	0.5	3	45 / 57	74 / 61.8	52.0 / 51.8	14,000	16,610	5	2.04	3/4	1.3	150 / 120	70	85	9,720	1	11.3	1/2	2	1/4	460/300	1.8	15	--	52 x51 x 11	1, 3, 4, 6, 7, 8, 9, 10
FCU-03-C-09	COACHES BOOTH LOBBY	FHP-D10	HORIZONTAL	800	--	0.5	2.8	45 / 57	74 / 61.8	52.0 / 51.8	14,000	16,610	5	2.04	0.75	1.3	150 / 120	70	85	9,720	1	11.3	0.5	2	0.25	460/300	1.8	15	--	52 x51 x 11	1, 3, 4, 6, 7, 8, 9, 10

### UNIT HEATER SCHEDULE

**GENERAL NOTES:**  
 1. SEE SPECIFICATIONS  
 2. PIPE CONNECTIONS SIZES PER PLANS.  
 3. CONTROL SEQUENCE PER DRAWINGS.  
 3. TYPICAL QUANTITY 6 PER SUITE.

**REMARKS:**  
 A. BOTTOM IN, BOTTOM OUT AIRFLOW  
 B. INTEGRAL ELECTRICAL DISCONNECT AND MANUAL STARTER PROVIDED BY MFG  
 C. HANGING BRACKET  
 D. 1" THROWAWAY FILTERS  
 E. WALL MOUNTED TSTAT WITH CONTROL TRANSFORMER. REFER TO FLOOR PLANS FOR THERMOSTAT LOCATION. PROVIDE LOCKING TAMPERPROOF THERMOSTAT COVER FOR ALL ADJUSTABLE THERMOSTATS LOCATED IN PUBLIC SPACES  
 F. TWO-WAY ELECTRIC CONTROL VALVE  
 G. PROVIDE SWIVEL MOUNTING BRACKETS  
 H. MOUNT TO CEILING PER MANUFACTURER'S INSTRUCTIONS  
 I. PROVIDE PROGRAMMABLE DIGITAL CONTROLLER AND TIMER INTERLOCKED WITH BAS  
 K. CUSTOM COLOR SELECTED BY ARCHITECT

**MOTOR TYPES:**  
 PSC - PERMANENT SPLIT-CAPACITOR  
 ECM - ELECTRONICALLY COMMUTATED MOTOR

IDENTIFICATION	TYPE	SERVICE	MANUFACTURER	MODEL NUMBER	MIN. CAPACITY (BTU/H)	CFM	HOT WATER			ELECTRIC HEAT		MOUNT HEIGHT (AFF)	APPROX. SIZE (LxWxH)	HP	TYPE	VOLT/PH	FLA	REMARKS
							EW	WPD	ROWS	GPM	CAPACITY (kW)							
RH-1	RADIANT HEATER	CHAIRMAN SUITES	INRTECH	CD4024	13,648	--	--	--	--	4	--	39"x48"x4"	--	--	480/3	--	H, I, K	

### AIR TERMINAL UNIT SCHEDULE (HOT WATER REHEAT)

**GENERAL NOTES:**  
 1. MAXIMUM AIR PRESSURE DROP AT OCC. COOLING MAX CFM: 0" - 10" @ 0.75 IN. W.G.; 24"x16" @ 1.75" IN. W.G.  
 2. MINIMUM WATER DELTA-T: 20 F  
 3. MAXIMUM WATER PRESSURE DROP: 5.0 FT. W.G.  
 4. HEATING COIL SELECTION BASIS: SCHEDULED LEAVING AIR TEMPERATURE  
 5. HEATING COIL MINIMUM FLOW RATE: 0.5 GPM  
 6. HEATING COIL MAXIMUM FACE VELOCITY: 700 FPM  
 7. HEATING COIL ROW QUANTITY SHALL BE AS REQUIRED TO OBTAIN THE SCHEDULED CONDITIONS, WHILE CONFORMING TO NOTES 1-5.  
 8. HEATING COILS SELECTED WITH 1 ROW AND AT THE MINIMUM HOT WATER FLOW RATE OF 0.5 GPM CAN EXCEED THE SCHEDULED LEAVING AIR TEMPERATURE  
 9. HEATING COIL FLOW RATES ARE BASED ON AN AVERAGE WATER DELTA-T AND SHOWN FOR RUNOUT PIPE SIZING. CONTROL VALVE AND BALANCING VALVE SIZES SHALL BE BASED ON THE FLOW RATES LISTED IN THE APPROVED AIR TERMINAL UNIT SUBMITTAL.  
 10. IF HEATING CAPACITY CANNOT BE MET, ELIMINATE COIL FROM ATU AND PROVIDE SEPARATE DUCT MOUNTED HEATING COIL TO MEET SCHEDULED CAPACITY. INDEPENDENTLY INSTALL COIL AND INSULATE DUCT AND COIL. COMPLY WITH THE MAXIMUM AIR PRESSURE DROP, MAXIMUM WATER PRESSURE DROP AND MINIMUM DELTA-T INDICATED ABOVE IN NOTES 1-3.  
 11. NOISE CRITERIA (NC) SHALL BE DETERMINED USING AARI STANDARD 885-2008 APPENDIX E WITH SOLID LINER AND







**AIR HANDLING UNIT SCHEDULE**

NOTES:  
 1. PROVIDE UNIT WITH PHASE & BROWN OUT PROTECTION, FLEXIBLE DUCT CONNECTOR TO SA & RA UNIT DUCT CONNECTIONS.  
 2. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION.  
 3. PROVIDE UNIT WITH UNIT-MOUNTED, NEMA RATED DISCONNECT SWITCH.  
 4. PROVIDE MANUFACTURER RECOMMENDED SPACE CLEARANCES AROUND UNIT.  
 5. FOR AHU UNIT SHALL BE PROVIDED WITH 2" PLEATED MERV 8 PRE-FILTER AND 4" PLEATED MERV 13 FINAL FILTERS.  
 6. PROVIDE AIR FLOW MONITORING STATION (AFMS) FOR OUTSIDE & SUPPLY AIR INTAKE.  
 7. PROVIDE UNIT WITH APPROVED DUCT SMOKE DETECTORS AND INTERFACE WITH BUILDING FIRE ALARM SYSTEM.  
 8. ALL DDC CONTROLS AND SENSORS NECESSARY FOR UNIT OPERATION SHALL BE INTEGRAL TO THE UNIT WITH BACNET INTERFACE TO BAS.  
 9. CHILLED WATER COIL SHALL BE SIZED AND SELECTED FOR 2% ETHYLENE GLYCOL SOLUTION.  
 10. INSTALL AIR HANDLING UNIT ON 4" CONCRETE PAD WITH VIBRATION ISOLATION.

UNIT MARK	SERVICE	LOCATION	DESIGN AIRFLOW (CFM)		AIR FLOW	QTY.	SUPPLY FAN				COOLING COIL DATA				RE-HEATING COIL DATA				ELECTRICAL			BASIS OF DESIGN			REMARKS											
			SUPPLY AIR	MIN. OUTDOOR AIR			ESP (IN WC)	TSP (IN WC)	FAN RPM	MOTOR RPM	POWER/FAN	TOTAL MBH	SENSIBLE MBH	EAT DBWB (°F)	LAT DBWB (°F)	EWT (°F)	LWT (°F)	FLOW (GPM)	WATER PD (FT. OF WATER)	FLUID TYPE	CFM	TOTAL MBH	EAT DB (°F)	LAT DB (°F)		EWT (°F)	LWT (°F)	FLOW (GPM)	WATER PD (FT. OF WATER)	FLUID TYPE	MCA	MOCQ	FLA	VOLTS/PHHZ	UNIT WEIGHT (LBS)	MANUFACTURER
AHU 1-4	200-BEER HALL	410-MECH ROOM	19000	5000	9500	2	1.5	4.23	1927	1800	10 HP	831	580	80.26/66.65	52.54/52.12	40	54	132	14.22	19000	896	51.58	95	200	170	60	7.04	100% WATER	35	60	28	460/360	5618	TRANE	CSAA035	SEE NOTES

**HYDRONIC UNIT HEATER SCHEDULE**

NOTES:  
 1. PROVIDE UNIT WITH INTEGRAL THERMOSTAT & NEMA RATED DISCONNECT SWITCH.  
 2. PROVIDE WITH INTEGRATED THERMOSTAT SET AT 70°F AND UNIT SHALL HAVE SEASONAL ON/OFF SWITCH.  
 3. PROVIDE BUILT-IN CIRCUIT BREAKER TO ALLOW FOR DIRECT CONNECTION FROM ELECTRICAL FEEDER TAPS.  
 4. UNIT SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.  
 5. UNIT SHALL BE KEPT AT A MINIMUM DISTANCE FROM ADJACENT SURFACE PER MANUFACTURER RECOMMENDATION.  
 6. PROVIDE THE FOLLOWING: (FACTORY INSTALLED/SUPPLIED IF NOT CONTRACTOR SHALL PROVIDE).  
 - THERMAL CUT OFF.  
 7. FAN MOTOR SHALL BE COMPLETELY ENCLOSED.  
 8. THE CEILING MOUNTING STRUCTURE AND THE ANCHORING PROVISIONS MUST BE OF SUFFICIENT STRENGTH TO SUPPORT THE COMBINED WEIGHT OF THE HEATER AND MOUNTING BRACKET.  
 9. PROVIDE CEILING HUNG MOUNTING BRACKETS.

UNIT MARK	TYPE	LOCATION	AIRFLOW (CFM)	MOTOR HP	HEATING CAPACITY (MBH)	HEATING DATA		WATER PD		ELECTRICAL DATA		BASIS OF DESIGN		REMARKS
						EWT (°F)	LWT (°F)	FLOW (GPM)	WATER PD (FT. OF WATER)	AMPS	VOLTS/PHHZ	MANUFACTURER	MODEL	
UH-1	CEILING HUNG	410-MECH ROOM	580	25 WATT	24.8	200	170	1.7	2.2	1.2	115/160	STERLING	HS-125A	SEE NOTES

**FAN SCHEDULE**

NOTES:  
 1. UNIT SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.  
 2. FAN COATED OUTDOOR SHALL BE PROVIDED WITH WEATHER HOOD AND OUTLET GUARD.  
 3. UNIT CLEARANCE SHALL BE PROVIDED AS PER MANUFACTURER'S RECOMMENDATION.  
 4. PROVIDE THE FOLLOWING: (FACTORY INSTALLED/SUPPLIED IF NOT CONTRACTOR SHALL PROVIDE).  
 - NEMA RATED DISCONNECT SWITCH.  
 - SPEED CONTROLLER.  
 - EQUIPMENT ROOF SUPPORT PER MANUFACTURER'S RECOMMENDATION FOR ALL ROOF MOUNTED FANS.  
 5. PROVIDE FANS WITH NEMA RATED DISCONNECT SWITCH.  
 6. ROOF MOUNTED EXHAUST FAN SHALL BE PROVIDED WITH FACTORY PRE-FABRICATED 18" HIGH SOUND ABSORBING ROOF CURB AND ADAPTER.  
 7. PROVIDE NEMA PREMIUM EFFICIENT MOTOR.  
 8. PROVIDE THERMAL OVERHEAT PROTECTION.  
 9. PROVIDE FLEXIBLE CONNECTOR ON INLET AND OUTLET.  
 10. PROVIDE INSULATED CABINET.  
 11. REFER TO ELECTRICAL DWGS FOR WIRING, CIRCUIT BREAKER AND DISCONNECT SWITCH.

UNIT MARK	SERVICE	LOCATION	TYPE	FAN			MOTOR			SONES	UNIT WEIGHT (LBS)	BASIS OF DESIGN		REMARKS	
				AIR FLOW (CFM)	E.S.P. (IN WC)	RPM	DRIVE TYPE	HP	RPM			VOLTS/PHHZ	MANUFACTURER		MODEL
RF-1	AHU-1-4	410-MECH ROOM	WALL MOUNTED	16700	1.013	1170	DIRECT	5	1170	460/603	8.9	41	GREENHECK	VAD-26H14-23-850	1.3,4.5,7.8,9,10,11
RF-1	MEN, WOMENS, RESTROOMS & BOH	CLUB LEVEL ROOF	DOWNBLAST	1900	0.75	1601	DIRECT	0.34	1725	115/60/1	9.2	36	GREENHECK	CUE-085-VG	1.2,3,4.5,6,7,8,10,11
KEF-1	KITCHEN	CLUB LEVEL ROOF	UPBLAST	500	0.75	1712	DIRECT	0.14	1725	115/60/1	9.2	36	GREENHECK	CUE-085-VG	1.2,3,4.5,6,7,8,10,11

**ELECTRIC UNIT HEATER SCHEDULE**

NOTES:  
 1. PROVIDE UNIT WITH INTEGRAL THERMOSTAT & NEMA RATED DISCONNECT SWITCH.  
 2. PROVIDE WITH INTEGRATED THERMOSTAT SET AT 70°F AND UNIT SHALL HAVE SEASONAL ON/OFF SWITCH.  
 3. PROVIDE BUILT-IN CIRCUIT BREAKER TO ALLOW FOR DIRECT CONNECTION FROM ELECTRICAL FEEDER TAPS.  
 4. UNIT SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.  
 5. UNIT SHALL BE KEPT AT A MINIMUM DISTANCE FROM ADJACENT SURFACE PER MANUFACTURER RECOMMENDATION.  
 6. PROVIDE THE FOLLOWING: (FACTORY INSTALLED/SUPPLIED IF NOT CONTRACTOR SHALL PROVIDE).  
 - THERMAL CUT OFF.  
 7. FAN MOTOR SHALL BE COMPLETELY ENCLOSED.

UNIT MARK	SERVICE	TYPE	LOCATION	KW	ELECTRICAL DATA		CONTROL	BASIS OF DESIGN		REMARKS
					AMPS	VOLTS/PHHZ		MANUFACTURER	MODEL	
EUH-1	RESTROOM	WALL MOUNTED	402-RESTROOM	1.5	12.5	120/160	THERMOSTAT	MARLEY	WH5150FC	SEE NOTES
EUH-2	RESTROOM	WALL MOUNTED	453-RESTROOM	1.5	12.5	120/160	THERMOSTAT	MARLEY	WH5150FC	SEE NOTES
EUH-3	RESTROOM	WALL MOUNTED	404-RESTROOM	1.5	12.5	120/160	THERMOSTAT	MARLEY	WH5150FC	SEE NOTES
EUH-4	RESTROOM	WALL MOUNTED	410-RESTROOM	1.5	12.5	120/160	THERMOSTAT	MARLEY	WH5150FC	SEE NOTES
EUH-5	BOH	WALL MOUNTED	407-BOH	1.5	12.5	120/160	THERMOSTAT	MARLEY	WH5150FC	SEE NOTES

**FIN TUBE RADIATION SCHEDULE**

NOTES:  
 1. BTU/FT CALCULATED CONSIDERING ALL CORRECTION FACTORS.  
 2. FTR'S SHALL BE PROVIDED WITH MINIMUM 1/4 GAUGE ENCLOSURES.  
 3. PROVIDE FIN-TUBE ELEMENT SUPPORT BRACKETS, SADDLE HANGERS, CONTINUOUS BAFFLE AS REQUIRED TO INSTALL UNITS.  
 4. PROVIDE FIN-TUBE RADIATION ENCLOSURE. CONTRACTOR SHALL COORDINATE IN THE FIELD.  
 5. PROVIDE SHUT-OFF AND ISOLATION VALVES.  
 6. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT AND TYPE OF FIN-TUBE RADIATION ENCLOSURE. ARCHITECT TO SELECT ENCLOSURE COLOR.  
 7. ALL FTR SHALL BE INSTALLED WITH CLEAR AIR SPACE FOR THE AIR INLET AS RECOMMENDED BY MANUFACTURER.  
 8. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.  
 9. FIELD MEASURE ALL SECTIONS LENGTH PRIOR TO FABRICATION.  
 10. FIELD COORDINATE ACTUAL MOUNTED HEIGHT WITH ARCHITECT CONTRACTOR.  
 11. PROVIDE THE FOLLOWING: (FACTORY INSTALLED/SUPPLIED IF NOT CONTRACTOR SHALL PROVIDE).  
 - SELF CONTAINED THERMOSTAT VALVE MANUFACTURER TO FIT INSIDE MANUFACTURERS ENCLOSURE.  
 - PIPE ENCLOSURE AS NECESSARY. PIPE ENCLOSURES TO BE SUPPLIED BY RADIATOR MANUFACTURERS IN ORDER TO MATCH RADIATOR COVER.

