SECTION 01561
AIRBORNE CONTAMINANTS CONTROL

PART I - GENERAL

1.01 SUMMARY

A. Section Includes: University airborne contaminants control policy procedures and an Infection Control Risk Assessment (ICRA) and plan.

1.02 POLICY

A. Airborne contaminants control is critical in all hospital areas. Contractor shall limit dissemination of airborne contaminants produced by construction-related activities, including dust, chalk, powders, aerosols, fumes, fibers and other similar materials, in order to provide protection of immuno-compromised and other patients, staff, diagnostic operations, or sensitive procedures or equipment, from possible undesirable effects of exposure to such contaminants.

1. Dust in ceilings and construction debris contains fungus, which if inhaled by patients, can cause pneumonia and even death. Construction activities causing disturbance of existing dust, or creating new dust, or other airborne contaminants, must be conducted in tight enclosures cutting off any flow of particles into patient areas.

2. Ceilings, walls in Protection Areas and other areas in Hospitals as indicated on drawings must be secure at all times.

B. An Infection Control Risk Assessment (ICRA) and plan to mitigate dust is required for each project. The risk assessment identifies patient groups at risk for infection due to construction dust. The dust mitigation plan is designed to contain dust within the construction zone. Some hospitalized patients are fragile. These patients are at risk for acquiring infections from bacteria and viruses that are transported on air currents from the construction zone to the patient areas. Dust is a method for germs to move through the hospital. The ICRA and dust mitigation plan assures a clean, safe environment for the patients hospitalized during construction. Hospital management is expecting your assistance in providing the best possible environment for the patients. We appreciate your partnership in the campaign to prevent a hospital acquired infection related to construction dust.

C. Related Sections:

1. Section 01730 – CUTTING AND PATCHING: Removal of debris may be outside of normal work hours and shall be in tightly covered containers.

2. Section 01350 – SPECIAL PROCEDURES: Perform work in accordance with requirements of this section.

3. Section 01510 – TEMPORARY UTILITIES: Provide high efficiency particulate air (HEPA) filters as specified in Section 01561, negative pressure ventilation, or special control of existing system as determined by University's Representative.
4. Section 01560 – TEMPORARY BARRIERS, ENCLOSURES AND CONTROLS: Extend barriers above ceilings as required to seal off and contain airborne contaminants.

5. Section 01560 – TEMPORARY CONTROLS: Contain waste materials during removal; bagging, wrapping, and transporting.

6. Section 01740 – CLEANING: Use wet cleaning methods and HEPA-filtered vacuum cleaners as required to minimize release of airborne contaminants. Contain waste materials, debris and rubbish as noted above. Disinfect Containment and Protection Areas as directed by University's Representative.

D. Dust Mitigation Requirements for Category I, II, III or IV

1. An ICRA Daily Compliance Survey is also attached at the end of this section. The Contractor must complete and submit this daily checklist to the University's Representative. Any areas of non-compliance must be specifically listed and addressed for corrective measures when identified.

2. Other mitigations as listed by classification are shown on page 11 of this section.

1.03 SUBMITTALS

A. Submit to Project Inspector Daily ICRA Compliance Survey.

B. Schedules: Submit work areas and procedure schedules for containment of airborne contaminants.

C. Work Plan: Drawings and details of construction of necessary temporary barriers, and description of procedures to be used to achieve and maintain control of construction-related airborne contaminants.

1.04 QUALITY CONTROL

A. Pre-construction Meeting: Before any construction on site begins, Contractor's Superintendent is required to attend a mandatory pre-construction orientation session held by University's Representative for training and instruction on precautions to be taken.

B. A written report from a qualified air balance regulator shall be submitted confirming specified air velocity whenever a barricade is erected or modified in designated Protection Area. Negative air machines shall be connected to emergency power and run continuously.

C. Notification: A minimum of fourteen (14) calendar days written notification to University's Representative of possible construction activity causing airborne contaminants in Protection Areas.

D. Training: There will be ICRA training for Contractor's and crews prior to issuance of Security Badge and start of work.
1.05 TESTING

A. Air Samples: University will provide baseline particle counts and conduct periodic air sampling of Protection Areas during construction to monitor effectiveness of containment procedures.

B. Air Pressure: Using visual indicators, University will verify the maintenance of negative air pressure in Containment Area relative to Protection Areas on a daily basis.

1.06 DEFINITIONS

A. Contaminant producing activities include, but are not limited to:
   1. Demolition and removal of walls, floors, ceilings, and other finish materials.
   2. Demolition of plumbing, mechanical and electrical systems and equipment.
   3. Finish operations such as sanding, painting, and application of special surface coatings.

