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UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2009

SECTION 01 57 19.11

INDOOR AIR QUALITY (IAQ) MANAGEMENT
11/11

PART 1 GENERAL

1.1 REFERENCES

NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

ASHRAE 52.2 (2007; Addenda B 2008; Errata 2009) Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA 008 (2007) IAQ Guidance for Occupied Buildings Under Construction

U.S. GREEN BUILDING COUNCIL (USGBC)

LEED (2009) Leadership in Energy and Environmental Design(tm) Green Building Rating System for New Construction (LEED-NC)

LEED Reference Guide (2009) LEED-NC Reference Guide for Green Building Design and Construction

1.2 SUBMITTALS

NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Indoor Air Quality (IAQ) Management Plan; G, RO

SD-06 Test Reports

Air contamination testing

SD-11 Closeout Submittals

LEED data for indoor air quality management during construction and before occupancy.

1.3 CONSTRUCTION INDOOR AIR QUALITY (IAQ) MANAGEMENT PLAN

NOTE: Preventing indoor air quality problems resulting from the construction process sustains the comfort and health of construction workers and building occupants. Developing and implementing an IAQ Management Plan contributes to the following LEED credit: EQ3.

Submit an IAQ Management Plan within 30 days after notice to proceed and not less than 10 days before the preconstruction meeting. Revise and resubmit plan as required by the Contracting Officer. Make copies of the final plan available to workers on site. Include provisions in the plan to meet the requirements specified below and to ensure safe, healthy air for construction workers and building occupants.

1.3.1 Requirements During Construction

Use filters with a Minimum Efficiency Reporting Value (MERV) of 8 in permanently installed air handlers that are used during construction.

1.3.1.1 Control Measures

Meet or exceed the requirements of SMACNA 008, Chapter 3, to help minimize contamination of the building from construction activities. The 5 requirements of this manual which shall be adhered to are described below:

- a. HVAC protection: Isolate return side of HVAC system from surrounding environment to prevent construction dust and debris from entering the duct work and spaces.
- b. Source control: Use low emitting paints and other finishes, sealants, adhesives, and other materials as specified. When available, cleaning products shall have a low VOC content and be non-toxic to minimize building contamination. Utilize cleaning techniques that minimize dust generation. Cycle equipment off when not needed. Prohibit idling motor vehicles where emissions could be drawn into building. Designate receiving/storage areas for incoming material that minimize IAQ impacts.
- c. Pathway interruption: When pollutants are generated use strategies such as 100 percent outside air ventilation or erection of physical barriers between work and non-work areas to prevent contamination.
- d. Housekeeping: Clean frequently to remove construction dust and debris. Promptly clean up spills. Remove accumulated water and keep work areas dry to discourage the growth of mold and bacteria. Take extra measures when hazardous materials are involved.

- e. Scheduling: Control the sequence of construction to minimize the absorption of VOCs by other building materials.

1.3.1.2 Moisture Contamination

- a. Remove accumulated water and keep work dry.
- b. Protect porous materials from exposure to moisture.
- c. Remove and replace items which remain damp for more than a few hours.

1.19.2 Requirements After Construction

After construction ends and prior to occupancy, conduct a building flush-out or test the indoor air contaminant levels. Flush-out shall be with MERV-13 filtration media as determined by [ASHRAE 52.2](#) and in accordance with [LEED Reference Guide](#). [Air contamination testing](#) and follow-up actions shall be in accordance with EPA's current Compendium of Methods for the Determination of Air Pollutants in Indoor Air, and with the [LEED Reference Guide](#). After building flush-out or testing and prior to occupancy, replace filtration media. Filtration media shall have a MERV of 13 as determined by [ASHRAE 52.2](#). LEED Reference Guide option for flush-out of occupied building is not permitted.

Submit the results of the air contamination tests to the Contracting Officer's Representative.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 PREPARATION

Store and handle materials in a manner to prevent loss from weather and other damage. Keep materials, products, and accessories covered and off the ground and store in a dry, secure area. Prevent contact with material that may cause corrosion, discoloration, or staining. Protect materials and installations from damage by the activities of other trades.

-- End of Section --