UNIVERSITY MEDICAL CENTER OF SOUTHERN NEVADA
BID NO. 2017-13

EMERGENCY DEPARTMENT REMODEL
Addendum Date: September 22, 2017

ADDENDUM NO. 3

Additional Information

1. UMC has added information and documents to the Scope of Work and “Special Work Constraints” in the Special Conditions section of the Bid document. Please see below “Changes/Clarification” section for important information regarding these changes.

2. Reminder: The final date to submit questions is 5 p.m., Thursday, September 28. Bids are due on or before Wednesday, October 25, 2017, at 2:00:00 p.m. based on the time clock at the UMC Materials Management front desk. Please review the Bid Document for more information regarding Bid acceptance and delivery methods.

Changes / Clarifications

1. The following clause shall be added as clause 2(J)(c) to Section 2 of the Special Conditions section of the Bid Document:
   c. The Successful Bidder and any and all of its subcontractors shall follow all Infection Control Risk Assessment for Construction as defined in the following documents, which are attached hereto and incorporated herein:
      • University Medical Center Infection Control Risk Assessment for Construction (ICRA); ED Remodel Phase 1. Date of evaluation 8-15-17.
      • University Medical Center Infection Control Risk Assessment for Construction (ICRA); ED Remodel Phase 2. Date of evaluation 8-15-17.

   Note: Both of the above-referenced documents are incorporated into the Bid Document by reference and attached to this Addendum 3.

2. The following clarification shall be added to Section 4.0 (Contractor’s Responsibilities) of the “UMC Emergency Department Expansion and Renovation, UMC First Floor” section of Exhibit A: Scope of Work of the Bid Document:
   4.1.3(u). Contractor will be responsible to provide low voltage wiring, terminate and test per UMC guidelines.

   Note: The above-referenced guidelines are incorporated into the Bid Document by reference and attached to this Addendum 3.

3. The list of Specifications and Drawings contained in Exhibit A: Scope of Work in the Bid Document is expanded to include the following highlighted items. All of the below documents are available on the Clark County Purchasing website or via CD:

   A. Bid 2017-13 – ER Phasing Plan
   B. Bid 2017-13 – Schedule
   C. Bid 2017-13 UMC ED - Exp+Renovation 100PerCDs-2017-09-08 (1 of 10)
   D. Bid 2017-13 UMC ED - Exp+Renovation 100PerCDs-2017-09-08 (2 of 10)
   E. Bid 2017-13 UMC ED - Exp+Renovation 100PerCDs-2017-09-08 (3 of 10)
   F. Bid 2017-13 UMC ED - Exp+Renovation 100PerCDs-2017-09-08 (4 of 10)
   G. Bid 2017-13 UMC ED - Exp+Renovation 100PerCDs-2017-09-08 (5 of 10)
If you have any questions, please contact me at (702) 207-8868, or via email at ashley.kordestani@umcsn.com.

Issued by:

Ashley Kordestani  
Senior Management Analyst, Contracts 
UMC

**Acknowledgement**

**All Proposals submitted shall include a signed copy of this addendum acknowledging receipt and understanding.**

Signature: ___________________________________________

Title: ___________________________________________

Company Name: _______________________________________

Date Received: _______________________________________
**UNIVERSITY MEDICAL CENTER**

**Infection Control Risk Assessment for Construction (ICRA)**

**Site:** ED Remodel Phase 1  
**Date of evaluation:** 8-15-17

**Step One:**  
Using the following table, identify the type of construction activity:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Description</th>
</tr>
</thead>
</table>
| **TYPE A** | **Inspection and Non-Invasive Activities.** Includes, but is not limited to:  
▪ removal of ceiling tiles for visual inspection, limited to 1 tile per 50 square feet  
▪ painting (but not sanding)  
▪ wall covering, electrical trim work, minor plumbing, and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection. |
| **TYPE B** | **Small scale, short duration activities which create minimal dust** Includes, but is not limited to:  
▪ 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:  
▪ sanding of walls for painting or wall covering  
▪ removal of floor coverings, ceiling tiles and casework  
▪ new wall construction  
▪ minor duct work or electrical work above ceilings  
▪ major cabling activities  
▪ any activity which cannot be completed within a single work shift. |
| **TYPE D** | **Major demolition and construction projects** Includes, but is not limited to:  
▪ activities which require consecutive work shifts  
▪ requires heavy demolition or removal of a complete cabling system  
▪ new construction. |