UNIT MARK	ENCLOSURE TYPE	ROWS HIGH	FIN SIZE (IN x IN)	FINS/FT	TUBE SIZE IN	ENCLOSURE SIZE (HxWxD)	WATER			BTU/HFT @ 216°F	EAT °F	CORRECTION FACTOR	BTU/HFT @ 185°F AWI	LENGTH (FT)	BASIS OF DESIGN		REMARKS
							EWT °F	LWT °F	AWT °F						MANUFACTURER	MODEL	
FTR	WELDED STEEL ENCLOSURE	5	1.125 x 1.125	32	1/2	5.75" x 2"	200	170	185	1720	65	0.744	1280	90	RUNTAL	RF-5	SEE NOTES

**AIR DEVICE SCHEDULE**

NOTES:  
 1. INSTALL OPPOSED BLADE DAMPERS ON ALL DIFFUSERS LOCATED IN DRY WALL CEILING.  
 2. DIFFUSER/GRILLES SHALL BE CONSTRUCTED OF 24 GAUGE STEEL.  
 3. GRILLE SHALL BE PROVIDED WITH BORDER FRAME.  
 4. DIFFUSER/GRILLES SHALL BE TESTED IN ACCORDANCE WITH ANSI/ASHRAE STANDARD 70-2006.  
 5. PROVIDE FRAME/BORDER TYPE AS REQUIRED FOR INSTALLATION AND COORDINATE WITH ARCHITECT FOR CEILING TYPE.  
 6. ALL IN-TYPE LINEAR SUPPLY RETURN DIFFUSERS SHALL BE PROVIDED WITH RIP TYPE PLENUM BOX.  
 7. GRILLES SHALL BE TESTED IN ACCORDANCE WITH UL 263 AND MUST MEET NFPA 90A REQUIREMENTS.  
 8. PROVIDE AIR ADAPTER FRAME FOR ALL AIR DEVICES LOCATED IN GYP BOARD CEILING.  
 9. PROVIDE REGISTERS WITH INTEGRAL GANG OPERATED OPPOSED BLADE DAMPERS WITH REMOVABLE KEY OPERATOR OPERABLE FROM FACE.  
 10. COORDINATE MOUNTING TYPE WITH CEILING PLANS. REFER TO ARCHITECTURAL DRAWINGS.  
 11. SIDE GRILLE THROW SHALL BE SET AT 45° THROW ANGLE.

UNIT MARK	CFM RANGE	BASIS OF DESIGN		TYPE	LOCATION	SIZE		MAX. SP (IN WG)	MAX. LC	REMARKS
		MIN.	MAX.			NECK (IN)	MODULE (IN.)			
LD-1	0	300	TITUS	FL-10-HT	CEILING	10	2 SLOT x 1" SLOT SPACING, 4" LONG	0.08	17	SEE NOTES
SD-1	0	300	TITUS	OMNI	DIFFUSER	10	24x24	0.06	-	SEE NOTES
SG-1	0	100	TITUS	300RL	GRILLE	10x10	12x12	0.01	-	SEE NOTES
SG-2	100	250	TITUS	300RL	GRILLE	18x12	20x14	0.01	-	SEE NOTES
RG-1	0	3400	TITUS	350 RL	GRILLE	48x18	50x20	0.07	26	SEE NOTES
EG-1	0	100	TITUS	350 RL	GRILLE	6x6	8x8	0.08	14	SEE NOTES
EG-2	100	200	TITUS	350 RL	GRILLE	10x8	12x10	0.04	-	SEE NOTES
EG-3	200	250	TITUS	350 RL	GRILLE	12x10	14x12	0.03	-	SEE NOTES
Tg-1	0	200	TITUS	350 RL	GRILLE	10x8	12x10	0.04	-	SEE NOTES

**SPLIT SYSTEM INDOOR UNIT SCHEDULE**

NOTES:  
 1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80°F (DBWB), OUTDOOR OF 95°F (DB).  
 2. REFRIGERANT SHALL BE NON-CFC BASED. BASIS OF DESIGN USES REFRIGERANT R-410A.  
 3. INSULATE SIZE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS.  
 4. PROVIDE UNIT WITH CONDENSATE PUMP @20"FT OF DISCHARGE HEAD, UL LISTED, 115V/1/60. PROVIDE SAFETY SWITCH AND CHECK VALVE. G08H1 MODEL & OVERFLOW SWITCH.

UNIT MARK	LOCATION	NOMINAL TONS	SUPPLY AIR CFM (HIGH)	COOLING DATA		WEIGHT (LBS)	UNIT ELECTRICAL DATA			BASIS OF DESIGN		REMARKS	
				TOTAL COOLING CAPACITY (MBH)	SENSIBLE HEAT FACTOR		V/PHHZ	MCA	MOCQ	MANUFACTURER	MODEL		
AC-1	220-ELEC	1.5	450	18.2	0.73	45	24-13/16 x 32-4/16 x 11-3/16	208/160	11	26	mitsubishi	TPKA0A181A10A	ALL
AC-2	208-AV/IT	2.0	775	24.3	0.78	-	24-13/16 x 32-4/16 x 11-3/16	208/160	-	-	mitsubishi	TPKA0A241A10A	ALL

**SPLIT SYSTEM OUTDOOR UNIT SCHEDULE**

NOTES:  
 1. BASIS OF DESIGN IS BASED ON 95°F DB AMBIENT AND 78°F WB.  
 2. PROVIDE UNIT WITH THE FOLLOWING:  
 A. NEMA RATED INTEGRAL DISCONNECT SWITCH.  
 B. LOW AMBIENT CONTROLS AND CRANKCASE HEATER TO PERMIT UNIT OPERATION AT 0°F AMBIENT OUTDOOR.  
 3. REFRIGERANT SHALL BE NON-CFC BASED. BASIS OF DESIGN USES REFRIGERANT R-410A.  
 4. CONDENSING UNIT MUST HAVE FULLY MODULATING INVERTER COMPRESSORS.  
 5. CONDENSING UNIT MUST HAVE MINIMUM 3 MINS. OF NON-VOLATILE OPERATION MEMORY FOR USE IN DIAGNOSTICS.  
 6. CONTRACTORS INSTALLATION PERSONNEL MUST HAVE SUCCESSFULLY COMPLETED MANUFACTURER'S CERTIFIED INSTALLATION CLASS WITHIN PAST 24 MONTHS.  
 7. CONTRACTOR TO FURNISH AND INSTALL INSULATION ON REFRIGERANT PIPING.  
 8. MANUFACTURER'S REPRESENTATIVE MUST HAVE LOCAL SERVICE, STOCK PARTS, AND PROOF OF CONTINUOUS SALES SUPPORT FOR AT LEAST 10 YEARS.  
 9. UNIT SHALL BE SET FOR COOLING ONLY OPERATION.  
 10. PROVIDE WIND BAFFLE KIT FOR COOLING TO 0°F OPERATION.

UNIT MARK	LOCATION	INDOOR UNIT	COOLING DATA			ELECTRICAL DATA			UNIT DIMENSIONS (HxWxD)	APPROX. WEIGHT (LBS)	BASIS OF DESIGN		REMARKS
			NOMINAL TONS	AMBIENT TEMP (°F)	SEER	V/PHHZ	MCA	MOCQ			MANUFACTURER	MODEL	
ACCU-1	SEE PLANS	AC-1	1.5	95	17	208/160	11	26	-	-	mitsubishi	TRUVA0181KA70NA	ALL
ACCU-2	SEE PLANS	AC-2	2.0	95	17	208/160	19	26	-	-	mitsubishi	TRUZA0241HA70NA	ALL

**ROOF TOP HEAT PUMP UNIT SCHEDULE**

NOTES:  
 1. BASIS OF DESIGN IS BASED ON 80°F DB AMBIENT AND 78°F WB.  
 2. PROVIDE UNIT WITH THE FOLLOWING:  
 A. NEMA RATED INTEGRAL DISCONNECT SWITCH.  
 B. LOW AMBIENT CONTROLS AND CRANKCASE HEATER TO PERMIT UNIT OPERATION AT 0°F AMBIENT OUTDOOR.  
 3. REFRIGERANT SHALL BE NON-CFC BASED. BASIS OF DESIGN USES REFRIGERANT R-410A.  
 4. UNIT MUST HAVE FULLY MODULATING INVERTER COMPRESSORS.  
 5. UNIT MUST HAVE MINIMUM 3 MINS. OF NON-VOLATILE OPERATION MEMORY FOR USE IN DIAGNOSTICS.  
 6. CONTRACTORS INSTALLATION PERSONNEL MUST HAVE SUCCESSFULLY COMPLETED MANUFACTURER'S CERTIFIED INSTALLATION CLASS WITHIN PAST 24 MONTHS.  
 7. CONTRACTOR TO FURNISH AND INSTALL INSULATION ON REFRIGERANT PIPING.  
 8. MANUFACTURER'S REPRESENTATIVE MUST HAVE LOCAL SERVICE, STOCK PARTS, AND PROOF OF CONTINUOUS SALES SUPPORT FOR AT LEAST 10 YEARS.  
 9. PROVIDE UNIT WITH VIBRATION ISOLATORS.

UNIT MARK	SERVICE	LOCATION	NOMINAL TONS	AIR FLOW CFM (L-MIN)	COOLING DATA		HEATING DATA		ELECTRICAL DATA			REFRIGERANT TYPE	DIMENSIONS (LxWxH)	UNIT WEIGHT (LBS)	EMERGENCY POWER (Y/N)	BASIS OF DESIGN		REMARKS		
					TOTAL COOLING CAPACITY (MBH)	SENSIBLE COOLING CAPACITY (MBH)	TOTAL MBH @ 47°F	TOTAL MBH @ 17°F	HSPF	SEER	MCA					TOTAL AMPS	VOLTS/PHHZ		MANUFACTURER	MODEL
RTU-1	ELEVATOR SHAFT	ROOF	2.00	700-850-1000	23.0	-	21.9	11.4	8.0	14.0	22.7	19.1	208/160	R-410A	55.8 x 47.5 x 39	400	Y	AC PRO	Q8SE-K24K	SEE NOTES

Miller Lite Mechanical Schedules from DD Drawings - Subject to Change

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2 08/02/2023 100% DESIGN DEVELOPMENT  
 3 08/24/2023 50% CONSTRUCTION DOCUMENTS

Seal / Signature

**NOT FOR CONSTRUCTION**

Project Name  
**M&T BANK STADIUM**

Project Number  
**09.0186.000**

Description  
 MECHANICAL SCHEDULES

Scale  
 NOT TO SCALE

**M.002.01ML**







AHU 1 and 2, 3 and 4, 5 and 6, and 7 and 8 were combined during original construction. Only 4 AHUs exist, not 8.

AIR HANDLING UNIT SCHEDULE

DESIG	DUTY	FAN SECTION										COOLING SECTION										HEATING SECTION										ELECTRICAL	REMARKS	
		CFM	MIN. OA CFM	TSP INCH H <sub>2</sub> O	MOTOR BHP	RPM	WHEEL DIA INCH	EAT °F		LAT °F		TOTAL MBH	SENS MBH	GPM @ 36°F EWT	MAX H <sub>2</sub> O PD FT H <sub>2</sub> O	MIN TOTAL FACE AREA	MAXIMUM FACE VEL FPM	No OF COILS	MAX FIN SPACING FIN/IN	MAXIMUM AIR PD IN H <sub>2</sub> O	MIN ROWS	EAT °F	LAT °F	MBH @ 200°F EWT	GPM @ 30°F ΔT	MAXIMUM H <sub>2</sub> O PD FT H <sub>2</sub> O	MAXIMUM AIR PD IN H <sub>2</sub> O	MIN TOTAL FACE AREA	MAXIMUM FACE VEL FPM	No OF COILS	MAX FIN SPACING FIN/IN			MIN ROWS
								DB	WB	DB	WB																							
AHU-1	CLUB/SUITES - A	18200	11650	6.39	24.3	30	1471	87.6	71.8	42.5	42.5	1565	898	197	40	40.0	455	2	14	1.80	12	33.8	53.8	393	28.0	27	0.09	40.0	495	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-2	CLUB/SUITES - A	18200	11650	6.39	24.3	30	1471	87.6	71.8	42.5	42.5	1565	898	197	40	40.0	455	2	14	1.80	12	33.8	53.8	393	28.0	27	0.09	40.0	495	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-3	CLUB/SUITES - B	27500	15400	7.0	37.6	50	1451	86.1	70.5	42.5	42.5	2222	1311	280	40	58.8	468	2	14	1.87	12	39.0	59.0	594	42.4	22	0.09	58.8	468	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-4	CLUB/SUITES - B	27500	15400	7.0	37.6	50	1451	86.1	70.5	42.5	42.5	2222	1311	280	40	58.8	468	2	14	1.87	12	39.0	59.0	594	42.4	22	0.09	58.8	468	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-5	CLUB/SUITES - C	27500	17050	7.0	37.6	50	1451	87.2	71.6	42.6	42.6	2336	1341	295	40	58.8	468	2	14	1.87	12	35.1	55.1	594	42.4	22	0.09	58.8	468	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-6	CLUB/SUITES - C	27500	17050	7.0	37.6	50	1451	87.2	71.6	42.6	42.6	2336	1341	295	40	58.8	468	2	14	1.87	12	35.1	55.1	594	42.4	22	0.09	58.8	468	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-7	CLUB/SUITES - D	18200	12010	6.30	24.3	30	1471	87.9	72.2	42.6	42.6	1590	902	201	39	40.0	455	2	14	1.80	12	32.4	52.4	393	28.0	26	0.09	40.0	455	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-8	CLUB/SUITES - D	18200	12010	6.30	24.3	30	1471	87.9	72.2	42.6	42.6	1590	902	201	39	40.0	455	2	14	1.80	12	32.4	52.4	393	28.0	26	0.09	40.0	455	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-9	PRESS LEVEL	13300	3720	5.91	16.6	20	1775	81.0	64.9	42.5	42.5	806	560	102	29	30.2	441	1	14	1.68	12	57.5	77.5	287	20.5	21	0.08	30.2	441	2	8	1	480V/3ø/60HZ	LOW TEMP/FP VAV
AHU-10	GAME DAY SERVICES - A	1800	1800	2.5	1.5	2	1625	94.0	78.0	52.3	52.1	162	82.1	20.7	28	5.5	327	1	10	0.45	6	10	85	146	10.7	21	0.05	5.5	325	1	8	2	480V/3ø/60HZ	CV/SZ
AHU-11	STADIUM OPERATIONS - B	2900	1420	2.5	2.2	3	1562	84.8	69.0	52.1	51.7	155	104	18.9	24	7.6	383	1	14	0.57	5	44	85	128	9.4	13	0.07	7.6	383	1	8	1	480V/3ø/60HZ	CV/SZ
AHU-12	BROADCAST MEDIA - B	3000	1350	2.0	2.0	3	1493	84.1	68.2	52.7	51.9	150	103	18.5	27	7.6	396	1	8	0.52	6	46	85	126	9.3	12	0.07	7.6	396	1	8	1	480V/3ø/60HZ	CV/SZ
AHU-13	SECURITY - B	1600	320	2.25	1.6	2	1939	79.6	65.4	53.2	52.3	62.2	46.1	7.9	36	3.4	471	1	10	0.63	5	63	85	38.0	2.8	5	0.10	3.4	471	1	8	1	480V/3ø/60HZ	CV/SZ
AHU-14	OFFICIALS - B	2500	2500	2.5	2.7	5	1817	94.0	78.0	51.9	51.8	226	115	27.9	25	5.5	455	1	10	0.98	8	10	85	203	14.9	25	0.08	5.5	451	1	10	2	480V/3ø/60HZ	CV/SZ
AHU-15	VISITING LOCKER NO.1 - B	9300	9300	3.5	8.9	15	2014	94.0	78.0	51.8	51.7	843	429	104	19	21.3	437	1	10	0.92	8	10	85	753	55.2	21	0.09	20.4	457	1	8	2	480V/3ø/60HZ	CV/RH
AHU-16	VISITING LOCKER NO.2 - B	8100	8100	3.0	6.5	10	1807	94.0	78.0	51.8	51.6	736	374	90.5	21	21.3	380	1	8	0.66	8	10	85	656	48.1	21	0.07	20.4	398	1	8	2	480V/3ø/60HZ	CV/RH
AHU-17	HOME TEAM AREA - B	12900	12900	3.5	10.1	15	1494	94.0	78.0	51.6	51.5	1177	598	144	19	30.2	427	1	10	0.89	8	10	85	1045	76.6	22	0.08	29.7	434	1	8	2	480V/3ø/60HZ	CV/RH
AHU-18	HOME TEAM STORAGE - B	2600	260	2.5	1.8	2	1531	77.8	64.4	52.9	52.0	94.2	70.8	11.7	34	5.5	473	1	10	0.64	5	69	89	56.2	4.0	14	0.10	5.5	473	1	8	1	480V/3ø/60HZ	CV/SZ
AHU-19	MEDIA LOUNGE - A	640	640	0.40	0.40	2	380W	94.0	78.0	52.7	52.3	56.0	27.5	7.3	9	3.2	200	1	16	4	10	85	51.8	3.8	13	3.2	200	1	16	4	120V/1ø/60HZ	CV/SZ-FCU		
AHU-20	ELEVATOR CORE - A	9700	970	3.75	10.0	15	2090	77.8	64.4	52.4	51.8	358	270	44.0	22.0	21.3	460	1	12	0.70	5	69	89	210	15.0	20	0.10	21.3	460	1	8	1	480V/3ø/60HZ	BYPASS VAV
AHU-21	ELEVATOR CORE - B	11300	1130	3.75	10.4	15	1820	77.8	64.4	52.5	51.8	416	313	51.0	22.0	21.3	460	1	12	0.70	5	69	89	244	17.5	30	0.10	21.3	460	1	8	1	480V/3ø/60HZ	BYPASS VAV
AHU-22	ELEVATOR CORE - C	11300	1130	3.75	10.4	15	1820	77.8	64.4	52.5	51.8	416	313	51.0	22.0	21.3	460	1	12	0.70	5	69	89	244	17.5	30	0.10	21.3	460	1	8	1	480V/3ø/60HZ	BYPASS VAV
AHU-23	ELEVATOR CORE - D	9700	970	3.75	10.0	15	2090	77.8	64.4	52.4	51.8	358	270	44.0	22.0	21.3	460	1	12	0.70	5	69	89	210	15.0	20	0.10	21.3	460	1	8	1	480V/3ø/60HZ	BYPASS VAV
AHU-24	TICKET OFFICE - C	1260	130	2.0	0.95	1.5	1680	77.8	64.4	54.0	52.5	44.8	32.4	5.0	22.0	3.4	400	1	8	0.31	4	69	118.5	72.4	4.5	13	0.10	3.2	400	1	8	2	480V/3ø/60HZ	CV/SZ
AHU-25	TICKET OFFICE - B	1200	120	2.0	0.95	1.5	1680	77.8	64.4	54.0	52.5	42.7	30.9	5.0	22.0	3.4	380	1	8	0.31	4	69	121.0	72.4	4.5	13	0.10	3.2	380	1	8	2	480V/3ø/60HZ	CV/SZ
AHU-26	TICKET OFFICE - D	1200	120	2.0	0.95	1.5	1680	77.8	64.4	54.0	52.5	42.7	30.9	5.0	22.0	3.4	380	1	8	0.31	4	69	121.0	72.4	4.5	13	0.10	3.2	380	1	8	2	480V/3ø/60HZ	CV/SZ

