Management Plan – Indoor Air Quality During Construction (IAQMP)

LEED **v4**

Date Published: 8/7/2018

Version 0.0

Indoor Air Quality Management Plan

Goals and Scope of Work

The will be pursuing LEED® Certification. Pursuant to this end, the owner is committed to maintaining a healthy environment for the occupants of the building.

An Indoor Air Quality Management Plan has been implemented with the following goals:

1. Protect HVAC equipment, maintain a clean project interior, and stage the construction process to prevent build-up of construction dust.
2. Protect construction materials from moisture to discourage mold growth.
3. Limit the quantity of air pollution sources within the project envelope and the means by which dust and pollutants can enter the project.
    a. **The use of tobacco products and vaping is prohibited inside the building and within 25 feet of the building during construction.**

Responsible Parties

CONSTRUCTION has appointed an Indoor Air Quality Management Coordinator to be responsible for implementing, monitoring, and reporting status of IAQ best management practices. This coordinator shall be present at the project site full time for the duration of project.

The coordinator will be responsible for training workers, subcontractors, and suppliers on proper IAQ management procedures as appropriate for the work occurring at project site.

The coordinator will distribute this IAQ management plan to each subcontractor when they first begin work on-site. Workers, subcontractors, and suppliers shall be trained on proper IAQ management procedures as appropriate for the work occurring at project site.

The current IAQ procedures and the construction zones where they are in effect will be reviewed in regular construction management meetings.

All IAQ efforts shall be inspected on a weekly basis by the IAQ Coordinator. Where failures are discovered, efforts will be made to return to compliance within one week. Repeated failures will be discussed at the regular construction meetings.

Implementation Guidance

HVAC Protection
HVAC protection will begin once the equipment is on site.

1. Major HVAC equipment and ductwork should be sealed at the factory and wrapped completely in a non-porous covering. This covering shall be removed only when necessary and if removed, must be replaced prior to installation to prevent equipment and duct from being exposed to airborne contaminants, debris and moisture.
2. Prior to operation, all installed duct openings shall be covered with a non-porous material to prevent airborne contaminants, debris and moisture from entering the duct.
3. Prior to operation, a duct inspection shall be performed by the site superintendent and HVAC contractor to determine if the duct interiors require cleaning.
4. During operation, return duct openings shall be covered with a "MERV 8" filter media that will be changed at regular intervals. Temporary "MERV 8" filter media shall be placed in the supply air stream prior to the main air handling unit filters to protect the main filters during operation. Filter media shall be changed weekly or when a visual inspection deems the filter inadequate. The goal is to complete filter changes more often than necessary to ensure the ductwork stays clean.
    a. Temporary filtration shall only be removed for system testing and balancing to ensure accurate readings.
    b. Prior to occupancy, all temporary filtration shall be removed and all permanent filtration media will be replaced with new product. The date of change and the replacement media should be logged with the Construction Manager.
5. Prior to occupancy, duct cleaning shall be done if the preventive measures listed above have not kept the ductwork clean.
6. A "Filter Log" shall be maintained for each of the filtered areas.

Absorbent Material Protection
The protection of absorbent materials will begin once the products are on site.

7. All absorbent materials shall be covered on all six sides and elevated to prevent absorption, preferably stored in a container or inside the building.
8. In the event an absorbent material gets moist, it shall be replaced, even if already installed.
9. Unless required, installed drywall shall not touch the floor. This will limit absorption of liquids.

Source Control
Pollutant source control will begin once an area is 75% enclosed[1].

10. Smoking and combustion engine use is not allowed inside the building or within 8 meters of any building on site.
    a. If combustion engine use is required for work inside the building, it must use propane or exhaust must be directly ducted to more than 8 meters from the exterior of the building.
11. Outside air used for ventilation should be filtered, kept free from airborne contaminants and construction debris (see HVAC protection).
12. To minimize the levels of Volatile Organic Compounds (VOCs) in the workspace, products with low VOC levels shall be used on this project. If any materials are determined to have high VOC

[1] Enclosure (definition): The part of any building that physically separates the exterior environment from the interior environment.

levels and no alternate is available, a product and activity specific plan to reduce impact shall be prepared, implemented and documented.
13. Containers of materials, such as paints, coatings, adhesives and sealants must be closed when not in use, and either removed from the building or stored in sealed containers when not in use.

Pathway Interruption
Pathway interruption will begin once an area is 75% enclosed.