**Step Two:**  
December, 2015
Infection Control Guidelines for Construction

Using the following table, identify the patient risk groups that will be affected. If more than one risk group will be affected, select the higher risk group:

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

**Step Three:**

Match the patient risk group (low, medium, high, highest) with the planned project type (A, B, C, D) on the following matrix, to find the level of infection control activities which are required. The color-coded precautions are delineated on the next page.

### Construction Activity/Infection Control Matrix

<table>
<thead>
<tr>
<th>Patient Risk Level</th>
<th>Construction Project Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE A</td>
</tr>
<tr>
<td>Low Risk Group</td>
<td>II</td>
</tr>
<tr>
<td>Medium Risk Group</td>
<td>II</td>
</tr>
<tr>
<td>High Risk Group</td>
<td>II</td>
</tr>
<tr>
<td>Highest Risk Group</td>
<td>III/IV</td>
</tr>
</tbody>
</table>

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

### During Construction Project

<table>
<thead>
<tr>
<th>Class</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>Execute work by methods to minimize raising dust from construction operations. Immediately replace a ceiling tile displaced for visual inspection.</td>
</tr>
<tr>
<td></td>
<td>1. Provide active means to prevent airborne dust from dispersing into atmosphere.</td>
</tr>
<tr>
<td></td>
<td>2. Water-mist work surfaces to control dust while cutting.</td>
</tr>
<tr>
<td></td>
<td>3. Seal unused doors with duct tape.</td>
</tr>
<tr>
<td></td>
<td>4. Block off and seal air vents.</td>
</tr>
<tr>
<td></td>
<td>5. Place dust mat at entrance and exit of work area.</td>
</tr>
<tr>
<td></td>
<td>6. Remove or isolate HVAC system in areas where work is being performed.</td>
</tr>
</tbody>
</table>

### Upon Completion of Project

|       | Wipe work surfaces with disinfectant.                                     |
|       | 1. Contain construction waste before transport in tightly covered containers. |
|       | 3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. |
|       | 4. Remove isolation of HVAC system in areas where work is being performed. |

<table>
<thead>
<tr>
<th>Class III</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>3. Maintain negative air pressure within work site, utilizing HEPA equipped air filtration units.</td>
</tr>
<tr>
<td></td>
<td>5. Cover transport receptacles or carts. Tape covering unless solid lid.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class IV</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Isolate HVAC system in area where work is being done to prevent contamination of duct system.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>3. Maintain negative air pressure within work site, utilizing HEPA equipped air filtration units.</td>
</tr>
<tr>
<td></td>
<td>4. Seal holes, pipes, conduits, and punctures appropriately.</td>
</tr>
<tr>
<td></td>
<td>5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site, or they can wear cloth or paper coveralls that are removed each time they leave the work site.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>7. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department.</td>
</tr>
</tbody>
</table>

|          | Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. |
|          | 2. Contain construction waste before transport in tightly covered containers. |
|          | 3. Cover transport receptacles or carts. Tape covering unless solid lid. |
|          | 4. Vacuum work area with HEPA filtered vacuums. |
|          | 5. Wet mop area with disinfectant. |
|          | 6. Remove isolation of HVAC system in areas where work is being performed. |
**Step Four:** Identify the areas surrounding the project area, assessing potential impact.

