

SECTION F

GENERAL CONDUCT OF THE WORK AND SPECIAL REQUIREMENTS

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F-1 General

- A. This section contains special instructions relating to the execution of the work shown on the drawings and required by the specifications or written scope of work (if applicable), and is applicable to all Contracts.

F-2 Definitions

- A. Wherever the documents contain the terms “work”, “building”, “structure”, “project”, or works of like import are used, it shall be understood to refer to and designate all construction materials and labor, complete and ready for use, within the limits of the contract lines as shown on the construction documents and specified.
- B. “Provide” as used in the specification documents shall be understood to mean furnish and install, complete and ready for use.
- C. “Owner” refers to the Penn State Milton S. Hershey Medical center and/or the Penn State College of Medicine.
- D. “Contractor” refers to any entity that performs work for the Owner. This includes, but is not limited to, contractors, prime contractors, subcontractors, equipment vendors and consultants.

F-3 Violation of Guidelines

- A. Contractors whose employees violate any of the Owner’s rules, regulations, policies, procedures, or guidelines will jeopardize their ability to bid and perform work for the Owner.

F-4 Project Coordination

- A. The Contractor shall be responsible for the overall coordination, control, and progress of the work for all of the other Prime Contractors, Subcontractors, and material suppliers involved in the project.
- B. The Contractor shall also be responsible for preparing the progress schedule indicating the sequence and time required for the varied disciplines of the work. The progress schedule shall be submitted by the Contractor to the other Prime Contractors requesting their sequence and time requirement input. The Prime Contractors will be required to either approve the progress schedule submitted by the Contractor or give comments for correction.
- C. After approval by all Prime Contractors, one progress schedule showing all disciplines shall be prepared. The completed progress schedule shall then be submitted to the Professional for review and approval. The approved progress

schedule shall then be issued by the Contractor to all Prime Contractors, the Professional and the Owner.

- D. The progress schedule shall be revised by the Contractor as required by the Owner and the Professional to address adjustments required in the course of the work.

F-5 Project Meetings

- A. Preconstruction Conference. Prior to commencement of the work, the Contractors shall meet in conference with representatives of the Owner, to discuss and develop mutual understanding, relative to administration of the project, general conduct of the work, progress schedules, safety programs, labor provisions, and other contract procedures relating to the work.
- B. The Contractor shall conduct a regularly scheduled, biweekly meeting for the purpose of coordinating the work. The Contractor shall require representation from all Prime Contractors and by any Subcontractors upon request of the Professional or the Owner.
- C. Contractors shall attend personally or be represented at such meetings. Should the Contractor elect to be represented, it shall be understood and agreed that the Owner and the Professional, in dealing with contractor's representatives, do so with full assurance that such representative's actions and commitments may be accepted the same as though the contractor who signed, and is bound by the contract, were itself present and personally made such agreements or commitments.
- D. The Professional shall take and retain a record of the biweekly meeting and shall prepare and distribute summary minutes of each meeting within five (5) calendar to the Owner, the Contractors, and all other interested parties. Any corrections to the minutes are to be sent to the Professional within five (5) calendar days after receipt of same.

F-6 Order of Work

- A. If in the judgement of the Owner, it becomes necessary at any time during construction to expedite the work or any part of it to conform to the approved project schedule, the Contractor shall cease work at any location and/or transfer its men to other locations and/or execute other portions of the work as may be directed.

F-7 Unclassified Excavation

- A. All excavation work will be unclassified and will include (without limitation thereto) the excavation and removal of all soil, shale, rock or rock formations, boulders, existing foundations, fill, and any type of subsurface condition encountered.
- B. The Owner will consider no claims for extra compensation or extension of time because of the nature of subsurface conditions encountered.

F-8 Blasting

- A. Because of the clinical and research procedures being performed on site and because clinical/laboratory procedures can be adversely affected by unexpected noise and vibrations due to blasting operations, it will be necessary for the Contractor doing blasting to conform to an established procedure which is in effect on site. If blasting is required the Blasting Procedure will be made available to the Contractor.

F-9 Protection of Property

- A. Protect all trees, shrubs, lawn areas, curbing, walks, roadways, and ground areas from damage during the course of the construction. Protect the existing structures and Contractors shall use care in the work in general in, on and around the structures. Repair all damage to the satisfaction of the Owner at the responsible party's cost and expense.

F-10 Access

- A. Each Contractor shall maintain unobstructed pedestrian and automobile traffic lanes on the campus roads, service drives, and parking areas, unless approved by Owner
- B. Protect existing buildings and structures from damage. Take all precautions to avoid damaging utilities.
- C. The Contractor shall cover all stairs, treads, and risers, immediately after erection with heavy building paper, on top of which shall be placed boards, securely fastened in place, until project completion.
- D. The Contractor shall provide constant protection against rain, wind, storms, frost, or heat so as to maintain his work, materials, apparatus, and fixtures free from damage. At the end of each day's work, cover work likely to be damaged. During the cold weather, protect work from damage by freezing and provide such enclosures and heating apparatus as may be necessary to prosecute the work without stoppage for reason of unfavorable weather.
- E. The Contractor, in all areas of operations, shall provide barricades, guard lights, and other appurtenances for the protection of workmen and public as required by applicable regulations and for the protection of roads, lighting, hydrants, walks, curbs, and adjacent grounds and planting for the duration of such operations. The Contractor shall bear the costs of damage caused by it and/or its Subcontractors.

F-11 Construction Fence

- A. The Contractor shall be required to provide a construction fence enclosing the work area. Fencing material should be adequate to protect persons and property.

Fence Option 1: 6' high (minimum) fence constructed of 4" x 4" wood posts set at 8' O.C. with 2" x 4" top and bottom rail to which shall be attached orange or black slotted PVC safety fence or galvanized chain-link fence. Provide adequate gates as required.

Fence Option 2: 6' high (minimum) fence constructed using 2" diameter steel pipe and spaced at maximum of 8' O.C. Provide adequate gates as required. Anchor posts as necessary to achieve stability. Provide top stabilizing rail between posts. Attach galvanized chain-link fence. Top of posts shall be closed.

Vision/wind screen: If requested provide 66" (minimum) mesh fabric windscreen. Mount top of fabric to top stabilizing bar. Fabric shall be PVC vinyl coated polyester, equal to M. Putterman and Co., Inc. (800) 621-0146. Windscreen shall have reinforced hems and grommets every 12 inches on all edges. Install windscreen on construction side of fence, using 50-pound break strength tie wraps at every grommet. Pull fabric taught. (Optional: Penn State Logo shall be imprinted on windscreen facing the non-construction side of the fence at the request of the Project Manager.)

B. Fencing requirements may be modified with written approval by the Owner.

F-12 Temporary Facilities

A. Offices. The Contractor may erect a temporary office where directed. It shall be adequate in size for conducting the work, accommodating project meetings, and have an appropriate space for a plan table/rack for use by the Owner's representative(s).

B. Storage Containers. The Contractor may provide temporary storage containers for the storage of tools, equipment and materials. Storage Containers will be located as directed by the Owner.

C. Scaffolding and Staging. The Contractor shall furnish and erect all ladders, staging and scaffolding as required.

D. Design. The Owner shall approve the design and appearance of offices, storage containers and toilets prior to erection.

E. Removal. Prior to completion of the work, the Contractors shall completely remove the temporary buildings, offices, storage containers, toilets, scaffolding, and all other temporary items provided by them, and restore the area to the original condition and be acceptable to the Owner.

F-13 Existing Underground Utilities

- A. The existence and locations of underground utilities indicated on the drawings are not guaranteed. The Contractor shall investigate and verify in the field before starting any work.
- B. Notification to Public Utilities Prior to Excavation or Demolition Work When Using Powered Equipment or Explosives is required.
All Contractors shall comply with all requirements of the Act of December 10, 1974 (P.L. 852, No. 287), referred to as the Underground Utility Line Protection Law, as amended by the Act of December 12, 1991 (Act No. 1991-38), prior to excavation or demolition work when using power equipment or explosives.
- C. All excavation within three (3) feet of any existing underground utility line shall be accomplished by hand labor or 'safe digging' (compressed air and vacuum). Extreme caution shall be used in this area to prevent any damage to existing facilities.
- D. The Contractor shall adequately protect from damage (including shoring, if necessary), all underground utilities uncovered or exposed. The Contractor shall be responsible for all damage to existing underground utilities caused by its work and shall repair by a method approved by the Owner.
- E. Utilities serving existing buildings, installation, or facilities shall not be interrupted until the Contractor has made the necessary arrangements with and has received approval from the Owner.
- F. In the event that interruption of any existing utility service is necessary, the responsible Contractor is required to make all arrangements for shutdown and start-up of such service with the Owner representative. A written advance notice of at least fourteen (14) days shall be given to the Owner by the Contractor requesting the shutdown.
- G. At all locations, all underground utilities or service lines uncovered or exposed by the operations under the contract shall be adequately protected by the Contractor, who shall be responsible for the repair of any damage to such services. Contractor shall be responsible to the Owner for all costs resulting from the Contractor's damage to Owner lines. These include, but are not limited to material cost, wages, supervisory professional costs, disruption of services, research, and overhead costs. Contractor must notify the Owner immediately of any damages to utility lines and street lighting. Repairs shall be made by a method approved by the Owner.

F-14 Temporary Utility Service

- A. Each Contractor shall, at its own costs and expense, install, operate, protect, and maintain the respective temporary services as hereinafter specified, during the construction period of the entire project. These temporary services shall include

water supply, electrical light and power, temporary heat, material hoists, sanitary facilities, access roads, and any other services as may be stipulated in the General Conditions, Special Requirements, and/or specifications.

- B. Temporary or permanent connections made by any Contractor to existing Owner systems shall be approved by the Owner, as to location and the manner and time of the connections to such systems. Where such connections require shutdown of an existing Owner system, the shutdown may be performed by the Contractor with advance permission from the Owner. A written advance notice of at least fourteen (14) days shall be given to the Owner by the Contractor requesting the shutdown. Directly after the final connection, reinstatement will be done by the Contractor.
- C. Temporary connections to new and/or existing permanent service lines shall be made at locations as directed by the Owner, protected while in use, and when the temporary service lines are no longer required, they shall be removed by the Contractor. Any part or parts of the permanent service lines, grounds and buildings, disturbed or damaged by the installation and/or removal of the temporary service lines shall be restored to their original condition by the Contractor responsible for the temporary installation by a method approved by the Owner.
- D. All underground utilities or service lines uncovered or exposed by the operations under this contract shall be adequately protected by the Contractor, who shall be responsible for the repair of any damage to such services. Services and utilities in and to existing buildings must not be connected to or interrupted without making the necessary written requests to the Owner and receiving written permission. All interruptions to Owner services must be scheduled two (2) weeks in advance and will generally be made outside of normal working hours.
- E. Temporary heat shall be provided by each Contractor as required for its use and at its cost and expense. Electric power from Owner sources shall not be used for temporary heat.
- F. Water will be available to all Contractors at no cost, at a hose bib located near the job site. Contractors shall provide, at their own cost and expense, all required extensions of existing facilities.
- G. Temporary construction power and lighting shall be provided by each Contractor for its use at its own cost and expense.
- H. Any Contractor who fails to carry out its responsibility in supplying temporary services, as set forth in its contract, shall be held responsible for such failure, and the Owner shall have the right to take such action as it deems proper for the protection and conduct of the work and shall deduct the cost involved from the amount due the Contractor.

F-15 Electric Power Equipment

- A. Due to the limited capacity of electric distribution on the campus, the use of A.C. powered welders and electric heaters are restricted. Before their use written permission must be obtained from the Owner.

F-16 Temporary Sanitary Facilities

- A. Sanitary facilities will not be provided by the Owner. The use of Owner's facilities is prohibited (unless prior approval is granted by the Owner).
- B. The Contractor shall, at its own cost and expense, provide, operate and maintain in a clean and sanitary condition, adequate sanitary facilities (portable toilets) for the convenience of workers and other employed on the job site. The Owner shall approve the type of unit and location.
 - 1. All sanitary facilities shall be fully enclosed buildings, screened against insects.
 - 2. Open-pit type facilities will not be permitted.
 - 3. The Plumbing Contractor shall install and maintain in operation a sufficient number of non-freeze type fixtures in a manner approved by the Owner.
 - 4. When directed by the Owner, the Contractor shall dismantle and remove these facilities and leave the premises clean as required.
 - 5. On new buildings, as soon as permanent soil lines have been installed inside the building, the Plumbing Contractor shall install two temporary water closets and two lavatories. These shall be kept in working order by the Plumbing Contractor and shall be maintained in a clean and sanitary condition by the Contractor.

F-17 Interruption of Existing Services

- A. Utilities serving existing buildings, installations, or facilities shall not be interrupted until the Contractor has made the necessary arrangements with and has received approval from the Owner.
- B. In the event that interruption of any existing utility service is necessary, the responsible Contractor shall be required to make all arrangements for shutdown and start-up of such service with the Owner representative, and shall pay all costs for such interruption and service restoration.
- C. All planned interruptions to Owner services must be scheduled two (2) weeks in advance and the work will generally be done outside of normal working hours.

F-18 Laying Out the Work

- A. The Contractor shall employ a competent, experienced engineer and have the engineer determine all lines and grades and certify same from time to time during the progress of the work.
 - 1. The Contractor shall establish bench marks referenced to finished grade lines and critical elevations.
 - 2. Each Prime Contractor or Subcontractor shall provide a competent engineering service to lay out its work in accordance with lines and grades established by the Contractor.

F-19 Measurements

- A. Before ordering material or proceeding with the work, the Contractors shall verify all measurements at the site. No extra compensation will be allowed because of differences between actual measurements and dimensions shown, but such differences shall be referred to the Professional for consideration before proceeding with the work.

F-20 Clearing of Roads, Parking Areas, and Traffic on Campus

- A. The Contractor shall clean daily (or more often as directed by Owner) all mud, dirt and debris resulting from all Contractors' operations from the adjacent streets, sidewalks, drives, and parking areas, and shall repair all damage caused by the cleaning. If the Contractor fails to clear mud and construction debris from roads and walks, the Owner will clear this mud and debris and bill the Contractor(s) at cost.
- B. All traffic will be subject to the rules and regulations and penalties of its Owner and applicable local laws. All hauling and construction traffic shall use only those roads designated by the Owner. The used of engine decompression brakes (Jake Brakes©) on site is prohibited.
- C. Contractors shall carefully schedule delivery and installation of its work so to cause the least interruption of normal rush-hour traffic.
- D. The Contractor shall maintain streets, sidewalks, and driveways free of encumbrance at all times for pedestrian and automotive traffic. When necessary to block these off, do so only with prior approval of the Owner and only at designated time. Each closing must have the prior approval of the Owner.
- E. Parking for Contractors' employees is prohibited on campus roads, drives, and courts.

- F. Where mud, snow, ice, or other hazardous conditions exist, the Contractor shall remove the hazards or shall provide and maintain such temporary pathways as are required for safe and expeditious prosecution and inspection of the work of all trades.

F-21 Cleanup

- A. The Contractor shall take precautions against the presence of rats, mice, and other vermin. The Contractor shall exterminate them if they are observed, engaging a reputable exterminating firm to give regular service as necessary.
- B. Disposal of materials by burning at the site is expressly prohibited. The Contractor will not use the Owner's trash collecting containers.
- C. Prior to substantial completion of the work, each Contractor and Subcontractor shall do the final cleaning of the surfaces of all the Contractor's installations as may be required by the various specification sections.
- D. The Contractor, in addition, shall employ a professional cleaning organization to remove all paint and stains from glass and to wash all glass through the work, to clean and polish the finished surfaces of all fixtures, equipment, and accessories and to vacuum clean all floors.
- E. All permanent equipment used to supply temporary services shall be completely cleaned and reconditioned by the appropriate Contractor prior to final acceptance by the Owner. Filters shall be in clean condition, interiors of all strainers shall be replaced or cleaned and seats on all valves and diaphragms on all traps of all sizes of the used portions shall be examined, cleaned, and replaced as necessary to the satisfaction of the Owner. Costs of cleaning, reconditioning, and replacement of parts of the permanent systems shall be at the expense of the responsible Contractor.
- F. If a Contractor fails to adequately perform cleanup, the Owner may do so and the cost thereof shall be charged to the Contractor as provided in the General Conditions.

F-22 Existing Facilities

- A. The Owner will maintain activities and normal office hours in the building during the course of this construction project. Difficulties of working in an existing operational building are recognized; however, the Contractor must cooperate to keep noise, dirt, and other interferences to a minimum. Housekeeping shall be such to assure no disruption of the Owner's operations and the Contractor shall schedule his work well in advance and give notice to all building occupants of any disruption.
- B. Existing facilities must be maintained watertight and dust free at all times. The Contractors shall make all necessary provisions to this end and shall be responsible for any damage resulting from noncompliance with this requirement.

