

**Analysis of Fire Egress Alternatives at Fort Hancock
Barracks Building 22
New Jersey Marine Sciences Consortium
Sandy Hook, New Jersey**

Introduction

The purpose of this submittal is to solicit input and review from the public on the proposed approach to provide fire egress to Fort Hancock Barracks Building 22.

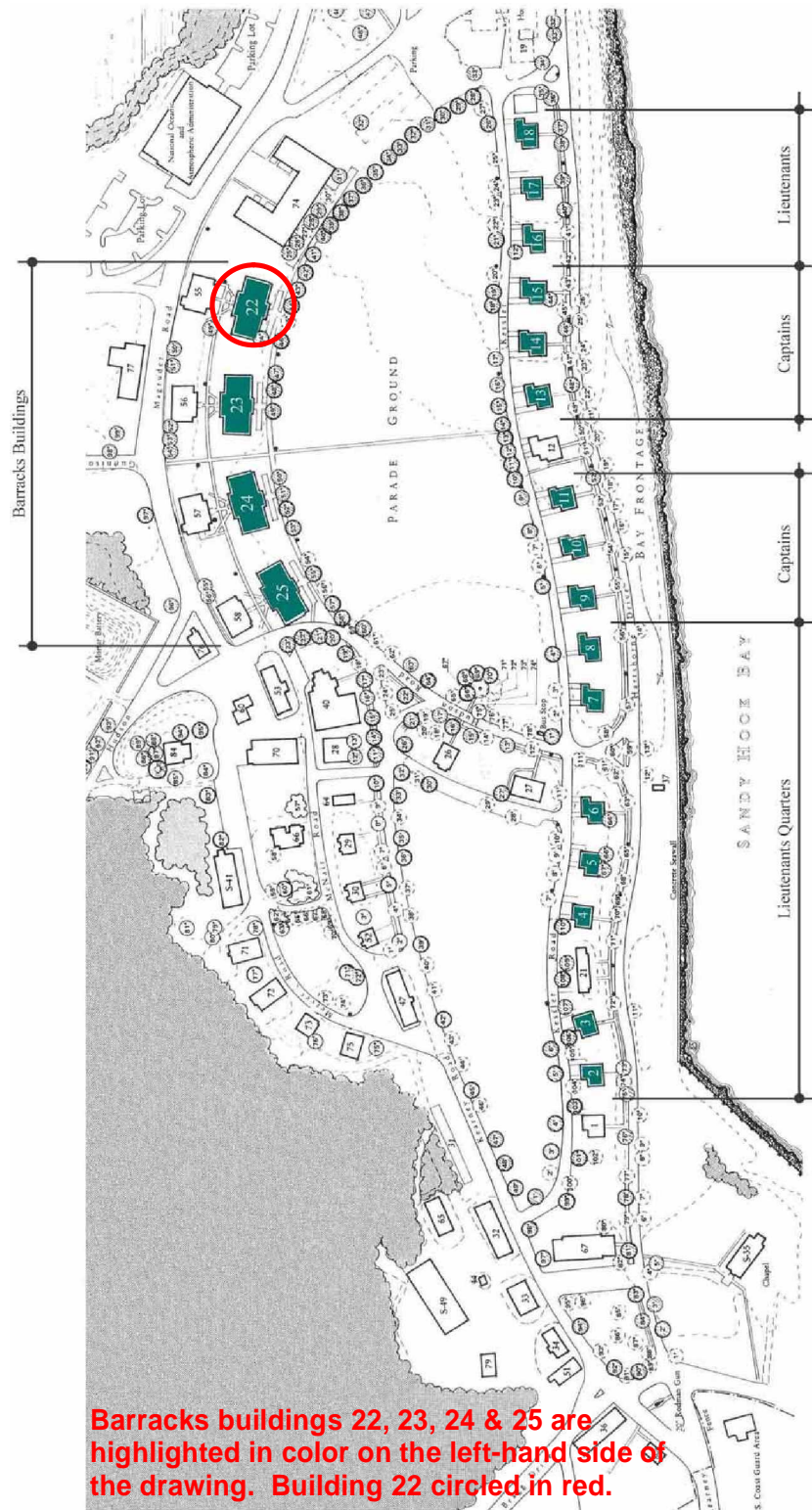
This package includes a number of conceptual level designs of alternative treatments that have been studied during the design process that would achieve the fire egress requirements that will be needed as part of the planned adaptive rehabilitation of these structures.