<table>
<thead>
<tr>
<th>Unit Below</th>
<th>Unit Above</th>
<th>North</th>
<th>South</th>
<th>East</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Roof</td>
<td>Atrium Corridor</td>
<td>Transport Offices</td>
<td>Imaging Corridor</td>
<td>Central Plant</td>
</tr>
<tr>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
</tr>
</tbody>
</table>

**Step Five:** Identify specific site of activity, e.g. Patient room, medication room, etc.
Seven Story Tower, 1st Floor Patient Placement (current)

**Step Six:** Identify issues related to ventilation, plumbing, electrical – in terms of the possible/probable occurrences of outages:
Ventilation will be isolated/shutdown to the ED observation unit construction location minimizing any potential ventilation contaminates to adjacent areas. There will be moderate plumbing tie in work. Any water shut down associated with the project will be isolated to the ED observation construction location with no anticipated impact on areas. There will be moderate to major electrical work in conjunction with the project with no electrical shut downs affecting any adjacent patient care areas. Any potential electrical outage would be supplemented by the facilities emergency generator.

**Step Seven:** Identify containment measures, using prior assessment.
What types of barriers? (e.g. solid wall barriers) Will HEPA filtration be required?
The ED Observation construction build out location will be protected by temporary solid/plastic barrier walls. Walk-off mats will be utilized at the construction entrance/exit to the ED observation construction location. Vents in the construction location will be sealed to contain any potential dust aerosols. HEPA air scrubbers will be utilized within the identified area.
*(Note: Renovation/construction area shall be isolated from the occupied areas during construction and shall be negative with respect to surrounding areas.)*

**Step Eight:** Consider potential risk of water damage. Is there a risk due to compromising structural integrity?
(e.g. wall, ceiling, roof) No

**Step Nine:** Work hours: Can or will the work be done during non-patient care hours?
The work will be done during normal business hours.

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

**Step Eleven:** Do the plans allow for the required number & type of hand washing sinks? Yes

**Step Twelve:** Does the infection control staff agree with the minimum number of sinks for this project? Yes

**Step Thirteen:** Does the infection control staff agree with the plans relative to clean and soiled utility rooms?
Yes

**Step Fourteen:** Plan to discuss the following containment issues with the project team. (examples: traffic flow, housekeeping, debris removal (how & when))
The primary construction of the ED Observation area will be completed in the current Patient Placement location. The construction location will be completely sealed off with solid and plastic barrier walls. The construction entrance/exit will be established at the south end of the construction location and will be protected with a zippered plastic containment barrier with walk off mats. Additionally, a protected transition vestibule will be established between the construction location and the adjacent loading dock corridor. All equipment and material will be brought into UMC during normal business hours via the west loading dock, through the loading dock corridor into the construction zone entrance at the south end of the construction location. All ventilation will be isolated and negative air will be established. Contractors will utilize covered carts for any debris removal following the same pathway used to bring the construction material into the construction location. Cleaning is to be performed on a continuous basis (as needed and at the end of each shift) throughout the duration of the project to reduce the accumulation of dust/debris.

Construction Contractors, (TBD) will adhere to Class IV protective measures as determined by Infection Prevention/Control in this ICRA as well as any applicable ILSM’s. UMC personnel will conduct daily ILSM/Construction monitoring surveillance rounds during the scheduled construction. If any violations to infection prevention/control protective measures and/or established ILSM’s are observed all work will stop until such violations are corrected. UMC EVS personnel will be utilized to sanitize the location upon completion of construction.

*Note: Identify and communicate the responsibility for project monitoring that includes infection control concerns and risks. The ICRA may be modified throughout the project. Revision must be communicated to the Project Manager.*
### Infection Control Construction Permit

**Location of Construction:**
ED Remodel Phase 1

**UMC Project Coordinator:**
Monty Bowen

**Contractor Performing Work:**
TBD

**Supervisor/Contact #**

**Work Order No:**

**Project Start Date:**
TBD

**Permit Expiration Date:**
TBD

**Estimated Duration:**
TBD

<table>
<thead>
<tr>
<th>CONSTRUCTION ACTIVITY (choose one)</th>
<th>INFECTION CONTROL RISK GROUP (choose one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A: Inspection, non-invasive activity</td>
<td>X Group 1: Low Risk</td>
</tr>
<tr>
<td>Type B: Small scale, short duration, moderate to high levels</td>
<td>Group 2: Medium Risk</td>
</tr>
<tr>
<td>Type C: Activity generates moderate to high levels of dust, requires greater than 1 work shift for completion</td>
<td>Group 3: Medium/High Risk</td>
</tr>
<tr>
<td>X Type D: Major duration and construction activities requiring consecutive work shifts</td>
<td>Group 4: Highest Risk</td>
</tr>
</tbody>
</table>

**CLASS I**
- Execute work by methods to minimize air quality issues from construction operations.
- Immediately replace any ceiling tile displaced for visual inspection.