F-23 Requirements During Construction

- A. Fence open ditches. Where walks cross such ditches, bridged walkways must be provided with rails on both sides. Bridged walkways must be adequately lighted at night.
- B. Service temporary walks and roads with No. 2 crushed stone if they are to be in public use.
- C. Walks and roadways used by both Contractor and the public shall be kept in repair and cleared by the Contractor once each day and more often as conditions require.
- D. Place no obstructions on or within fifteen (15) feet of fire hydrants. Hydrants must be accessible for fire fighting purposes.
- E. Protect and attend any type of temporary heating units used.
- F. Where walkways, roadways, or entrances used by the public are adjacent to or pass under construction scaffolding or new building edge, the Contractor shall provide an adequate covering for such area to protect passersby from falling objects.
- G. All temporary construction sheds, trailers, and flammable liquid storage areas belonging to Contractors shall be so placed on the construction site to minimize any danger to Owner property and the public.
- H. The Owner's Safety Department is available for consultation regarding the above items and any other safety matter.

F-24 Protective Barricades

- A. Contractors shall be aware that the Owner community includes many people with disabilities (visually impaired, wheelchair-bound, etc.), requiring extra attention on the part of the Contractor to assure that construction work is properly identified and protected. The following provides minimum protective measures to be followed by Contractors doing work beyond the main project construction fence in order to protect the general public from hazards created by open excavations, manholes, etc.
- B. Any excavations outside the project fence shall be adequately protected to prevent falls, injury, or other hazard to the general public and Owner population, as follows:
 - 1. Excavations for the purpose of constructing/installing manholes, meter pits, valve pits, or similar appurtenances must be completely surrounded by a rigid fence (not flagging tape or plastic netting) of sufficient height and strength to prevent individuals from crossing into the excavated area. Such fencing shall incorporate toe boards around the bottom and must be positioned and sufficient distance from

the top of excavation to provide adequate protection against undermining or sloughing off of the excavation slopes.

2. Ditch excavations, such as for electrical, water, sewer, steam, gas, or other underground utility lines, shall, as a minimum, be protected on all sides with construction fencing or similarly strong material; fencing shall be positioned a safe distance away from the top of slope of the excavation.
- C. Construction equipment used for hoisting men or materials (e.g., cranes, 'cherry pickers', man lifts, construction line trucks, mobile platforms, etc.) must be surrounded by appropriate protective barricades, safety lines, and signage to alert passersby of the presence of overhead loads and to provide adequate clearance around all boom swing areas, tail swing areas, overhead loads, and operating machinery. Passersby shall not be permitted to travel beneath suspended loads under any circumstances. If necessary, Contractor shall provide a flagman to assure safe passage of pedestrian and vehicular traffic.
- D. Open manholes must be protected at all times by a rigid, fence-type barricade around the opening.
- E. Flagging tape and traffic cones are not suitable or permissible barricading materials.
- F. Contractors shall notify – and receive approval from – the Owner representative prior to beginning any excavation or opening of any manholes outside the project fence. The Owner representative will then advise the appropriate Owner office of the hazardous condition, including location, approximate starting time, and expected duration of the situation.
- G. Contractors shall report immediately to the Owner representative any accident or other incident, no matter how minor, which involves any member of the general public.

F-25 Delivery and Storage

- A. On Site. All materials and equipment shall be delivered to the site and stored at locations approved by the Owner. Each Contractor shall be responsible for proper care and protection, and shall protect and be responsible for any damage to its work or materials from the date of the Agreement until final payment is made, and shall make good without cost to the Owner any damage or loss that may occur during this period. All cement, lime, and other materials which may be affected by the weather shall be covered and protected to keep them free from damage while they are being transported to and stored on the site. Should any materials be found defective or in any way contrary to the Contract, this material, no matter in what stage of completion, may be rejected by the Professional and/or the Owner and shall be removed from the site at once.

- B. Inside Building. In no case shall any materials be stored in mechanical or electrical spaces, nor shall any paint or other combustible supplies, tools, or equipment be stored in the building, except in tightly sealed metal containers, in well-ventilated spaces, and in a quantity limited to that day's need.
- C. Provision for Large Items. The Contractor shall make provisions for brining into the building large items of equipment by leaving temporary openings for them as determined to be required. After the equipment is set in place, the Contractor shall close the opening as required.
- D. Materials must be stored in such a way as not to damage existing structures or surrounding area. Any material or equipment stored on the roof of any building must be placed on dunnage and not directly on roof surface.

F-26 Fire Protection

- A. The Contractor shall maintain and enforce regulations covering all fire hazards, including smoking, and shall provide during construction, the required number of suitable fire extinguishers in the proper locations.
- B. No fires for any purpose shall be permitted on the project. Remove all refuse from Owner property.
- C. No welding, cutting by torch, or work utilizing or causing inflammable waste shall be done unless adequate fire protection is provided and maintained for the duration of the work in the area of operations. The Owner's Hot Work Permit program will be followed by the Contractor.

F-27 Job Site Security

- A. The Owner will not provide job site security.
- B. The Owner assumes no responsibility for damage or loss to the Contractors property.

F-28 Dewatering

- A. The Contractor shall assume responsibility for continuous removal of all water, including surface and rainwater, by the use of pumps, drains, and other approved methods necessary to keep the excavation and site free from water at all times until completion.
- B. All water must be directed away from existing structures, shall cause no erosion and shall prevent foreign material from backing up existing drains or entering into the sewers.

F-29 Fastening Devices

- A. Fiber, lead plugs, shields, and any devices using wood screws are not acceptable as fastening devices to plaster, tile, concrete, or masonry. Use expansion bolts or driven devices in solid construction, and toggle bolts in hollow construction.

F-30 Cutting, Welding, Soldering

- A. All welding and cutting shall be done by qualified and certified welders. Certificates shall be filed with the Owner and the Professional prior to commencement of any welding.
- B. Contractors are required to follow the Owner's Hot Work Permit Program.

F-31 Noise Control

- A. In most instances, noise control will be a matter of prime concern. It is, therefore, mandatory that all equipment such as compressors, generating equipment, etc. shall be fitted with mufflers or other noise abatement attachments.
- B. It may become necessary to schedule some operations during periods of low occupancy of neighboring Departments or buildings.

F-32 Provision for People with Disabilities

- A. All structures designed for general use, shall comply with all local, state, federal, and Owner regulations for facilities to accommodate people with disabilities.

F-33 Asbestos Removal

- A. The Owner has an ongoing asbestos identification and removal program. On renovation projects where asbestos containing material may be encountered, the situation will be reviewed by the Owner and a course of action determined.
- B. Possible asbestos removal situations will be discussed between the Professional and the Owner on a project-by-project basis.
- C. If asbestos is found to be present after construction is underway, work will stop immediately and the Project Manager notified. The Project Manager will contact the Department of Safety. Work shall not proceed until authorized by the Project Manager.

F-34 Advertising Signs

- A. Neither the Professional nor Contractor shall erect advertising signs.

F-35 Project Sign

- A. On projects funded solely by The Pennsylvania State University, a project sign shall be prepared and erected by the Contractor and shall conform to the specifications provided by The Pennsylvania State University.

F-36 Warranty Period

- A. During warranty periods, the Owner will respond to emergency situations, that is, situations determined to be potentially harmful to the surrounding personnel, equipment, or environment. In cases where work is performed by Owner, employees, the Contractor will be charged for all labor and material needed to complete emergency repairs, if the repairs are determined to be the result of faulty material or workmanship. The performance of these repairs shall not void any Contractor's warranties.
- B. The Owner will begin preventative maintenance programs immediately following final inspections. Preventive maintenance activities shall not relieve the Contractor from any equipment warranties.

F-37 Schedules and Reports

- A. Refer to General Conditions of the Contract, Article 11, for a detailed breakdown of information required.
- B. Together with each monthly application for payment, the Contractor shall forward to the Owner a summary report of the progress of the divisions of the work.
- C. All Contractors will have a written OSHA compliant permit-required confined space program.

F-38 Demolition Work

- A. Contractor is responsible for PA DEP/EPA notifications required for demolition work. Paperwork must be submitted to the Owner for review prior to submission to the proper agencies. Notification form templates are available from the Owner.
- B. Demolition Contractor performing work requiring notifications must be prequalified by the Owner.

F-39 Contractor Dumpster and Storage Container/Trailer Policy

- A. All contractors requiring a site for a dumpster or storage container/trailer must contact the Owner's Facilities Planning and Construction Department to arrange for the placement of these units. All dumpsters and storage containers/trailers are required to have a 2' x 2' removable sign identifying the company name and the name and

telephone number of the responsible person. This sign shall be attached to the front of the unit.

- B. Construction waste dumpsters must be covered at all times. Clean fill and green waste dumpsters do not need to be covered. Each company will be responsible for keeping the area around their dumpster and/or storage container/trailer clean of debris.

F-40 Mercury

- A. Mercury is a hazardous material and care must be taken in the removal and disposal of such devices that contain mercury. Examples of such devices are sphygmomanometers a.k.a. blood pressure devices. These devices are not well sealed and mercury can be released simply by removing the device from the wall when prep work is necessary for demolition, painting, or wallpapering. Notify the Project Manager and HMC Safety Office for proper disposal procedures.

F-41 Confidentiality Agreement

- A. All Contractors and subcontractors are required to sign a Business Associate Agreement (Confidentiality Agreement) which states the contractor or subcontractor acknowledges and agrees to uphold the confidentiality of any and all individual identifiable patient health information as defined by Medicare privacy regulations, HIPPA regulations, and any other applicable privacy laws or regulations governing patient care interaction. The contractor or subcontractor will maintain confidentiality of such patient healthcare information obtained during execution of this contract.

F-42 Contractor Sign-Out of Badges and Keys

- A. Contractors performing services for the Facilities Department at the Medical Center are required to sign in at the Building Operations Center (BOC) on a daily basis. One representative from the company may sign in for his crew. A temporary ID badge will be issued for each worker and must be worn at all times. Badges must be returned at the end of the work shift.
- B. With the approval of the Facilities Staff member, Contractors requiring access to secured areas of the facility may sign out keys from BOC. All keys must be returned at the end of the work shift. Contractors are not permitted to unlock or enter areas other than those which they need to access for purposes of their work and are required to re-secure areas which they have entered. Mechanical and roof access areas must be kept locked at all times to prevent unauthorized access. Keys lost during the course of work are to be reported to BOC immediately. Contractors are not permitted to duplicate keys. BOC will determine the keys to be assigned based on the access needs of the workman.

- C. Contractors involved in long-term work may be assigned a permanent photo ID badge. The need for permanent badges will be determined by Owner. Badges will be requested through the Owner's Project Manager or Access Control designee. Badges will be surrendered upon completion of the work.

F-43 Temporary Construction Keying

- A. Long-term renovation projects may require "Temporary Construction Cores" to be placed in doors to allow contractor access without the need for signing out high level building master keys.
- B. The Owner's Project Manager will coordinate the installation of construction cores, as needed.
- C. Temporary Construction keys are available in BOC. These keys will carry the same restriction/requirements as other contractor sign out keys.

F-44 Parking

- A. Contractors and subcontractors are required to park in the designated parking areas. Consult with the Owner's Project Manager for parking areas. There is no parking allowed in grass areas and along roadways. Parking along curbs at buildings, such as the Crescent area, is limited to loading and unloading only.
- B. Each Contractor shall arrange for safe transportation between the assigned parking area and the project site.
- C. Consideration will be given to service vehicles with properly affixed company logos for parking in essential areas for tool and material access or drop off.
- D. Inquiries related to parking regulations should be referred to the Owner's Project Manager.
- E. Vehicles in violation will be ticketed and/or towed and repeat offenders will lose their privilege to drive on campus.

F-45 Infection Control

- A. Contractors will abide by the Owner's "Construction, Renovation, and Maintenance Infection Control Program", Policy III-14. [Policy](#) is attached.
- B. Contractors shall follow all requirements of the Infection Control Risk Assessment (ICRA) for each specific project.
- C. All contractor personnel must attend annual HMC Infection Control and Safety training prior to working on campus.

- D. Contractors will furnish and maintain their own HEPA Filtration (99.97%) Negative Air Machines. Certification of the Contractor's Negative Air Machines is required every six months and must be performed by the Owner.
- E. When required Negative Air Pressure Continuous Recording Devices (chart recorders) will be provided by the Owner.

F-46 Safety

- A. The Contractor will abide by the Owner's policy "Construction Safety Requirements for Contractors & Vendors", Policy FP-04SPM. A copy of this policy is attached.

F-47 Health Physics

- A. The Owner has an ongoing radioactive materials identification and removal program. On renovation projects where radioactive materials may have been used, or where objects contaminated with radioactive materials may be encountered, the situation will be reviewed by the Owner and a course of action determined.

F-48 Tobacco Use

- A. The Owner has a No Tobacco Use policy banning the use of ALL tobacco products on the Owner's campus.

F-49 Fire and Smoke Wall Penetrations

- A. Contractors will follow the Owner's Facilities Department policy on fire and smoke wall penetrations.
- B. A copy of Policy No. A-96 HAM – Above Ceiling Compliance Policy is attached.


F-50 ASHE Certification

- A. Project Managers and Field Superintendents of all General Contractors and MEP subcontractors (mechanical, high voltage electrical, low voltage electrical, data & communication cabling, plumbing and sprinkler) must be Healthcare Construction Certified by the American Society for Healthcare Engineering of the American Hospital Association (ASHE).

F-51 Equipment Data Acquisition

- A. The Contractor is required to complete and submit HMC's Equipment Data Acquisition Form for all pieces of equipment added or deleted during the project.
- B. The Equipment Data Acquisition form is in Excel and can be obtained from the HMC Project Manager.

- C. The Equipment Code tab lists what equipment requires the form to be submitted. The Numbers tab lists all the buildings in the PSHMC System.
- D. The Equipment Data Acquisition form is to be submitted to the HMC Project Manager at substantial completion.

CONSTRUCTION, RENOVATION, AND MAINTENANCE INFECTION CONTROL PROGRAM	
Hershey Medical Center – Infection Control Manual	Policy Number: III-14
Original: February 2002 Replaces: August 2009	Effective: September 2011
Authorized: Cynthia Whitener, MD Chair, Infection Control Committee	
Approved: Patty Hnatuck, MT(ASCP), CIC Infection Control Coordinator	
Approved: Brian Harwick, Project Manager Facilities Planning and Construction	

PURPOSE

To minimize the risk for acquisition of healthcare associated infections (HAIs) to patients that may result when fungi or bacteria are dispersed into the air via dust or water aerosolization during construction, renovation, or maintenance activities in or near the Penn State Milton S. Hershey Medical Center (PSHMC) complex.

POLICY STATEMENT

Construction, renovation, and maintenance activities have become common in health care facilities to support continuous change and advances in the delivery of medical care. PSHMC must remain occupied and continue to provide care during these activities.

This policy outlines PSHMC’s program for prevention of HAIs associated with these activities. The Infection Control (IC) and Facilities Departments, Project Managers, and Contractors are responsible to integrate the infection prevention and control principles in this policy throughout the planning, managing, and completion of each project. This process is identified as the Infection Control Risk Assessment (ICRA).

There will be a multidisciplinary, collaborative process for ICRA development. Facilities and IC will have continuous involvement in the assessment, revision, monitoring, and compliance with the ICRA.

This policy applies to all PSHMC-owned buildings. This policy will be used as a guideline in Penn State College of Medicine (PSCOM) buildings and PSHMC leased clinics. Depending on the proximity to critical areas of PSHMC, this policy may be required in PSCOM buildings. This determination will be made by Facilities and IC.

