

## **Improvements to Building 1253, MCX MCAS Beaufort, South Carolina**

### **Factor 1: Technical Solution Narrative**

#### **1.0 Project Description**

This project consists of a renovation of an existing Marine Corps Exchange (MCX) and adjacent shopette. The space occupancy is similar to that of a department store for the MCX and small grocery store for the adjacent shopette. This renovation will be accomplished while the building is fully occupied, with minimal disturbance to the normal operations of the facility.

#### **2.0 Phasing**

The operations of this project will be broken up into five (5) main phases. Each phase will have sub-tasks in order to better organize the work around the normal daily operations of the facility. Phase descriptions are shown on the phasing drawings attached to this proposal.

Project phasing will allow means of egress throughout the entire project. Temporary walls, and construction barriers will be provided to limit the migration of dust, fumes, noise, etc.

#### **3.0 Building Systems**

##### **3.1 Mechanical**

The mechanical scope of work for this project consists of the extension of the existing HVAC system to serve the new customer service room (402). An existing supply and return air duct will be extended to provide conditioned air to that room. New supply diffusers and a return air grill will be installed in the new lay-in ceiling to be installed as part of that room's upfit.

All mechanical work will be done in accordance with ASHRAE guidelines, South Carolina Building Code and the appropriate UFC, and MCAS Beaufort standards.

##### **3.2 Electrical**

###### **3.2.1 General**

A revised, existing electrical distribution for lighting and power, fully functional and tested, is proposed for this project to support building features as described below. All elements of the electrical systems meet requirements described in the Solicitation Space Requirements and relevant sections of the Statement of Work. General electrical design and construction will comply with NFPA 70: National Electrical Code (NEC) 2008, and other applicable Federal, State, and Local codes and regulations. Testing will be completed in accordance with the International Electrical Testing Association (NETA). Design and installation of the electrical systems will be developed to maximize the efficiency and serviceability of the systems and comfort of the occupants.

### **3.2.2 Power Distribution and Grounding**

Service entrance conductors as well as panel boards and feeders are existing to remain to the extent possible. Existing receptacles to support the renovated floor plan will be reused and fed from existing 208Y/120V sub panels where possible. If necessary, additional electrical receptacles and branch circuits may be added to support the relocation of furniture and equipment such as point of sale registers, reach-in-freezers, desks, etc. Electrical products installed in the facility will be UL listed and labeled. All wiring shall be copper conductors in rigid metal conduit or electrical-metallic tubing as required and ran concealed in walls and ceilings where possible. Receptacles are provided conforming to the requirements of NFPA 70, and additionally coordinated with the proposed equipment arrangements and SID/CID in all spaces. Grounding is provided in compliance with Article 250 of the NEC 2008 (NFPA 70) and UL 467.

### **3.2.3 General Interior Lighting**

Existing fluorescent lighting shall used and relocated to conform to the spaces of the new floor plan in all areas with the exception of the new Customer Service room. New fluorescent fixtures shall be provided in this area. In necessary, new LED exit signs using red letters shall be used to identify the path of emergency egress exit signs with battery backup will be provided.

### **3.2.4 Communications and Special Systems - Interior**

The existing communications systems will be used and modified with new devices for the new floor and furniture layout.

### **3.2.5 Fire Alarm System**

The existing fire alarm system shall be modified, reusing existing devices where necessary, to conform to NFPA 72.

## **3.3 Plumbing**

Plumbing work is limited to the removal and replacement of the fixtures in the restrooms (Rooms 507/508) and the sink in the "snack avenue" (Rm 503). These fixtures will be removed and replaced with new fixtures. Fixtures in the restrooms will utilize the same locations as the existing and will not require additional plumbing. The sink at the relocated snack avenue will require the extension of the buildings existing plumbing system to the new location. All plumbing work will be performed in accordance with applicable codes and standards of MCAS Beaufort and the state of South Carolina.

## **3.4 Structural**

To support the proposed changes to the MCX building space, structural components in the laterally braced wall formerly separating the Main Exchange and the Shoppette must be modified to withstand the wind and seismic loads.

As shown in Part 6 of the RFP, the cross braces along previous column line 8.4 must be removed (or reused where possible) and aligned in such manner that the slab, foundation, and footings need not be altered. To achieve this, the beams supporting the roof above the area where the opening is to occur must be reinforced using a welded cover plate along the top and bottom for the full length of the beams. Additionally, the existing tube steel cross braces in bay A/.5A must be reinforced in the same manner.

See drawing S-1 for shear wall modification details.

#### **4.0 Interior Finishes**

All interior finishes will be in accordance with the MCAS Beaufort BEAP guidelines. Final color scheme will be approved by owner, and will be consistent with those currently in the existing building. Where new ACT is required tile selected will match the existing ceiling tiles. All new floor finishes will be similar to the existing floor coverings in that area.

#### **5.0 Sustainability**

The limited scope of work in this project prevents the implementation of any major sustainability features, however, features to increase the sustainability of this facility will be incorporated to the extent allowable by the scope of work.

New fixtures in the restrooms (Rooms 507, & 508) will be low flow fixtures that meet or exceed the requirements of EPA Act 1992, this will include the lavatories and toilets/urinal. All new carpet, adhesives, and paint will be low VOC and rated by the applicable rating system as defined in the LEED v2.2 NC Materials and Resources credits for low emitting materials.