**CLASS II**
- Provides active means to prevent air-borne dust from dispersing into atmosphere.
- Water mist work surfaces to control dust while cutting.
- Seal unused doors with duct tape.
- Block off and seal air vents.
- Wipe surfaces with disinfectant.

**CLASS III**
- Obtain infection control permit before construction begins.
- Isolate HVAC system in area where work is being done to prevent contamination of the duct system.
- Complete all critical barriers or implement control cube method before construction begins.
- Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
- Do not remove barriers from work area until complete project is thoroughly cleaned by Environmental Services.
- Seal holes, pipes, conduits, and punctures appropriately.

**CLASS IV**
- Obtain infection control permit before construction begins.
- Isolate HVAC system in area where work is being done to prevent contamination of duct system.
- Complete all critical barriers or implement control cube method before construction begins.
- Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
- Seal holes, pipes, conduits, and punctures appropriately.

**Date:**
01/12/17

**Initial:**

**Requirements:** All boxes initialed by Infection Prevention.

**Construction/Engineering:**
Date: 01/12/17

**Safety:**
Date: 01/12/17

**Contractor:**
Date: 01/12/17

**Security:**
Date: 01/12/17

**Infection Control:**
Date: 01/12/17

**Environmental Services:**
Date: 01/12/17

Revised: December 2015
UNIVERSITY MEDICAL CENTER
Infection Control Risk Assessment for Construction (ICRA)

Site: ED Remodel Phase 2
Date of evaluation: 8-15-17

**Step One:**
Using the following table, identify the type of construction activity:

| TYPE A | Inspection and Non-Invasive Activities.  
|        | Includes, but is not limited to:  
|        | - removal of ceiling tiles for visual inspection, limited to 1 tile per 50 square feet  
|        | - painting (but not sanding)  
|        | - wall covering, electrical trim work, minor plumbing, and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.  
| TYPE B | Small scale, short duration activities which create minimal dust  
|        | Includes, but is not limited to:  
|        | - 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:  
|        | - sanding of walls for painting or wall covering  
|        | - removal of floor coverings, ceiling tiles and casework  
|        | - new wall construction  
|        | - minor duct work or electrical work above ceilings  
|        | - major cabling activities  
|        | - any activity which cannot be completed within a single work shift.  
| TYPE D | Major demolition and construction projects  
|        | Includes, but is not limited to:  
|        | - activities which require consecutive work shifts  
|        | - requires heavy demolition or removal of a complete cabling system  
|        | - new construction.

**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:

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<td></td>
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<td></td>
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**Step Three:**
Match the patient risk group (low, medium, high, highest) with the planned project type (A, B, C, D) on the following matrix, to find the level of infection control activities which are required. The color-coded precautions are delineated on the next page.

### Construction Activity/Infection Control Matrix

#### Construction Project Type

<table>
<thead>
<tr>
<th>Patient Risk Level</th>
<th>TYPE A</th>
<th>TYPE B</th>
<th>TYPE C</th>
<th>TYPE D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Risk Group</td>
<td>I</td>
<td>II</td>
<td>II</td>
<td>III/IV</td>
</tr>
<tr>
<td>Medium Risk Group</td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
</tr>
<tr>
<td>High Risk Group</td>
<td>I</td>
<td>II</td>
<td>III/IV</td>
<td>IV</td>
</tr>
<tr>
<td>Highest Risk Group</td>
<td>II</td>
<td>III/IV</td>
<td>III/IV</td>
<td>IV</td>
</tr>
</tbody>
</table>

