September 29, 2023

C. Cecil Holt, Sr.
DMVA Architect, Consulting Services Section
State Construction Office
NC Department of Administration
301 N. Wilmington Street, Suite 450
Raleigh, NC 27601
cell 919.830.1113
main 919.807.4100
cecil.holt@doa.nc.gov

Reference / Project: RAL1002.011 Fayetteville State Veterans Home Roof Repairs/Replacement
Amendment #03 Emergency Repair Design

Dear Mr. Holt:

Raymond Engineering-Georgia, Inc., (herein referred to as Raymond) is pleased to submit this amendment to our Scope and Fee Amendment dated 12/09/22, to provide consulting and engineering services at the Fayetteville State Veterans Home.

This proposal outlines the emergency repair design and construction administration scope of work that addresses existing conditions that affect the immediate life safety of the occupants and require immediate action and emergency repair. It also incorporates the roof replacement scope (Amendment 1) and partial kitchen and six bathroom design and renovation work (Amendment 2). Raymond has been informed by the owner that due to these uncovered existing conditions and other factors; the building is planned to be vacated by the end of 2028. These additional engineering design services to repair selective existing emergency building conditions while the building is partially occupied will address:

a. Damaged and deficient structural framing within attic space
b. Damaged and non-compliant fire-rated assemblies
c. Poor air quality from moisture intrusion due to inadequate site storm water drainage, gaps in building envelope and deficiencies in mechanical system
    i. Enclose thermal and moisture barriers at exterior walls at roof levels.
    ii. Repair HVAC system to remove moisture by adding a new DOAS system.
    iii. Repair existing storm water system to reduce water infiltration.
    iv. Relocate insulation within attic to correct location for air movement.
    v. Repairs to select building envelope location to address moisture intrusion and waterproofing.
d. Non-complaint site conditions involving emergency service access and services (fire lane and fire hydrant locations, proximity, quantity etc.), occupant life safety egress, security, site access and other site operational which could inhibit construction mobilization and building repairs.

Throughout the investigation and discovery of these conditions, Raymond's design team has informed the owner of these existing conditions and provided recommendations for owner response in emails, review meetings and the following letters, also attached:

Date: March 1st, 2023
Subject: Report of Existing Conditions for Owner's Immediate Response
Attachments: Matrix's Limited Mold and Moisture Assessment Report, Preliminary Life Safety and ADA Accessibility Compliance Assessment

Date: April 27th, 2023
Subject: Proposed Construction Phasing Overview based on Emergency Repairs and Renovation Scope Identified to Date
Attachments: Existing Preliminary Life Safety Plan, Structural Repair Drawings

FOLLOW UP EMAIL:

Date: May 31st, 2023
Subject: RE: Fayetteville SVH Structural Repair Drawing submission to the State Construction Office for review
Attachments:

1. Letter: Proposed Construction Phasing Overview based on Emergency Repairs and Renovation Scope Identified to Date Existing Preliminary Life Safety Plan and attachments (previously noted above)
2. C.T. Wilson Preliminary Cost Estimate for Structural Repairs (5-26-2023)

As a brief overview, these letters identified and recommended immediate repairs for the following:

- Structural damage and design and construction deficiencies in roof framing within the in the core and patient wings attic spaces.
- Poor Air Quality throughout the building due to moisture intrusion through the building envelope and deficiencies in the HVAC system
- Damage and deficiencies to Life-Safety construction assemblies in the smoke compartments

It was also observed during the investigations that the building site also has deficiencies that inhibit certain construction mobilization for repair activities, emergency service access and occupant egress from the building. These site conditions need to be investigated and addressed prior to certain repair scope and require further investigations and studies in a pre-design phase which include:

- Fire lanes, locations, and proximity to building for emergency service access.
- Fire Hydrant location, quantity, and flow rate
- Connections to temporary storm water drainage systems
- Utility connections for temporary facilities during construction
- Occupant building egress to site, access, and signage
- Security fencing and controls
- Temporary parking, occupant and visitor safety barriers, walkways, building access modifications for construction.

Considering the multitude of overlapping emergency conditions and site obstacles, Raymond recommends the state retain a construction management firm to manage the project during the emergency repair and renovation construction scope and that the same firm provide pre-construction administration service. At the request of the owner, Raymond has included this pre-construction service in this proposal from C.T. Wilson which includes estimating, construction phasing and other services described here-in.

To immediately address and map the building's emergency repair objectives and the required sequence of activities, this proposal considered a critical path method for the design and concurrent construction phases in order to expedite the design and repair work. Please see attached Gantt chart for more information. Raymond is proposing the project be conducted in the following multiple design and construction phases:

The design submission will be submitted in three parts for owner review and will be designed concurrently:

1. Design 1.1: Emergency Structural Repairs of select truss framing within building core area
    - Submission to SCO will be at 100% design
2. Design 1.2: Emergency Site Infrastructural Repairs and Pre-Construction Site Mobilization
    - Submission to SCO will be at 100% design
3. Design 2: Emergency Life Safety Infrastructural repairs
    - 1st Submission to SCO will be at 50% design
    - 2nd Submission to SCO will be at 100% design

The construction phases will correspond immediately after acceptance of the design submissions and are in five phases: 5 Phases of Construction:

- Ph1.1 Emergency Structural repairs at core attic framing
- Ph1.2 Temporary Storm Water system repair, site emergency service and life safety upgrades, site mobilization
- Ph2.1 Wing B and partial Core
- Ph2.2 Wing A and partial Core
- Ph2.3 Wing C

INVESTIGATION AND DESIGN

PREDESIGN (CONTINUED INVESTIGATIONS)

For expediency, these components of the design are considered pre-design, however, this work will be conducted concurrently with other design services listed in this proposal. This scope of work provides the vital data required to complete the design for these design submissions and is outlined in two parts:

1. (PDI) Pre-Design Investigations/Reports
2. (PDS)Pre-Design Studies (PDS) Multi-Disciplines Investigation Studies and Strategic Investigation

1. <u>(PDI) Pre-Design Investigations/Reports</u>

These surveys and assessments will be used for the following studies that will be updated into the subsequent emergency design documents and construction phases:

- PDI-1 Site Survey
- PDI-2 Tab Report
- PDI-3 Industrial hygienist Survey
- PDI-4 Fire Hydrant Pressure Flow rate test
- PDI-5 Below grade camera and existing storm water connections
- PDI-6 Geotech boring and Soil testing
- PDI-7 Soil contamination testing

2. <u>(PDS) Pre-Design Studies:</u>

Study, investigate and determine extent of required temporary emergency repairs, renovations, remediation and other building and site modification to enable mobilization, construction, and other requirements for the building to remain operational during construction duration and for the remainder of the building being occupied until 2028.

- <u>PDS-1: Site Life Safety Egress</u>
  Determine what strategies and site modifications are required for existing conditions to meet Life Safety Requirements affecting emergency service access and exit discharge that directly impact site emergency protocols of the facility.

- <u>PDS-2 Civil study (utilizing the completed Topo Survey):</u>
  Study and investigate solution to address the extensive site deficiencies noted during previous investigations affecting the building emergency service access, occupant egress and site discharge from the building, non-functioning storm water system, and other previously made changes to the site that will inhibit construction mobilization and temporary facilities during construction.

- <u>PDS-3 Mechanical Engineer analysis of the Cooling Tower</u>
  Investigate concerns that existing cooling tower may be contributing to site stormwater issues and air quality issues.

- <u>PDS-4 Construction Management Pre-Construction Services (C.T. Wilson)</u>

DESIGN (IN ADDITION TO DESIGN SERVICES IN AMENDMENT 2)

(D) DESIGN SERVICES

In order to address the urgency of certain life safety repairs and expedite the design of others, the project with be submitted in three parts for owner review and will be designed concurrently:

4. Design 1.1: Emergency Structural Repairs of select truss framing within building core area
5. Design 1.2: Emergency Site Infrastructural Repairs and Pre-Construction Site Mobilization
6. Design 2: Emergency Life Safety Infrastructural repairs

Design Submission 1.1 and 1.2 Overview:
These designs will address the immediate and the first level of critical repairs required to repair the building's existing conditions that directly affect the life-safety of the occupants and renovations and required upgrades to site infrastructure that enable future construction phases.

D1.1 Design Submission 1.1:
Associated construction phase Ph1.1: Emergency Structural Repairs

- Structural repairs to the damage truss system in the wings and core area within the attic.

D1.2 Design Submission 1.2:
Associated construction phase Ph1.2: Emergency storm water and Site Mobilization for Construction Phase 1.2, 2.1, 2.2, 2.3

- Temporary storm water site drainage from roof and building perimeter.
- Bi-pass and shut down non-functioning or damaged storm water system that could be contributing to slab moisture concerns.
- Repairs to and storm water drainage.
- Preliminary existing roof deferred maintenance repairs (prior to roof replacement in ph2)
- Provide select designs for temporary facilities to support the buildings operation and visitor activities. This includes a temporary kitchen and laundry mobile unit.
- Utility connections for temporary facilities for Ph 2.1, Ph2.2 and Ph2.3 construction.
    a. Mobile Laundry – location TBD
    b. Mobile Kitchen - location TBD
- Emergency Services Access – extended and modified fire lane(s) and additional fire hydrants if required.
- Repair select site elements that impact the building's egress and exit discharge to meet the State's requirements for temporary repair and construction.
- Contractor Construction Phase Storage and Laydown area
- Address with owner the relocation of certain facilities inhibiting site mobilization
- Modify existing conditions of existing site elements to correct or improve deficiencies that affect the operations efficiency and safety to the occupants, building staff, management and construction activities which include:
    a. Egress and area of refuge upgrades per SCO assigned fire Marshall temporary requirements for accessible ramps and entrances
    b. pedestrian walkways
    c. accessible ramps and entrances
    d. parking
    e. Safety fencing
    f. Retaining walls
    g. roadways
- Provide additional temporary parking and site access for the building's occupants, visitors, facilities

work staff and construction workers during construction phases.

INCLUDED with Amendment 2: scope included within this overall design and construction project:

- Roof replacement
- 6 bathroom renovation
- Kitchen area Dishwasher repair renovation

D2 Design Submission 2:

Design to address a three phased construction approach to address life safety concerns and repairs to the building while the building is occupied.
Associated Construction Phase 1.2, 2.1, 2.2, 2.3

- Repair select site elements that impact the building's egress and exit discharge to meet the State's requirements for temporary repair and construction.
- Relocate roof insulation and repair moisture barrier contributing to air quality concerns in the building. This is in addition to the roof replacement for a NC 2018 Energy Code energy code complaint design service as a part of amendment 2.
- Relocated roof downspouts and connections to existing storm water system to new temporary storm water system.
- Enclose the building envelope and provide continuous insulation and infill the thermal and moisture barrier of the building.
- Structural repairs to the damage truss system in the patient wings within the attic
- Fire-rated wall assembly damage to the smoke compartment and penetrations within the attic spaces throughout the building.
- Provide repairs to the existing life safety wall assemblies.
- Provide temporary life safety, infection control and support to help the facility to remain occupied during construction.
- Select Air-quality remediation plan as recommended by the industrial hygienist Matrix's report dated January 16th, 2023.
- Repair existing HVAC system by adding a direct outside air system (DOAS) throughout the building to condition and remove the moisture that is contributing the air quality emergency.
- Provide structural design repairs to the existing truss system within the patient wings.

PROJECT PHASE OBJECTIVES FOR DESIGN AND CONSTRUCTION

PROJECT DELIVERABLES PER PHASE– DESIGN AND CONSTRUCTION

<table>
<tr><th colspan="2">Pre-Design – Investigation and Engineering Studies prior to Design</th></tr>
<tr><td colspan="2">Period of Performance: ASAP-October (Anticipated 6-12 weeks)</td></tr>
<tr><td>PDI - Investigations</td><td>Pre-Construction Services</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Period of Performance: ASAP-October (Anticipated 6-12 weeks)</td><td>Period of Performance: (Anticipated 6-12 weeks)</td></tr>
<tr><td>o PDI-1 Site Survey
o PDI-2 Tab Report
o PDI-3 Industrial hygienist Survey
o PDI-4 Fire Hydrant Pressure Flow rate test
o PDI-5 Existing Storm water system
o PDI-6 Geotech boring and Soil testing
o PDI-7 Soil contamination testing</td><td rowspan="3">PDS-4 Construction Management Pre-Construction Services (C.T. Wilson) CT Wilsons notes in here:
o construction budgeting phase (5 phases)
o project scheduling
o constructability reviews
o value engineering
o trade and specialty contractor outreach and selection
o submission of a final construction cost agreement</td></tr>
<tr><td>PDS - Studies</td></tr>
<tr><td>o PDS-1: Site Life Safety Egress
o PDS-2 Civil study (utilizing the completed Topo Survey):
o PDS-3 Mechanical Engineer analysis of the Cooling Tower</td></tr>
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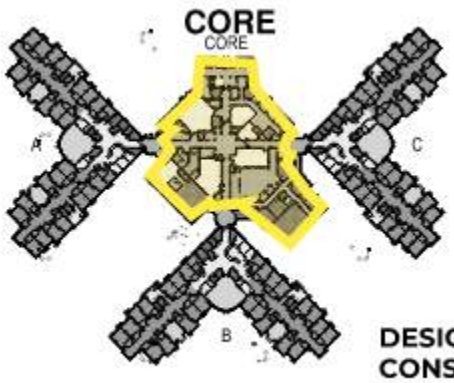
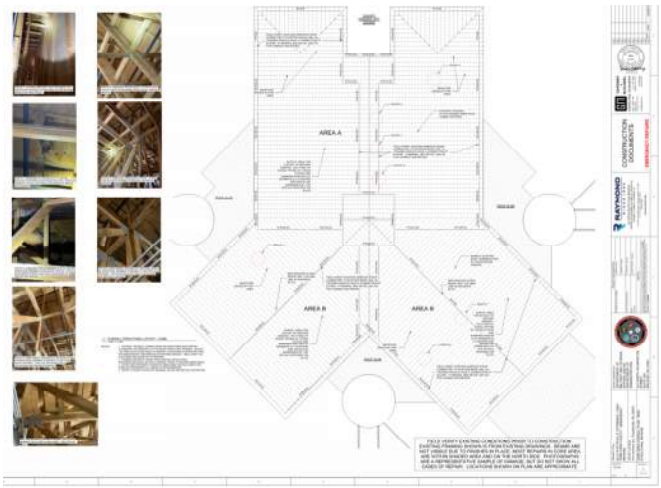
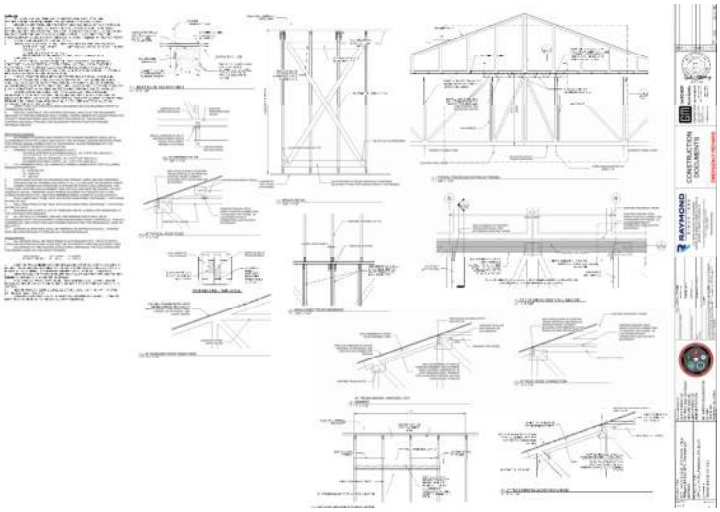
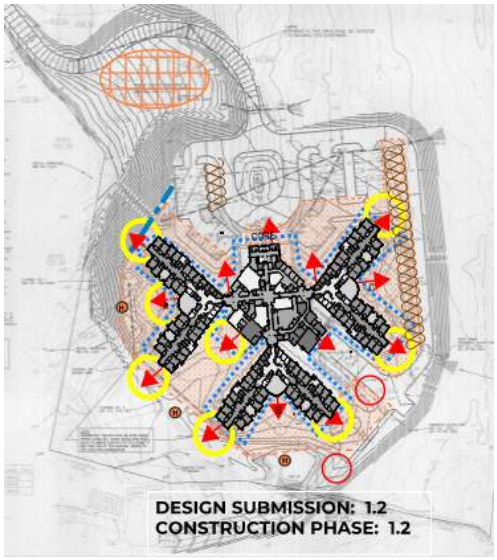


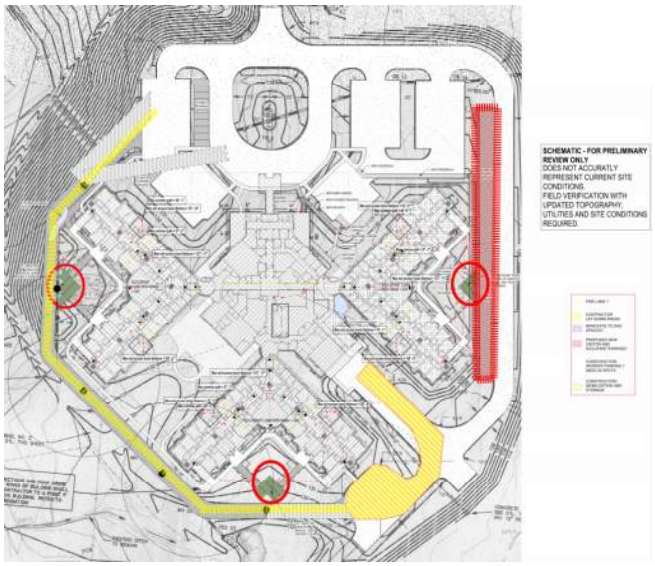
DESIGN SUBMISSION: 1.1
CONSTRUCTION PHASE: 1.1



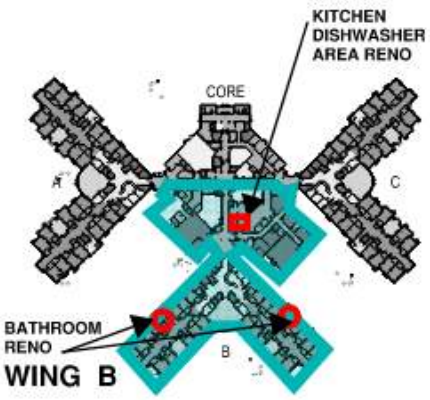


Phase 1 – Part 1: Emergency Structural Repairs at Core	
Design Phase: D1.1	**Construction Phase: Ph1.1**
Period of Performance: ASAP-September	**Construction Start: ASAP following owner CM contract and Cost Analysis from C.T. Wilson**
Design Submission: ASAP/TBD September 2023 — D1.1 100%	**Interior:** • Select locations requiring shoring for site access and safety of occupants and workers within and below attic area of work. TBD • Structural repairs of attic framing in core area
Design scope overview: Structural repairs to the damage truss system in the wings and core area within the attic.	

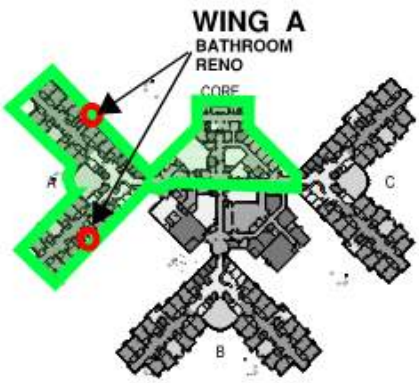




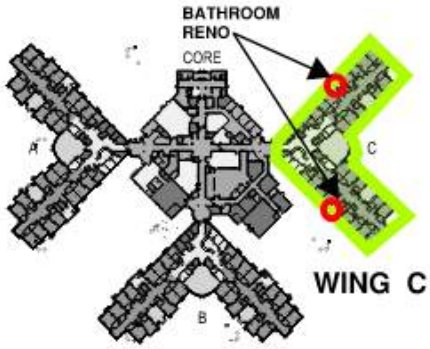
Phase 1 – Part 2: Emergency Site Renovations, Infrastructure repairs, Site Enabling and Construction Mobilization	
Design Phase: D1.2	**Construction Phase: Ph1.2**
Period of Performance: **ASAP (PENDING PDI & PDS) - December 2023**	**Construction start:** **TBD (+/-December 2023) – TBD Pending Assessment**
Design Submission: ASAP/TBD +/- Dec 2023 D1.2 100%	
Design scope overview: • Temporary storm water site drainage from roof and building perimeter. • Preliminary existing roof deferred maintenance repairs. • Utility connections for temporary facilities: • Provide select designs for temporary facilities which include a temporary kitchen and laundry mobile unit. for Ph 2.1, Ph2.2 and Ph2.3 construction. • Emergency Services Access – extended and modified fire lane(s) and additional fire hydrants, if required by fire marshal. • Contractor Construction Phase Storage and Laydown area(a) • Egress and area of refuge upgrades per SCO assigned fire Marshall temporary requirements for accessible ramps and entrances a. pedestrian walkways b. accessible ramps and entrances c. parking d. Safety fencing e. Retaining walls f. roadways • Repair select site elements that impact the building's egress and exit discharge to meet the State's requirements for temporary repair and construction. • Provide additional temporary parking and site access for the building's occupants, visitors, facilities work staff and construction workers during construction phases.	**Interior:** • Life safety repairs to address occupant egress, site exit access and security to exterior for phased construction • Interior life-safety signage for phased construction **Exterior:** Life Safety Site Repairs and Infrastructure Upgrades: • Temporary Emergency Services site access infrastructural upgrades for Fire Lanes and Fire Hydrants per SCO assigned fire marshal requirements. • Life Safety building egress, site areas of refuge, emergency service access • Exterior signage Deferred Maintenance and Life Safety Repairs: • Temporary roof repairs • Temporary storm water system repairs Site Pre-Construction, Mobilization and Enabling: • Utility connections for temporary mobile kitchen and laundry mobile units • Contractor laydown area and storage • Connect new utility hook ups to mobile kitchen and laundry. • Site grading, tree removal and protection • Temporary parking and access paths for construction and occupant operations during phased construction • Site storm water system repairs • Modifications to existing and new Security fencing • Select modifications and renovations to existing pedestrian walkways for construction and phased construction



DESIGN SUBMISSION: 2
CONSTRUCTION PHASE: 2.1



DESIGN SUBMISSION: 2
CONSTRUCTION PHASE: 2.2



DESIGN SUBMISSION: 2
CONSTRUCTION PHASE: 2.3

Phase 2: Emergency Interior and Exterior Renovations and Repairs

Design Phase: D2	
Design Submission: ASAP/TBD +/- December 2023	D2 50%
Design Submission: +/- February 2023	D2 100%

Design Scope:

- Relocate roof insulation and repair moisture barrier contributing to air quality concerns in the building. This is in addition to the roof replacement for a NC 2018 Energy Code energy code complaint design service as a part of amendment 2.
- Relocated roof downspouts and connections to existing storm water system to new temporary storm water system
- Enclose the building envelope and provide continuous insulation and infill the thermal and moisture barrier of the building.
- Structural repairs to the damage truss system in the patient wings within the attic
- Fire-rated wall assembly damage to the smoke compartment and penetrations within the attic spaces throughout the building.
- Provide repairs to the existing life safety wall assemblies.
- Provide temporary life safety, infection control and support to help the facility remained occupied during construction

Construction Phases:
Period of Performance: TBD and Schedule to be developed

Construction Phase: Ph2.1 Wing B and partial Core

Interior:

- Kitchen Dishwasher Area Renovation
- 2 Patient Bathroom renovation
- Life Safety Fire Rated Assembly Repairs
- DOAS unit installation
- Structural repairs of attic framing in patient wing

Exterior:

- Roof Replacement
- Insulation relocation
- Building envelope select repairs

Construction Phase: Ph2.2 Wing A and partial Core

Interior:

- 2 Patient Bathroom renovation
- Life Safety Fire Rated Assembly Repairs
- DOAS unit installation
- Structural repairs of attic framing in patient wing

Exterior:

- Roof Replacement
- Insulation relocation
- Building envelope select repairs

Construction Phase: Ph2.3 Wing C

• Select Air-quality remediation plan as recommended by the industrial hygienist Matrix's report dated January 16th, 2023. • Repair existing HVAC system by adding a direct outside air system (DOAS) throughout the building to condition and remove the moisture that is contributing to the air quality emergency. • Provide structural design repairs to the existing truss system within the patient wings.	**Interior:** • 2 Patient Bathroom renovation • Life Safety Fire Rated Assembly Repairs • DOAS unit installation • Structural repairs of attic framing in patient wing **Exterior:** • Roof Replacement • Insulation relocation Building envelope select repairs

SCOPE OF SERVICES OVERVIEW OF CURRENT CONTRACT THROUGH AMENDMENT 3

Amendment 2: Scope		**Amendment 3: Scope**		
Scope Transition Types to Amendment 3: (**NC**)No Change, (**M**) Modified, (**IN**) Increase, (**NEW**) New, (**R**) Removed				
Investigation Scope:	**Scope Trans. Type**	**Investigation Only (Pre-Design Phase) and/or Design Scope:**	**Design Subm. #**	**Cons. Ph.#**
• Moisture Intrusion – Concrete Slab and wall base – Geotech and Industrial Hygienist report	**IN**	• Investigate and design temporary site storm water and site drain to help prevent moisture intrusion in building.	**PD D1.2 D2**	**Ph1.2 Ph2.1 Ph2.2 Ph2.3**
	NEW	• Investigate and design repairs to the building envelope to enclose the thermal and moisture barrier system at roof/attic level exterior walls to limit moisture intrusion.	**PD D1.2 D2**	**Ph1.2 Ph2.1 Ph2.2 Ph2.3**
• Plumbing and storm drain investigation	**IN**	• Investigate options for bypass and relocations of storm water system from roof at grade and coordinate with other site investigations.	**PD D1.2**	**Ph1.2**
	NEW	• Investigate and design temporary repairs or upgrades to the site's existing storm water system.	**PD D1.2**	**Ph1.2**
• Air Quality – Industrial Hygienist - Report	**IN NEW**	• Investigation into extent of damage to interior finishes due to moisture and organic growth for potential replacement (Design to be a part of a future amendment).	**PD**	**Ph2.1 Ph2.2 Ph2.3**
• HVAC performance – TAB Report	**NEW**	• Investigation of cooling tower's performance and potential contribution to air quality issues. (Design to be a part of a future amendment).	**PD**	**NA**

	NEW	• Design repair of the building existing HVAC system to condition the outside air by adding a DOAS system throughout the building. DOAS units are to be installed on the exterior of the building on pads or within a dedicated room within each smoke compartment	**D2**	**Ph2.1 Ph2.2 Ph2.3**
	NEW	• Replace bathroom exhaust fans and 6 locations	**D2**	**Ph2.1 Ph2.2 Ph2.3**

Amendment 2: Scope		**Amendment 3: Scope**		
Scope Transition Types to Amendment 3: (**NC**)No Change, (**M**) Modified, (**IN**) Increase, (**NEW**) New, (**R**) Removed				
Investigation Scope:	**Scope Trans. Type**	**Investigation Only (Pre-Design Phase) and/or Design Scope:**	**Des. Sub. #**	**Cons. Ph.#**
• Review of building's Life Safety Plan and assemblies.	**IN**	• Investigate types and repair conditions of damaged and not code compliant fire-rated assemblies for repair, replacement or relocation as required.	**PD D2**	**Ph2.1 Ph2.2 Ph2.3**
	NEW	• Investigate and design select repairs at existing exit discharge and egress pathway locations in order to comply with emergency temporary repair requirements for the building and site in accordance the owner's assigned fire Marshall and the state's determined temporary emergency services requirements for the phased construction.	**PD D2**	**Ph1.2**
	NEW	• Investigate and design options for phased life safety plans per the three main construction phases (Ph2.1, Ph2.2, Ph2.3).	**PD D2**	**Ph2.1 Ph2.2 Ph2.3**
	NEW	• Investigate emergency egress signage and site requirements for phased construction and coordinate with the owner's emergency operations plan.	**PD D1.2 D2**	**Ph2.1 Ph2.2 Ph2.3**
	NEW	• Investigate and design site improvements for emergency services and life safety systems including fire lanes and fire hydrants.	**PD D1.2**	**Ph1.2**
• **Roof Replacement:** Replace existing shingle with new Metal Standing seam roof to meet the 2018 energy code	**MOD**	• **Roof Replacement:** *Replace existing shingle roof with new roof membrane system and continuous insulation to meet 10-year warranty.*	**D2**	**Ph2.1 Ph2.2 Ph2.3**

○ *No change to existing storm water connections included*	**NEW**	○ *Upgrades and repairs to existing storm water system bypass internal drains, re-work storm water drainage loads with new temporary site repairs.*	**PD D1.2 D2**	**Ph1.2**
○ *No temporary repair phase included*	**NEW**	○ *Temporary repairs to existing roof prior to replacement*	**PD D1.2 D2**	**Ph1.2**
• Selective structural repairs in roof attic framing as a part of the roof replacement.	**IN**	• Intensive emergency structural repairs in roof attic framing throughout building	**D1.1 D2**	**Ph1.1 Ph2.1 Ph2.2 Ph2.3**
• Selective Structural repairs at kitchen dishwasher area	**NC**	• Selective Structural repairs at kitchen dishwasher area	**D2**	**Ph2.1 Ph2.2 Ph2.3**
• Kitchen Dishwasher area renovation	**NC**	• Kitchen Dishwasher area renovation	**D2**	**Ph2.1 Ph2.2 Ph2.3**
• Patient Bathroom Renovation at 6 locations	**NC**	• Patient Bathroom Renovation at 6 locations	**D2**	**Ph2.1 Ph2.2 Ph2.3**

CONSTRUCTION ADMINISTRATION

A. Construction Administration is included for Ph1.1 and Ph1.2 only and is budgeted on a day/visit rate and separately hourly allowance by unforeseen condition occurrence. When this allowance has 20% of the budget remains (hour or visit, calculated separately) an additional service request will be provided.

B. Construction Administration services for construction phases Ph2.1, Ph2.2 and Ph2.3 will be provided by a future amendment after the design of the phase 2 construction documents have been approved by the owner and corresponding construction schedule formalized by the construction manager and approved by the owner.

PROJECT CLOSEOUT

When the contractor has notified us that the project is substantially complete, we shall perform a punch list observation report and identify any deficiencies for correction per phase of construction. Once all punch list items have been resolved, we shall collect all closeout documents from the contractor and forward to your office for its file and future reference. Record documents recording the as-built repair areas of work will be limited to field red-marks provided by contractor per phase and reviewed shop drawings.

