**NOTES TO ARCHITECT/ENGINEER (A/E) & DAS/CS PROJECT MANAGER:**

This version of the Division 01 General Requirements is for **ALL** CT Department of Administrative Services (DAS) Construction Services (CS) **Design-Bid-Build (DBB) AND Construction Manager at Risk (CMR) Capital Construction Projects.**

IMPORTANT NOTE: Section 01 57 40 Construction Indoor Air Quality (IAQ) Management Plan includes requirements for a Construction IAQ Management Plan during construction. Coordinate with requirements of other sections; verify that products and installation methods specified in other sections are environmentally appropriate. Edit to suit location and project.

**EDITING:** To Show the Editing Notes in this MS Word document the show/hide symbol (¶) button must be must turned on in the MS Word Toolbar. To print this document show/hide symbol (¶) must be turned off in the MS Word Toolbar, this will enable the document to indicate the correct number of total pages.

**TEXT:** The below **blue text** are project specific information that must be completed by the A/E as applicable to the specific project. When complete change **blue text** to **black text.** The ***bold and italicized text*** is for example purposes only and must be modified and edited by the A/E to make it project specific. For **text boxes**, left click on **Insert** and then insert project specific information over the word **Insert** in the underlined space.

**TABLES:** To view the Table Grid in this MS Word document, click inside any table, then go to the **Table Tools > Layout** tab, **Table** group, and click **View Gridlines.**

**HEADERS: The header** for each page of the Project Manual shall match the format, font (Arial), size (9 pt), font style (BOLD & CAPITALIZED) and line borders, of the header shown herein. The header of each page shall contain the Section Number, the Section Title, and the page number & number of pages as shown herein.

**FOOTERS: The footer** for each page of the Project Manual shall match the format, font (Arial), size (9 pt), font style (BOLD & CAPITALIZED) and line borders, of the footer shown herein. The footer shall contain the project number in the right hand side as shown herein. The revision date in the left side of the footer is to remain as it is for Department informational purposes only and should not be altered by the Architect/Engineer.

**SECTIONS AND PARAGRAPHS:** If a **Section** is not part of the project scope, **do not use** the Section in the General Requirements. Check “**NOT USED**” in the Table of Contents. **DO NOT delete** the Section title from the Table of Contents.

If a **Paragraph** is not applicable to the project, **delete the contents** of the Paragraph and renumber the subsequent Paragraphs. Edit **Paragraphs** carefully to reflect specific project requirements. DO NOT include Paragraphs or parts of Paragraphs in the project manual, which have no applicability to the specific project. KEEP IN NUMERICAL SEQUENCE and re-number as necessary.

**GENERAL CONDITIONS:** Please review the General Conditions carefully and coordinate the requirements of those Articles including the Definitions.

**DIVISION 01 SECTIONS** are the organizational key of the Project Manual. All revisions to this Division are the responsibility of the A/E. Division 01 must be closely coordinated with Division 00, Divisions 02 through 49, Division 50 (Project-Specific Available Information), the Drawings, and the Department’s Consultant Bid Data Statement (Form 6005, to be filled out by the A/E for bidding).

**IMPORTANT NOTE REGARDING “HIDDEN TEXT”:**

Each document contains Editing Notes in the form of “hidden text”. The Editing Notes assist the Architect in modifying and editing the document to make it project-specific. In order to show the “hidden text”, click the **Home** tab, and in the **Paragraph** group, click the **Show/Hide** symbol (¶). **Turn off** the Show/Hide symbol (¶) **before printing the document** in order to indicate the correct number of pages. **DELETE THIS NOTE.**

**IMPORTANT NOTE REGARDING FORMATTING:**

Insert a blank page at the end of all *odd numbered* specification sections that states “THIS PAGE INTENTIONALLY LEFT BLANK”. **DELETE THIS NOTE.**

PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

#### A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 specification sections, apply to this section.

## 1.2 SUMMARY

#### A. This Section includes:

##### 1. Description of a Construction Indoor Air Quality (IAQ) Management Plan.

##### 2. IAQ construction requirements.

#### B. Related Sections: The following Sections contain requirements that relate to this Section:

##### 1. Divisions 01 through 49 sections for green building rating system requirements specific to the Work of each of those sections. These requirements may or may not include reference to LEED or Green Globes.

##### 2. Division 01 Section 01 45 23.13 "Testing for IAQ, Baseline IAQ, & Materials."

##### 3. Division 01 Section 01 57 30 "Indoor Environmental Control."

##### 4. Division 01 Section 23 05 93 "Testing, Adjusting and Balancing for HVAC" for additional requirements for baseline testing for IAQ.