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

### During Construction Project

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

### Upon Completion of Project

<table>
<thead>
<tr>
<th>Precautions</th>
</tr>
</thead>
</table>
| I. Wipe work surfaces with disinfectant.  
2. Contain construction waste before transport in tightly covered containers.  
3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.  
4. Remove isolation of HVAC system in areas where work is being performed. |
| 1. Do not remove barriers from work area until completed project is inspected by the owner’s Safety Department and Infection Control Department and thoroughly cleaned by the owner’s Environmental Services Dept.  
2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.  
3. Vacuum work area with HEPA filtered vacuums.  
4. Wet mop area with disinfectant.  
5. Remove isolation of HVAC system in areas where work is being performed. |

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Revised: December 2015
Step Four: Identify the areas surrounding the project area, assessing potential impact.

<table>
<thead>
<tr>
<th>Unit Below</th>
<th>Unit Above</th>
<th>North</th>
<th>South</th>
<th>East</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Interstitial Space - MICU</td>
<td>Exterior</td>
<td>Atrium Corridor</td>
<td>ED Medical Pod</td>
<td>Exterior</td>
</tr>
<tr>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
<td>Risk Group</td>
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Step Five: Identify specific site of activity, e.g. Patient room, medication room, etc.
ED Building, 1st floor ED Exterior, ED Lobby and ED Administration.

Step Six: Identify issues related to ventilation, plumbing, electrical – in terms of the possible/probable occurrences of outages:
Ventilation will be isolated/shutdown to the ED construction locations minimizing any potential ventilation contaminates to adjacent areas. There will be moderate plumbing tie in work. Any water shut down associated with the project will be isolated to the ED construction location with no anticipated impact on adjacent areas. There will be moderate to major electrical work in conjunction with the project with no electrical shut downs affecting any adjacent patient care areas. Any potential electrical outage would be supplemented by the facilities emergency generator.

Step Seven: Identify containment measures, using prior assessment.
What types of barriers? (e.g. solid wall barriers) Will HEPA filtration be required?
The ED Lobby/Fast Track build out and remodel location will be protected by temporary solid and plastic barrier walls. Walk-off mats will be utilized at the construction entrance/exit to the ED lobby/Fast Track build out and remodel location. Vents in the construction locations will be sealed to contain any potential dust aerosols. HEPA air scrubbers will be utilized within the identified area.
(Note: Renovation/construction area shall be isolated from the occupied areas during construction and shall be negative with respect to surrounding areas.)

Step Eight: Consider potential risk of water damage. Is there a risk due to compromising structural integrity? (e.g. wall, ceiling, roof) No

Step Nine: Work hours: Can or will the work be done during non-patient care hours?
The work will be done during normal business hours.

Step Ten: Do plans allow for adequate number of isolation/negative airflow rooms? N/A

Step Eleven: Do the plans allow for the required number & type of hand washing sinks? Yes

Step Twelve: Does the infection control staff agree with the minimum number of sinks for this project? Yes

Step Thirteen: Does the infection control staff agree with the plans relative to clean and soiled utility rooms? N/A

Step Fourteen: Plan to discuss the following containment issues with the project team. (examples: traffic flow, housekeeping, debris removal (how & when))
The ED primary construction location will be completed at the current ED exterior, lobby and ED administration areas. The construction location will be completely sealed off with solid and plastic barrier walls. The construction entrance/exit will be established at the northwest entrance of the construction location and will be protected with a zippered plastic containment barrier with walk off mats. All equipment and material will be brought into UMC/ED construction location via the ED northwest entrance. All ventilation will be isolated and negative air will be established.
Contractors will utilize covered carts for any debris removal following the same pathway used to bring the construction material into the construction location. Cleaning is to be performed on a continuous basis (as needed and at the end of each shift) throughout the duration of the project to reduce the accumulation of dust/debris.
Construction Contractors, (TBD) will adhere to Class IV protective measures as determined by Infection Prevention/Control in this ICRA as well as any applicable ILSM’s. UMC personnel will conduct daily ILSM/Construction monitoring surveillance rounds during the scheduled construction. If any violations to infection prevention/control protective measures and/or established ILSM’s are observed all work will stop until such violations are corrected. UMC EVS personnel will be utilized to sanitize the location upon completion of construction.