The preferred approach is identified.

Since the approach used for egress and access will help determine the overall rehabilitation designs for both the interior and exterior of the buildings, we would like to have agreement on the approach to solving these before continuing with further design work.

A common design approach to egress and access is planned for all buildings on Barracks Row at Fort Hancock. The approach that is determined here will be used in rehabilitation by both the National Park Service, and its partners who occupy the structures.

Buildings Submitted



Fort Hancock Barracks Buildings (Building #'s 22, 23, 24, 25)

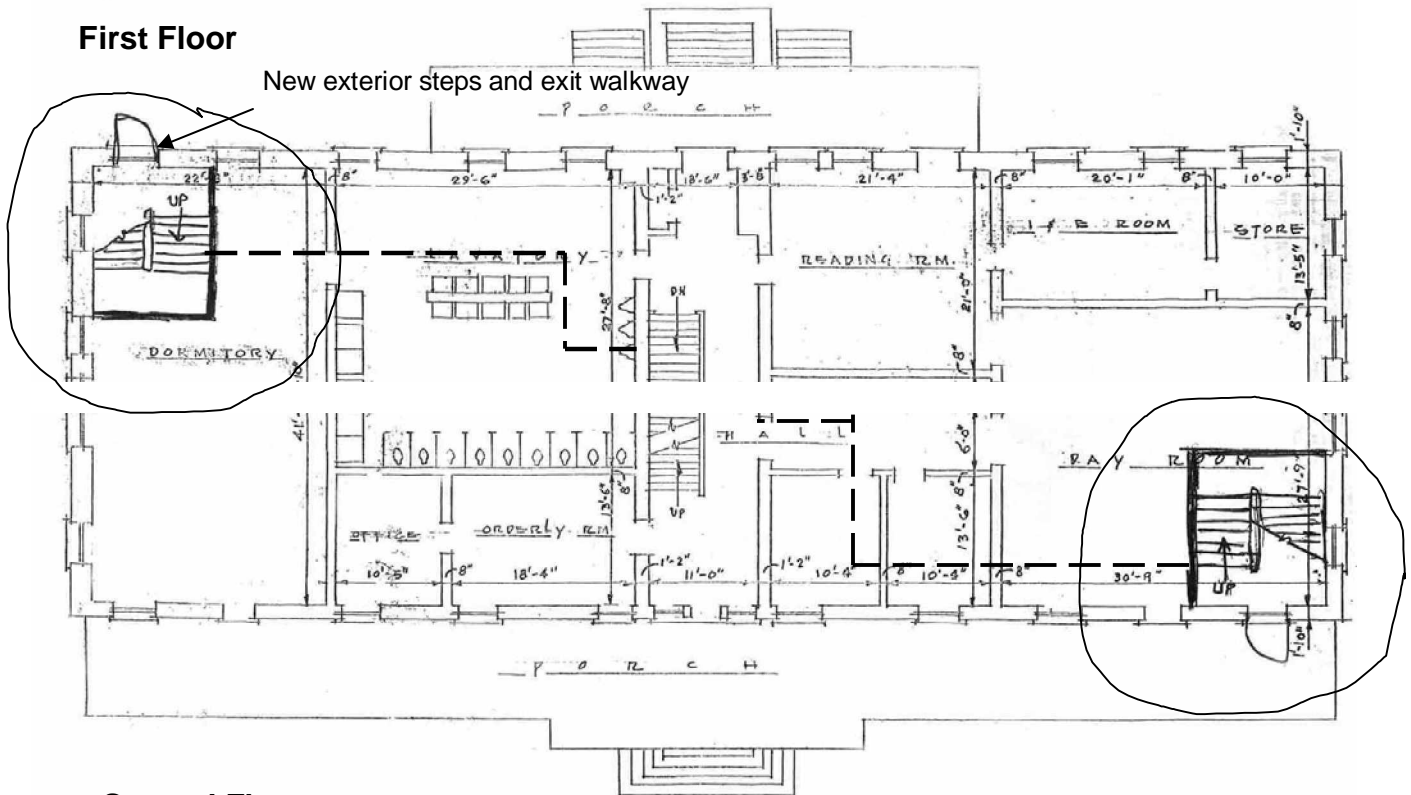
Matrix of Alternative Approaches

Note: Recommended Option is Option 3

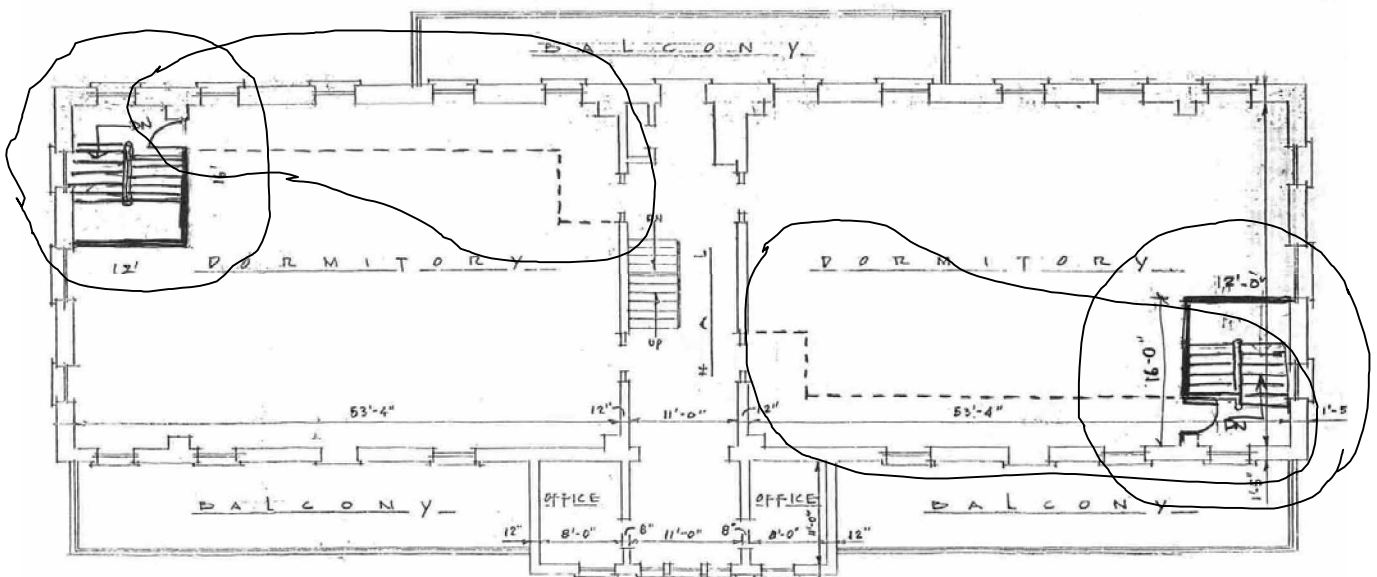
	Positive	Negative
Option 1 Interior Egress Plan	<ul style="list-style-type: none"> Least impact on exterior fabric of any of the Options Least impact on exterior appearance of any alternative <p>* note CDF = character defining feature</p>	<ul style="list-style-type: none"> Most impact on interior fabric of any alternative Compromises floor plan of major 2nd floor rooms (CDF). Encloses 2nd floor west side windows within a corridor Loss of significant usable public space for use as egress routes. Loss of historic fabric to convert windows to exit doors Requires new exit walkways that impact landscape
Option 2 Exterior Stairway Plan	<ul style="list-style-type: none"> Limited impact on interior historic fabric and CDFs. Egress direction is clear Reversible, with minimal impact on historic fabric 	<ul style="list-style-type: none"> Significant visual impact of stairways on two sides of the building. Loss of historic fabric to convert windows to exit doors Requires new walkways that impact landscape Possible archeological impact in construction of foundations for egress stairs.
Option 3 East Porch Egress Plan (Preferred Alternative)	<ul style="list-style-type: none"> Least impact on interior fabric and CDFs of other Options. Less exterior visual impact than Option #2. Clear egress route that uses existing historic doors and walks. Egress stairs integrated into reconstruction of missing historic front porch (CDF) Least impact on exterior historic fabric of any alternative Serves both interior & balconies Reversible, with minimal impact on historic fabric 	<ul style="list-style-type: none"> Exterior fire egress is on primary building façade

