



NYU WINTHROP HOSPITAL
Engineering Department

Construction Process Policy

ENGINEERING DEPARTMENT POLICY

No:		ENG-02	
SUBJECT:	Comprehensive Pre-construction/Renovation Risk Assessment		
EFFECTIVE:	SEPTEMBER 10, 2015	REVISED:	APRIL 2017
SUPERSEDES:	N/A	PAGES:	25
CROSS REFERENCE:	INFECTION CONTROL RISK ASSESSMENT; INTERIM LIFE SAFETY MEASURES		
APPROVED BY:	BRIAN J KENNY, DIRECTOR OF ENGINEERING		

PURPOSE:

The purpose of the preconstruction risk assessment is to establish guidelines for the determination of the potential risks associated with projects involving demolition, renovation and construction and is intended to minimize or eliminate the consequences of adverse risk events and alert facility staff to the presence of risks so that they can be mitigated during construction. The assessment includes provisions for utility requirements, air quality requirements, noise, vibration, and other hazards that affect care, treatment, and services, infection control and fire/life safety.

POLICY:

NYU Winthrop Hospital (**NYUWH**) makes every effort to minimize the disruption related to any construction/renovation project that could negatively impact patient care, treatment, services; and/or the safety of all individuals affected by the project. All **NYUWH** construction and renovation projects will be risk-assessed prior to starting the renovation and/or construction project to determine impact to patient safety and environment of care. This comprehensive risk assessment process addresses the following components:

- a) Initial Project Risk Assessment process (**IPRA**)-used to determine if scope of the project requires further assessments (***such as a PCRA, ICRA and/or ILSM***); this is completed by the Engineering/Facilities Department and key stakeholders impacted by the project.
- b) Pre-Construction/Renovation Risk Assessment (**PCRA**)-used to determine impact on air quality, infection control, utilities, noise, vibration, and other hazards. This is a more detailed assessment involving the Project Team.
- c) Interim Life Safety Measures (**ILSM**)-assesses the need to implement temporary fire protection measures based on type and duration of the project to ensure the life safety of all occupants. (**NOTE- this section may be used separate of the PCRA Process as required**).
- d) Infection Control Risk Assessment (**ICRA**)-determines the need for and extent of control processes to minimize the risk of inadvertent infection.

SEE PROCESS FLOW ON PAGE 8

IMPORTANT NOTES

- 1. The Life Safety Officer has the authority to halt construction/renovation site activities if such activities place individuals in imminent danger or that may be of a serious threat to the environment.**
- 2. The Infection Control Practitioner has the authority to halt construction/renovation site activities if any infection control practices are not considered effective.**

SCOPE:

This plan applies to NYU Winthrop Hospital and associated buildings, staff, licensed independent practitioners and construction personnel.

RESPONSIBILITIES:

Engineering Department:

1. Provide **NYUWH** administrative oversight of this program and all projects
2. Manage the documentation for each project pertaining to construction site(s) and areas affected by construction. Each project will have its own documentation binder.
3. Ensure that contractors that bid for the project receive and acknowledge the requirements of this policy.
4. Conduct an initial project risk assessment (**IPRA**) with affected stakeholders prior to start of project to determine if additional risk assessments (**PCRA, ICRA, ILSM**) are required. Convene a **Project Team** meeting (*see page 10 for specific criteria*) as needed prior to start of work to evaluate significant risks associated with the project.
5. Determine the expected duration of the impairment, and the area of the building involved.
6. Ensure enforcement of storage, housekeeping and debris removal practices.
7. Minimize all hot work including cutting and welding. If hot work is essential to complete the work, ensure the **Engineering Department** has approved the work in advance and issued the appropriate permit.
8. Ensure *PCRA Daily Site Inspection Form – (Appendix B)* is reviewed and is completed on a daily basis by the **Construction Manager with input from the respective contractor's competent persons**.
9. Ensure completion of the *Interim Life Safety Measure (ILSM) Evaluation*.
10. Conduct periodic worksite inspections and document findings (e.g. Hazard Surveillance Forms or other documentation source).
11. Provide temporary fire protection features as needed.
12. Review and ensure adequate egress measures have been implemented for any compromised area(s). Communicate alternates with affected staff.
13. Ensure appropriate fire drills are being conducted in accordance with the **NYUWH** Fire Response Plan, and project required **ILSM**.
14. Ensure appropriate **ILSM** are implemented and documented.
15. Confirm that the fire alarm, smoke/fire detection, and fire suppression systems are not impaired and coordinate with the Contractor or Hospital staff performing the work to implement a temporary, but equivalent system. Contact the local Fire Department, as necessary.
16. Keep records of all inspections that relate to Fire and Life Safety. Send copies of inspections to the **Engineering/Facilities Department** for inclusion in the **Project Binder**.

Project Manager:

1. Together with the **Project Team**, complete the *Preconstruction Risk Assessment Form (Appendix A)* for each renovation/construction project by walking through the project area.
2. Present the completed and signed *Preconstruction Risk Assessment Form (Appendix A)* to the **Engineering/Facilities Department** for review and approval. Place copy in project binder.
3. Ensure completed copies of the *PCRA Daily Site Inspection Form (Appendix B)* are completed and given to the Engineering/Facilities Department for placement in the project binder.
 - a. Any deficiencies noted are to be followed-up with immediately and documented on the bottom or back of the **Inspection Form**.
 - b. Discuss any **ILSM** issues and mitigation strategies with the **Engineering/Facilities Department and Environment of Care Compliance Department**.
4. Upon written approval of Engineering Department, notify/coordinate with applicable Department Directors any utility shutdown at least three business days in advance of the shutdown.

NOTE: When any part of the fire alarm system or fire suppression system is going to be out of service for work, notify the Director of Engineering/Facilities, Security, and Environment of Care Compliance. Sprinkler impairments of 10 hours or more in the 24-hour period require fire watch. Fire Alarm system impairments of 4 hours or more also require fire watch in the 24-hour period [15.5.2., NFPA 25-2011].

