# ICRA 2.0 INFECTION CONTROL RISK ASSESSMENT AND PERMIT

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|---|---|---|---|
| **Project Name** | | **ICRA Number** | |
| **Description** | | | |
| **Project Location** | | **Project Start Date** | |
| **Estimated Duration** | | **Expiration Date** | |
| **Facility Project Manager** | | **Phone** | |
| **Supervisor** | | **Phone** | |
| **Contractor / Vendor** | | **Phone** | |

**1. Construction Activity – Explain Reasoning for Assessment / Choice**

| Activity | | Type A | | Type B | | Type C | | Type D |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

**2. Patient Risk – Describe Key Patient Risks**

| Activity | | Low | | Medium | | High | | Highest |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

**3. Class of Precautions**

| | | Type A | | Type B | | Type C | | Type D |
|---|---|---|---|---|---|---|---|---|
| **Low** | | I | | II | | II | | III |
| **Medium** | | I | | II | | III | | IV |
| **High** | | I | | III | | IV | | V |
| **Highest** | | III | | IV | | V | | V |

**4. Surrounding Areas**

| | Below | Above | Lateral | Behind | In Front |
|---|---|---|---|---|---|
| **Unit** | | | | | |
| **Risk Group** | | | | | |
| **Contact** | | | | | |
| **Phone** | | | | | |
| **Controls** | Noise | Noise | Noise | Noise | Noise |
| | Vibration | Vibration | Vibration | Vibration | Vibration |
| | Dust | Dust | Dust | Dust | Dust |
| | Ventilation | Ventilation | Ventilation | Ventilation | Ventilation |
| | Pressurization | Pressurization | Pressurization | Pressurization | Pressurization |
| **Systems Impacted** | Data | Data | Data | Data | Data |
| | Mechanical | Mechanical | Mechanical | Mechanical | Mechanical |
| | Med Gas | Med Gas | Med Gas | Med Gas | Med Gas |
| | Hot/Cold H20 | Hot/Cold H20 | Hot/Cold H20 | Hot/Cold H20 | Hot/Cold H20 |
| | Other | Other | Other | Other | Other |

*Were there discoveries in surrounding areas that would serve as cause to increase the class of precautions and necessitate additional controls? If so, please summarize*

| | Yes | | No | |
|---|---|---|---|---|
| | | | | |

**5. Approval**

| | | | |
|---|---|---|---|
| **Additional Requirement(s):** | | | |
| **Permit Requested by** | | **Date** | |
| **Permit Authorized By** | | **Date** | |

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| CLASS | ✓ | CLASS MITIGATION OPTIONS<br>*Select measures required for this project based on the class of precautions, work activity, surrounding risk, and site-specific conditions. Not every listed measure will apply to every project.* |
|---|---|---|
| I | | This class of precautions is used for noninvasive work only. |
| | | Perform noninvasive work, without blocking or interrupting patient care, outside directly occupied patient areas. |
| | | Perform work using methods that do not generate dust |
| | | Replace ceiling tile immediately. |
| | | No HVAC adjustments required. |
| II | | This Class of Precautions must never be used for construction or renovation activities. |
| | | Perform only limited dust work and/or activities designed for basic facilities and engineering work per facility procedures. |
| III | | Install active systems (e.g., negative air machines) to prevent dust from entering occupied areas |
| | | Use dust-control methods such as HEPA vacuuming, plastic containment, or closing the room door. |
| | | Water mist work surfaces to control dust while cutting. |
| | | Remove or isolate return air diffusers to prevent dust from entering the HVAC system. |
| | | Remove or isolate supply air diffusers to prevent positive pressurization of the work area. |
| | | Seal all doors and openings as needed with tape that will not leave residue. |
| | | If the work area is contained, maintain neutral-to-negative pressure. |
| | | Contain all trash and debris inside the construction zone. |
| | | Transport debris in nonporous, smooth, cleanable containers with hard lids. |
| | | Damp-wipe all containers to ensure they are free of visible dust and debris before removing them from the work area. |
| | | Install adhesive dust-control mats at the entrance to the contained work area. |
| | | Change adhesive dust-control mats routinely and when visibly soiled. |
| | | Damp mop or HEPA vacuum surrounding areas when the work area is not fully contained. |
| IV | | Apply applicable Class III debris-control and housekeeping measures. |
| | | Consider particulate monitoring to ensure contaminants do not enter occupied areas. |
| | | Use solid barriers, meeting NFPA 241/fire safety codes, that extend to the ceiling or, if ceiling tile is removed, to the deck above. |
| | | Ensure plastic or hard barriers are tightly secured to the ceiling and floor. |
| | | If using plastic barriers, apply tape that will not leave a residue to seal gaps between barriers, ceiling, or floor. |
| | | Close all gaps in the barrier (walls, floor, ceiling) using approved firestop materials. |
| | | For small work areas, use an approved containment unit with HEPA-filtered exhaust when appropriate. |
| | | Remove or isolate return air diffusers to prevent dust from entering the HVAC system. |
| | | Remove or isolate supply air diffusers to prevent positive pressurization of the work area. |
| | | Negative airflow pattern must be maintained from the entry point to the anteroom and into the construction area. |
| | | Maintain negative pressurization of the entire workspace by use of HEPA exhaust air systems directed outdoors. |
| | | Outdoor exhaust discharged ≥25 feet from entrances, air intakes, and windows does not require HEPA filtration. |
| | | If exhaust is directed indoors, use HEPA filtration with ≥99.97% efficiency without altering adjacent airflow/pressure. |
| | | Exhaust into shared or recirculating HVAC systems, or other shared exhaust systems (e.g., bathroom exhaust) is not acceptable. |
| | | Use a device outside containment to continuously monitor negative pressure; use a visual indicator when available. |
| | | Do not track dust or debris outside containment; HEPA vacuum clothing or use cover suits as needed. |
| | | Workers must wear shoe covers prior to entry into the work area. |
| | | Shoe covers must be changed when damaged and prior to exiting the anteroom to the occupied space. |
| V | | Apply all applicable Class IV controls, plus the measures below. |
| | | Construct an anteroom adjacent to the work area for personnel, equipment staging, and cart cleaning. |
| | | Seal all containment and anteroom penetrations, including floors and ceilings, with approved materials; use UL-rated firestop when applicable. |
| | | Personnel are required to wear disposable coveralls during Class V work; Coveralls must be removed before exiting the anteroom. |
| | | Prior to the start of work, HEPA filtration must be verified by particulate measurement at no less than 99.97% efficiency and must not alter or change airflow/pressure relationships in other areas. |

