E. All conductors will be single insulated conductors installed in continuous raceway. All conduits will be concealed in walls, underground, or in areas above suspended ceilings.

F. Conductors will be copper with minimum size #12 AWG. Conductor insulation will be 600-Volt type THHN-2 (in dry locations) and THWN-2 (in wet locations). All conductors will be color coded per NEC.

G. Wiring devices will be tamper-resistant hospital grade, 20-amp minimum for normal power. Wiring devices will be red, hospital grade, 20-amp minimum and have red cover plates for emergency power.

3. NEW SYSTEM DESCRIPTIONS

A. Electrical Systems:

- All existing panels serving the kitchen area will be analyzed for existing capacity and will be re-used for the new kitchen layout.
- The VA has indicated they would like to provide generator backup to some or all of the kitchen equipment because this is classified as a critical building. The VA Electrical Design Manual states the following kitchen loads shall be on the equipment branch of the emergency system: kitchen hood supply, kitchen illumination, and minimum equipment to provide nourishments to patients during an extended outage (freezers and refrigerators). The VA Physical Security & Resiliency Design Manual does not include any emergency backup requirements for kitchen equipment.
- It appears the majority of the kitchen electrical loads are fed from the two panels just outside the kitchen doors (panels 107-02-02 and 107-02-03) and the panel in the adjacent room (panel 104-02-01). Per the spreadsheets provided by the VA for the electrical distribution in building 2, these panels do not have generator backup.
- Based on information collected from the site investigation, panel 107-02-03 has walk-in refrigerator and freezer loads listed in the panel directory. However, existing drawings from the Dietetics Building #2 Refrigeration Replacement project show some walk-in equipment connected to panel EM2, which is on the equipment branch of the emergency generator system. The life safety panel in the basement, panel 016-02-02, has kitchen lighting and hood lighting connected to it. So, it appears some of the emergency loads required by the VA Electrical Design Manual have generator backup. However, some may not, and many other kitchen loads do not either. Further input from the VA is needed to determine which loads are desired to have generator backup.
- The existing equipment branch panel EM2 is full and does not have any spare circuit breakers. Thus, a new panel will be provided to serve the new equipment loads in the kitchen.
- New receptacles will be added for the relocated reach-in coolers. New receptacles with shunt trip will be added to serve the new gas range under the hood. New general receptacles will be placed to accommodate any relocated general plug-in appliances.
- The center cooking island will include two (2) new stationary cord drops for general power requirements. Relocated cooler will be powered from the column in the center of the kitchen.

B. Lighting:

- All lighting throughout the remodeled spaces will be new LED type.
- Lighting in breakroom room and office shall consist of LED 2'x2' or 2'x4' volumetric architectural troffer luminaires.
- Life safety emergency egress lighting will be connected to existing life safety panels.
- Occupancy sensors will be used to control lighting to reduce energy consumption.

C. Telecommunications:

- The telecommunications needs for this new space will fed from existing infrastructure. No new telecommunication rooms are intended to be provided in this area.
- Telecommunications outlets will be provided for the breakroom and workstations.
- Horizontal cabling system shall consist of CAT 6A cabling to all hardwired network jacks.

D. Fire Alarm Systems:

- New fire alarm devices will be added to remodeled spaces. The devices will be connected to existing fire alarm system serving the building. This includes new notification devices in the new conference/office spaces.

E. Access Control System:

- New card reader will be provided for kitchen exterior door. No other changes will be made to access control system.

F. Audiovisual:

- No new audiovisual systems are anticipated for this scope of work.

4. DESIGN PROCESS

A. The full layout is complete and the MEP work has been established and shown on drawings. The design is now considered complete.