NOTE: CHILLED AND HEATED WATER ARE 40% ETHYLENE GLYCOL SOLUTION

HEATING AND VENTILATING UNIT SCHEDULE

DESIG	DUTY	FAN SECTION										HEATING SECTION										ELECTRICAL	REMARKS
		CFM	MIN. OA CFM	TSP INCH H <sub>2</sub> O	MOTOR BHP	RPM	WHEEL DIA INCH	EAT °F		LAT °F		MBH @ 200°F EWT	GPM @ 30°F ΔT	MAXIMUM H <sub>2</sub> O PD FT H <sub>2</sub> O	MAXIMUM AIR PD IN H <sub>2</sub> O	MIN TOTAL FACE AREA	MAXIMUM FACE VEL FPM	No OF COILS	MAX FIN SPACING FIN/IN	MIN ROWS			
								DB	WB	DB	WB												
HVU-1	CONCESSION STO/COMMISSARY	30,000	3000	2.0	16.0	20	947	AF36	50.5	85.0	1118	59.8	24	0.09	66.1	454	1	8	1	480V/3ø/60HZ			
HVU-2	CONC. LOCKERS	13000	3900	2.0	6.8	10	1327	AF24	32.5	85.0	737	39.4	27	0.09	30.2	431	1	12	1	480V/3ø/60HZ			
HVU-3	GAME DAY LOCKERS	6000	3000	2.0	4.6	7.5	2703	AF15	32.5	85.0	340	18.2	19	0.14	12.0	500	1	14	1	480V/3ø/60HZ			
HVU-4	RECYCLE	2000	2000	1.75	0.9	1.5	1289	FC10X10	10.0	85.0	162	8.7	15	0.08	5.5	364	1	14	1	480V/3ø/60HZ			
HVU-5	FIELD MAINTENANCE	6600	1320	2.0	4.2	7.5	1047	FC15X15	47.4	85.0	268	14.3	22	0.09	14.7	448	1	8	1	480V/3ø/60HZ			
HVU-6	SHOP-EAST	2300	1150	2.0	1.3	2	1393	FC10X10	32.5	85.0	130	7.0	39	0.10	5.5	419	1	12	1	480V/3ø/60HZ			
HVU-7	SHOP-WEST	5700	2850	2.0	4.1	7.5	2613	AF15	32.5	85.0	323	17.3	13	0.12	12.0	476	1	12	1	480V/3ø/60HZ			
HVU-8	FREIGHT ELEVATOR LOBBY	2700	2700	2.0	1.7	2	1440	FC10X10	10	85.0	219	11.7	28	0.19	5.5	491	1	8	2	480V/3ø/60HZ			
HVU-9	SERVICE TUNNEL	3200	3200	2.0	2.3	3	1534	FC10X10	10	85.0	259	13.9	46	0.15	7.6	422	1	8	2	480V/3ø/60HZ			
HVU-10	SERVICE TUNNEL	8800	8800	2.0	5.6	7.5	1749	AF20	10	85.0	713	38.1	20	0.14	21.3	413	1	8	2	480V/3ø/60HZ			
HVU-11	SERVICE TUNNEL	5800	5800	2.0	4.3	7.5	2643	AF15	10	85.0	470	25.1	28	0.19	12.0	484	1	8	2	480V/3ø/60HZ			
HVU-12	SERVICE TUNNEL	5800	5800	2.0	4.3	7.5	2643	AF15	10	85.0	470	25.1	28	0.19	12.0	484	1	8	2	480V/3ø/60HZ			
HVU-13	FREIGHT ELEVATOR LOBBY	5800	2700	2.0	1.7	2	1440	FC10X10	10	85.0	219	11.7	28	0.19	5.5	491	1	8	2	480V/3ø/60HZ			

NOTE: 40% ETHYLENE GLYCOL HEATING WATER SOLUTION

**AIR SEPARATOR DUTY**

DESIGNATION : AS-1  
 PIPE SIZE : 10"ø  
 WATER FLOW : 3,000 GPM  
 STRAINER FREE AREA : 409 SQ. INCHES  
 PRESSURE DROP : 10.0 FT H<sub>2</sub>O  
 CV FACTOR W/STRAINER :  
 APPROX SHIPPING WEIGHT : 1,000 LBS  
 SIZE : 30"øx60"H  
 REMARKS : AMTROL 10-AS

FOUR-PIPE FAN COIL UNIT SCHEDULE

DESIG	SUPPLY FAN SECTION				COOLING SECTION				HEATING SECTION				APPROXIMATE OPERATING WEIGHT (LBS)	ELECTRICAL (V/PH/Hz)	REMARKS				
	MAX CFM	RPM	ESP INCH H <sub>2</sub> O	MOTOR SIZE HP	WHEEL DIA INCH	EAT °F	SENS LOAD MBH	TOTAL LOAD MBH	MIN ROWS	GPM @ 18°F ΔT	MAXIMUM H <sub>2</sub> O PD FT H <sub>2</sub> O	EAT °F				MBH @ 200°F EWT	GPM @ 30°F ΔT	MAXIMUM H <sub>2</sub> O PD FT H <sub>2</sub> O	MIN ROWS
FC-1	900	1080	0.35	1/3	9"	76	62.5	16.0	24.0	3	3.5	1.0	65</						



FAN POWERED TERMINAL REHEAT UNIT SCHEDULE

NO	FAN CFM	PRIMARY AIR CFM		INLET SIZE	OUTLET SIZE	PRIMARY AIR SP LOSS INCHES H <sub>2</sub> O	FAN DATA				HEATING COIL PERFORMANCE					FILTER		
		MAX	MIN				HP	FLA	DISCH SP	ELECTRICAL	EAT 'F	LAT 'F	BTUH @190°F EWT	MAX. H <sub>2</sub> O PD FT	ROWS	GPM @30°F ΔT	SIZE	EFFICIENCY
1	160	110	80	6"	6 7/8x10 3/8	0.02	1/10	0.8	0.40	277V/1φ/60HZ	65	85	4320	1.0	1	0.5	16"x14"	20%
2	1670	1110	555	12"	13 1/4x11 1/2	0.18	1/2	4.6	0.40	277V/1φ/60HZ	65	93	50447	1.0	2	3.4	17"x17"	20%
3	2020	1350	675	12"	13 1/4x11 1/2	0.22	3/4	5.4	0.40	277V/1φ/60HZ	65	85	43686	1.0	1	2.9	22"x19"	20%
4	1670	1110	555	12"	13 1/4x11 1/2	0.18	1/2	4.6	0.40	277V/1φ/60HZ	65	93	50447	1.0	2	3.4	17"x17"	20%
5	1570	1050	525	12"	13 1/4x11 1/2	0.17	1/2	4.6	0.40	277V/1φ/60HZ	65	85	33966	1.0	1	2.3	17"x17"	20%
6	280	190	95	6"	6 7/8x10 3/8	0.05	1/10	0.8	0.40	277V/1φ/60HZ	65	85	6102	1.0	1	0.5	16"x14"	20%
7	1260	840	420	10"	10 1/2x10 3/8	0.19	1/3	3.1	0.40	277V/1φ/60HZ	65	85	27216	1.0	1	1.8	17"x17"	20%
8	1940	1290	645	12"	13 1/4x11 1/2	0.19	3/4	5.4	0.40	277V/1φ/60HZ	65	85	41850	1.0	1	2.8	22"x19"	20%
9	1930	1290	645	12"	13 1/4x11 1/2	0.19	3/4	5.4	0.40	277V/1φ/60HZ	65	85	41742	1.0	1	2.8	22"x19"	20%
10	1500	1000	500	12"	13 1/4x11 1/2	0.17	1/2	4.6	0.40	277V/1φ/60HZ	65	85	32400	1.0	1	2.2	17"x17"	20%
11	1110	740	370	10"	10 1/2x10 3/8	0.11	1/3	3.1	0.40	277V/1φ/60HZ	65	85	23976	1.0	1	1.6	17"x17"	20%
12	945	630	315	10"	10 1/2x10 3/8	0.06	1/3	3.1	0.40	277V/1φ/60HZ	65	85	20412	1.0	1	1.3	17"x17"	20%
13	1480	990	495	12"	13 1/4x11 1/2	0.15	1/2	4.6	0.40	277V/1φ/60HZ	65	85	32022	1.0	1	2.1	17"x17"	20%
14	740	490	245	8"	9 1/4x10 3/8	0.10	1/4	2.1	0.40	277V/1φ/60HZ	65	85	15930	1.0	1	1.1	16"x14"	20%
15	320	210	105	6"	6 7/8x10 3/8	0.07	1/10	0.8	0.40	277V/1φ/60HZ	65	85	6858	1.0	1	0.5	16"x14"	20%
16	1800	1200	600	12"	13 1/4x11 1/2	0.20	3/4	5.4	0.40	277V/1φ/60HZ	65	115	97200	1.0	2	6.5	22"x19"	20%
17	1785	1190	595	12"	13 1/4x11 1/2	0.19	3/4	5.4	0.40	277V/1φ/60HZ	65	115	96390	1.0	2	6.4	22"x19"	20%
18	2040	1360	680	12"	13 1/4x11 1/2	0.22	3/4	5.4	0.40	277V/1φ/60HZ	65	85	44064	1.0	1	2.9	22"x19"	20%
19	1000	670	335	10"	10 1/2x10 3/8	0.09	1/3	3.1	0.40	277V/1φ/60HZ	65	85	21654	1.0	1	1.4	17"x17"	20%
20	1780	1190	595	12"	13 1/4x11 1/2	0.19	3/4	5.4	0.40	277V/1φ/60HZ	65	115	96174	1.0	2	6.4	22"x19"	20%
21	2270	1510	755	14"	13 5/8x11 7/8	0.20	3/4	5.7	0.40	277V/1φ/60HZ	65	85	48978	1.0	1	3.3	24"x20"	20%
22	760	510	255	8"	9 1/4x10 3/8	0.11	1/4	2.1	0.40	277V/1φ/60HZ	65	85	16470	1.0	1	1.1	16"x14"	20%
23	1520	1010	505	12"	13 1/4x11 1/2	0.18	1/2	4.6	0.40	277V/1φ/60HZ	65	85	32778	1.0	1	2.2	17"x17"	20%
24	615	410	205	8"	9 1/4x10 3/8	0.06	1/4	2.1	0.40	277V/1φ/60HZ	65	85	13284	1.0	1	0.9	16"x14"	20%
25	1290	860	430	10"	10 1/2x10 3/8	0.15	1/3	3.1	0.40	277V/1φ/60HZ	65	85	27864	1.0	1	1.9	17"x17"	20%
26	1470	980	490	12"	13 1/4x11 1/2	0.15	1/2	4.6	0.40	277V/1φ/60HZ	65	85	31752	1.0	1	2.1	17"x17"	20%
27	1630	1090	545	12"	13 1/4x11 1/2	0.20	1/2	4.6	0.40	277V/1φ/60HZ	65	85	35262	1.0	1	2.4	17"x17"	20%
28	940	630	315	10"	10 1/2x10 3/8	0.06	1/3	3.1	0.40	277V/1φ/60HZ	65	85	20358	1.0	1	1.4	17"x17"	20%
29	1880	1250	625	12"	13 1/4x11 1/2	0.25	3/4	5.4	0.40	277V/1φ/60HZ	65	85	40554	1.0	1	2.7	22"x19"	20%
30	1705	1140	570	12"	13 1/4x11 1/2	0.20	3/4	5.4	0.40	277V/1φ/60HZ	65	85	36882	1.0	1	2.5	22"x19"	20%
31	1700	1130	565	12"	13 1/4x11 1/2	0.18	3/4	5.4	0.40	277V/1φ/60HZ	65	85	36666	1.0	1	2.4	22"x19"	20%
32	1550	1030	515	12"	13 1/4x11 1/2	0.17	1/2	4.6	0.40	277V/1φ/60HZ	65	85	33426	1.0	1	2.2	17"x17"	20%
33	1080	720	360	10"	10 1/2x10 3/8	0.10	1/3	3.1	0.40	277V/1φ/60HZ	65	100	40824	1.0	2	2.7	17"x17"	20%
34	1330	890	445	10"	10 1/2x10 3/8	0.18	1/3	3.1	0.40	277V/1φ/60HZ	65	85	28782	1.0	1	1.9	17"x17"	20%
35	1090	730	365	10"	10 1/2x10 3/8	0.10	1/3	3.1	0.40	277V/1φ/60HZ	65	100	41256	1.0	2	2.8	17"x17"	20%
36	1540	1030	515	12"	13 1/4x11 1/2	0.18	1/2	4.6	0.40	277V/1φ/60HZ	65	85	33318	1.0	1	2.2	17"x17"	20%
37	1710	1140	570	12"	13 1/4x11 1/2	0.20	3/4	5.4	0.40	277V/1φ/60HZ	65	85	36936	1.0	1	2.5	22"x19"	20%
38	1180	790	395	10"	10 1/2x10 3/8	0.12	1/3	3.1	0.40	277V/1φ/60HZ	65	85	25542	1.0	1	1.7	17"x17"	20%
39	2300	1530	765	14"	13 5/8x11 7/8	0.20	3/4	5.7	0.40	277V/1φ/60HZ	65	90	62046	1.0	2	4.1	24"x20"	20%
40	1090	730	365	10"	10 1/2x10 3/8	0.10	1/3	3.1	0.40	277V/1φ/60HZ	65	85	23598	1.0	1	1.6	17"x17"	20%
41	1600	1070	535	12"	13 1/4x11 1/2	0.20	1/2	4.6	0.40	277V/1φ/60HZ	65	85	34614	1.0	1	2.3	17"x17"	20%
42	2265	1510	755	14"	13 5/8x11 7/8	0.20	3/4	5.7	0.40	277V/1φ/60HZ	65	90	61155	1.0	2	4.1	24"x20"	20%
43	2240	1490	745	14"	13 1/4x11 1/2	0.20	3/4	5.7	0.40	277V/1φ/60HZ	65	100	84618	1.0	2	5.6	24"x20"	20%
44	1115	740	370	10"	10 1/2x10 3/8	0.12	1/3	3.1	0.40	277V/1φ/60HZ	65	100	42093	1.0	2	2.8	17"x17"	20%
45	780	520	260	8"	9 1/4x10 3/8	0.11	1/4	2.1	0.40	277V/1φ/60HZ	65	90	21060	1.0	1	1.4	16"x14"	20%
46	1120	750	375	10"	10 1/2x10 3/8	0.12	1/3	3.1	0.40	277V/1φ/60HZ	65	110	54486	1.0	2	3.6	17"x17"	20%
47	1030	690	345	10"	10 1/2x10 3/8	0.09	1/3	3.1	0.40	277V/1φ/60HZ	65	85	22302	1.0	1	1.5	17"x17"	20%
48	2075	1380	690	12"	13 1/4x11 1/2	0.25	3/4	5.4	0.40	277V/1φ/60HZ	65	85	44766	1.0	1	3.0	22"x19"	20%
49	780	520	260	8"	9 1/4x10 3/8	0.11	1/4	2.1	0.40	277V/1φ/60HZ	65	85	16848	1.0	1	1.1	16"x14"	20%
50	1040	690	345	10"	10 1/2x10 3/8	0.09	1/3	3.1	0.40	277V/1φ/60HZ	65	100	39258	1.0	2	2.6	17"x17"	20%
51	2080	1390	695	12"	13 1/4x11 1/2	0.22	3/4	5.4	0.40	277V/1φ/60HZ	65	100	78678	1.0	1	5.2	22"x19"	20%
52	1880	1250	625	12"	13 1/4x11 1/2	0.21	3/4	5.4	0.40	277V/1φ/60HZ	65	90	50706	1.0	2	3.4	22"x19"	20%
53	1700	1130	565	12"	13 1/4x11 1/2	0.20	3/4	5.4	0.40	277V/1φ/60HZ	65	85	36666	1.0	1	2.4	22"x19"	20%
54	1185	1260	630	12"	13 1/4x11 1/2	0.21	3/4	5.4	0.40	277V/1φ/60HZ	65	90	50949	1.0	1	3.4	22"x19"	20%
55	1890	1260	630	12"	13 1/4x11 1/2	0.21	3/4	5.4	0.40	277V/1φ/60HZ	65	90	51030	1.0	1	3.4	22"x19"	20%
56	1720	1150	575	12"	13 1/4x11 1/2	0.20	3/4	5.4	0.40	277V/1φ/60HZ	65	85	37206	1.0	1	2.5	22"x19"	20%
57	1490	990	495	12"	13 1/4x11 1/2	0.15	1/2	4.6	0.40	277V/1φ/60HZ	65	85	32130	1.0	1	2.1	17"x17"	20%
58	960	640	320	10"	10 1/2x10 3/8	0.06	1/3	3.1	0.40	277V/1φ/60HZ	65	90	25920	1.0	1	1.7	17"x17"	20%
59	1650	1100	550	12"	13 1/4x11 1/2	0.19	1/2	4.6	0.40	277V/1φ/60HZ	65	85	35640	1.0	1	2.4	17"x17"	20%
60	1870	1250	625	12"	13 1/4x11 1/2	0.21	3/4	5.4	0.40	277V/1φ/60HZ	65	90	50544	1.0	1	3.4	22"x19"	20%
61	1380	920	460	10"	10 1/2x10 3/8	0.18	1/3	3.1	0.40	277V/1φ/60HZ	65	85	29808	1.0	1	2.0	17"x17"	20%
62	1375	920	460	10"	10 1/2x10 3/8	0.18	1/3	3.1	0.40	277V/1φ/60HZ	65	85	29754	1.0	1	2.0	17"x17"	20%
63	1870	1250	625	12"	13 1/4x11 1/2	0.21	3/4	5.4	0.40	277V/1φ/60HZ	65	90	50544	1.0	1	3.4	22"x19"	20%
64	1640	1090	545	12"	13 1/4x11 1/2	0.20	1/2	4.6	0.40	277V/1φ/60HZ	65	85	35370	1.0	1	2.4	17"x17"	20%
65	1115	740	370	10"	10 1/2x10 3/8	0.12	1/3	3.1	0.40	277V/1φ/60HZ	65	85	24030	1.0	1	1.6	17"x17"	20%
66	1650	1100	550	12"	13 1/4x11 1/2	0.18	1/2	4.6	0.40	277V/1φ/60HZ	65	85	35640	1.0	1	2.4	17"x17"	20%
67	400	270	135	6"	6 7/8x10 3/8	0.14	1/10	0.8	0.40	277V/1φ/60HZ	65	85	8694	1.0	1	0.6	16"x14"	20%
68	1375	920	460	10"	10 1/2x10 3/8	0.18	1/3	3.1	0.40	277V/1φ/60HZ	65	85	29754	1.0	1	2.0	17"x17"	20%
69	1800	1200	600	12"	13 1/4x11 1/2	0.19	3/4	5.4	0.40	277V/1φ/60HZ	65							