*Environmental conditions that could affect human health, such as **sewage, mold, asbestos, gray water and black water** will require Class of Precautions IV for LOW and MEDIUM Risk Groups and Class of Precautions V for HIGH and HIGHEST Risk Groups.*

**Type C [Medium Risk groups] and Type D [Low Risk Groups] work areas [Class III precautions] that cannot be sealed and completely isolated from occupied patient care spaces should be elevated to include negative air exhaust requirements as listed in Class IV Precautions.*

## Table 6 - Minimum Required Infection Control Precautions | Upon Completion of Work Activity

| | Class of Precautions | Mitigation Activities |
|---|---|---|
| | **Classes I, II and III** | **Cleaning:**<br>1. Clean work areas, including all environmental surfaces, high horizontal surfaces, and flooring materials at the end of each workday and upon project completion.<br>2. Check all supply and return air registers for dust accumulation on upper surfaces as well as air diffuser surfaces.<br><br>**HVAC Systems:**<br>1. Remove isolation of the HVAC system in areas where work is being performed.<br>2. Verify that HVAC systems are clean and operational.<br>3. Verify the HVAC systems meet original airflow and air exchange design specifications. |
| | **Classes III, IV and V** | *Class III (Type C Activities only), IV, and V precautions require inspection and documentation for downgraded ICRA precautions.*<br><br>*Construction areas must be inspected by an infection preventionist or designee and engineering representative for discontinuation or downgrading of ICRA precautions.*<br><br>**Work Area Cleaning:**<br>1. Clean work areas, including all environmental surfaces, high horizontal surfaces and flooring materials at the end of each workday and upon project completion.<br>2. Check all supply and return air registers for dust accumulation on upper surfaces as well as air diffuser surfaces.<br><br>**Removal of Critical Barriers:**<br>1. Critical barriers must remain in place during all work involving drywall removal, creation of dust and activities beyond simple touch-up work. The barrier may NOT be removed until a work area cleaning has been performed.<br>2. All (plastic or hard) barrier removal activities must be completed in a manner that prevents dust release. Use the following precautions when removing hard barriers:<br>• Carefully remove screws and painter tape.<br>• If dust will be generated during screw removal, use hand-held HEPA vacuum.<br>• Drywall cutting is prohibited during removal process.<br>• Clean all stud tracks with HEPA vacuum before removing outer hard barrier.<br>• Use a plastic barrier to enclose area if dust could be generated.<br><br>**Negative Air Requirements:**<br>1. Negative air must effectively remove contaminants from the work area.<br>2. Negative air devices must remain operational at all times and in place for a period after completion of dust-creating activities to remove contaminants from the work area and before removal of critical barriers.<br><br>**HVAC systems:**<br>1. Upon removal of critical barriers, remove isolation of HVAC system in areas where work is being performed.<br>2. Verify that HVAC systems are clean and operational.<br>3. Verify the HVAC systems meet original airflow and air exchange design specifications. |

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## Appendix A: Construction & Renovation Type