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I. GENERAL DEFINITIONS

- A. Contractor: For the purposes of this policy “Contractor” is defined as the General Contractor, Prime Contractor, Sub Contractor, Tradesmen, Mechanics, Apprentices, Laborers, and Original Equipment Manufacturer Technicians, and includes PSHMC employees performing these tasks, et. al.
- B. Cleaning Company (CC): A company or division that can demonstrate competence and experience cleaning in an institutional environment, preferably healthcare. The CC services may be arranged by the Contractor or PSHMC.
- C. Facilities Department: The Facilities at PSHMC. This includes the appropriate division; Maintenance, Operations, Planning and Construction, and Safety.
- D. Infection Control (IC): PSHMC’s Infection Control Department or their designee.
- E. Infection Control Risk Assessment (ICRA): The process of determining the potential risk of transmission of various air and waterborne biological contaminants in the facility during construction, renovation, and maintenance activities. This will be a multidisciplinary, collaborative process that evaluates Construction Activities Types and Risk Groups to determine a Classification Level. See [TABLE 1: Construction Activity TYPE Definition Guideline Grid](#), [TABLE 2: Risk Group Grid](#), [TABLE 3: ICRA Classification Level Grid](#)
- F. Infection Control Risk Mitigation Recommendations (ICRMR): The ICRMR is a tool used to identify Construction Activity Types, Risk Groups, and the resulting ICRA Classification (Level I – IV). It also identifies other infection control issues and requirements. The ICRMR form is to be completed for all new construction and major renovation of patient rooms, and patient exam or treatment rooms. Refer to [Appendix C](#).
- G. ICRA Teams: The Primary ICRA Team includes IC and the Project Manager and if identified, the Contractor and User group. The Ad Hoc ICRA Team members may include the Design Professionals, Safety Department representatives, PSHMC Facilities Maintenance and Operations, Health Physics, Risk Management, Epidemiology, extended user group members, and others.
- H. ICRA Work Permit: The ICRA Work Permit is the form used to communicate the required infection control interventions. It identifies the Construction Activity Type, the Risk Group, and the resulting ICRA Classification (Level I – IV). Refer to [Appendix A](#).
- I. Owner: The Penn State Milton S. Hershey Medical Center/Penn State College of Medicine.
- J. Project Manager (PM): For the purposes of this policy “Project Manager” is defined as the individual responsible for oversight of the project construction, renovation, or maintenance activity. This may include the Facilities Project Manager, Contracted Project Manager, Consulting Project Manager, Facilities Associate Director, Facilities

Project Coordinator, Facilities Maintenance Supervisor, Facilities Operations Supervisor, PSHMC Information Technology (IT) Cabling Manager/Supervisor, et. al.

II. DEFINITIONS OF CONSTRUCTION ACTIVITY TYPE

Determine the construction activity type using Table 1. Activity types are defined by the amount of dust that is generated, the potential for water aerosolization, the duration of the activity, and the amount of shared HVAC systems.

Contact Facilities or IC if any activity is questionable under these guidelines.

TABLE 1: Construction Activity TYPE Definition Guideline Grid

Type A	<p>Inspection and non-invasive activities Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Opening of a single ceiling tile for visual inspection or tile replacement. • 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	<p>Small scale, short duration activities which create minimal dust Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Opening of no more than one ceiling tile per 10 tiles • Installation of telephone and computer cabling • Access to mechanical chase or shaft spaces • Cutting of walls or ceiling where dust migration can be controlled • Minor renovation of existing space • Wet sanding of walls
Type C	<p>Work that generates a moderate to high level of dust Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Dry sanding of walls • Cutting of walls, removal of drywall or building finish components where work is limited to one room or suite (including removal of floor coverings, ceiling tiles, and casework) • Wall demolition or new wall construction • Minor duct work, plumbing work, or electrical work above ceilings (not including <u>system</u> demolition or installation) • Moderate renovation of existing space • Major cabling pulling activities, multiple rooms/lines where multiple access points are needed • Any activity which requires construction of a barrier that does not qualify as Type D
Type D	<p>Major demolition and major construction projects Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Activities which require the closure of a unit/wing or relocation of an entire patient area • Demolition, removal, or installation of a complete cabling, HVAC, plumbing, medical gas, or electrical system • Demolition of major fixed building components, assemblies, fit-out elements, or structural elements • New construction located in close proximity (as determined by the Primary ICRA team) of the hospital building • Outdoor construction of new structures located in close proximity (as determined by the Primary ICRA team) to existing patient care facility • Excavation activities within close proximity (as determined by the Primary ICRA team) of hospital building

III. DEFINITIONS OF INFECTION CONTROL RISK GROUPS

Determine the Risk Group using Table 2

The Risk Groups have been classified by IC. Contact IC if a group is not identified.

TABLE 2: Risk Group Grid

Low Risk	Medium Risk	High Risk	Highest Risk
<ul style="list-style-type: none"> • College mechanical spaces • College of Medicine labs (including BL3 Labs; CG6727 and CG6765) • College of Medicine areas not directly adjacent to patient care areas. See Note 1 • Office areas not attached to or adjoining patient care areas or used for patient interviews, exams, or evaluations • Public corridors and spaces not on or directly attached to patient units or treatment locations. <p>Examples: COM Crescent ASB offices BMR offices Basic Science Exterior grounds Hospital & Clinics' mechanical spaces</p>	<ul style="list-style-type: none"> • Admissions • Cardiac Rehab • Clinical Laboratories, (except Microbiology and Virology) • DME Room - Dirty • Echocardiography • Main Kitchen • Linen Building • Neurophysiology • Off site outpatient clinics • Orthotics/Prosthetics • Outpatient Rehab • Physical Therapy • Preadmissions • 30 and 35 Hope Drive office areas. See Note 2 • UPC-I and UPC-II clinics not listed under "High" or "Highest" risk groups • Patient care areas not listed under "High" or "Highest" 	<ul style="list-style-type: none"> • Apheresis Lab • Blood Bank • Breast Center/Clinic • Cafeteria • Central Processing - Dirty • Clin Labs Microbiology Lab • Clin Labs Virology Lab • DME Room –Clean • Emergency Department • HVOC • Lab collection areas • Labor & Delivery • Laundry Storage CG633 • Newborn Nursery • Nuclear Medicine • Outpatient Surgery • Orthopaedics • Pharmacy – locations that do not prepare intravenous meds • PACU • Postpartum • Pulmonary Care • Radiology/MRI/CT/ Ultrasound • Respiratory Care • Same Day Unit • Supply & Distribution • 30 & 35 Hope Drive patient treatment areas • UPC-I ENT clinic 	<ul style="list-style-type: none"> • Bronchoscopy Lab • Cancer Institute • CVOU • Central Processing - Clean • C-Section Rooms • Cardiac Cath/EP Lab • Dialysis Center • Endoscopy • Fertility processing • Fertility procedure • GYN/ONC • HVPCU, HVICU, HVIMCU, HVOU • Interventional Radiology • MICU, MIMCU • NICU • NSICU • PICU, PIMCU • Pharmacy – locations that prepare intravenous meds • PSCI (6 SAE, 3 MBS) • Radiation Therapy • SAICU • Surgery/OR • Sterile Processing • UPC-II Pediatric Clinic • UPC-II Pulmonary Function • UPC-II Plastics Clinic • UPC-II Surgical Specialties • 3 SAW • 3MBE*, 3MBW • 4MBS, 4MBE, 4MBW • 5MBS, 5MBE, 5MBW • 6MBS, 6MBE, 6MBW • 7MBN, 7MBS, 7MBE, 7MBW

*Key: "3MBE": 3rd floor, Main Building, East Wing

Note 1: "College of Medicine areas directly adjacent to patient areas" will be evaluated considering the adjacent Infection Control Risk Group.

Note 2: 30 Hope Drive is the building that was new in 2008. 35 Hope Drive was formerly referred to as 'Cherry Drive clinics'.

IV. INFECTION CONTROL RISK ASSESSMENT INTERVENTION MATRIX

Use the criteria identified in Table 1 (Construction Type) and Table 2 (Risk Group) In Table 3 to identify the ICRA Classification Level.

TABLE 3: ICRA Classification Level Grid

CONSTRUCTION ACTIVITY→	TYPE A	TYPE B	TYPE C	TYPE D
RISK GROUP ↓	ICRA Level↓:	ICRA Level↓:	ICRA Level↓:	ICRA Level↓:
Low Risk	I	II	II	III or IV
Medium Risk	I	II	III	IV
High Risk	I	III	III or IV	IV
Highest Risk	III	III or IV	III or IV	IV

V. PERFORMANCE REQUIREMENTS

- A. Infection control is critical in all areas of the facility. Construction, renovation, and maintenance activities causing disturbance of existing dust, or creating new dust, must be conducted in tight enclosures to prevent any flow of particles into patient areas.
- B. The Owner requires all Contractors to be bound by the requirements of this policy. Before any construction, renovation, or maintenance activities begin, the contractor’s on-site management team shall attend a meeting held by the PM for reviewing infection control precautions and rationale and Owner rules and regulations. Contractors who perform their work exclusively outside (e.g., landscape contractors, snow removal contractors, etc.) are exempt from this requirement.
- C. Facilities or IC may modify performance requirements and ICRA forms as required or as conditions warrant. These modifications may not negate the intent of this policy.

VI. SUBMITTALS

- A. The Contractor will provide the PM or IC with a list of product data for products used in the ICRA Program if different from what is identified in this policy.
- B. Policy III-14 will be identified in the Owners bid documents, under Section F, General Conduct of the Work and Special Requirements, to ensure all bidders are aware of the requirements of this policy.

VII. PRODUCTS AND MATERIALS

- A. Barrier types: Fire retardant polyethylene, usually 6-mil thickness, gypsum wall board, fire rated fiberglass reinforced plastic (similar to Fire-X Glassboard), plywood and Masonite (must be painted with fire resistant paint (Flame Control Coatings, #320A or similar) prior to entering the building), and/or other fire resistive materials as specified in the ICRA Work Permit.
- B. Bleach: A water based disinfectant with the active ingredient sodium hypochlorite. Solution strength normally 1 part bleach in 10 parts water (1 ¾ cups of bleach in one gallon of water). Must be made fresh every 24 hours. Commercially prepared products similar to ‘Clorox Clean-Up’ solution has an extended shelf life and may be used if within the expiration date. Refer to the container for the expiration date.
- C. Carpet Vacuum: Nobles Ultra-glide 18" w/ dual motors and HEPA filters, or an equivalent commercial grade carpet vacuum cleaner. An equivalent vacuum must have HEPA filters.
- D. Control Cube: Portable Ceiling Access Module, “Kontrol Kube Mobile Containment Solution” with heavy duty vinyl enclosure as manufactured by Fiberlock Technologies, Inc. 150 Dascomb Road, Andover MA 01010 or similar.
- E. Door types: Solid core wood door in wood or metal frame, metal door in metal frame, zipper door in polyethylene, or an overlapped polyethylene entrance as specified in the ICRA Work Permit. Masonite doors may be used if painted with fire resistant paint (Flame Control Coatings, #320A or similar) prior to entering the building.
- F. Exhaust Hoses: Heavy duty, flexible steel reinforced; Ventilation Blower Hose, WPG as manufactured by Federal Hose Mtg. Co Painsville, OH 44077 or similar.
- G. HEPA Vacuum: A ‘shop style’ vacuum with a HEPA filter cartridge filter at 99.97% filtration @ 0.5 microns, similar to Dayton part # 4TB93. This filter shall be used in conjunction with a dust collection pre-filter bag for fine particles and dust, similar to Dayton part # 1UG85.
- H. Negative Air Machine: HEPA filter equipped negative air machines that provide roughing filters, primary filters, and HEPA final filters, with a rating of 200 to 2000 cubic feet per minute (CFM). HEPA filters to be a minimum of 99.97% efficient. The HEPA filter will be factory scan tested and factory accepted after manufacture. Scan testing should be in accordance with Section 6.2 of IEST-RP-CC034.1 Type C. No leaks greater than 0.01 of the upstream concentration at rated capacity of 2,000 CFM. Initial clean resistance shall be no more than 1.35” W. C. @ 2,000 CFM (for 2000 CFM machines). Supplier: Airborne Contamination Identification Associates, Abatement Technologies, or similar.
- I. Negative Air Fan: A high air flow, high static pressure, unfiltered, smoke ejector style fans. Model: SuperVac P164S, 16” Smoke Ejector Fan, or similar.

- J. Walk-Off Mats (adhesive): Provide minimum size mats of 18 inches x 24 inches as manufactured by 3M, St. Paul, MN 55144 or similar.
- K. Walk-Off Mats (other): Carpet, carpet squares, etc. moistened with bleach solution used to prevent premature loading of the adhesive walk off mats and the tracking of dust from the work zone.

VIII. BARRIERS AND DOORS

- A. An existing door may be acceptable as the ICRA barrier for work projects which can be contained in the room. This will be based on the existing room construction, construction activity type, and risk group.
- B. Barriers that may be specified:
 - 1. A polyethylene barrier, with an overlapping entrance flap or zipper, may be placed between the door and the construction site.
 - 2. An anteroom immediately outside the work zone entrance.
 - 3. Barriers may be required to contain the ceiling envelope, chases, interstitial spaces, etc.
 - 4. Other barrier methods as determined during the ICRA process.
- C. Plastic barriers may be adhered to metal studs using spray adhesive, double face tape, sheet metal screws, etc.
- D. Drywall barriers will have the joints and screws covered or sealed.
- E. Overlapping polyethylene flaps that are used as the entrance to the work site must overlap a minimum of 2 feet.
- F. If a hinged door is used for the barrier entrance, a large (2000 CFM) negative air machine shall be used to ensure 100 feet per minute of air flow into the work zone with the door open. This requirement may be modified for very small rooms or if overlapped polyethylene is used in conjunction with the hinged door.
- G. Anterooms (double entrance openings) may be required. Anterooms serve as an airlock and PPE donning area. The air lock function requires that only one door be allowed open at a time. Exceptions are made for the delivery of large materials. Both doors open at one time should be minimized. The anteroom is to be kept in a clean and tidy manner. Cleaning products and materials (bleach, wipes, shop vac, mops, etc.) will be kept in the ante room.
- H. Refer to [Appendix G](#) for examples of Barrier Types

- I. Refer to [Appendix H](#) for examples of Door Types

IX. INFECTION CONTROL PROCEDURES – GENERAL

- A. Facilities and IC will be notified at the beginning of the planning or design phase of the project.
- B. To determine the ICRA requirements, the Primary ICRA Team, and as necessary the Ad Hoc ICRA Team, will review the project Scope of Work, design, surrounding locations, and the impact on utility systems. Construction Activity Type, Risk Group, and Classification Level will be assigned.
- C. The ICRA may be revised throughout all stages of the project, as conditions warrant.
- D. The Primary ICRA team is responsible for developing the ICRA and addressing non-compliance to the ICRA.
- E. Ad Hoc ICRA team members are responsible for collaborating with the Primary ICRA team when their expertise is required.
- F. The PM will evaluate every project to determine its ICRA Classification rating. The PM and IC will evaluate every Level III and Level IV project.
- G. The Facilities Maintenance and Operations employees will follow ICRA interventions for Level I and II projects on a routine basis without a formal ICRA assessment or Work Permit. For Level III and Level IV projects they must obtain an ICRA Work Permit from the PM or IC.
- H. If the negative air machine is to be exhausted into a HVAC return air or exhaust air duct, the PM, IC, and the PSHMC HVAC Department will review the installation prior to connection.
- I. The Contractor is responsible for obtaining the ICRA Work Permit prior to commencing work, to post it at the work zone entrance, and for communicating the ICRA requirements to all affected persons.
- J. Contractors are responsible for providing the manpower and equipment (including negative air machines, ICRA barrier materials, etc) for meeting the design and intent of the ICRA requirements.
- K. Contractors are responsible for maintaining their equipment including the replacement of the HEPA and other filters as per manufacturer's recommendations and the Owner's HVAC Department HEPA filter certification program.
- L. HEPA Filter Certification program includes:

1. The HEPA filter in the negative air machine will be certified upon new installation into the machine and at least semi-annually thereafter. More frequent certification may be required as determined necessary during the ICRA process
 2. Certification stickers with the date of the certification shall be visible on the machine.
 3. The filter efficiency certification requirement may be relaxed if the machine is exhausted directly to the outside and is not within close proximity to an air intake or a public walkway.
 4. The negative air machine certification will be performed by the Owner's HVAC Department at no charge to the Contractor.
 5. The Owner's particle counter meter will certify a 99.0% reduction at the .5 micron setting on the particle counter.
 6. Negative air machines removed from the campus shall be recertified upon their return
- M. Depending on the scope of work, the phase of the work, and the location of the exhaust, unfiltered negative air fans may be permitted.
- N. Contractors are responsible to ensure the ICRA barriers are maintained for the duration of the project; the doors are working and latching properly, doors are kept closed, all seams and joints are sealed, negative air is maintained, etc. The Contractor will inspect the barrier at the beginning of each work shift.
- O. When negative air pressure is required, Contractors will verify the presence of negative air, and complete the [Negative Air Pressure Verification Log \(Appendix B\)](#). This shall be done at the beginning of every work shift.
- P. The Contractor will arrange for or provide the manpower and equipment (cleaning supplies, dust mops, wet mops, brooms, buckets, bleach, etc.) for ongoing and timely (normally daily) cleaning in the work zone, ante room, and as necessary adjacent areas to prevent the accumulation of dust and debris.
- Q. Penetrations (pipe, conduit, cable, etc.) in the ICRA barrier or existing walls used as barriers are to be sealed.
- R. Barriers shall be required at elevator shafts or stairways that are within the work zone.
- S. Investigations may require the opening of ceiling tiles or access panels outside the ICRA barrier. The ceiling tile or access panels shall be replaced immediately upon completion of the investigation and when unattended. Control cubes or other interventions may be required for accessing these spaces.