MAKE UP AIR UNIT SCHEDULE

DESIG	SERVICE ROOM No	LEVEL	TYPE (SEE SPEC)	FAN SECTION					HEATING SECTION			ELECTRICAL V/PH/Hz	REMARKS		
				CFM	SP INCH H <sub>2</sub> O	APPROX RPM	BHP	HP MOTOR SIZE	WHEEL DIA	DRIVE	EAT °F			LAT °F	OUTPUT MBH
MAU-1A	2.10.02	MAIN CONCOURSE	A	5500	1.25	895	3.06	5.0	15	BELT	0	100	594.0	480V/3ø/60HZ	CEILING MOUNTED UNIT
MAU-2A	4.08.01	CLUB LEVEL	A	8600	1.25	950	4.08	5.0	15	BELT	0	60	557.0	480V/3ø/60HZ	CEILING MOUNTED UNIT
MAU-3A	6.13.01	UPPER SUITE	B	2750	1.25	1205	1.45	2.0	10	BELT	0	100	297.0	480V/3ø/60HZ	ROOF MOUNTED UNIT
MAU-4A	7.02.01	UPPER CONCOURSE	B	5500	1.25	780	2.46	3.0	15	BELT	0	100	594.0	480V/3ø/60HZ	ROOF MOUNTED UNIT
MAU-1B	2.19.01	MAIN CONCOURSE	A	8250	1.25	785	4.21	5.0	18	BELT	0	100	891.0	480V/3ø/60HZ	CEILING MOUNTED UNIT
MAU-2B	4.19.03	CLUB LEVEL	C	2575	1.25	1180	1.25	2.0	10	BELT	0	60	167.0	480V/3ø/60HZ	CEILING MOUNTED UNIT
MAU-3B	6.15.01	UPPER SUITE	B	5500	1.25	780	2.46	3.0	15	BELT	0	100	594.0	480V/3ø/60HZ	ROOF MOUNTED UNIT
MAU-4B	7.23.01	UPPER CONCOURSE	B	5500	1.25	780	2.46	3.0	15	BELT	0	100	594.0	480V/3ø/60HZ	ROOF MOUNTED UNIT
MAU-1C	2.34.01	MAIN CONCOURSE	A	11000	1.25	700	5.80	7.5	20	BELT	0	100	1,188.0	480V/3ø/60HZ	CEILING MOUNTED UNIT
MAU-2C	4.35.05	CLUB LEVEL	C	2575	1.25	1180	1.25	2.0	10	BELT	0	60	167.0	480V/3ø/60HZ	CEILING MOUNTED UNIT
MAU-3C	6.40.01	UPPER SUITE	B	2750	1.25	1205	1.45	2.0	10	BELT	0	100	297.0	480V/3ø/60HZ	ROOF MOUNTED UNIT
MAU-4C	7.32.01	UPPER CONCOURSE	B	2750	1.25	1205	1.45	2.0	10	BELT	0	100	297.0	480V/3ø/60HZ	ROOF MOUNTED UNIT
MAU-1D	2.46.01	MAIN CONCOURSE	A	8250	1.25	785	4.21	5.0	18	BELT	0	100	891.0	480V/3ø/60HZ	CEILING MOUNTED UNIT
MAU-2D	4.46.03	CLUB LEVEL	C	2575	1.25	1180	1.25	2.0	10	BELT	0	60	167.0	480V/3ø/60HZ	CEILING MOUNTED UNIT
MAU-3D	6.42.01	UPPER SUITE	B	5500	1.25	780	2.46	3.0	15	BELT	0	100	594.0	480V/3ø/60HZ	ROOF MOUNTED UNIT
MAU-4D	7.52.01	UPPER CONCOURSE	B	2750	1.25	1205	1.45	2.0	10	BELT	0	100	297.0	480V/3ø/60HZ	ROOF MOUNTED UNIT

NOTE: MAKE-UP AIR UNITS TYPE C REFER TO COOLING COIL SCHEDULE ON M.0-06

AIR DEVICE SCHEDULE

TYPE	DUTY	CFM	SIZE	BLOW	PD IN H <sub>2</sub> O	NC	REMARKS
A	CEILING SUPPLY	0-150	6" X6"	4-WAY	0.17	23	
A	CEILING SUPPLY	151-280	9" X9"	4-WAY	0.12	21	
A	CEILING SUPPLY	281-500	12" X12"	4-WAY	0.12	23	
A	CEILING SUPPLY	501-625	15" X15"	4-WAY	0.08	19	
A	CEILING SUPPLY	626-900	18" X18"	4-WAY	0.08	20	
A	CEILING SUPPLY	901-1225	21" X21"	4-WAY	0.08	21	
A	CEILING SUPPLY	1226-1600	24" X24"	4-WAY	0.08	22	
B	LINEAR BAR SUPPLY	100/FT	3 1/2"	0° DEFL	0.07	21	
B	LINEAR BAR SUPPLY	120/FT	4"	0° DEFL	0.07	22	
B	LINEAR BAR SUPPLY	160/FT	5"	0° DEFL	0.07	22	
B	LINEAR BAR SUPPLY	200/FT	6"	0° DEFL	0.07	24	
C	SUPPLY REGISTER	0-130	6" X6"	22.5° DEFL	0.10	20	
C	SUPPLY REGISTER	131-230	10" X6"	22.5° DEFL	0.10	23	
C	SUPPLY REGISTER	231-330	14" X6"	22.5° DEFL	0.10	24	
C	SUPPLY REGISTER	331-430	20" X6"	22.5° DEFL	0.08	21	* OR EQUIVALENT
C	SUPPLY REGISTER	431-530	18" X8"	22.5° DEFL	0.08	22	* OR EQUIVALENT
C	SUPPLY REGISTER	531-670	18" X10"	22.5° DEFL	0.08	23	* OR EQUIVALENT
C	SUPPLY REGISTER	671-820	22" X10"	22.5° DEFL	0.08	23	* OR EQUIVALENT
C	SUPPLY REGISTER	821-1000	24" X12"	22.5° DEFL	0.08	21	* OR EQUIVALENT
C	SUPPLY REGISTER	1001-1200	30" X12"	22.5° DEFL	0.06	22	* OR EQUIVALENT
D	LINEAR SLOT SUPPLY	70/FT	3ø1" SLOT	1-WAY	0.05	22	
D	LINEAR SLOT SUPPLY	100/FT	4ø1" SLOT	1-WAY	0.05	24	
D	LINEAR SLOT SUPPLY	110/FT	5ø1" SLOT	1-WAY	0.05	23	
D	LINEAR SLOT SUPPLY	120/FT	6ø1" SLOT	1-WAY	0.05	21	
E	RETURN REGISTER	0-170	6" X6"	0° DEFL	0.11	22	
E	RETURN REGISTER	171-230	8" X6"	0° DEFL	0.11	22	
E	RETURN REGISTER	231-310	10" X6"	0° DEFL	0.11	23	
E	RETURN REGISTER	311-370	12" X6"	0° DEFL	0.11	24	
E	RETURN REGISTER	371-460	12" X8"	0° DEFL	0.11	22	* OR EQUIVALENT
E	RETURN REGISTER	461-580	12" X10"	0° DEFL	0.11	23	* OR EQUIVALENT
E	RETURN REGISTER	581-700	24" X6"	0° DEFL	0.11	24	* OR EQUIVALENT
E	RETURN REGISTER	701-800	18" X10"	0° DEFL	0.11	21	* OR EQUIVALENT
E	RETURN REGISTER	801-950	18" X12"	0° DEFL	0.11	22	* OR EQUIVALENT
E	RETURN REGISTER	951-1100	18" X14"	0° DEFL	0.11	22	* OR EQUIVALENT
E	RETURN REGISTER	1101-1500	18" X18"	0° DEFL	0.11	23	* OR EQUIVALENT
E	RETURN REGISTER	1501-1600	30" X12"	0° DEFL	0.11	24	* OR EQUIVALENT
E	RETURN REGISTER	1601-2100	30" X18"	0° DEFL	0.11	21	* OR EQUIVALENT
F	EXHAUST GRILLE	0-170	6" X6"	0° DEFL	0.11	22	
F	EXHAUST GRILLE	171-230	8" X6"	0° DEFL	0.11	22	
F	EXHAUST GRILLE	231-310	10" X6"	0° DEFL	0.11	23	
F	EXHAUST GRILLE	311-370	12" X6"	0° DEFL	0.11	24	
F	EXHAUST GRILLE	371-460	12" X8"	0° DEFL	0.11	22	* OR EQUIVALENT
F	EXHAUST GRILLE	461-580	12" X10"	0° DEFL	0.11	23	* OR EQUIVALENT
F	EXHAUST GRILLE	581-700	24" X6"	0° DEFL	0.11	24	* OR EQUIVALENT
F	EXHAUST GRILLE	701-800	18" X10"	0° DEFL	0.11	21	* OR EQUIVALENT
F	EXHAUST GRILLE	801-950	18" X12"	0° DEFL	0.11	22	* OR EQUIVALENT
F	EXHAUST GRILLE	951-1100	18" X14"	0° DEFL	0.11	22	* OR EQUIVALENT
F	EXHAUST GRILLE	1101-1500	18" X18"	0° DEFL	0.11	23	* OR EQUIVALENT
F	EXHAUST GRILLE	1501-1600	30" X12"	0° DEFL	0.11	24	* OR EQUIVALENT
F	EXHAUST GRILLE	1601-2100	30" X18"	0° DEFL	0.11	21	* OR EQUIVALENT
G	TRANSFER GRILLE	0-170	6" X6"	0° DEFL	0.11	22	
G	TRANSFER GRILLE	171-230	8" X6"	0° DEFL	0.11	22	
G	TRANSFER GRILLE	231-310	10" X6"	0° DEFL	0.11	23	
G	TRANSFER GRILLE	311-370	12" X6"	0° DEFL	0.11	24	
G	TRANSFER GRILLE	371-460	12" X8"	0° DEFL	0.11	22	* OR EQUIVALENT
G	TRANSFER GRILLE	461-580	12" X10"	0° DEFL	0.11	23	* OR EQUIVALENT
G	TRANSFER GRILLE	581-700	24" X6"	0° DEFL	0.11	24	* OR EQUIVALENT
G	TRANSFER GRILLE	701-800	18" X10"	0° DEFL	0.11	21	* OR EQUIVALENT
G	TRANSFER GRILLE	801-950	18" X12"	0° DEFL	0.11	22	* OR EQUIVALENT
G	TRANSFER GRILLE	951-1100	18" X14"	0° DEFL	0.11	22	* OR EQUIVALENT
G	TRANSFER GRILLE	1101-1500	18" X18"	0° DEFL	0.11	23	* OR EQUIVALENT
G	TRANSFER GRILLE	1501-1600	30" X12"	0° DEFL	0.11	24	* OR EQUIVALENT
G	TRANSFER GRILLE	1601-2100	30" X18"	0° DEFL	0.11	21	* OR EQUIVALENT
J	SPOT DIFFUSER	320-500	12" ø	40° ROTATION	0.24	25	0° ROTATION @ SIDEWALL
J	SPOT DIFFUSER	501-950	16" ø	40° ROTATION	0.21	26	