5. Verify, with the assistance of the Security Department that free and unobstructed exits and access to emergency services (e.g. fire, police, and other) are maintained.
6. Fire Watch: Ensure the fire watch is conducted during non-construction work hours (e.g. nights and weekends) and whenever high-risk activities (e.g. welding) are performed. Document the fire watch on the PCRA Daily Site Inspection Form (**Appendix B**), and provide copies to the **Engineering Department** for inclusion in the Project Binder.
7. Upon notification that a fire system needs to be worked on, by-passed or taken off-line, the **Project Manager** will ensure that a site inspection is conducted by the **Engineering Department**, and verify that the mitigation measures identified on the respective sites **ILSM** are implemented prior to work commencing. Once the Contractor notifies the **Engineering Department** that work is complete, the system is restored to normal.

Construction Manager, Contractor, and Subcontractors Responsibilities

1. Assist **Project Manager** with the completion of **all risk assessments**, and abide by mitigation measures, as necessary.
2. In addition to being held solely responsible for the safety and health of their employees, the Contractor must also be held responsible for complying with *Life Safety Codes* and Infection Prevention practices detailed on the *Infection Control Work Permit*.
3. The Contractor must hold weekly safety meetings (toolbox talks) to review and train personnel. The contractor must train construction employees in the requirements of this program, and verify that all specific **ILSM** and **ICRA** measures are in place. Documentation from these meetings should be included in the Project Binder.
4. The Contractor must conduct routine hazard surveillance of the entire construction area, ensuring a safe environment for workers as well as adjacent occupancies. This survey is to include storage areas,

staging areas, and excavation areas. The **PCRA Daily Site Inspection Form (Appendix B)** will be utilized for documentation.

5. Contractors are required to provide a list of all hazardous materials used on the construction site and maintain a Safety Data Sheet (**SDS**) file on the construction site as well as provide a copy to the Engineering/Facilities Department prior to utilizing or storing any chemicals on site.
6. Contractors will present proposed cleaning agents to the **Infection Prevention** practitioner for approval prior to use.
7. Excavations are to be barricaded and well lit.
8. Ensure that appropriate fire exit routes are maintained. When fire exits are blocked due to construction, alternate fire exits must be provided and inspected daily, together with communication to affected staff noting such alternates are in place.
9. Install highly visible fire exit signs to alternate fire exit routes.
10. Ensure free and unobstructed exits.
11. Ensure access to fire, police, and other emergency forces.
12. Ensure construction staff receives additional information/communication when Alternate exits are designated.
13. Accumulations of combustible waste material, dust, and debris must be removed from the structure and its immediate vicinity at the end of each work shift or more frequently as necessary for safe operations. The contractor must ensure that all construction debris are placed in a transportation cart and covered while transported from the construction site to an external dumpster. The cart's wheels must be cleaned prior to exit from construction site.
14. Storage of combustible materials must be stored in accordance with *NFPA 241-2009 Standard for Safeguarding Construction, Alteration, and Demolition Operations* to limit the combustible fire load to lowest level possible for daily operations.
15. Install temporary partitions that are smoke tight and built of noncombustible materials, approved by the local authority having jurisdiction (**AHJ**). The contractor is to submit at the beginning of the project specifications for all materials used for temporary partitions.
16. Provide additional fire extinguishers and ensure staff is trained to use this equipment. Document and maintain records of training.
17. Should any fire protection system be taken off-line, a fire watch must be maintained until such system is returned to full operation.
18. When the work has been completed, or at the end of a normal workday, notify the **Engineering Department** of system status.
19. All construction personnel must observe the Hospital's "**No Smoking Policy**" (**APPM S-10-6**). The contractor must provide adequate signage advising construction personnel of the policy and the signage must be placed by all entrances to the construction site.
20. Ensure the fire alarm, fire detection (e.g. smoke, heat, water flow), and fire suppression system (sprinklers) are not compromised to a point of causing potential danger.
21. If at any time, project work requires that a ceiling must be entered for any purpose, the area must be evaluated by the **Construction Manager** at the end of the shift to check that openings in the fire barrier has an appropriate fire rated seal.

Infection Prevention and Control Practitioner

1. Participate as part of the **Project Team** in pre-construction risk assessment (**PCRA**) planning activities as well as in the continuous process to make recommendations for the following:

- a. Identify hazards that could potentially compromise patient care and environmental hazards that pose airborne and waterborne risks. Conduct and ensure the current Infection Control Risk Assessment (**ICRA**) permit is in place and posted.
- b. Conduct periodic worksite inspections and document findings.
- c. Provide recommendations for **HEPA** filtration/negative pressure requirements
- d. Evaluate the impact of disrupting essential services to patients and employees
- e. Recommend placement of barriers to protect against airborne contaminants.
- f. Work with the **Engineering Department** and **Project Manager** to determine air handling and ventilation needs in surgical services, airborne infection isolation and protective environment rooms, laboratories, local exhaust systems for hazardous agents, and other special areas
- g. Provide reviewed copies of all documents to **Engineering Department** for **Project Binder**.

Hospital Staff

1. Participate in emergency evacuation training and use the Alternate fire exits established for the construction phase. Participate in **ILSM** fire drills, as necessary.

DEFINITIONS:

- A. **Interim Life Safety Measures (ILSM):** A series of administrative actions required to temporarily compensate for significant hazards posed by Life Safety Code (**LSC**) deficiencies or construction activities. They are intended to provide a level of safety comparable to that described in **NFPA 101 Life Safety Code 2012** and **NFPA 241-2009 Standard for Safeguarding Construction**. These temporary measures are designed to ensure the safety of patients, visitors, and staff. These measures remain in place until construction or corrective activity brings the area back to code required levels. The **LSC** states the following: "Buildings or portions of buildings are permitted to be occupied during construction, repair, alteration, or addition only where required means of egress and required fire protection features are in place and continuously maintained when the building is occupied, or where alternative life safety measures acceptable to the authority having jurisdiction (**AHJ**) are in place. Note-the term Alternate Life Safety Measures (**ALSM**) may also be referenced in some documents, please note that the meaning is the same as **ILSM**.
- B. **Competent person(s):** Defined by OSHA as "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them" [29 CFR 1926.32(f)]. By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, and has the authority to correct them.
- C. **Contractor:** The person(s) designated to perform the actual work.
- D. **Construction Manager:** One who directs the process of construction as one who directs and coordinates construction activity carried out under separate or multiple prime contracts.
- E. **Construction is defined by** the National Fire Protection Association (**NFPA**) as "work or operations necessary or incidental to land clearing, grading, excavation, and filling; or erection, demolition, assembling, installing, or equipping of buildings or structures; or alterations incidental thereto, or to the

finished product of construction operations. It is any change in structure or building system or new building project”.