B. Containment Areas: As determined by University's Representative and as shown. Includes area of construction, adjacent staging and storage areas, and passage areas for workers, supplies and waste; includes ceiling spaces above and adjacent to construction, if shown.

C. Protection Areas: As determined by University's Representative and as shown as Protection Areas. Includes hospital areas adjacent to Containment Area, either occupied or used for passage, as well as areas connected to construction area by mechanical system air intake, exhaust and ductwork.

1.07 PERFORMANCE REQUIREMENTS

A. University's Representative's Responsibilities:
   1. Determination of the Containment and Protection Areas, as well as the standard of limitations of the Contractor's responsibilities, required for the project.
   2. Statement of Requirements: Description in graphic and written form as required to communicate the above based on evaluation of the construction area and the impact of the project on patient care.

B. University's Responsibilities:
   1. Assist University's Representative to determine Containment and Protection Areas.
   2. Perform testing and monitoring as specified.

C. Contractor's Responsibilities:
   1. Specific means and methods of achieving and maintaining control of airborne contaminants during construction.
   2. Contractor's shall implement all mitigation measures as listed in the ICRA/Dust Mitigation Plan, Class (I, II, III or IV).
3. Contractor shall ensure that all workers are trained and adhere to the mitigation requirements.

4. Notification: Contractor shall notify University's Representative in writing, a minimum of fourteen (14) calendar days prior to starting construction activity, which might be expected to produce excess levels of airborne contaminants in containment area so that additional precautions may be taken.

PART II - PRODUCTS

2.01 MATERIALS

   A. Carpet or Mats: Provide at barricade entrances, vacuumed or changed as often as necessary to prevent accumulation of dust.

   B. Dust Caps: Block off all existing ventilation ducts within the construction area. Method of capping ducts shall be dust tight and withstand airflow.

   C. Portable Enclosures: Whenever openings are made into existing ceilings, provide portable enclosure enclosing ladder and sealing off opening, fitted tight to ceiling. Refer to Section 01560 for requirements.

   D. Polyethylene: Polyethylene shall be fire retardant type listed by Fire Underwriter's Laboratories, Griffolyn #T55R with Griffolyn fire retardant tape, or equal, (no known equal).

PART III - EXECUTION

3.01 INSPECTION

   A. Before any demolition or construction begins, a complete field review of all Protection Areas (infection control areas) and policies will be conducted and work plan revised if required by Contractor, Inspector and UCDMC Environmental Health & Safety Personnel.

3.02 CONTAINMENT

   A. Requirement: Maintain levels of airborne contaminants within limits as defined.

3.03 PROTECTION

   A. General: Contractors shall completely comply with the ICRA/Dust Mitigation Plan, Class (I, II, III or IV) at the end of this section. Provide and maintain all barriers, filters, ventilation, and cleaning and removal procedures as detailed in work plan.

   B. Sealing of Openings: Use duct-tape or other impenetrable sealant to seal barrier wall seams, cracks around window and doorframes, exhaust system ductwork, pipes, joints and ducts.

   C. Dust Control: The Contractor shall take appropriate steps throughout the term of the Project to prevent airborne dust due to work under this contract. Water shall be applied wherever practical to settle and hold dust to a minimum, particularly during demolition and moving of materials. No chemical palliatives shall be used without permission of the University's Representative.
1. Spray surfaces with water during dust-producing interior demolition activities. Hard surface floors in work area, adjacent hallways and passage areas require vacuuming with HEPA-filtered vacuum cleaners and frequent wet-mopping during demolition and construction; protect adjacent carpeted areas with plastic and plywood and vacuum with HEPA-filtered vacuum cleaners.

2. Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent airborne dust from dispersing into atmosphere.

3. Any dust tracked outside of barrier shall be removed immediately.

D. Airborne contaminant barriers or infection control barriers shall be dust-tight. Any dust tracked outside of barrier shall be removed immediately, as specified. All cleaning outside barrier should be by HEPA-filtered vacuum or other approved method.

E. Negative air machines as described herein shall provide airflow into construction area not less than 100 fpm at barricade entrances with doors fully open.

F. Air Quality Infection Control: Fasten windows shut, ventilate barricaded construction areas by use of negative air machines exhausted through filters to the outside of building.