VARIABLE AIR VOLUME TERMINAL REHEAT UNIT SCHEDULE

No	CFM		INLET SIZE	OUTLET SIZE	STATIC PRESSURE DROP INCHES WG	MAX NC VALUE @ 1.0 INCH H <sub>2</sub> O INLET SP	HEATING COIL PERFORMANCE					REMARKS		
	MAX	MIN					EAT °F	LAT °F	MAX AIR P.D. IN. H <sub>2</sub> O	MBH @ 190°F EWT	MAX H <sub>2</sub> O PD FT H <sub>2</sub> O		ROWS	GPM @ 30°F ΔT
1	2130	600	14" ø	20" x17"	0.49	-	55	89	0.41	78.3	3.9	2	5.5	
2	300	0	5" ø	12" x8"	0.25	21	55	97	0.13	13.5	0.3	2	1.0	
3	450	120	7" ø	12" x10"	0.29	20	55	137	0.20	39.8	2.3	2	3.0	
4	1510	600	12" ø	16" x15"	0.56	-	55	103	0.41	78.3	5.6	2	5.5	
5	480	0	7" ø	12" x10"	0.33	20	55	81	0.20	13.5	2.3	2	1.0	
6	1290	600	10" ø	14" x12"	0.84	22	55	111	0.45	78.3	4.5	2	5.5	
7	820	0	8" ø	12" x10"	0.69	25	55	80	0.46	22.2	1.0	2	1.5	
8	1290	600	10" ø	14" x12"	0.84	22	55	111	0.45	78.3	4.5	2	5.5	
9	820	0	8" ø	12" x10"	0.69	25	55	80	0.46	22.2	1.0	2	1.5	
10	280	240	5" ø	12" x8"	0.25	21	55	103	0.13	15.0	0.3	2	1.0	
11	2730	600	14" ø	20" x17"	0.84	-	55	82	0.63	78.3	3.9	2	5.5	
12	300	0	5" ø	12" x8"	0.25	21	55	97	0.13	13.5	0.3	2	1.0	
13	330	120	6" ø	12" x8"	0.32	20	55	167	0.18	39.8	1.7	2	3.0	
14	1990	600	14" ø	20" x17"	0.49	-	55	92	0.65	78.3	5.6	2	5.5	
15	480	0	7" ø	12" x10"	0.33	20	55	81	0.20	13.5	2.3	2	1.0	
16	1550	600	12" ø	16" x15"	0.61	-	55	102	0.41	78.3	5.7	2	5.5	
17	820	0	8" ø	12" x10"	0.69	25	55	80	0.46	22.2	1.0	2	1.5	
18	1550	600	12" ø	16" x15"	0.61	-	55	102	0.41	78.3	5.7	2	5.5	
19	820	0	8" ø	12" x10"	0.69	25	55	80	0.46	22.2	1.0	2	1.5	
20	290	240	5" ø	12" x8"	0.25	21	55	103	0.13	15.0	0.3	2	1.0	
21	2490	600	14" ø	20" x17"	0.74	-	55	84	0.51	78.3	3.9	2	5.5	
22	300	0	5" ø	12" x8"	0.25	21	55	97	0.13	13.5	0.3	2	1.0	
23	330	120	6" ø	12" x8"	0.32	20	55	167	0.18	39.8	1.7	2	3.0	
24	2010	600	14" ø	20" x17"	0.49	-	55	91	0.35	78.3	5.6	2	5.5	
25	480	0	7" ø	12" x10"	0.33	20	55	81	0.20	13.5	2.3	2	1.0	



KITCHEN FAN SCHEDULE

DESIG	SERVICE ROOM No	LEVEL	TYPE	CFM	SP INCH H <sub>2</sub> O	APPROX RPM	BHP	HP (MOTOR SIZE)	WHEEL DIA	DRIVE	ELECTRICAL	REMARKS
KEF-1A	6.13.01	UPPER SUITE	G	2,500	1.75	2,830	1.60	2.0	12	BELT	480V/3Ø/60HZ	NOTE ①
KEF-2A	7.02.01	UPPER CONCOURSE	G	5,000	1.75	2,150	3.33	5.0	16	BELT	480V/3Ø/60HZ	NOTE ①
KEF-3A	1.08.01 & 4.08.05	CLUB LEVEL	G	2,875	2.25	2,510	2.05	3.0	13	BELT	480V/3Ø/60HZ	NOTE ①
KEF-4A	4.08.01 & 4.08.05	CLUB LEVEL	G	5,400	3.00	1,960	4.40	5.0	18	BELT	480V/3Ø/60HZ	NOTE ①
KEF-5A	4.08.01 & 4.08.06	CLUB LEVEL	G	3,600	2.75	2,350	2.92	5.0	15	BELT	480V/3Ø/60HZ	NOTE ①
KEF-6A	4.08.01 & 4.08.07	CLUB LEVEL	G	1,600	2.75	2,780	1.25	2.0	10	BELT	480V/3Ø/60HZ	NOTE ①
KEF-1B	2.19.01	MAIN CONCOURSE	G	7,500	3.5	1,665	6.36	7.5	22	BELT	480V/3Ø/60HZ	NOTE ①
KEF-3B	6.15.01	UPPER SUITE	G	5,000	1.75	2,150	3.33	5.0	16	BELT	480V/3Ø/60HZ	NOTE ①
KEF-4B	7.23.01	UPPER CONCOURSE	G	5,000	1.75	2,150	3.33	5.0	16	BELT	480V/3Ø/60HZ	NOTE ①
KEF-2B	4.19.01	CLUB LEVEL	G	2,875	2.25	2,510	2.05	3.0	13	BELT	480V/3Ø/60HZ	NOTE ①
KEF-2C	6.40.01	UPPER SUITE	G	2,500	1.75	2,830	1.60	2.0	12	BELT	480V/3Ø/60HZ	NOTE ①
KEF-3C	7.32.01	UPPER CONCOURSE	G	2,500	1.75	2,830	1.60	2.0	12	BELT	480V/3Ø/60HZ	NOTE ①
KEF-1D	2.46.01	MAIN CONCOURSE	G	2,500	1.75	2,830	1.82	3.0	16	BELT	480V/3Ø/60HZ	NOTE ①
KEF-2D	6.42.01	UPPER SUITE	G	5,000	1.75	2,150	3.33	5.0	16	BELT	480V/3Ø/60HZ	NOTE ①
KEF-3D	7.52.01	UPPER CONCOURSE	G	2,500	1.75	2,830	1.60	2.0	12	BELT	480V/3Ø/60HZ	NOTE ①
KEF-8A	COMMISSARY	SERVICE LEVEL	C	1,400	2.75	2,780	1.25	2.0	10	BELT	480V/3Ø/60HZ	
KEF-9A	2.01.02	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-10A	2.04.01	MAIN CONCOURSE	A	1,480	2.50	2,340	1.00	1.5	12 1/4	BELT	480V/3Ø/60HZ	
KEF-11A	2.10.02	MAIN CONCOURSE	G	5,000	3.50	1,490	4.29	5.0	22	BELT	480V/3Ø/60HZ	NOTE ①
KEF-12A	2.12.01	MAIN CONCOURSE	G	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	NOTE ①
KEF-13A	6.08.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-14A	6.09.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-15A	6.10.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-16A	7.05.01	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-17A	7.05.02	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-18A	7.06.02	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-5B	2.16.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-6B	2.24.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-7B	2.25.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-8B	6.18.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-9B	6.19.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-10B	7.21.01	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-11B	7.22.01	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-12B	7.25.02	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-4C	2.30.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-5C	2.31.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-6C	2.34.01	MAIN CONCOURSE	G	10,000	3.50	1,280	7.50	10	27	BELT	480V/3Ø/60HZ	NOTE ①
KEF-7C	2.38.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-8C	4.35.05	CLUB LEVEL PANTRY	G	2,875	3.50	2,250	2.40	3	15	BELT	480V/3Ø/60HZ	NOTE ①
KEF-9C	6.35.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-10C	6.36.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-11C	6.37.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-12C	7.28.01	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-13C	7.32.01	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-14C	7.33.02	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-4D	2.43.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-5D	2.50.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-6D	2.53.01	MAIN CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-7D	4.46.03	CLUB LEVEL PANTRY	G	2,875	3.50	2,250	2.40	3	15	BELT	480V/3Ø/60HZ	NOTE ①
KEF-8D	6.45.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-9D	6.46.01	UPPER SUITE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-10D	7.48.01	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-11D	7.48.04	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	120V/1Ø/60HZ	
KEF-12D	7.49.01	UPPER CONCOURSE	A	650	1.25	1,470	0.23	1/3	9 3/16	BELT	480V/3Ø/60HZ	
KEF-13D	2.46.01	MAIN CONCOURSE	G	5,000	3.50	1,685	4.29	5	20	BELT	480V/3Ø/60HZ	NOTE ①

NOTE:  
① FAN SHALL BE UL 762 APPROVED FOR MAXIMUM 375 DEGREES FARENHEIT, EQUIPPED WITH HINGED ACCESS DOOR AND DRAIN CONNECTION.

COIL PIPE SCHEDULE

DESIG	No COILS IN BANK	RUNOUT PIPE SIZE (A)	BANK HEADER PIPE SIZE (B)	MAIN PIPE SIZE (C)	REMARKS
CC-1	2	3	4	4	AHU-1
HC-1	2	1.5	2	2	AHU-1
CC-2	2	3	4	4	AHU-2
HC-2	2	1.5	2	2	AHU-2
CC-3	2	3	4	4	AHU-3
HC-3	2	1.5	2	2	AHU-3
CC-4	2	3	4	4	AHU-4
HC-4	2	1.5	2	2	AHU-4
CC-5	2	3	4	4	AHU-5
HC-5	2	1.5	2	2	AHU-5
CC-6	2	3	4	4	AHU-6
HC-6	2	1.5	2	2	AHU-6
CC-7	2	3	4	4	AHU-7
HC-7	2	1.5	2	2	AHU-7
CC-8	2	3	4	4	AHU-8
HC-8	2	1.5	2	2	AHU-8

DUCT HEATING COIL SCHEDULE

DESIG	CFM	APPROX SIZE LxH	MAX AIR PD (IN H <sub>2</sub> O)	EAT °F	LAT °F	BTUH @200°F EWT	MAX H <sub>2</sub> O PD (FT H <sub>2</sub> O)	ROWS	GPM * @30°F ΔT	REMARKS
RH-1	670	18"x9"	.20	55	90	25300	1.0	1	1.9	
RH-2	800	34"x8"	.10	55	90	30200	1.0	1	2.2	
RH-3	1825	38"x12"	.20	55	90	69000	1.0	1	5.0	
RH-4	525	14"x9"	.20	55	90	19800	1.0	1	1.4	
RH-5	495	14"x9"	.20	55	90	18700	1.0	1	1.3	
RH-6	500	14"x9"	.20	55	90	18900	1.0	1	1.4	
RH-7	260	12"x6"	.20	55	90	9800	1.0	1	0.8	
RH-8	315	14"x6"	.20	55	90	11900	1.0	1	0.9	
RH-9	180	6"x10"	.20	55	90	6800	1.0	1	0.6	
RH-10	160	6"x10"	.10	55	90	6000	1.0	1	0.5	
RH-11	160	6"x10"	.10	55	90	6000	1.0	1	0.5	
RH-12	935	26"x12"	.10	55	90	35300	2.0	1	2.6	
RH-13	110	8"x6"	.10	55	90	4200	1.0	1	0.5	
RH-14	760	24"x9"	.20	55	90	28700	1.0	1	2.1	
RH-15	1120	30"x9"	.20	55	90	42300	2.0	1	3.1	
RH-16	970	20"x12"	.20	55	90	36700	2.0	1	2.6	
RH-17	545	16"x9"	.20	55	90	20600	1.0	1	1.5	
RH-18	85	6"x6"	.10	55	90	3200	1.0	1	0.5	
RH-19	1310	30"x12"	.20	55	90	49500	4.0	1	3.6	
RH-20	1310	30"x12"	.20	55	90	49500	4.0	1	3.6	
RH-21	370	16"x6"	.20	55	90	14000	1.0	1	1.0	
RH-22	1000	28"x9"	.20	55	90	37800	2.0	1	2.7	
RH-23	560	24"x6"	.20	55	90	21200	1.0	1	1.5	
RH-24	1120	24"x12"	.20	55	90	42300	2.0	1	3.1	
RH-25	680	20"x9"	.20	55	90	25700	1.0	1	1.9	
RH-26	765	22"x9"	.20	55	90	28900	1.0	1	2.1	
RH-27	880	20"x12"	.20	55	90	33300	1.0	1	2.5	
RH-28	720	18"x12"	.20	55	90	27300	1.0	1	2.0	

\* 40% EG SOLUTION

FILTER SCHEDULE

DESIG	SERVES	TYPE	NOM CFM	APPROX BANK DIMENSION LxHxD	No CARTRIDGES	CARTRIDGE SIZE LxHxD	FACE VEL FPM	MEDIA AREA PER CARTRIDGE	MAXIMUM INITIAL PD IN WG	EFFICIENCY	REMARKS
F-1-1	AHU-1	B	18200	100"x60"x12"	15	20"x20"x2"	436	39.0 SQ FT	0.29	60%	
F-1-1A	AHU-1	A	18200	100"x60"x2"	15	20"x20"x2"	436	4.6 SQ FT	0.28	30%	
F-2-1	AHU-2	B	18200	100"x60"x12"	15	20"x20"x2"	436	39.0 SQ FT	0.29	60%	
F-2-1A	AHU-2	A	18200	100"x60"x2"	15	20"x20"x2"	436	4.6 SQ FT	0.28	30%	
F-3-1	AHU-3	B	27500	100"x80"x12"	20	20"x20"x2"	494	39.0 SQ FT	0.29	60%	
F-3-1A	AHU-3	A	27500	100"x80"x2"	20	20"x20"x2"	494	4.6 SQ FT	0.28	30%	
F-4-1	AHU-4	B	27500	100"x80"x12"	20	20"x20"x2"	494	39.0 SQ FT	0.29	60%	
F-4-1A	AHU-4	A	27500	100"x80"x2"	20	20"x20"x2"	494	4.6 SQ FT	0.28	30%	
F-5-1	AHU-5	B	27500	100"x80"x12"	20	20"x20"x2"	494	39.0 SQ FT	0.29	60%	
F-5-1A	AHU-5	A	27500	100"x80"x2"	20	20"x20"x2"	494	4.6 SQ FT	0.28	30%	
F-6-1	AHU-6	B	27500	100"x80"x12"	20	20"x20"x2"	494	39.0 SQ FT	0.29	60%	
F-6-1A	AHU-6	A	27500	100"x80"x2"	20	20"x20"x2"	494	4.6 SQ FT	0.28	30%	
F-7-1	AHU-7	B	18200	100"x60"x12"	15	20"x20"x2"	436	39.0 SQ FT	0.29	60%	



GENERAL FAN SCHEDULE

DESIG	SERVICE	LEVEL	TYPE	CFM	SP INCH H <sub>2</sub> O	APPROX RPM	BHP	HP (MOTOR SIZE)	WHEEL DIA	DRIVE	AMCA CONSTRUCTION CLASS	ELECTRICAL	APPROX WEIGHT (LBS)	REMARKS
GEF-A1	ELEVATOR LOBBY	UPPER CONC	D	1650	0.50	1075	0.26	1/3	18 1/4"	DIRECT	I	115V/1Ø/60HZ	90	
GEF-A2	TRASH ROOM	MAIN CONC	J	970	0.50	1140	0.248	1/4	18 1/4"	DIRECT	I	115V/1Ø/60HZ	100	
GEF-A3	ELECTRIC ROOM	MAIN CONC	E	1420	0.375	1075	0.50	1/2	18 1/4"	DIRECT	I	115V/1Ø/60HZ	130	
GEF-A4	SUMP PIT	SERVICE	A	900	3.0	2600	0.70	1.0	10 1/2"	DIRECT	I	480V/3Ø/60HZ	150	
GEF-A5	ELECTRICAL ROOM	UPPER SUITE	E	480	0.375	1725	0.149	1/6	12 15/16"	DIRECT	I	115V/1Ø/60HZ	70	
GEF-A6	ELECTRICAL ROOM	UPPER CONC	D	480	0.375	1550	—	1/8	—	DIRECT	I	115V/1Ø/60HZ	30	
GEF-A7	ELECTRICAL ROOM	SERVICE LEVEL	E	240	0.375	1725	0.149	1/6	12 15/16"	DIRECT	I	115V/1Ø/60HZ	30	
GEF-B1	ELEVATOR LOBBY	UPPER CONC	D	4620	0.50	1370	1.33	1 1/2	—	BELT	I	480V/1Ø/60HZ	130	
GEF-B2	TRASH ROOM	MAIN CONC	J	970	0.50	1140	0.248	1/4	18 1/4"	DIRECT	I	115V/1Ø/60HZ	100	
GEF-B3	ELECTRIC ROOM	MAIN CONC	E	1420	0.375	1075	0.50	1/2	18 1/4"	DIRECT	I	115V/1Ø/60HZ	130	
GEF-B4	SUMP PIT	SERVICE	A	900	3.0	2600	0.70	1.0	10 1/2"	DIRECT	I	480V/3Ø/60HZ	150	
GEF-B5	VENDING	MAIN CONC	J	940	0.375	1140	0.248	1/4	18 1/4"	DIRECT	I	115V/3Ø/60HZ	100	
GEF-B6	ELECTRICAL ROOM	UPPER CONC	B	480	0.375	1550	—	1/8	—	DIRECT	I	115V/1Ø/60HZ	30	
GEF-B7	MECHANICAL ROOM	PRESS LEVEL	E	710	0.375	1075	—	1/3	—	DIRECT	I	115V/1Ø/60HZ	70	
GEF-B8	ELEV. LOBBY	UPPER CONC	D	1660	0.50	1075	0.26	1/3	—	DIRECT	I	115V/1Ø/60HZ	90	
GEF-C1	TRASH ROOM	MAIN CONC	J	880	0.50	1140	0.248	1/4	18 1/4"	DIRECT	I	115V/1Ø/60HZ	100	
GEF-C2	ELECTRIC ROOM	MAIN CONC	E	1420	0.375	1075	0.50	1/2	18 1/4"	DIRECT	I	115V/1Ø/60HZ	130	
GEF-C3	ELECTRIC ROOM	UPPER CONC	D	480	0.375	1550	—	1/8	—	DIRECT	I	115V/1Ø/60HZ	30	
GEF-C4	ELECTRIC ROOM	UPPER SUITE	E	480	0.375	1725	0.149	1/6	12 15/16"	DIRECT	I	115V/1Ø/60HZ	70	
GEF-D1	TRASH ROOM	MAIN CONC	J	970	0.50	1140	0.248	1/4	18 1/4"	DIRECT	I	115V/1Ø/60HZ	100	
GEF-D2	ELECTRIC ROOM	MAIN CONC	E	1420	0.375	1075	0.50	1/2	18 1/4"	DIRECT	I	115V/1Ø/60HZ	130	
GEF-D3	ELECTRIC ROOM	UPPER CONC	D	480	0.375	1550	—	1/8	—	DIRECT	I	115V/1Ø/60HZ	30	