- F. Fire Watch** is defined by the National Fire Protection Association (**NFPA**) as the assignment of a person or persons to an area for the express purpose of notifying the fire department and/or building occupants of an emergency, preventing a fire from occurring, extinguishing small fires, or protecting the public from fire or life safety dangers. *NFPA 241-2009, Standard for Safeguarding Construction, Alteration, and Demolition Operations* references requirements outlined in *NFPA 51B-2014, Standard for Fire Prevention during Welding, Cutting, and Other Hot Work*.
- G. Hot Work:** "Work involving burning, welding, or a similar operation that is capable of initiating fires or explosions.
- H. Impairment:** Any condition in which a fire protection system cannot perform its designed fire safety function. Fire protection systems include sprinkler systems, standpipe/hose systems, fire pumps, fire protection water supplies, fire mains, fire alarm systems, and special extinguishing systems (e.g. clean agent, carbon dioxide, wet/dry chemical foam/water, etc.).
- I. Infection Control Risk Assessment (ICRA):** "A determination of the potential risk of transmission of various agents in the facility. This continuous process is an essential component of a facility functional or master program to provide a safe environment of care. The **ICRA** shall be conducted by a panel with expertise in infection control, risk management, facility design, construction, ventilation, safety, and epidemiology." *(Guidelines for Design and Construction of Hospital and Healthcare Facilities)*
- J. Initial Project Risk Assessment (IPRA):** the initial discussion with the construction management team and key stakeholders for Life Safety, Infection Control, and affected Department Head(s); used to determine if full PCRA process will be required based on scope of project.
- K. Life Safety Code (LSC):** Regulation and code requirements that addresses minimum building design, construction, operation, and maintenance requirements necessary to protect building occupants from danger caused by fire, smoke, and toxic fumes.
- L. Maintenance:** Activities designed to provide continuation of services.
- M. National Fire Protection Association (NFPA):** An international private, not-for-profit-organization that researches as well as creates minimum standards and safety codes for fire prevention and suppression activities, training, and equipment.
- N. Pre-Construction Risk Assessment (PCRA)** is used to identify risks and mitigation measures prior to starting construction. The assessment examines impacts on air quality, noise, vibration, infection control and emergency procedures and is intended to maximize the beneficial outcome of the project and minimize or eliminate the consequences of adverse risk events. These temporary measures are designed to ensure the safety of patients, visitors, and staff and must remain in place until construction or corrective activity brings the area back to code required levels of safety.
- O. Project Manager:** The designated person who has responsibility/oversight for a specific project as a direct representative for **NYUWH**.

- P. Renovation:** The **NFPA** defines as the replacement in kind or strengthening of load-bearing elements; or the refinishing, replacement, bracing, strengthening, or upgrading of existing materials, elements, equipment or fixtures, or both, without reconfiguration of spaces.
- Q. Risk:** Any condition, actual or potential that may result in the injury of the occupants or cause damage to the property or equipment.
- R. Safety Data Sheets (SDS):** A document required by the Occupational Safety and Health Administration (**OSHA**) to be included with certain chemicals or products that could adversely affect the environment or human health or safety.

PROJECT TEAM MEMBERS AND MEETING:

The **Project Team** ensures that all risks are adequately assessed, and the appropriate risk mitigation measures are selected and implemented for all construction and/or renovation projects, and/or when deficiencies are identified. The **Project Team** is comprised of the following members:

1. Engineering Department (chairperson)
2. Environment of Care Compliance
3. Project Manager
4. Construction Manager
5. Director of Security (as needed)
6. Infection Prevention and Control Practitioner (as needed)
7. Department Director of Affected Area(s) or designee
8. Hospital contracted Architect of Record, Engineer etc. (as needed)
9. Contractor as needed
10. Hospitality Services Director or Designee (as needed)

RECORD-KEEPING

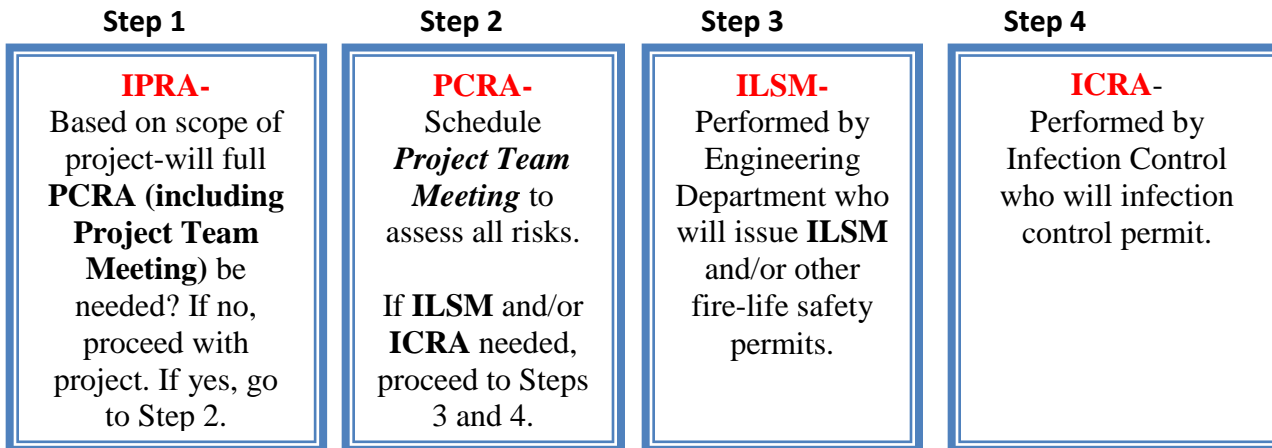
A three-ring binder entitled “**Project Risk Assessment Binder (project binder)**” shall be kept and maintained in the **Engineering Department** for all **PCRA required** renovation/construction projects; so as to provide a central location for all risk assessment and/or inspection documentation (forms, meeting minutes, inspection sheets, etc.). Each **PCRA**-level renovation/construction project will have its own binder. Those projects not requiring a **PCRA** level assessment will have their respective risk assessments placed in a binder with each project in its own tab.