Note: Identify and communicate the responsibility for project monitoring that includes infection control concerns and risks. The ICRA may be modified throughout the project. Revision must be communicated to the Project Manager.

Revised: December 2015
<table>
<thead>
<tr>
<th>Location of Construction:</th>
<th>Work Order No:</th>
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<tr>
<td>ED Remodel Phase 2</td>
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<table>
<thead>
<tr>
<th>UMC Project Coordinator:</th>
<th>Project Start Date:</th>
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<tbody>
<tr>
<td>Monty Bowen</td>
<td>TBD</td>
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<table>
<thead>
<tr>
<th>Contractor Performing Work:</th>
<th>Permit Expiration Date:</th>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Supervisor/Contact #:</th>
<th>Estimated Duration:</th>
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</table>

**CONSTRUCTION ACTIVITY (choose one)**

<table>
<thead>
<tr>
<th>Type A: Inspection, non-invasive activity</th>
<th>INFECTION CONTROL RISK GROUP (choose one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type B: Small scale, short duration, moderate to high levels</td>
<td>Group 1: Low Risk</td>
</tr>
</tbody>
</table>

Type C: Activity generates moderate to high levels of dust, requires greater than 1 work shift for completion

Group 2: Medium Risk

**X** Type D: Major duration and construction activities requiring consecutive work shifts

Group 3: Medium/High Risk

Group 4: Highest Risk

**CLASS I**

- [ ] Execute work by methods to minimize air quality issues from construction operations.
- [ ] Immediately replace any ceiling tile displaced for visual inspection.

**CLASS II**

- [ ] Provides active means to prevent airborne dust from dispersing into atmosphere.
- [ ] Water mist work surfaces to control dust while cutting.
- [ ] Seal unused doors with duct tape.
- [ ] Block off and seal air vents.
- [ ] Wipe surfaces with disinfectant.

**CLASS III**

- [ ] Obtain infection control permit before construction begins.
- [ ] Isolate HVAC system in area where work is being done to prevent contamination of the duct system.
- [ ] Complete all critical barriers or implement control cube method before construction begins.
- [ ] Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
- [ ] Do not remove barriers from work area until complete project is thoroughly cleaned by Environmental Services.
- [ ] Seal holes, pipes, conduits, and punctures appropriately.

**CLASS IV**

- [ ] Obtain infection control permit before construction begins.
- [ ] Isolate HVAC system in area where work is being done to prevent contamination of duct system.
- [ ] Complete all critical barriers or implement control cube method before construction begins.
- [ ] Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
- [ ] Seal holes, pipes, conduits, and punctures appropriately.
- [ ] 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.

**Requirements:** All boxes initialed by Infection Prevention.

<table>
<thead>
<tr>
<th>Construction/Engineering:</th>
<th>Date: 02/21/17</th>
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<tbody>
<tr>
<td>Contractor:</td>
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<td>Infection Control:</td>
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Revised: December 2015
Infrastructure Cabling and Wiring Standards

Any contractors installing fiber optic and network cabling at a UMC facility must follow the Standards outlined in this document.

The following information is provided to inform and guide Hospital staff, consultants, contractors, and third-party personnel involved in any actions affecting or impacting UMC’s telecommunications and network critical physical infrastructure.

Use of this Standard is intended to increase the value of the system owner’s investment in the infrastructure by reducing the labor expense of maintaining the system, by extending the useful economic life of the system, and by providing effective service to users. Adherence will also ensure UMC is in compliance with regulatory standards, and is capable of supporting UMC’s mission and vision for growth.