PROJECT TEAM

Design Lead and Prime Consultant:	Raymond
Project management:	Raymond
Building Envelope	Raymond
Architecture	Raymond
MEP	Raymond

Sub Consultants (subject to change with availability)

Interior Architecture	IHR Architecture, Inc
Structural	Gardner McDaniel Consulting Engineers
Plumbing Engineering	Optima
Plumber	East Coast Drainage
Industrial Hygienist	Matrix Health & Safety Consultants
Kitchen Consultant	Food design

Environmental Engineer	TBD Not included in Contract at this time (specs only)
Construction Management	C.T. Wilson, Inc

ASSUMPTIONS

For the purposes of this proposal, we have assumed:

1. The renovation and emergency repair scope defined in this project is limited and based on the building being vacated by 2028. Not all recommended designs and associated repair scopes were accepted by the owner at the time of this amendment.
2. The renovation work has been designed to comply with the 2018 North Carolina Existing Building Code – Prescriptive compliance method.
3. Project is to have one construction manager or general contractor conducting the work throughout all phases.
4. The interior construction work is assumed at this time to be in 5 phases (phase 1.1, Phase 1.2, Phase 2.1, Phase 2.2 and Phase 2.3), 20 weeks per phase. This duration is likely to change based on the pre-construction assessment provided in Pre-design Phase and project planning and construction phasing provided by the pre-construction services construction management firm C.T. Wilson.
5. The building will be partially occupied during construction. Temporary relocation of staff, patients and selective services, storage and equipment are assumed, to be determined and information provided by owner prior to construction document design phase submission for SCO review.
6. The interior construction work is assumed at this time to be in 4 phases, 20 weeks per phase.
7. Exterior façade and roof replacements and associated structural repair work is to be phased with the interior construction.
8. Staff and patient access with be off limits and restricted in the areas of work during construction. Owner is to provide the management, cost and orchestration of the temporary movement, relocation, operations, service connections and storage of supplies, materials, office and hospital equipment and other items related to operations that inhibit construction and repair work.
9. The existing mechanical system will remain. The owner will provide commissioning and repair to system as required.
10. Repairs to fire-rated walls and assemblies are based on visual observations and not all conditions may be addressed.
11. Preconstruction and estimating services are limited and provided based on the four phases of construction noted here-in. Cost estimated and construction schedules will be provided two weeks after the SCO construction documents phase submission after owner review comments are received and reviewed with owner by the design team.
12. Selective building envelope repairs associated with roof, exterior wall and storm water drainage are within the areas of work only per phase, are limited and not addressing all recommended envelope and site repairs.
13. Plumbing repairs and existing conditions allowing moisture intrusion of the concrete slab on grade are unknown and will need to be handled by change order and amendment as conditions are found/encountered during construction administration.
14. The selective emergency repairs and selective renovation work are based on results of the moisture intrusion investigation and limited visual observations. Subsequent testing and design fees recommended, repair scope and estimated construction costs will be updated continuously with found conditions for the owner's immediate attention and response.
15. The extent of the design and construction effort required for the emergency repairs throughout the building is unknown and likely to change phase by phase as the design and required repair work progresses throughout the phases of construction. The design team and contractor may

provide an amendment and/or change order in response to the effort, time and other conditions encountered during subsequent design and construction phases at any time.

16. This proposal is based on any field work taking place during normal business hours.
17. Updated site survey with all utility and storm water system locations will be provided by owner prior to Phase 1.2.
18. 3rd party special inspector is to be appointed by the owner.

EXCLUSIONS

For the purposes of this proposal, these items listed below are not included and to be determined if needed based on Schematic Design Phase Existing Conditions Investigation:

1. Services not specifically addressed in "Basic Scope of Services" or excluded under "Responsibilities of the Client" will be made available as additional services.
2. Site surveys and design.
3. Design of all repairs of the fire rated wall assemblies. This is due to limited access and based on visual observations only.
4. Environmental Engineering associated with organic growth.
5. Building envelope replacements.
6. Building Commissioning.
7. Sub-surface renovation, repair, and waterproofing work.
8. Landscape architecture and site design.
9. Geotechnical engineering.
10. Energy studies and models.
11. Modifications to existing paving and accessible entrances.
12. Patient rooms HVAC Units.
13. Design of renovations and repairs to patient rooms and associated private baths.
14. Interior Finishes throughout the facility.
15. Replacement of materials damaged from organic growth.
16. Electrical devices.
17. Fire protection is assumed to provide proper coverage and is not included.
18. Modifications and changes in the existing Sprinkler System design and operations.
19. Code deficiencies discovered during the repair and design phases not mentioned in this proposal.
20. Kitchen equipment selections and specification, including temporary units and mobile.
21. Alternates.
22. Changes to ramp construction of the interior or exterior.
23. Construction and repair costs.
24. There is no ACM or HAZMAT testing, design or construction budget/allowance included in this work.
25. Special inspections.
26. Other services not specifically listed herein.

COMPENSATION

DESIGN FEES

Pre-Design (ALLOWANCES, actual costs are TBD):		
PDI-1 Site Survey		$66,000.00
PDI-2 Tab Report		$24,000.00
PDI-3 Industrial hygienist Survey		$30,000.00
PDI-4 Fire Hydrant Pressure Flow rate test		$8000.00
PDI-5 Below grade camera and existing storm water connections		$45,000.00
PDI-7 Soil contamination testing		$12,000.00
PDI-6 Geotech boring and Soil testing		$8,000.00
	PD TOTAL	**$193,000.00**
D1.1 Design Fee		$250,635.00
D1.1 Unforeseen field conditions Emergency Site Visit Allowance	TOTAL	$81,234.00
	D1.1 TOTAL	**$331,869.00**
D1.2 Design Fee		$518,557.00
D1.2 Unforeseen field conditions Emergency Site Visit Allowance	TOTAL	$24,489.00
	D1.2 TOTAL	**$543,046.00**
D2 Design Fee		$781,660.00
D1.2 Unforeseen field conditions Emergency Site Visits Allowance	TOTAL	$140,524.00
	D2 TOTAL	**$922,385.00**
PRE-DESIGN, D1.1, D1.2, D2 INVESTIGATION	**TOTAL**	**$193,000.00**
PRE-DESIGN, D1.1, D1.2, D2 SITE VISIT ALLOWANCES	**TOTAL**	**$246,247.00**
DESIGN TOTAL	**TOTAL**	**$1,551,053.00**
DESIGN, INVESTIGATION AND SITE VISIT ALLOWANCES	**TOTAL**	**$1,990,300.00**

*** THESE ARE PRELIMINARY COSTS ONLY AND DO NOT INCLUDE REPAIR COSTS ASSOCIATED WITH INVESTIGATION ONLY SCOPE. A CONSTRUCTION ESTIMATE WILL BE UPDATED AFTER THE INVESTIGATION PRE-DESIGN PHASE FOR REVIEW.

CONSTRUCTION ESTIMATE

To be provided after Pre-design Phase.

CHANGES TO PERIOD OF PERFORMANCE

The concurrently running design and investigation schedule below is preliminary and subject to change immediately after we are given a notice to proceed and investigation phases:

Pre-Design Phase: 4-8 weeks
Design 1.1: Structural Repairs: 2-4 weeks
Design 1.2: 8-12 weeks
Design 2.1, 2.2, 2.3: 16-24 weeks

EXPIRATION

This Offer of this Proposal, including Scope, Fees, Period of Performance, and all Terms and Conditions, expires on **October 16th, 2023.**

CLOSURE

If this Proposal is acceptable, please indicate your acceptance by providing an amendment to your standard contract and written notice to proceed. We appreciate the opportunity to submit this Proposal and look forward to assisting you with this project.

Respectfully submitted,

RAYMOND

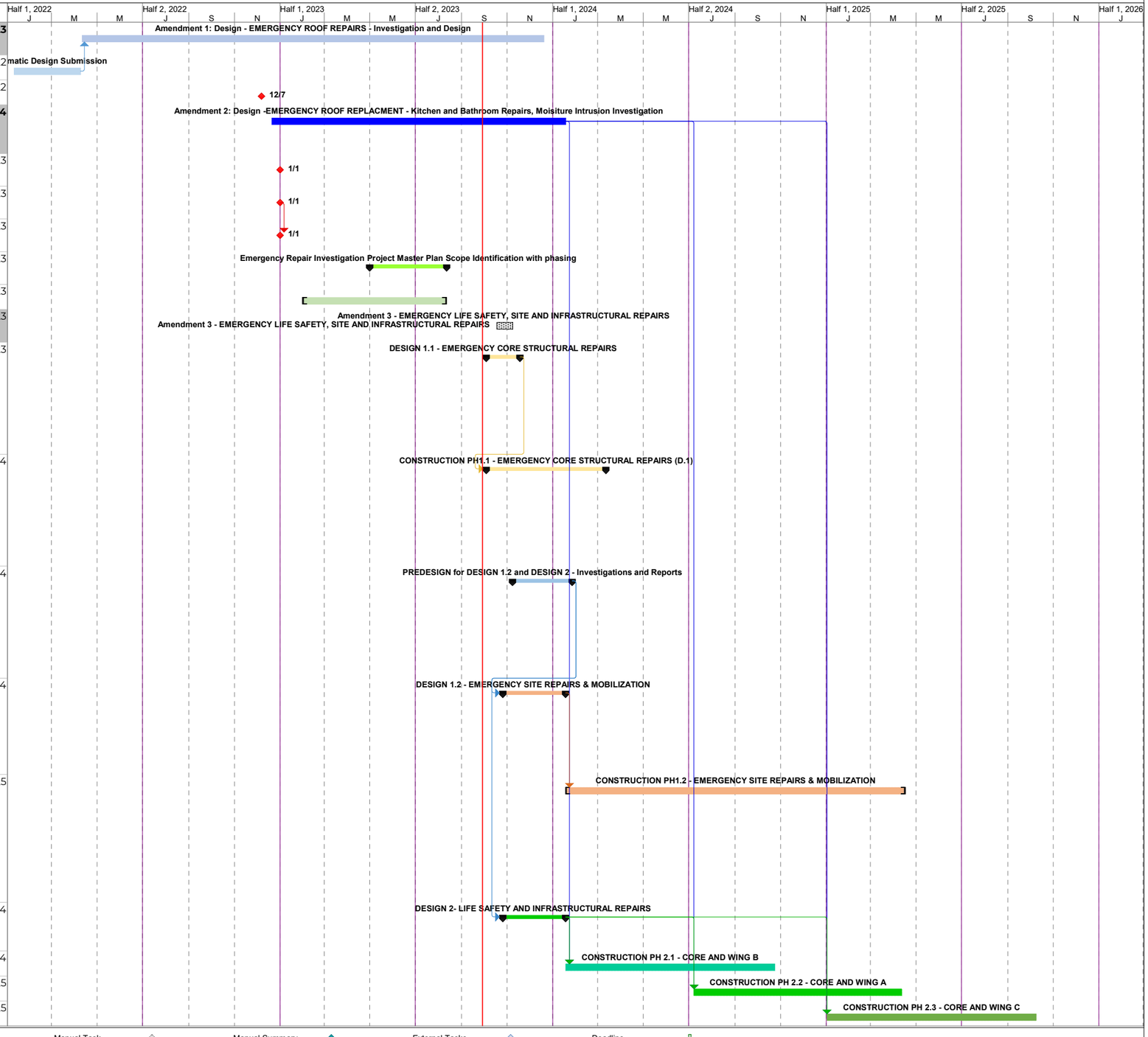
Shanelle Griggs, MBA
Project Manager
shanelle.griggs@raymondllc.com

Richard K. Perkins
AIA, RA, NCARB
Director of Architecture
richard.perkins@raymondllc.com

Gretchen Cobb, RA
Senior Project Manager
Architect & Building Envelope
Consultant
gretchen.cobb@raymondllc.com

RAL1002.011 Fayetteville State Veterans Homes - EMERGENCY LIFE SAFETY AND INFRASTRUCTURAL UPGRADES

ID	Activity Title	Duration	Start	Finish
1	**Amendment 1: Design - EMERGENCY ROOF REPAIRS - Investigation and Design**	**88.4 wks?**	**Mon 4/11/22**	**Tue 12/19/23**
2	Schematic Design Submission	13 wks	Mon 1/10/22	Fri 4/8/22
3	Amendment 2 (revised) Proposal Submission	0 wks	Wed 12/7/22	Wed 12/7/22
4	**Amendment 2: Design -EMERGENCY ROOF REPLACMENT - Kitchen and Bathroom Repairs, Moisiture Intrusion Investigation**	**56.2 wks?**	**Wed 12/21/22**	**Wed 1/17/24**
5	Letter to Owner #1: Existing Life Safety Existing Condtion for Owner Response: Fire Rated Assemblies and Air Quality	0 wks	Sun 1/1/23	Sun 1/1/23
6	Letter to Owner #2: Existing Life Safety Existing Condtion for Owner Response	0 wks	Sun 1/1/23	Sun 1/1/23
7	Letter to Owner #3: Existing Life Safety Existing Condtion for Owner: Structure	0 wks	Sun 1/1/23	Sun 1/1/23
8	Emergency Repair Investigation Project Master Plan Scope Identification with phasing	15 wks	Mon 5/1/23	Fri 8/11/23
9	Amendment 3 Proposal Development	27.8 wks	Tue 1/31/23	Fri 8/11/23
10	**Amendment 3 - EMERGENCY LIFE SAFETY, SITE AND INFRASTRUCTURAL REPAIRS**	3 wks?	Wed 10/18/23	Tue 11/7/23
11	DESIGN 1.1 - EMERGENCY CORE STRUCTURAL REPAIRS	6.6 wks	Wed 10/4/23	Fri 11/17/23
12	CONSTRUCTION PH1.1 - EMERGENCY CORE STRUCTURAL REPAIRS (D.1)	22.8 wks	Wed 10/4/23	Mon 3/11/24
13	PREDESIGN for DESIGN 1.2 and DESIGN 2 - Investigations and Reports	11.6 wks	Wed 11/8/23	Fri 1/26/24
14	DESIGN 1.2 - EMERGENCY SITE REPAIRS & MOBILIZATION	12 wks	Thu 10/26/23	Wed 1/17/24
15	CONSTRUCTION PH1.2 - EMERGENCY SITE REPAIRS & MOBILIZATION	65 wks	Thu 1/18/24	Wed 4/16/25
16	DESIGN 2- LIFE SAFETY AND INFRASTRUCTURAL REPAIRS	12 wks	Thu 10/26/23	Wed 1/17/24
17	CONSTRUCTION PH 2.1 - CORE AND WING B	40 wks?	Thu 1/18/24	Wed 10/23/24
18	CONSTRUCTION PH 2.2 - CORE AND WING A	40 wks	Mon 7/8/24	Fri 4/11/25
19	CONSTRUCTION PH 2.3 - CORE AND WING C	40 wks?	Thu 1/2/25	Wed 10/8/25



Project: UNC LINAC Vault 2
Date: Fri 9/29/23

Task	Summary	External Milestone	Manual Task	Manual Summary	External Tasks	Deadline			
Split	Project Summary	Inactive Milestone	Duration-only	Start-only	External Milestone				
Milestone	External Tasks	Inactive Summary	Manual Summary Rollup	Finish-only	Progress				

March 1, 2023

C. Cecil Holt, Sr.
DMVA Architect, Consulting Services Section
State Construction Office
NC Department of Administration
301 N. Wilmington Street, Suite 450
Raleigh, NC 27601
cell 919.830.1113
main 919.807.4100
cecil.holt@doa.nc.gov

Reference / Project: RAL1002.011 Fayetteville State Veterans Home
Amendment #02 Emergency Repairs

Subject: Report of Existing Conditions for Owner Immediate Response

Dear Mr. Holt:

Raymond Engineering-Georgia, Inc., (herein referred to as Raymond) is currently working on an Emergency Roof Replacement project at the Fayetteville State Veterans Home. During the course of this project our scope was amended to include Amendment 2 Water Intrusion Investigation.

During this work, our project team has observed conditions with potential to impact the life safety, health and welfare of the occupants. We feel these conditions require the Owner's attention. Our observations were originally communicated to your office in a prior virtual meeting and via email. Our team has also observed conditions in the building structural system which are concerning, but which our structural consultant does not believe poses an immediate risk to life safety.

Raymond is writing this letter to summarize for your attention these topics of concern. Please reference:

1. Attached select mold and moisture report (by Matrix) regarding air quality issues (previously provided 23 January 2023)
2. Preliminary life safety plan noting existing life safety systems deficiencies,
3. Preliminary draft life safety and limited ADA compliance assessment report.

These reports are limited and do not constitute full comprehensive building surveys of issues and existing conditions observed. Raymond recommends the Owner thoroughly investigate and take action to resolve these issues expeditiously. Additionally:

1. The moisture intrusion investigation reports the industrial hygienist's findings:

    a. Organic colony growth in the building posing immediate danger to occupant life safety, health and welfare.

b. The attached industrial hygienist (Matrix) report includes observations of "*Elevated levels of Aspergillus/Penicillium molds and the presence of Statchybotrys and Chaetomium molds…. These molds can potentially indicate an ongoing moisture issue and are also known to be potentially allergenic and capable of producing mycotoxins, increasing the risk to sensitive individuals. In addition, there is typically a zero tolerance for the presence of Statchybotrys and Chaetomium molds in the interior environment*."

c. We strongly recommend all observed conditions of concern require immediate attention and resolution by the Owner.

As requested at our meeting on 2/23/2023, we have reviewed the Limited Mold and Moisture Assessment report by the industrial hygienist Matrix, to identify recommendations that are currently included in the on-going moisture intrusion investigation. There are two items (Item 1, Item 2) in this report which fall within the SOW of our on-going moisture intrusion investigation; the other recommendations in Limited Mold and Moisture Assessment report are not included in the current SOW.

1. Item 1 recommends "*correcting the moisture intrusion issues that promote mold growth and contamination. These were observed on drywall behind cove base, walls under windows and at entrances…. floor and ceilings. The majority of the elevated moisture issues appear to be a consequence of water intrusion associated with the building envelope…*". Part of this recommendation is included in our water intrusion investigation SOW, specifically at the roof and floor areas. Our proposed full building envelope investigation scope was not accepted as a part of Amendment 2.

2. Item 2 recommends "*An evaluation of the HVAC system should be performed by a qualifying engineer to determine if the system is adequately removing moisture from the supplied air in the facility*."

    a. This work is being conducted currently by RMF engineering.
    b. Preliminary results indicate the system is not removing moisture per original design parameters.
    c. Recommendations are being developed by RMF proposing to help alleviate the system's moisture removal performance deficiencies. These recommendations will be included in our final report.

3. After meeting with you on 23 February 2023, Raymond followed up with RMF to inquire about HEPA filters and the existing HVAC system. RMF provided this response:
    a. "*Responding to your question concerning adding HEPA filtration to existing HVAC units in the VA Home. The existing units are small and are not designed to accommodate the significant static pressure required to use HEPA filters.*"

In the course of documenting a life safety plan for the project, the team observed non-compliant life safety conditions, including but not limited to:

1. Failed or breached smoke barriers, creating conditions not in compliance with current life safety code for the current Use Group classification.
2. Failed or breached fire rated assemblies, creating conditions not in compliance with current life safety code for the current Use Group classification.
3. Out of compliance assemblies were identified where observed.
4. Out of compliance assemblies are not included in our current scope of work for design of repair and construction.
5. The full scope of these deficiencies requires further identification and review.

6. Our preliminary life safety plan and report was provided in advance to communicate items and areas of concern.

Our structural engineering consultant was on site 4 January 2023; several items of structural concern were observed:

1. Deterioration of multiple materials due to moisture. These items should be further investigated to determine the extent of damage (if any) to load carrying elements.
2. Several roof trusses were observed to exhibit evidence of movement:
    a. Observations noted installation of features (catwalks) not original to the building, imposing additional attic loading not part of the original truss design.
    b. The probable cause for truss issues is being investigated.
    c. Pending completion of investigations, at this time we do not perceive an immediate structural threat to life-safety.
    d. We strongly recommend investigation and active monitoring of structural issues.

In conclusion, strongly recommend the owner not proceed with the replacement roof until all issues of concern have been fully investigated, repaired, remediated, and resolved. However, for the owner's record, we can provide a roof design that also includes the conditions observed that require investigation, repair and replacement.

Based on that recommendation, we envision two options forward: Option A) place the Bidding, Construction Administration and Closeout scope of the contract on hold, or Option B) remove the Bidding, Construction Administration and Closeout scope from the contract. If Option B) is selected, we suggest a fee adjustment of -$38,500 which represents funds approved for the following Roofing Construction phases:

1.	Bidding	$5,500.00
2.	Construction Administration	$27,500.00
3.	Closeout	$5,500.00

Please let us know if you would like to have an in-person or virtual meeting to discuss this information and address any questions.

Respectfully submitted,

RAYMOND

Richard K. Perkins, AIA, RA, NCARB
Director of Architecture

Gretchen Cobb, RA, NCARB
Architect / Building Envelope Consultant

Copies: file

Attachments (3): Limited Mold and Moisture Assessment
Preliminary Life Safety Plan
Preliminary Life Safety and ADA Accessibility

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MATRIX
Health & Safety Consultants, L.L.C.

January 16, 2023

Raymond, LLC
316 W. Millbrook Road
Suite 201
Raleigh, NC 27609

Attention: Ms. Gretchen Cobb

Subject: Limited Mold and Moisture Assessment
North Carolina State Veterans Home
Fayetteville, North Carolina
Matrix Job Number: 230101

Dear Ms. Cobb:

Matrix Health & Safety Consultants, L.L.C. (Matrix) was retained to conduct a limited mold and moisture assessment at the referenced project site. The assessment was performed on January 4, 2023 by Todd Daugherty, Industrial Hygienist with Matrix, and C. Britt Wester, Certified Industrial Hygienist with Matrix following the general inspection guidelines established by the American Industrial Hygiene Association (AIHA) and the Institute of Inspection Cleaning and Restoration Certification (IICRC).

General Observations

At the time of our assessment, evidence of prior and current water intrusions were either visibly observed, identified through moisture meter testing, or identified by infrared thermal imaging. Generally, moisture level readings were elevated throughout the facility on drywall near floor surfaces, under windows, and at exit doors. Visible mold growth was also observed behind baseboards, wallcoverings, and associated with the HVAC supply diffusers. Infrared imaging also identified areas indicating elevated moisture in floors, walls, and ceilings. Attached with this report are photographs representing typical conditions observed in the facility.

A probing moisture meter was used to test suspected areas for moisture content. Moisture levels in building materials above 16% can potentially support mold growth. During our assessment, visible mold growth was typically observed in locations where moisture levels were above 16%. Visible mold growth was typically observed behind wall coverings and baseboards.

During our inspection, Matrix collected data for indicators of indoor air quality including temperature and relative humidity. The inside relative humidity ranged from 54.6% to 70.0% at temperatures between 72.3 – 77.5 degrees Fahrenheit. ASHRAE standards recommend an interior humidity level between 40% - 60% to promote healthy air quality. Humidity levels above 60% will likely promote mold growth.

Sampling & Analysis

The scope of the survey included inspecting the subject property for visible mold and collecting air and surface samples to determine the potential for exposure. All samples collected were delivered to Eurofins CEI in Cary, North Carolina for analysis. Eurofins is accredited by the American Industrial Hygiene Association (AIHA) for microbiology analysis (Lab ID #103025). Laboratory analysis reports are attached.

Air samples were collected from inside the building using Zefon International Air-O-Cell bioaerosol sampling cassettes. Seventy-five liters of ambient air were drawn through each cassette using a field-calibrated Zefon Bio-Pump Plus at fifteen liters per minute. Two background air samples were also collected from outside the building for comparative purposes.

The following table provides a brief summary of the fungi air sampling results as total spore count per cubic meter of air:

SAMPLE #	LOCATON	LABORATORY RESULTS
AIR-O-CELL AIR SAMPLES		
VET-01	Exterior Background – Pre	26,000 spores/m3
VET-02	Central HUB	1,400 spores/m3
VET-03	Hall to Bravo Wing	4,700 spores/m3(**)
VET-04	Entry Lobby	1,600 spores/m3
VET-05	Hall to Alpha Wing	760 spores/m3
VET-06	Hallway to Charlie Wing	920 spores/m3
VET-07	Alpha Wing Nurses Station	630 spores/m3
VET-08	Alpha Wing Right	480 spores/m3
VET-09	Alpha Wing Left	20,000 spores/m3 (*)(**)
VET-10	Bravo Wing Nurses Station	490 spores/m3
VET-11	Bravo Wing Right	560 spores/m3
VET-12	Bravo Wing Left	280 spores/m3
VET-13	Charlie Wing Nurses Station	400 spores/m3
VET-14	Charlie Wing Right	960 spores/m3 (*)
VET-15	Charlie Wing Left	510 spores/m3
VET-16	Exterior Background - Post	12,000 spores/m3
	Outside Average	19,000 spores/m3 Aspergillus/Penicillium Avg. – 13.5 spores

Spores/m3 – Fungal spore count per cubic meter of air.
* = Elevated levels of Aspergillus/Penicillium.
** = Airborne Stachybotrys and/or Chaetomium mold identified on air sample.

Air sampling analysis indicated a lower total spore count inside the facility as compared to the exterior background level with the exception of sample VET-09 collected from the left side of the Alpha Wing. Elevated levels of Aspergillus/Penicillium molds and the presence of Stachybotrys and Chaetomium molds were reported on samples VET-03, VET-09, and VET-14. These molds can potentially indicate an ongoing moisture issue and are also known to be potentially allergenic and capable of producing mycotoxins, increasing the risk to sensitive individuals. In addition, there is typically a zero tolerance for the presence of Stachybotrys and Chaetomium molds in the interior environment.

Surface samples were collected from suspect mold growth or water-stained building materials observed in the areas assessed. The following table provides a brief summary of the surface sampling results:

SAMPLE #	LOCATON	LABORATORY RESULTS
Surface Samples		
VET-S-01	Behind Cove Base @ Kitchen Hallway	5 – Stachybotrys 3 – Fungal Mycelial Fragments
VET-S-02	Behind Cove Base – Bravo Wing Dining	4 – Chaetomium 4 – Fungal Mycelial Fragments 3 – Aspergillus/Penicillium
VET-S-03	Wall Behind Wallpaper – Entrance Lobby	3 – Aspergillus/Penicillium 2 – Fungal Mycelial Fragments
VET-S-04	Supply Diffuser – Entrance Lobby	4 – Cladosporium 1 – Alternaria 1 – Fungal Mycelial Fragments
VET-S-05	Behind Cove Base – Alpha Wing	4 – Chaetomium 4 – Fungal Mycelial Fragments
VET-S-06	Drywall @ Supply Diffuser – Alpha Wing Side Entrance	2 – Cladosporium 1 – Unspecified Spores 1 – Fungal Mycelial Fragments
VET-S-07	Drywall @ Supply Diffuser – Bravo Wing Side Entrance	4 – Fungal Mycelial Fragments 3 – Cladosporium 2 – Unspecified Spores 1 – Aspergillus/Penicillium
VET-S-08	Supply Diffuser – Bravo Wing Side Entrance	2 – Cladosporium 2 – Unspecified Spores 2 – Fungal Mycelial Fragments
VET-S-09	Behind Cove Base – Charlie Wing	4 – Chaetomium 3 – Aspergillus/Penicillium 3 – Fungal Mycelial Fragments

0 – No fungal matter detected
1 – Trace amounts of fungal matter detected
2 – 25% of the sample surface covered with fungal matter
3 – 26-50% of the sample surface covered with fungal matter
4 – 51-75% of the sample surface covered with fungal matter
5 - >75% of the sample surface covered with fungal matter

Laboratory analysis of the surface samples confirm the presence of mold spores on the locations tested at the facility. Surface samples also indicate interior sources of the Aspergillus/Penicillium, Chaetomium, and Stachybotrys mold types. It is reasonable to assume that if identified interior sources of mold are left un-treated, additional areas of the facility will have elevated levels of mold in the future. The presence of mold spores on the interior surfaces can be indicative of the potential for mold exposure to occupants.

DISCUSSION/RECOMMENDATIONS

Based on observations and measurements collected during our site visit, it is our opinion that an airborne exposure to mold was present in the facility at the time of our site visit, and will likely continue until corrective measures are taken.

Matrix recommends the following to address current and future exposure potential:

1) The most crucial step in addressing any mold remediation project is correcting moisture intrusion issues that promote mold growth and contamination. Elevated moisture levels were observed on drywall behind cove base, walls under windows and at entrances, walls under windows, floors, and ceiling. The majority of the elevated moisture appears to be a consequence of water intrusion

associated with the building envelope. Elevated moisture on ceiling substrates are likely the result of condensation associated with the HVAC system.

2) An evaluation of the HVAC system should be a performed by a qualified engineer to determine if the system is adequately removing moisture from the supplied air in the facility.

3) Matrix recommends that water stained/damaged materials and mold affected materials be removed and replaced. Materials include affected drywall walls, ceilings, and trim components.

4) Air filtration fans equipped with HEPA filters and dehumidifiers should be installed in the facility for the duration of the remediation and cleaning activities.

5) Following the removal activities above, horizontal surfaces should be cleaned inside the facility, and HEPA vacuumed to remove any remaining dust and debris.

6) Matrix recommends that mold remediation activities be performed by an experienced mold remediation contractor.

7) Matrix also recommends confirmation sampling after remediation activities are complete in order to document the effectiveness of remediation activities.

8) Routine maintenance and cleaning of the HVAC system including ductwork and supply vents by a licensed HVAC contractor is recommended in order to maintain good indoor air quality inside the building.

Conditions indicated in this report were based on observations and readings at the time of the inspection only, and circumstances may change following the inspection. Should further issues occur or conditions change, it may be necessary to re-evaluate the residence and consider more in-depth testing. An effort was made to provide as complete and comprehensive an evaluation as professionally practical. Observations, findings, results, and conclusions are limited to those conditions apparent at the time of the inspection. It should not be construed that actions taken as a result of this work will achieve complete compliance with every regulatory standard. Neither should it be considered that any recommendations noted are required or the only possible actions to be taken.

Matrix Health & Safety Consultants appreciates the opportunity to be of service on this project. If there are any questions regarding this estimate, please do not hesitate to contact us at (919) 833-2520.

Sincerely,
MATRIX HEALTH & SAFETY CONSULTANTS, L.L.C.

Todd E. Daugherty
Project Principal

C. Britt Wester, CIH
Principal

Attachments: Photographs
Infrared Camera Photographs
Laboratory Analytical Report

Site Photographs

Visible mold growth behind cove base at kitchen hallway. Sample VET-S-01

Elevated relative humidity levels measured in the conference room. Elevated relative humidity levels were measured throughout the facility.

Elevated moisture levels (>16% moisture) measured in the hallway. Elevated moisture levels were observed throughout the facility.

Elevated moisture levels (>16% moisture) measured in the hallway associated with windows throughout the facility.

Typical of elevated moisture readings associated with entrance doors and lower walls throughout the facility.

Typical of visible mold growth observed on drywall and cove base throughout the facility.

Visible mold growth behind wallcoverings at exterior windows and doors.

