

CENTRAL TEXAS Veterans HEALTH Care SYSTEM

**Infection Control Risk Assessment
Matrix of Precautions for Construction & Renovation**

Definitions of Construction Activity Types: The construction activity types are defined by the amount of dust generated, the duration of the activity, and the amount of shared HVAC systems. Contact Infection Control Section if any activity is questionable under these guidelines.

Project Location/Number: *Phase 1st and 2nd floor CLC units*
Building 11 addition to 1st and 2nd floor CLC units

Step One:

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

TYPE A	Inspection and Non-Invasive Activities. Includes, but is not limited to: <ul style="list-style-type: none">▪ removal of ceiling tiles for visual inspection limited to 1 tile per 50 square feet▪ painting (but not sanding)▪ 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.
TYPE B	Small scale, short duration activities which create minimal dust Includes, but is not limited to: <ul style="list-style-type: none">▪ installation of telephone and computer cabling▪ access to chase spaces▪ cutting of walls or ceiling where dust migration can be controlled.
TYPE C	Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies Includes, but is not limited to: <ul style="list-style-type: none">▪ sanding of walls for painting or wall covering▪ removal of floor coverings, ceiling tiles and casework▪ new wall construction▪ minor duct work or electrical work above ceilings▪ major cabling activities
TYPE D	Major demolition and construction projects Includes, but is not limited to: <ul style="list-style-type: none">▪ heavy demolition or removal of a complete cabling system▪ new construction

Steps 1-3 Adapted and modified with permission V Kennedy, B Barnard, St Luke Episcopal Hospital, Houston TX

STEP 1: Select Type: ☐A ☐B ☐C ☒D

Comments: _____

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Step Two:

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:

Group 1 Lowest	Group 2 Medium	Group 3 Medium-High	Group 4 Highest
<ul style="list-style-type: none"> ▪ Administrative Offices /Areas ▪ Areas not adjacent to patient care activities ▪ Unoccupied detached buildings 	<ul style="list-style-type: none"> ▪ Cardiology ▪ Echocardiography ▪ Nuclear Medicine ▪ Radiology/MRI ▪ Endoscopy/GI ▪ Ct Scan/Ultrasound ▪ PM&RS <ul style="list-style-type: none"> -PT -OT -KT ▪ Respiratory Therapy ▪ Primary Care Clinics ▪ Outpatient clinics ▪ Domicillary/ Residential care 	<ul style="list-style-type: none"> ▪ Emergency Room/ Urgent Care ▪ Laboratories (specimens) ▪ Outpatient Surgery/ (DPT) ▪ Post-anesthesia Care units ▪ Pharmacy ▪ Medical/Surgical Units ▪ Acute Care Mental Health Units ▪ Dental Clinic ▪ Nutrition & Food Service/Canteen Kitchen 	<ul style="list-style-type: none"> ▪ Any area caring for immunocompromised patients ▪ Cardiac Cath Lab ▪ Sterile Processing & Distribution (SPD) ▪ Operating Rooms ▪ Intensive Care Units ▪ Oncology Units/Clinics ▪ Bronchoscopy areas ▪ Pharmacy admixture areas <p><i>HB - the hospice and palliative care</i></p>

Step 2: Select Group: ☐1 ☐2 ☐3 ☒4

Step Three: Match the Construction Activity Infection Control Matrix

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 or IV*) or level of infection control activities required.
 Class I-IV or Color-Coded Precautions are delineated on the following page.

If not shown on the drawing, determine the level of the infection control classification necessary or the work by matching the construction activity with the designated risk group in the matrix below. Provide the associated infection control procedures.