PERIODIC INSPECTIONS

Members of the Project Team including, Construction, Engineering/Facilities, Environment of Care Compliance, and Infection Protection and Control shall perform periodic inspections to ensure that all risk assessed- mitigation strategies are being adhered to.

NOTE: Interim life Safety (ILSM) and Infection Control Risk Assessments (ICRA) compliance during construction is the responsibility of each and every contractor and subcontractor working within the facility, regardless of whether the company is hired directly by NYUWH or by a prime contractor. NYUWH has the authority to order the removal of any of the contractor’s workers should they fail to comply with this policy.

RISK ASSESSMENT PROCESS FLOW:



ASSESSMENT TOOLS:

The **Pre-Construction Risk Assessment (PCRA) Form (Appendix A)** is used to proactively determine the potential risks associated with various aspects of the construction project including: air quality, infection control, utility systems, noise, vibration, emergency procedures and other potential hazards. Once the risks are identified, mitigation measures and emergency response procedures will be developed.

PCRA Daily Site Inspection Form (Appendix B): Completed by the Construction Manager to document the continual surveillance of the project area and actions to minimize risks. This form is completed daily for the duration of the renovation/construction project.

Interim Life Safety Measure (ILSM) Evaluation Matrix (Appendix C): This assessment tool ensures consistent evaluation, application, and documentation of **ILSM**. The Engineering Department will complete this form prior to the start of any construction, remodeling or renovation project or when maintenance may cause a *Life Safety Code* deficiency. The Engineering Department will implement, maintain and monitor the appropriate courses of action to mitigate identified risks.

Infection Control Risk Assessment (ICRA) Process (Appendix D): The purpose of this assessment is to minimize hospital-acquired infections to patients that may arise as a result of airborne dust, pollutants and contaminants produced during construction, renovation and repair work; and provide guidance for all parties through engineering and environmental control measures. The **ICRA** is completed prior to construction, with the appropriate permit issued and posted at the work site.

Mitigation Assessment Matrices (Appendix E): Tools used to assist in performing the required assessments (PCRA, ILSM, ICRA) that identify specific risk areas to be examined, and the measures that can be implemented to mitigate (reduce) them.

PROJECT CLOSE OUT

The Project Team will conduct a final walk through the area to close out maintenance and construction work to ensure that the project is ready to be turned over.

POLICY ENFORCEMENT

Contractors will receive and sign that they have received a copy of this policy prior to the beginning of any project. All contractors will read and acknowledge understanding of this policy prior to beginning any project. Contractors found not in compliance with the above policy will be appropriately counseled. Continued non-compliance can lead to the contractor's removal from the project.

In the event the fire alarm system or component is unexpectedly impaired, the Engineering/Facilities, Security and Environment of Care Compliance Departments must be immediately notified.

APPENDICES/RELATED SUPPORT DOCUMENTS:

- A. NFPA 241-2009, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*
- B. NFPA 51B-2014, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*
- C. Life Safety Code 101- 2012: 9.6.1.8
- D. The 2014 FGI publication, *Guidelines for Design and Construction of Hospitals and Outpatient Healthcare Facilities*
- E. *The Joint Commission Chapters on Environment of Care, Infection Control and Life Safety*

PRECONSTRUCTION RISK ASSESSMENT FORM (Appendix A)

PROJECT NAME:

ASSESSMENT DATE:

RISK	<i>ACTIONS TO MITIGATE RISK</i> Check Box To Indicate	<i>DURATION OF RISK</i> Insert timeframe (e.g. hours, intermittent vs. continuous)	APPROVED EVALUATOR	EVALUATOR APPROVAL SIGNATURE
Noise (e.g. saw cutting concrete, hammer drills, coring) Construction or demo activities create noise at moderate to high levels	<input type="checkbox"/> Install noise barrier <input type="checkbox"/> Isolate saw cutting activity <input type="checkbox"/> Operate noisy equipment during one shift <input type="checkbox"/> Relocate patients/staff to another unit <input type="checkbox"/> Utilize newer tools that are less noisy <input type="checkbox"/> Alert adjacent floors of time for conducting noisy/vibrating activities. <input type="checkbox"/> Notification to impacted area staff <input type="checkbox"/> Ensure work is conducted after 0900 hours and ends by 1800 hours <input type="checkbox"/> Other (define)		<input type="checkbox"/> Project Manager <input type="checkbox"/> Contractor or designated Construction Manager	
Vibration (e.g. jackhammer)	<input type="checkbox"/> Install vibration barrier <input type="checkbox"/> Operate crane during day shift <input type="checkbox"/> Alert adjacent floors of time for conducting noisy/vibrating activities. <input type="checkbox"/> Other (define)		<input type="checkbox"/> Project Manager <input type="checkbox"/> Contractor or designated Construction Manager	
Environmental Hazards (e.g. odors, Volatile organic compounds (VOCs) , potential airborne hazardous materials vapors, mold)	<input type="checkbox"/> Evaluate and mitigate hazards with additional monitoring, personal protective equipment and/or use less hazardous materials. <input type="checkbox"/> Infection (ex. dust or moisture) <input type="checkbox"/> Remove or isolate HVAC system <input type="checkbox"/> Establish Negative Pressure <input type="checkbox"/> Construct anteroom <input type="checkbox"/> Water mist work surfaces to minimize dust		<input type="checkbox"/> Project Manager <input type="checkbox"/> Contractor or designated Construction Manager	