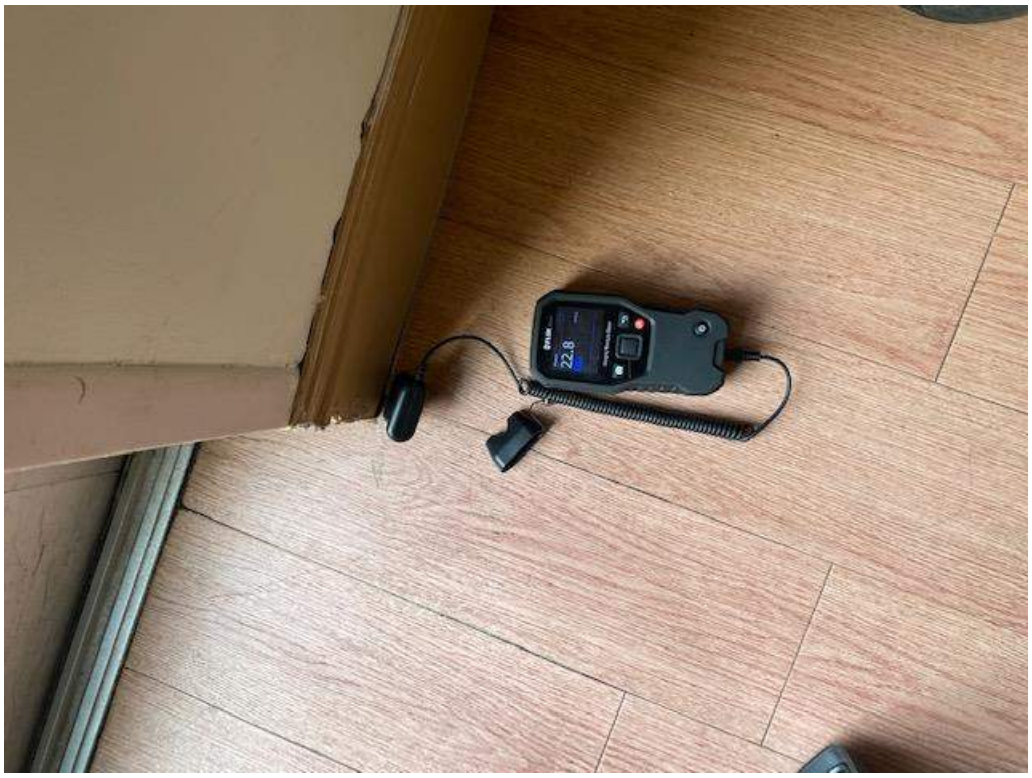
Elevated moisture levels measured in hallway associated with windows throughout the facility.

Typical of visible mold growth observed on supply diffusers throughout the facility.

Typical of visible mold growth observed on supply diffusers throughout the facility.

Visible water damage observed associated with window.

Typical of visible mold growth located behind vinyl cove base throughout the facility.



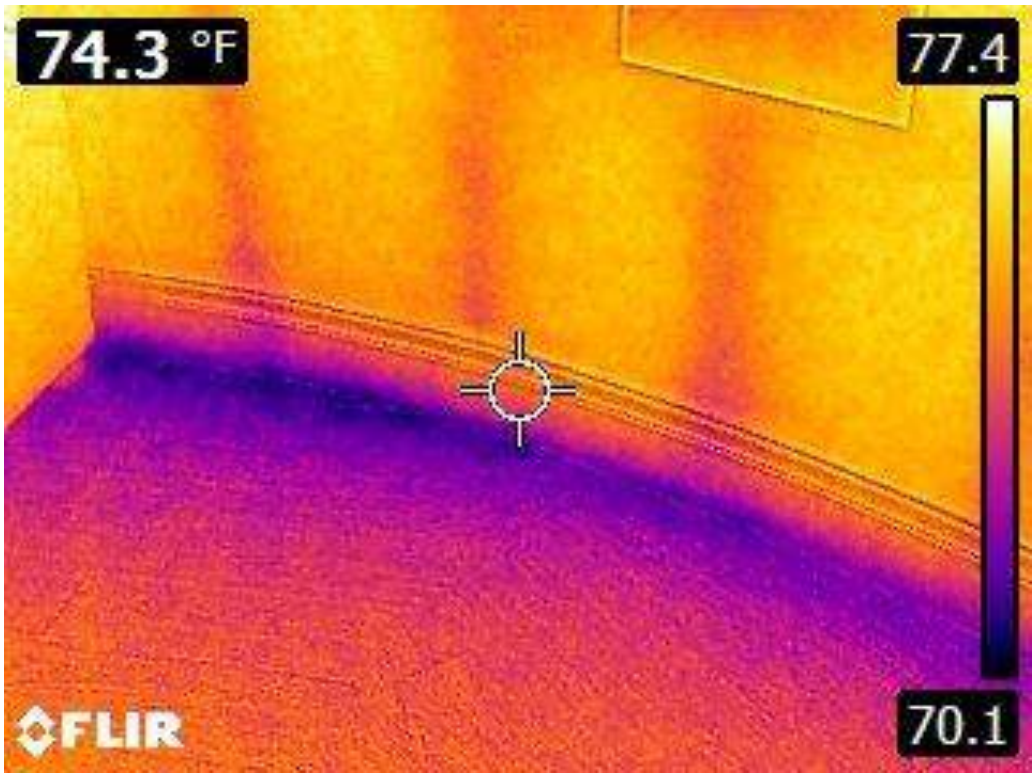
Water intrusion detected under flooring in Core Hall near door.

Water intrusion detected drywall in Core Hall near Bravo Wing.

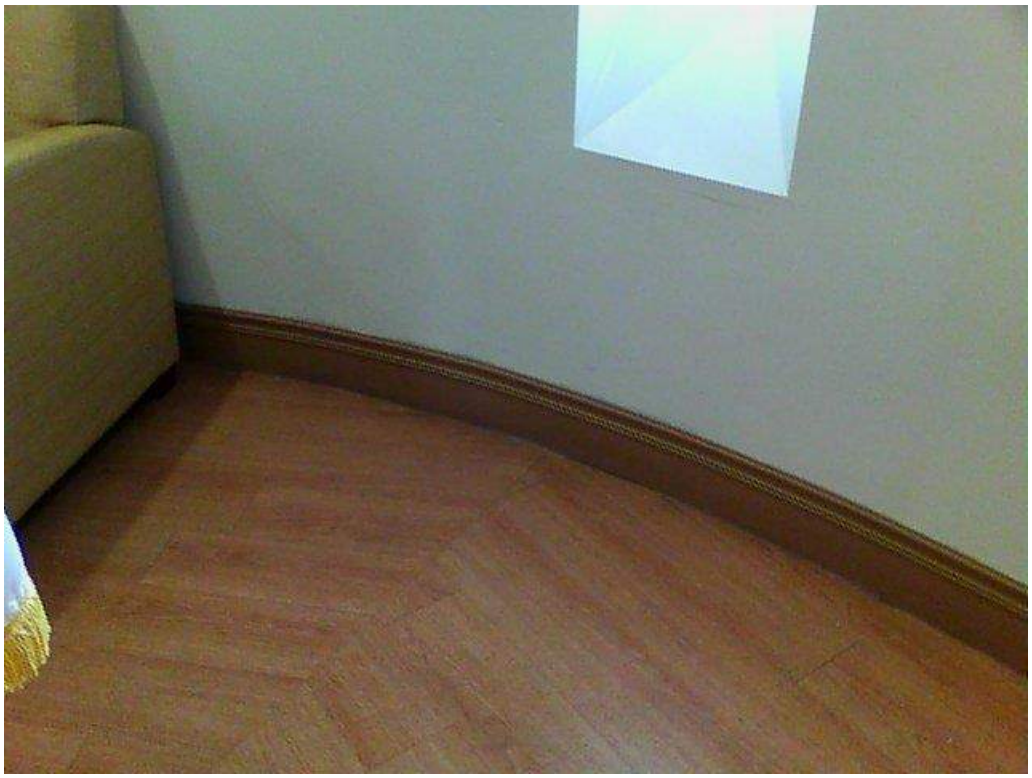
Water intrusion detected under flooring in Entry Hall near lobby.

Water intrusion detected in drywall in Core Hall near kitchen.

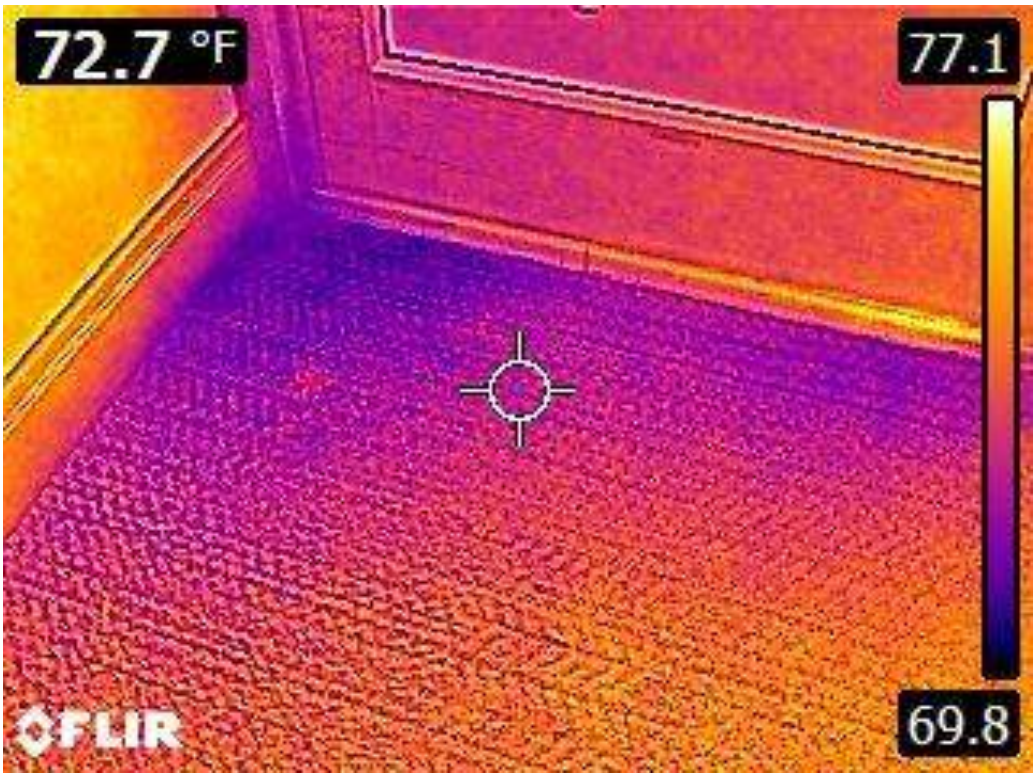
Infrared Camera Photographs



Infrared image of drywall and flooring with indications of water intrusion.

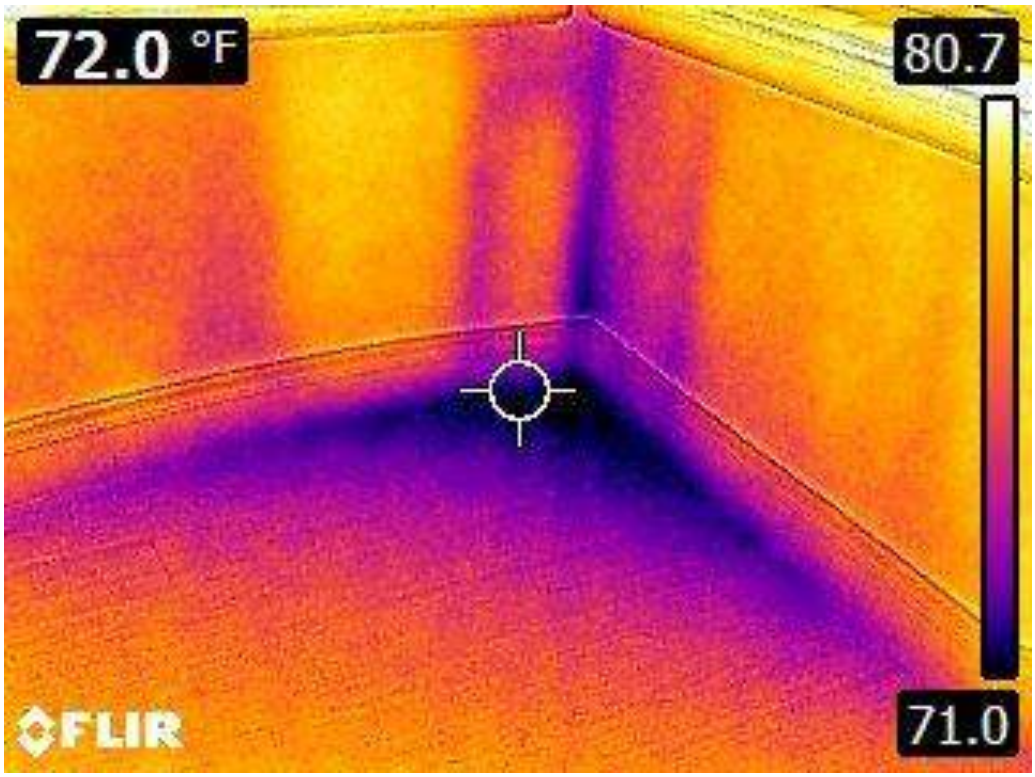


Photograph of image above, located in Core Hall near Bravo Wing.

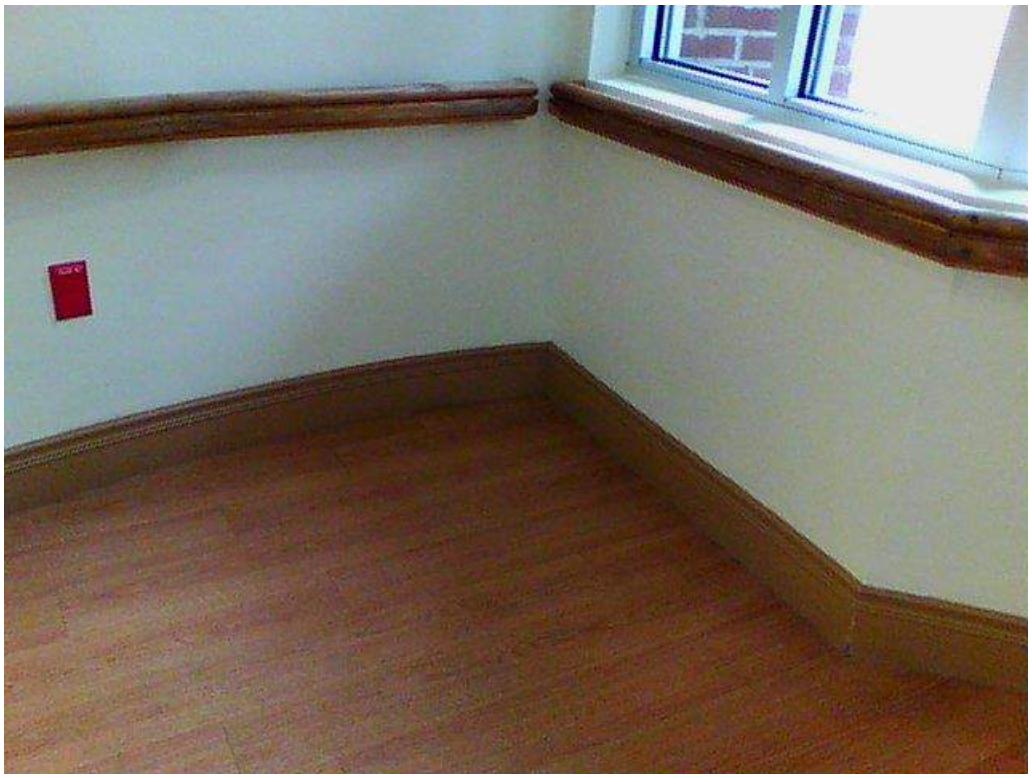


Infrared image of drywall and flooring with indications of water intrusion.

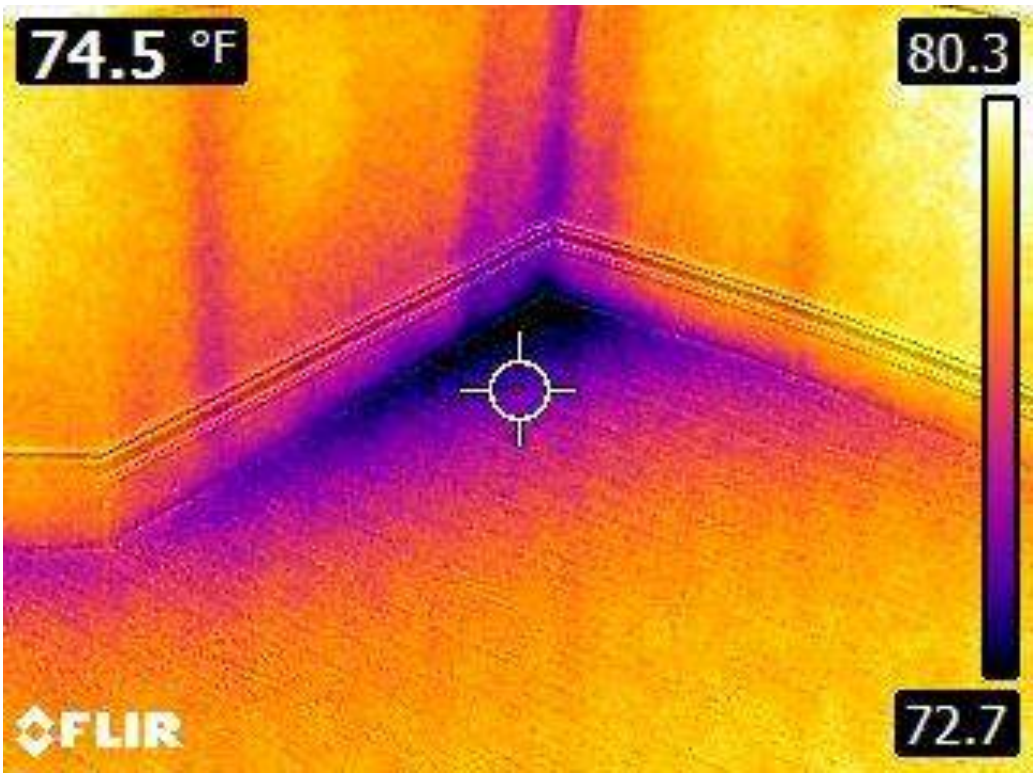
Photograph of image above, located in Entry Hall near Lobby.



Infrared image of drywall and flooring with indications of water intrusion.

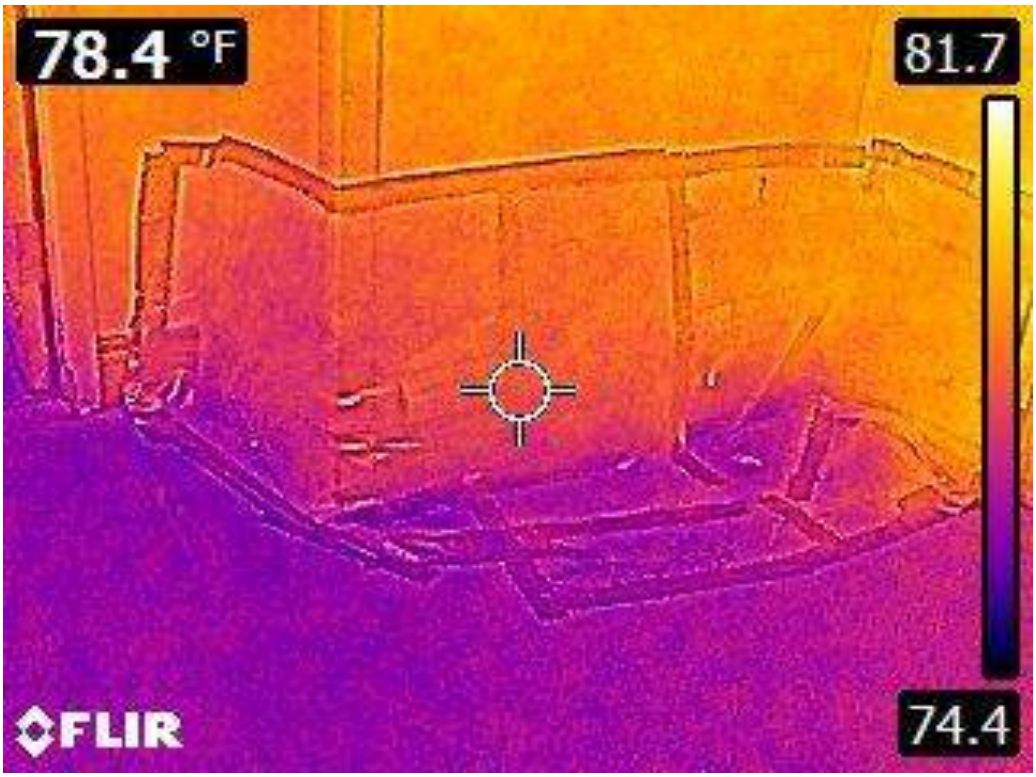


Photograph of image above, located in Core Hall near side entry.



Infrared image of drywall and flooring with indications of water intrusion.

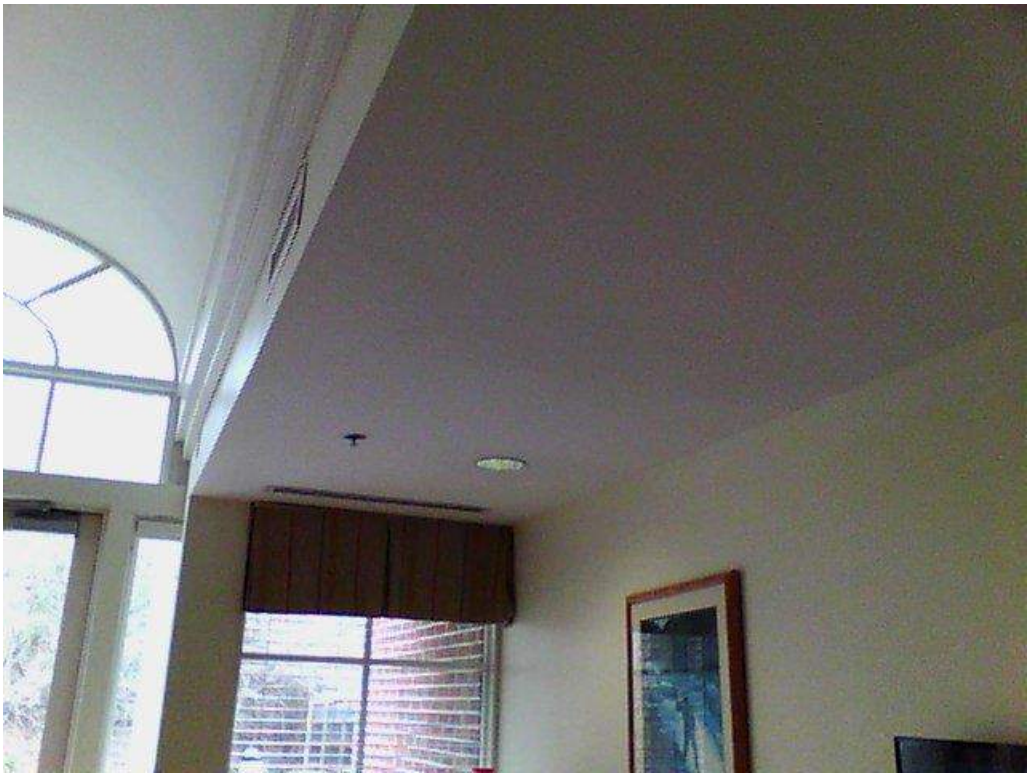
Photograph of image above, located in Core Hall under windows.



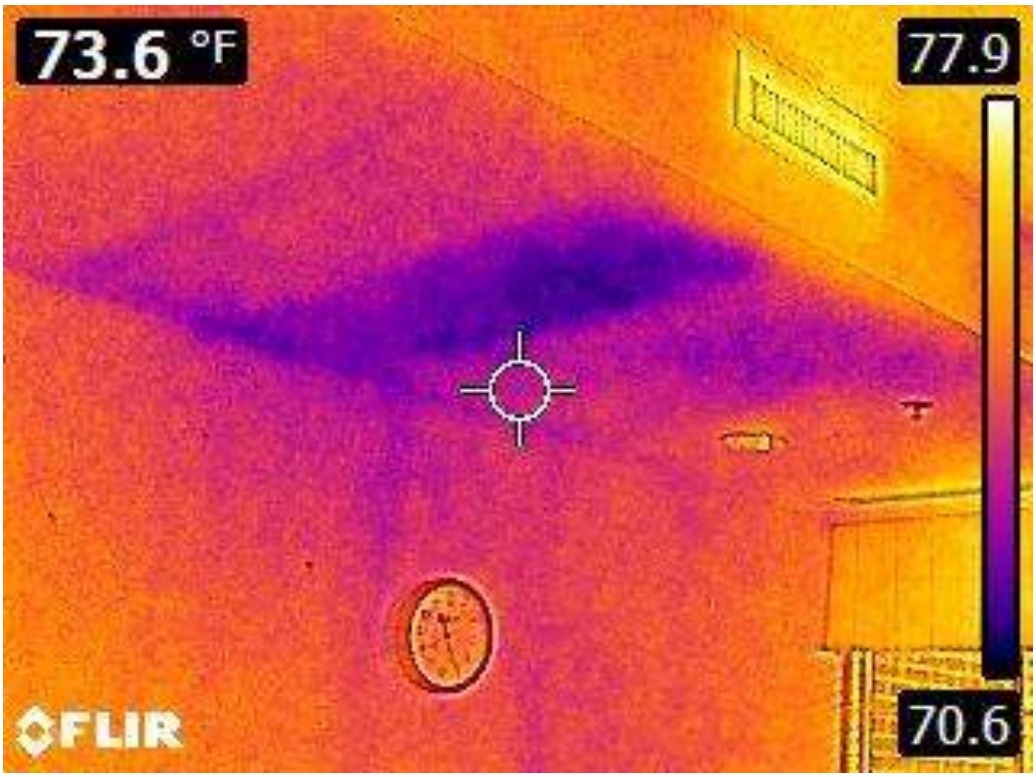
Infrared image of drywall and flooring with indications of water intrusion.

Photograph of image above, located in Core Hall near kitchen.

Infrared image of drywall ceiling with indications of water intrusion.



Photograph of image above, located in Alpha Wing.



Infrared image of drywall ceiling with indications of water intrusion.

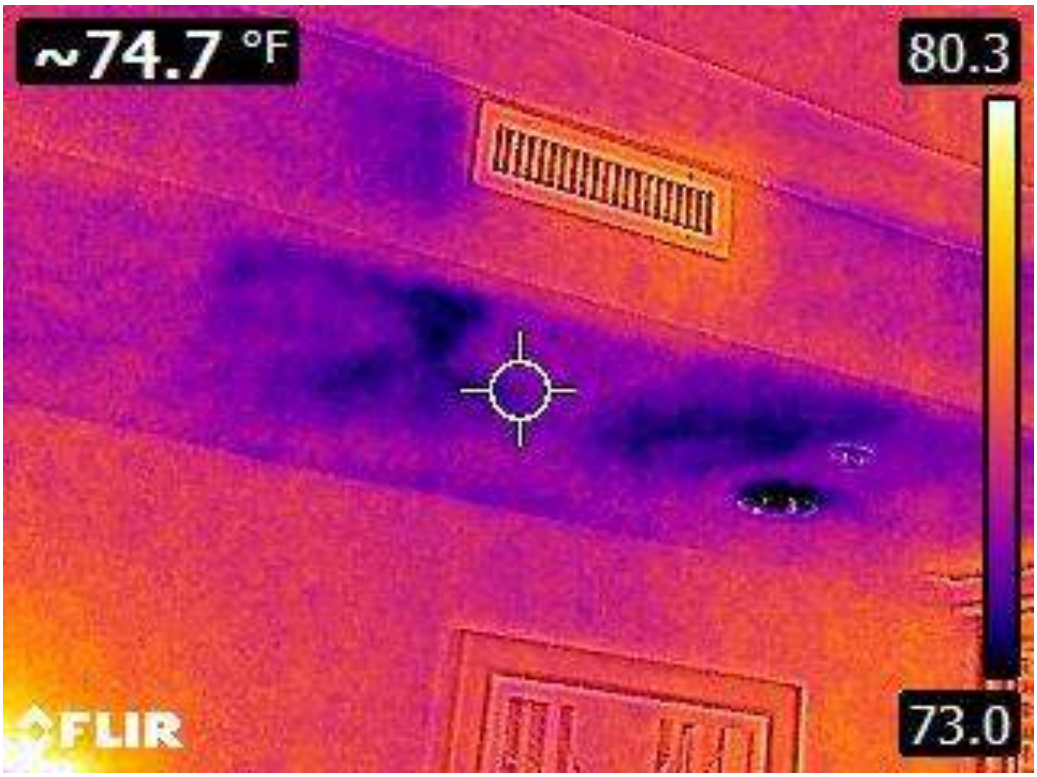
Photograph of image above, located in Alpha Wing.

Infrared image of drywall, flooring, and seat cushion with indications of water intrusion.

Photograph of image above, located in Alpha Wing.

Infrared image of drywall and flooring with indications of water intrusion.

Photograph of image above, located in Bravo Wing.



Infrared image of drywall ceiling with indications of water intrusion.

Photograph of image above, located in Bravo Wing.

Infrared image of drywall and flooring with indications of water intrusion.

Photograph of image above, located in Charlie Wing.

Infrared image of drywall and flooring with indications of water intrusion.

Photograph of image above, located in Charlie Wing.

Laboratory Analysis Reports

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MOLD SPORE TRAP REPORT

Nonviable Direct Microscopy

Prepared for

Matrix Health & Safety Consultants

CLIENT PROJECT: NC State Veterans Home

LAB CODE: M230077

TEST METHOD: CEI Method 110

RECEIVED DATE: 01/07/23

REPORT DATE: 01/09/23

Tianbao Bai, Ph.D., CIH
Laboratory Director

All samples received in acceptable condition. Information provided by customer includes customer sample ID, location and volume. Analytical results are not corrected for field and laboratory blanks.

Test results relate only to the items tested and cannot be extrapolated to anything larger than their original intent. This report may not be reproduced, except in full, without written approval by Eurofins CEI (CEI). CEI bears no responsibility for client sampling methods and makes no warranty representation regarding the accuracy of client-supplied information in preparing and presenting analytical results. CEI maintains liability limited to the cost of analysis, except for CEI's own willful misconduct or gross negligence. Interpretation of the analytical results is the sole responsibility of the customer.

The overall intralaboratory relative standard deviation (Sr) for the lab = 0.24.