SMOKE EXHAUST FAN SCHEDULE

DESIG	SERVICE	TYPE	CFM	SP INCH H <sub>2</sub> O	APPROX RPM	BHP	HP (MOTOR SIZE)	WHEEL DIA	DRIVE	AMCA CONSTRUCTION CLASS	ELECTRICAL	APPROX WEIGHT (LBS)	REMARKS
SEF-1	SERVICE LEVEL-QUAD A	C	12,500	1.5	800	5.2	7.5	33	BELT	I	480/3/60	480	INLINE-CENTRIFUGAL
SEF-2	SERVICE LEVEL-QUAD A	C	12,500	1.5	800	5.2	7.5	33	BELT	I	480/3/60	480	INLINE-CENTRIFUGAL
SEF-3	SERVICE LEVEL-QUAD B	C	12,500	1.5	800	5.2	7.5	33	BELT	I	480/3/60	480	INLINE-CENTRIFUGAL
SEF-4	SERVICE LEVEL-QUAD B	C	12,500	1.5	800	5.2	7.5	33	BELT	I	480/3/60	480	INLINE-CENTRIFUGAL
SEF-5	ATRIUM-QUAD A	B	26,000	1.5	1170	12.5	15.0	40	DIRECT	I	480/3/60	930	INLINE-VANEAXIAL
SEF-6	ATRIUM-QUAD A	A	24,000	1.5	800	12.5	15.0	40	BELT	I	480/3/60	1,230	VENT SET
SEF-7a	ATRIUM-QUAD B	B	32,000	1.5	1170	15.0	20.0	48	DIRECT	I	480/3/60	1,490	INLINE-VANEAXIAL
SEF-7b	ATRIUM-QUAD B	B	32,000	1.5	1170	15.0	20.0	48	DIRECT	I	480/3/60	1,490	INLINE-VANEAXIAL
SEF-8	ATRIUM-QUAD B	A	12,000	1.5	800	5.3	7.5	33	BELT	I	480/3/60	930	VENT SET
SEF-9	ATRIUM-QUAD B	A	24,000	1.5	800	12.5	15.0	40	BELT	I	480/3/60	1,230	VENT SET
SEF-10a	CLUB LEVEL-QUAD C	B	37,500	2.0	1170	17.0	20.0	48	DIRECT	I	480/3/60	1,490	INLINE-VANEAXIAL
SEF-10b	CLUB LEVEL-QUAD C	B	37,500	2.0	1170	17.0	20.0	48	DIRECT	I	480/3/60	1,490	INLINE-VANEAXIAL
SEF-11	ATRIUM-QUAD D	B	26,000	1.5	1170	13.5	15.0	40	DIRECT	I	480/3/60	930	INLINE-VANEAXIAL
SEF-12	ATRIUM-QUAD D	A	24,000	1.5	800	12.5	15.0	40	BELT	I	480/3/60	1,230	VENT SET

HEAT EXCHANGER SCHEDULE

DESIG	TUBE SIDE						SHELL SIDE						APPROX SIZE	CAPACITY	
	GPM	EWT °F	LWT °F	TUBE VELOCITY	MAXIMUM PRESS DROP	No PASS	HEATING SURFACE	FOULING FACTOR	GPM	EWT °F	LWT °F	SHELL VELOCITY			MAXIMUM PRESS DROP
HX-1	200	40	130	1.6 FPS	1.1 FT	4	761 SQ FT	0.001	300	200	140	2.1 FPS	4.8 FT	24"Øx96"L	9000 MBH

STEAM / HEATING WATER CONVERTOR SCHEDULE

DESIG	HEATING WATER SIDE						STEAM SIDE				APPROX SIZE	CAPACITY	
	GPM	EWT °F	LWT °F	TUBE VELOCITY	MAXIMUM PRESS DROP	No PASS	HEATING SURFACE	FOULING FACTOR	STEAM PRESSURE	SAT STEAM TEMP			COND LOAD
C-1	1500	176	200	7.3 FPS	5.8 FT	2	337 SQ FT	0.001	60 PSIG	307 °F	49,200 MBH	22"Øx60"L	16,400 MBH
C-2	1500	176	200	7.3 FPS	5.8 FT	2	337 SQ FT	0.001	60 PSIG	307 °F	49,200 MBH	22"Øx60"L	16,400 MBH
C-3	1500	176	200	7.3 FPS	5.8 FT	2	337 SQ FT	0.001	60 PSIG	307 °F	49,200 MBH	22"Øx60"L	16,400 MBH

DUPLEX CONDENSATE RETURN UNIT SCHEDULE

DESIG	LOCATION	CAPACITY SQ FT EDR	GPM	DISCHARGE HEAD PSIG	RECEIVER SIZE	PUMP DISCHARGE SIZE	MOTOR HP	RPM	ELECTRICAL V/PH/Hz	REMARKS
CRU-1	MECH 1.26.03	100,000	150	20	120 GAL	2"	2.0	1750	480/3/60	
CRU-2	MECH 1.26.03	100,000	150	20	120 GAL	2"	2.0	1750	480/3/60	

TOILET EXHAUST FAN SCHEDULE

DESIG	SERVICE	LEVEL	TYPE	CFM	SP INCH H <sub>2</sub> O	APPROX RPM	BHP	HP (MOTOR SIZE)	WHEEL DIA	DRIVE	AMCA CONSTRUCTION CLASS	ELECTRICAL	APPROX WEIGHT (LBS)	REMARKS
TEF-A1	TOILET/LOCKER	SERVICE	J	2400	0.50	1775	0.859	1	18 1/4"	DIRECT	I	480V/3Ø/60HZ	100	
TEF-A2	TOILET/LOCKER	SERVICE	J	1500	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-A3	TOILET/LOCKER	SERVICE	J	3720	0.50	1725	1.729	2	20 15/16"	DIRECT	I	480V/3Ø/60HZ	120	
TEF-A4	TOILET	MAIN CONC	J	1460	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-A5	TOILET	MAIN CONC	J	1900	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-A6	TOILET	MAIN CONC	J	2480	0.75	1725	1.729	2	20 15/16"	DIRECT	I	480V/3Ø/60HZ	120	
TEF-A7	TOILET	MAIN CONC	E	200	0.375	1550	—	155 WATTS	—	DIRECT	I	115V/1Ø/60HZ	40	
TEF-A8	NOT USED													
TEF-A9	TOILET	MAIN CONC	J	1460	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-A10	TOILET	UPPER CONC	D	1740	0.50	1075	0.26	1/3	—	DIRECT	I	115V/1Ø/60HZ	90	
TEF-A11	TOILET	UPPER CONC	D	1740	0.50	1075	0.26	1/3	—	DIRECT	I	115V/1Ø/60HZ	90	
TEF-A12	TOILET	UPPER CONC	D	1800	0.50	1075	0.42	1/3	—	DIRECT	I	115V/1Ø/60HZ	90	
TEF-A13	NOT USED													
TEF-A14	TOILET	UPPER CONC	D	960	0.50	1075	0.16	1/6"	—	DIRECT	I	115V/1Ø/60HZ	80	
TEF-A15	TOILET	UPPER CONC	D	1740	0.50	1075	0.26	1/3	—	DIRECT	I	115V/1Ø/60HZ	90	
TEF-A16	TOILET	UPPER CONC	D	3760	0.75	1020	0.90	1	—	BELT	I	480V/3Ø/60HZ	140	
TEF-A17	TOILET	UPPER SUITE	J	800	0.50	1140	0.248	1/4	18 1/4"	DIRECT	I	115V/1Ø/60HZ	100	
TEF-A18	TOILET	UPPER SUITE	J	1040	0.50	1725	0.357	1/8	15 9/16"	DIRECT	I	115V/1Ø/60HZ	90	
TEF-A19	TOILET	UPPER SUITE	J	450	0.375	1725	0.149	1/6	12 15/16"	DIRECT	I	115V/1Ø/60HZ	70	
TEF-A20	TOILET	UPPER CONC	D	1360	0.50	1725	0.34	1/3	—	DIRECT	I	115V/1Ø/60HZ	70	
TEF-A21	TOILET	UPPER CONC	D	1100	0.50	1725	0.34	1/3	—	DIRECT	I	115V/1Ø/60HZ	70	
TEF-A22	TOILET	UPPER CONC	D	1180	0.50	1725	0.34	1/3	—	DIRECT	I	115V/1Ø/60HZ	70	
TEF-A23	TOILET/TRASH	CLUB	J	1410	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-B1	TOILET/LOCKER	SERVICE	J	810	0.50	1140	0.248	1/4	18 1/4"	DIRECT	I	115V/1Ø/60HZ	100	
TEF-B2	TOILET	SERVICE	J	1395	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-B3	TOILET	SERVICE	J	1980	0.75	1725	0.859	1	18 1/4"	DIRECT	I	480V/3Ø/60HZ	100	
TEF-B4	TOILET/LOCKER	SERVICE	J	225	0.375	1140	0.101	1/8	15 9/16"	DIRECT	I	115V/1Ø/60HZ	90	
TEF-B5	TOILET	SERVICE	J	2675	0.50	1725	0.859	1	18 1/4"	DIRECT	I	480V/3Ø/60HZ	100	
TEF-B6	TOILET/LOCKER	SERVICE	J	13270	0.75	780	4.91	7 1/2	42 3/16"	BELT	I	480V/3Ø/60HZ	500	
TEF-B7	TOILET/LOCKER	SERVICE	J	7920	0.50	1075	3.02	5	31 9/16"	BELT	I	480V/3Ø/60HZ	280	
TEF-B8	TOILET/LOCKER	SERVICE	J	8770	0.75	1190	4.17	5	31 9/16"	BELT	I	480V/3Ø/60HZ	280	
TEF-B9	TOILET	MAIN CONC	J	1460	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-B10	TOILET	MAIN CONC	J	2060	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-B11	TOILET	UPPER SUITE	J	300	0.375	1140	0.101	1/8	15 9/16"	DIRECT	I	115V/1Ø/60HZ	90	
TEF-B12	TOILET	MAIN CONC	J	2140	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-B13	TOILET	MAIN CONC	J	1700	0.50	1140	0.498	1/2	20 15/16"	DIRECT	I	115V/1Ø/60HZ	120	
TEF-B14	TOILET	UPPER CONC	D	3580	0.75	1020	0.90	1	—	BELT	I	480V/3Ø/60HZ	140	
TEF-B15	TOILET	UPPER CONC	D	1740	0.50	1075	0.26	1/3	—	DIRECT	I	115V/1Ø/60HZ	90	
TEF-B16	TOILET	CLUB/SUITE	D	1740	0.50	1075	0.26	1/3	—	DIRECT	I	115V/1Ø/60HZ	90	
TEF-B17	TOILET	UPPER CONC	D	2620	0.50	1140	0.82	3/4	—	DIRECT	I	480V/3Ø/60HZ	110	
TEF-B18	TOILET	UPPER CONC	D	960	0.50	1075	0.16	1/6	—	DIRECT	I	115V/1Ø/60HZ	80	
TEF-B19	TOILET	UPPER CONC	D	960	0.50	1075	0.16	1/6	—	DIRECT	I	115V/1Ø/60HZ	80	
TEF-B20	TOILET	UPPER SUITE	J	940	0.50	1140	0.248	1/4	18 1/4"	DIRECT	I	115V/1Ø/60HZ	100	
TEF-B21	TOILET	UPPER SUITE	J	880	0.50	114								



UNIT HEATER SCHEDULE (ELECTRIC)								
DESIG	NOMINAL CFM	REQUIRED MBH	KW	TEMP RISE °F	MOTOR HP	RPM	ELECTRICAL	REMARKS
UH-1	715	34.1	10.0	44	1/15	1550	480V/3ø/60HZ	
UH-2	540	25.6	7.5	44	1/25	1550	480V/3ø/60HZ	
UH-3	1250	51.3	15.0	38	1/4	1550	480V/3ø/60HZ	
UH-4	315	17.1	5.0	50	1/30	1550	480V/3ø/60HZ	

CONVECTOR SCHEDULE				
DESIG	REQUIRED MBH	KW	ELECTRICAL	REMARKS
1	6.8	2	277V/1ø/60HZ	
2	10.2	3	277V/1ø/60HZ	
3	13.7	4	277V/1ø/60HZ	
4	3.4	1	277V/1ø/60HZ	

PUMP SCHEDULE											
DESIG	DUTY	TYPE	GPM	HEAD FEET H <sub>2</sub> O	SUCTION X DISCHARGE	MOTOR BHP	HP	RPM	% EFFICIENCY	ELECTRICAL	REMARKS
P-1	SECONDARY CHW	B	1650	160	8" x 8"	81	100	1780	81%	460V/3ø/60HZ	VSD
P-2	SECONDARY CHW	B	1650	160	8" x 8"	81	100	1780	81%	460V/3ø/60HZ	VSD
P-3	SECONDARY CHW	B	1650	160	8" x 8"	81	100	1780	81%	460V/3ø/60HZ	VSD
P-4	PRIMARY HTG WATER	B	1500	50	10" x 8"	22.7	25	1175	83%	460V/3ø/60HZ	VSD
P-5	PRIMARY HTG WATER	B	1500	50	10" x 8"	22.7	25	1175	83%	460V/3ø/60HZ	VSD
P-6	PRIMARY HTG WATER	B	1500	50	10" x 8"	22.7	25	1175	83%	460V/3ø/60HZ	VSD
P-7	SECONDARY HTG WATER	B	1300	130	8" x 6"	53.3	75	1780	79%	460V/3ø/60HZ	VSD
P-8	SECONDARY HTG WATER	B	1300	130	8" x 6"	53.3	75	1780	79%	460V/3ø/60HZ	VSD
UDP-1	PRIMARY CHW	-	3300	-	-	-	-	-	-	-	BY OTHERS
UDP-2	PRIMARY CHW	-	3300	-	-	-	-	-	-	-	BY OTHERS

SOUND ATTENUATOR SCHEDULE															
DESIG	DUTY	No ATTEN	SIZE LxWxH IN. (EACH)	CAPACITY CFM TOTAL	MAXIMUM PD INCH H <sub>2</sub> O	FACE VELOCITY FPM	MINIMUM DB REDUCTION BY OCTAVE BAND								REMARKS
							2	3	4	5	6	7	8		
SA-1-1	AHU-1 SUPPLY	1	36" x 36" x 36"	18200	0.20	2022	5	9	14	23	24	14	10	IAC 3L	
SA-2-1	AHU-2 SUPPLY	1	36" x 36" x 36"	18200	0.20	2022	5	9	14	23	24	14	10	IAC 3L	
SA-3-1	AHU-3.4 SUPPLY	4	36" x 24" x 36"	55000	0.30	2290	7	12	15	15	10	9	8	IAC 3LFL	
SA-5-1	AHU-5.6 SUPPLY	4	36" x 24" x 36"	55000	0.30	2290	7	12	15	15	10	9	8	IAC 3LFL	
SA-7-1	AHU-7.8 SUPPLY	3	36" x 24" x 30"	36400	0.30	2000	7	12	15	15	10	9	8	IAC 3LFL	
SA-1-2	RF-1 DUCT	2	36" x 24" x 30"	20600	0.20	1650	7	13	17	16	11	11	10	IAC 3LFL	
		1	36" x 12" x 30"												
SA-3-2	RF-3 DUCT	3	36" x 24" x 42"	44000	0.30	2095	7	13	17	16	11	11	10	IAC 3LFL	
SA-5-2	RF-5 DUCT	3	36" x 24" x 42"	44000	0.30	2095	7	13	17	16	11	11	10	IAC 3LFL	
SA-7-2	RF-7 DUCT	3	36" x 24" x 30"	27400	0.20	1570	7	13	17	16	11	11	10	IAC 3LFL	
		1	36" x 12" x 30"												
SA-1-3	RF-1 DISCHARGE	1	32" x 48" x 48"	20600	-	-	9	16	18	19	14	10	10	IAC D-DUCT	
SA-3-3	RF-3 DISCHARGE	1	48" x 72" x 72"	44000	-	-	9	17	19	17	12	12	10	IAC D-DUCT	
SA-5-3	RF-5 DISCHARGE	1	48" x 72" x 72"	44000	-	-	9	17	19	17	12	12	10	IAC D-DUCT	
SA-7-3	RF-7 DISCHARGE	1	38" x 58" x 58"	27400	-	-	10	16	20	17	14	12	10	IAC D-DUCT	