14. Where occupied zones are next to unfinished zones, temporary doors and walls shall be constructed and sealed to prevent dust, debris, and airborne contaminants from entering the occupied zones. Exit points from the work area shall have temporary, passive or active controls to remove dirt from boots and tires.
15. Where finished zones are next to unfinished zones, temporary air barriers shall be erected to prevent construction activity to prevent dust, debris, and airborne contaminants from entering the finished space. Exit points from the work area shall have temporary, passive or active controls to remove dirt from boots and tires.
16. Where possible, ensure a pressure differential between completed or existing areas and work areas, sufficient to prevent airborne contaminates from spreading to finished spaces.
17. Where unfinished zones are next to unfinished zones, dusty or noxious work should be contained or controlled with temporary air barriers or exhaust fans to prevent dust, debris, and airborne contaminants from spreading to other unfinished spaces.
    a. Dust guards and collectors shall be used on drills, saws and sanders.
    b. If any high VOC products are specified, work areas shall be isolated and exhausted to the exterior, and only workers with the appropriate PPE shall be allowed in that area. Exhausting of this area cannot affect the air quality of any other occupied, finished or unfinished zone.

Housekeeping
Housekeeping will begin once an area is 75% enclosed.

18. The housekeeping plan will follow the recycling guidelines of the Construction Waste Management Plan.
19. All trash, debris and dust shall be cleaned up from the construction area and all floors swept at each Close of Business or 24 hour period.
20. No waste or construction materials will be stored in the AHUs. If not in use, access doors on the AHU's should be locked to prevent storage of any type, or covered with factory wrapping.
21. Petroleum based products shall not be used when sweeping floors. Wherever possible, non-toxic, environmentally friendly cleaning supplies shall be used during the construction process. Approval of cleaners must be granted by the Construction Manager prior to delivery to the site.
22. Vacuum cleaners should be equipped with high efficiency filters.
23. All spills and accumulated water shall cleaned as soon as possible.

Scheduling
Scheduling of systems will begin once an area is 75% enclosed.

24. The use of temporary air handling equipment and/or natural ventilation shall be maximized during working hours to supply fresh air to the space.
25. The use of exhaust fans and negative air machines shall be maximized during the working hours to remove dust and contaminants from the space, but should not jeopardize the building pressure and zone pressure controls.
26. Filter changes will be performed on an as-needed basis and shall be documented on the 'Filter Change Log' (see HVAC protection). An individual filter log shall be kept and attached to all equipment utilizing filters.

27. When a construction schedule is available, air handling units and exhaust fans in operation should be set for the work hours through the building automation system, if available, and local controls if a BAS is not connected.
28. Materials that contain VOC's shall be staged in an open air space for 24 hours before being brought into the building. If no open air space is available on-site, these materials must be a stored in a negatively pressurized area, preferably with direct exhaust, operating 24/7.
29. To minimize the exposure to dust, humidity and VOCs, absorptive materials should be delivered to the site as close as possible to the time they are scheduled to be installed.
30. Drywall should have the prime coat of paint installed as soon as possible after installation.
31. Schedule construction activities such that materials containing VOCs, such as paints, shall be installed prior to absorbent materials whenever possible, or given proper drying time prior to the installation of additional absorptive materials.

Indoor Air Quality and Off-Gassing
Control of off gassing will begin once an area is 75% enclosed.

32. Where possible, outside air provided by ventilation systems or operable windows shall be maximized during the construction period to provide the best air quality for workers in the space. Enclosed space temperatures must be maintained between 60-80 Degrees F (15-27C) whenever possible.

Submittals

The IAQ Management Coordinator will produce a minimum of four (4) IAQ reports, including photographs documenting each IAQ measure (HVAC protection, absorbent material protection, source control, pathway interruption, housekeeping, indoor air quality, and off-gassing) in effect during the phase of construction and pre-occupancy:

1. The exterior walls and roof have been erected, creating an interior space
2. The HVAC equipment and duct are delivered
3. 50% of the HVAC equipment and duct is installed
4. 100% of the HVAC equipment and duct is installed, but prior to ceilings enclosed

Please note: Photographs should be annotated to indicate the IAQ measure depicted and the general location of the photograph.

Additionally, the IAQ Management Coordinator should provide a description of the methods by which absorptive materials (installed or stored on-site) were protected from moisture damage during the construction and preoccupancy phases.

HVAC in Use During Construction
If the project operates permanently installed air handling units during construction, the IAQ Management Coordinator must describe the filtration used on the air handling units.

Submit filter product data for each type of filtration media used during construction and installed immediately prior to occupancy. Include information for installed location, filter manufacturer, filter identification, MERV rating, and pre-occupancy replacement date.

Quality Control

After each IAQ Management progress report is generated, it will be reviewed by the LEED Consultant to ensure compliance with LEED requirements.