Barracks Buildings **Option 1 – Interior Egress Plan**

First Floor



Second Floor

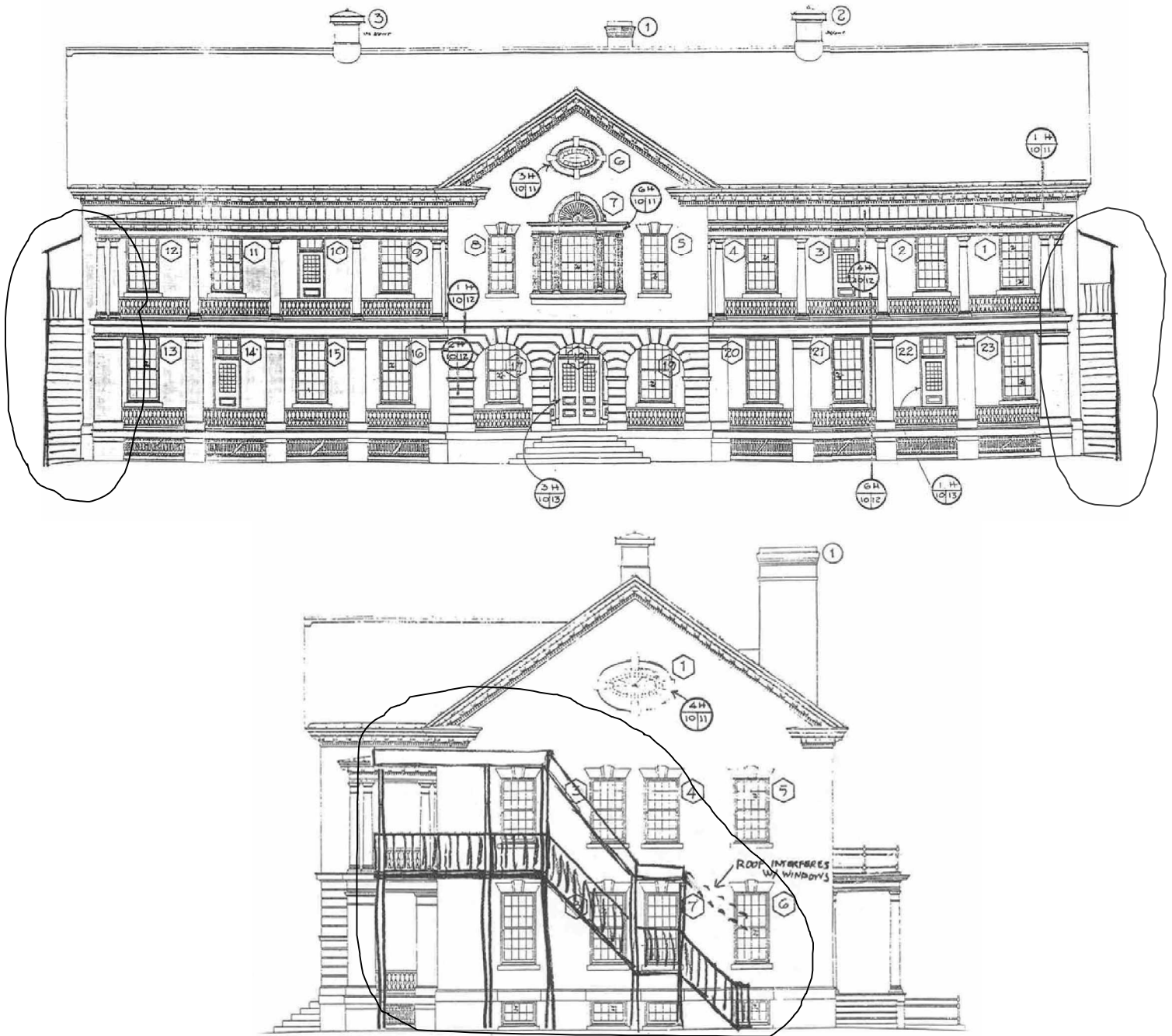


*Barracks, Option 1 Drawings by Tom Burns, Architect, NPS

Interior stair towers in each corner from lower level through attic. Lengths exceed 20' due to the high (16') floor-to-floor height. Fire-rated corridors connecting them to the center hall would also be required.