UNIT HEATER SCHEDULE (HYDRONIC)								
DESIG	NOMINAL CFM	CAP BTUH @ 200°F EWT	CAP BTUH @ 30°F ΔT H <sub>2</sub> O	MAXIMUM H <sub>2</sub> O PD FT H <sub>2</sub> O	MOTOR HP	RPM	ELECTRICAL	REMARKS
UH-10	2220	83.2	5.5	2.0	1/6	1070	120V/1ø/60HZ	DOWN-BLAST DISCHARGE
UH-11	1540	50.0	3.5	1.0	1/8	1550	120V/1ø/60HZ	HORIZONTAL DISCHARGE
UH-12	1100	31.7	2.5	1.0	1/8	1550	120V/1ø/60HZ	HORIZONTAL DISCHARGE

HEAT PUMP UNIT SCHEDULE																								
DESIG	DUTY	CFM	MIN. OA CFM	FAN SECTION				COOLING SECTION				HEATING SECTION				CONDENSER SECTION				ELECTRICAL	REMARKS			
				TSP INCH H <sub>2</sub> O	MOTOR HP	RPM	WHEEL DIA INCH	EAT °F DB	WB	DB	WB	TOTAL MBH	SENS MBH	MAXIMUM AIR PD IN H <sub>2</sub> O	HEAT PUMP MBH ΔT 17°F	RESISTANCE MBH	KW	EAT °F DB	LAT °F DB			No OF COMP	COND FAN HP	TOTAL UNIT AMP
HPU-1	TICKETS C - MAIN CONC.	4030	400	2.20	5	980	15x15	77.8	52.2	54.0	52.2	143.3	103.6	-	-	184.3	54	69.0	111.3	2	1	65	480V/3ø/60HZ	
HPU-2	FIRST AID A - MAIN CONC.	920	90	1.50	1/3	960	10x8	77.8	52.2	54.0	53.0	26.9	21.9	0.4	18.0	52.5	15	70.0	121.5	1	1	62.4	480V/3ø/60HZ	
HPU-3	FIRST AID C - MAIN CONC.	920	90	1.50	1/3	960	10x8	77.8	52.2	54.0	53.0	26.9	21.9	0.4	18.0	52.5	15	70.0	121.5	1	1	62.4	480V/3ø/60HZ	
HPU-4	NOVELTY B - MAIN CONC.	1140	110	1.50	1/3	960	10x8	77.8	52.2	54.0	52.2	36.4	27.1	-	18.0	52.5	15	70.0	111.6	1	1	-	480V/3ø/60HZ	
HPU-5	NOVELTY B - MAIN CONC.	1140	110	1.50	1/3	960	10x8	77.8	52.2	54.0	53.0	36.4	27.1	-	18.0	52.5	15	70.0	111.6	1	1	-	480V/3ø/60HZ	
HPU-6	NOVELTY D - MAIN CONC.	1140	110	1.50	1/3	960	10x8	77.8	52.2	54.0	53.0	36.4	27.1	-	18.0	52.5	15	70.0	111.6	1	1	-	480V/3ø/60HZ	
HPU-7	NOVELTY D - MAIN CONC.	1140	110	1.50	1/3	960	10x8	77.8	52.2	54.0	53.0	36.4	27.1	-	18.0	52.5	15	70.0	111.6	1	1	-	480V/3ø/60HZ	
HPU-8	TV/AV-A	1070	0	1.00	1/2	980	9x4	76.0	53.0	54.0	53.0	31.8	25.4	-	22.6	-	-	74.0	93.6	REFER TO ACCU-8 SCH.	115V/1ø/60HZ		SPLIT SYSTEM	
HPU-9	TV/AV-B	1070	0	1.00	1/2	980	9x4	76.0	53.0	54.0	53.0	31.8	25.4	-	22.6	-	-	74.0	93.6	REFER TO ACCU-9 SCH.	115V/1ø/60HZ		SPLIT SYSTEM	
HPU-10	TV/AV-C	1070	0	1.00	1/2	960	9x4	76.0	53.0	54.0	53.0	31.8	25.4	-	22.6	-	-	74.0	93.6	REFER TO ACCU-10 SCH.	115V/1ø/60HZ		SPLIT SYSTEM	
HPU-11	TV/AV-D	1070	0	1.00	1/2	960	9x4	76.0	53.0	54.0	53.0	31.8	25.4	-	22.6	-	-	74.0	93.6	REFER TO ACCU-11 SCH.	115V/1ø/60HZ		SPLIT SYSTEM	
HPU-12	FIRST AID B	430	0	-	0.5 AMP	-	-	76.0	53.0	-	-	14.3	-	-	8.7	5.1	1.5	74.0	103.7	REFER TO ACCU-12 SCH.	115V/1ø/60HZ		SPLIT SYSTEM	
HPU-13	FIRST AID D	430	0	-	0.5 AMP	-	-	76.0	53.0	-	-	14.3	-	-	8.7	5.1	1.5	74.0	103.7	REFER TO ACCU-13 SCH.	115V/1ø/60HZ		SPLIT SYSTEM	
HPU-14	SCORE BOARD CONTROL A	7300	750	2.25	7.5	1000	15x15	77.8	52.2	54.0	53.0	249.7	187.6	-	-	126.2	38.0	69.0	85.0	REFER TO ACCU-14 SCH.	115V/1ø/60HZ		SPLIT SYSTEM	

AIR COOLED HEAT PUMP CONDENSING UNIT SCHEDULE														
DESIG.	CFM	No MOTOR	MOTOR SIZE	RPM	FLA EACH	LRA EACH	ELECTRIC	COMPRESSOR			OUTDOOR COIL		REMARKS	
								No	RLA	LRA	OUTDOOR TEMP °F DB	TOTAL FACE AREA		No ROWS
ACCU-8	2700	1	1/4	850	1.6	3.5	480V/3ø/60HZ	1	20.5	107.0	95	14.6	2	13
ACCU-9	2700	1	1/4	850	1.6	3.5	480V/3ø/60HZ	1	20.5	107.0	95	14.6	2	13
ACCU-10	2700	1	1/4	850	1.6	3.5	480V/3ø/60HZ	1	20.5	107.0	95	14.6	2	13
ACCU-11	2700	1	1/4	850	1.6	3.5	480V/3ø/60HZ	1	20.5	107.0	95	14.6	2	13
ACCU-12	-	1	-	-	0.5	-	115V/1ø/60HZ	1	10.0	35.0	95	-	-	-
ACCU-13	-	1	-	-	0.5	-	115V/1ø/60HZ	1	10.0	35.0	95	-	-	-
ACCU-14	17100	3	3/4	1075	3.5	-	480V/3ø/60HZ	1	10.0	214.0	95	38.8	3	12

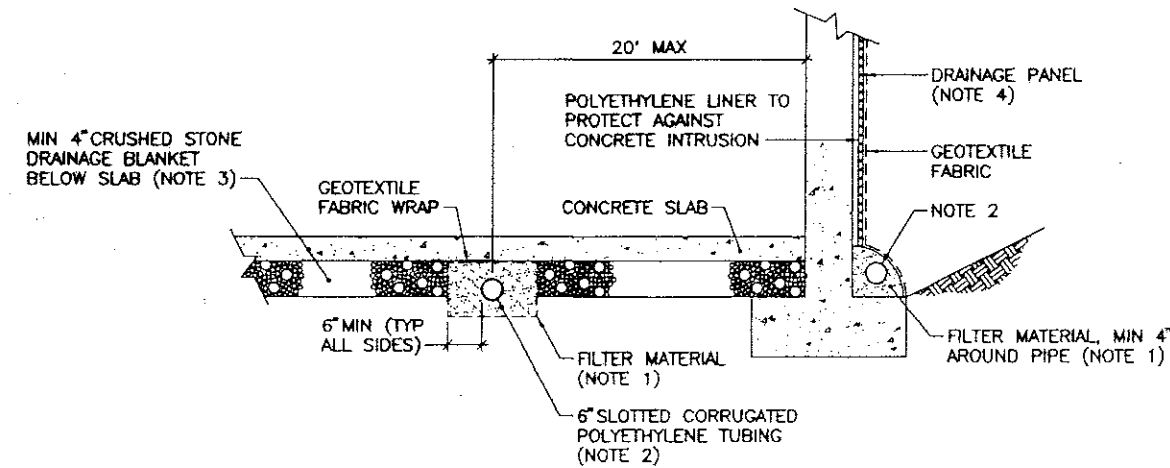
KITCHEN EXHAUST UNIT SCHEDULE												
DESIG	SERVICE ROOM No	LEVEL	TYPE	CFM	SP INCH H <sub>2</sub> O	APPROX RPM	BHP	HP MOTOR SIZE	DRIVE	ELECTRICAL V/PH/HZ	APPROX WEIGHT	REMARKS
KEU-1A	2.10.02	MAIN CONCOURSE	A	5000	2	1840	5.20	7.5	BELT	480V/3ø/60HZ	3360	
KEU-1B	2.19.01	MAIN CONCOURSE	A	5000	2	1840	5.20	7.5	BELT	480V/3ø/60HZ	3360	
KEU-1C	2.34.01	MAIN CONCOURSE	A	5000	2	1840	5.20	7.5	BELT	480V/3ø/60HZ	3360	
KEU-2C	22.34.01	MAIN CONCOURSE	A	5000	2	1840	5.20	7.5	BELT	480V/3ø/60HZ	3360	
KEU-3C	4.35.03	CLUB	A	2875	2	2960	3.10	5.0	BELT	480V/3ø/60HZ	2700	
KEU-1D	2.46.01	MAIN CONCOURSE	A	5000	2	1840	5.20	7.5	BELT	480V/3ø/60HZ	3360	
KEU-2D	4.46.03	CLUB	A	2875	2	2960	3.10	5.0	BELT	480V/3ø/60HZ	2700	

COIL PUMP SCHEDULE											
DESIG	DUTY	TYPE	GPM	HEAD FEET H <sub>2</sub> O	SUCTION X DISCHARGE	MOTOR BHP	HP	RPM	% EFFICIENCY	ELECTRICAL	REMARKS
CCP-1	AHU-1 COOLING OIL	C	197	51	2.5" x 2.5"	4.2	5.0	1760	60%	460V/3ø/HZ	
CCP-2	AHU-2 COOLING COIL	C	197	51	2.5" x 2.5"	4.2	5.0	1760	60%	460V/3ø/HZ	
CCP-3	AHU-3 COOLING COIL	C	280	51	3" x 3"	5.0	7.5	1760	73%	460V/3ø/HZ	
CCP-4	AHU-4 COOLING COIL	C	280	51	3" x 3"	5.0	7.5	1760	73%	460V/3ø/HZ	
CCP-5	AHU-5 COOLING COIL	C	295	51	3" x 3"	5.3	7.5	1760	72%	460V/3ø/HZ	
CCP-6	AHU-6 COOLING COIL	C	295	51	3" x 3"	5.3	7.5	1760	72%	460V/3ø/HZ	
CCP-7	AHU-7 COOLING COIL	C	201	50	2.5" x 2.5"	4.3	5.0	1760	60%	460V/3ø/HZ	
CCP-8	AHU-8 COOLING COIL	C	201	50	2.5" x 2.5"						









NOTES:

1. FILTER MATERIAL: AASHTO M-43 SIZE No.7 (MDSHA COARSE AGG-PCC-SIZE 7).
2. SUBDRAINAGE PIPING SHOULD BE 6" INCHES DIA. SLOTTED CORRUGATED POLYETHYLENE (PE) TUBING PER ASTM D-405 WITH MAXIMUM 1/8" INCH SLOT WIDTH.
3. WASHED GRAVEL OR CRUSHED STONE DRAINAGE BLANKET SHOULD SATISFY GRADATION REQUIREMENTS FOR AASHTO SIZE No.57.
4. DRAINAGE PANELS SHOULD HAVE A MINIMUM FLOW RATE OF 10-GALLONS PER MINUTE PER FOOT AT A HYDRAULIC GRADIENT OF 1.0 PER ASTM D-4716.
5. GEOTEXTILE FABRIC: CLASS C PER MDSHA SPECIFICATION SECTION 921.09.

DETAIL - FOUNDATION DRAIN

SCALE: NONE 1

PIPE SCHEDULE			
FIXTURE	QUANTITY	CW	HW
WATER CLOSETS (FLUSH VALVE)	1-3	2"	
	4-10	2-1/2"	
	11-20	3"	
URINALS	1-3	2"	
	4-12	2-1/2"	
	13-36	3"	
LAVATORIES	>36	4"	
	1-4	1"	1"
	5-13	1-1/4"	1-1/4"
	14-27	1-1/2"	1-1/2"
	28-52	2"	2"
	53-120	3"	3"
	>120	4"	4"

GENERAL NOTES:

1. FOR PIPE SIZE TO INDIVIDUAL FIXTURES REFER TO PLUMBING FIXTURE SCHEDULE.

PLUMBING FIXTURE SCHEDULE									
No	FIXTURE	ROUGH-IN CONNECTION			FIXTURE UNITS			REMARKS	
		CW	HW	SAN	CW	HW	SAN		
P-1	WATER CLOSET (VALVE)	1"		4"	2"	10		6	
P-1A	WATER CLOSET (VALVE)	1"		4"	2"	10		6	HANDICAPPED
P-1B	WATER CLOSET (TANK)	1/2"		4"	2"	5		6	
P-1C	WATER CLOSET (TANK)	1/2"		4"	2"	5		6	HANDICAPPED
P-2	URINAL	1"		2"	1 1/2"	5		6	
P-2A	URINAL	1"		2"	1 1/2"	5		6	HANDICAPPED
P-3	LAVATORY	1/2"	1/2"	1 1/2"	1 1/4"	1.5	1.5	1	WALL MOUNTED
P-3A	LAVATORY	1/2"	1/2"	1 1/2"	1 1/4"	1.5	1.5	1	WALL MOUNTED HANDICAPPED
P-3B	LAVATORY	1/2"	1/2"	1 1/2"	1 1/4"	1.5	1.5	1	UNDER COUNTER
P-3C	LAVATORY	1/2"	1/2"	1 1/2"	1 1/4"	1.5	1.5	1	UNDER COUNTER
P-3D	LAVATORY	1/2"	1/2"	1 1/2"	1 1/4"	1.5	1.5	1	COUNTERTOP
P-4	SHOWER	1/2"	1/2"	2"	1 1/2"	1.5	1.5	2	
P-4A	SHOWER	1/2"	1/2"	2"	1 1/2"	1.5	1.5	2	HANDICAPPED
P-5	MOP SINK	1/2"	1/2"	3"	1 1/2"	1.5	1.5	3	
P-6	DARKROOM SINK	1/2"	1/2"	2"	1 1/2"	1.5	1.5	2	STAINLESS STEEL
P-7	HAND SINK	1/2"	1/2"	1-1/2"	1 1/4"	1.5	1.5	2	
P-8	DRINKING FOUNTAIN	1/2"		1 1/2"	1 1/4"	0.5		0.5	
P-8A	DRINKING FOUNTAIN	1/2"		1 1/2"	1 1/4"	0.5		0.5	BARRIER FREE
P-9	BAR SINK	1/2"	1/2"	1 1/2"	1 1/4"	1.5	1.5	1	STAINLESS STEEL
P-10	SINGLE COMPARTMENT SINK	1/2"	1/2"	2"	1 1/2"	1.5	1.5	2	STAINLESS STEEL
P-11	THREE COMPARTMENT SINK	3/4"	3/4"	(3) 1-1/2"		3	3	5	ROUGH-IN CONNECTION ONLY
P-12	WHIRLPOOL TUB	3/4"	3/4"	2"	1 1/2"	3	3	3	ROUGH-IN CONNECTION ONLY
P-13	ELECTRIC WATER COOLER	1/2"	1/2"	1-1/2"	1 1/4"	0.5		0.5	BARRIER FREE
P-14	WASHER CONNECTION	1/2"	1/2"	2"	1 1/2"	1.5	1.5	2	
P-15	BAR SINK	1/2"	1/2"	1-1/2"	1 1/4"	1.5	1.5	2	STAINLESS STEEL

SEWAGE/SUMP PUMP SCHEDULE											
No	SERVICE	PUMP						BASIN		REMARKS	
		No	HP	SIZE	GPM	HEAD	RPM	VOLTS/PH/Hz	SIZE		TYPE
SP-1	SEWAGE EJECTOR QUAD B	2	20	4x15	525	50'	865	460V/3/60	10'x11'-6"D	PRECAST	
SP-2	SEWAGE EJECTOR FIELD EQUIP. RM. QUAD B	2	3	4x6.25	50	40'	1700	460V/3/60	48'x5'-8"D	CAST-IRON	
SP-3	SUMP-BOWL DRAINAGE QUAD A	3	20	5x11.5	800	45'	1155	460V/3/60	10'x9'0"Lx10'D	STRUCTURAL CONCRETE	
SP-4	SUMP-BOWL DRAINAGE QUAD B	3	20	5x12	800	50'	1155	460V/3/60	10'x9'0"Lx10'D	STRUCTURAL CONCRETE	
SP-5	SUMP-LOADING DOCK	2	15	4x15	478	50'	865	460V/3/60	10'x11'-6"D	PRECAST	
SP-6	SUMP-FIELD DRAINAGE EAST	2	15	4x15	600	50'	865	460V/3/60	12'-6"Lx10'Wx8'D	STRUCTURAL CONCRETE	
SP-7	SUMP-FIELD DRAINAGE WEST	2	15	4x15	600	50'	865	460V/3/60	12'-6"Lx10'Wx8'D	STRUCTURAL CONCRETE	
SP-8	ELECTRIC ROOM MANHOLE	1	1/2	1 1/2	10	25'	1750	120V/1/60			