- T. Work performed outside the regular ICRA barrier may be performed in a temporary barrier; a Control Cube, a polyethylene enclosure erected around the opening, or other methods approved during the ICRA determination. Upon completion of the work the area inside the barrier must be cleaned prior to removal. If a Control Cube is used it shall be vacuumed from the inside of the cube prior to opening the door zipper.
- U. If a Control Cube is required to have negative air, a certified negative air machine will be used.
- V. Negative air machines may be connected to normal or emergency power and shall run continuously. Critical areas may require the negative air machine be connected to emergency power only.
- W. Barrier effectiveness shall be monitored and barriers repaired or improved as necessary to prevent dust and debris from escaping the work zone.
- X. HVAC registers and vents within the construction area shall be capped unless specifically approved by the PM or IC. The method for capping shall be dust tight and shall withstand the static air pressure.
- Y. Cover or contain materials for transport.
- Z. Transport receptacles, carts, toolboxes, equipment, etc. are to be free of dust.
- AA. Debris removed from the work zone shall be in tightly covered containers and transported following the designated route as identified during the ICRA determination.
- BB. Contractors and materials are not to use patient transport designated elevators.
- CC. Contractors are required to be free of dust prior to exiting the work zone. If used, coveralls are to be removed in the work zone just before entering the ante room. Vacuuming of clothing may be done in the work zone or the anteroom. Booties are to be removed in the ante room.
- DD. Adhesive walk off mats shall be kept clean and changed daily or more often to remain effective. Bleach solution moistened carpets, carpet squares, etc. may be used to prevent premature loading of the adhesive mats.
- EE. The Contractor shall clean shoes, equipment, transport carts, transport cart wheels, etc. with bleach solution to prevent dust from being tracked outside the work zone.
- FF. The Contractor is required to immediately clean up any dust tracked outside of the work zone.
- GG. All vacuuming is to be done using a HEPA filtered vacuum.

X. INFECTION CONTROL RISK ASSESSMENT (ICRA) WORK PERMIT

- A. A written [ICRA Work Permit \(Appendix A\)](#) is required for Level III and Level IV work and may be required for Level II work at the discretion of IC or the PM.
- B. A written [Infection Control Risk Mitigation Plan \(ICRMR\) \(Appendix C\)](#) is required for all new construction and major renovation of patient rooms, and patient exam or treatment rooms.
- C. The ICRA Work Permit form and the listed interventions may be modified as deemed necessary.
- D. When appropriate IC will assign a permit number to the Work Permit, and then will release it to the PM.
- E. The PM will issue the Work Permit to the contractor and obtain his signature. The signed Work Permit will be placed in the Facilities project file. Upon request a copy of the signed work permit will be provided to IC.
- F. A signed copy of the ICRA Work Permit will be displayed at the job site prior to beginning work and will be displayed for the duration of the project.
- G. The PM or IC may add additional details (scope descriptions, interventions, egress designations, unique interventions necessary for a specific job, etc.) in the 'Additional Comments or Requirements' section.
- H. Contractors shall adhere to the interventions listed and the interventions for the previous levels, the 'Additional Comments or Requirements' section, and if applicable the [Supplemental Infection Control Interventions \(Appendix E\)](#).

XI. INFECTION CONTROL PROCEDURES – IMPLEMENTATION

Following is the typical sequence for the implementation of the Infection Control Procedures:

- A. The PM and User Department will arrange for the relocation of supplies, equipment, furniture, etc. from the work zone before the temporary barriers are installed.
- B. Exterior window seals and building penetrations must be assured to minimize infiltration of outside contaminants when the work zone is under negative pressure.
- C. The Contractor will install and run the negative air machine in the work zone location prior to any barrier construction.
- D. The ICRA Work Permit will indicate if a temporary polyethylene barrier is to be erected prior to the construction of the ICRA barrier and if it shall be dust tight.

- E. The Contractor will install the ICRA barrier using approved materials and following the requirements of the ICRA Work Permit.
- F. The anteroom will be constructed to maintain airflow from the clean side through the anteroom and into the work zone.
- G. The ICRA Work Permit will indicate if a negative pressure monitoring device is required. The Contractor will arrange for its installation.
- H. Upon completion of the barrier, the Contractor will verify acceptable negative pressure.

XII. INFECTION CONTROL PROCEDURES - COMPLETION

Following is the typical sequence for the completion of the Infection Control Procedures. Refer to [Appendix D](#).

The PM will verify that utility and mechanical systems are commissioned and/or functioning per specifications.

- A. Following the removal of all contractor equipment and supplies and the completion of the contractor cleaning, the contractor will flush all plumbing by turning on all fixtures for five minutes and flushing the toilets several times.
- B. Following the flushing of the plumbing, the pre-barrier removal cleaning will be performed. Pre-barrier removal cleaning includes cleaning the entire work zone, the ICRA barrier, the HVAC covers, and the outside of the negative air machine and duct.
- C. Following the pre-barrier removal cleaning, the cleaning will be inspected by IC or the PM or designee.
- D. The HVAC supply and return covers will be removed and the HVAC air restored. The supply air cover will be removed before the return air cover is removed. If this action produces any dust or dirt, the pre-barrier removal cleaning and inspection will be repeated.
- E. The removal of the ICRA barriers shall be done carefully to prevent contamination of adjacent areas.
- F. To minimize dust aerosolization during barrier removal, the polyethylene may be lightly sprayed with a bleach solution.
- G. The contractor shall roll or fold the polyethylene in on itself creating as little dust as possible.
- H. The barrier debris shall be placed in a covered or sealed container for transport.

- I. The post-barrier removal cleaning will be performed immediately following the ICRA barrier removal. This cleaning is to remove dust and debris generated during the barrier removal.
- J. The negative air machine will be removed.
- K. Any dust or dirt generated by the removal of the negative air machine will be HEPA vacuumed by the Contractor or CC.
- L. The HVAC system will be balanced.
- M. The post-barrier removal cleaning will be inspected and approved by IC or the PM or designee.
- N. **If air sampling is not required:**
 - 1. IC or the PM will notify the user group when the post-barrier removal cleaning has been approved and they may take possession of the space.
 - 2. If the space is used for patient occupancy or exam/treatment and following the installation of all furniture, durable medical equipment, and supplies, the PM or Department Manager will arrange for HMC to do the Occupancy Cleaning using the standard protocol for the user Department.
 - 3. If greater than three days has elapsed since the plumbing was flushed, all fixtures will be turned on for five minutes and toilets flushed several times.
 - 4. The Department Manager will inspect and approve the cleaning and will notify Admissions.

If air sampling is required:

- 1. After the HVAC system is running, the negative air machine is removed. Prior to the user moving any supplies, furniture, or equipment into space particle counts will be obtained by qualified personnel (e.g., consultant).
- 2. If the particle counts verify that the air supplied from the diffusers is being filtered as expected IC will close the area so that it is undisturbed overnight.
- 3. Microbial air samples and particle counts will be collected the following business day.
- 4. IC will review microbial results and particle counts and when determined to be acceptable will notify the PM that the space may be occupied.

5. If the space is used for patient occupancy or exam/treatment and following the installation of all furniture, durable medical equipment, and supplies, the PM or Department Manager will arrange for HMC to do the Occupancy Cleaning using the standard protocol for the Department.
6. The Department Manager will inspect and approve the cleaning and will notify Admissions.

XIII. INTERVENTIONS BY CLASSIFICATION LEVELS

Refer to [Appendix A](#)

A. Level I to Level IV Interventions

1. Level I - Infection Control Interventions:
 - a. An ICRA Work Permit is not required, however the PM may complete one if desired.
 - b. The PM or Contractor are responsible for identifying when Level I interventions apply per the [Tables 1, 2](#) and [3](#). If unclear, they are to consult with IC.
 - c. The PM or Contractor are to verify that Level I interventions are maintained for all projects for which they are responsible.
 - d. Refer to [ICRA Work Permit, Appendix A](#) for specific interventions.
2. Level II - Infection Control Interventions:
Must adhere to all Level II interventions in addition to the Level I interventions:
 - a. An ICRA Work Permit is not required, however the PM may complete one if desired.
 - b. The Contractor and PM are responsible for identifying when Level II interventions apply per [Tables 1, 2](#) and [3](#). If unclear, they are to consult with IC.
 - c. Refer to [ICRA Work Permit, Appendix A](#) for specific interventions.
3. Level III - Infection Control Interventions:
Must adhere to all Level III interventions in addition to Level II and Level I interventions:
 - a. The PM and IC are required to complete an ICRA.
 - b. Refer to [ICRA Work Permit, Appendix A](#) for specific interventions.
4. Level IV - Infection Control Interventions:

Adhere to all Level IV interventions in addition to the Level III, Level II, and Level I interventions:

- a. The PM and IC are required to complete an ICRA.
 - b. The PM and IC are required to complete an ICRMR for all new construction and major renovation of patient rooms and patient exam or treatment rooms.
 - c. Upon completion of the major dust generating demolition/construction activities, the coveralls and shoe cover requirements may be removed.
 - d. Refer to [ICRA Work Permit, Appendix A](#) for specific interventions.
- B. Additional interventions for specific highest risk locations (ORs, Sterile Processing, Bone Marrow Transplant [BMT] areas, etc.)
1. If the work takes place within an OR suite, the Contractor must adhere to the [Supplemental Infection Control Interventions \(Appendix E\)](#). The Supplemental Infection Control Interventions may be applied to other highest risk areas (Sterile Processing, Bone Marrow Transplant, etc) as determined necessary by the Primary ICRA Team.
 2. All tools, equipment, ladders, carts, etc. brought into these areas must be pre-cleaned by wiping with a disinfectant cloth (hospital approved sani-wipes or bleach solution) until they are dust and dirt free.
 3. Contractors will change into scrub suits if working in the OR Suite or Sterile Processing.
 4. All work to be done within these locations must be scheduled by the PM with the Nurse Manager or their designee.
 5. All work done above ceilings or work that creates any dust or water aerosolization must be done within a containment or Control Cube utilizing a certified HEPA negative air machine.

XIV. ENVIRONMENTAL MONITORING

- A. PM, Safety Department, and/or IC will determine when air sampling is necessary. This will be noted on the ICRA Work Permit.
- B. The ICRA Work Permit will indicate if a negative air pressure continuous recording device (chart recorder) or other visual indicator is required. The Contractor will document the visual confirmation of negative pressure on the [Negative Air Pressure Verification Log \(Appendix B\)](#).
- C. The Owner may choose to monitor air quality throughout the project.

- D. The PM or Contractor may be required to complete the daily checklist [“Daily Construction - Infection Control Interventions Compliance Monitor” \(Appendix F\)](#).

XV. COMMISSIONING

- A. Commissioning is a quality process used to achieve, validate, and document that facilities and component infrastructure systems are planned, constructed, installed, tested, and are capable of being operated and maintained in conformity with the design intent or performance expectations.
- B. Acceptance criteria for mechanical systems shall be specified in the Design Specification.
- C. Crucial ventilation specifications for air balance and filtration shall be verified before owner acceptance.
- D. Areas requiring special ventilation (such as surgical services, protective environments, airborne infection isolation rooms, laboratories, and local exhaust systems for hazardous agents) shall be recognized as requiring mechanical systems that ensure infection control. Ventilation deficiencies shall not be accepted.
- E. Acceptance criteria for local exhaust systems dealing with hazardous agents shall be specified and verified.
- F. Refer to Facilities Guidelines Institute (FGI). 2010. *Guidelines for Design and Construction of Health Care Facilities*. Chicago, IL: ASHE (American Society for Healthcare Engineering of the American Hospital Association. Section - Planning, Design, and Construction/Commissioning.

XVI. FACILITIES DEPARTMENT AND CONTRACTOR INFECTION CONTROL EDUCATION

- A. All Contractors and PMs shall attend ICRA training. Contractors who perform their work exclusively outside (e.g., landscape contractors, snow removal contractors, etc.) are exempt from this requirement. The PM for these exempt contractors must make them aware that they are not to enter the building with soiled clothing or shoes.
- B. ICRA education shall be performed prior to the individual beginning work.
- C. Contractors performing very short term or emergency work may be excused from the training requirement. These untrained contractors shall be escorted by an ICRA trained person. The escort then assumes the responsibility that the untrained Contractor follows all provisions of the policy. Approval for using non-ICRA trained contractors must be approved by the PM.

- D. The education session will be offered in lecture format or by an IC approved recorded presentation.
- E. Contractors who complete the training will receive a certification sticker or card. This sticker/card will be valid for one year. It must be carried by the Contractor while on site.
- F. This education shall be repeated annually.
- G. A written test will be administered to ensure the pertinent points have been learned.
Examples:
 - 1. Why dust control is important.
 - 2. Types of work that will generate dust.
 - 3. Interventions used to reduce the spread of dust and the aerosolization of water.
 - 4. Define "ICRA".
 - 5. Identify where the ICRA Work Permit will be posted.
 - 6. List four classification levels of infection control interventions.
 - 7. Identify on a sample ICRA Work Permit the intervention level of the project and where to find the specific interventions they are to follow.

XVII. ENFORCEMENT

- A. The PM, IC, and Facilities Department will ensure compliance with this policy. They have the authority to stop all work if there is immediate risk to patients, staff, or the public.
- B. Individuals without a valid training sticker/card may be asked to leave the facility.
- C. The Daily Construction – [ICRA Compliance Monitor form \(Appendix F\)](#) may be used to document inspections of the ICRA barriers and the work zone.
- D. Non-compliance will be addressed immediately through verbal communication and later through written documentation. The details of the infraction will be sent to the PM, IC, and the Facilities Department and will be placed in the project file. Infractions will be reviewed and discussed at project and construction meetings.
- E. Violations of this policy may affect the status as a qualified contractor for bidding future work.
- F. The PM will notify the appropriate Associate Director of Facilities if the contractor has repeated infractions.

XVIII. WATER INCURSION GUIDELINES

A. Refer to [Physical Plant Policy # 40-16, "Water Incursion Check List Procedure"](#)

XIX. POSITION RESPONSIBLE FOR REVIEW OF PROCEDURE

Hospital Epidemiologist
Infection Control Coordinator
Designated Facilities PM
Associate Director of Facilities Planning & Construction
Associate Director of Facilities Maintenance
Director of Safety

XX. REFERENCES

Facilities Guidelines Institute (FGI). 2010. *Guidelines for Design and Construction of Health Care Facilities*. Chicago, IL: ASHE (American Society for Healthcare Engineering of the American Hospital Association. Section - Planning, Design, and Construction/Commissioning.

CDC Guidelines for Environmental Infection Control in Health-Care Facilities, 2003.
Retrieved September 28, 2011 from
http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_HCF_03.pdf

XXI. REVISION HISTORY

new: 02/02
revised: 03/02
revised: 11/07
revised: 08/09
revised: 09/11

Infection Control Manual	Policy Number: III-14
Construction, Renovation, and Maintenance Infection Control Program	Effective: September 2011

APPENDIX A of
CONSTRUCTION, RENOVATION, AND MAINTENANCE
INFECTION CONTROL PROGRAM



Infection Control Risk Assessment WORK PERMIT					
Permit #:		Prepared by:		Telephone:	
Project # and Location:			Project Start Date:		
Project Manager & Telephone:			Estimated Duration:		
Contractor Performing work:			Permit Expiration Date:		
Contractor Supervisor & Cell Phone:					

YES	RISK Level	YES	Construction Activity TYPE
	Low Risk Area		TYPE A: Inspection, non-invasive activity
	Medium Risk Area		TYPE B: Small scale, short duration, minimal levels of dust
	High Risk Area		TYPE C: Activity generates moderate to high levels of dust.
	Highest Risk Area		TYPE D: Major duration and construction activities.

CONSTRUCTION ACTIVITY→	TYPE A	TYPE B	TYPE C	TYPE D
RISK GROUP ↓	ICRA Level ↓:	ICRA Level ↓:	ICRA Level ↓:	ICRA Level ↓:
Low Risk	I	II	II	III or IV
Medium Risk	I	II	III	IV
High Risk	I	III	III or IV	IV
Highest Risk	III	III or IV	III or IV	IV

Note: Infection Control approval and an ICRA Work Permit will be required for Level III or Level IV projects.

Complete the following for Level III and Level IV projects.

*Identify the areas surrounding the project area and the risk level for those locations.
If more than one risk level is identified, select the higher risk level.*

Unit Below	Unit Above	Lateral	Lateral	Behind	Front
Risk Group:	Risk Group:	Risk Group:	Risk Group:	Risk Group:	Risk Group:

	<p>Specific site of activity (patient room, corridor, medication room, storage room, etc):</p> <div style="border: 1px solid black; height: 30px; margin-bottom: 5px;"></div> <p>Possible HVAC, plumbing, and electrical issues and the probability of unplanned outages that will impact patient care:</p> <div style="border: 1px solid black; height: 30px; margin-bottom: 5px;"></div> <p>Indicate potential risk of water incursion occurring outside the work zone:</p> <div style="border: 1px solid black; height: 30px; margin-bottom: 5px;"></div> <p>HVAC: Describe local or system isolation of work site:</p> <div style="border: 1px solid black; height: 30px; margin-bottom: 5px;"></div> <p>What shifts will the majority of the work be done?</p> <div style="border: 1px solid black; height: 30px; margin-bottom: 5px;"></div>
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	ICRA containment Barrier type:
	ICRA containment Door type:
	Ante-room (yes/no):
	Size of HEPA negative air machine and to where it will be exhausted:
	Will a continuous read negative air pressure monitor (chart recorder) be used?