1. Provide a minimum of 2 negative air machines and cease any demolition in high-risk areas not services by negative air machines. Vent negative air machines to outside by removing existing windows and replacing them with vented sheet metal panels having fittings for exhaust holes. Provide added local exhaust during welding.

2. Maintain a minimum airflow of 100 ±10 FPM with door fully open at barricade entrance openings.

3. Change HEPA-filters as frequently as necessary for duration of the project to maintain a negative pressure of 0.02" WG in the construction area and filter particles as small as 0.12 microns in size.

4. Negative air units are to be DOP tested and certified prior to being placed in service, after a HEPA filter change, and when dropped or damaged or moved extensively.

G. Workers: Instruct workers to refrain from tracking dust into adjacent hospital areas or opening windows or doors that allows airborne contaminants into adjacent hospital areas.

H. Exterior Work: The Contractors will, at their own expense, direct exhaust from equipment away from building air intakes; assure that filters on building air intakes are operational and protected from excessive amounts of airborne contaminants.

I. Any ceiling access panels opened for investigation beyond sealed areas shall be replaced immediately when unattended.

1. Whenever access panels are opened in occupied areas, for work above ceilings, provide duct tight polyethylene enclosure enclosing ladder and sealing off opening, fitted tight to ceiling.

J. Provide thorough cleaning of existing surfaces, which become exposed to dust, before start of University's room occupancy.
K. Removal of construction barriers and ceiling protection shall be done carefully, in Protection Areas (Infection Control), possibly outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.

L. All vacuuming outside areas not under negative pressure shall be with a certified HEPA-filtered vacuum as described.

M. All removal of debris shall occur daily and deposited to the outside in tightly covered containers.

N. Contractor must block off or install temporary filters at existing ventilation intakes that may receive dust from construction area.

O. All polyethylene and other materials used for temporary enclosures shall be fire retardant type.

3.04 ENFORCEMENT

A. Process: Failure to maintain required containment will result in issuance of written warning; if situation is not corrected within eight (8) hours of receipt of warning, University will have cause to stop the work as provided in Article 2.1 (if Brief Form) or 2.3 (if Long Form) of the General Conditions. Any egregious violation of safety requirements shall be grounds for Immediate Work Stoppage.

3.05 SCHEDULE OF REQUIREMENTS

A. Baseline levels of dust particles and Aspergillus spores in Protection Areas and levels not to be exceeded during construction are shown on the following page.

END OF SECTION 01561
ICRA TRAINING TEST FOR CONSTRUCTION PERSONNEL

NAME: 

EMPLOYER: 

DATE: 

PROJECT: 

1. What is the reason for keeping the construction zone clean and dust free?
   a. To make sure patients do not develop illness caused by construction dust.
   b. To keep the dust particles in the air at a minimum because dust can carry germs through the air to the patients and cause illness.
   c. Both a. and b.

2. A project can be shut down if there is too much dust.
   a. True
   b. False

3. Circle each way you can prevent dust from getting into patient areas.
   a. Enter and leave the construction zone on the designated path assigned by the project coordinator.
   b. Wash my hands when leaving the construction zone.
   c. Walk over the tacky mats to remove dust from my shoes.
   d. Don’t go into public areas with dust on my clothing. I remove dust from my clothing before leaving the construction zone.
   e. Make sure all demolition materials are placed in a closed, sealed container before taking it outside. I use the egress designated for the crew.
   f. Floors are damp mopped hourly to keep them dust free.
   g. I use a HEPA filter vacuum to clean dust from floors for Class IV activities. Brooms create too much dust.
## Daily ICRA Compliance Survey

**Date** ________________  **Time** ________________

### Barriers
- **Appropriate for patient population/project**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Construction signs posted for the area**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Doors properly closed and sealed**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Tacky mats clean and adequate**
  - ☐ yes  ☐ no  
  - **Comment:**

### Air Handling
- **All windows closed behind barrier**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Negative air at barrier entrance**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Negative air machine running**
  - ☐ yes  ☐ no  
  - **Comment:**

### Project Area
- **Demolition debris removed in covered container**
  - ☐ yes  ☐ no  
  - **Comment:**

- **No fans in use**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Trash in appropriate containers**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Routine clearing done on job site**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Floors mopped hourly**
  - ☐ yes  ☐ no  
  - **Comment:**