RISK	ACTIONS TO MITIGATE RISK Check Box To Indicate	DURATION OF RISK Insert timeframe (e.g. hours, intermittent vs. continuous)	APPROVED EVALUATOR	EVALUATOR APPROVAL SIGNATURE
	<input type="checkbox"/> Utilize sticky walk off mats <input type="checkbox"/> Dust: Utilize methods of transport designed to minimize particulate matter/debris <input type="checkbox"/> Substitution of materials <input type="checkbox"/> Other (define			
Utility Failure	<input type="checkbox"/> Evaluate impact of construction on the facility including: electricity, water, information technology, HVAC, vacuum, medical gas, elevators, chilled water, condenser water, natural gas, fuel oil and steam to ensure there is no unplanned loss of the utility. <input type="checkbox"/> Follow Utility Shutdown/Failure Contingency Procedures <input type="checkbox"/> Provide Alternate system for disruption <input type="checkbox"/> Other (define)		<input type="checkbox"/> Director of Facilities Engineering <input type="checkbox"/> Project Manager <input type="checkbox"/> Infection Control	
Fire	<input type="checkbox"/> Hot work permit, <input type="checkbox"/> Fire system shutdown procedures <input type="checkbox"/> Fire watch <input type="checkbox"/> Other (define)		<input type="checkbox"/> Project Manager <input type="checkbox"/> Infection Control <input type="checkbox"/> Contractor or designated Construction Manager	
Other	<input type="checkbox"/> Utilize additional personal protective equipment <input type="checkbox"/> Environmental Monitoring <input type="checkbox"/> Pest control <input type="checkbox"/> Ceiling Access Permit <input type="checkbox"/> Need for additional Security staff or systems <input type="checkbox"/> Barriers/Traffic Control <input type="checkbox"/> Other (define)		<input type="checkbox"/> Project Manager <input type="checkbox"/> Contractor or designated Construction Manager <input type="checkbox"/> Security Manager <input type="checkbox"/> Other (define)	

Final Signature _____
 Project Manager or designee

 Date

PCRA Daily Site Inspection Form (Appendix B)

Date of survey:		Time:
Inspector:		
Area surveyed:		
Project number:		
Project name:		

A. EXITS	YES	NO	N/A
1. Exits clear, unobstructed and functional?			
2. Construction exits designated during construction?			
3. Did personnel receive training for alternative exits?			
4. Is proper signage present in and around the construction area?			
5. Is signage clear and concise for patients, visitors, staff and workers?			
B. FIRE EQUIPMENT			
1. Are fire alarms, detection, and suppression systems in an operational function?			
2. Have temporary fire alarm, detection, and suppression systems been inspected and tested monthly?			
3. Have training and additional fire equipment been provided for personnel?			
C. FIRE SAFETY			
1. Are new employees instructed in project related requirements?			
2. Is "No Smoking" policy enforced in and adjacent to the construction area?			
3. Are construction areas free of storage and housekeeping materials, food, food waste, and debris for daily operations to reduce flammable and combustible loading of the construction area?			
4. Are additional fire drills per shift per quarter being enforced (as per ILSM requirements)?			
5. Are temporary construction partitions smoke tight and built of noncombustible materials			
D. GENERAL SAFETY			
1. Are hand and safety rails in place and in good condition?			
2. Are hard hats used regularly?			
3. Is power properly secured at the end of each workday?			
4. Do contractor(s) comply with OSHA regulations? If "NO" is checked, provide comments.			

5. Has Hazard Surveillance of the area been increased?			
6. Have personnel received training to ensure awareness of any Life Safety Code deficiencies, construction hazards and Interim Life Safety Measures?			
7. During monitoring surveys, were any hazards identified? If the YES box is checked, see details on attached comments page.			
8. Ensure sprinkler lines are free and clear of any attachments during any above ceiling work.			
9. Have all permits been checked for expiration dates and appropriate classification?			
E. INFECTION CONTROL	YES	NO	N/A
1. Monitoring barrier for integrity and airflow from clean to dirty (construction)			
2. Are methods of debris transport monitored and found to be consistent with process designed to minimize airborne particulate matter/debris?			
3. Is compliance demonstrated with cover clothing?			
4. Is compliance demonstrated with traffic patterns?			
5. Does use of equipment demonstrated to prevent airborne particle material from migrating to patient care areas include portable HEPA filters, HEPA filtered vacuums, self-closing construction doors or appropriate use of exhaust fans or debris chutes?			
6. Are doors to project closed with proper signage?			
7. Are carpet and other adhesive track dirt compliance aids (sticky mats) in place and clean at the doors leading to the hospital/clinical/OR/support space?			
8. Do all windows and doors remain closed to prevent circulation of dust/debris?			
9. Are all windows, doors, and debris chutes to the outside closed and secured after hours?			
10. Are areas being cleaned at the end of each day?			
11. Are there signs of water leakage?			
12. Are there signs of pests, i.e., visible signs of mice, insects, birds, squirrels, or vermin?			

Comments: _____

Construction Manager: _____ Date: _____

ILSM Needs Assessment Evaluation Matrix (Appendix C)

Interim Life Safety Measures (ILSM) Assessment and Precaution Plan

Description of Project, Noted Deficiency or SOC: _____

Location: _____ Project Manager: _____

Instructions: Determine whether any of the "ILSM Triggers" listed below apply to the project, life safety deficiency at hand. Determine if noted ILSM precautions # apply; delete any that do not apply; add others as applicable.

ILSM PRECAUTIONS

1. Notify fire department and other emergency response group,
2. Initiate fire watch,
3. Post signage identifying alternate exit(s) to all affected,
4. Perform daily inspections of exits and affected areas,
5. Provide temporary, but equivalent, fire protection systems,
6. Provide additional fire extinguishers/fire-fighting equipment,
7. Use temporary construction partitions as control measure (smoke tight or non/limited combustible material),
8. Increase surveillance of buildings, grounds and equipment giving special attention to construction areas and storage, excavation, and field offices,
9. Enforce storage, housekeeping, and debris removal practices that reduce the building's flammable and combustible fire load to the lowest feasible level,
10. Provide additional training of staff working on the use of fire extinguishers and/or other fire-fighting equipment,
11. Conduct one additional fire drill per shift per quarter,
12. Conduct monthly tests and inspections of temporary systems,
13. Conduct education to promote awareness of building deficiencies, construction hazards, and temporary measures implemented to maintain fire safety,
14. Train staff assigned to compensate for impaired structural or compartmental fire safety features,
15. Enforce No Smoking policy inside any and all buildings and designated No Smoking outdoor areas,
16. Complete required repairs and advise Engineering Dept. to check completed work for proper protection including all penetrations