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| **TYPE A** | **Inspection and noninvasive activities**<br>Includes, but is not limited to: • Removal of ceiling tile for visual inspection-limited to 1 tile per 50 square feet with limited exposure time. • Limited building system maintenance (e.g., pneumatic tube station, HVAC system, fire suppression system, electrical and carpentry work to include painting without sanding) that does not create dust or debris. • Limited clean plumbing activity.. |
| **TYPE B** | **Small-scale, short duration activities that create minimal dust and debris**<br>Includes, but is not limited to: • Work conducted above the ceiling (e.g., prolonged inspection or repair of firewalls and barriers, installation of conduit and/or cabling, and access to mechanical and/or electrical chase spaces). • Fan shutdown/startup. • Installation of electrical devices or new flooring that produces minimal dust and debris. • The removal of drywall where minimal dust and debris is created. • Controlled sanding activities (e.g., wet or dry sanding) that produce minimal dust and debris. |
| **TYPE C** | **Large-scale, longer duration activities that create a moderate amount of dust and debris**<br>Includes, but is not limited to: • Removal of preexisting floor covering, walls, casework or other building components. • New drywall placement. • Renovation work in a single room. • Non-existing cable pathway or invasive electrical work above ceilings. • The removal of drywall where a moderate amount of dust and debris is created. • Dry sanding where a moderate amount of dust and debris is created. • Work creating significant vibration and/or noise. • Any activity that cannot be completed in a single work shift. |
| **TYPE D** | **Major demolition and construction projects**<br>Includes, but is not limited to: • Removal or replacement of building system component(s). • Removal/installation of drywall partitions. • Invasive large-scale new building construction. • Renovation work in two or more rooms. |

## Appendix B: Patient Risk Group

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| **LOW**<br>*Non-patient care areas* | • Office areas<br>• Public hallways/gathering areas not on clinical units<br>• Breakrooms, bathrooms, locker rooms, mechanical rooms, and EVS closets not on clinical units |
| **MEDIUM**<br>*Patient care support areas* | • Waiting areas<br>• Materials Management<br>• Sterile Processing Department – dirty side<br>• Kitchen, cafeteria, gift shop, coffee shop, food kiosks<br>• Biomedical Engineering |
| **HIGH**<br>*Patient care areas* | • Emergency Department<br>• Labor & Delivery<br>• Newborn Nursery<br>• All acute-care units<br>• Patient rooms and patient-care areas<br>• Employee Health<br>• Laboratories<br>• Medication rooms and clean utility rooms<br>• Pharmacy — general/nonsterile work areas<br>• Diagnostic imaging areas (e.g., Cardiology/Echocardiology, MRI, Nuclear Medicine, and Radiology)<br>• Physical Therapy<br>• Respiratory Therapy |
| **HIGHEST**<br>*Procedural, invasive, sterile support and highly compromised patient care* | • Intensive Care Units (e.g., ICU, CCU, NICU, PICU)<br>• Oncology and transplant units<br>• Operating rooms and restricted areas<br>• Procedural suites (e.g., Endoscopy, Cardiac Cath Lab)<br>• PACU<br>• Invasive imaging<br>• Pharmacy — sterile compounding<br>• Sterile Processing Department — clean side<br>• Transfusion Services<br>• Dedicated isolation wards/units<br>• Airborne Infection Isolation Rooms (AIIRs)/negative-pressure rooms, as designated by facility risk assessment<br>• Other areas caring for highly immunocompromised patients |

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## Appendix C: Surrounding Area Mitigation Strategies

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| **Noise & Vibration Mitigation Strategies** | |
| | **Use diamond drills instead of powder-actuated fasteners** |
| | **Schedule noise-making periods with adjacent spaces** |
| | **Use beam clamps instead of powder-actuated fasteners** |
| | **Prefab where possible** |
| | **Use tin snips to cut metal studs instead of using a chop saw** |
| | **Install metal decking with vent tabs, then use cellular door deck hangers** |
| | **Consider compression style settings instead of soldering, brazing, or welding** |
| | **Wet core drill instead of dry core or percussion** |
| | **Instead of jackhammering concrete, use wet diamond saws** |
| | **Use HEPA vacuums instead of standard wet/dry vacuums** |
| | **Use mechanical joining system sprinkler fittings instead of threaded** |
| | **Where fumes are tolerated, use chemical adhesive remover (flooring glue) instead of mechanical** |
| | **To remove flooring, consider abrasive blasting instead of using a floor scraper** |
| | **Use electric sheers instead of reciprocating saw for ductwork cutting** |
| | **Install exterior man/material lifts** |
| **Ventilation & Pressurization Mitigation Strategies** | |
| | **HEPA-filter exhaust to exterior** |
| | **Install temporary ductwork** |
| | **Utilize temporary HVAC equipment** |
| | **Temporarily vacate the affected area** |
| | **Install temporary partitions** |
| | **Use carbon filtration to filter odors** |
| **Impact to Other Systems Mitigation Strategies** | |
| | **Schedule outages** |
| | **Provide temporary systems** |
| | **Back-feed electricity or medical gases** |

**References**:


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