### Traffic Control
- **Restricted to construction personnel & necessary staff only**
  - ☐ yes  ☐ no  
  - **Comment:**

- **All doors and exits free of debris**
  - ☐ yes  ☐ no  
  - **Comment:**

- **Designated elevator is used**
  - ☐ yes  ☐ no  
  - **Comment:**

### Dress Code
- **No visible dust on clothing when crew member is outside construction zone**
  - **Comment:**

  - ☐ yes  ☐ no  
  - **Required to enter**
  - ☐ yes  ☐ no  
  - **Required to leave**
  - ☐ yes  ☐ no

**Actions taken by Surveyor:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

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AIRBORNE CONTAMINANTS CONTROL  
07/2014 Edition
INFECTION CONTROL RISK ASSESSMENT
MATRIX OF PRECAUTIONS FOR CONSTRUCTION & RENOVATION

Project Title: 
Project No.: 
Location: 
Scope of work:

Step 1:
Using the following table, identify the **Type of Construction Project Activity (Type A-D)**

<table>
<thead>
<tr>
<th>TYPE A</th>
<th>Inspection and Non-Invasive Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Includes, but is not limited to:</td>
</tr>
<tr>
<td></td>
<td>• removal of ceiling tiles for visual inspection only, e.g., limited to 1 tile per 50 square feet</td>
</tr>
<tr>
<td></td>
<td>• painting (but not sanding)</td>
</tr>
<tr>
<td></td>
<td>• wall covering, electrical trim work, minor plumbing, and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE B</th>
<th>Small scale, short duration activities which create minimal dust</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Includes, but is not limited to:</td>
</tr>
<tr>
<td></td>
<td>• installation of telephone and computer cabling</td>
</tr>
<tr>
<td></td>
<td>• access to chase spaces</td>
</tr>
<tr>
<td></td>
<td>• cutting of walls or ceiling where dust migration can be controlled</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE C</th>
<th>Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Includes, but is not limited to:</td>
</tr>
<tr>
<td></td>
<td>• sanding of walls for painting or wall covering</td>
</tr>
<tr>
<td></td>
<td>• removal of floor coverings, ceiling tiles and casework</td>
</tr>
<tr>
<td></td>
<td>• new wall construction</td>
</tr>
<tr>
<td></td>
<td>• minor duct work or electrical work above ceilings</td>
</tr>
<tr>
<td></td>
<td>• major cabling activities</td>
</tr>
<tr>
<td></td>
<td>• any activity which cannot be completed within a single work shift</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE D</th>
<th>Major demolition and construction projects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Includes, but is not limited to:</td>
</tr>
<tr>
<td></td>
<td>• activities which require consecutive work shifts</td>
</tr>
<tr>
<td></td>
<td>• requires heavy demolition or removal of a complete cabling system</td>
</tr>
<tr>
<td></td>
<td>• new construction</td>
</tr>
</tbody>
</table>

Step 1:
Step 2:
Using the following table, **identify the Patient Risk Groups** that will be affected. If more than one risk group will be affected, select the higher risk group:

<table>
<thead>
<tr>
<th>Low Risk</th>
<th>Medium Risk</th>
<th>High Risk</th>
<th>Highest Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Office Areas</td>
<td>• Cardiology</td>
<td>• CCU</td>
<td>• Any area caring for immunocompromised patients</td>
</tr>
<tr>
<td></td>
<td>• Echocardiography</td>
<td>• Emergency Room</td>
<td>• Burn Unit</td>
</tr>
<tr>
<td></td>
<td>• Endoscopy</td>
<td>• Labor &amp; Delivery</td>
<td>• Cardiac Cath Lab</td>
</tr>
<tr>
<td></td>
<td>• Nuclear Medicine</td>
<td>• Laboratories (specimen)</td>
<td>• Central Sterile Supply</td>
</tr>
<tr>
<td></td>
<td>• Physical Therapy</td>
<td>• Medical Units</td>
<td>• Intensive Care Units</td>
</tr>
<tr>
<td></td>
<td>• Radiology/MRI</td>
<td>• Newborn Nursery</td>
<td>• Negative pressure isolation rooms</td>
</tr>
<tr>
<td></td>
<td>• Respiratory Therapy</td>
<td>• Outpatient Surgery</td>
<td>• Oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pediatrics</td>
<td>• Operating rooms including C-section rooms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pharmacy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Post Anesthesia Care Unit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Surgical Units</td>
<td></td>
</tr>
</tbody>
</table>

Step 2:  

Step 3:  
Match the  
- **Patient Risk Group** (Low, Medium, High, Highest) with the planned...  
- **Construction Project Type** (A, B, C, D) on the following matrix to find the...  
- **Class of Precautions** (I, II, III, IV) or level of infection control activities required.  
- **Class I-IV or Color-Coded Precautions** are delineated on the following page.