The intralaboratory Sr for each spore range are as follows:
10-100 spores: 0.30; 101-350 spores: 0.21; >350 spores: 0.14

MICROBIOLOGY LABS · ISO/IEC 17025:2017 · Accredited Laboratory · AIHA LAP, LLC · AIHAACCREDITEDLABS.ORG · Lab ID # 103025

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MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY

CLIENT Matrix Health & Safety Consultants
2900 Yonkers Road
Raleigh, NC 27604

PROJECT: NC State Veterans Home

Lab Code: M230077
Date Received: 01-05-23
Date Analyzed: 01-07-23
Date Reported: 01-09-23

		VET-01				VET-02				VET-03			
	Client ID	**VET-01**				**VET-02**				**VET-03**			
	Lab ID	M000236				M000237				M000238			
	Location	Ext. Background - Pre				Central Hub				Hall to Bravo Wing			
	Volume (L)	75				75				75			
	IDENTIFICATION	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**
Predominantly Outdoor	*Alternaria*	2	100	27	<1					1	100	13	<1
	Arthrinium												
	Ascospores	115	100	1533	6	2	100	27	2	2	100	27	1
	Basidiospores	183	11	22182	84	99	100	1320	94	103	39	3521	75
	Bipolaris/Drechslera												
	Cercospora	1	100	13	<1								
	Curvularia												
	Epicoccum												
	*Helicomyces**												
	Nigrospora	1	100	13	<1								
	Oidium/Peronospora												
	Periconia/Smuts**												
	Pithomyces												
	Rusts												
	Spegazzinia												
	Stemphylium												
	Tetraploa												
	Torula												
	Unspecified spores												
Indoor / Outdoor	*Aspergillus/Penicillium*									12	100	160	3
	Cladosporium	200	100	2667	10	4	100	53	4	7	100	93	2
	Fusarium												
Water Indicator	*Chaetomium*									4	100	53	1
	Stachybotrys									63	100	840	18
	Trichoderma												
	Ulocladium												
	Total	**500**		**26000**	**100%**	**110**		**1400**	**100%**	**190**		**4700**	**100%**
	Background Debris	2				2				2			
	Pollen Count	1											
	Hyphal Fragments	4				3				8			
	Analytical Sensitivity (Spores/m³)	13				13				13			

** Heliocomyces includes Helicosporium; ** Periconia/Smuts includes Myxomycetes*
Spores per m³ (final counts) reported to 2 significant figures
Spores of Aspergillus, Penicillium, and others are small with few distinguishing features and therefore can not be differentiated.
If % analyzed is <100%, spores per m³ is based on extrapolation and not actual count.
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: _____ Audrey Lucas

APPROVED BY: _____ Tianbao Bai, Ph.D., Laboratory Director

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MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY

CLIENT Matrix Health & Safety Consultants
2900 Yonkers Road
Raleigh, NC 27604

PROJECT: NC State Veterans Home

Lab Code: M230077
Date Received: 01-05-23
Date Analyzed: 01-07-23
Date Reported: 01-09-23

		VET-04				VET-05				VET-06			
	Client ID	VET-04				VET-05				VET-06			
	Lab ID	M000239				M000240				M000241			
	Location	Entry Lobby				Hall to Alpha Wing				Hall to Charlie Wing			
	Volume (L)	75				75				75			
	IDENTIFICATION	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**
Predominantly Outdoor	*Alternaria*												
	Arthrinium												
	Ascospores	4	100	53	3	2	100	27	4	2	100	27	3
	Basidiospores	96	100	1280	78	51	100	680	89	58	100	773	84
	Bipolaris/Drechslera												
	Cercospora												
	Curvularia	2	100	27	2								
	Epicoccum												
	*Helicomyces**												
	Nigrospora												
	Oidium/Peronospora												
	Periconia/Smuts**	2	100	27	2								
	Pithomyces												
	Rusts												
	Spegazzinia												
	Stemphylium												
	Tetraploa												
	Torula												
	Unspecified spores												
Indoor / Outdoor	*Aspergillus/Penicillium*	8	100	107	7	1	100	13	2	4	100	53	6
	Cladosporium	11	100	147	9	3	100	40	5	5	100	67	7
	Fusarium												
Water Indicator	*Chaetomium*												
	Stachybotrys												
	Trichoderma												
	Ulocladium												
	Total	**120**		**1600**	**100%**	**57**		**760**	**100%**	**69**		**920**	**100%**
	Background Debris	3				2				2			
	Pollen Count												
	Hyphal Fragments	5								2			
	Analytical Sensitivity (Spores/m³)	13				13				13			

** Heliocomyces includes Helicosporium; ** Periconia/Smuts includes Myxomycetes*
Spores per m³ (final counts) reported to 2 significant figures
Spores of Aspergillus, Penicillium, and others are small with few distinguishing features and therefore can not be differentiated.
If % analyzed is <100%, spores per m³ is based on extrapolation and not actual count.
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: _____
Audrey Lucas

APPROVED BY: _____
Tianbao Bai, Ph.D., Laboratory Director

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MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY

CLIENT Matrix Health & Safety Consultants
2900 Yonkers Road
Raleigh, NC 27604

Lab Code: M230077
Date Received: 01-05-23
Date Analyzed: 01-07-23
Date Reported: 01-09-23

PROJECT: NC State Veterans Home

		Client ID	VET-07				VET-08				VET-09			
		Lab ID	M000242				M000243				M000244			
		Location	Alpha Nurses Station				Alpha Wing Right				Alpha Wing Left			
		Volume (L)	75				75				75			
	IDENTIFICATION		Raw Counts	% Analyzed	Spores per m³	% of Total	Raw Counts	% Analyzed	Spores per m³	% of Total	Raw Counts	% Analyzed	Spores per m³	% of Total
Predominantly Outdoor	*Alternaria*													
	Arthrinium													
	Ascospores		1	100	13	2					1	100	13	<1
	Basidiospores		42	100	560	89	35	100	467	97	7	100	93	<1
	Bipolaris/Drechslera													
	Cercospora													
	Curvularia		2	100	27	4								
	Epicoccum													
	*Helicomyces**													
	Nigrospora													
	Oidium/Peronospora													
	Periconia/Smuts**													
	Pithomyces													
	Rusts													
	Spegazzinia													
	Stemphylium													
	Tetraploa													
	Torula													
	Unspecified spores										4	100	53	<1
Indoor / Outdoor	*Aspergillus/Penicillium*						1	100	13	3	145	11	17576	89
	Cladosporium		2	100	27	4								
	Fusarium													
Water Indicator	*Chaetomium*										153	100	2040	10
	Stachybotrys													
	Trichoderma													
	Ulocladium													
	Total		**47**		**630**	**100%**	**36**		**480**	**100%**	**310**		**20000**	**100%**
	Background Debris		1				1				2			
	Pollen Count													
	Hyphal Fragments										10			
	Analytical Sensitivity (Spores/m³)		13				13				13			

** Heliocomyces includes Helicosporium; ** Periconia/Smuts includes Myxomycetes*
Spores per m³ (final counts) reported to 2 significant figures
Spores of Aspergillus, Penicillium, and others are small with few distinguishing features and therefore can not be differentiated.
If % analyzed is <100%, spores per m³ is based on extrapolation and not actual count.
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: _____ Audrey Lucas

APPROVED BY: _____ Tianbao Bai, Ph.D., Laboratory Director

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MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY

CLIENT Matrix Health & Safety Consultants
2900 Yonkers Road
Raleigh, NC 27604

PROJECT: NC State Veterans Home

Lab Code: M230077
Date Received: 01-05-23
Date Analyzed: 01-07-23
Date Reported: 01-09-23

		VET-10				VET-11				VET-12			
	Client ID	VET-10				VET-11				VET-12			
	Lab ID	M000245				M000246				M000247			
	Location	Bravo Wing Nurses Station				Bravo Wing Right				Bravo Wing Left			
	Volume (L)	75				75				75			
	IDENTIFICATION	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**
Predominantly Outdoor	*Alternaria*												
	Arthrinium												
	Ascospores												
	Basidiospores	32	100	427	87	34	100	453	81	21	100	280	100
	Bipolaris/Drechslera												
	Cercospora												
	Curvularia												
	Epicoccum												
	*Helicomyces**												
	Nigrospora												
	Oidium/Peronospora												
	Periconia/Smuts**												
	Pithomyces												
	Rusts												
	Spegazzinia												
	Stemphylium												
	Tetraploa												
	Torula												
	Unspecified spores												
Indoor / Outdoor	*Aspergillus/Penicillium*	4	100	53	11	8	100	107	19				
	Cladosporium	1	100	13	3								
	Fusarium												
Water Indicator	*Chaetomium*												
	Stachybotrys												
	Trichoderma												
	Ulocladium												
	Total	**37**		**490**	**100%**	**42**		**560**	**100%**	**21**		**280**	**100%**
	Background Debris	2				1				1			
	Pollen Count												
	Hyphal Fragments	1								1			
	Analytical Sensitivity (Spores/m³)	13				13				13			

** Heliocomyces includes Helicosporium; ** Periconia/Smuts includes Myxomycetes*
Spores per m³ (final counts) reported to 2 significant figures
Spores of Aspergillus, Penicillium, and others are small with few distinguishing features and therefore can not be differentiated.
If % analyzed is <100%, spores per m³ is based on extrapolation and not actual count.
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: _____ Audrey Lucas

APPROVED BY: _____ Tianbao Bai, Ph.D., Laboratory Director

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MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY

CLIENT Matrix Health & Safety Consultants
2900 Yonkers Road
Raleigh, NC 27604

Lab Code: M230077
Date Received: 01-05-23
Date Analyzed: 01-07-23
Date Reported: 01-09-23

PROJECT: NC State Veterans Home

		VET-13				VET-14				VET-15			
Client ID		VET-13				VET-14				VET-15			
Lab ID		M000248				M000249				M000250			
Location		Charlie Wing Nurses Station				Charlie Wing Right				Charlie Wing Left			
Volume (L)		75				75				75			
	IDENTIFICATION	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**
Predominantly Outdoor	*Alternaria*												
	Arthrinium												
	Ascospores					1	100	13	1	2	100	27	5
	Basidiospores	28	100	373	93	44	100	587	61	28	100	373	74
	Bipolaris/Drechslera					1	100	13	1				
	Cercospora												
	Curvularia					1	100	13	1	1	100	13	3
	Epicoccum												
	*Helicomyces**												
	Nigrospora												
	Oidium/Peronospora												
	Periconia/Smuts**									1	100	13	3
	Pithomyces												
	Rusts												
	Spegazzinia												
	Stemphylium												
	Tetraploa												
	Torula												
	Unspecified spores												
Indoor / Outdoor	*Aspergillus/Penicillium*					25	100	333	35	2	100	27	5
	Cladosporium	2	100	27	7					4	100	53	10
	Fusarium												
Water Indicator	*Chaetomium*												
	Stachybotrys												
	Trichoderma												
	Ulocladium												
	Total	**30**		**400**	**100%**	**72**		**960**	**100%**	**38**		**510**	**100%**
	Background Debris	2				1				1			
	Pollen Count												
	Hyphal Fragments	1											
	Analytical Sensitivity (Spores/m³)	13				13				13			

** Heliocomyces includes Helicosporium; ** Periconia/Smuts includes Myxomycetes*
Spores per m³ (final counts) reported to 2 significant figures
Spores of Aspergillus, Penicillium, and others are small with few distinguishing features and therefore can not be differentiated.
If % analyzed is <100%, spores per m³ is based on extrapolation and not actual count.
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: _____ Audrey Lucas

APPROVED BY: _____ Tianbao Bai, Ph.D., Laboratory Director

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MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY

CLIENT Matrix Health & Safety Consultants
2900 Yonkers Road
Raleigh, NC 27604

Lab Code: M230077
Date Received: 01-05-23
Date Analyzed: 01-07-23
Date Reported: 01-09-23

PROJECT: NC State Veterans Home

Client ID	**VET-16**		
Lab ID	M000251		
Location	Exterior Background - Post		
Volume (L)	75		

	IDENTIFICATION	Raw Counts	% Analyzed	Spores per m³	% of Total	Raw Counts	% Analyzed	Spores per m³	% of Total	Raw Counts	% Analyzed	Spores per m³	% of Total
Predominantly Outdoor	*Alternaria*	1	100	13	<1								
	Arthrinium												
	Ascospores	60	100	800	7								
	Basidiospores	103	18	7630	66								
	Bipolaris/Drechslera												
	Cercospora												
	Curvularia	2	100	27	<1								
	Epicoccum	2	100	27	<1								
	*Helicomyces**												
	Nigrospora												
	Oidium/Peronospora												
	Periconia/Smuts**	2	100	27	<1								
	Pithomyces												
	Rusts												
	Spegazzinia												
	Stemphylium												
	Tetraploa												
	Torula												
	Unspecified spores	7	100	93	1								
Indoor / Outdoor	*Aspergillus/Penicillium*	27	100	360	3								
	Cladosporium	195	100	2600	22								
	Fusarium												
Water Indicator	*Chaetomium*												
	Stachybotrys												
	Trichoderma												
	Ulocladium												
	Total	**400**		**12000**	**100%**								
	Background Debris	2											
	Pollen Count	1											
	Hyphal Fragments	9											
	Analytical Sensitivity (Spores/m³)	13											

** Heliocomyces includes Helicosporium; ** Periconia/Smuts includes Myxomycetes*
Spores per m³ (final counts) reported to 2 significant figures
Spores of Aspergillus, Penicillium, and others are small with few distinguishing features and therefore can not be differentiated.
If % analyzed is <100%, spores per m³ is based on extrapolation and not actual count.
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: _____ Audrey Lucas

APPROVED BY: _____ Tianbao Bai, Ph.D., Laboratory Director

SPORE CLASSIFICATION:

For purposes of this report, identified mold spores are classified into three general categories depending on environmental conditions the spore is most commonly associated with:

1) **PREDOMINANTLY OUTDOOR:** Most commonly found growing outdoors and are not usually associated with indoor mold sources.
2) **INDOOR / OUTDOOR:** Commonly grow in both indoor and outdoor environments.
3) **WATER INDICATOR**: Most commonly associated with indoor mold growth in buildings with long-term water intrusion issues.

PREDOMINANTLY OUTDOOR	INDOOR / OUTDOOR	WATER INDICATOR

BACKGROUND DEBRIS:

Background debris is the amount of non-fungal particulates present in the trace including dust, fibers, skin scales, dust mites, and insect parts. A debris rating is assigned each trace from 0 (lowest) to 5 (highest). A higher debris rating means samples are more difficult to analyze, and spores, especially smaller spores like *Aspergillus / Penicilium*, may be obscured. Counts with debris ratings of 4 or 5 should be regarded as minimal counts with actual counts assumed to be significantly higher. A further explanation of the debris rating is listed below:

0 - None Detected. No debris observed.
1 - Trace. Field of view obscured < 5%. Counts unaffected.
2 - Light. Field of view obscured 5% to 25%. Counts slightly affected.
3 - Moderate. Field of view obscured 25% to 75% . Actual counts may be higher than reported counts.
4- Heavy. Field of view obscured 75% to 90% . Actual counts may be significantly higher than reported counts.
5 - Very Heavy. Field of view obscured > 90% . Actual counts may be significantly higher than reported counts. Resampling may be necessary.

DEFINITION OF TERMS:

Analytical Sensitivity: Spore per cubic meter (concentration) divided by raw count.
Limit of Detection: One Spore
Hyphal Fragments: Hyphal fragments are broken pieces of fungal hyphae and constitute the vegetative structure of the fungus.
Pollen Count: Pollen grains (Pollen) are the male reproductive structures of Angiosperm plants. These are counted only as pollen and not classified to Genus level.
Raw Counts: The number of spores counted by the analyst.
% Analyzed: The amount of the trace that was analyzed for each individual spore type. If large amounts of any spore type(s) exist, counts may be extrapolated.
% of Total: Percentage of the sample that is made up of each spore type.

INDOOR AND OUTDOOR COMPARISONS:

There are no current Federal standards regarding permissible levels of airborne fungi that may be present in buildings. Mold spores are ubiquitous to our planet and it is expected that some spores will be present in normal indoor environments. A general guideline that is widely accepted in the industrial hygiene industry is that the types and numbers of mold spores present in the indoor environment should be similar to those present in the outdoor environment. If inside spore counts are significantly higher than outside counts this may indicate a potential mold problem. The comparison of outdoor and indoor spore types and concentrations is a useful tool in assessing abnormal mold contamination; however, it should not be the sole determining factor in evaluating health risks and remediation strategies.

SPORE INFORMATION

	SPORE NAME	COMMON HABITAT	ALLERGENIC POTENTIAL	MYCOTOXIN POTENTIAL
Predominantly Outdoor	*Alternaria*	Soil, seeds, plants, carpet, textiles, window frames, air	X	X
	Arthrinium	Soil, plant materials, decaying wood	X	
	Ascospores	Plants, soil, cellulose-containing materials, air		
	Basidiospores	Soil, plants, wood, cellulose-containing materials, air		
	Bipolaris/Drechslera	Grasses, plant material, decaying food, soil		
	Cercospora	Plants		
	Curvularia	Soil, plant materials, cellulose-containing materials	X	
	Epicoccum	Plants, soil, seeds, carpet, air	X	
	*Helicomyces**	Plants		
	Nigrospora	Plants, soil		
	Oidium/Peronospora	Plants		
	Periconia/Smuts**	Plants, air	X	
	Pithomyces	Soil, plant material, air		
	Rusts	Grasses, trees, other plants	X	
	Spegazzinia	Soil, plants		
	Stemphylium	Dead plants, cellulose-containing materials		
	Tetraploa	Plants		
	Torula	Soil, plants		
	Unspecified spores	Various		
	** Heliocomyces includes Helicosporium; * Periconia/Smuts includes Myxomycetes*			
Indoor / Outdoor	*Aspergillus/Penicillium*	Soil, food, carpet, HVAC, air	X	X
	Cladosporium	Plants, woody plants, food, soil, paint, textiles, carpet, HVAC, air	X	
	Fusarium	Soil, plants, seed, fruits, grains		X
Water Indicator	*Chaetomium*	Cellulose-containing materials, soil, seeds, dung	X	X
	Stachybotrys	Paper, wallpaper, gypsum board	X	X
	Trichoderma	Soil, decaying wood, plant material, cellulose-containing materials	X	X
	Ulocladium	Soil, grasses, wood, paper		

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MOLD BULK REPORT
Nonviable Methodology

Prepared for

Matrix Health & Safety Consultants

CLIENT PROJECT: NC State Veterans Home

LAB CODE: M230078

TEST METHOD: CEI Method 120

RECEIVED DATE: 01/07/23

REPORT DATE: 01/09/23

Tianbao Bai, Ph.D., CIH
Laboratory Director

All samples received in acceptable condition. Information provided by customer includes customer sample ID and location. Analytical results are not corrected for field and laboratory blanks.

Test results relate only to the items tested and cannot be extrapolated to anything larger than their original intent. This report may not be reproduced, except in full, without written approval by Eurofins CEI (CEI). CEI bears no responsibility for client sampling methods and makes no warranty representation regarding the accuracy of client supplied information in preparing and presenting analytical results. CEI maintains liability limited to the cost of analysis, except for CEI's own willful misconduct or gross negligence. Interpretation of the analytical results is the sole responsibility of the customer.

CLIENT: Matrix Health & Safety Consultants
2900 Yonkers Road
Raleigh, NC 27604

PROJECT: NC State Veterans Home

Lab Code: M230078
Date Received: 01-05-23
Date Analyzed: 01-07-23
Date Reported: 01-09-23
Sampling Method: Tape/Bulk/Swab

LAB ID	CLIENT ID	SAMPLE LOCATION	BACKGROUND DEBRIS	MGR	IDENTIFICATION
M000252	VET-S-01	Behind Cove Base at Kitchen Hall	2	5	*Stachybotrys*
				3	Fungal mycelial fragments
M000253	VET-S-02	Behind Cove Base - Dining	2	4	*Chaetomium*
				4	Fungal mycelial fragments
				3	*Aspergillus/Penicillium*
M000254	VET-S-03	Wall Behind Wallpaper - Entrance Lobby	3	3	*Aspergillus/Penicillium*
				2	Fungal mycelial fragments
M000255	VET-S-04	Supply Diffuser - Entrance Lobby	2	4	*Cladosporium*
				1	*Alternaria*
				1	Fungal mycelial fragments
M000256	VET-S-05	Behind Cove Base - Alpha Wing	2	4	*Chaetomium*
				4	Fungal mycelial fragments
M000257	VET-S-06	Drywall at Supply Diffuser - Alpha Wing Side Ent.	3	2	*Cladosporium*
				1	Unspecified spores
				1	Fungal mycelial fragments
M000258	VET-S-07	Drywall at Supply Diffuser - Bravo Wing Side Ent.	2	4	Fungal mycelial fragments
				3	*Cladosporium*
				2	Unspecified spores
				1	*Aspergillus/Penicillium*
M000259	VET-S-08	Supply Diffuser - Bravo Wing Side Entrance B Side	2	2	*Cladosporium*
				2	Unspecified spores
				2	Fungal mycelial fragments
M000260	VET-S-09	Behind Cove Base - Charlie Wing - C Side	2	4	*Chaetomium*
				3	*Aspergillus/Penicillium*
				3	Fungal mycelial fragments

LABORATORY REPORT

Fungal Characterization

CLIENT: Matrix Health & Safety Consultants
2900 Yonkers Road
Raleigh, NC 27604

PROJECT: NC State Veterans Home

Lab Code: M230078
Date Received: 01-05-23
Date Analyzed: 01-07-23
Date Reported: 01-09-23
Sampling Method: Tape/Bulk/Swab

LAB ID	CLIENT ID	SAMPLE LOCATION	BACKGROUND DEBRIS	MGR	IDENTIFICATION

*** Periconia/Smuts includes Myxomycetes**

ANALYST: _____
Audrey Lucas

APPROVED BY: _____
Tianbao Bai, Ph.D.
Laboratory Director

MGR = MOLD GROWTH RATING

0 - No fungal matter was detected; Debris present is not consistent with fungal matter.

1 - Trace amount of fungal matter detected; A few random appearances of fungal matter indicated. Probably due to settling. Does not indicate active growth.

2 - Up to 25% of the sample surface is covered with fungal matter; Probably indicates active growth at some point in time.

3 - 26%-50% of the sample surface is covered with fungal matter; Indicates active growth at some point in time.

4 - 51%-75% of the sample surface is covered with fungal matter; Indicates active growth at some point in time.

5 - >75% of the sample surface is covered with fungal matter; Indicates active growth at some point in time.

BACKGROUND DEBRIS

0 - None Detected. No debris observed.

1 - Trace. Field of view obscured < 5%.

2 - Light. Field of view obscured 5% to 25%.

3 - Moderate. Field of view obscured 25% to 75%.

4 - Heavy. Field of view obscured 75% to 90%.

5 - Very Heavy. Field of view obscured >90%.

SCO Veteran's Home Fayetteville

214 Cochran Ave. Fayetteville, NC 28301

Life Safety and ADA Assessment

PRELIMINARY DRAFT REPORT
NOT FOR CONSTRUCTION

NOT FULL BUILDING ASSESSMENT
SELECT LOCATIONS IN FACILITY ONLY
3/1/2023

FEBRUARY 23

IHR Architecture
Authored by: Julie Risk

Scope

I) General Building Data
II) Existing Building Regulations for work compliance
III) Life Safety Assessment
  A) Review of Original Construction Documents.
  B) Review of Code in effect at the time of construction.
  C) Analysis of compliance of the building at the time of construction based on review of items A and B.
  D) Note construction deficiencies in the project scope areas which include:
    1) Congregate Baths
    2) Kitchen
IV) ADA Assessment in the project scope areas which include:
  A) Congregate Baths
  B) Kitchen
V) DHSR Assessment
  A) Review chapter 13D section .3100 rules for design and construction

General Building Data

I) Year Constructed: 1994
II) Construction Type:
  A) NCBC 2018: V-A
  B) NCBC 1991: V(P)
III) Sprinklers: Yes
IV) Occupancy:
  A) NCBC 2018: I-2 Condition 1
  B) NCBC 1991: Institutional Unrestrained
V) Stories: 1
VI) Height: 33'-2"
VII) Area: 80,387sf total separated into 4 distinct buildings by 4HR fire walls.

LEVEL 1	**I-2 A-wing**	**18,371**
LEVEL 1	**I-2 B-wing**	**18,371**
LEVEL 1	**I-2 C-wing**	**18,371**
LEVEL 1	**I-2 Central Core**	**25,274**

VIII) Occupant Load:

LEVEL 1	**I-2 A-wing**	**244**
LEVEL 1	**I-2 B-wing**	**244**
LEVEL 1	**I-2 C-wing**	**244**

LEVEL 1	**I-2 Central Core**	**503**

Existing Building Regulations

I) For existing buildings 1 of 3 compliance methods shall be employed. The subsequent sections of this report reference new construction requirements which shall be required depending on the extent of renovation and the compliance method chosen

A) Prescriptive compliance method: Complying with Chapter 4 of the Existing building code and the International Fire Code shall be considered in compliance.

1) Existing materials in use that were compliant at the time of erection may remain, so long as they are not considered unsafe per the NC administrative Code and Policies
2) New materials must conform to the code for new construction. Like materials are permitted for repairs and alterations, provided they are not hazardous.
3) Dangerous conditions may require elimination if deemed necessary by the building official.

B) Work area compliance method: Complying with the applicable requirements of chapters 5-13 of the Existing building code shall be considered in compliance.

1) The extent of changes must be determined.
   (a) Repair is solely for the patching or restoration or limit parts replacement to maintain components in good condition.
   (b) Alteration Level 1 is the anticipated level for the project if the scope remains limited to the congregate bathrooms, and kitchen. It includes the removal and replacement or the covering of existing materials, elements, equipment, or fixture using new materials, elements to serve the same purpose.
   (c) Alteration Level 2 is the most frequently used because the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment qualifies. This level requires all new construction elements, components, systems, and spaces comply with new construction with some exceptions for windows, electrical equipment, length of dead end corridors in newly constructed spaces, and minimum ceiling height.
   (d) Alteration Level 3: If more than 50% of the building area in any 12 month period is altered then it would be considered alteration level 3 (reconstruction)

C) Performance compliance method: Complying with chapter 14 of the Existing building code shall be considered in compliance. The chapter requires a performance evaluation with regards to

1) Fire Safety
2) Means of Egress
3) General Safety

II) When a renovation scope is established we recommend revisiting which method of compliance would be most beneficial for the project.

Life Safety Assessment

I) Height and Area

A) Height
   1) NCBC 1991 Table 400 allows a maximum of 2 stories and 65' for sprinklered, Type 5, protected, I-2 unrestrained occupancy structures.
   2) This facility is 1 story and 33'-2". Therefore, the height configuration is compliant.

B) Area
   1) NCBC 1991 Table 400 allows a maximum of 31,500sf for 1 story, sprinklered, Type 5, protected, I-2 unrestrained occupancy structures.
   2) NCBC 1991 section 402.1.2 allows each part of a building separated by fire walls to be considered a separate building.
   3) NCBC 1991 Table 600 requires fire walls be 4HR rated. This exceeds the current 3 HR fire wall requirement in the 2018 code.
   4) This facility is separated into 4 distinct buildings by 4HR fire walls. Therefore, the total area is compliant. The fire walls must be maintained in any future renovations, otherwise, the area would exceed the maximum allowable both from the 1991 code and the current 2018 code.

II) Building Separation

A) Assumed property lines existing between the central core and each connected wing. A separation distance of 11.5' under the NCBC 1991 table 600 requires a 2HR rating. This exceeds the current 1 HR rating required by the 2018 code.

B) This facility is designed with 2HR fire barrier walls at all exterior walls along the assumed property lines and is; therefore, compliant for building separation.

III) Occupancy Requirements

A) Smoke Compartmentation
   1) NCBC 1991 section 409.1.2.1 allows a maximum compartment size of 22,500 and neither the length nor width shall exceed 150ft.
   2) NCBC 1991 section 409.1.2.2 requires smoke barriers have a minimum 1-hour fire resistance and form an effective membrane continuous from the outside wall to outside wall and from floor slab to floor slab or roof deck thereby including continuity through all concealed spaces, such as those found above suspended ceilings, and including interstitial structural and mechanical spaces.
      (a) Exception for smoke barriers not required in interstitial spaces when such spaces are designed and constructed with ceilings that provide resistance to the passage of smoke equivalent to that provided by smoke barriers.
   3) NCBC 1991 section 409.1.2.4 requires doors in smoke barriers shall have 20 minutes except where a higher level is required.
   4) This facility was designed to have smoke barriers continuous to roof deck including some 1 hour rated floor ceiling assemblies for horizontal offsets. Field observation of the attic space revealed extensive damage in the horizontal smoke barrier assemblies, inadequate tape and mud and improper fire sealant at penetrations and along the head joints.

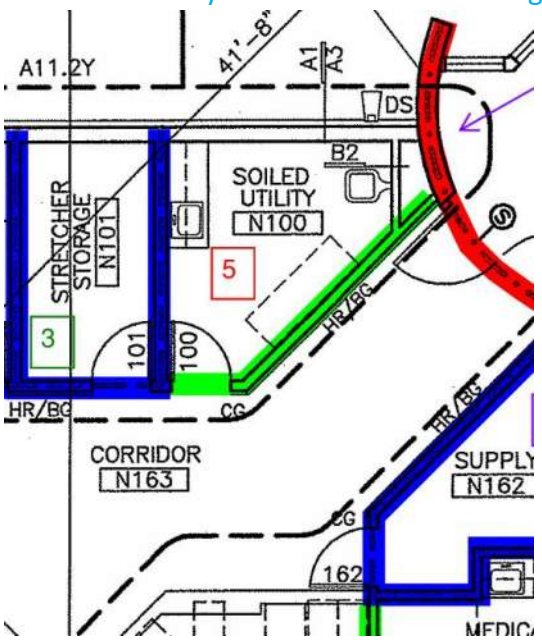
B) Corridor Partitions
   1) NCBC 1991 section 409.1.3.1 allows buildings equipped with automatic sprinkler system to have exit access corridor partitions be constructed of materials permitted for the buildings construction type with no fire rating. However, they must resist the passage of smoke. If

they are terminated at the ceiling membrane, the ceiling membrane must also resist the passage of smoke.

Original Construction Documents Note 3 on sheet A8.3 indicates all corridor walls shall be smoke tight. All penetrations shall be completely sealed to prevent the passage of smoke. This note indicated these walls were designed in a compliant fashion. We verified at sample locations that the corridor walls are constructed as smoke tight where not part of another assembly and they are sealed tight to the underside of 2 layers of gypsum board attached to the bottom chord of the truss.

C) Incidental Uses in a sprinklered Institutional unrestrained facility

1) NCBC 1991 section 409.1.6.1 requires 1 HR fire barrier separation for the following:
   (a) Boiler and heater rooms
   (b) Paint shops
   (c) Maintenance shops
   (d) Laundries over 100sf
   (e) Soiled linen
   (f) Storage rooms over 100sf
   (g) Trash collection rooms
2) NCBC 1991 section 409.1.6.1 requires smoke partition separation for the following:
   (a) Employee locker rooms
   (b) Gift/retail shop
   (c) Handcraft shops
   (d) Kitchens
   (e) Laboratories
   (f) Storage rooms more than 50sf but less than 100sf.
3) There are multiple locations where walls exceeding these requirements have been provided. See Life Safety Mark Up attachment for specific locations.
4) The soiled utility room N100 in each wing is not separated by 1HR Fire Barrier as required.



5) Incidental use area walls terminate at 2 layers of gypsum board attached to the bottom chord of the roof trusses. This gypsum board is noted as part of a 1 hour ceiling/roof assembly UL L542 and is an acceptable terminate for incidental room separation walls.

D) Smoke Detectors: NCBC 1991 409.1.5.1 requires smoke detectors in staff sleeping rooms, corridors, spaces open to the corridor. Smoke detection system present.

E) Building Fire Alarm: NCBC 1991 409.1.9 requires a building fire alarm system be provided that shall be activated by manual pull stations and by sprinkler activation. Fire alarm system present.

F) Travel Distance: NCBC 1991 table 409.1 allows a maximum of 200ft travel distance for sprinklered group I unrestrained occupancies. This aligns with the current code requirements for NCBC 2018 as well. See chart below for measured distances for the existing buildings. No travel distance deficiencies noted.

ACTUAL EXIT TRAVEL CALCULATIONS	
CORE BUILDING MAX. COMMON PATH	47' - 6"
CORE BUILDING MAX. DEAD END CORRIDOR	16' - 5"
CORE BUILDING MAX. EXIT ACCESS TRAVEL DISTANCE	76' - 3"
WING, S.C. 1(TYP.) MAX. COMMON PATH	27' - 1"
WING, S.C. 1(TYP.) MAX. TRAVEL DISTANCE	127' - 11"
WING, S.C. 2(TYP.) MAX. DEAD END CORRIDOR	12' - 7"
WING, S.C. 2(TYP.) MAX. TRAVEL DISTANCE	105' - 4"
WING, S.C. 3(TYP.) MAX. COMMON PATH	40' - 1"
WING, S.C. 3(TYP.) MAX. DEAD END CORRIDOR	12' - 5"
WING, S.C. 3(TYP.) MAX. TRAVEL DISTANCE	79' - 2"

G) Exit Capacity: NCBC 1991 table 409.1 allows 0.5”/person on the level of travel for sprinklered buildings.