Description of ILSM Trigger	Applicable?		ILSM Precaution # List all that apply
	Yes	No	
Will any hot work be performed? (Welding, cutting, brazing, soldering, or other activities utilizing an open flame)			Implement hot work permit or #2, 6, 9, 15, 7 if combustibles within 35'
Will any egress pathways or exists be altered or obstructed?			3, 4, 13
Will access to emergency services be restricted or rerouted, or will access for emergency responders (police, fire dept., EMS) be impaired or restricted?			3, 4, 13
Will any fire detection or alarm system be out of service or impaired > 4 hrs?			All precautions, except 3 and 7
Will any part of the fire suppression or sprinkler system be out of service or impaired > 10 hours?			
Will any smoke/fire walls, doors, barrier or assemblies be compromised?			4, 7, 8, 9, 14, 15, 16
Will the fire safety of personnel in adjacent areas be affected?			4, 8, 9, 10, 13, 15
Will it be necessary to install temporary construction partitions?			3, 4, 8, 9, 14, 15
Will the project result in the accumulation of debris and/or materials and increase the flammable or combustible load in the work area?			4, 8, 9, 10, 13, 15
Will the project activity present any other safety-related hazards? If so, specify and select applicable precautions.			

Additional comments related to the required measures: _____

Submitted by - Print Name & Signed initials

Title

Date

Acknowledge with initial signature

Approved by: ☐ Safety ☐ Engineering & Facilities Maintenance ☐ Hospital Police ☐ Other (specify):

ICRA Review and Classification Form (Appendix D)

Infection Control Risk Assessment Matrix of Precautions for Construction & Renovation

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

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

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

Group 1 Low Risk	Group 2 Medium Risk	Group 3 High Risk	Group 4 Highest Risk
<ul style="list-style-type: none"> Office areas 	<ul style="list-style-type: none"> Cardiology Echocardiography Endoscopy Nuclear Medicine Physical Therapy Radiology/MRI Respiratory Therapy 	<ul style="list-style-type: none"> CCU Emergency Room Labor & Delivery Laboratories (specimen) Medical Units Newborn Nursery Outpatient Surgery Pediatrics Pharmacy Post Anesthesia Care Unit Surgical Units 	<ul style="list-style-type: none"> Any area caring for immunocompromised patients Burn Unit Cardiac Cath Lab Central Sterile Supply Intensive Care Units Negative pressure isolation rooms Oncology Operating rooms including C-section rooms

Step Three: *Match* the

Patient Risk Group (*Low, Medium, High, Highest*) with the planned ...

Construction Project Type (*A, B, C, D*) on the following matrix, to find the ...

Class of Precautions (*I, II, III or IV*) or level of infection control activities required.

Use IC Matrix on next page to classify Patient Risk & determine Corresponding Precaution

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

Patient Risk Group	Construction Project Type			
	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group	I	II	II	III/IV
MEDIUM Risk Group	I	II	III	IV
HIGH Risk Group	I	II	III/IV	IV
HIGHEST Risk Group	II	III/IV	III/IV	IV

Description of Required Infection Control Precautions by Class

During Construction Project		Upon Completion of Project	
CLASS I	<ol style="list-style-type: none">1. Execute work by methods to minimize raising dust from construction operations.2. Immediately replace a ceiling tile displaced for visual inspection	1.	Clean work area upon completion of task.
CLASS II	<ol style="list-style-type: none">1. Provide active means to prevent airborne dust from dispersing into atmosphere.2. Water mist work surfaces to control dust while cutting.3. Seal unused doors with duct tape.4. Block off and seal air vents.5. Place dust mat at entrance and exit of work area6. Remove or isolate HVAC system in areas where work is being performed.	<ol style="list-style-type: none">1. Wipe work surfaces with cleaner/disinfectant.2. Contain construction waste before transport in tightly covered containers.3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.4. Upon completion, restore HVAC system where work was performed.	
CLASS III	<ol style="list-style-type: none">1. Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system.2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins.3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.4. Contain construction waste before transport in tightly covered containers.5. Cover transport receptacles or carts. Tape covering unless solid lid.	<ol style="list-style-type: none">1. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Prevention & Control Department and thoroughly cleaned by the owner's Environmental Services Department.2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.3. Vacuum work area with HEPA filtered vacuums.4. Wet mop area with cleaner/disinfectant.5. Upon completion, restore HVAC system where work was performed.	
CLASS IV	<ol style="list-style-type: none">1. Isolate HVAC system in area where work is being done to prevent contamination of duct system.2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins.3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.4. Seal holes, pipes, conduits, and punctures.5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave work site.6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area.	<ol style="list-style-type: none">1. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Prevention & Control Department and thoroughly cleaned by the owner's Environmental Services Dept.2. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction.3. Contain construction waste before transport in tightly covered containers.4. Cover transport receptacles or carts. Tape covering unless solid lid.5. Vacuum work area with HEPA filtered vacuums.6. Wet mop area with cleaner/disinfectant.7. Upon completion, restore HVAC system where work was performed.	

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

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

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

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

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

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

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

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

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

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

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

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

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

<p><i>Appendix: Identify and communicate the responsibility for project monitoring that includes infection prevention & control concerns and risks. The ICRA may be modified throughout the project. Revisions must be communicated to the Project Manager.</i></p>