1. General guidelines
   A. 1.1 Major renovation and new construction
   B. 1.2 Minor renovation and new construction
   C. 1.3 Telecommunications room planning (IDF)

2. Specific guidance
   A. 2.1 General planning guidance for UMC work areas

3. Documentation
   A. 3.1 Installation, testing, and maintenance records
   B. 3.2 Cable plant records
   C. 3.3 Labeling requirements
   D. 3.4 Wireless Access Point (WAP) installation
   E. 3.5 Appropriate use of wireless networks

1 General Guidelines

Information Technology Services is responsible for designing, maintenance and administration of all UMC campus telecommunications and network critical physical infrastructure. This responsibility includes ensuring that each building’s infrastructure is planned to support adequate telecommunications rooms, ductwork, cabling and wiring within the buildings, and cabling between buildings to support UMC’s diverse requirements for voice, data, multi-media, surveillance, electronic control, and monitoring systems.
1.1 Major renovation and new construction

The architect/engineer for major renovation and new construction projects shall work very closely with the end user, Information Technology Services, and Physical Plant during the initial (Schematic, Preliminary) planning stage. Close coordination between the architect/engineer and these departments is essential to protect the hospital’s initial capital investment and to minimize operating support costs associated with the project. Ensuring requirements are clear and standards are incorporated in the design phase significantly reduces the risk of costly revisions later. These departments are key stakeholders in helping the end user ensure their requirements are understood and met, that applicable codes and standards are appropriately reflected in the design phase, and the resulting project is sustainable over the course of its planned lifecycle.

1.2 Minor renovation and new construction

Information Technology Services personnel shall be consulted during the planning stages of any building construction or building renovation to identify the impact of new uses/requirements on current telecommunications distribution facilities, and assess what needs to be done to accommodate changes in the use of building space.

1.3 Telecommunications room planning (IDF)

Space for connection of the building communication cable to the outside plant must be provided as a separate room and not shared with other utility services, particularly the electrical service. When possible, this room will not be adjacent to the electrical distribution room. The room needs to have two disparate 20 amp electrical circuits with twist lock connectors (L5 20P) for independently powering a 20 amp PDU and 20 amp UPS, and two 20 amp 110 volt circuits with 4 electrical outlets per wall plate. The room needs to have 60 square feet of space to allow for both rack space and adequate room to work on both sides of the racks. If possible, the room should be at least 10’ by 6’. Adequate cooling must be provided to ensure the room does not overheat. Ideally the temperature should be kept at or below 74 degrees Fahrenheit.
2 Specific Guidance

2.1 General planning guidance for UMC work areas

This section is intended to convey the most current information technology infrastructure guidelines for the work areas typically found at a hospital. These are the minimum initial planning requirements to design and build the appropriate infrastructure to support the foreseeable use of the intended facility. For each type of work area listed in this section, the end user shall consult with Information Technology Services to help determine the specific configuration necessary to meet work area requirements. The use of a Multi-Use Telecommunications Outlet Assembly (MUTOA) is encouraged wherever it is possible to consolidate data and voice wiring into one location.

**Exam/Patient/Triage Rooms**
Each Exam, Patient and Triage Room will require a minimum of two 2-port outlets. One 2-port outlet on the door wall, and one 2-port outlet on an additional wall.

**Multi-Patient Rooms or Areas**
In Multi-Patient rooms or Areas (Observation, Pre Surgery, Post Anesthesia, etc.) Each bed space will require a minimum of one 4-port outlet (per bed).

**Nurse Workstation - Pyxis Machine**
Each Pyxis machine by the Nurse Workstations will require one 2-port outlet.

**Nurse Workstation**
Each Nurse workstation will require a minimum of one 4-port data outlet proximate to each workstation, plus two additional 4-port data outlets in the area behind the nurse workstations for a communal printers/devices.

**Office Workstation**
Each Office space will require a minimum of two 4-port outlets. If the space will be used by multiple staff, each workstation will require one 4-port outlet proximate to the workstation.

**Conference Room/Table**
Each Conference Room will require a minimum of two 4-port data outlets, one on one wall, and the other on a different wall to allow for flexibility in conference room use.
Reception/Admitting area Workstations
One wall-phone communication outlet for each room over 500 square feet and one additional phone outlet for each additional 2000 square feet are required. The Reception area will require an analog line proximate to the copier/printer.