LEVEL 1	**I-2 A-wing**	**244**	**/5 exits**	**48.8 Occ/Exit**	**24.4”**
LEVEL 1	**I-2 B-wing**	**244**	**/5 exits**	**48.8 Occ/Exit**	**24.4”**
LEVEL 1	**I-2 C-wing**	**244**	**/5 exits**	**48.8 Occ/Exit**	**24.4”**
LEVEL 1	**I-2 Central Core**	**503**	**/9 exits**	**55.9 Occ/Exit**	**27.9”**

H) Bearing Walls: Exterior and interior bearing walls are required to be 1 HR rated fire barriers for Type 5A construction. While exterior walls are indicated as constructed in accordance with UL U425, interior corridor walls which are load bearing are indicated as smoke tight where not part of a rated assembly for incidental uses. We verified at sample locations that the corridor walls are constructed as smoke tight where not part of another assembly and they are sealed tight to the underside of 2 layers of gypsum board attached to the bottom chord of the truss. This is an existing non-compliant condition that requires the upgrade of interior bearing walls

to meet 1 hour rated requirements. The construction methodology is similar to a smoke tight wall, however, all penetrations must be fire stopped and the walls must be labeled. Any ducts penetrating the walls would need to have fire dampers. All doors must be 45 min rated. Regarding door closers to patient rooms, there are some exceptions in NFPA 101 that we could make a case for as an alternative compliance. Explanatory material for 19.3.6.3.5 recognizes the potential hazard for doors to patient rooms remaining closed. There is an alternative listed for existing buildings which would allow doors to remain open if staff are trained to close them in an emergency. Furthermore, 19.3.6.3.11 states that door-closing devices shall not be required on doors in corridor walls other that the stated specific conditions, of which, patient rooms are not one. The issue is not as clear cut as these potential exceptions, because the reason for the corridor walls that are rated are because of their status as interior bearing walls, not for reasons related to them being corridor walls. This would have to be discussed with the AHJ and DHSR for use as an approved alternative method prior to our recommendation for implementation.

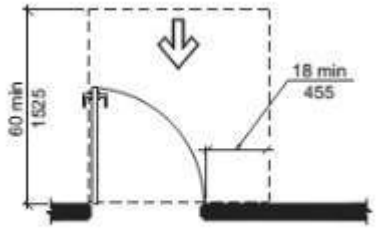
IV)

ADA

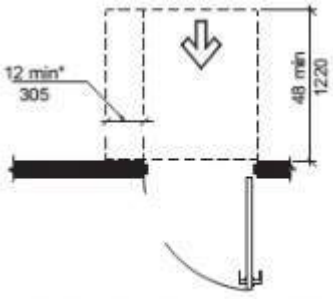
I) Code Requirements

A) Door

1) Pull side must have 18" clear wall space at the strike and a clear area equal to 60" in depth. No deficiencies noted.
2) Push side, if there is a closer must have 12" clear wall space at the strike. If there is no closer there is no push side requirement. and a clear area equal to 48" in depth. No deficiencies noted.



(a) Front Approach, Pull Side



*If both closer and latch are provided

(b) Front Approach, Push Side

B) Toilet

1) Toilet centerline must be between 16 and 18 inches from the adjacent wall. Non-compliant condition found in congregate rooms A110, A152, B152, C152. Recommend removal and reinstallation at compliant distance off wall.

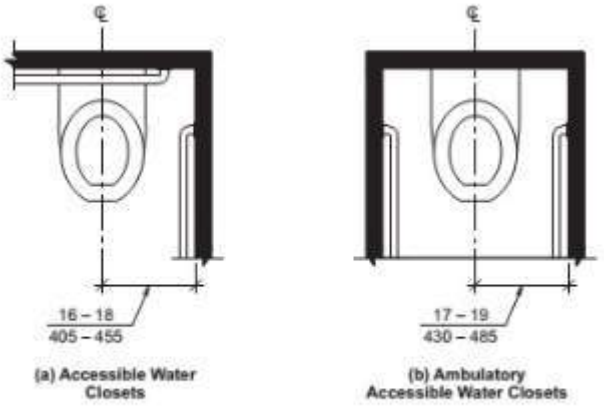


FIG. 604.2 WATER CLOSET LOCATION

2) Clear floor space of 60”wide by 56” deep. Non-compliant condition found in congregate rooms A110, A152, B110, B152, C152. These locations are deficient in the width by fractions of an inch. This is due to the tile installed over the gypsum board coupled with an offset in the rear wall creating an alcove that is slightly too narrow. Recommend furring out the wall to remove the alcove offset so required clearances can be achieved.

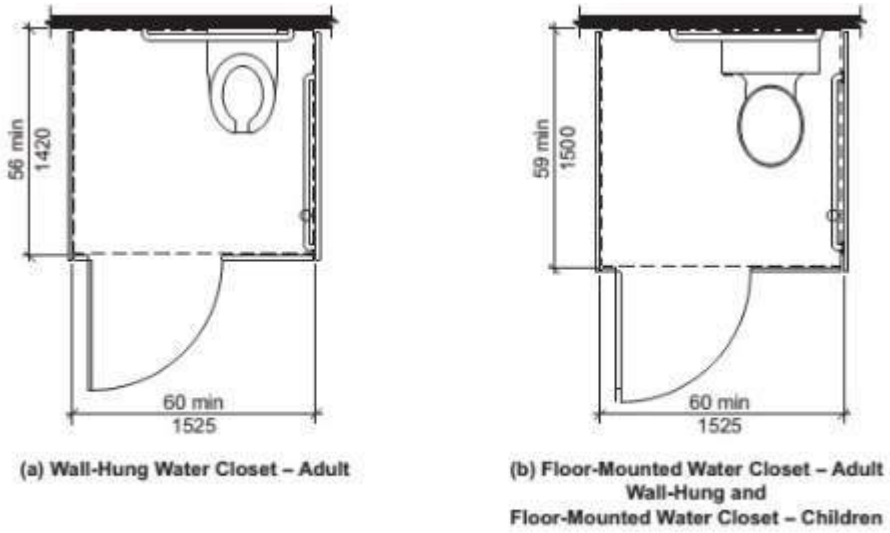


FIG. 604.9.2 WHEELCHAIR ACCESSIBLE TOILET COMPARTMENTS

3) Vertical grab bar 18” high and 2 horizontal grab bars 36” on the rear wall and 42” on the side wall. Vertical grab bars are missing at all locations. Recommend installation of additional grab bars for compliance.

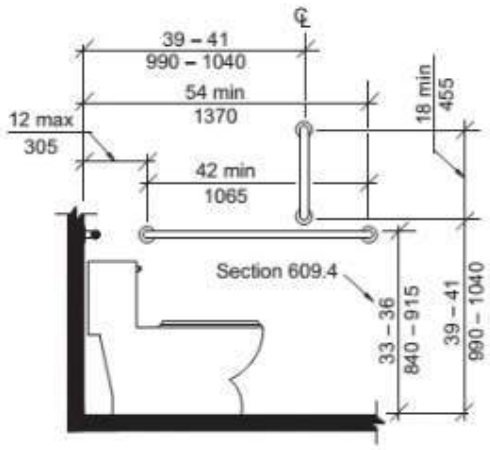


FIG. 604.5.1 SIDE WALL GRAB BAR FOR WATER CLOSET

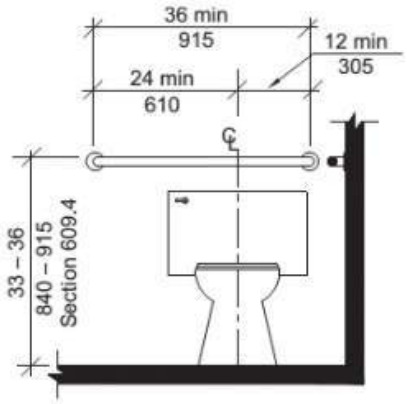


FIG. 604.5.2 REAR WALL GRAB BAR FOR WATER CLOSET

4) Typical installation

C) Sink

1) Rim of sinks must be 34” AFF maximum. No deficiencies noted.26

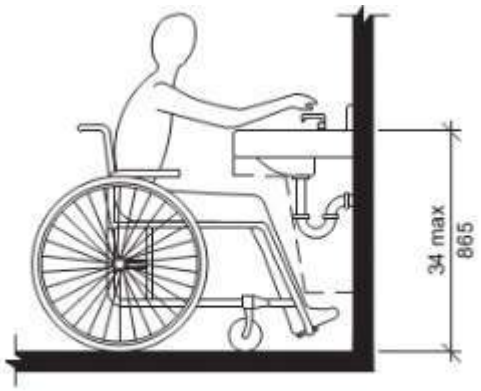
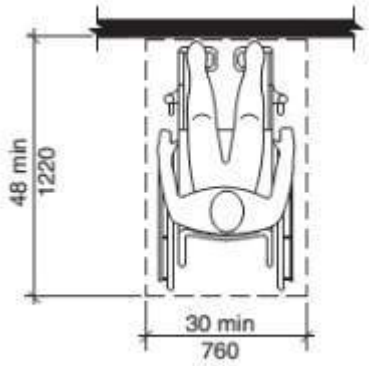


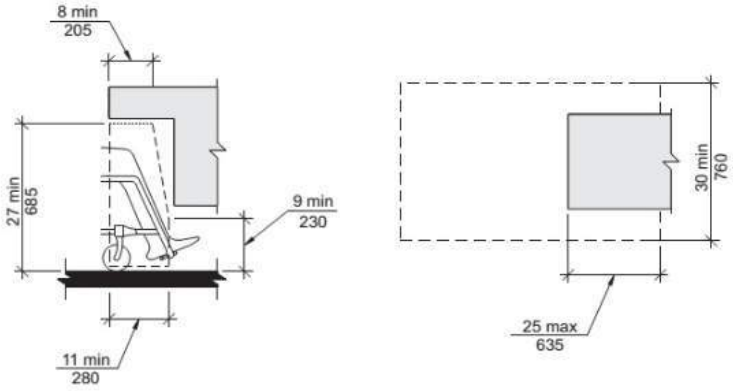
FIG. 606.3 HEIGHT OF LAVATORIES AND SINKS

2) Sink centerline must be at least 15” from the adjacent wall. No deficiencies noted.
3) Clear floor space must be 30” wide by 48” deep. No deficiencies noted.



(a) Forward

4) Knee space must be provided: No deficiencies noted.



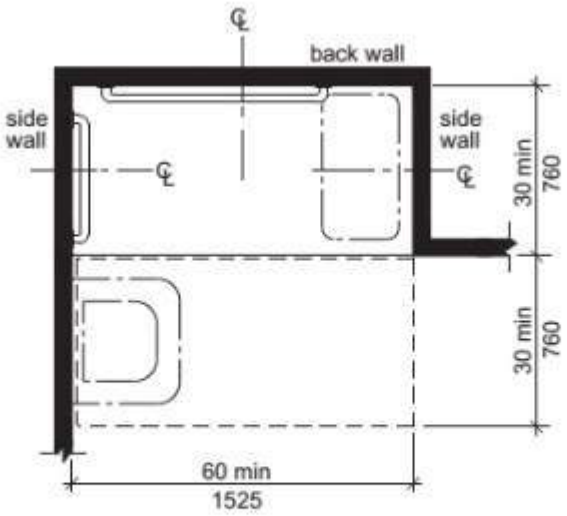
(a) Elevation (b) Plan

FIG. 306.3 KNEE CLEARANCE

5) Typical installation

D) Roll-in-type Shower

1) Size: min. 60” wide by min. 30” deep. . Non-compliant condition found in congregate rooms A110, A152, C152. 60” minimum width is not being met. Recommend demolition and reconstruction of compartment wing wall to compliant location..
2) Clearance: min. 60” wide by min. 30” deep. No deficiencies noted.



osing sides

FIG. 608.2.2 STANDARD ROLL-IN-TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

3) Typical installation

E) Tub

1) Clearance: A clear area 30” wide by the length of the tub shall be provided. No deficiencies noted.

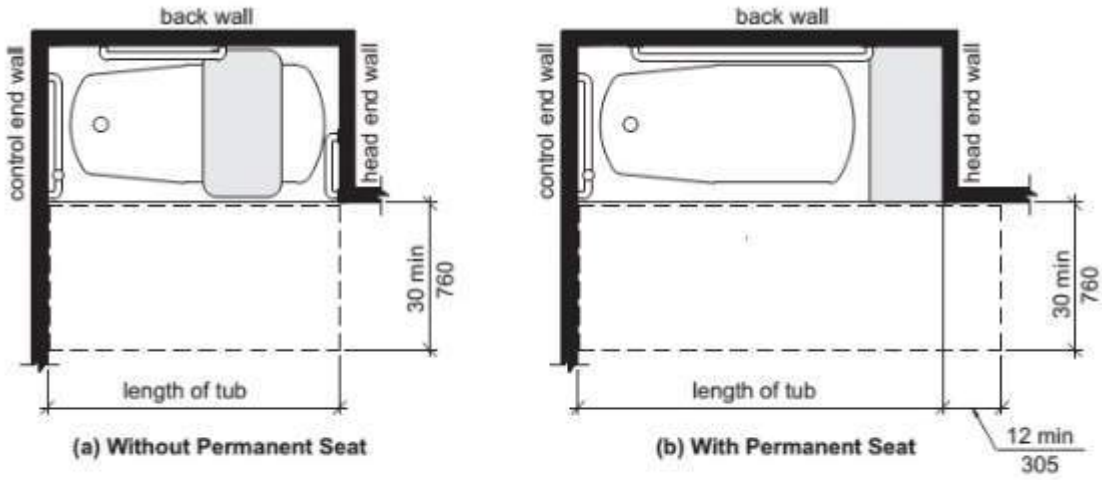
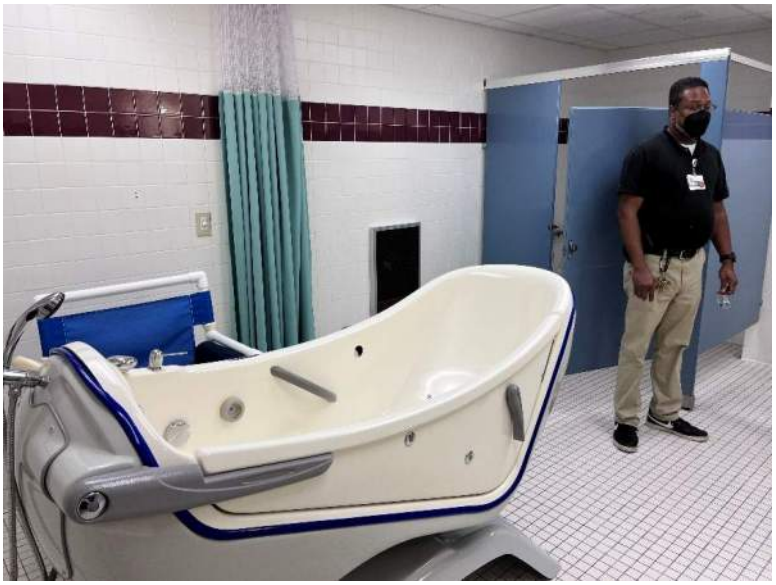


FIG. 607.2 CLEARANCE FOR BATHTUBS

2) Because this is a specialized piece of equipment and not a typical tub, we understand that staff assistance is provided to access and exit the tub. Therefore the usual grab bar and controls requirements are not applicable.
3) Typical installation



2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: North Carolina Veteran's Home Fayetteville
Address: 214 Cochran Ave, Fayetteville, NC Zip Code 28301
Owner/Authorized Agent: xxxx Phone # xxxx E-Mail xxxx
Owned By: State
Code Enforcement Jurisdiction: State

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural					
Civil					
Electrical					
Fire Alarm					
Plumbing					
Mechanical					
Sprinkler-Standpipe					
Structural	Gardner & McDaniel	Susan Easterling	28335	(919) 489-0926	susan@gmengrs.com
Retaining Walls >5' High					
Life Safety	IHR Architecture	Julie Risk	11899	(919) 765-6728	j.risk@IHRarchitecture.com

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: Select one
2018 NC EXISTING BUILDING CODE: Alteration Level I Repair Select one
CONSTRUCTED: (date) 1994 **CURRENT OCCUPANCY(S)** (Ch. 3): I-2 Cond. 1
RENOVATED: (date) 2023 **PROPOSED OCCUPANCY(S)** (Ch. 3): I-2 Cond. 1
OCCUPANCY CATEGORY (Table 1604.5): **Current:** III **Proposed:** III

BASIC BUILDING DATA
Construction Type: V-A
Sprinklers: Yes NFPA 13
Standpipes: No
Primary Fire District: Yes **Flood Hazard Area:** No
Special Inspections Required: Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	RENOVATED (SQ FT)	SUB-TOTAL
Level 1	80,387	xxx	80,387
TOTAL	80,387	xxx	80,387

ALLOWABLE AREA

Primary Occupancy Classification(s): Institutional - I-2 Condition 1 Select one Select one Select one Select one Select one
Accessory Occupancy Classification(s): ____
Incidental Uses (Table 509): I-2 Laundry rooms over 100sf, I-2 commercial kitchens, I-2 waste and linen, I-2 storage rooms greater than 100sf

Special Uses (Chapter 4 – List Code Sections): 407 Group I-2
Special Provisions: (Chapter 5 – List Code Sections):
Mixed Occupancy: No Separation: Select one Exception: ____

Actual Area of Occupancy A / *Allowable Area of Occupancy A* + *Actual Area of Occupancy B* / *Allowable Area of Occupancy B* ≤ 1

____ + ____ + …… = ____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
LEVEL 1	**I-2 A-wing**	18,371	**38,000**		**38,000**
LEVEL 1	**I-2 B-wing**	18,371	**38,000**		**38,000**
LEVEL 1	**I-2 C-wing**	18,371	**38,000**		**38,000**
LEVEL 1	**I-2 Central Core**	25,274	**38,000**		**38,000**

[1] Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = ______ (F)
b. Total Building Perimeter = ______ (P)
c. Ratio (F/P) = xxx (F/P)
d. W = Minimum width of public way = _30 (W)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	50'	33'-2	504.3
Building Height in Stories (Table 504.4)	4	1	504.4

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/______* REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		1	1	EXIST	TBD	N/A	N/A
Bearing Walls							
Exterior		1	1	EXIST	U425	TBD	TBD
North							
East							
West							
South							
Interior		1	1	TBD	U425	TBD	TBD
Nonbearing Walls and Partitions							
Exterior walls							
North		0	0	EXIST	N/A	TBD	TBD
East		0 or 1	0 or 2	EXIST	U425	TBD	TBD
West		0 or 1	0 or 2	EXIST	U425	TBD	TBD
South		0 or 1	0 or 2	EXIST	U425	TBD	TBD
Interior walls and partitions		0	0	TBD	N/A	N/A	N/A
Floor Construction Including supporting beams and joists		1		TBD			
Floor Ceiling Assembly		TBD	2	EXIST	D916	TBD	TBD
Columns Supporting Floors		N/A	N/A	N/A	N/A	N/A	N/A
Roof Construction, including supporting beams and joists		1		TBD			
Roof Ceiling Assembly		?????	TBD	TBD	L4522	TBD	N/A
Columns Supporting Roof		1	1	EXIST		N/A	N/A
Shaft Enclosures - Exit		N/A	N/A	N/A	N/A	N/A	N/A
Shaft Enclosures - Other		N/A	N/A	N/A	N/A	N/A	N/A
Corridor Separation		SP	SP	TBD	N/A	N/A	N/A
Occupancy/Fire Barrier Separation		N/A	N/A	N/A	N/A	N/A	N/A
Party/Fire Wall Separation		3	4	EXIST	TBD	TBD	N/A
Smoke Barrier Separation		1	1	TBD	U465	TBD	TBD
Smoke Partition		0	0	TBD	N/A	N/A	N/A
Tenant/Dwelling Unit/ Sleeping Unit Separation		N/A	N/A	N/A	N/A	N/A	N/A
Incidental Use Separation		1 or SP	1 or SP	TBD	U465	TBD	TBD

* Indicate section number permitting reduction
** See Volume 1 already permitted "North Pavilion Demolition and Structure" Dated 8/13/2018

PERCENTAGE OF WALL OPENING CALCULATIONS

(N/A WALL OPENINGS UNCHANGED)

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Yes
Exit Signs: Yes
Fire Alarm: Yes
Smoke Detection Systems: Yes
Carbon Monoxide Detection: Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: A0.3

- ☒ Fire and/or smoke rated wall locations (Chapter 7)
- ☒ Assumed and real property line locations (if not on the site plan)
- ☒ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☒ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☒ Occupant loads for each area

- ☒ Exit access travel distances (1017)
- ☒ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☒ Dead end lengths (1020.4)
- ☒ Clear exit widths for each exit door
- ☒ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☒ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☒ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☒ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☒ The square footage of each fire area (202)
- ☒ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☒ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS

(NOT APPLICABLE)
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING

(N/A NO CHANGE TO BUILDING SIZE OR PARKING)
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	
TOTAL						

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS			URINALS	LAVATORIES			SHOWERS /TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
SPACE A WING	EXIST'G										
	NEW										
	REQ'D										
SPACE B WING	EXIST'G										
	NEW										
	REQ'D										
SPACE C WING	EXIST'G										
	NEW										
	REQ'D										
	EXIST'G										
SPACE CENTRAL CORE	NEW										
	REQ'D										

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

DHSR inspection

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: Select one

Exempt Building: Select one Provide code or statutory reference:

Climate Zone: 4A

Method of Compliance: Select one
(If "Other" specify source here) ____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: ____
U-Value of total assembly: ____
R-Value of insulation: ____
Skylights in each assembly: ____
U-Value of skylight: ____
total square footage of skylights in each assembly: ____

Exterior Walls (each assembly)
Description of assembly: ____
U-Value of total assembly: ____
R-Value of insulation: ____
Openings (windows or doors with glazing)
Curtain Wall
U-Value of assembly: ____
Solar heat gain coefficient: ____
projection factor: ____
Entrances
Door R-Values: ____

Walls below grade (each assembly)
Description of assembly: ____
U-Value of total assembly: ____
R-Value of insulation: ____

Floors over unconditioned space (each assembly)
Description of assembly: ____

U-Value of total assembly: ____
R-Value of insulation: ____

Floors slab on grade
Description of assembly: ____
U-Value of total assembly: ____
R-Value of insulation: ____
Horizontal/vertical requirement: ____
slab heated: No

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Wind (I_W) 1.0
Snow (I_S) 1.0
Seismic (I_E) Select one

Live Loads: Roof
Mechanical
Floor

Ground Snow Load:

Wind Load: Basic Wind Speed
Exposure Category Select one

SEISMIC DESIGN CATEGORY: Select one
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) III
Spectral Response Acceleration S_S S_1
Site Classification (ASCE 7) Select one
Data Source: Select one
Basic structural system Select one
Analysis Procedure: Select one
Architectural, Mechanical, Components anchored? Select one

LATERAL DESIGN CONTROL: Select one

SOIL BEARING CAPACITIES:
Select one
Pile size, type, and capacity ____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 4A
winter dry bulb:
summer dry bulb:

Interior design conditions
winter dry bulb:
summer dry bulb:
relative humidity:

Building heating load:

Building cooling load:

Mechanical Spacing Conditioning System
Unitary
description of unit:
heating efficiency:
cooling efficiency:
size category of unit:
Boiler
Size category. If oversized, state reason.:
Chiller
Size category. If oversized, state reason.:

List equipment efficiencies: See schedule

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code - Prescriptive

Lighting schedule (each fixture type)
lamp type required in fixture -
number of lamps in fixture -
ballast type used in the fixture -
number of ballasts in fixture -
total wattage per fixture -
total interior wattage specified vs. allowed (whole building) –
total exterior wattage specified vs. allowed –

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
- ☐ C406.2 More Efficient HVAC Equipment Performance
- ☐ C406.3 Reduced Lighting Power Density
- ☐ C406.4 Enhanced Digital Lighting Controls
- ☐ C406.5 On-Site Renewable Energy
- ☐ C406.6 Dedicated Outdoor Air System
- ☐ C406.7 Reduced Energy Use in Service Water Heating

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IHR ARCHITECTURE, INC.
1011 Lamond Avenue
Durham, NC 27701
JASON MOBRATEN
13657
DESIGNER OF RECORD SEAL
RAYMOND SINCE 1992
WWW.RAYMOND.GLOBAL

PROJECT NUMBER: 22 0030
PROJECT DESIGNED FOR: DEPARTMENT OF MILITARY AND VETERAN AFFAIRS AND NC DEPARTMENT OF ADMINISTRATION
301 NORTH WILMINGTON STREET SUITE 450 RALEIGH, NC 27601
PROJECT TITLE: SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY
PROJECT ADDRESS: 214 Cochran Ave, Fayetteville, NC 28301
SHEET TITLE: CODE SUMMARY
DRAWING #: A0.2

LIFE SAFETY NOTES:

- BUILDING IS SPRINKLERED
- MAX ALLOWED EXIT ACCESS TRAVEL DISTANCE
  - I2 OCCUPANCY=200'
- MAX. ALLOWED COMMON PATH OF EGRESS TRAVEL DISTANCE
  - I2 OCCUPANCY=75'
- DEAD END LIMITS
  - I2 OCCUPANCY=20'
- EXIT CAPACITY(EC) = CLEAR OPENING X 0.2"

ACTUAL EXIT TRAVEL CALCULATIONS

CORE BUILDING MAX. COMMON PATH	47' - 6"
CORE BUILDING MAX. DEAD END CORRIDOR	16' - 5"
CORE BUILDING MAX. EXIT ACCESS TRAVEL DISTANCE	76' - 3"
WING, S.C. 1(TYP.) MAX. COMMON PATH	27' - 1"
WING, S.C. 1(TYP.) MAX. TRAVEL DISTANCE	127' - 11"
WING, S.C. 2(TYP.) MAX. DEAD END CORRIDOR	12' - 7"
WING, S.C. 2(TYP.) MAX. TRAVEL DISTANCE	105' - 4"
WING, S.C. 3(TYP.) MAX. COMMON PATH	40' - 1"
WING, S.C. 3(TYP.) MAX. DEAD END CORRIDOR	12' - 5"
WING, S.C. 3(TYP.) MAX. TRAVEL DISTANCE	79' - 2"

S.C. = SMOKE COMPARTMENT

OCCUPANT LOAD - CORE BUILDING

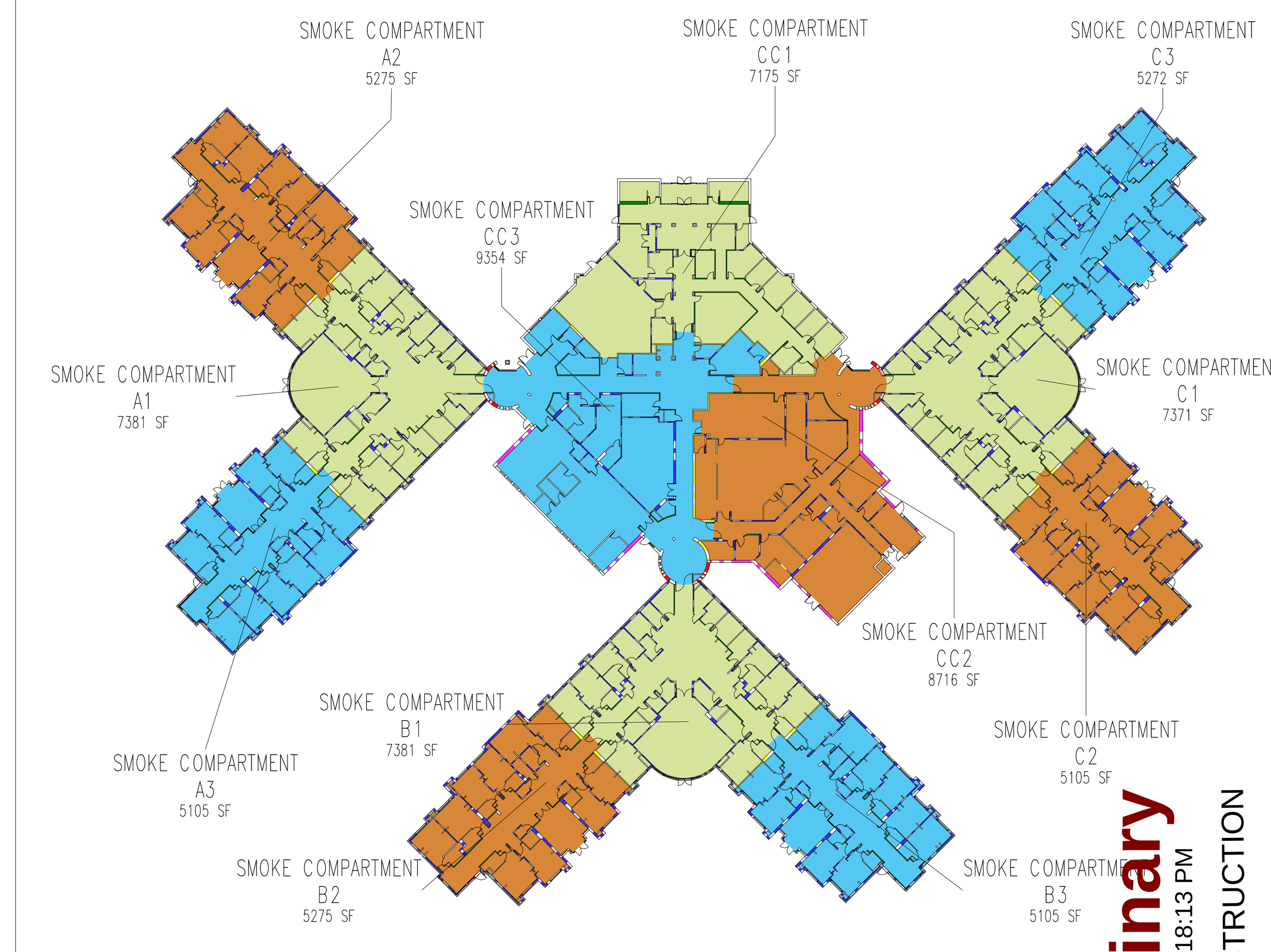
FUNCTION OF SPACE	SF	OCC. LOAD FACTOR	OCC. LOAD	REQ. EXIT WIDTH/OCC.	MIN. REQUIRED EXIT WIDTH	TOTAL REQ. EXIT WIDTH
ASSEMBLY - W/O FIXED SEATS UNCONCENTRATED (TABLES AND CHAIRS) (NET)	4495 SF	15 SF	300	0.2	32"	59.93"
BUSINESS	11562 SF	100 SF	116	0.2	32"	23.12"
EXERCISE ROOM	1148 SF	50 SF	23	0.2	32"	4.59"
KITCHEN	2157 SF	100 SF	22	0.2	32"	4.31"
LOCKER ROOM	734 SF	50 SF	15	0.2	32"	2.94"
MECH/EQUIP/STOR.	4884 SF	300 SF	16	0.2	32"	3.26"
MERCANTILE	354 SF	30 SF	12	0.2	32"	2.36"
WAITING SPACES	119 SF	0 SF	0	0.2		0.00"
FINAL: 33	25453 SF		503			100.51"

OCCUPANT LOAD - WING (TYP.)