Infection Control Construction Permit

Location of Construction:					Permit No:	
Project Coordinator:					Project Start Date:	
Contractor Performing Work					Estimated Duration:	
Supervisor:					Permit Expiration Date:	
					Telephone:	
YES	NO	CONSTRUCTION ACTIVITY	YES	NO	INFECTION CONTROL RISK GROUP	
		TYPE A: Inspection, non-invasive activity			GROUP 1: Low Risk	
		TYPE B: Small scale, short duration, moderate to high levels			GROUP 2: Medium Risk	
		TYPE C: Activity generates moderate to high levels of dust, requires greater 1 work shift for completion			GROUP 3: Medium/High Risk	
		TYPE D: Major duration and construction activities Requiring consecutive work shifts			GROUP 4: Highest Risk	
CLASS I		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ol style="list-style-type: none"> 1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace any ceiling tile displaced for visual inspection. </div> <div style="width: 45%;"> <ol style="list-style-type: none"> 3. Minor Demolition for Remodeling </div> </div>				
CLASS II		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ol style="list-style-type: none"> 1. Provides active means to prevent air-borne dust from dispersing into atmosphere 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Wipe surfaces with cleaner/disinfectant. </div> <div style="width: 45%;"> <ol style="list-style-type: none"> 6. Contain construction waste before transport in tightly covered containers. 7. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. 8. Place dust mat at entrance and exit of work area. 9. Isolate HVAC system in areas where work is being performed; restore when work completed. </div> </div>				
CLASS III		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ol style="list-style-type: none"> 1. Obtain infection control permit before construction begins. 2. Isolate HVAC system in area where work is being done to prevent contamination of the duct system. 3. Complete all critical barriers or implement control cube method before construction begins. 4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 5. Do not remove barriers from work area until complete project is checked by Infection Prevention & Control and thoroughly cleaned by Environmental Services. </div> <div style="width: 45%;"> <ol style="list-style-type: none"> 6. Vacuum work with HEPA filtered vacuums. 7. Wet mop with cleaner/disinfectant 8. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 9. Contain construction waste before transport in tightly covered containers. 10. Cover transport receptacles or carts. Tape covering. 11. Upon completion, restore HVAC system where work was performed. </div> </div>				
Date						
Initial						
CLASS IV		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ol style="list-style-type: none"> 1. Obtain infection control permit before construction begins. 2. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 3. Complete all critical barriers or implement control cube method before construction begins. 4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 5. Seal holes, pipes, conduits, and punctures appropriately. 6. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site. 7. All personnel entering work site are required to wear shoe covers. </div> <div style="width: 45%;"> <ol style="list-style-type: none"> 8. Do not remove barriers from work area until completed project is checked by Infection Prevention & Control and thoroughly cleaned by Environmental Services. 9. Vacuum work area with HEPA filtered vacuums. 10. Wet mop with disinfectant. 11. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 12. Contain construction waste before transport in tightly covered containers. 13. Cover transport receptacles or carts. Tape covering. 14. Upon completion, restore HVAC system where work was performed. </div> </div>				
Date						
Initial						
Additional Requirements:						
Date			Print Name		Sign Initials	
Permit Request By:			<input type="checkbox"/> Exceptions/Additions to this permit are noted by attached memoranda Date: Sign Initials			
Date:			Permit Authorized By:			
Date:			Date:			

MITIGATION MEASURES (Appendix E)

Construction Risk Assessment: The following are potential identified risks and associated actions to consider minimize/eliminate risks.

RISK	ACTIONS TO CONSIDER WHEN MINIMIZING/RESPONDING TO RISK
Noise (e.g. saw cutting concrete)	<ul style="list-style-type: none"> • Install noise barrier to reduce the sound pressure levels • Isolate saw cutting activity • Operate noisy equipment during one shift • Relocate patients/staff to another unit • Utilize newer tools that are less noisy and with lower sound pressure levels. • Alert adjacent floors of time for conducting noisy/vibrating activities. • Provide hearing protection Note: Follow OSHA Hearing Conservation Requirements 29 CFR 1910.95
Vibration (e.g. jackhammer, saw cutting, hammer, drilling, concrete demolition)	<ul style="list-style-type: none"> • Install vibration barrier /insulation around the construction zone. • Operate crane during first shift • Alert adjacent floors of time for conducting noisy/vibrating activities. • Conduct vibration activities during the day to avoid patient sleep disruption. • If activity is unavoidable, implement a schedule of 20 minutes on and 20 minutes off to provide relief to affected patients and staff. • Provide site monitoring if vibration will be significant to disrupt sensitive equipment (LINAC, MRI, etc), which requires a stable and balanced operation.
Environmental Hazards (e.g. odors, volatile organic compounds (VOCS) , potential airborne hazardous materials- asbestos, lead, vapors)	<ul style="list-style-type: none"> • Additional monitoring, • Increased personal protective equipment • Use of less hazardous materials • Administrative controls including the reduction of hour's employees are allowed to work in the environment. Rotate employees to reduce the individual employees' exposures to the hazard
Utility Failure (e.g. power, water, medical gas, fire alarm system, sewer, medical air)	<ul style="list-style-type: none"> • Engineering staff and appropriate construction staff are trained and familiar with the location and source of utility systems: power, water, medical air, medical gas, sewer, fire alarm system information technology, HVAC, vacuum, steam, vertical transportation. • A utility service disruption is planned well in advance with a

RISK	ACTIONS TO CONSIDER WHEN MINIMIZING/RESPONDING TO RISK
	<p>minimum 72-hour notice provided to facility personnel, physicians and staff.</p> <ul style="list-style-type: none"> • Written, current Utility Shutdown/Failure Procedures are in place • Increase testing of emergency electrical power • Provide Alternate system for disruption
Fire	<p>Refer to:</p> <ul style="list-style-type: none"> • Hot work permit for welding, acetylene torch demo, or grinding activities, • Fire system shutdown procedures • Follow Fire Watch Procedures
Emergency Procedures	<ul style="list-style-type: none"> • Increase signage to prevent blockage to decontamination area, emergency department, heliport, etc. • Increase security rounds.
Other	<ul style="list-style-type: none"> • Utilize additional personal protective equipment • Monitoring • Pest control • Ceiling Access Permit • Need for additional Security staff or systems • Barriers • Traffic Control • Other (define)

Interim Life Safety Measures (ILSM): The following are typical mitigation actions that will be utilized to minimize the impact of construction or renovation activities or Life Safety Code deficiencies.