**IC Matrix – Class of Precautions: Construction Project by Patient Risk**

<table>
<thead>
<tr>
<th>Construction Project Type</th>
<th>Patient Risk Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LOW Risk Group</td>
</tr>
<tr>
<td></td>
<td>MEDIUM Risk Group</td>
</tr>
<tr>
<td></td>
<td>HIGH Risk Group</td>
</tr>
<tr>
<td></td>
<td>HIGHEST Risk Group</td>
</tr>
<tr>
<td>Type A</td>
<td>I</td>
</tr>
<tr>
<td>Type B</td>
<td>II</td>
</tr>
<tr>
<td>Type C</td>
<td>II</td>
</tr>
<tr>
<td>Type D</td>
<td>III / IV</td>
</tr>
</tbody>
</table>

**Note:** Infection Control approval will be required when Construction Activity and Risk Level indicate the CLASS III or CLASS IV control procedures are necessary.

Step 3:
### Description of Required Infection Control Precautions by Class

<table>
<thead>
<tr>
<th>Class</th>
<th>During Construction Project</th>
<th>Upon Completion of Project</th>
</tr>
</thead>
</table>
| **I** | 1. Execute work by methods to minimize raising dust from construction operations.  
2. Immediately replace a ceiling tile displaced for visual inspection. | 1. Clean work area upon completion of task. |
| **II** | 1. Provide active means to prevent airborne dust from dispersing into atmosphere.  
2. Water mist work surfaces to control dust while cutting.  
3. Seal unused doors with duct tape.  
4. Block off and seal air vents.  
5. Place dust mat at entrance and exit of work area.  
6. Remove or isolate HVAC system in areas where work is being performed. | 1. Wipe work surfaces with cleaner/disinfectant.  
2. Contain construction waste before transport in tightly covered containers.  
3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.  
4. Upon completion, restore HVAC system where work was performed. |
| **III** | 1. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system.  
2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins.  
3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.  
5. Cover transport receptacles or carts. Tape covering unless solid lid. | 1. Do not remove barriers from work area until completed project is inspected by the owner’s Safety Department and Infection Prevention & Control Department and thoroughly cleaned by the owner’s Environmental Services Department.  
2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.  
3. Vacuum work area with HEPA filtered vacuums.  
4. Wet mop area with cleaner/disinfectant.  
5. Upon completion, restore HVAC system where work was performed. |
| **IV** | 1. Isolate HVAC system in area where work is being done to prevent contamination of duct system.  
2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins.  
3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.  
4. Seal holes, pipes, conduits, and punctures.  
5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave work site.  
6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. | 1. Do not remove barriers from work area until completed project is inspected by the owner’s Safety Department and Infection Prevention & Control Department and thoroughly cleaned by the owner’s Environmental Services Dept.  
2. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction.  
3. Contain construction waste before transport in tightly covered containers.  
4. Cover transport receptacles or carts. Tape covering unless solid lid.  
5. Vacuum work area with HEPA filtered vacuums.  
6. Wet mop area with cleaner/disinfectant.  
7. Upon completion, restore HVAC system where work was performed. |

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Steps 4-14 Adapted with permission Fairview University Medical Center Minneapolis, MN Forms modified/updated; provided courtesy of Judene Bartley, ECSI Inc. Beverly Hills, MI 2002. jbartley@ameritech.net – Updated, 2009.
**Step 4:** Identify the areas surrounding the project area, assessing potential impact

<table>
<thead>
<tr>
<th>Unit Below</th>
<th>Unit Above</th>
<th>Lateral</th>
<th>Lateral</th>
<th>Behind</th>
<th>Front</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
</tr>
</tbody>
</table>

**Step 5:** Identify specific site of activity e.g., patient rooms, medication room, etc.

**Step 6:** Identify issues related to: ventilation, plumbing, electrical in terms of the occurrence of probable outages.

**Step 7:** Identify containment measures, using prior assessment. What types of barriers? (e.g., solids wall barriers, etc.); Will HEPA filtration be required?

(Note: Renovation/construction area shall be isolated from the occupied areas during construction and shall be negative with respect to surrounding areas)

**Step 8:** Consider potential risk of water damage. Is there a risk due to compromising structural integrity? (e.g., wall, ceiling, roof, etc.)