FUNCTION OF SPACE	SF	OCC. LOAD FACTOR	OCC. LOAD	REQ. EXIT WIDTH/OCC.	MIN. REQUIRED EXIT WIDTH	TOTAL REQ. EXIT WIDTH
Assembly - w/o Fixed Seats Unconcentrated (tables and chairs) (NET)	1995 SF	15 SF	133	0.2	32"	26.61"
Institutional Areas - Inpatient Areas	3025 SF	240 SF	13	0.2	32"	2.52"
Accessory Storage Areas, Mechanical Equipment Room	1161 SF	300 SF	4	0.2	32"	0.77"
Institutional Areas - Sleeping Areas	11321 SF	120 SF	94	0.2	32"	18.87"
FINAL: 21	17503 SF		244			48.77"

LEGEND

4 HOUR FIRE WALL 2018 NCSBC SECT. 706 BUILDING SEPARATIONS	MAX TRAVEL DISTANCE TO EXIT ACCESS CORRIDOR WITHIN SUITE 2018 NCSBC SECT. 407.4.4.2 100 FT
3 HOUR FIRE WALL 2018 NCSBC SECT. 706 BUILDING SEPARATIONS	MAX COMMON PATH OF TRAVEL 2018 NCSBC SECT. 1016.2
2 HOUR FIRE BARRIER 2018 NCSBC SECT. 707 FIRE COMPARTMENTS, HORIZONTAL EXITING, VERTICAL SHAFTS & EXIT ENCLOSURES, EXIT PASSAGEWAYS, INCIDENTAL USE AREAS, OCCUPANCY SEPARATION	MAX EXIT ACCESS TRAVEL DISTANCE 2018 NCSBC TABLE 1017.2 / MAX DEAD END CORRIDOR 2018 NCSBC SECT. 1020.4
1 HOUR FIRE BARRIER 2018 NCSBC SECT. 707 & SECT. 404 INCIDENTAL USE AREA VERTICAL SHAFTS & EXIT ENCLOSURES, EXIT PASSAGEWAYS, OCCUPANCY SEPARATIONS, & ATRIUM SEPARATIONS	FE — FIRE EXTINGUISHER / EFE = EXISTING; FEC — FIRE EXTINGUISHER CABINET / EFEC = EXISTING
SMOKE PARTITION 2018 NCSBC SECT. 710 & 407.3 NURSE SUITE PATIENT SLEEPING ROOMS, I-2 CORRIDORS	FHVC — FIRE HOSE VALVE CABINET / EFHVC = EXISTING
2 HOUR SMOKE BARRIERS 2018 NCSBC SECT. 709 & 407.5 BUILDING SMOKE COMPARTMENTS	ACCESSIBLE PATH
1 HOUR SMOKE BARRIERS 2018 NCSBC SECT. 709 & 407.5 BUILDING SMOKE COMPARTMENTS	PROJECT LIMITS
HORIZONTAL 1HR SMOKE BARRIER	EXIT SIGN
SMOKE COMPARTMENT BOUNDARY (LIFE SAFETY PLAN)	
HO — HOLD OPEN	
HE — HORIZONTAL EXIT	



3 GROUND FLOOR OVERALL SMOKE COMPARTMENTS
1" = 60'-0"

THIS PLAN INDICATES EXISTING WALL RATINGS AS DETERMINED BY SELECTIVE SPOT VERIFICATION.

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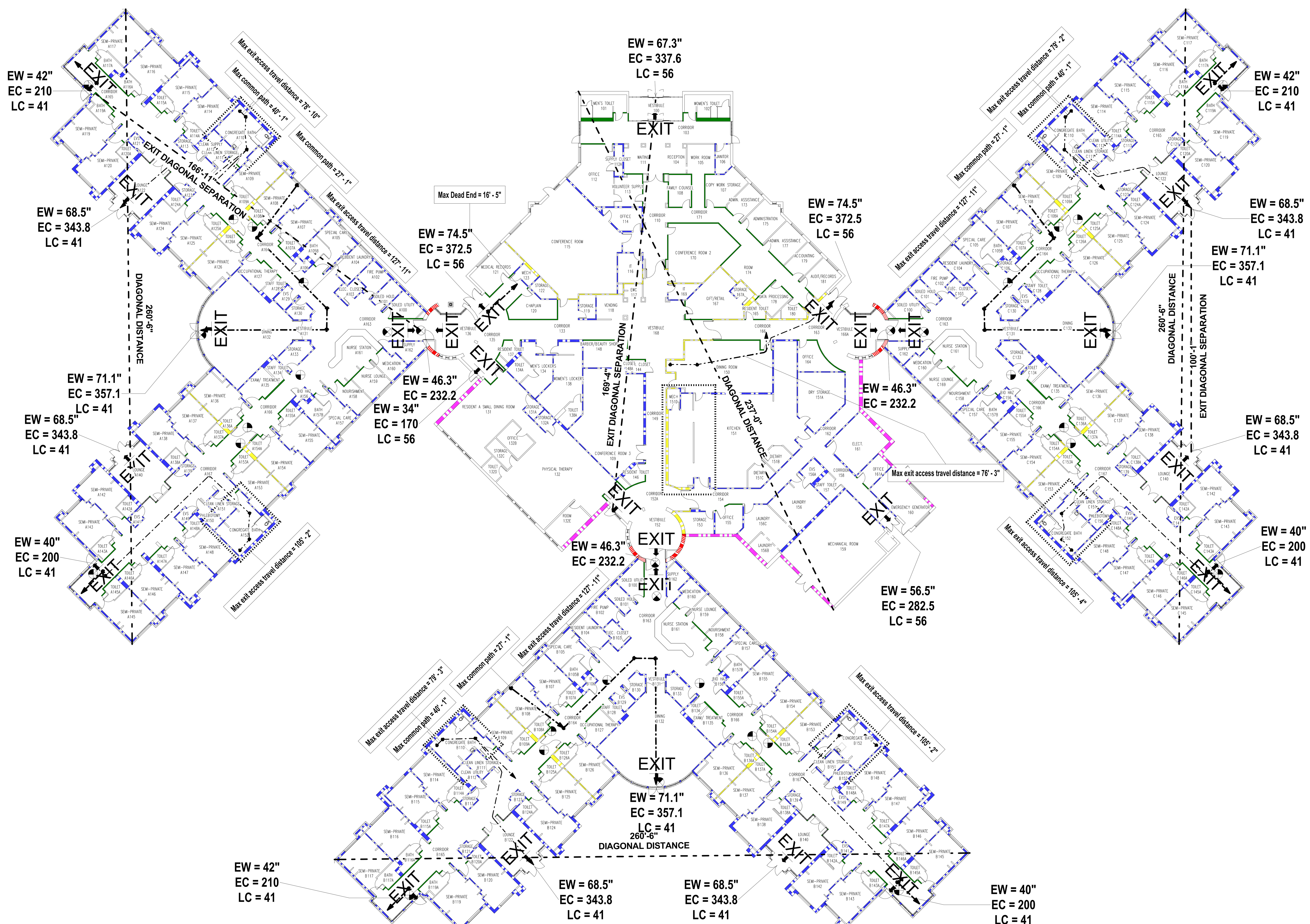
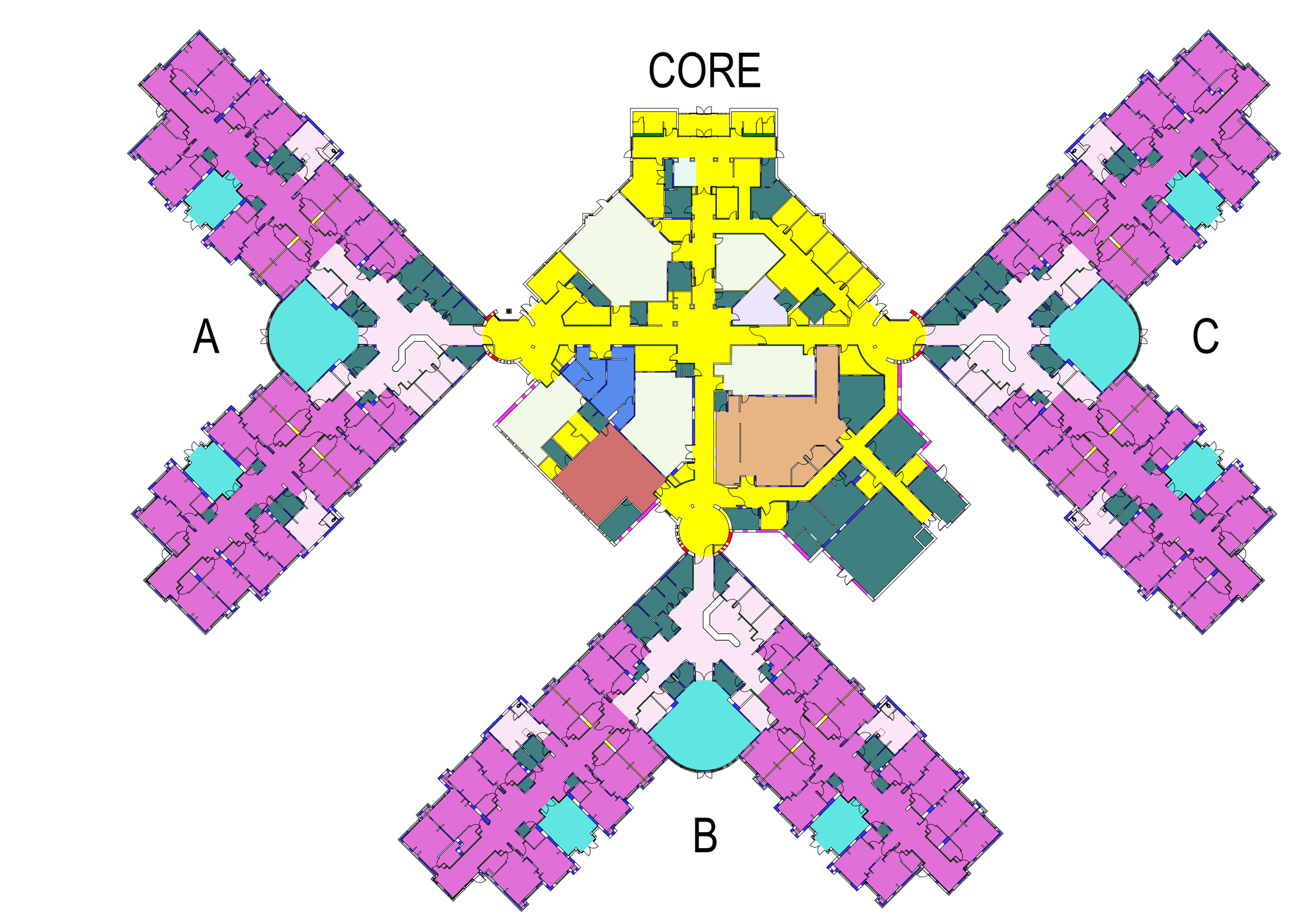


1 GROUND FLOOR OVERALL LIFE SAFETY PLAN
1" = 20'-0"

USE LEGEND

- ASSEMBLY - UNCONC. TABLES & CHAIRS
- ASSEMBLY - W/O FIXED SEATS UNCONCENTRATED (TABLES AND CHAIRS) (NET)
- BUSINESS
- EXERCISE ROOM
- INPATIENT
- SLEEPING
- KITCHEN
- LOCKER ROOM
- MECH / EQUIP / STOR.
- MERCANTILE
- WAITING SPACES



2 GROUND FLOOR OCCUPANCY
1" = 60'-0"

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3/1/2023

IHR ARCHITECTURE, INC.
1011 Lamond Avenue
Durham, NC 27701
919.489.7417
JASON MOBRATEN
13657
DESIGNER OF RECORD SEAL:

RAYMOND SINCE 1992
FULL-SERVICE ARCHITECTURE & ENGINEERING
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ORLANDO, FL | MIAMI, FL | RICHMOND, VA
316 WEST MILLBROOK RD, SUITE 201, RALEIGH, NC 27609
C.O.A. # C-4282 ; LICENSE: # 53143
919-872-7866
WWW.RAYMOND.GLOBAL

PROJECT INFORMATION
RAYMOND PROJECT NUMBER: 22 0030
DRAWN: RH
CHECKED:
CLIENT'S REPRESENTATIVE:
APPROVED: Approver
DATE: 02/21/2023
SENIOR REVIEW:

PROJECT DESIGNED FOR:
DEPARTMENT OF MILITARY AND VETERAN AFFAIRS AND NC DEPARTMENT OF ADMINISTRATION
301 NORTH WILMINGTON STREET
SUITE 450
RALEIGH, NC 27601

PROJECT TITLE:
SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY

PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301

SHEET TITLE:
EXISTING LIFE SAFETY PLAN - LEVEL 1

DRAWING #: A0.3
REVISION #:

LIFE SAFETY NOTES:

- BUILDING IS SPRINKLERED
- MAX ALLOWED EXIT ACCESS TRAVEL DISTANCE
  - I2 OCCUPANCY=200'
- MAX. ALLOWED COMMON PATH OF EGRESS TRAVEL DISTANCE
  - I2 OCCUPANCY=75'
- DEAD END LIMITS
  - I2 OCCUPANCY=20'
- EXIT CAPACITY(EC) = CLEAR OPENING X 0.2"

ACTUAL EXIT TRAVEL CALCULATIONS

ATTIC KEYNOTES

LS1	TAPE AND MUDDING ISSUES ON SMOKE BARRIER NOT COMPLIANT WITH UL ASSEMBLY.
LS2	SPRAY FOAM USED IN LIEU OF PROPER FIRE CAULKING
LS3	HORIZONTAL ASSEMBLY OFFSET DAMAGED. HOLES REQUIRE REPAIR.
LS4	NO FIRE CAULKING AT HEAD JOINT.
LS5	PENETRATIONS WITHOUT FIRE CAULKING.
LS6	NO STENCIL/LABEL INDICATING RATING.
LS7	UNKNOWN BROWN SUBSTANCE USED AS FIRE STOPPING.

LEGEND

4 HOUR FIRE WALL 2018 NCSBC SECT. 706 BUILDING SEPARATIONS	MAX TRAVEL DISTANCE TO EXIT ACCESS CORRIDOR WITHIN SUITE 2018 NCSBC SECT. 407.4.4.2 100 FT
3 HOUR FIRE WALL 2018 NCSBC SECT. 706 BUILDING SEPARATIONS	MAX COMMON PATH OF TRAVEL 2018 NCSBC SECT. 1016.2
2 HOUR FIRE BARRIER 2018 NCSBC SECT. 707 FIRE COMPARTMENTS, HORIZONTAL EXITING, VERTICAL SHAFTS & EXIT ENCLOSURES, EXIT PASSAGEWAYS, INCIDENTAL USE AREAS, OCCUPANCY SEPARATION	MAX EXIT ACCESS TRAVEL DISTANCE 2018 NCSBC TABLE 1017.2
	MAX DEAD END CORRIDOR 2018 NCSBC SECT. 1020.4
1 HOUR FIRE BARRIER 2018 NCSBC SECT. 707 & SECT. 404 INCIDENTAL USE AREA VERTICAL SHAFTS & EXIT ENCLOSURES, EXIT PASSAGEWAYS, OCCUPANCY SEPARATIONS, & ATRIUM SEPARATIONS	FE — FIRE EXTINGUISHER / EFE = EXISTING
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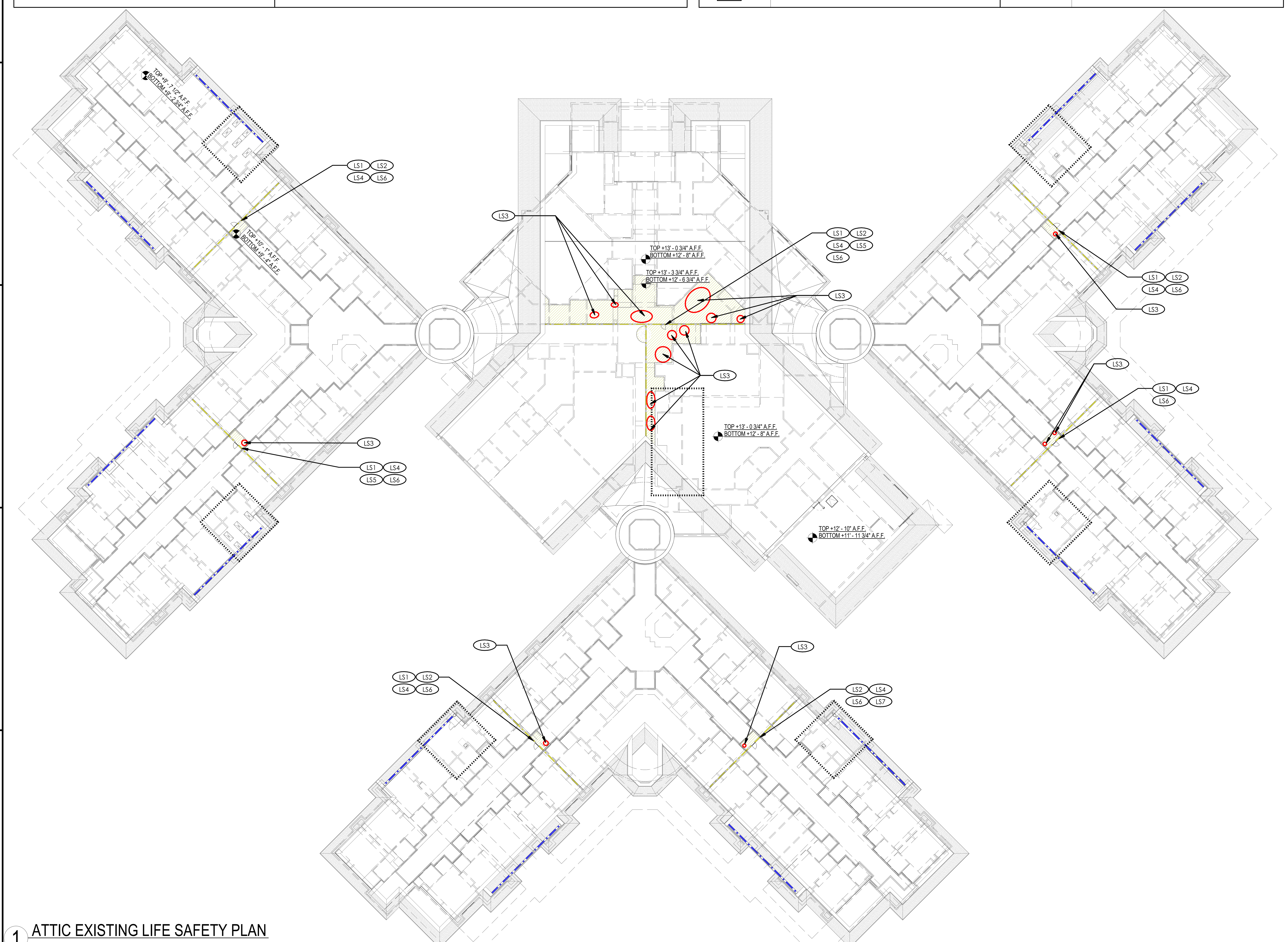
SMOKE PARTITION 2018 NCSBC SECT. 710 & 407.3 NURSE SUITE PATIENT SLEEPING ROOMS, I-2 CORRIDORS	FHVC — FIRE HOSE VALVE CABINET / EFHVC = EXISTING
2 HOUR SMOKE BARRIERS 2018 NCSBC SECT. 709 & 407.5 BUILDING SMOKE COMPARTMENTS	ACCESSIBLE PATH
1 HOUR SMOKE BARRIERS 2018 NCSBC SECT. 709 & 407.5 BUILDING SMOKE COMPARTMENTS	PROJECT LIMITS
HORIZONTAL 1HR SMOKE BARRIER	EXIT SIGN
SMOKE COMPARTMENT BOUNDARY (LIFE SAFETY PLAN)	
HO — HOLD OPEN	
HE — HORIZONTAL EXIT	



1 ATTIC EXISTING LIFE SAFETY PLAN

1" = 20'-0"

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IHR ARCHITECTURE, INC.
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Durham, NC 27701
919.489.7477

DESIGNER OF RECORD SEAL

JASON MOBRATEN
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NO.	DATE	ISSUED FOR	DATE	REVISION

PROJECT INFORMATION

RAYMOND PROJECT NUMBER: 22 0030	DRAWN: RH
	CHECKED:
CLIENT'S REPRESENTATIVE:	APPROVED: Approver
DATE: 02/21/2023	SENIOR REVIEW:

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PROJECT DESIGNED FOR:
DEPARTMENT OF MILITARY AND VETERAN AFFAIRS AND NC DEPARTMENT OF ADMINISTRATION
301 NORTH WILMINGTON STREET
SUITE 450
RALEIGH, NC 27601

PROJECT TITLE:
SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY

PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301

SHEET TITLE:
EXISTING LIFE SAFETY PLAN - ATTIC

DRAWING #: A0.4

REVISION #:

SHT. # OF

LIFE SAFETY NOTES:

- BUILDING IS SPRINKLERED
- MAX ALLOWED EXIT ACCESS TRAVEL DISTANCE
  - I2 OCCUPANCY=200'
- MAX. ALLOWED COMMON PATH OF EGRESS TRAVEL DISTANCE
  - I2 OCCUPANCY=75'
- DEAD END LIMITS
  - I2 OCCUPANCY=20'
- EXIT CAPACITY(EC) = CLEAR OPENING X 0.2"

ACTUAL EXIT TRAVEL CALCULATIONS

CORE BUILDING MAX. COMMON PATH	47' - 6"
CORE BUILDING MAX. DEAD END CORRIDOR	16' - 5"
CORE BUILDING MAX. EXIT ACCESS TRAVEL DISTANCE	76' - 3"
WING, S.C. 1(TYP.) MAX. COMMON PATH	27' - 1"
WING, S.C. 1(TYP.) MAX. TRAVEL DISTANCE	127' - 11"
WING, S.C. 2(TYP.) MAX. DEAD END CORRIDOR	12' - 7"
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WING, S.C. 3(TYP.) MAX. DEAD END CORRIDOR	12' - 5"
WING, S.C. 3(TYP.) MAX. TRAVEL DISTANCE	79' - 2"

OCCUPANT LOAD - CORE BUILDING

FUNCTION OF SPACE	SF	OCC. LOAD FACTOR	OCC. LOAD	REQ. EXIT WIDTH/OCC.	MIN. REQUIRED EXIT WIDTH	TOTAL REQ. EXIT WIDTH
ASSEMBLY - W/O FIXED SEATS UNCONCENTRATED (TABLES AND CHAIRS) (NET)	4495 SF	15 SF	300	0.2	32"	59.93"
BUSINESS	11562 SF	100 SF	116	0.2	32"	23.12"
EXERCISE ROOM	1148 SF	50 SF	23	0.2	32"	4.59"
KITCHEN	2157 SF	100 SF	22	0.2	32"	4.31"
LOCKER ROOM	734 SF	50 SF	15	0.2	32"	2.94"
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MERCANTILE	354 SF	30 SF	12	0.2	32"	2.36"
WAITING SPACES	119 SF	0 SF	0	0.2		0.00"
FINAL: 33	25453 SF		503			100.51"

OCCUPANT LOAD - WING (TYP.)

FUNCTION OF SPACE	SF	OCC. LOAD FACTOR	OCC. LOAD	REQ. EXIT WIDTH/OCC.	MIN. REQUIRED EXIT WIDTH	TOTAL REQ. EXIT WIDTH
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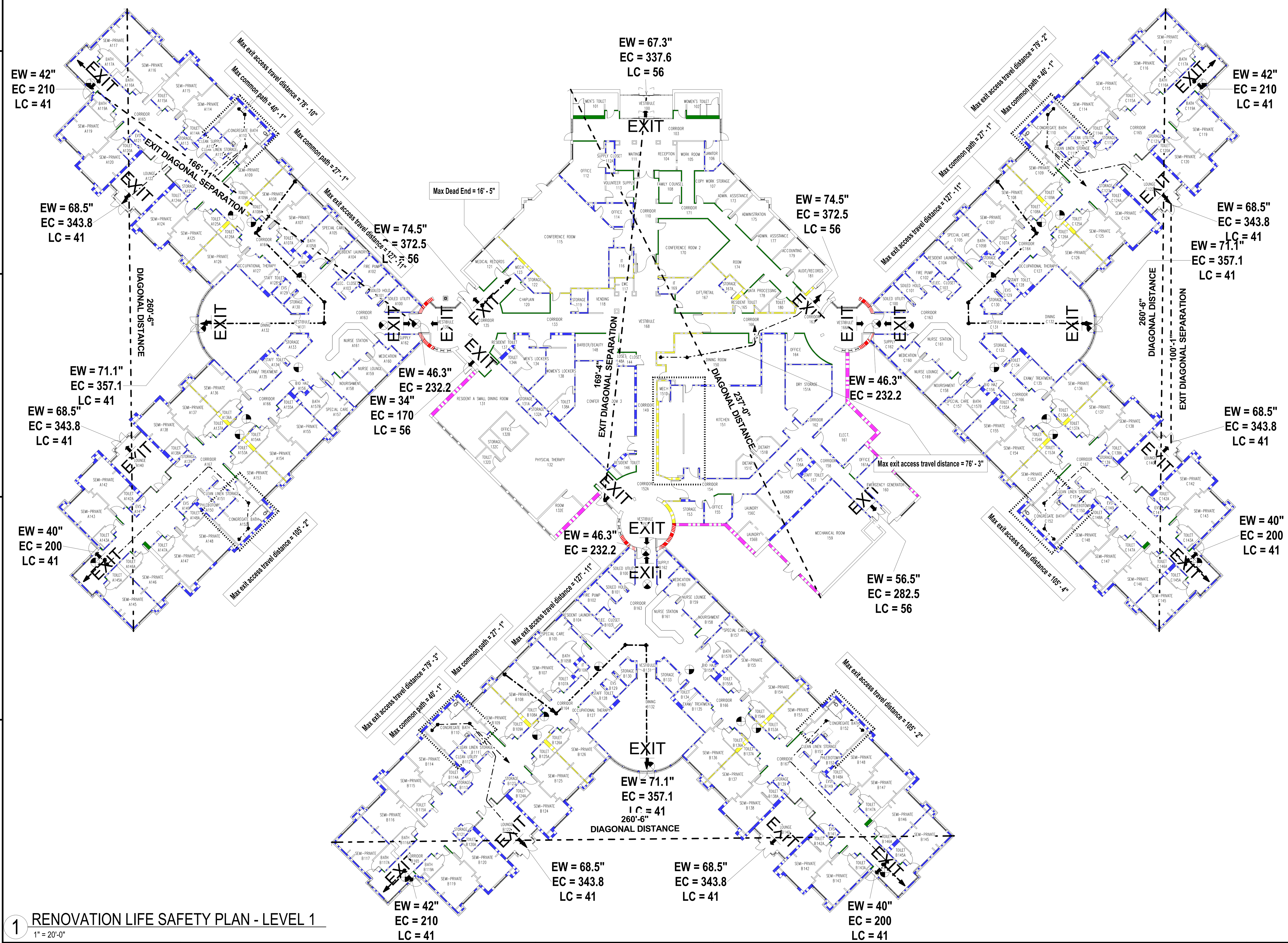
Institutional Areas - Sleeping Areas	11321 SF	120 SF	94	0.2	32"	18.87"
FINAL: 21	17503 SF		244			48.77"

4 HOUR FIRE WALL 2018 NCSBC SECT. 706 BUILDING SEPARATIONS	MAX TRAVEL DISTANCE TO EXIT ACCESS CORRIDOR WITHIN SUITE 2018 NCSBC SECT. 407.4.4.2 100 FT
3 HOUR FIRE WALL 2018 NCSBC SECT. 706 BUILDING SEPARATIONS	MAX COMMON PATH OF TRAVEL 2018 NCSBC SECT. 1016.2
2 HOUR FIRE BARRIER 2018 NCSBC SECT. 707 FIRE COMPARTMENTS, HORIZONTAL EXITING, VERTICAL SHAFTS & EXIT ENCLOSURES, EXIT PASSAGEWAYS, INCIDENTAL USE AREAS, OCCUPANCY SEPARATION	MAX EXIT ACCESS TRAVEL DISTANCE 2018 NCSBC TABLE 1017.2 / MAX DEAD END CORRIDOR 2018 NCSBC SECT. 1020.4
1 HOUR FIRE BARRIER 2018 NCSBC SECT. 707 & SECT. 404 INCIDENTAL USE AREA VERTICAL SHAFTS & EXIT ENCLOSURES, EXIT PASSAGEWAYS, OCCUPANCY SEPARATIONS, & ATRIUM SEPARATIONS	FE — FIRE EXTINGUISHER / EFE = EXISTING; FEC — FIRE EXTINGUISHER CABINET / EFEC = EXISTING
SMOKE PARTITION 2018 NCSBC SECT. 710 & 407.3 NURSE SUITE PATIENT SLEEPING ROOMS, I-2 CORRIDORS	FHVC — FIRE HOSE VALVE CABINET / EFHVC = EXISTING
2 HOUR SMOKE BARRIERS 2018 NCSBC SECT. 709 & 407.5 BUILDING SMOKE COMPARTMENTS	ACCESSIBLE PATH
1 HOUR SMOKE BARRIERS 2018 NCSBC SECT. 709 & 407.5 BUILDING SMOKE COMPARTMENTS	PROJECT LIMITS
HORIZONTAL 1HR SMOKE BARRIER	EXIT SIGN
SMOKE COMPARTMENT BOUNDARY (LIFE SAFETY PLAN)	
HO — HOLD OPEN	
HE — HORIZONTAL EXIT	



THIS PLAN INDICATES REQUIRED WALL RATINGS FOR LIFE SAFETY COMPLIANCE. THERE ARE MULTIPLE SMALL STORAGE ROOMS NOT REQUIRED TO BE FIRE RATED, BUT THOSE HAVE BEEN LEFT AS IS UNLESS THE OWNER REQUEST THE WALLS BE DOWNGRADED.