All Infection Control Interventions for the assigned classification levels will be implemented in addition to the previous interventions.

LEVEL I	<ol style="list-style-type: none"> Execute work by methods to minimize raising dust from construction operations. Immediately replace any ceiling tile displaced for visual inspection. 	<ol style="list-style-type: none"> All policies & procedures for renovation/construction/maintenance will be followed. Contractor is educated before the start of the project about the importance of adhering to Infection Control measures. When complete immediately clean up any dirt or debris.
LEVEL II	<ol style="list-style-type: none"> Provide active means to prevent air-borne dust from dispersing into atmosphere, which may include the use of a Control Cube. Water mist work surfaces to control dust while cutting. Seal unused doors with masking tape. Block off and seal air vents. Doors and windows within the work zone to remain closed at all times except during ingress/egress. 	<ol style="list-style-type: none"> Place adhesive mat at entrance and exit of work area as necessary. Cover transport receptacles or carts. Contain construction waste before transport in tightly covered containers. Use designated removal route/elevators for removal of debris. Wet mop and/or vacuum with HEPA filtered vacuum at end of job or end of work shift. Area to be free of dust and or debris.
LEVEL III	<ol style="list-style-type: none"> Isolate HVAC system in area where work is being done to prevent contamination of duct system. Maintain until barrier is removed at completion of project. Designate entry and exit traffic pattern, unauthorized personnel are not permitted to enter work zone, traffic control signs placed. Complete all critical barriers or implement control cube method before construction begins. Will stay in place until IC or PM authorizes removal. Maintain negative pressure within work site and utilize HEPA equipped negative air machines. Both will be maintained until project & terminal cleaning are completed and IC authorizes removal. Air pressure to be monitored & documented at least daily. Adhesive mats placed at all entrances & exists of work area. 	<ol style="list-style-type: none"> The contractor will maintain the construction zone in a clean manner. <ul style="list-style-type: none"> The area will be hepa-vacuumed or damp mopped daily or more often as necessary to minimize dust. Daily cleanup of debris, material and waste shall be completed. Adhesive mats monitored & changed on a regular basis so that they remain effective. Any dust or construction debris tracked outside of the work area will be promptly cleaned. Terminal cleaning will be performed following protocol. The terminal cleaning will be inspected by the Owner prior to the authorization for the barrier removal. Air samples may be performed following IC/Safety protocol. Barriers will be removed carefully to minimize spreading of construction dust and debris.
LEVEL IV	<ol style="list-style-type: none"> Seal all holes, pipes and conduits penetrations in work area. Construct anteroom for staging of equipment & donning of coveralls. Workers will wear coveralls in work area. Upon completion of major dust generating activities, coverall requirement is removed. Coveralls are removed in work zone before entering anteroom. Any residual dust left on workers shall be removed by vacuum. Shoe covers will be worn by workers and removed in the ante room when exiting area. 	<ol style="list-style-type: none"> All renovation, construction, maintenance & tool carts leaving area must be covered & the wheels wiped down with a bleach solution. Environmental Health Service (EHS) or a contract cleaner will vacuum or damp mop the area outside the work zone and adjacent areas.

ADDITIONAL COMMENTS OR REQUIREMENTS:

Work Permit released and authorized by:	Date:
Issued to Project Manager:	Date:
Issued to Contractor (print name and signature)	Date:

APPENDIX B of
CONSTRUCTION, RENOVATION, AND MAINTENANCE
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NEGATIVE AIR PRESSURE VERIFICATION LOG

Project Number: _____

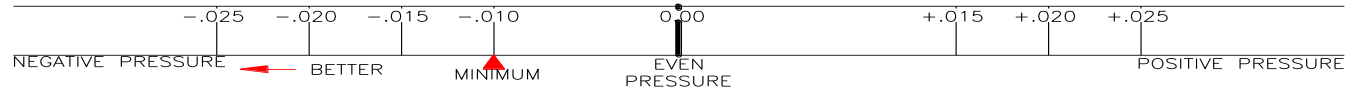
Location: _____

Date	Time	Signature of persons who verified the work zone under negative pressure and ICRA Barrier is in good repair		If repairs were necessary, record here the action taken and the name of the person who made the repairs	
		Contractor, prior to start of each work shift	Project Manager, Safety, Infection Control	Action	Name

The Project Manager is responsible to have the completed logs retrieved from the work zone and filed in the HMC Project file. Typical setup of the chart recorder: The chart recorder is in the clean (positive pressure) area with the sensor tube in the construction (negative pressure) area. The sensor tube is to be connected to the top (+ High) port on the chart recorder. The chart should be indicating negative pressure.

The work zone negative pressure to surrounding locations shall be at least -.010" W.C.

Pressure relationship illustration:



APPENDIX C of
**CONSTRUCTION, RENOVATION, AND MAINTENANCE
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Penn State Hershey Medical Center
 Infection Control Risk Assessment Matrix (ICRA) and
 Infection Control Risk Mitigation Recommendations (ICRMR)

Project #: _____

ICRMR #: _____

Date: _____

Brief description of project scope:

Step One:

Indicate the Construction Project Activity **TYPE**:

Type A	<p>Inspection and non-invasive activities Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Opening of a single ceiling tile for visual inspection or tile replacement. • 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	<p>Small scale, short duration activities which create minimal dust Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Opening of no more than one ceiling tile per 10 tiles • Installation of telephone and computer cabling • Access to mechanical chase or shaft spaces • Cutting of walls or ceiling where dust migration can be controlled • Minor renovation of existing space • Wet sanding of walls
Type C	<p>Work that generates a moderate to high level of dust Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Dry sanding of walls • Cutting of walls, removal of drywall or building finish components where work is limited to one room or suite (including removal of floor coverings, ceiling tiles, and casework) • Wall demolition or new wall construction • Minor duct work, plumbing work, or electrical work above ceilings (not including <u>system</u> demolition or installation) • Moderate renovation of existing space • Major cabling pulling activities, multiple rooms/lines where multiple access points are needed • Any activity which requires construction of a barrier that does not qualify as Type D
Type D	<p>Major demolition and major construction projects Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Activities which require the closure of a unit/wing or relocation of an entire patient area • Demolition, removal, or installation of a complete cabling, HVAC, plumbing, medical gas, or electrical system • Demolition of major fixed building components, assemblies, fit-out elements, or structural elements • New construction located in close proximity (as determined by the Primary ICRA team) of the hospital building • Outdoor construction of new structures located in close proximity (as determined by the Primary ICRA team) to existing patient care facility • Excavation activities within close proximity (as determined by the Primary ICRA team) of hospital building

Step Two:

Indicate the **Risk level** for the job location. If more than one risk level is identified, select the higher risk level:

Low Risk	Medium Risk	High Risk	Highest Risk
<ul style="list-style-type: none"> • College mechanical spaces • College of Medicine labs (including BL3 Labs; CG6727 and CG6765) • College of Medicine areas not directly adjacent to patient care areas. See Note 1 • Office areas not attached to or adjoining patient care areas or used for patient interviews, exams, or evaluations • Public corridors and spaces not on or directly attached to patient units or treatment locations. <p>Examples: COM Crescent ASB offices BMR offices Basic Science Exterior grounds Hospital & Clinics' mechanical spaces</p>	<ul style="list-style-type: none"> • Admissions • Cardiac Rehab • Clinical Laboratories, (except Microbiology and Virology) • DME Room - Dirty • Echocardiography • Main Kitchen • Linen Building • Neurophysiology • Off site outpatient clinics • Orthotics/Prosthetics • Outpatient Rehab • Physical Therapy • Preadmissions • 30 and 35 Hope Drive office areas. See Note 2 • UPC-I and UPC-II clinics not listed under "High" or "Highest" risk groups • Patient care areas not listed under "High" or "Highest" 	<ul style="list-style-type: none"> • Apheresis Lab • Blood Bank • Breast Center/Clinic • Cafeteria • Central Processing - Dirty • Clin Labs Microbiology Lab • Clin Labs Virology Lab • DME Room –Clean • Emergency Department • HVOC • Lab collection areas • Labor & Delivery • Laundry Storage CG633 • Newborn Nursery • Nuclear Medicine • Outpatient Surgery • Orthopaedics • Pharmacy – locations that do not prepare intravenous meds • PACU • Postpartum • Pulmonary Care • Radiology/MRI/CT/ Ultrasound • Respiratory Care • Same Day Unit • Supply & Distribution • 30 & 35 Hope Drive patient treatment areas • UPC-I ENT clinic 	<ul style="list-style-type: none"> • Bronchoscopy Lab • Cancer Institute • CVOU • Central Processing - Clean • C-Section Rooms • Cardiac Cath/EP Lab • Dialysis Center • Endoscopy • Fertility processing • Fertility procedure • GYN/ONC • HVPCU, HVICU, HVIMCU, HVOU • Interventional Radiology • MICU, MIMCU • NICU • NSICU • PICU, PIMCU • Pharmacy – locations that prepare intravenous meds • PSCI (6SAE, 3MBS) • Radiation Therapy • SAICU • Surgery/OR • Sterile Processing • UPC-II Pediatric Clinic • UPC-II Pulmonary Function • UPC-II Plastics Clinic • UPC-II Surgical Specialties • 3SAW • 3MBE*, 3MBW • 4MBS, 4MBE, 4MBW • 5MBS, 5MBE, 5MBW • 6MBS, 6MBE, 6MBW • 7MBN, 7MBS, 7MBE, 7MBW

*Key: "3MBE": 3rd floor, Main Building, East Wing

Note 1: "College of Medicine areas directly adjacent to patient areas" will be evaluated considering the adjacent Infection Control Risk Group.

Note 2: 30 Hope Drive is the building that was new in 2008. 35 Hope Drive was formerly referred to as 'Cherry Drive clinics'

Step Three:

Match the Risk Group and the Construction Type to identify the ICRA Classification Level. Indicate the ICRA Level.

CONSTRUCTION ACTIVITY→	TYPE A	TYPE B	TYPE C	TYPE D
RISK GROUP ↓	ICRA Level↓:	ICRA Level↓:	ICRA Level↓:	ICRA Level↓:
Low Risk	I	II	II	III or IV
Medium Risk	I	II	III	IV
High Risk	I	III	III or IV	IV
Highest Risk	III	III or IV	III or IV	IV

Step Four:

Identify the areas surrounding the project area and the risk level for that location. If more than one risk level is identified, select the higher risk level.

<i>Unit Below</i>	<i>Unit Above</i>	<i>Lateral</i>	<i>Lateral</i>	<i>Behind</i>	<i>Front</i>
<i>Risk Group:</i>	<i>Risk Group:</i>	<i>Risk Group:</i>	<i>Risk Group:</i>	<i>Risk Group:</i>	<i>Risk Group:</i>

Step Five:

Identify the specific site of activity eg. patient room, corridor, medication room.

Step Six:

Identify issues related to HVAC, plumbing, and electrical in terms of the probability of unplanned outages that will impact patient care.

Step Seven:

Water Incursion: Indicate potential risk of water damage outside construction zone:

Step Eight:

Identify ICRA containment measures:

Wall type:

Ante-room (yes/no):

Door Type:

Size of HEPA negative air machine:

Will a continuous read negative air pressure monitor (chart recorder) be used?

Frequency of manual verifications and documentation of negative air:

HVAC. Describe local or system isolation of work site:

If temporary ventilation or humidification is necessary, how will this be accomplished:

Step Nine:

Work Hours: Will the work be done during non-patient care hours?

What shifts will the majority of the work be done?

Step Ten:

Has Infection Control been consulted on the design as it relates to:

Clean and Soiled Utility rooms:

Hand washing sinks:

Support services space:

Isolation (positive pressure) rooms:

Negative pressure rooms:

Wall and floor coverings:

Ceiling type:

Step Eleven:

Other construction and containment issues to be discussed with the construction team:

Maintenance of barriers during project:

Maintaining a clean job site daily:

Only HEPA filtered 'shop style' vacuums may be used:

Proper cleaning and removal of barriers at completion of project:

Cleaning protocol:

Commissioning Protocol:

APPENDIX D of
CONSTRUCTION, RENOVATION, AND MAINTENANCE
INFECTION CONTROL PROGRAM



**Cleaning Specifications for PSHMC
Post Construction, Renovation Cleaning**

- A. Responsibility: The Contractor will arrange for post construction/renovation cleaning, utilizing a professional Cleaning Company (CC) who can demonstrate competence and experience cleaning in an institutional environment, preferably healthcare.
- B. Scope of Work: The CC will furnish labor and supplies for cleaning services for construction and renovation projects. It is expected that the CC will use only those workers who have demonstrated competence and have experience cleaning in an institutional environment, preferably healthcare.
- C. HMC Policies: all CC workers will be required to adhere to applicable hospital policies including not working at PSHMC while ill (refer to Hospital policy HR-22HAM and Infection Control policy VI-2). This is to be enforced by the management of the CC.
- D. Cleaning Requirements: Provide a Two Step Clean:
 - 1. **Pre Barrier Removal Cleaning:**
 - a. Clean inside the project area with the barrier in position. First, HEPA vacuuming of all horizontal and vertical surfaces, including the barrier and the inside of the metal studs and track. If work was performed above an existing suspended ceiling, vacuum the top of the ceiling tiles. Second, completely clean the inside of the barrier – all dust, dirt, debris, and grime must be cleaned from all surfaces located within the project area.
 - b. Clean the covers that are isolating the HVAC system.
 - c. Clean the outside of the negative air machine and its exhaust duct.
 - d. Clean all flooring and apply floor finishes as prescribed by the manufacturer of the product and/or HMC EHS department.
 - e. The pre-barrier removal cleaning will be inspected and approved by IC or the PM
 - f. Remove the covers from the HVAC system and restore the HVAC air. If this action produces any dust or dirt, the pre-barrier removal cleaning and inspection will be repeated.

g. IC or the PM will give approval for the removal of the ICRA barrier.

2. **Post Barrier Removal Cleaning:**

- a. Prior to removal of the barrier, the Contractor may lightly mist the barrier with bleach solution to prevent residual dust from aerosolizing during the barrier removal.
- b. The Contractor will remove the barrier. The Post Barrier Removal Cleaning will be completed to remove any dirt generated when the barrier was removed. This includes all surfaces in the same room, the location of the barrier, and/or other affected areas. Additionally, if dust has resettled on horizontal surfaces, these surfaces shall be re-cleaned.
- c. Once the Post Barrier Removal Cleaning is complete the Contractor will remove the negative air machine.
- d. The Contractor is responsible to HEPA vacuum any dust or debris generated by removal of the negative air machine.
- e. The post-barrier removal cleaning will be inspected and approved by IC or the PM

E. Steps, Perform in Sequence:

1. Pre barrier removal: HEPA vacuum all horizontal and vertical surfaces. This is to remove the construction dust and debris. During this step no dry sweeping, dry mopping, or dry dusting may occur.
2. All surfaces including walls, lights, trim, cove base etc. must be cleaned of dust, grime, etc. using a general cleaning agent. Cleaning solutions must be changed frequently so that the solution does not leave a film when it dries (due to an over burdened of dust and dirt in the solution).
3. All surfaces will be wiped again with a cleaner/disinfectant and allowed to air dry so the disinfectant has the required time to be effective. Cleaning solutions must be changed frequently so that the solution does not leave a film when it dries (due to an over burdened of dust and dirt in the solution). (Both the second and third step may be done using the same cleaner/disinfectant product).
4. Clean and finish all flooring using manufacturer and HMC recommended products.

F. Specific Cleaning Expectations: When complete, all surfaces should have a “white glove” finish.

1. Clean all ceiling, lights, and ceiling diffusers and grills

2. Clean all walls, from top to bottom, including vents, trim, recessed spaces and other detail in walls, and built-in cabinets.
3. Clean the blinds and windows.
4. Clean the inside all cabinets and drawers.
5. Clean all horizontal surfaces (equipment, TV, computers, phones, furniture, desks, countertops, ledges, sills, hand or guard rails, door jambs, handles, crevices, etc.).
6. Clean all cove base, floor tile, sheet vinyl, and carpet.
7. Clean bathroom in sequence going from toilet, to shower/tub, to sink, to floor.
8. Clean shower/tub using friction to remove all visible stains, grime, rust, and soap scum.

G. Cleaning Products:

1. All cleaning products are to be the same as used by HMC's Environmental Health Services Department. Products must also be of the same product type as specified by the original equipment manufacturer.
2. Contact the EHS Manager or Supervisor at 717-531-8839 for a current list of approved products.