DOMESTIC WATER BOOSTER PUMP SCHEDULE										
DESIG	SERVICE	HEAD FT H <sub>2</sub> O	PERCENTAGE SPLITS	GPM EACH PUMP	HP	PUMP SIZE	RPM	ELECTRICAL	EFFICIENCY	REMARKS
BP-1a	DOMESTIC WATER	140	25%	675	40	4"x5"	1750	460V/3ø	75%	
BP-1b	DOMESTIC WATER	140	25%	675	40	4"x5"	1750	460V/3ø	75%	
BP-1c	DOMESTIC WATER	140	25%	675	40	4"x5"	1750	460V/3ø	75%	
BP-1d	DOMESTIC WATER	140	25%	675	40	4"x5"	1750	460V/3ø	75%	
BP-2a	DOMESTIC WATER	140	25%	675	40	4"x5"	1750	460V/3ø	75%	
BP-2b	DOMESTIC WATER	140	25%	675	40	4"x5"	1750	460V/3ø	75%	
BP-2c	DOMESTIC WATER	140	25%	675	40	4"x5"	1750	460V/3ø	75%	
BP-2d	DOMESTIC WATER	140	25%	675	40	4"x5"	1750	460V/3ø	75%	

GENERAL NOTES:

1. MAXIMUM RELIEF VALVE SETTING 140PSI.
2. PROVIDE PACKAGED SYSTEMS WITH A 170 GALLON PRESSURE TANK.

DOMESTIC WATER HEATER SCHEDULE												
DESIG	EWT °F	LWT °F	TANK GALLONS (MIN)	TANK SIZE	HEAT CAPACITY MBH	HEATING ELEMENT SIZE	LENGTH	TUBES	STEAM LBS/HR	ASME RATING (PSI G)	REMARKS	
DWH-1	40	140	6,000	8' x 18'	5,000	8"	113"	3/4"	5,482	50	140	CEMENT LINED
DWH-2	40	140	6,000	8' x 18'	5,000	8"	113"	3/4"	5,482	50	140	CEMENT LINED
DWH-3	40	140	6,000	8' x 18'	5,000	8"	113"	3/4"	5,482	50	140	CEMENT LINED
DWH-4	40	140	6,000	8' x 18'	5,000	8"	113"	3/4"	5,482	50	140	CEMENT LINED

GENERAL NOTES:

1. STEAM SYSTEM PRESSURE IS 60 PSIG. COIL SELECTED AT 50 PSI ALLOWING MAX 10 PSI ACV LOSS.

PUMP SCHEDULE										
DESIG	DUTY	(TYPE SEE SPEC)	GPM	HEAD FEET H <sub>2</sub> O	SUCTION X DISCHARGE	MOTOR		RPM	% EFFICIENCY	ELECTRICAL
						BHP	HP			
P-9	HOT WATER RECIRC	A	150	115	3" x 3"	8.3	10.0	1750	55	460V/ 3ø
P-10	HOT WATER RECIRC	A	150	115	3" x 3"	8.3	10.0	1750	55	460V/ 3ø

GREASE INTERCEPTOR DUTY					
DESIG	PIPE SIZE	FLOW (GPM)	GREASE CAPACITY (LBS)	SIZE LxWxH	REMARKS
GI-1	4"	100	200	54"x36"x32"	
GI-2	4"	150	300	60"x40"x38"	
GI-3	3"	35	70	48"x42"x12"	NOTE 1
GI-4	3"	35	70	30"x20"x22"	NOTE 1

GENERAL NOTES:

1. FIT GREASE INTERCEPTORS LOCATED BELOW DOUBLE TEE CONSTRUCTION PROVIDE AN EXTENSION COLLAR.

FLOOR DRAIN SCHEDULE			
DESIG	CONN	MANUFACTURER	REMARKS
FD-1	3"	JOSAM 36210	ROUND TYPE HEAVY DUTY WITH SEDIMENT BUCKET
FD-2	3"	JOSAM 30000	ROUND TYPE MEDIUM DUTY WITH FUNNEL
FD-3	4"	JOSAM 31720	ROUND TYPE HEAVY DUTY WITH SEDIMENT BUCKET
FD-4	3"	JOSAM 36210	ROUND TYPE HEAVY DUTY WITH SEDIMENT BUCKET
FD-4a	6"	JOSAM 36210	ROUND TYPE HEAVY DUTY WITH SEDIMENT BUCKET
FD-5	3"		ROUGH-IN CONNECTION ONLY
FD-6	4"	JOSAM 3000	ROUND TYPE WITH SQUARE STRAINER
FS-1	4"	JOSAM 49360	SQUARE FLOOR SINK WITH GRATE
FS-2	3"	JOSAM 49360	SQUARE FLOOR SINK WITH GRATE
AD-1	4"	JOSAM 32100	ROUND TYPE HEAVY WEIGHT, DOME GRATE
AD-2	6"	JOSAM 34720	ROUND TYPE HEAVY WEIGHT WITH SEDIMENT BUCKET
AD-3	4"	JOSAM 36210	ROUND TYPE HEAVY WEIGHT
AD-3a	3"	JOSAM 36210	ROUND TYPE HEAVY WEIGHT
AD-4	4"	JOSAM 24720	SCUPPER DRAIN
AD-4a	3"	JOSAM 24720	SCUPPER DRAIN
TD-1	-	JOSAM MEADRIN	SERVICE LEVEL TRENCH
TD-2	-	JOSAM MEADRIN	FIELD TRENCH
RD-1	3"	JOSAM 2100	ROUND WITH LARGE SUMP

GENERAL NOTES:

1. ALL SANITARY FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH DEEP SEAL TRAPS.

BOOSTER HEATER SCHEDULE							
NO.	SERVICE	KW INPUT	GPM	EWT °F	LWT °F	MBH	ELECTRICAL (V/PH/Hz)
BH-1	POT UTILITY SINK	15	3.5	110°	140°	52.5	20 480/3/60
BH-2	BAR UTILITY SINK	9	1.5	110°	140°	22.5	5 480/3/60

PRESSURE REDUCING VALVE SCHEDULE						
No.	SERVICE	GPM	SIZE	PRESSURE SETTING (PSI)	CV RATING	REMARKS
PRV-1	SERVICE LEVEL SLT-10	150	2-1/2"	80		
PRV-1A	SERVICE LEVEL SLT-10	70	1-1/2"	80		
PRV-2	SERVICE LEVEL SLT-7	150	2-1/2"	80		
PRV-2A	SERVICE LEVEL SLT-7	80	1-1/2"	80		
PRV-3	SERVICE LEVEL SLT-13	360	4"	80		
PRV-3A	SERVICE LEVEL SLT-13	210	2-1/2"	80		
PRV-4	SERVICE LEVEL SLT-1	110	2"	80		
PRV-4A	SERVICE LEVEL SLT-1	40	1"	80		
PRV-5	SERVICE LEVEL SLT-4	75	2"	80		
PRV-5A	SERVICE LEVEL SLT-4	20	1"	80		
PRV-6	SERVICE LEVEL SLT-12	75	2"	80		
PRV-6A	SERVICE LEVEL SLT-12	20	1"	80		
PRV-7	SERVICE LEVEL SLT-2	140	3"	80		
PRV-7A	SERVICE LEVEL SLT-2	40	1"	80		
PRV-8	SERVICE LEVEL NORTH	125	2"	80		
PRV-8A	SERVICE LEVEL NORTH	50	1-1/2"	80		
PRV-9	MAIN CONCOURSE NORTH WEST	400	5"	80		
PRV-9A	MAIN CONCOURSE NORTH WEST	250	3"	80		
PRV-10	MAIN CONCOURSE SOUTH WEST	400	5"	80		
PRV-10A	MAIN CONCOURSE SOUTH WEST	250	3"	80		
PRV-11	MAIN CONCOURSE MCC-6	30	1"	80		2.24.01
PRV-11A	MAIN CONCOURSE MCC-6	20	1"	80		2.24.01
PRV-12	MAIN CONCOURSE MCT-7	100	2-1/2"	80		
PRV-12A	MAIN CONCOURSE MCT-7	20	1"	80		
PRV-13	MAIN CONCOURSE MCC-5	45	1-1/2"	80		2.19.01
PRV-13A	MAIN CONCOURSE MCC-5	30	1"	80		2.19.01
PRV-14	MAIN CONCOURSE MCT-6	125	2-1/2"	80		
PRV-14A	MAIN CONCOURSE MCT-6	20	1"	80		
PRV-15	MAIN CONCOURSE MCC-4	30	1"	80		2.16.01
PRV-15A	MAIN CONCOURSE MCC-4	20	1"	80		2.16.01
PRV-16	MAIN CONCOURSE MCT-1	90	2"	80		
PRV-16A	MAIN CONCOURSE MCT-1	20	1"	80		
PRV-17	MAIN CONCOURSE MCT-7	100	1 1/2"	80		
PRV-17A	MAIN CONCOURSE MCT-7	20	1"	80		
PRV-18	MAIN CONCOURSE MCC-3	30	1"	80		2.10.01&2.12.01
PRV-18A	MAIN CONCOURSE MCC-3	20	1"	80		2.10.01&2.12.01
PRV-19	FIELD IRRIGATION SYSTEM	500	5"	95		
PRV-20	MAIN CONCOURSE MCT-2	90	2-1/2"	80		
PRV-20A	MAIN CONCOURSE MCT-2	20	1"	80		
PRV-21	PRESS LEVEL	100	2"	80		
PRV-21A	PRESS LEVEL	35	1"	80		
PRV-22	KITCHEN CLC-1	45	1-1/2"	60		
PRV-22A	KITCHEN CLC-1	30	1"	60		

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**Attachment G**

**CAPACITY SUMMARY SHEET**



**Attachment H**

**PRICING FORM**



**Attachment H**  
Pricing Form- Building Commissioning Services  
Renovation Projects at M&T Bank Stadium

	Design Review / Pre-Construction Activities	Construction Phase Activities	Post Construction Phase Activities
2024 Projects		\$ -	\$ -
2025 Projects	\$ -	\$ -	\$ -
2026 Projects	\$ -	\$ -	\$ -
Facility Condition Assessment Projects	\$ -	\$ -	\$ -
Sub-Total	\$ -	\$ -	\$ -
Total			\$ -

**Attachment I**

**ANTICIPATED PROJECT SCHEDULE**

**(See individual project schedules in Section 3)**

**Attachment J**

**SAMPLE CONTRACT**

**(to be issued via addendum)**

**Attachment K**

**EXPERIENCE FORM**



**Attachment L**

**CORPORATE DIVERSITY AFFIDAVIT**

## CORPORATE DIVERSITY ADDENDUM

Effective August 18, 2022

**Instructions:** Pursuant to § 11-101 of the Tax-Property Article, certain entities must provide a Corporate Diversity Addendum, which contains certain diversity data specified by Code of Maryland Regulation (“COMAR”) 24.01.07. To determine whether you must provide the Corporate Diversity Addendum, please complete Worksheet A.

Failure to complete the Addendum or failure to meet the criteria therein, may prohibit you from receiving certain State benefits. For more information, refer to COMAR 24.01.07.

Please be aware, the information you include in the Corporate Diversity Addendum may be shared with other Maryland State agencies.

### Worksheet A

1. Are you an entity that is required to be in good standing with the State Department of Assessments and Taxation (“SDAT”), and meets the following definition:

(1) A commercial enterprise or business that is formed in the State or registered with SDAT to do business in the State; or (2) a corporation, foundation, school, hospital, or other legal entity for which none of the net earnings inure to the benefit of any private shareholder or individual holding an interest in the entity?

Yes – Proceed to Question 2

No – STOP. You are not required to complete the Corporate Diversity Addendum. Complete Affidavit (I) on Page 2 and submit with the application for a State benefit.

2. Check the appropriate box if you are any of the following types of entities:

Sole Proprietor

Limited liability company (LLC) owned by a single member

Privately held company if at least 75% of the company’s shareholders are family members

Entity that (1) has an annual operating budget or annual sales less than \$5,000,000; and (2) has not qualified for or applied for, and does not intend to apply for, a State benefit, as defined below

Did you check at least one box?

Yes – STOP. You are not required to complete the Corporate Diversity Addendum. Complete Affidavit (I) on Page 2 and submit with the application for a State benefit.

No – Proceed to the Corporate Diversity Addendum on Page 3.

“State benefit” means (1) a State capital grant funding totaling \$1.0 million or more in a single fiscal year (July 1 – June 30); (2) State tax credits totaling \$1.0 million or more in a single fiscal year (July 1 – June 30); or (3) the receipt of a State contract with a total value of \$1.0 million or more. “State contract” means a contract that (a) resulted from a competitive procurement process and (b) is not federally funded in any way.

**AFFIDAVIT (I)**

**UNDER PENALTIES OF PERJURY**, I hereby swear that the entity submitting this report is not required to submit the Corporate Diversity Addendum.

Entity/Business Name: \_\_\_\_\_

Federal Employer Identification Number (FEIN): \_\_\_\_\_

SDAT Identification Number: \_\_\_\_\_

Name of Entity's representative completing this Affidavit (print clearly):

\_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## CORPORATE DIVERSITY ADDENDUM

**Instructions:** If you are required to provide the Corporate Diversity Addendum, completing Affidavit (II) on Page 4 is mandatory. A response to both items is required. Failure to provide a complete response to either of the two items may render the entity ineligible for certain state benefits. For more information, refer to COMAR 24.01.07.

I. A response to Item I is required. However, the content of your response has no bearing on eligibility for State benefits. Select below the underrepresented communities which are represented on this entity's board or in executive leadership. Select all that apply.

- Alaska Native
- Asian-Pacific Islander
- Black or African-American
- Hispanic or Latino
- Native American
- Native Hawaiian
- One or more of the racial or ethnic groups listed above
- None of the above

II. Check the box next to the following Corporate Diversity indicators that pertain to this entity. *Note that references to underrepresented communities refers to communities listed in Item I above. The examples provided are intended to be representative, not exclusive.* Select all that apply.

1.  Entity maintains written workforce diversity, equity, and inclusion (“DEI”) policies.
2.  Entity offers DEI training to its workforce.
3.  Entity assigns a senior-level employee as responsible for oversight and direction of the entity's DEI efforts.
4.  Entity reports performance of its workforce DEI programs on its website.
5.  Entity includes DEI objectives in performance plans of its managers.
6.  Entity publishes information on its website about its DEI commitments and efforts.
7.  Entity provides career advancement training/opportunities for employees, including members of underrepresented communities.
8.  Entity collaborates with educational institutions, or is an educational institution, serving significant or predominant student populations or affinity groups from underrepresented communities (e.g., career fairs, scholarships, internships, apprenticeships).
9.  Entity has a supplier diversity policy that provides business opportunities to diverse suppliers, including businesses owned by members of underrepresented communities, such as State-certified Minority Business Enterprises (“MBEs”).
10.  Entity publicizes its procurement opportunities to encourage participation from businesses owned by members of underrepresented communities.
11.  Entity measures percentage of contract dollars awarded to businesses owned by members of underrepresented communities, including MBEs.
12.  Entity provides support and outreach to underrepresented communities and/or organizations that represent underrepresented communities.

Only entities that meet at least 33% (4) of the Corporate Diversity Indicators above, by checking all the applicable boxes, qualify to receive a State benefit.

**AFFIDAVIT (II)**

**UNDER PENALTIES OF PERJURY**, I declare that I have examined this Corporate Diversity Addendum, and to the best of my knowledge and belief, it is true, correct, and complete.

Entity/Business Name: \_\_\_\_\_

Federal Employer Identification Number (FEIN): \_\_\_\_\_

SDAT Identification Number: \_\_\_\_\_

Name of Entity's representative completing this Affidavit (print clearly):

\_\_\_\_\_

Title: \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Penalties for Submitting False Information.** If information provided by the entity in this form or by other means is materially false, the entity and the individual providing the false information may be subject to criminal prosecution for perjury, procurement fraud, and other crimes and may be subject to debarment, and all State benefits or contracts to the entity made in reliance upon the inaccurate form or other information may be void or subject to termination for default. See COMAR 24.01.07.

**Attachment M**

**EXHIBIT 1: MBE RESEARCH FACTORS**

**(to be issued via addendum)**