**Step 9:** Work hours: Can or will the work be done during non-patient care hours?

**Step 10:** Do plans allow for adequate number of isolation/negative airflow rooms?

**Step 11:** Do the plans allow for the required number & type of handwashing sinks?

**Step 12:** Does the infection prevention & control staff agree with the minimum number of sinks for this project? (Verify against FGI Design and Construction Guidelines for types and area)

**Step 13:** Does the infection prevention & control staff agree with the plans relative to clean and soiled utility rooms?

**Step 14:** Plan to discuss the following containment issues with the project team, e.g., traffic flow, housekeeping, debris removal (how and when), etc.

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**APPENDIX:** IDENTIFY AND COMMUNICATE THE RESPONSIBILITY FOR PROJECT MONITORING THAT INCLUDES INFECTION PREVENTION & CONTROL CONCERNS AND RISKS. THE ICRA MAY BE MODIFIED THROUGHOUT THE PROJECT. REVISIONS MUST BE COMMUNICATED TO THE PROJECT MANAGER.

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Steps 4-14 Adapted with permission Fairview University Medical Center Minneapolis, MN Forms modified /updated; provided courtesy of Judene Bartley, ECSI Inc. Beverly Hills, MI 2002. jbartley@ameritech.net – Updated, 2009.
### Infection Control Construction Permit

| Permit No.: |  |

**Location of Construction:**

**Project Coordinator:**

**Contractor Performing Work:**

**Supervisor:**

**Telephone:**

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>CONSTRUCTION ACTIVITY</th>
<th>YES</th>
<th>NO</th>
<th>INFECTION CONTROL RISK GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TYPE A: Inspection, non-invasive activity</td>
<td>GROUP 1: Low Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TYPE B: Small scale, short duration, moderate to high levels</td>
<td>GROUP 2: Medium Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TYPE C: Activity generates moderate to high levels of dust, requires greater 1 work shift for completion</td>
<td>GROUP 3: Medium/High Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TYPE D: Major duration and construction activities requiring consecutive work shifts</td>
<td>GROUP 4: Highest Risk</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### CLASS I
1. Execute work by methods to minimize raising dust from construction operations.
2. Immediately replace any ceiling tile displaced for visual inspection.
3. Minor Demolition for Remodeling

#### CLASS II
1. Provides active means to prevent air-borne dust from dispersing into atmosphere
2. Water mist work surfaces to control dust while cutting.
3. Seal unused doors with duct tape.
4. Block off and seal air vents.
5. Wipe surfaces with cleaner/disinfectant.
6. Contain construction waste before transport in tightly covered containers.
7. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.
8. Place dust mat at entrance and exit of work area.
9. Isolate HVAC system in areas where work is being performed; restore when work completed.

#### CLASS III
1. Obtain infection control permit before construction begins.
2. Isolate HVAC system in area where work is being done to prevent contamination of the duct system.
3. Complete all critical barriers or implement control cube method before construction begins.
4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
5. Do not remove barriers from work area until complete project is checked by Infection Prevention & Control and thoroughly cleaned by Environmental Services.
6. Vacuum work with HEPA filtered vacuums.
7. Wet mop with cleaner/disinfectant
8. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.
10. Cover transport receptacles or carts. Tape covering.
11. Upon completion, restore HVAC system where work was performed.
12. All personnel entering work site are required to wear shoe covers.

#### CLASS IV
1. Obtain infection control permit before construction begins.
2. Isolate HVAC system in area where work is being done to prevent contamination of duct system.
3. Complete all critical barriers or implement control cube method before construction begins.
4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
5. Seal holes, pipes, conduits, and punctures appropriately.
6. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site.
7. Do not remove barriers from work area until completed project is checked by Infection Prevention & Control and thoroughly cleaned by Environmental Services.
8. Vacuum work area with HEPA filtered vacuums.
9. Wet mop with disinfectant.
10. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.
11. Contain construction waste before transport in tightly covered containers.
12. Cover transport receptacles or carts. Tape covering.
13. Upon completion, restore HVAC system where work was performed.

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**Additional Requirements:**

**EXCEPTIONS/ADDITIONS TO THIS PERMIT ARE NOTED BY ATTACHED MEMORANDA.**

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<th>Date</th>
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**Steps 1-3 Adapted with permission V. Kennedy, B. Barnard, St. Luke Episcopal Hospital, Houston, TX; C Fire CA**

**Steps 4-14 Adapted with permission Fairview University Medical Center Minneapolis, MN Forms modified updated; provided courtesy of Judene Bartley, ECSI Inc. Beverly Hills, MI 2002. Jbartley@ameritech.net – Updated, 2009.**

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AIRBORNE CONTAMINANTS CONTROL

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