H. Carpet Cleaning Equipment:

1. Carpet shampooing equipment must be steam or hot water extraction type.
2. Vacuums must be equipped with brushes and HEPA filters.

Products currently used by PSHMC Environmental Health Service (EHS).

This list is current as of 9/2011. Contact the EHS Manager or Supervisor at 717-531-8839 for a current list of products.

Hard Surfaces: (S.C. Johnson products)

1. Crew toilet bowl cleaner - toilets
2. Regency – for stainless steel
3. Glance – window cleaner
4. Crew Klein and Shine – multi surface cleaner
5. Shine Up – furniture polish
6. Crew Tile and Grout rejuvenator – tile and grout
7. UHS – floor cleaner
8. Virex – disinfectant cleaner
9. Crew Crème Cleanser – hard surfaces
10. General Purpose Spotter

Carpets: (S.C. Johnson products)

1. Extraction cleaner
2. Extraction rinse
3. General purpose spotter
4. Heavy duty Pre spray

Hard Floors: (Johnson Wax products)

1. Faststrip – for stripping
2. UHS – for scrubbing floors, then refinish
3. Revive – for scrubbing floors, then buffing
4. High Mileage – floor finish

General:

1. Microfiber (electro-static) dusting cloth. Rubbermaid Products
2. Microfiber flat mop. Rubbermaid Products
3. String mop with new or freshly laundered mop heads.
4. Clorox Clean-up. The Clorox Company

Equipment:

1. Carpet Vacuum: Nobles Ultraglide 18" w/ dual motors and HEPA filters or equivalent.
2. Hot water Extraction/Shampooer: Nobles Strive carpet extractor or equivalent.

APPENDIX E of
CONSTRUCTION, RENOVATION, AND MAINTENANCE
INFECTION CONTROL PROGRAM



SUPPLEMENTAL INFECTION CONTROL INTERVENTIONS

For Project #: _____ **Start date:** _____

Renovation activities can cause environmental disturbances of dust, which can lead to increased Aspergillus counts in the air and increased risk for Aspergillus infections in high-risk patients. In addition, the dust disturbances in the OR complex by renovation activity, increased traffic and contractor staff in the restricted areas may increase bacterial and other fungal content in the air. If not contained this disturbance could possibly increase the risk for surgical site infections. In an effort to minimize and contain the dust, and lessen the possibility of worker microbial contamination during renovation work in the OR, Infection Control is requiring that the following interventions are initiated and maintained until the completion of the project.

1. All Contractor and Sub-contractor personnel working on site, for any amount of time must receive ICRA training prior to their first work shift. Documented ICRA training (within the last year) at HMC can be accepted.
2. Scrub suits must be worn while working in the OR. The HMC Project Manager will coordinate arrangements for issuing of scrubs to the workers. Workers will change into scrubs in the OR locker room, and must be put on in place of workers clothing, they are not to go over clothing. All hair must be covered with a cap, or hood in the case of facial hair. Booties will be worn to cover work shoes. If the worker leaves the OR and goes to any dirty areas (other construction areas, basement, vehicles to get additional equipment, etc.) they must put on new scrubs prior to returning to the OR.
3. Upon entering the work site within the OR complex workers must put on coveralls that will be removed within the anteroom prior to exiting back into the OR complex halls. A clean supply must be available at the entrance to each work area.
4. Booties will be put on over shoes to enter OR complex and removed in work area. Prior to leaving work area clean booties will need to be put back on to enter back into OR complex. A clean supply must be available at entrance to each work area.
5. To erect a barrier within the OR complex a temporary plastic barrier must be first established using extension poles and fire retardant plastic. To remove barriers post work a temporary barrier must again be established and the permanent barrier removed within the temporary barrier.

6. All moveable carts and supplies must be removed from any OR site where work is to be done. No supplies may be left on counter tops. It will be specified in the ICRA if supplies may remain in cabinets that are sealed with tape.
7. If supplies and equipment are not moved when contractors arrive to begin work or building of barrier, the Project Manager must be notified since no work may begin until all designated equipment and supplies are removed from the area.
8. Control cubes may not be set up immediately next to carts containing clean supplies/equipment or OR case carts. These items will need to be relocated by Nursing Personnel.
9. Construction workers entrance will be determined based on location of work and may change throughout project. It will be via the most direct route into work area. **For this job – workers to use the _____ entrance.**
10. Workers should minimize the number of times they must enter and exit the work area and travel through the OR complex. **At no time should workers travel into the OR complex that is not in their immediate work area or an egress path.**
11. Egress for materials and debris will be determined based on location of work and may change throughout project. It will be via the most direct route into work area and closest exit for removing debris to outside while minimizing travel through patient care areas of the hospital.
12. Only HEPA filtered negative air machines which were certified by HMC may be used within the OR complex.
13. Workers to verify negative air in the work site and or control cube prior to start of their work shift, and if negative air is lost during the course of the shift, workers must immediately stop work until negative air is reestablished.
14. Workers to verify that barriers are intact and or control cube is fully extended to ceiling and zipped closed prior to start of their work shift. If there is barrier failure at any time during the work shift, work must stop until barrier failure is corrected.
15. Care must be taken to track no dust out of worksite.
16. Dust will be controlled as much as possible in the work area by vacuuming as generated, etc.
17. Workers are responsible that any of their personal equipment/tools brought into the OR area must be free of all visible dust and or debris before taking into the OR complex.

18. All equipment brought into the OR area must be clean and wiped with disinfectant before entering area. At no time should dirty equipment or carts be moved through the OR complex or in/out of the work zone.
19. All cubes or equipment carts must have clean exteriors (free of dust that can disperse into air) and covered when moving through halls.
20. Contain construction waste before transporting through OR halls in covered containers.
21. Should debris or dust be tracked outside of work area it must be immediately cleaned up, using either a HEPA-vac or damp mop – this is the responsibility of the worker/contractor who creates the dirt.
22. Using a dry broom to sweep dust will aerosolize dust into the air and should not be used within the OR complex; instead damp mops, damp rags and or HEPA-vacuums must be used to clean up dust.
23. Any work done within the OR complex that will create vibration must be prearranged by the Project Manager.

I have read and understand the above OR, Infection Control Interventions. I will be responsible to see that all of our workers and subcontract workers will follow these precautions.

Contractor, site supervisor

Date

APPENDIX F of
CONSTRUCTION, RENOVATION, AND MAINTENANCE
INFECTION CONTROL PROGRAM



**DAILY CONSTRUCTION - INFECTION CONTROL INTERVENTIONS
COMPLIANCE MONITOR**

DATE: _____ TIME: _____ PROJECT #: _____

PROJECT MANAGER: _____

CONTRACTOR: _____

OBSERVATIONS BY:

Name _____ Initials _____
 Name _____ Initials _____
 Name _____ Initials _____

INFECTION CONTROL INTERVENTION	Met	Not Met	N/A	Verbal Notification Given To, Corrective Action Taken, Other Comments.
HEPA Vacuum, coveralls, booties, cleaning supplies available at the work zone entrance.				
Construction barriers intact, no visual evidence of dust escaping the work zone				
Traffic restricted to construction personnel and traffic control signs posted and intact				
Construction personnel using designated entrance/exits and are following designated travel routes				
Walk off adhesive mats clean & adequate to contain construction dust				
Negative air machine running, ducting intact, filters certified as necessary – no excess fumes/vapor				
Negative air pressure maintained & documented				
All windows closed behind barrier. Debris chute (if applicable) closed if not in use				

INFECTION CONTROL INTERVENTION	Met	Not Met	N/A	Verbal Notification Given To, Corrective Action Taken, Other Comments.
HVAC vents remain isolated and sealed off				
Daily cleaning of the work zone. Ante Room clean. Entrance/exit & adjacent areas free of dust & debris				
Carts covered during transport of debris and materials				
Workers removing coveralls in work zone before entering anteroom. Workers removing booties in ante room.				
Negative air fans working properly. No dust accumulation at exhaust location				
No signs of water leakage				
No signs of vermin – insects, birds, mice, squirrels				
No food trash found in work zone, or cavities in the work zone				
All workers Safety and ICRA trained				
Other observed or reported problems:				

APPENDIX G of CONSTRUCTION, RENOVATION, AND MAINTENANCE INFECTION CONTROL PROGRAM

Examples of Barrier Types

	<p style="text-align: center;">B-1</p> <p>DESCRIPTION: SINGLE LAYER 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING, HUNG FROM CEILING WITH THE FOLLOWING CLIPS: POLY-HANGER CLIP #3, PART #55084 (OR EQUAL) OR POLY-HANGER CLIP #4, PART #55085 (OR EQUAL)</p>		<p style="text-align: center;">B-2</p> <p>DESCRIPTION: SINGLE LAYER 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING, HUNG FROM CEILING, TAPED AT TOP, BOTTOM AND SIDEWALLS.</p>		<p style="text-align: center;">B-3</p> <p>DESCRIPTION: SINGLE LAYER 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING, HUNG FROM "ZIP" POLES. CLIPPED AT TOP.</p>
	<p style="text-align: center;">B-4</p> <p>DESCRIPTION: SINGLE LAYER 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING, HUNG FROM "ZIP" POLES, TAPED AT TOP AND BOTTOM.</p>		<p style="text-align: center;">B-5</p> <p>DESCRIPTION: METAL STUDS WITH 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING ON POSITIVE PRESSURE SIDE OF BARRIER, TAPED AT TOP, BOTTOM AND SIDES.</p>		<p style="text-align: center;">B-6</p> <p>DESCRIPTION: METAL STUDS AT 24" O.C. WITH 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING ON BOTH SIDES. TAPED AT TOP, BOTTOM AND SIDEWALLS.</p>
	<p style="text-align: center;">B-7</p> <p>DESCRIPTION: METAL STUDS AT 24" ON CENTER MAXIMUM WITH 1/2" GYPSUM WALL BOARD ATTACHED WITH SCREWS ON ONE SIDE. OTHER SIDE 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING, TAPED AT TOP, BOTTOM AND SIDEWALLS.</p>		<p style="text-align: center;">B-8</p> <p>DESCRIPTION: BELOW CEILING - METAL STUDS AT 24" ON CENTER WITH 1/2" GYPSUM WALL BOARD ON ONE SIDE. ON OPPOSITE SIDE, 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING TAPED AT TOP, BOTTOM AND SIDEWALLS. ABOVE CEILING - 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING ON OPPOSITE SIDE, SUPPORTED BY METAL STUDS. TAPED AT TOP AND SIDEWALLS.</p>		<p style="text-align: center;">B-9</p> <p>DESCRIPTION: METAL STUDS WITH 1/2" GYPSUM WALL BOARD ON BOTH SIDES. TAPE ALL JOINTS IN GYPSUM WALL BOARD. SEAL AT TOP, BOTTOM AND SIDEWALLS. NOTE: USE FIRE RESISTANT WHERE REQUIRED BY CODE.</p>
	<p style="text-align: center;">B-10</p> <p>DESCRIPTION: METAL STUDS WITH 1/2" GYPSUM WALL BOARD ON OUTER SIDE AND FIRE RESISTANT POLYETHYLENE ON INNER SIDE. TAPE ALL JOINTS IN GYPSUM WALL BOARD. SEAL AT TOP, BOTTOM AND SIDEWALLS. MINIMUM 36" SOLID WOOD DOOR IN A METAL FRAME OR METAL DOOR IN A METAL FRAME. FRAME TO HAVE STOPS AND FRAME TO BE SEALED TO BARRIER WALL. HARDWARE MUST FUNCTION PROPERLY. NOTE: USE FIRE RESISTANT WHERE REQUIRED BY CODE. NOTE: SWING OF DOORS MAY BE REVERSED AS REQUIRED BY THE PROJECT.</p>		<p style="text-align: center;">B-11</p> <p>DESCRIPTION: METAL STUDS WITH 1/2" GYPSUM WALL BOARD ON OUTER SIDE AND FIRE RESISTANT POLYETHYLENE ON INNER SIDE. TAPE ALL JOINTS IN GYPSUM WALL BOARD. SEAL AT TOP, BOTTOM AND SIDEWALLS. MINIMUM 36" SOLID WOOD DOOR IN A METAL FRAME. FRAME TO HAVE STOPS AND FRAME TO BE SEALED TO BARRIER WALL. HARDWARE MUST FUNCTION PROPERLY. NOTE: USE FIRE RESISTANT WHERE REQUIRED BY CODE. NOTE: SWING OF DOORS MAY BE REVERSED AS REQUIRED BY THE PROJECT.</p>		

This drawing is intended for a specific individual and purpose that is not to be used for any other purpose. Any use of this drawing for any other purpose is strictly prohibited. All conditions and dimensions shall be field verified.

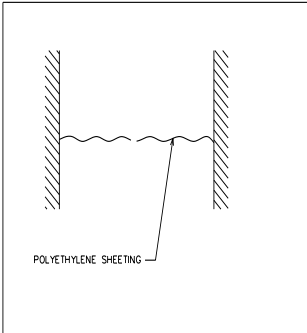
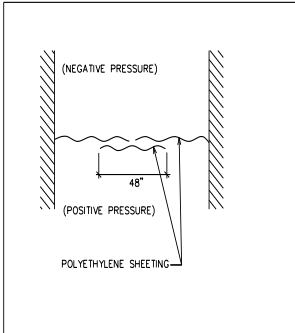
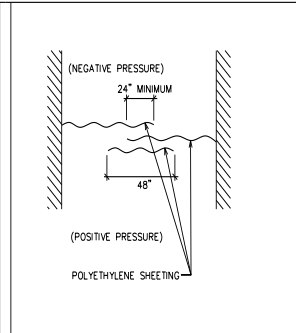
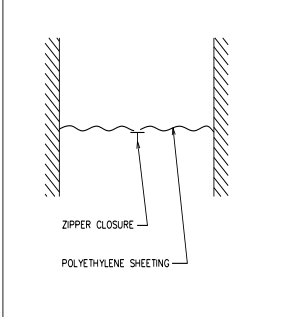
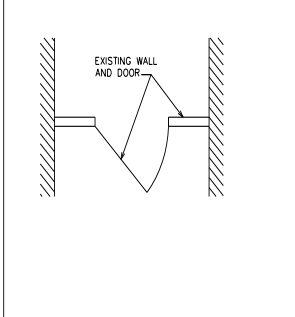
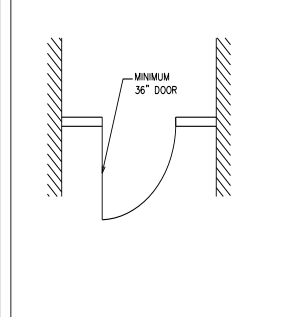
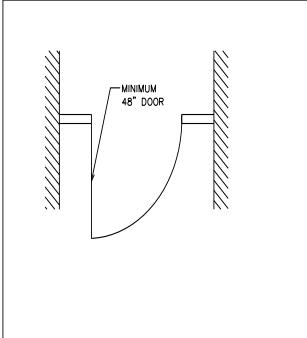
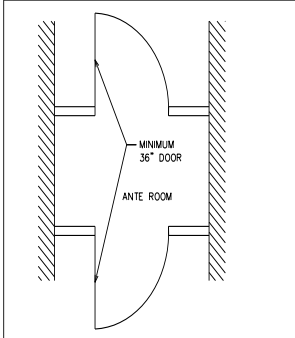
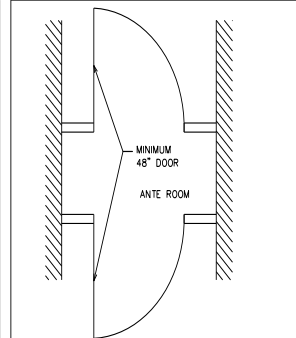
MILTON S. HERSHEY MEDICAL CENTER
COLLEGE OF MEDICINE
HERSHHEY, PA 17033
Space Planning - Facilitator Planning & Construction

DATE 04-22-2008
NOT TO SCALE

SCALE 1 OF 1
DWN BY SDD
ICRA BARRIER WALLS
SHEET NO.