1 RENOVATION LIFE SAFETY PLAN - LEVEL 1
1" = 20'-0"

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION
3/1/2023

Preliminary
02/23/2023 2:19:56 PM
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IHR ARCHITECTURE, INC.
1011 Lamond Avenue
Durham, NC 27701
919.489.7417
DESIGNER OF RECORD SEAL:
JASON MOBRATEN
13657

RAYMOND
SINCE 1992
FULL-SERVICE ARCHITECTURE & ENGINEERING
CONYERS, GA | SAVANNAH, GA | GREER, SC | RALEIGH, NC
ORLANDO, FL | MIAMI, FL | RICHMOND, VA
316 WEST MILLBROOK RD, SUITE 201, RALEIGH, NC 27609
C.O.A. # C-4282 ; LICENSE: # 53143
919-872-7866
WWW.RAYMOND.GLOBAL

PROJECT INFORMATION
RAYMOND PROJECT NUMBER: 22 0030
DRAWN: RH
CHECKED:
CLIENT'S REPRESENTATIVE:
APPROVED:
DATE: 02/21/2023
SENIOR REVIEW:

PROJECT DESIGNED FOR:
DEPARTMENT OF MILITARY AND VETERAN AFFAIRS AND NC DEPARTMENT OF ADMINISTRATION
301 NORTH WILMINGTON STREET
SUITE 450
RALEIGH, NC 27601

PROJECT TITLE:
SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY
PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301
SHEET TITLE:
RENOVATION LIFE SAFETY PLAN - LEVEL 1
DRAWING #: A0.5
REVISION #:
SHT. # OF

LIFE SAFETY NOTES:

- BUILDING IS SPRINKLERED
- MAX ALLOWED EXIT ACCESS TRAVEL DISTANCE
  - I2 OCCUPANCY=200'
- MAX. ALLOWED COMMON PATH OF EGRESS TRAVEL DISTANCE
  - I2 OCCUPANCY=75'
- DEAD END LIMITS
  - I2 OCCUPANCY=20'
- EXIT CAPACITY(EC) = CLEAR OPENING X 0.2"

ACTUAL EXIT TRAVEL CALCULATIONS

ATTIC RENOVATION KEYNOTES

LS1	REPAIR SMOKE BARRIER TAPE AND MUD TO MEET UL REQUIREMENTS
LS2	REMOVE SPRAY FOAM IN INDICATED LOCATIONS, AND REPLACE WITH UL APPROVED FIRE CAULKING.
LS3	PATCH AND REPAIR HOLES IN MARKED LOCATIONS.
LS4	APPLY UL APPROVED FIRE CAULKING AT HEAD JOINT
LS5	APPLY UL APPROVED FIRE CAULKING AT MARKED LOCATIONS
LS6	VERIFY WALL RATING AND INSTALL STENCIL/LABEL TO INDICATE CORRECT RATING AS SHOWN IN RENOVATION DRAWINGS(A0.5)
LS7	REMOVE BROWN SUBSTANCE AT MARKED LOCATIONS, AND REPLACE WITH UL APPROVED FIRE CAULKING

	4 HOUR FIRE WALL 2018 NCSBC SECT. 706 BUILDING SEPARATIONS
	3 HOUR FIRE WALL 2018 NCSBC SECT. 706 BUILDING SEPARATIONS
	2 HOUR FIRE BARRIER 2018 NCSBC SECT. 707 FIRE COMPARTMENTS, HORIZONTAL EXITING, VERTICAL SHAFTS & EXIT ENCLOSURES, EXIT PASSAGEWAYS, INCIDENTAL USE AREAS, OCCUPANCY SEPARATION
	1 HOUR FIRE BARRIER 2018 NCSBC SECT. 707 & SECT. 404 INCIDENTAL USE AREA VERTICAL SHAFTS & EXIT ENCLOSURES, EXIT PASSAGEWAYS, OCCUPANCY SEPARATIONS, & ATRIUM SEPARATIONS
	SMOKE PARTITION 2018 NCSBC SECT. 710 & 407.3 NURSE SUITE PATIENT SLEEPING ROOMS, I-2 CORRIDORS
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	HORIZONTAL 1HR SMOKE BARRIER
	SMOKE COMPARTMENT BOUNDARY (LIFE SAFETY PLAN)
HO	HOLD OPEN
HE	HORIZONTAL EXIT

	MAX TRAVEL DISTANCE TO EXIT ACCESS CORRIDOR WITHIN SUITE 2018 NCSBC SECT. 407.4.4.2 100 FT
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	MAX EXIT ACCESS TRAVEL DISTANCE 2018 NCSBC TABLE 1017.2
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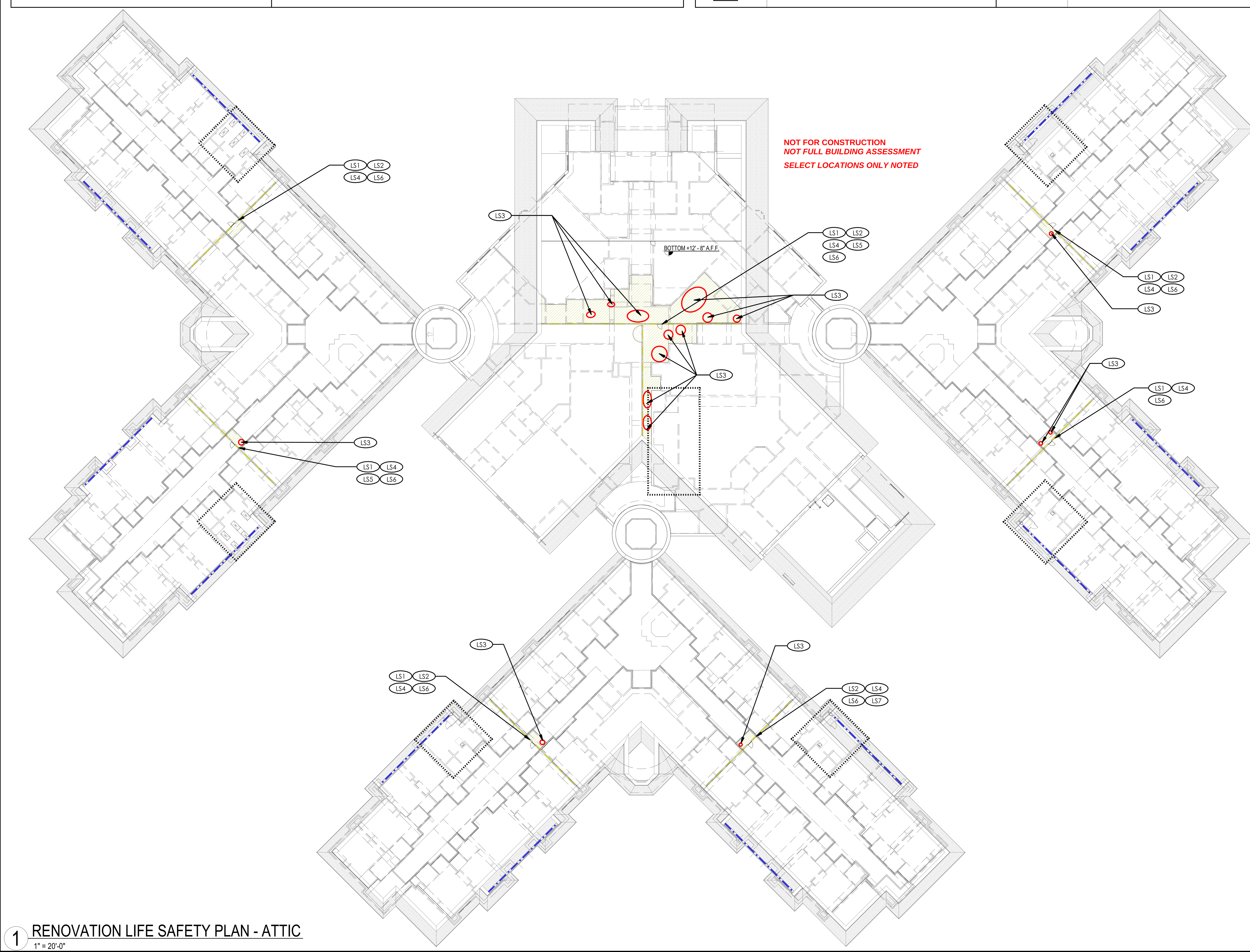
FE	FIRE EXTINGUISHER / EFE = EXISTING
FEC	FIRE EXTINGUISHER CABINET / EFEC = EXISTING
FHVC	FIRE HOSE VALVE CABINET / EFHVC = EXISTING
	ACCESSIBLE PATH
	PROJECT LIMITS
	EXIT SIGN



1 RENOVATION LIFE SAFETY PLAN - ATTIC
1" = 20'-0"

PRELIMINARY DRAFT
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3/1/2023

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IHR ARCHITECTURE, INC.
1011 Lamond Avenue
Durham, NC 27701
919.485.7617
ARCHITECTURE
JASON MOBRATEN
13657
DESIGNER OF RECORD SEAL

RAYMOND
SINCE 1992
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919-871-7886
WWW.RAYMOND.GLOBAL

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PROJECT TITLE:
SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY

PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301

SHEET TITLE:
RENOVATION LIFE SAFETY PLAN - ATTIC

DRAWING #: A0.6
REVISION #:
SHT. # OF

REV. NO.	ISSUED FOR	DATE	REVISION	DATE

April 27, 2023

C. Cecil Holt, Sr.
DMVA Architect, Consulting Services Section
State Construction Office
NC Department of Administration
301 N. Wilmington Street, Suite 450
Raleigh, NC 27601
cell 919.830.1113
main 919.807.4100
cecil.holt@doa.nc.gov

Reference / Project: RAL1002.011 Fayetteville State Veterans Home
Proposed Construction Phasing Overview based on Emergency Repairs and Renovation Scope Identified to Date

Dear Mr. Holt:

Raymond Engineering-Georgia, Inc., (herein referred to as Raymond) is pleased to submit this Proposed Construction phasing outline for the above-mentioned facility and the recommended emergency repair details for the owners immediate response.

As requested, this proposed construction phasing outline is preliminary and is meant to serve as a high-level overview of the proposed project phases and scope to date, based on:

- Owner provided feedback that the facility is to be closed within 5 years (2028) per email on 3/3/2023.
- Recommended Emergency repairs involving life-safety for structural framing and fire rated assemblies.
- Recommended repair and renovation work as identified during our moisture intrusion investigation (Amendment 2).
- Renovation work as identified by the owner (Kitchen and Bathroom).
- Review of the existing life safety plans. See the attached Design development Phasing Plan with additional notes dated 3/30/2023 overlayed on the preliminary life-safety plan.

This phasing recommendation is subject to change pending results of further recommended but not yet approved investigations, testing, repair designs and owner and occupant feedback.

The Emergency Repair Phase is described as Phase 1a, see descriptions below. The emergency repair documents associated with the structural repair design for this phase are attached and are for the owner's immediate use and response. These include; Phase 1a Emergency Repair structural repair drawings and letter from the structural engineer, Susan Easterling, Gardner McDaniel Consulting Engineers.

PRELIMINARY PROPOSED PHASING OUTLINE

PRE-CONSTRUCTION RECOMMENDATIONS AND CONSIDERATIONS

1. Pre-Construction estimating and planning by C.T. Wilson
2. Purchase equipment and material lead times for all phases as soon as possible to prevent delays during construction.
3. Owner approval for pending Amendment 3 with the additional services for design and CA for work noted below.
4. Recommended that could change scope, areas of work, construction duration – see other sections. This investigation work includes:
    a. TAB report of Cooling tower
    b. Study of Cooling tower
    c. Civil Engineering drainage repair design
    d. Industrial Hygienist review of attic and ceiling surfaces throughout building to determine recommended remediation scope.

PHASE 1A & PHASE 1B

PHASE 1A

Pre-phase recommendation and activities

1. Owner to execute amendment 3 and design to be completed per investigation phase recommendation and design work noted below
2. Complete design Purchase equipment and material lead times for all phases
3. Other recommendation for investigation that can change scope – see other sections

Phase 1a – Unforeseen - EMERGENCY REPAIRS – **(Recommended to be completed immediately as a part of this project or a separate project, as required):**

- Occupant Impacts: Moderate and To Be Determined – Work will impact operations and occupied spaces as required to make structural conditions safe above ceiling within attic. This structural work will occur above ceiling and will potentially cause disruptions due to (but not limited to) loud noise, temporary infection controls, services disruptions, temporary protection above and below ceiling, temporary relocation of occupants, storage etc.
- See Attachments:

    1. EMERGENCY REPAIR Drawings – Phase 1A – Dated 4/27/2023 – NOT FOR CONSTRUCTION – FOR OWNER REVIEW AND PRICING from Raymond and Gardner McDaniel Consulting Engineers
    dated 4/27/2023
        - Emergency Structural Repair Details and repair sequence for immediate owner response.
        - Forwarded to C.T. Wilson as requested by owner for pricing.
    2. Letter from Susan Easterling, Gardner McDaniel Consulting Engineers dated 4/27/2023

Ph 1a-1 Emergency Repair Scope Identified, recommended to be completed immediately:
Work proposed to be completed by C.T. Wilson submission for work to be priced and work to begin as soon as possible:

1. Per Structural EMERGENCY REPAIR documents dated 4/27/2023:
    a. Repair structure FIRST in plan North (Core Area A) and then plan South (Core Area B) areas within attic according to EMERGENCY REPAIR documents dated 4/27/2023, See sequence plan by structural engineer.
    b. Mobilization, Temporary protection, services, and Infection Control to support work as required.

2. Per Architectural Fire-rated EMERGENCY REPAIR documents (delivery TBD and in-progress):
    a. Repair damaged and deficient fire rated assemblies within Core Area (repairs are also recommended throughout building as soon as possible)
    b. This work is recommended to be completed by C.T. Wilson as a "Time and Materials" contract basis, billed against a unit price for repairs required and as encountered during other repair work.
        i. Initial areas of recommended fire-rated assembly repairs identified and communicated by Letter on 3/1/2023 titled "Report of Existing Conditions for Owner Immediate Response"

NOTE: A forthcoming proposal to further investigate the extent of required repairs and upgrades to fire-rated assemblies to meet life-safety requirements will be submitted ASAP and incorporated by amendment 3.

Ph 1a-2 - Work recommended by OTHERS

3. Continue to address Air quality remediation as recommended by industrial hygienist report by Matrix – submitted to owner by Raymond by email on January 23, 2023.

Ph 1a- 3 – Recommended repairs addressing deferred Maintenance and other conditions -

- Raymond is reviewing and working on the design for emergency recommended repair work to initially address the slab moisture intrusion in areas identified during the investigation. Design work associated with this moisture intrusion at the slab with be an additional service and included in the amendment 3 proposal.
- Work proposed to be completed by C.T. Wilson as soon as possible following this repair design:

4. Clean roof and downspout to working order as recommended through email and meetings. Repair roof leaks. Bypass internal drains and downspouts as required from the roof to help prevent storm water further entering the building and adding moisture to slab contributing to moisture and air quality issues. Site work to prevent water collecting at perimeter of building.

PHASE 1B

PRE-CONSTRUCTION MOBILIZATION Recommendation:

- Occupant Impacts: Minor **-** activities occur outside or offsite.

Ph 1b-1 Preliminary Scope Identified:

1. Pre-Construction planning and estimating
2. Design and Connections for temporary facilities – (By Raymond? Design Not Completed and Review and approval required by owner for pending Amendment 3)
3. Construction Mobilization areas
4. Relocation of staff, services, equipment supplies etc. as required for *Phase 2*
5. Repairs to enable loading dock access throughout construction phases
6. Temporary protection, Infection Control, security and other pre-construction and coordination activities

PHASE 2

SOUTH CORE AND B -WING – CONSTRUCTION – REPAIR, REMEDIATION AND RENOVATION WORK Recommendations:

- Occupant Impacts: High - Occupant will need to vacate area of work.

Ph 2-1 Preliminary Scope Identified:

1. Relocation of staff, services, equipment supplies etc. as required for *Phase 3*
2. Install Temporary facilities
3. Site work as required for drainage repair
4. Intensive renovation (2) Congregate bathroom renovations
5. Partial Kitchen Renovation Work
6. Roof Repair and Insulation Renovation work
7. Structural Repairs
8. Continued Fire-Rated Assembly repairs
9. MEP - DOAS unit installation (Design and CA work to be an additional service as a part of amendment 3 to be approved by owner)
10. Other recommended repair scope found during investigation for owner review and approval. (Design and CA work to be an additional service as a part of amendment 3 to be approved by owner)

PHASE 3

NORTH CORE AND A -WING – CONSTRUCTION – REPAIR, REMEDIATION AND RENOVATION WORK Recommendations:

- Occupant Impacts: High - Occupant will need to vacate area of work.

Ph 3-1 Preliminary Scope Identified:

1. Relocation of staff, services, equipment supplies etc. as required for *Phase 4*
2. Intensive Renovation (2) Congregate bathroom renovations
3. Partial Kitchen Renovation Work
4. Roof Repair and Insulation Renovation work
5. Continued Fire-Rated Assembly repairs
6. Structural Repairs
7. MEP - DOAS unit installation (Design and CA work to be an additional service as a part of amendment 3 to be approved by owner)
8. Other recommended repair scope found during investigation for owner review and approval. (Design and CA work to be an additional service as a part of amendment 3 to be approved by owner)

PHASE 4

C -WING – CONSTRUCTION – REPAIR, REMEDIATION AND RENOVATION WORK Recommendations:

- Occupant Impact: High - Occupant will need to vacate area of work.

Ph 4-1 Preliminary Scope Identified:

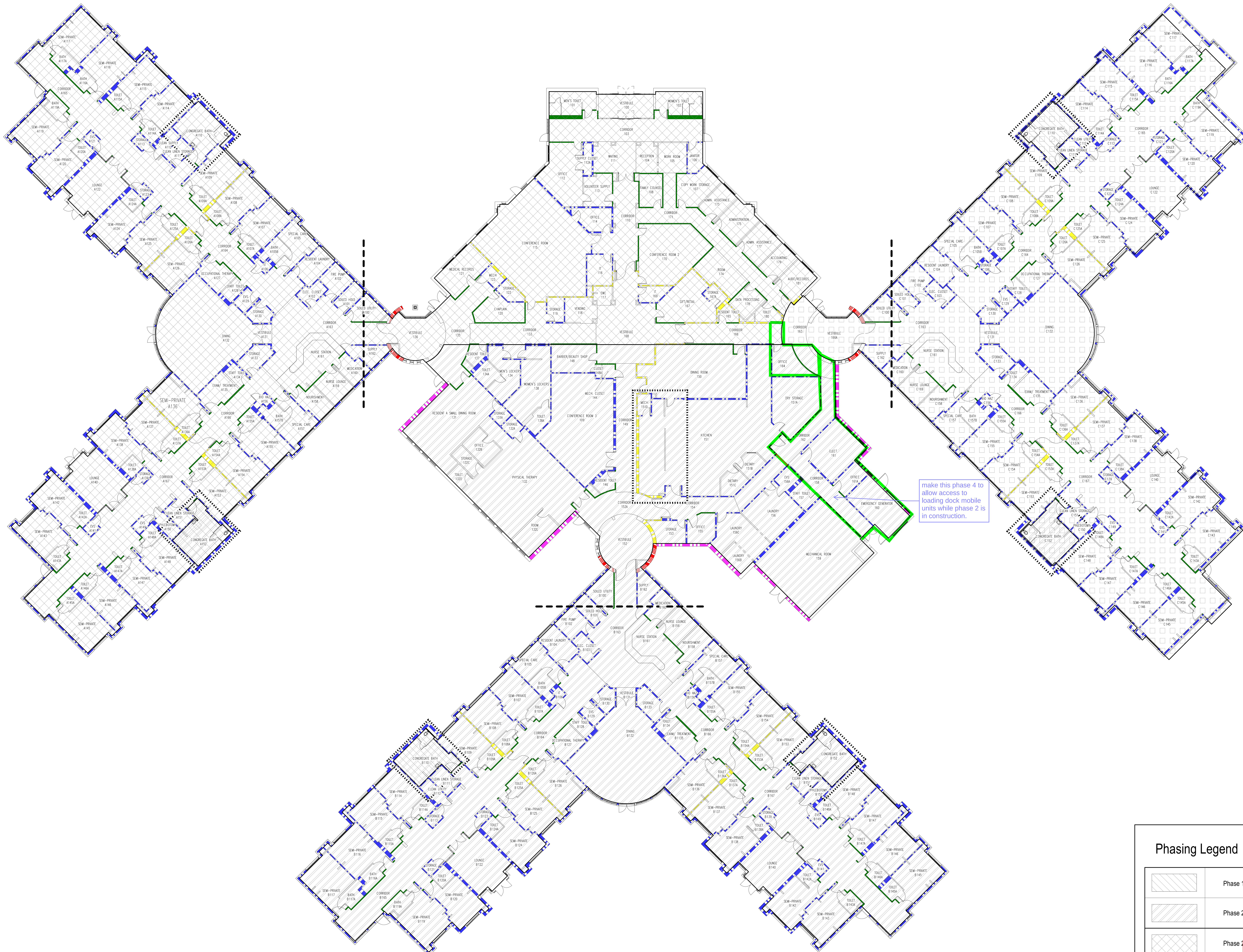
1. Intensive Renovation (2) Congregate bathroom renovations
2. Roof Repair and Insulation Renovation work
3. Structural Repairs
4. Continued Fire-Rated Assembly repairs
5. MEP - DOAS unit installation
6. Other recommended repair scope found during investigation for owner review and approval.

Please contact us anytime to further discuss and review.

Respectfully submitted,
RAYMOND

Gretchen Cobb, RA, NCARB
Architect & Building Envelope Consultant

Attachments: Phasing Plan dated 3/30/2023, EMERGENCY REPAIR Drawings – Phase 1A – Dated 4/27/2023 – NOT FOR CONSTRUCTION – FOR OWNER REVIEW AND PRICING, Letter from Susan Easterling, Gardner McDaniel Consulting Engineers dated 4/27/2023



1 PHASING PLAN
1/16" = 1'-0"

Phasing NOTES

Phase 1
- Emergency Structural repairs in the attic of the Core.

Phase 2:
- Vacate
  1. B-Wing
  2. Southern half of the Core
     A. Outsource laundry
     B. Outsource or mobile kitchen
     C. Temporarily relocation PT functions to conference room 2 (170)
     D. Temporarilty relocate lockers and break room functions to conference room (115)
     E. Barber shop closed
     F. All resident dining shall be in the occupied wings
- Renovation
  1. B-Wing
     A. Congregate bathroom renovations.
     B. Special Locking for memory ward A-wing patients
  2. Southern half of the Core
     A. Dishwasher replacement

Phase 3
- Vacate
  1. A-Wing-patients relocate to B-wing
  2. Southern half of the Core
     A. Laundry reopens
     B. Kitchen reopens
     C. PT retrun
     D. Locker and breakroom functions return
     E. Barber reopens
     F. Small resident dining room reopens
  3. Northern half of the Core
     A. Conference rooms closed
     B. Gift shop closed
     C. Can staff work remotely while offices are closed?
     D. Main entrance temporarily relocates next to C-wing
- Renovation
  1. A-Wing
     A. Congregate bathroom renovations
  2. Northern half of the Core

Phase 4
- Vacate
  1. C-Wing-patients relocate to B-wing
  2. Northern half of the Core
     A. Conference rooms reopen
     B. Gift shop reopens
     C. Offices reopen
     D. Main entrance reopens
- Renovation
  1. C-Wing
     A. Congregate bathroom renovations

Phasing Legend

	Phase 1
	Phase 2
	Phase 2 3
	Phase 2 4

NOT FOR CONSTRUCTION
FOR OWNER REVIEW AND PRICING

DESIGN DEVELOPMENT

RAYMOND SINCE 1992
FULL-SERVICE ARCHITECTURE & ENGINEERING
CONYERS, GA | SAVANNAH, GA | GREER, SC | RALEIGH, NC
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316 WEST MILLBROOK RD, SUITE 201, RALEIGH, NC 27609
C.O.A. # C-4282 ; LICENSE: # 53143
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PROJECT INFORMATION
RAYMOND PROJECT NUMBER: ******
DRAWN: Author
CHECKED: Checker
CLIENT'S REPRESENTATIVE:
APPROVED: Approver
DATE: 3/30/2023
SENIOR REVIEW: Designer

NOTICE:

PROJECT DESIGNED FOR:
DEPARTMENT OF MILITARY AND VETERAN AFFAIRS AND NC DEPARTMENT OF ADMINISTRATION
301 NORTH WILMINGTON STREET
SUITE 450
RALEIGH, NC 27601

PROJECT TITLE:
SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY

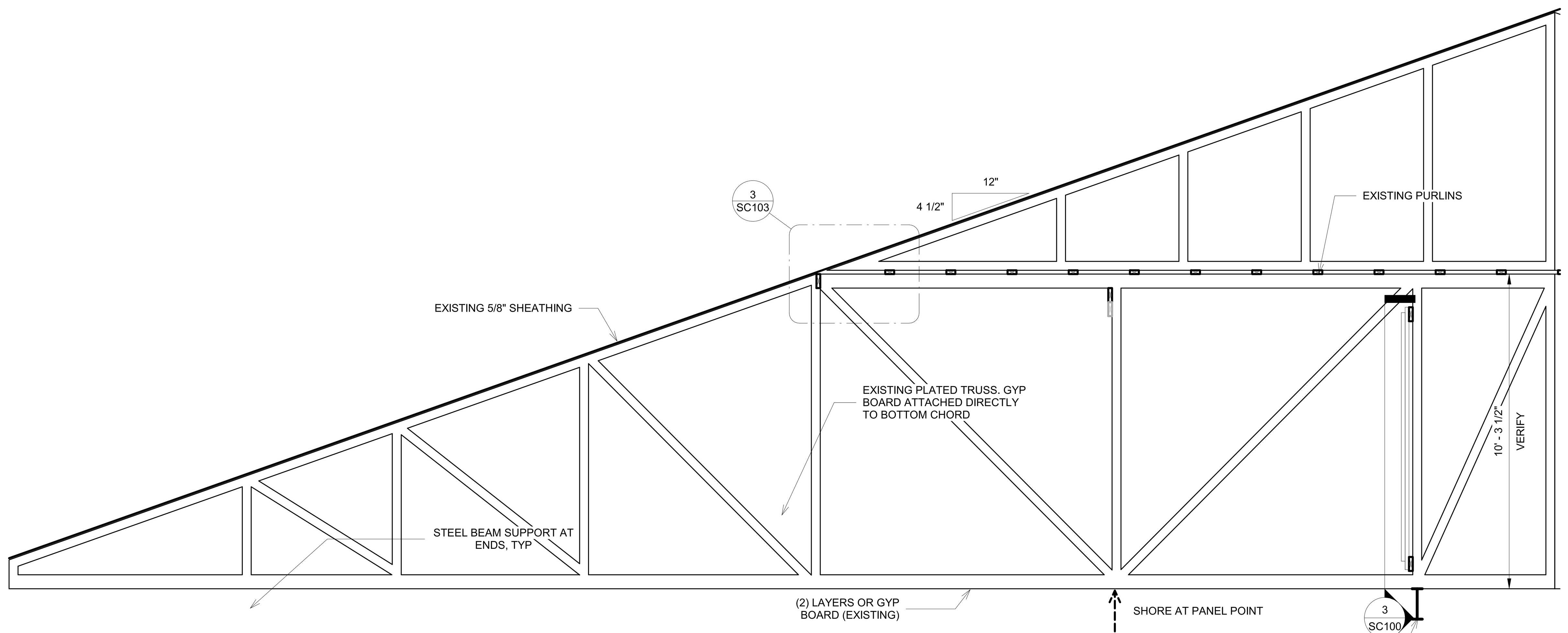
PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301

SHEET TITLE:
PHASING PLAN

DRAWING #: A0.7
SHT. # OF
REVISION #:

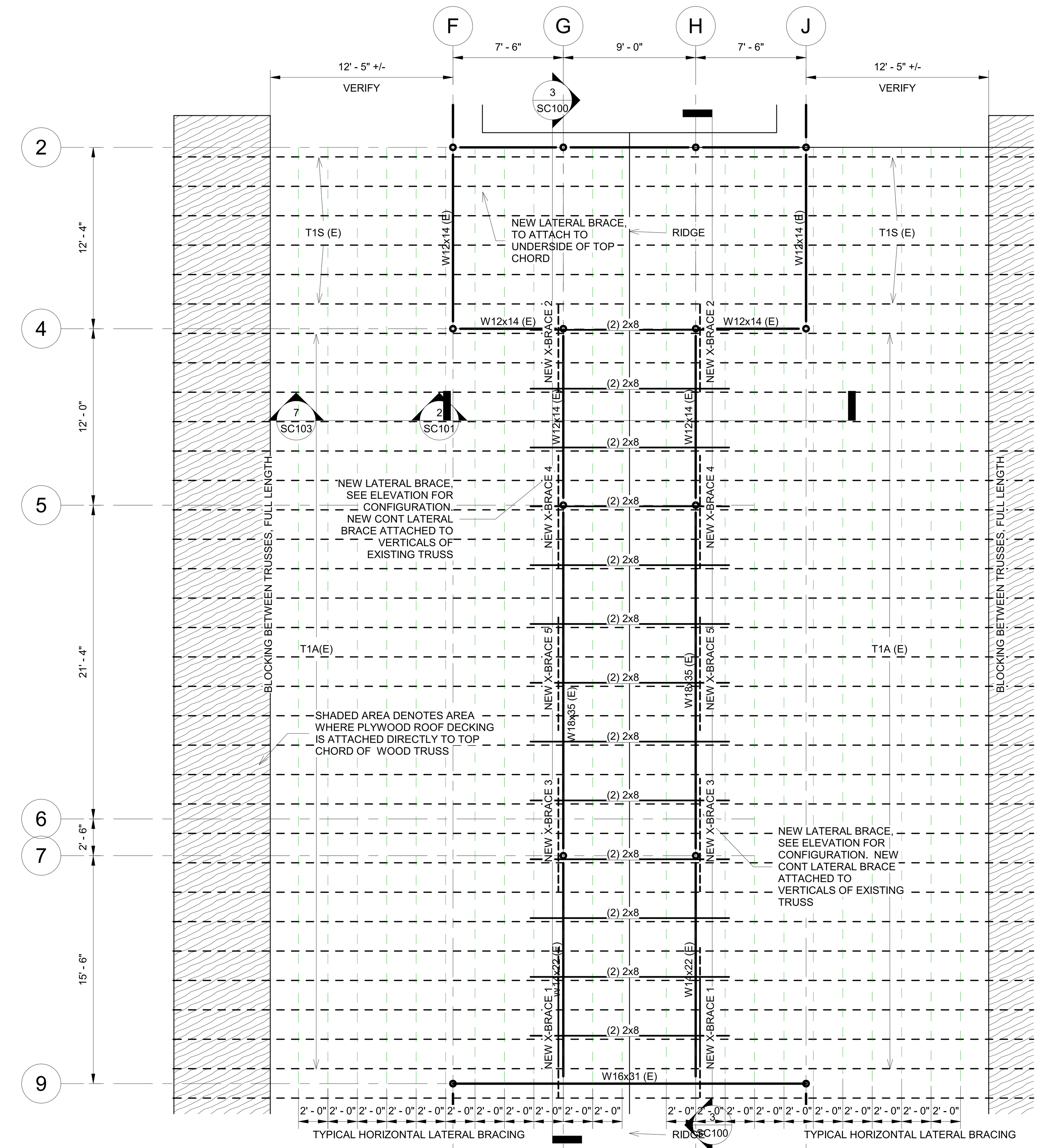
CONSTRUCTION SEQUENCE OF REPAIR:
REPAIRS IN CORE AREA A (SHEET SC100) TO BE COMPLETED FIRST.
1) INSTALL CONTINUOUS 2x6 BRACE AT TRUSS VERTICALS LOCATED ABOVE SHORING POINT. INSTALL SHORING IN WORK AREA(S). LOADING FOR SHORING TO BE FOR CONSTRUCTION LOADING. SHORING SHALL BE INSTALLED TIGHT TO EXISTING FRAMING, HOWEVER SHOULD NOT CAUSE ANY MOVEMENT.
2) INSTALL X-BRACING STARTING AT EACH END (X-BRACE 1 AND X-BRACE 2) AND WORKING TOWARDS THE CENTER. INSTALL BRACING AT EACH SIDE OF RIDGE AT THE SAME TIME.
3) ONCE BRACING IS INSTALLED, 2x8 AT CENTER SECTION AND ALL OTHER NECESSARY FRAMING SHALL BE INSTALLED AT EVERY OTHER TRUSS.
4) AFTER INSTALLING BRACING AND ADDITIONAL FRAMING AT THE CENTER SECTION (SHOWN IN 1/SC103) OPTIONAL SHORING REMOVAL IS ACCEPTABLE.
5) INSTALL BLOCKING AT PERIMETER EDGE AS SHOWN IN 11/SC103.
6) FIELD INSPECT OTHER DAMAGE TO EXISTING TRUSSES AND REPAIR AS REQUIRED. SEE SC102
7) REPLACE DECK BOARDS DUE TO MOVEMENT OR MOISTURE AFTER ALL FRAMING REPAIRS ARE COMPLETE.