INTERIM LIFE SAFETY MEASURES	MITIGATION
1. Ensure that exits provide free and unobstructed egress.	<ul style="list-style-type: none"> • If exiting is obstructed, post signage redirecting people to active exits. • The normal/alternate exit and discharge paths are to remain accessible at all times. The Alternate exit must be clearly marked. • When alternate exits are designated, communication (e.g. signs, notification through email) will be made to staff affected by the change, and information about the Alternate exit provided. • Construction workers will be made aware of egress routes. • Free and unobstructed access for fire, police and other

INTERIM LIFE SAFETY MEASURES	MITIGATION
	<p>emergency response agencies will be enforced.</p> <ul style="list-style-type: none"> • The PCRA Daily Site Inspection Form will be used to document that the means of egress was inspected.
<p>2. Provides temporary but equivalent fire alarm and detection systems for use when a fire system is impaired.</p>	<ul style="list-style-type: none"> • The hospital fire alarm system is continuously monitored to correct any trouble or alarm conditions. • Whenever the fire alarm system operation is compromised by construction, an announcement will be made by overhead page notifying all staff and reminding them to call and report the smoke/fire. • A temporary system for fire alarm and suppression (such as a fire watch) will be provided when any fire system is disabled and the fire department will be notified. Fire Watch Log will be utilized to document fire watch occurred. • Minutes from project meeting will reflect use and description of equivalent systems based on ILSM policy. • Consideration will be given to constructing a temporary 2-hour egress passageway complete with functioning sprinkler heads and emergency lighting.
<p>3. Provision of additional firefighting equipment.</p>	<ul style="list-style-type: none"> • Additional temporary firefighting equipment will be maintained at the construction site. Fire extinguishers are charged, inspected and current. • All temporary enclosures must be equipped with a minimum of one fire extinguisher suitable for all classes of fires that are expected inside the enclosure. Fire extinguishers must be located so that travel distance to a fire extinguisher does not exceed 15 m (50 ft.). NFPA 241-2009 4.3.4.1, 4.3.4.2 • Contractors will be responsible for training their own employees and subcontractors in the use of this equipment.
<p>4. Use of temporary construction partitions that are smoke-tight, or made of noncombustible material, or made of limited combustible material that will not contribute to the development or spread of fire.</p>	<ul style="list-style-type: none"> • Temporary partitions will be built out of non-combustible or limited combustible materials (e.g. fire resistant plywood, or metal partitions). When required by NFPA 101-2012, partitions that separate construction areas from the existing building will be 1 hour or 2-hour fire barrier as specified by relevant code. LSC 18/19.1.6.3, 18/19.3.1.1, 18/19.3.2.1, 18/19.3.5.4, 8.4.1 8.2.5.4, and/or 7.2.1.8. Chapter 43 • Only fire retardant plastic is acceptable for dust minimization. It is not considered a fire barrier.

INTERIM LIFE SAFETY MEASURES	MITIGATION
<p>5. Increase surveillance of buildings, grounds, and equipment, giving special attention to construction areas (e.g. storage, excavation, and field offices).</p>	<ul style="list-style-type: none"> • The PCRA Daily Site Inspection Form will be used to document the increased surveillance of buildings, grounds and equipment including storage, field offices and areas of excavation.
<p>6. Enforcement of storage, housekeeping, and debris removal practices that reduce the building's flammable and combustible fire load to the lowest feasible level.</p>	<ul style="list-style-type: none"> • Accumulations of combustible waste material, dust, and debris will be removed from the structure and its immediate vicinity at the end of each work shift or more frequently as necessary for safe operations. NFPA 241-2009 5.4.1 • Open topped dumpsters containing combustible materials should be emptied or moved to at least 35 ft. from combustible structures at the end of each work shift. NFPA 241-2009 A/5.4.1 • There will be establishment of pathways indicating which elevators can be used for removal of debris and areas established for dumpster placement. • Storage and debris removal will be evaluated and documented on the PCRA Daily Site Inspection Form.
<p>7. Provides additional training to those who work in the Hospital on the use of firefighting equipment.</p>	<ul style="list-style-type: none"> • The ILSM will be assessed to determine what information and training is needed in regards to the ILSM. If it is determined that staff require education on hazards, LSC deficiencies and ILSM, education will be provided and documented in the project meeting minutes.
<p>8. Conducts one additional fire drill per shift per quarter.</p>	<ul style="list-style-type: none"> • Additional fire drills will be conducted when a project changes existing egress routes or when the ILSM Assessment process determines the need. The additional drill ensures staff is familiar with altered conditions and exiting routes. Documentation of the fire drill will occur.
<p>9. Inspects and tests temporary systems monthly. There is documentation of the completion date of the</p>	<ul style="list-style-type: none"> • Any temporary system must be inspected and tested monthly and will be documented in the NYU Winthrop Hospital preventative maintenance record.

INTERIM LIFE SAFETY MEASURES	MITIGATION
tests.	
10. The Hospital conducts education to promote awareness of building deficiencies, construction hazards, and temporary measures implemented to maintain fire safety.	<ul style="list-style-type: none"> The ILSM will be assessed to determine when staff needs information and training regarding the ILSM. If determined that staff require education on hazards, LSC deficiencies and ILSM, education will be provided and documented on the <i>ILSM Completion Form</i>. Periodic audits will be conducted to test staff and construction workers about fire safety features (e.g. location of pull stations, use of fire extinguisher, emergency exits, etc.).
11. The hospital trains those who work in the hospital to compensate for impaired structural or compartmental fire safety features.	<ul style="list-style-type: none"> Staff in affected areas and in areas adjacent to construction sites will be provided with training regarding the Alternate fire safety features undertaken to maintain safety.

Infection Control (ICRA): The following are typical mitigation actions that will be utilized to minimize the impact of construction or renovation activities related to preventing infection.

INFECTION CONTROL MEASURES	MITIGATION
Infection Control: Infection Control Risk Assessment must be conducted	<ul style="list-style-type: none"> • Relocate patients away from work zones • Divert pedestrian traffic away from construction zone • Ensure appropriate materials are used for sinks and wall coverings • Remove or isolate HVAC system • Create and maintain negative air pressure in work zones and maintain proper HEPA filters (high-efficiency particulate air) in negative air machines • Seal off and block return air vents inside the construction zone • Construct anteroom • Water mist work surfaces to minimize dust; wet-wipe tools and tool carts before leaving work area • Utilize sticky walk off mats to capture dust from shoes • Provide designated entrances, corridors, and elevators for construction staff • Tightly cover debris • Clean work zones at least daily