APPENDIX H of CONSTRUCTION, RENOVATION, AND MAINTENANCE INFECTION CONTROL PROGRAM

Examples of Door Types

	<p>D-1</p> <p>DESCRIPTION: HANGING 6 MIL. FIRE RESISTANT POLYETHYLENE SHEETING, SLIT IN MIDDLE AS REQUIRED FOR ACCESS.</p>		<p>D-2</p> <p>DESCRIPTION: HANGING 6 MIL. FIRE RESISTANT POLYETHYLENE SHEETING, SLIT IN MIDDLE AS REQUIRED FOR ACCESS. SLIT COVERED BY 48" WIDE PIECE OF SHEETING, PLACED ON SIDE OF BARRIER WITH POSITIVE PRESSURE.</p>		<p>D-3</p> <p>DESCRIPTION: HANGING 6 MIL. FIRE RESISTANT POLYETHYLENE SHEETING, OVERLAP SHEETS IN MIDDLE AS REQUIRED FOR ACCESS. OPENING COVERED BY 48" WIDE PIECE OF SHEETING, PLACED ON SIDE OF BARRIER WITH POSITIVE PRESSURE.</p>
	<p>D-4</p> <p>DESCRIPTION: SINGLE LAYER OF 6 MIL. FLAME RESISTANT POLYETHYLENE SHEETING WITH A ZIPPER CLOSURE.</p>		<p>D-5</p> <p>DESCRIPTION: EXISTING HINGED WOOD OR METAL DOOR, CONTINUOUS WITH EXISTING WALL. HARDWARE MUST FUNCTION PROPERLY.</p> <p>(D-5 SHALL BE USED WHEN AN EXISTING WALL / DOOR ASSEMBLY IS USED AS THE INFECTION CONTROL BARRIER)</p>		<p>D-6</p> <p>DESCRIPTION: MINIMUM 36" SOLID WOOD DOOR IN A METAL FRAME OR METAL DOOR IN A METAL FRAME. FRAME TO HAVE STOPS AND FRAME TO BE SEALED TO BARRIER WALL. HARDWARE MUST FUNCTION PROPERLY.</p> <p>NOTE: SWING OF DOORS MAY BE REVERSED AS REQUIRED BY THE PROJECT.</p>
	<p>D-7</p> <p>DESCRIPTION: MINIMUM 48" SOLID WOOD DOOR IN A METAL FRAME OR METAL DOOR IN A METAL FRAME. FRAME TO HAVE STOPS AND FRAME TO BE SEALED TO BARRIER WALL. HARDWARE MUST FUNCTION PROPERLY.</p> <p>NOTE: SWING OF DOORS MAY BE REVERSED AS REQUIRED BY THE PROJECT.</p>		<p>D-8</p> <p>DESCRIPTION: MINIMUM 36" SOLID WOOD DOOR IN A METAL FRAME OR METAL DOOR IN A METAL FRAME. FRAME TO HAVE STOPS AND FRAME TO BE SEALED TO BARRIER WALL. HARDWARE MUST FUNCTION PROPERLY.</p> <p>NOTE: SWING OF DOORS MAY BE REVERSED AS REQUIRED BY THE PROJECT.</p>		<p>D-9</p> <p>DESCRIPTION: MINIMUM 48" SOLID WOOD DOOR IN A METAL FRAME OR METAL DOOR IN A METAL FRAME. FRAME TO HAVE STOPS AND FRAME TO BE SEALED TO BARRIER WALL. HARDWARE MUST FUNCTION PROPERLY.</p> <p>NOTE: SWING OF DOORS MAY BE REVERSED AS REQUIRED BY THE PROJECT.</p>

This drawing is intended for a specific individual(s) and purpose that protect from disease. Any inappropriate use is strictly prohibited. All conditions and dimensions shall be field verified.

PENNSTATE MILTON S. HERSHEY MEDICAL CENTER COLLEGE OF MEDICINE HERSHEY, PA 17033
Space Planning - Facilities Planning & Construction

DATE 04-22-2008
SCALE NOT TO SCALE

ICRA BARRIER DOORS
SHEET NO. 2 OF 2
DWN BY SDD



INSTITUTIONAL SAFETY POLICY

Title: Safety Requirements for Contractors & Vendors
Number: FP-04SPM
Effective Date: 3/92
Review Date: 5/16
Approved by: Charles Ulinfun, Director, Department of Safety

PURPOSE: To inform contractors, service personnel and suppliers of the fire protection and safety measures that they are required to follow.

POLICY: Contractors and vendors working on the grounds or within any Medical Center building will **comply** the procedures described in this policy in order to reduce or eliminate the risk of injury, property damage and to comply federal, state and local regulations.

I. Persons Affected

- A. All personnel who use contractors and vendors and all contractors and vendors.

II. Responsibilities

- A. Any employee and/or department engaging a contractor shall be responsible to inform the contractor of the Medical Center's safety policies and procedures.

III. Procedures

- A. Purchases Department shall be notified before any contractor or vendor is brought into the Medical Center to perform work involving the alteration and/or penetration of any structural members of the building. Structural members include floor slabs, walls, ceilings and structural steel.

IV. Interim Life Safety Measures (ILSM) - - Please refer to FP-07SPM for Medical Center ILSM policy.

- A. Interim Life Safety Measures (ILSM) are a series of administrative actions that must be taken to temporarily compensate for the hazards posed by fire system maintenance, code deficiencies, and/ or construction activities.
- B. ILSM must be implemented in, or adjacent to, all construction areas and throughout buildings with existing Life Safety Code Deficiencies. ILSM shall apply to all personnel, including construction workers, and shall be implemented during project development and continuously enforced through the project completion.

1. ILSM Designations for Projects (see ILSM Policy FP-07SPM)

In order to be designated as ILSM projects, the project affects the existing:

- Exiting requirements - such as reduced corridor width less than 48 inches, stairwell closure, etc.
- Fire alarm systems
- **Sprinklers systems/Fire pumps**
- Fire wall, smoke walls, and/or slabs that have been compromised.

2. Determination of Projects under ILSM

The Project Manager shall review the ILSM Matrix to determine if a project falls under the ILSM Policy requirements.

3. Staff Training

If needed, the employees at the affected department shall be trained on the alternate exits to use, the adjacent smoke zones to use and other fire safety measures.

4. Construction Meetings

Once the Project Manager has provided the meeting dates, the Director of Safety, or his designee, shall attend the on-going construction meetings, as applicable.

5. Construction Site Inspection

The Contractor shall complete a daily inspection of the construction site **as applicable**. The completed daily inspection forms shall be submitted to the Department of Safety via the Project Manager.

V. Pre-Bid Safety Requirement for all Contractors

A. Prior to awarding a project to a contractor, the employee or department shall request the contractor to submit the following items to the Department of Safety for review:

1. Current Safety Program with a signed statement that the contractor's safety program complies with applicable OSHA Standards.

VI. Contractors Safety Orientation

A. Prior to the beginning of any project, all contractors shall:

Attend a safety orientation that is provided by the Department of Safety, Department of Facilities, and Infection Prevention Department. The focus includes, but not limited to:

- Emergency telephone numbers at the Medical Center.
- Location of hazardous materials and chemical wastes that are in close proximity to the project. This will also include SDS.
- Location of asbestos and lead materials.
- Job site safety inspection.
- Permit requirements for all confined space entry, hot work, fire system and above ceiling work.
- Smoking Policy at the Medical Center.
- Provide the name and telephone number of their project supervisor.

VII. Contractor/Vendor Specific Rules

A. General

- 1. All contractors must comply with applicable federal, state, and local, standards, and/or their own safety policies.**
- 2. Questions regarding the interpretation of this policy must be directed to the Department of Safety.**
- 3. The following represent minimum requirements, however, the Medical Center may wish to exceed them in several ways.**

B. Fire Protection

- 1. At all new construction and renovation, appropriate size and type of approved fire extinguishers must be placed in such a manner that they will be visible and accessible at all times. All fire extinguishers at the job site must be inspected monthly and maintained annually per NFPA 10.**
- 2. The number of on-site fire extinguishers will be determined by the Director of Safety or his designee.**
- 3. All existing fire protection will be continuously maintained or, in lieu thereof, other measures shall be taken which will provide equivalent safety as determined by the Director of Safety, or his designee.**
- 4. If a sprinkler system has to be placed out of service, due to a construction project, ONLY THE FIRE PROTECTION PLUMBERS CAN PLACE A SPRINKLER SYSTEM OUT OF SERVICE. Also, ONLY THE AFFECTED SPRINKLER ZONE SHALL BE PLACED OUT OF SERVICE.**
- 5. The Department of Safety will be notified one (1) week in advance of any planned interruption of any existing fire protection or detection system.**

C. Hazardous Work

- 1. All work presenting an increased danger to the facility from fire or explosion will be reviewed with the Director of Safety, or his designee before the start of such work.**

D. Stairwells and Corridors

- 1. Existing stairwells and approved means of egress (corridors) will be maintained free from obstructions and must remain accessible at all times.**

E. Flammable or Explosive Substances or Equipment

- 1. Flammable or explosive substances or equipment will not be introduced into the facility. Such materials will be permitted only if the condition of use and safeguards provided are that which will not create any additional danger or handicap to egress beyond the normally permissible conditions in the building.**

F. Alterations/penetrations of structural members (floors, walls, ceilings and structural steel)

- The alterations/penetrations of any structural member will be sealed or fireproofed with an approved fire-resistant material having a resistive rating equivalent to the existing components of the structural member. All materials used will be UL/FM approved. The design or system number will be documented and kept in the project file for reference. (Please refer to the Facilities policies and procedures #30-29 that are available in BOC and the Facilities office for detailed penetration requirements.)
- All alterations/penetrations on any structural members will be sealed or fireproofed at the end of each shift. This may necessitate the temporary use of mineral wool or other suitable noncombustible materials. Fiberglass-type insulation is not permitted.

G. Smoking

1. All employees and contractors shall be instructed that tobacco use is not permitted on campus as described in Hospital Policy A-6.

H. Housekeeping

1. All debris, trash or left over materials will be kept to a minimum and not allowed to accumulate within the facility. This may necessitate daily removal.
2. Left over loose materials will be removed from the topside of the ceiling tile.
3. Ceiling tile removed to perform a task will be replaced at the completion of work.

I. Tarps and Covers

1. All tarps and covers will be fire retardant treated or made of a noncombustible material.

J. Welding, Cutting and Hot Work (see FP-06SPM)

1. Before doing cutting, welding or hot work, contractors shall outline, to the Safety Director, or his designee, the procedures they propose to follow and to state when and where the work will be done.
2. The Safety Director, or his designee, may inspect the work area prior to issuing a "Hot Work" permit.
3. Contractors shall not do any hot work which is not covered by a hot work permit.
4. The contractor is responsible for providing the proper fire extinguisher(s) during a construction project.
5. A copy of the Policy on Cutting, Welding and Hot Work Permit will be provided to the worker.

K. Liquefied Petroleum and Acetylene Gases

1. All working supplies of L.P. and acetylene gases will be removed from the facility at the end of each work day.
2. The aggregate accumulation of cylinders at any one work area will not exceed the cylinder(s) actually connected for use.
3. All cylinders will be secured in an upright position.

4. **Transfer of compressed or liquefied gases from one gas container to another is prohibited.**

L. Temporary Partitions

1. **All temporary partitions will be constructed of noncombustible and/or fire retardant materials.**
2. **Consideration will be given to the placement of partitions so as not to obstruct existing fire protection or means of egress.**
3. **The placement of partitions which will encroach into an occupied area will need the approval of the Director, Department of Safety or his designee, prior to the erection of such partitions.**

M. Storage of Materials, Supplies and Cylinders

1. **No equipment, tools, or materials shall be stored in the corridor and stairwells.**
2. **Temporary storage of materials shall be coordinated with the Project Manager.**
3. **Combustible items are prohibited in any mechanical room, electrical closet or other similar areas.**
4. **All compressed gas cylinders must be stored in an appropriate container and must be secured in an upright position.**

N. Fire and Emergencies

1. **Upon the discovery of a fire, appropriate action will be taken to confine, control and extinguish it.**
2. **Immediate notification of any fire or emergency will be given to the Medical Center's BOC Operator (dial 8888).**
3. **The Medical Center's fire and emergency telephone number will be posted at all telephones installed for use by the contractor.**

O. Contaminated Areas

1. **Contaminated areas will be decontaminated prior to the start of any job. Contractors will coordinate these activities with the Department of Facilities and the Director of Safety, or their designee.**

P. Barricades

1. **Work involving walkways, roadways, storm drains, curbs, manholes, etc., shall be barricaded.**
2. **Barricades when used on roadways and/or parking lots, from dusk to dawn, will be appropriately marked with warning flashers sufficient in number to readily identify and warn of obstructions or existing hazards.**

Q. Gasoline Powered Equipment

1. Gasoline powered equipment will not be used within any building.

R. Hand Tools

1. Use each tool correctly and for the purpose it was intended. If you don't have the right tool with you - don't improvise.
2. Keep tools in good condition.
3. Put tools away when you are through with them.
4. Safety glasses must be worn by all persons using impact tools such as chisels, punches, etc.
5. Be careful with edged tools. Do not keep edged tools loose in a common workbox, or thrown onto a bench.

S. Power Tools

1. Safety glasses must be worn by all persons using power tools.
2. All power tools must be either grounded or double-insulated.
3. Inspect all power tools before using them to make sure they are in good operating condition.
4. Power tools are to be used only by staff that supervisors have authorized to use them.
5. Do not drag power cords through water, oil, or over sharp metal edges.
6. Guards on stationary power tools must be kept in place.
7. Whenever possible, suspend cords overhead if there is traffic which may run (or trip) over them.
8. Do not use tools with frayed cords, broken plugs, or other damage. Have them repaired before further use.
9. Clean tools only with non-flammable safety solvents.
10. Disconnect power cords whenever changing blades or otherwise working on power tools.
11. Be extra cautious when using power tools while on a ladder or scaffold.
12. Always shut off valves or switches when working on electrical systems. Apply warning tags and locks at lockout points such as fuse boxes and control panels.
13. Do not overload electrical circuits. Never fuse too heavily. Electrical wiring is to be done only by a qualified electrician.

T. Ladder Safety

- 1. Wood ladders must never be painted over. Painted ladders must be discarded promptly, if found.**
- 2. Wood ladders must be free from large checks, shakes, decay or knots.**
- 3. Promptly tag defective ladders for repair or destruction.**
- 4. Never use metal ladders when working on or around electrical devices or wiring, or where they (or the person on them) may come into contact with electricity.**
- 5. Ladders must have non-slip bases.**
- 6. Never use ladders as scaffolds.**
- 7. Do not climb ladders with both hands filled with materials.**
- 8. Always face the ladder.**
- 9. Do not lean over too far.**
- 10. Never stand on the top two (2) rungs of a ladder.**
- 11. Rope off public areas and/or place warning signs wherever ladders are being used.**

U. Machinery

- 1. All equipment must have appropriate guards. Never remove guards that are provided.**
- 2. All flywheels, gears and other rotating parts of machines must be guarded against contact unless they are higher than seven (7) feet from the floor. Guards may not have openings larger than 1/2 inch.**
- 3. Table saws must be equipped with a splinter and kick-back preventer.**

V. Painting and Spraying

- 1. A "No Smoking" rule must be enforced in paint and wood shops, and other locations where paints and thinners are used or stored.**
- 2. Fire extinguishers must be available wherever flammable paints or thinners are used or stored.**
- 3. When spray-painting, a face mask and gloves shall be worn.**
- 4. Gasoline powered air compressors should not be used indoors.**

W. Electrical Safety

- 1. The Project Manager shall make sure that a contractor implements its own electrical safety procedures.**

2. The Project Manager shall make the contractor to be aware of the following HMC electrical safety procedures:

- **No unqualified person shall tamper with electrical circuit breakers, fuse boxes, alter existing wiring or install electrical wiring.**
- **Only qualified employees shall be notified and required to correct electrical trouble on equipment.**
- **Live parts shall be de-energized before work begins unless it introduces additional hazard or is unfeasible to do so.**
- **Circuits shall not be de-energized if it would cause interruption to life support equipment, disable fire alarm systems, shutdown of ventilation equipment in hazardous locations or removal of illumination for an area.**
- **Lockout/Tag out procedures shall be enforced to isolate de-energized equipment or circuits before repair begins. See SA-16SPM for Medical Center LOTO Procedures.**
- **Barricades shall be placed around exposed live parts to avoid contact with them.**
- **All qualified persons shall use personal protective equipment when working with electrical devices.**
- **All qualified persons shall be trained before working with electrical parts.**

X. Machine Guarding

- 1. All moving parts of equipment shall be properly guarded during installation, repairs, adjustment, etc.**

Y. Lockout and Tag out

- 1. The Project Manager shall make sure that a contractor implements its own lockout and tag out procedures. A copy of the contractor LOTO program shall be submitted to the Project Manager prior to start of the project.**

- 2. The Project Manager shall make the contractor aware of the following HMC LOTO procedures:**

- **Notification of shutdown shall be provided to the affected department.**
- **Switches, valves, etc., shall be used to shut down the equipment or machine.**
- **The energy source of the equipment or machine shall be isolated.**
- **Lockout and tag out the affected equipment or machine.**
- **Switches, valves, etc., shall be used to shut down the equipment or machine.**
- **Repair the affected equipment or machine.**
- **Restore the affected equipment or machine back to device after the repair is completed.**
- **Notify the affected department that the equipment or machine is back in service.**

Z. Confine Space Entry

Each contractor who is retained to perform work that will require permit confined space entry shall:

- 1. Coordinate entry operations with the Project Manager when both the contractor and the HMC personnel will be working in or near permit confined spaces.**
- 2. Provide the list of the rescue team to the Project Manager.**
- 3. Complete environmental air monitoring before, during, and after the project.**

4. Provide a copy of the confined space program to the Project Manager.

5. A partial list of permit required confined space at the Medical Center includes:

* Sanitary sewer manholes * Surge tanks * Electrical manholes * Deaerator tanks * Storm water manholes * Mud and steam drums (boilers) * Telecommunication manholes * Boilers * Elevator pits * Water softener tanks * Sump pits * Refrigeration storage tank * Upper incinerator chamber * Cooling tower condenser water pump pits * Chilled water storage tank * Fuel oil storage tank * Cooling towers * Lower incinerator chamber * Water meter reading vaults * Etc.