Barracks Buildings

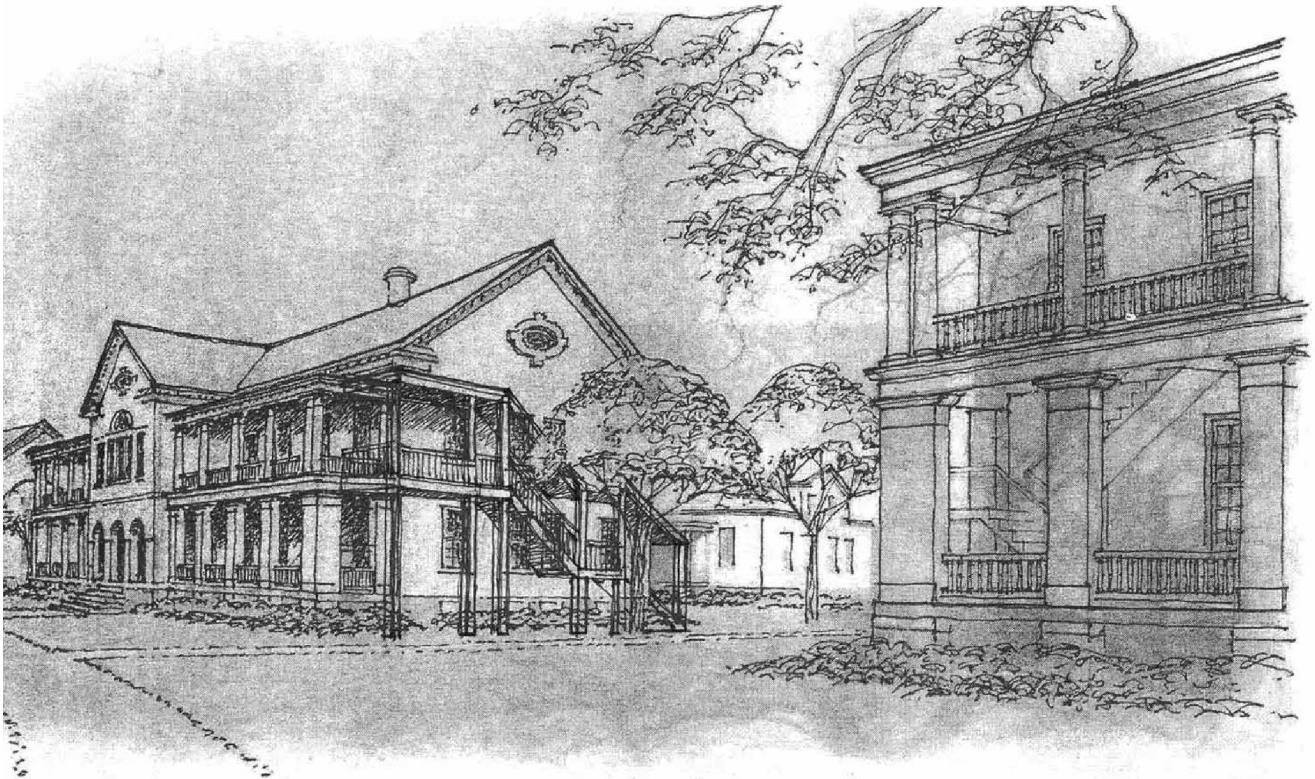
Option 2 – Exterior Stairway Plan



*Barracks, Option 2 Drawings by Tom Burns, Architect, NPS

The exterior egress plan requires stairs with weather-protected canopies and structural supports with new foundations and site archeology work. It also requires the change of 4 windows to doors and obstructs several windows. The stairs also need to connect to the balcony which requires removal of some handrail.