IC Matrix - Class of Precautions: Construction Project by Patient Risk

Construction Project Type →	Type A	Type B	Type C	Type D
Risk Level ↓				
Group 1	I	II	II/III	III/IV
Group 2	I	II	III	IV
Group 3	I	II/III	III/IV	IV
Group 4	II/III	III/IV	III/IV	IV

Step 3: Select Class: ☐1 ☐II ☐III ☒IV

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

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Description of Required Infection Control Precautions by Class

	During Construction Project	Upon Completion of Project
Class I	<ol style="list-style-type: none"> 1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection. 	
Class II	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Wipe work surfaces with 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. Remove isolation of HVAC system in areas where work is being performed.
Class III	<ol style="list-style-type: none"> 1. Remove or isolate HVAC system in areas 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 or vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Contain construction waste before transport in tightly covered containers. 5. Cover transport receptacles or carts. Tape covering unless solid lid. 	<ol style="list-style-type: none"> 1. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection 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 disinfectant. 5. Remove isolation of HVAC system in areas where work is being performed.
Class IV	<ol style="list-style-type: none"> 1. Remove or isolate HVAC system in areas 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 or 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 appropriately. 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 the work site. 6. All personnel entering work site area required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. 7. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department. 	<ol style="list-style-type: none"> 1. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. 2. Contain construction waste before transport in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering unless solid lid. 4. Vacuum work area with HEPA filtered vacuums. 5. Wet mop area with disinfectant. 6. Remove isolation of HVAC system in areas where work is being performed.

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Step 4. Identify the areas surrounding the project area, assessing potential impact

Unit Below	Unit Above	Lateral	Lateral	Behind	Front
<i>none</i>	<i>11B-CLC</i>	<i>NA</i>	<i>NA</i>	<i>CLC Unit 11A & 11B</i>	<i>NA</i>
Risk Group <i>NA</i>	Risk Group <i>4</i>	Risk Group _____	Risk Group _____	Risk Group <i>4</i>	Risk Group _____

Step 5. Identify specific site of activity eg, patient rooms, medication room, etc. *addition of*

office space, medication room

Step 6. Identify issues related to: ventilation, plumbing, electrical in terms of the occurrence of probable outages. *none identified*

Step 7. Identify containment measures, using prior assessment. What types of barriers?

(Eg, solids wall barriers); Will HEPA filtration be required? *Solid barriers, Hepa filter*

flow from clean to dirty - sticky mats out construction area to unit
(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? (eg, wall, ceiling, roof) *none identified*

Step 9. Work hours: Can or will the work be done during non-patient care hours? *No*

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

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

Step 12. Does the infection control staff agree with the minimum number of sinks for this project? (Verify against AIA Guidelines for types and area) *NA*

Step 13. Does the infection control staff agree with the plans relative to clean and soiled utility rooms?

NA

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

Use elevator at front area to remove debris/trash in closed containers. Area to be cleaned daily with wet mop.

all tool and construction material must be secured at all times.

Appendix: Identify and communicate the responsibility for project monitoring that includes infection control concerns and risks. The ICRA may be modified throughout the project.

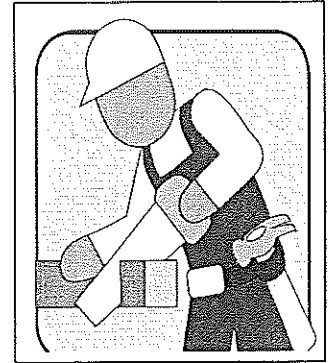
Revisions must be communicated to the Project Manager.