AA. Asbestos

1. The Project Manager and the contractor shall coordinate planned renovation and/or construction projects involving asbestos with the Department of Safety and Penn State University, Environmental Health & Safety.

2. The Project Manager shall ensure that all renovation, demolition, remodeling, etc., projects involving the disturbance of building materials installed before 1981 are preceded by an inspection/survey to determine the presence of asbestos. Building materials not inspected/surveyed are presumed to contain asbestos material.

3. The Project Manager shall ensure that all renovation, demolition, remodeling, etc. projects that involve the disturbance of asbestos are preceded by an asbestos abatement project performed by a contractor on the Penn State University pre-qualified list of asbestos abatement contractors. Environmental monitoring firms shall be selected from the Penn State University pre-qualified list of monitoring/inspection firms.

4. All asbestos abatement projects and activities shall be performed in accordance with the Medical Center policy "Asbestos Management and Control " (HM-01SPM) and the specifications prepared by Penn State University, Environmental Health & Safety which are located in the Department of Safety.

BB. Lead

1. The Project Manager and the contractor shall coordinate the lead project with the Department of Safety.

2. All activities involving lead shall be conducted in accordance with federal, state and local requirements.

CC. Hazard Communication

1. In accordance with OSHA Hazard Communication Standards, the Project Manager shall inform contractors of any hazardous materials present in the job area.

2. Once the above information is provided to the contractor, he or she shall communicate the hazardous conditions to his/her employees.

DD. Safety Data Sheets (SDS)

1. The contractor shall maintain SDS on-site for all hazardous chemicals used or stored at the job site.

2. The contractor shall provide copies of the SDS to the Project Manager.

3. The Project Manager shall send copies of the SDS to the Department of Safety prior to the start of the project.

EE. Personal Protective Equipment

- 1. The Contractor shall ensure that their employees wear protective equipment such as hard hats, gloves, ear muffs, goggles, etc., when working at the job site. The HMC Project Managers shall advise the contractor regarding the violation of this requirement.**

FF. Trenches and Excavations

- 1. The contractor shall coordinate trenches and excavation work with the Project Manager and the Department of Facilities to assure the correct procedure for shutting down utilities is followed.**
- 2. Trenches that are more than four (4) feet deep shall have ladders or steps to aid in escaping the trench.**
- 3. Daily inspection of excavations shall be made by the contractor. If, at any time, there is evidence of a possible cave-in or slide, all work shall cease until necessary safeguards are in place.**

GG. Scaffolds

- 1. Contractors shall implement the general OSHA requirements for scaffolds unless a specific requirement for a particular type of scaffold is more applicable.**

HH. Cranes and Hoists

- 1. Mobile cranes, including power shovels, portable crane derricks, or similar equipment, shall not be operated within 10 feet of overhead electric power lines.**
- 2. Areas where cranes and hoists are being used shall be barricaded by the contractor.**
- 3. Contractor's employees working around cranes and hoists shall wear appropriate personal protective equipment.**
- 4. The contractor shall implement OSHA general requirements for cranes and hoists.**

II. Fall Protection (See SA-13SPM)

- 1. All contractors working on a project at HMC that is six (6) feet or more above a lower level, shall have in place one or more of the following fall protection devices to protect their employees:**

- Guardrail**
- Personal Fall Arrest Systems**
- Safety Net**

- 2. Guardrails**

- All guardrails shall be at least 42 inches high with a 21 inch mid-rail and four (4) inch toe board within 1/4 " of the platform.**
- All guardrails shall be visually inspected prior to use by employees. The Department of Safety may request the inspection documentation during the project.**

- Guardrail systems shall be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
- When guardrail systems are used at holes, ramps, and runways, they shall be erected on all unprotected sides or edges of the hole.
- Manila, plastic or synthetic rope being used for top rails or midrails shall be inspected frequently to maintain the 200-pounds strength requirements.

3. Personal Fall Arrest Systems

Personal fall arrest systems and their use shall comply with the provisions set forth below:

- Effective January 1, 1998, body belts are not acceptable as part of a personal fall arrest system. The use of a body belt in a positioning device system is acceptable.
- Effective January 1, 1998, only locking type snaphooks shall be used on all personal fall arrest systems.
- Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person.
- Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000-pounds.
- When vertical lifelines are used, each employee shall be attached to a separate lifeline. * Ropes, harnesses and lifelines shall be protected from being cut or abraded.
- Ropes, harnesses and lifelines shall be made from synthetic fibers.
- All ropes, harnesses and lifelines shall be inspected prior to use by employees. The Department of Safety may request the inspection documentation during the project.
- Defective ropes, harnesses and lifelines shall be removed from service.
- Anchorages shall support the employee attached to it.
- The installation and use of ropes and lifelines shall meet applicable OSHA Standard.

4. Safety Nets

Safety net systems and their use comply with the following provisions:

- Safety nets shall be installed under the walking/working surface on which employees are working.
- All safety nets shall be inspected prior to use by employees. The Department of Safety may request the inspection documentation during the project.
- Defective safety nets shall not be used but, to be removed from service.
- The installation and use of safety nets shall meet applicable OSHA Standard.

VIII. Reference Procedures

- A. OSHA 1910 and 1926
- B. National Fire Protection Association (NFPA)
- B. The Joint Commission Regulations and Standards

IX. Responsibility for Review

- A. Property/Equipment/Utilities Subcommittee

B. Department of Safety

Last revision: 11/16



Above Ceiling Compliance Policy	A-96 HAM
Hospital Administration	Effective Date: January 2018

PURPOSE

To outline procedures for all employees, contractors, and vendors working for or under the jurisdiction of Penn State Hershey Medical Center (PSHMC):

- Proper maintenance of the integrity of all penetrations (fire/smoke-rated walls/partitions and floor assemblies) and how to properly seal all penetrations in fire/smoke rated barriers and floor slabs materials.
- Requirements for the proper installation of wire, cables, pipes, conduits, ductwork, etc.
- Guidelines and requirements when installing or maintaining above ceiling infrastructure that support telecommunications/data transfer, clinical monitoring systems, facility support systems, and other clinical or non-clinical applications.

SCOPE

This policy will ensure that all work performed within PSHMC facilities complies with applicable building and life safety codes and to assign responsibility for work performed by PSHMC personnel, outside vendors, and contractors.

POLICY AND PROCEDURE STATEMENTS

This policy covers ALL penetrations and cable management, regardless of whether they are above a ceiling or not, as in cases where there is no suspended ceiling. For this purpose, the term “above ceiling” is meant to be generic.

1. The Safety Department will establish and maintain a position entitled PSHMC Building Compliance Coordinator. The Building Compliance Coordinator shall enforce adherence to this policy by all parties performing above ceiling work. The Building Compliance Coordinator shall issue permits for all above ceiling work.
2. This institution interprets the term “above ceiling work” to mean: making of any type of

new penetration, working with existing penetrations and/or the redirection, addition or deletion of any utilities, systems, or components. See number 8 below to further define these terms.

3. Work that can be excluded from a permit includes routine maintenance, single location minimal adjustments and minimal repairs to utilities, systems or components. Some examples listed below including but not limited to:
 - a. Replacing valves
 - b. Adjusting dampers
 - c. Replacing damper actuators
 - d. Replacing light ballasts
 - e. Replacing ceiling tiles
4. This policy applies to ALL personnel performing any type of work within the facility.
5. No above ceiling work shall be performed without the following:
 - a. Above Ceiling Work Permit - issued by the Building Compliance Coordinator after completing a Construction Safety Risk Assessment per the Interim Life Safety Measures (ILSM) Program for Fire System Maintenance, Life Safety Code (FP-07SPM).
 - b. Infection Control Construction Permit Application- Permits will be issued by the Infection Control Department in accordance with Construction, Renovation, and Maintenance Infection Control Program Policy (III-14).
6. Work above ceilings in occupied patient rooms is never allowed.
7. IF A PENETRATION CANNOT BE PROPERLY FIRE STOPPED, THE PENETRATION SHALL NOT BE MADE.
8. Departments requiring services involving the installation, upgrade, replacement, addition or modification to the following systems and/or applications shall coordinate their request through the Building Compliance Coordinator:
 - a. Information systems technology applications including, but not limited to, telephone, data, communication, intercom, paging, nurse call, television, dictation, and security systems, etc.
 - b. Clinical Engineering applications including, but not limited to, monitoring systems, CCTV, and telemetry systems, etc.
 - c. Maintenance and engineering applications including, but not limited to, electrical, mechanical and plumbing (includes med gases and tube systems), fire alarm, building automation, and sprinkler systems, etc.
9. Departments responsible for coordinating installations shall obtain all appropriate permits prior to commencing work. Permits shall be prominently displayed at the entrance of all infection control barriers or infection control cubes or shall be in the possession of the person performing the work at all times while work is underway.
10. All penetrations of fire/smoke rated assemblies shall be properly protected using UL rated 3M fire-stopping systems. No other manufacturer is authorized without prior permission granted by the PSHMC Wall Penetrations Committee. When viewed as a unit, the building component, penetrating item, and sealing materials shall be considered a rated fire-stop system. All penetration sealing systems utilized will carry a UL rating equivalent to the building component being penetrated. Different generations of 3M product, (colors, types etc.) may not be co-mingled in/on any penetration.

11. All personnel installing fire-stopping systems shall be properly trained in accordance with manufacturer's requirements and maintain a current manufacturer's certification. The department coordinating the work is responsible for ensuring workers are properly certified.
12. No data cable, co-axial, signal wire, or other low voltage cable may be installed through a rated barrier without first installing a re-enterable, UL rated pass-thru device containing the same rating as the wall being penetrated. All pass-thru devices shall be installed in accordance with manufacturer's instructions.
13. Persons entering existing fire-stopping systems shall install a tag for each penetration. These tags will be:
 - a. Silver in color.
 - b. Minimum size of 2" x 4" and indelible.
 - i. Examples include McMaster-Carr part # 1692T34, or,
 - ii. Brady stock B-906, part # 87643.
 - c. The tag will be attached to the penetrating device (pipe, conduit, ductwork, etc.) on one side of the penetration using a mechanical wire. The tag shall contain the following information:
 - i. Company name.
 - ii. Date of installation.
 - iii. Permit number, as assigned by the Building Compliance Coordinator.
 - iv. Room number nearest to the penetration.
 - v. Manufacturer's system designation information.
14. Any penetration through a rated barrier, whether temporary or permanent, shall be properly sealed at the end of each work shift. Temporary patches may be in place for no more than 24 hours.
15. Current fire and smoke plans are available from the Facilities Department upon request. Where fire and smoke floor plans do not exist or where the proper rating is unclear, sealing requirements shall be determined by the Building Compliance Coordinator.
16. Where a pre-approved, UL listed fire stopping system does not exist for a particular penetration, the Building Compliance Coordinator shall obtain an Engineering Judgment from an acceptable manufacturer. The Building Compliance Coordinator shall indefinitely retain all Engineering Judgments.
17. All cables, wires (high or low voltage), pipes, ductwork, conduits, etc. shall be properly supported in accordance with manufactures recommendations, applicable codes, and/or industry accepted best practices.
18. New systems may be supported by existing hangers, trapeze apparatus', all-thread, etc.; only where the system is deemed of adequate strength to support the existing loads plus all the new loads applied.
19. No systems shall be supported by ceiling grid tie wires except for flex electrical cabling serving lighting that is integral to the ceiling system.
20. AT NO TIME SHALL ANY ITEM BE SUSPENDED FROM OR SUPPORTED BY A SPRINKLER/MEDGAS PIPE, SPRINKLER/MEDGAS PIPE SUPPORT, OR SPRINKLER HEAD/ MEDGAS OUTLET.
21. All structural steel fireproofing material removed so as to install hangers or other systems shall be promptly and properly replaced by trained personnel.
22. Failure of staff or vendors/contractors to comply with this policy may result in

disciplinary action to include: written warnings, fines, and/or termination; as well as liability for costs incurred by PSHMC to correct deficiencies and damages caused by improper work.

PROCEDURE:

Department Coordinating Work:

1. Using the permit application contained within this policy, secures all appropriate permits prior to commencing work and ensures permits are properly displayed and enforced.
2. Ensure all personnel performing above ceiling work first attend the PSHMC mandated Safety and ICRA training and properly display proof of attendance.
3. Ensure all personnel installing fire-stopping systems maintain current certification in accordance with manufacturers' requirements.
4. Coordinate daily supervision of work activities and ensure compliance with the provisions of current policies and permits. Verify compliance through random inspection of work being performed.
5. Verify inspection of work with the Building Compliance Coordinator. The personnel performing the work shall have a representative present during final inspection to demonstrate compliance with this policy.
6. Verify that progress/final payments to outside vendors/contractors are only authorized for work that complies with this policy.

Employee/Vendor/Contractor Performing Work:

1. Perform all work in accordance with the provisions of this policy.
2. Verify that all work complies with applicable building codes.
3. If required, schedule final inspection with the department coordinating the work and the Building Compliance Coordinator.
4. When requested, provide copies of manufacturers' technical data and UL fire rating assembly certification for all penetrations through fire/smoke rated assemblies, i.e., walls, ceilings, floors, etc.
5. Provide copies of current certifications for personnel installing fire-stopping systems.
6. Provide floor plans with locations of penetrations and tag numbers.

Obtaining an Above Ceiling Permit

Thoroughly assess the project area to determine if any work will be needed above the ceiling. If work is required, an Above Ceiling Work Permit must be submitted. You can find the form here: [Above Ceiling Permit Request Form](#) or request the form from the Building Compliance Coordinator (BCC).

1. The Above Ceiling Work Permit Request Form, Section A and B must be filled out and provided to the Building Compliance Coordinator no later than two (2) days before the start of work above the ceiling.
2. The requestor is to fill out Section A and provide to the project manager or supervisor who will then complete Section B and forward the request to the Building Compliance Coordinator. Email is the only acceptable way to provide the request to the Building Compliance Coordinator, see contact information below. Email: AboveCeilingPermit@pennstatehealth.psu.edu

3. The Building Compliance Coordinator will then send the Approved form back to the requestor along with the permit.
4. A permit placard will be issued by the BCC. The placard is to be attached to the ICRA barrier or infection control cubes, taped to the ladder being used or somewhere easily seen at the entrance point.
5. Section D of the Permit Request form will also need to be on site and initialed before the work area is left unattended, for every occurrence, if the final installation of the smoke/fire proofing system has not yet been made.

Building Compliance Coordinator:

1. Coordinate the above ceiling permit process with personnel performing above ceiling work.
2. Maintain copies of personnel training certifications. Notify the Project Manager or Supervisor of work being performed by workers with expired certifications.
3. Perform periodic surveys of work in progress and report findings/deficiencies to the installer AND the department responsible for performing the work.
4. When requested by the department performing the work, verify that all work conforms to the permit requirements prior to progress/final payments to outside vendors/contractors.
5. Conduct random and final inspections to verify that work complies with all applicable codes and regulations.
6. Periodically review changes to local, state and federal codes and update policies as required.
7. Develop and maintain an ongoing summary of all identified deficiencies. Submit a monthly summary of all deficiencies, including corrective action taken, to the Assistant Vice President of Facilities and the Director of Safety on a monthly basis.
8. Maintain up-to-date inventory of all fire-stop system identification tags.

HMC Purchases Department: Monitor purchase order requests of work that may fall under this policy and notify the Building Compliance Coordinator and department requesting the work.

RELATED DOCUMENTS AND REFERENCES

- A. Construction, Renovation, and Maintenance Infection Control Program Policy (III-14)
- B. Interim Life Safety Measures (ILSM) Program for Fire System Maintenance, Life Safety Code (FP-07SPM)
- C. Construction Safety Requirements for Contractors & Vendors (FP-04SPM)

APPROVALS

Authorized:	
Approved:	Marvin Smith, Assistant Vice-President, Facilities

DATE OF ORIGIN AND REVIEWS

Date of origin: 11/1/2017

Review Date(s): 10/11, 4/13, 8/14, 4/16, 11/17

CONTENT REVIEWERS AND CONTRIBUTORS

Associate Director, Facilities Planning and Construction
Building Compliance Coordinator