X-Ray Tech Workstation
The X-ray Tech room will require two 4-port data outlets.

X-Ray Room
The X-ray Tech room will require two 4-port data outlets.

Lab Tech Room
The Lab Tech room will require three 4-port data outlets spaced evenly along the lab wall. The Lab Tech room will require 1 x 1 analog port.

Break Room
The Break room will require two 2-port data outlets, one on one wall, and the other on a different wall (to support future growth or needs).

Camera(s)
Cameras for future IP based systems. Cabling with additional slack will be tagged and placed at the approximate identified locations for future deployment.

Lobby Area
One 2-port data outlet per kiosk and display location dedicated to Epic workflow.

3 Documentation

3.1 Installation, testing, and maintenance records
All initial installation and modifications to cable paths, backbone cabling, cross-connects, fire stops, horizontal wiring, termination and testing is to be documented.
3.2 Cable plant records

All cable and station wiring that is to be connected to, or disconnected from, the campus communication network must be reported to Information Technology Services for approval. This must be submitted in writing so that accurate infrastructure records can be maintained.

3.3 Labeling requirements

All the information to label wall plates, horizontal cabling, patch panels and distribution frames shall be included in Information Technology Services cable management records system. The naming and labeling conventions in this section identify specific methods of implementing ANSI/TIA-606-B Standard. The 606-B identifiers are shown in italics.

Each character in the identifier represents a key piece of information.

- \( f \) = alpha-numeric character(s) designating the floor
- \( s \) = alpha-numeric character(s) uniquely identifying the telecommunications space
- \( x \) = alpha-numeric character(s) uniquely identifying the row of the rack or cabinet
- \( y \) = numeric digit(s) uniquely identifying the rack or cabinet within the telecommunications space
- \( r \) = Two numerical digits indicating the location of the top of the patch panel in rack units (U) from the bottom of the usable space in the cabinet/rack
- \( p \) = two to four numeric characters designating the port

**Identification and naming**

Jack locations are identified upon entering each room through its main entrance and sequentially numbering them, 1, 2, \( n \), from left to right (clockwise), and vertically from top to bottom, around the room. Each jack position on every wall plate is sequentially lettered \( A, B, \ldots \), left to right, then top to bottom. Room identifiers \( frrr \) can be 3 or 4- character unique alphanumeric designators (i.e., 103, 206T, B09) within the building (first character matching floor identifier, i.e. 1st floor, 2nd floor, Basement, respective to these examples).

**Jack/wall-plate labeling**

Each room’s data, telephone, and MUTOA wall plates are to be labeled so as to show the horizontal link identifier (fs.xy-r:p). This consists of the originating telecommunications space (TS), designated by (fs) and patch panel port (xy-r:p) where the link originates. UMC also requires the work area identifier, wall plate, and jack identifier be labeled where the horizontal link is terminated. These are mandatory data elements to be included in cable records systems. See ANSI/TIA-606-B Section 5.2 for a list of horizontal link records requirements.
Port labeling — Data

The UMC data port labeling convention is fsss.xy-r:pp JP-frrr, where fsss represents the originating TS identifier, xy-r:pp represents the originating rack, patch panel and port number, JP represents the room’s data Jack and Port location, and frrr is the destination floor/room identifier. For instance the label “202.A1-35:04-1A-206T” would identify TS (wiring closet) Room 202, patch panel A1-35, port 04, connecting jack location/position 1A in room 206T. Note that room identifiers typically use the first character(s) position to specify floor(s).

- J = one to two numeric characters designating jack location within the work space
- P = one alpha character to represent the jack position within the wall plate
- frrr = one to four alphanumeric characters to uniquely identify the work space

3.4 Wireless Access Point (WAP) installation

Wireless access point installation locations shall be documented on plans. Each wireless access point shall have two Category 6 wiring pulled back to the floor’s wiring closet.

3.5 Appropriate use of wireless networks

Wireless networks shall be installed only as extensions or additions to hard-wired networks, and not as a replacement for cabled data, telephone, or CATV networks.