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Infection Control Construction Permit					
Location of Construction: <i>11A 91HB CLC units addition</i> Project Coordinator: Contractor Performing Work: Supervisor:				Permit No: Project Start Date: Estimated Duration: Permit Expiration Date: Telephone:	
YES	NO	CONSTRUCTION ACTIVITY	YES	NO	INFECTION CONTROL RISK GROUP
	<i>NA</i>	TYPE A: Inspection, non-invasive activity.		<i>NA</i>	GROUP 1: Low Risk
	<i>NA</i>	TYPE B: Small scale, short duration, moderate to high levels.		<i>NA</i>	GROUP 2: Medium Risk
	<i>NA</i>	TYPE C: Activity generates moderate to high levels of dust.		<i>NA</i>	GROUP 3: Medium/High Risk
<i>✓</i>		TYPE D: Major duration and construction activities.	<i>✓</i>		GROUP 4: Highest Risk
Class I		1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace any ceiling tile displaced for visual inspection.			
Class II		3. Minor demolition for remodeling. 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. Remove or isolate HVAC system in areas where work is being performed.			
Class III <u>Date:</u> <u>Initials:</u>		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 thoroughly cleaned by Environmental Services Department. 6. Vacuum work with HEPA filtered vacuums. 7. Wet mop with disinfectant. 8. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 9. Contain construction waste before transport in tightly covered containers. 10. Cover transport receptacles or carts. Tape covering. 11. Remove or isolate HVAC system in areas where work is being performed.			
Class IV <i>4/4/12</i> <u>Date:</u> <u>Initials:</u> <i>mm</i>		1. Obtain infection control permit before construction begins. 2. Isolate HVAC system in areas where work is being done to prevent contamination of duct systems. 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. All personnel entering work site are required to wear shoe covers. 8. Do not remove barriers from work area until completed project is thoroughly cleaned by the Environmental Services Department. 9. Vacuum work area with HEPA filtered vacuums. 10. Wet mop with disinfectant. 11. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 12. Contain construction waste before transport in tightly covered containers. 13. Cover transport receptacles or carts. Tape covering. 14. Remove or isolate HVAC system in areas where work is being done.			
Additional Requirements:			Date:		Initials:
Exceptions/Additions to this permit are noted by attached memoranda.			Date:		Initials:
Permit Request By:			Permit Authorized By: <i>[Signature]</i> , <i>IPC</i>		
Date:			Date: <i>4/4/12</i>		

Infection Control Orientation – Construction Service Workers

The goal of the Infection Control program is to identify and reduce the risks of acquiring and transmitting infections among patients, employees, physicians, and other licensed independent practitioners, contract service workers, volunteers, students, and visitors.



During construction, renovation and minor improvement projects, hidden infectious disease hazards may be released into the air, carried on dust particles or on clothing – for example, fungal organisms such as, *Aspergillus*. *Aspergillus* species may be found in decaying leaves and compost, plaster and drywall, and settled dust. These organisms usually do not cause problems in healthy people, but a hospital is full of sick patients! *Aspergillus* and other fungal organisms can cause illness and even death in premature babies, transplant patients, cancer treatment patients, and patients with lung problems or poor immunity. Therefore, it is critical that you do your part to keep our patients, employees, and visitors as safe and healthy as possible. We, in turn, will make conditions as safe as possible for you.

1. Medical Waste:

- a. We will remove any medical waste, including sharps containers (for used needles and syringes), from construction areas prior to the start of the projects.
- b. If you (contract workers) find any needles, syringes, sharp medical objects, please notify Infection Control (X39-5890 or 36 6254) **IMMEDIATELY.**

2. Barrier Walls:

- a. The construction areas **MUST** be kept separated from patient care areas by barriers that keep the dust and dirt inside the worksite.
- b. The walls must provide a complete seal of the construction area from adjacent areas (walls may be rigid or 4 or 6 mil thickness plastic).

3. Environmental Control:

- a. Negative air pressure must be maintained within the construction area.
- b. Demolition debris is removed in tightly fitted covered carts – use specified traffic patterns.
- c. Sticky or walk-off mats are placed immediately outside the construction zone and changed whenever necessary to control the spread of dust and dirt.
- d. Exterior window seals are to be used to reduce the amount of outside excavation debris coming into the building.
- e. If demolition chutes are used, they must be sealed when not in use; the chute and damper should be sprayed with water, as necessary to maintain dust control.
- f. Control, collection and disposal must be provided for any drain liquid or sludge found when demolishing plumbing.

4. Traffic Control:
 - a. Use designated entry and exit procedures.
 - b. Keep all egress pathways free of debris.
 - c. No unauthorized personnel should be allowed to enter construction areas.
 - d. Use designated elevators only.
5. Cleaning:
 - a. Keep the construction area clean on a daily basis.
 - b. Dust and dirt must be kept to a minimum.
6. Workers:
 - a. Clothing must be free of loose soil and debris when exiting the construction area.
 - b. Use personal protective equipment (masks, face shields, etc.) as indicated for the task at hand.

Handwashing is the best method of reducing the transmission of infection: always wash your hands with soap and water after visiting the restroom, before eating, when leaving the construction site.