Barracks Buildings
Option 2 – Exterior Stairway Plan

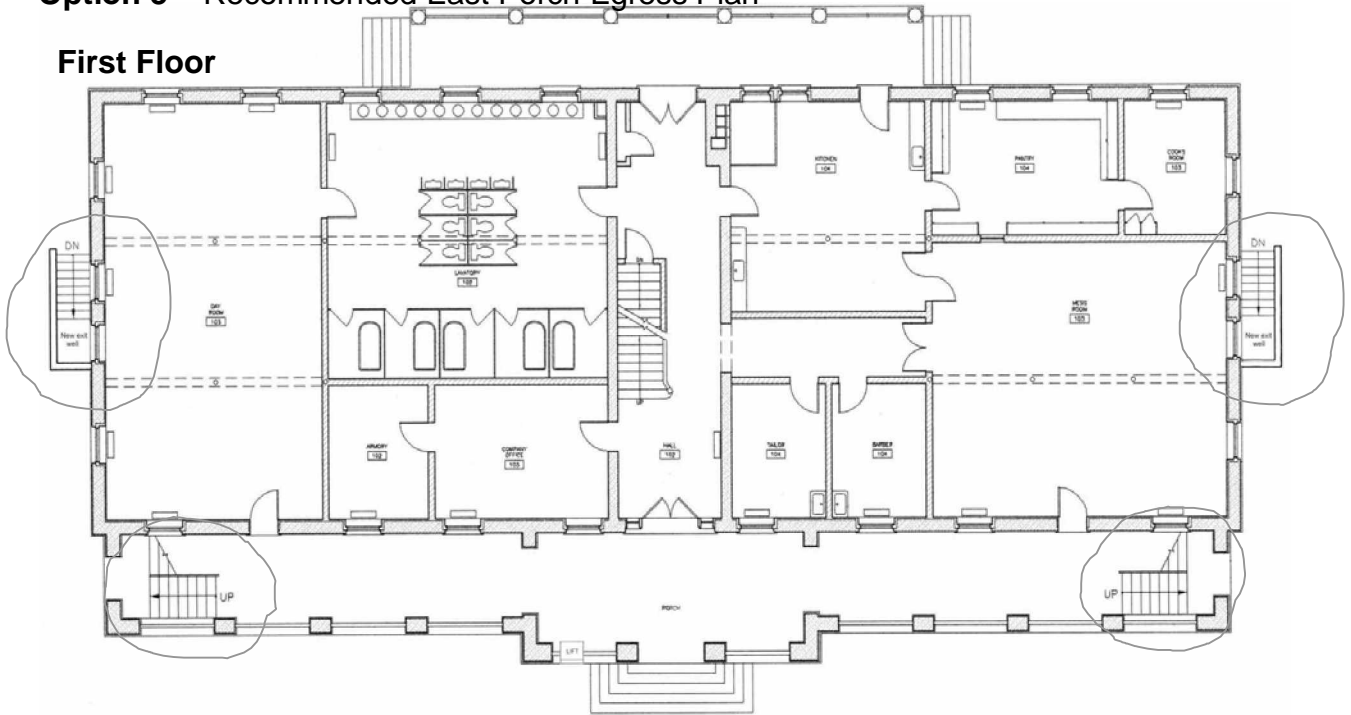


Sketch showing the differences between the Exterior Stairway Plan (left) and the recommended East Porch Egress Plan (right). The addition of stairs on the exterior is impossible to do without making them highly visible while the incorporation of egress stairs into the reconstructed porches allows them to be more integrated and far less visible.

Barracks Buildings

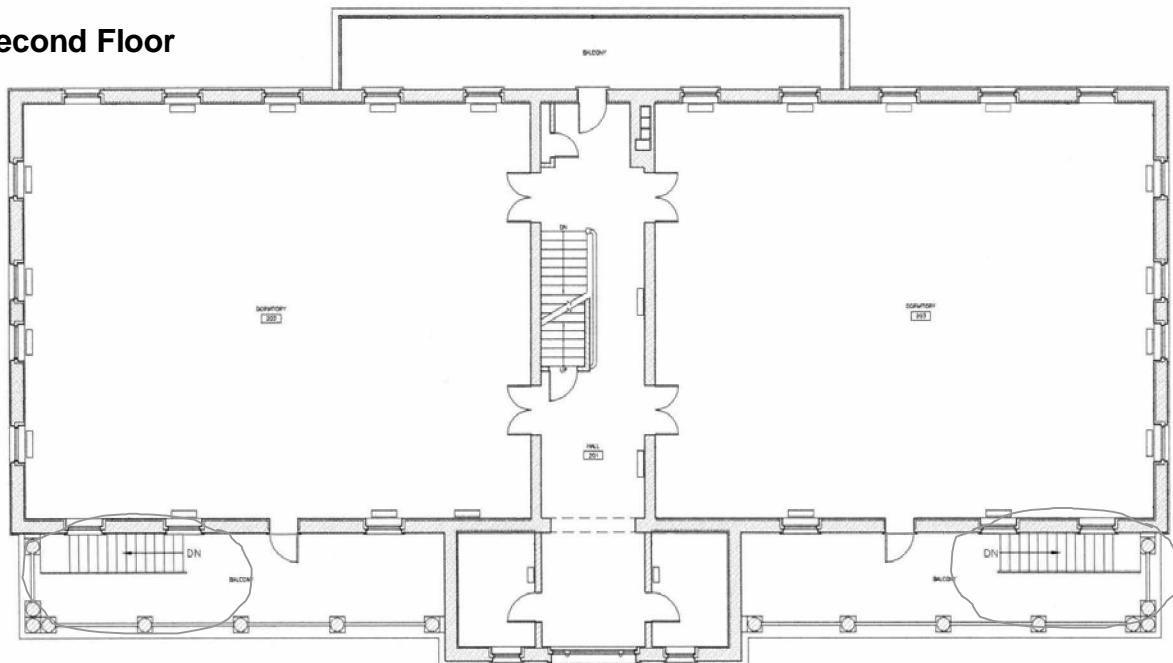
Option 3 – Recommended East Porch Egress Plan

First Floor



The new, fire egress keeps its minimal stairs behind all dominant porch elements. The treads direct one to the main porch stairs under the weather-protected canopy of the balcony above.

Second Floor



The new, fire egress uses the existing door from the interior to the balcony for exiting and uses a single run of stairs through the new, reconstructed balcony to a mid-point landing below.

Barracks Buildings
Option 3 – East Porch Egress Plan

Front Elevation



The new, fire egress stairs are visible only behind the main structure and detailing of the building. They are painted to blend in with the shadows of the porch.

Barracks Buildings
Option 3 – East Porch Egress Plan

Perspective
Existing Condition



Perspective
Recommended showing new egress