##### 5. Division 01 Section 23 05 93 "Testing, Adjusting and Balancing for HVAC" for cleaning of HVAC system including ductwork, air intakes and returns, and changing of filters.

## 1.3 REFERENCES

#### A. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE):

##### 1. ASHRAE Standard 52.1-1992, Gravimetric and Dust Spot Procedures for Testing Air Cleaning Devices in General Ventilation for Removing Particulate Matter.

#### B. ASTM International, Inc. (ASTM):

##### 1. ASTM D5116-2006, Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.

#### C. Sheet Metal and Air Conditioning National Contractors’ National Association (SMACNA):

##### 1. IAQ Guidelines for Occupied Buildings under Construction, 1995.

## 1.4 INDOOR AIR QUALITY

#### A. Goals: The Owner has set the following indoor air quality goals for jobsite operations on the project, within the limits of the construction schedule, Contract Sum, and available materials, equipment, products and services. Goals include:

##### 1. Protect workers on the site from undue health risks during construction.

##### 2. Prevent residual problems with indoor air quality in the completed building.

## 1.5 SUBMITTALS

#### A. Indoor Air Quality Plan: Within **fourteen (14)** days after receipt of **[Notice of Award] [****Insert]** and prior to any waste removal from the project, develop and submit for review a healthy indoor air quality plan. The plan shall include:

##### 1. List of IAQ protective measures to be instituted on the site.

##### 2. Schedule for inspection and maintenance of IAQ measures.

## 1.6 QUALITY ASSURANCE

#### A. Perform material tests and report results in accordance with ASTM D5116.

PART 2 - PRODUCTS

## 2.1 SUBSTITUTIONS

#### A. Should the Contractor desire to use procedures, materials, equipment, or products that are not specified but meet the intent of the specifications to protect indoor air quality on the site, the Contractor shall propose these substitutions in accordance with Section 01 60 00 "Product Requirements."

## 2.2 MATERIALS

#### A. Low emitting products have been specified in appropriate sections.

PART 3 - EXECUTION

## 3.1 CONSTRUCTION IAQ MANAGEMENT PLAN

#### A. Meet or exceed the minimum requirements of the SMACNA "IAQ Guidelines for Occupied Buildings Under Construction."

##### 1. Protect the ventilation system components from contamination, OR provide cleaning of the ventilation components exposed to contamination during construction prior to occupancy.

##### 2. After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14000 cu ft of outdoor air per sq ft of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60 percent.

###### a. **[Insert reference to specification section where building air flush-out is specified in detail or insert requirements here.]**

##### 3. If building occupancy is to occur before completion of the flush-out, deliver a minimum of 3500 cu ft of outdoor air per sq ft of floor area to the space. Once the space is occupied, ventilate it at a minimum rate of 0.30 cfm/sq ft of outside air or the design minimum outside air rate determined in accordance with Sections 4 through 7 of ASHRAE 62.1 or applicable local code, whichever is more stringent. During each day of the flush-out period, begin ventilation a minimum of three (3) hours prior to occupancy and continue during occupancy. Maintain these conditions until a total of 14000 cu ft/sq ft of outside air has been delivered to the space.

#### B. During installation of carpet, paints, furnishings, and other VOC-emitting products, provide supplemental (spot) ventilation for at least 72 hours after work is completed. Preferred HVAC system operation uses supply air fans and ducts only; exhaust provided through windows. Use exhaust fans to pull exhaust air from deep interior locations. Stair towers and other paths to exterior can be useful during this process.

#### C. Conduct regular inspection and maintenance of indoor air quality measures including ventilation system protection, and ventilation rate.

#### D. Require VOC-safe masks for workers installing VOC-emitting products (interior and exterior) defined as products that emit 150 gpl or more UNLESS local jurisdiction’s requirements are stricter, in which case the strictest requirements shall be followed for use of VOC-safe masks.

#### E. Use low-toxic cleaning supplies for surfaces, equipment, and worker’s personal use. Options include several soybean-based solvents and cleaning options (SoySolv) and citrus-based cleaners.

#### F. Use wet sanding for gypsum board assemblies. Exception: Dry sanding allowed subject to Architect’s approval of the following measures:

##### 1. Full isolation of space undergoing finishing.

##### 2. Plastic protection sheeting is installed to provide air sealing during sanding.

##### 3. Closure of all air system devices and ductwork.

##### 4. Sequencing of construction precludes the possibility of contamination of other spaces with gypsum dust.

##### 5. Worker protection is provided.

#### G. Use safety meetings, signage, and Contractor agreements to communicate the goals of the construction indoor air quality plan.

END OF SECTION 01 57 40