NOTE: FIELD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. CORE AREA A REPAIR SHALL BE ADDRESSED PROMPTLY WITH AREA B FOLLOWING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY SHORING AND TEMPORARY BRACING TO INSTALL ROOF REPAIRS AS SHOWN.



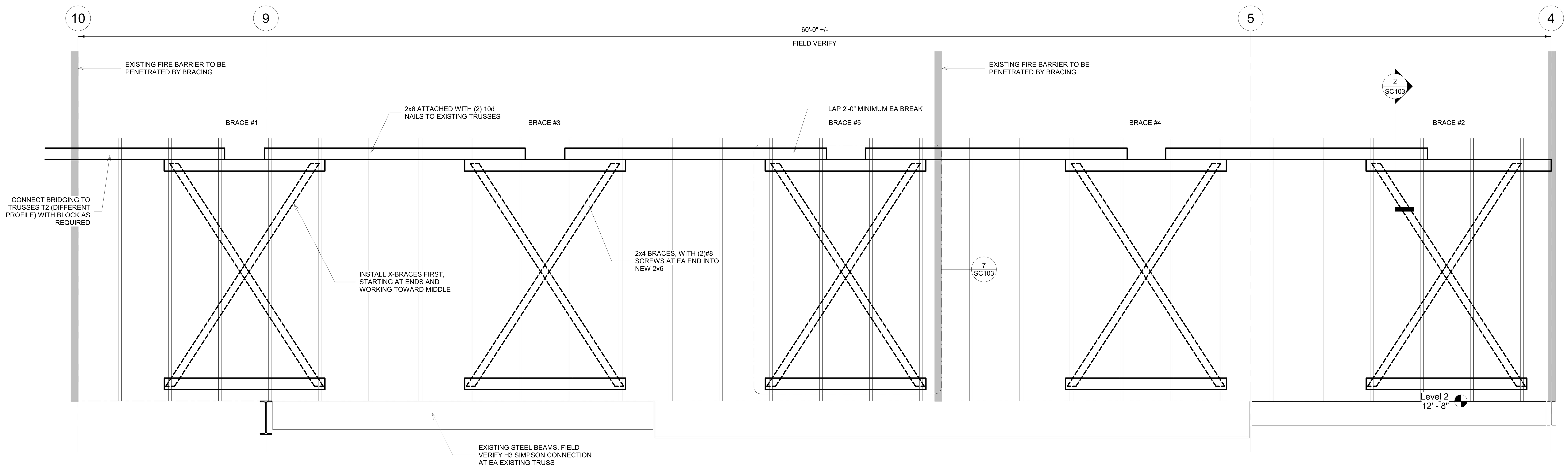
(2) TYPICAL TRUSS T1 ELEVATION (HALF)
3/8" = 1'-0"

NOTES:
1. EXISTING ELEVATION APPROXIMATE. FIELD VERIFY EXISTING SIZES AND CONFIGURATION PRIOR TO CONSTRUCTION.
2. INSTALL SHORING PRIOR TO INSTALLATION OF BRACING.
3. REPAIR WORK AS DEPICTED ON S102 SHALL COMMENCE AFTER BRACING AND ADDITIONAL FRAMING IS INSTALLED.



(1) PARTIAL PLAN - CORE AREA A
3/16" = 1'-0"

NOTES: 1. PLAN SHOWING THE ADDITIONAL BRACING AND FRAMING REQUIRED. LOCATIONS SHOWN ARE APPROXIMATE. SEE SC103 FOR ADDITIONAL NOTES AND REPAIR DETAILS. SEE SC102 FOR MISC REPAIRS AND EXAMPLE PHOTOS OF ROOF/TRUSS DAMAGE.



(3) X-BRACE ELEVATION AT CORE AREA A
1/2" = 1'-0"

NOT FOR CONSTRUCTION
FOR OWNER REVIEW AND PRICING

#	APPR BY	DATE	ISSUED FOR
1			
2			
3			
4			
5			
6			
7			
8			
9			

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35678 SUSAN KNOTT EASTERLING
4/27/23

GARDNER + McDANIEL CONSULTING ENGINEERS
3622 LYCKAN PKWY, SUITE 1005, DURHAM, NC 27707
P. O. BOX 51967, DURHAM, NC 27717
919.489.0926
f 919.493.3625
info@gmengrs.com

CONSTRUCTION DOCUMENTS
EMERGENCY REPAIRS

RAYMOND
SINCE 1992
FULL-SERVICE ARCHITECTURE & ENGINEERING
CONYERS, GA | SAVANNAH, GA | GREER, SC | RALEIGH, NC
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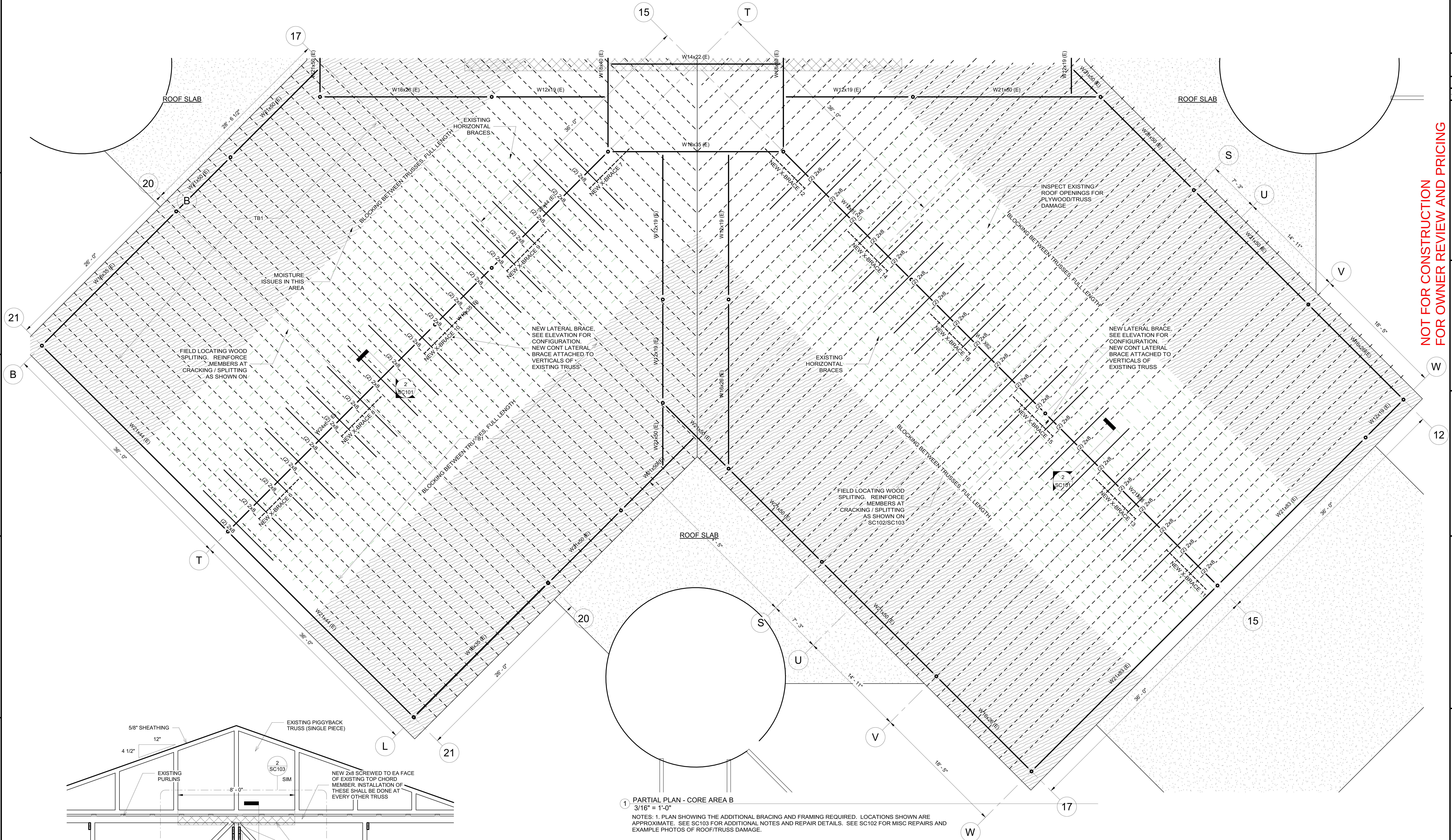
PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301

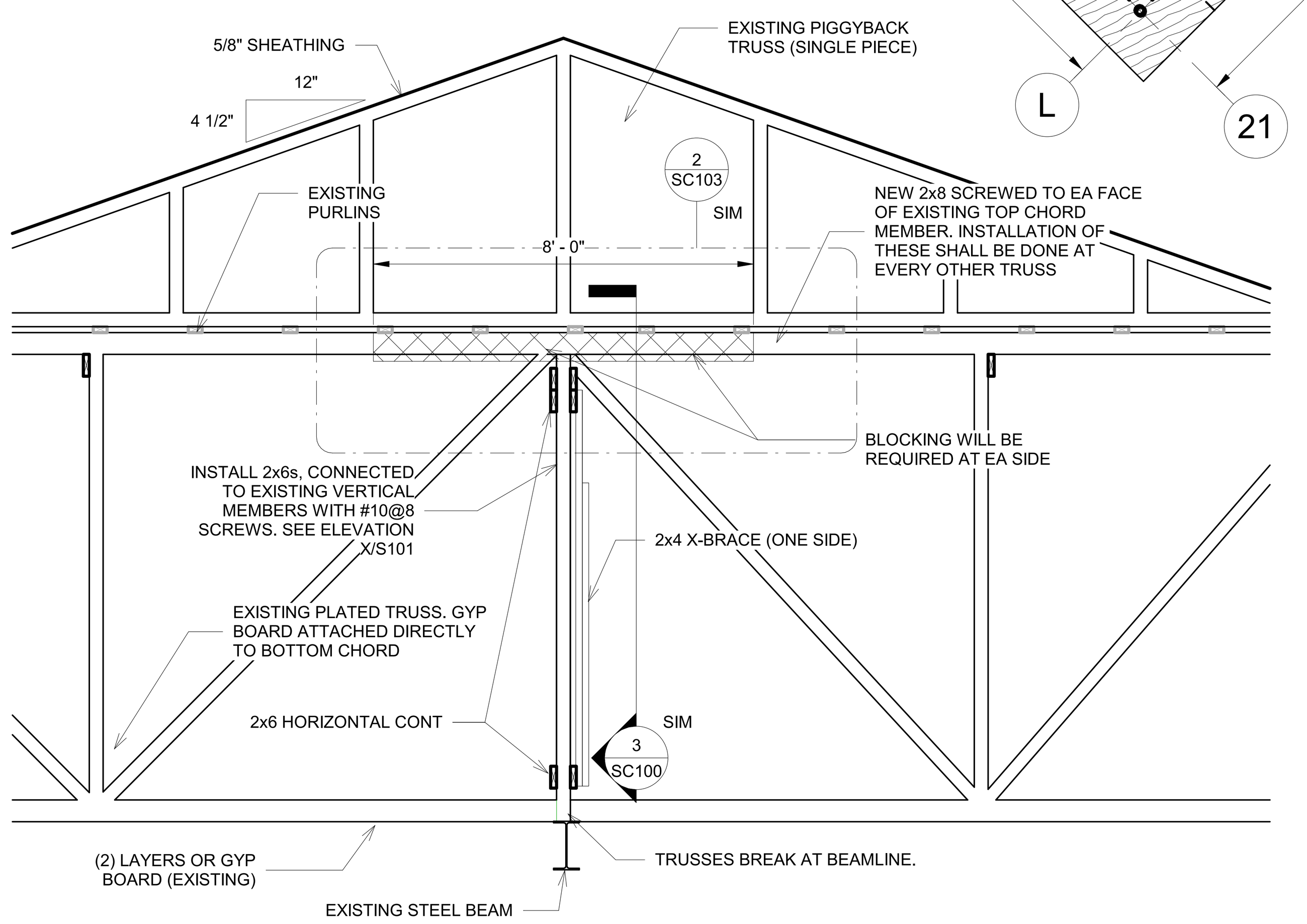
SHEET TITLE:
CORE AREA A PARTIAL PLAN, PHASE 1A

DRAWING #: SC100
REVISION #:
SHT. # OF



1 PARTIAL PLAN - CORE AREA B
3/16" = 1'-0"

NOTES: 1. PLAN SHOWING THE ADDITIONAL BRACING AND FRAMING REQUIRED. LOCATIONS SHOWN ARE APPROXIMATE. SEE SC103 FOR ADDITIONAL NOTES AND REPAIR DETAILS. SEE SC102 FOR MISC REPAIRS AND EXAMPLE PHOTOS OF ROOF/TRUSS DAMAGE.



2 TRUSS T1B ELEVATION (AT BEARING)
3/8" = 1'-0"

NOTES:
1. EXISTING ELEVATION APPROXIMATE. FIELD VERIFY EXISTING SIZES AND CONFIGURATION PRIOR TO CONSTRUCTION.
2. INSTALL SHORING PRIOR TO INSTALLATION OF BRACING.
3. REPAIR WORK AS DEPICTED ON S102 SHALL COMMENCE AFTER BRACING AND ADDITIONAL FRAMING IS INSTALLED.

CONSTRUCTION SEQUENCE OF REPAIR:
REPAIRS IN CORE AREA B SHALL FOLLOW REPAIRS IN CORE AREA A.
1) OPTIONAL SHORING - INSTALL CONTINUOUS 2x6 BRACE AT TRUSS VERTICALS LOCATED ABOVE SHORING POINT(S) AT EA SIDE OF RIDGE. SHORING (AS REQUIRED BY CONTRACTOR) SHALL BE INSTALLED TIGHT TO EXISTING FRAMING, HOWEVER SHOULD NOT CAUSE ANY MOVEMENT.
2) INSTALL X-BRACING STARTING AT EACH END (X-BRACE 6, 7, 11 OR 12) AND WORKING TOWARDS THE CENTER. INSTALLATION OF X-BRACING 6-10 AND X-BRACING 11-16 CAN OCCUR SIMULTANEOUSLY.
3) ONCE BRACING IS INSTALLED, 2x8s AT CENTER SECTION AND ALL OTHER NECESSARY FRAMING SHALL BE INSTALLED AT EVERY OTHER TRUSS.
4) INSTALL BLOCKING AT PERIMETER EDGE AS SHOWN IN 11/SC103.
5) FIELD INSPECT ALL OTHER DAMAGE TO EXISTING TRUSSES AND REPAIR AS REQUIRED. SEE SC102 FOR OVERALL PLAN AND EXAMPLE PHOTOS.
6) REPLACE DECK BOARDS (AS REQUIRED) DUE TO MOVEMENT OR MOISTURE AFTER ALL FRAMING REPAIRS ARE COMPLETE.

NOTE: FIELD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. CORE AREA A REPAIR SHALL BE ADDRESSED PROMPTLY WITH AREA B FOLLOWING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY SHORING AND TEMPORARY BRACING TO INSTALL ROOF REPAIRS AS SHOWN.

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NORTH CAROLINA PROFESSIONAL SEAL 35678 ENGINEER SUSAN KNOTT EASTERLING
4/27/23

GARDNER + McDANIEL CONSULTING ENGINEERS
3622 LYCKAN PKWY SUITE 1005 DURHAM, NC 27707
P. O. BOX 51967 DURHAM, NC 27717
919.489.0926 f 919.493.3625
info@gmengrs.com

NOT FOR CONSTRUCTION
FOR OWNER REVIEW AND PRICING

CONSTRUCTION DOCUMENTS

EMERGENCY REPAIRS

RAYMOND SINCE 1992
FULL-SERVICE ARCHITECTURE & ENGINEERING
CONYERS, GA | SAVANNAH, GA | GREER, SC | RALEIGH, NC
ORLANDO, FL | MIAMI, FL | RICHMOND, VA
316 WEST MILLBROOK RD, SUITE 201, RALEIGH, NC 27609
C.O.A. # C-4282 ; LICENSE: # 53143
919-872-7866
WWW.RAYMOND.GLOBAL

PROJECT INFORMATION
RAYMOND PROJECT NUMBER:
DRAWN: Author
CHECKED: Checker
CLIENT'S REPRESENTATIVE:
APPROVED: Approver
DATE: 3/27/2023
SENIOR REVIEW: Designer

PROJECT DESIGNED FOR:
DEPARTMENT OF MILITARY AND VETERAN AFFAIRS AND NC DEPARTMENT OF ADMINISTRATION
301 NORTH WILMINGTON STREET
SUITE 450
RALEIGH, NC 27601

PROJECT TITLE:
SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY - EMERGENCY REPAIRS

PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301

SHEET TITLE:
CORE AREA B PARTIAL PLAN, PHASE 1A

DRAWING #: SC101
REVISION #:
SHT. # OF

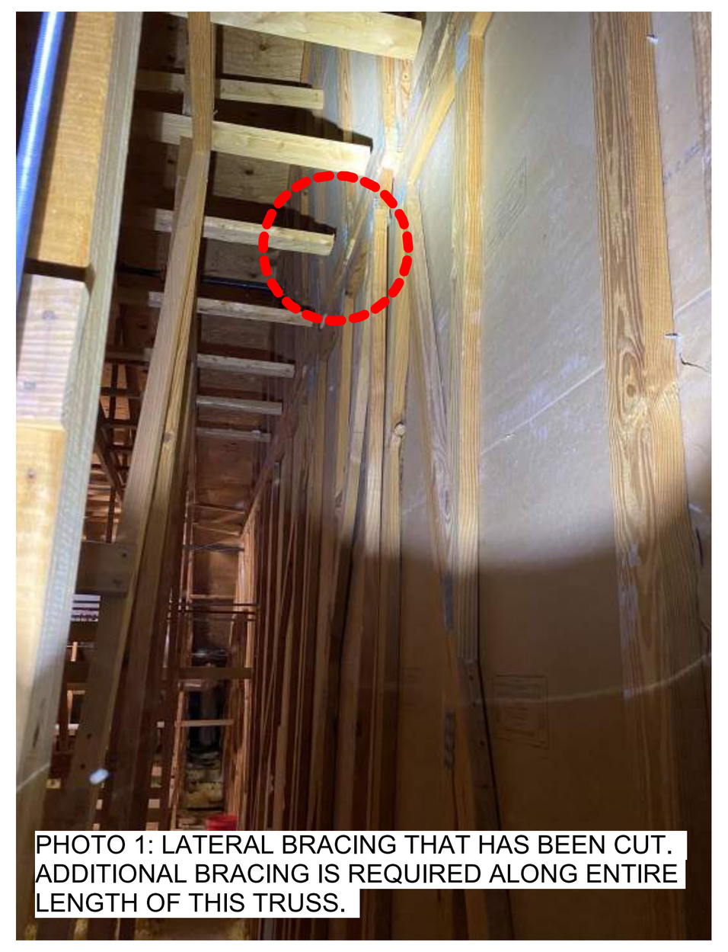


PHOTO 1: LATERAL BRACING THAT HAS BEEN CUT. ADDITIONAL BRACING IS REQUIRED ALONG ENTIRE LENGTH OF THIS TRUSS.


PHOTO 2: DAMAGED TRUSS PLATE. IF ANY PLATE "TEETH" HAVE WITHDRAWN FROM WOOD, REPAIR IS NEEDED.

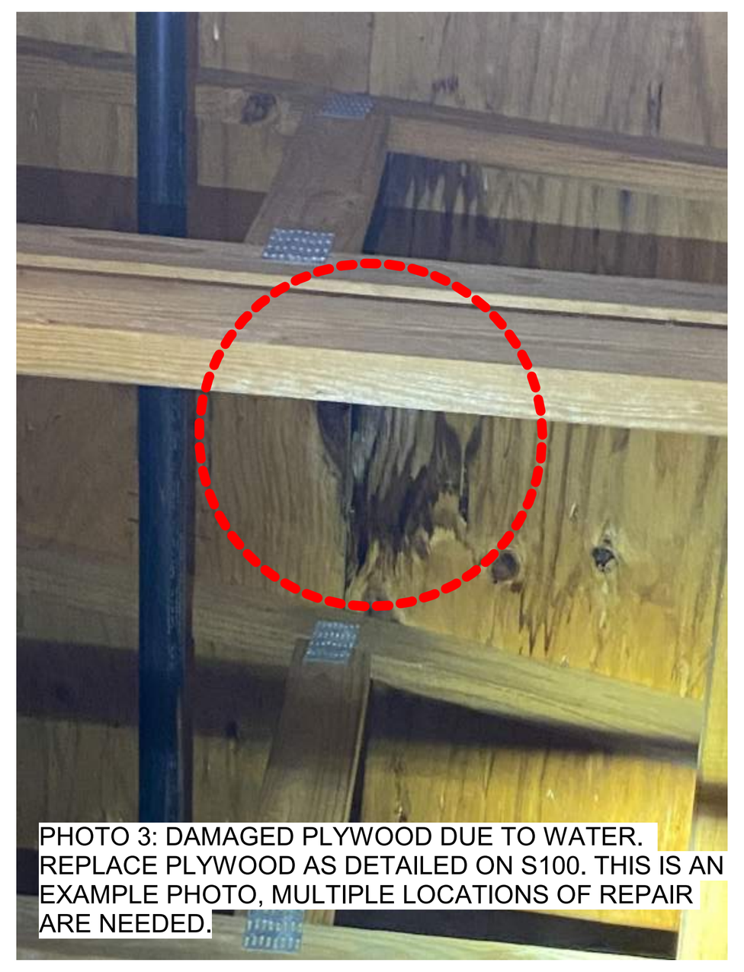


PHOTO 3: DAMAGED PLYWOOD DUE TO WATER. REPLACE PLYWOOD AS DETAILED ON S100. THIS IS AN EXAMPLE PHOTO, MULTIPLE LOCATIONS OF REPAIR ARE NEEDED.

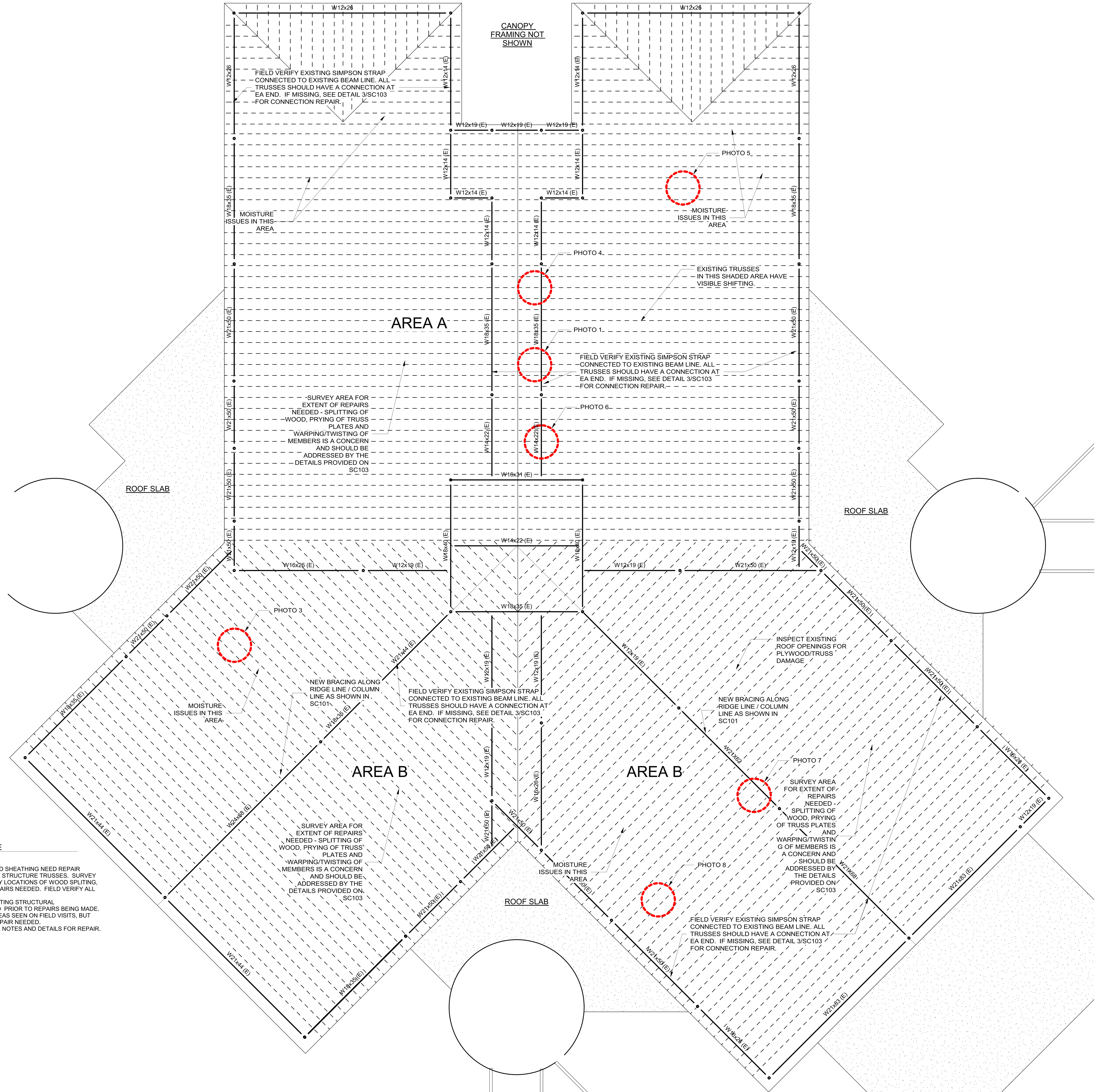

PHOTO 4: DAMAGED HORIZONTAL PLATE. IF ANY CRACKS HAVE FORMED IN BRACES, REPAIR IS NEEDED.


PHOTO 5: DAMAGED TRUSS MEMBER DUE TO WATER. REINFORCE MEMBER AS DETAILED ON S100. THIS IS AN EXAMPLE PHOTO, MULTIPLE LOCATIONS OF REPAIR ARE NEEDED.


PHOTO 6: MISALIGNED TRUSSES AT VERTICAL LEGS. AN ADDITIONAL MEMBER IS NEEDED TO BETTER ALIGN TRUSSES. THIS OCCURS IN MULTIPLE LOCATIONS AND REPAIR IS NEEDED.


PHOTO 7: MISALIGNED TRUSSES AT VERTICAL LEGS. AN ADDITIONAL MEMBER IS NEEDED TO BETTER ALIGN TRUSSES. THIS OCCURS IN MULTIPLE LOCATIONS AND REPAIR IS NEEDED.


PHOTO 8: EXAMPLE OF SPLIT WOOD. SISTERING MEMBER ON EA SIDE IS REQUIRED. SEE 9/SC102.



1 OVERALL STRUCTURAL LAYOUT - CORE
1/8" = 1'-0"

NOTES:
1. SEVERAL TRUSSES, CONNECTIONS AND SHEATHING NEED REPAIR TO ENSURE THE INTEGRITY OF THE ROOF STRUCTURE TRUSSES. SURVEY THE AREA (IN EA CORE AREA) TO IDENTIFY LOCATIONS OF WOOD SPLITING, INCONSISTENCIES, DEFICIENCIES OR REPAIRS NEEDED. FIELD VERIFY ALL LOCATIONS AND QUANTITY OF REPAIRS.
2. FRAMING SHOWN IS TAKEN FROM EXISTING STRUCTURAL DRAWINGS AND SHALL BE FIELD VERIFIED PRIOR TO REPAIRS BEING MADE.
3. NOTES ARE PROVIDED TO DENOTE AREAS SEEN ON FIELD VISITS, BUT DOES NOT REPRESENT ALL AREAS OF REPAIR NEEDED.
4. REFER TO SHEET SC100 FOR GENERAL NOTES AND DETAILS FOR REPAIR.

FIELD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. EXISTING FRAMING SHOWN IS FROM EXISTING DRAWINGS. BEAMS ARE NOT VISIBLE DUE TO FINISHES IN PLACE. MOST REPAIRS IN CORE AREA ARE WITHIN SHADED AREA AND ON THE NORTH SIDE. PHOTOGRAPHS ARE A REPRESENTATIVE SAMPLE OF DAMAGE, BUT DO NOT SHOW ALL CASES OF REPAIR. LOCATIONS SHOWN ON PLAN ARE APPROXIMATE.

NOT FOR CONSTRUCTION
FOR OWNER REVIEW AND PRICING

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NORTH CAROLINA PROFESSIONAL SEAL 35678 ENGINEER SUSAN KNOTT EASTERLING
4/27/23

GARDNER + McDANIEL
CONSULTING ENGINEERS
3622 LYCKAN PKWY, SUITE 1005, DURHAM, NC 27707
P. O. BOX 51967, DURHAM, NC 27717
info@gmengrs.com
919.489.0926
f 919.493.3625

CONSTRUCTION DOCUMENTS
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DATE: 3/27/2023
SENIOR REVIEW: Designer

NORTH CAROLINA DEPARTMENT OF MILITARY AND VETERANS AFFAIRS

PROJECT DESIGNED FOR:
DEPARTMENT OF MILITARY AND VETERAN AFFAIRS AND NC DEPARTMENT OF ADMINISTRATION
301 NORTH WILMINGTON STREET
SUITE 450
RALEIGH, NC 27601

PROJECT TITLE:
SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY - EMERGENCY REPAIRS

PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301

CORE AREA OVERALL PLAN - MISC STRUCTURAL REPAIRS

DRAWING #: SC102
SHT. # OF
REVISION #:

GENERAL

1. NOTES BELOW ARE INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES.
2. DRAWINGS ARE PRODUCED FROM EXISTING DRAWINGS AND FIELD VISITS AND DO NOT REPLACE THE NEED TO FIELD VERIFY ALL EXISTING CONDITIONS. MANY REPAIRS ARE NEEDED FOR ITEMS THAT HAVE DETERIORATED AS WELL AS ADDITIONAL BRACING FOR REDUNDANCY AND THE OVERALL STABILITY OF THE STRUCTURE. ORIGINAL DRAWINGS AND DESIGN PREPARED IN 1995 BY FREEMAN WHITE ARCHITECTS.
3. "U.O.N. MEAN UNLESS OTHERWISE NOTED.
4. DESIGN LOADS (OVERALL STRUCTURE) PER ORIGINAL STRUCTURAL DWGS:
   ROOF LIVE LOAD - 25 PSF   MECHANICAL AREAS LIVE LOAD - 150 PSF
   STAIRS - 100 PSF
   SEISMIC DESIGN DATA - Ie = 1.25
   BASIC DESIGN WIND VELOCITY (1994) - 80 MPH - BASIC 50YR
   EXPOSURE C   Iw = 1.03
5. ALL SAFETY REGULATIONS TO BE FOLLOWED STRICTLY. METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIAL IS CONTRACTOR'S RESPONSIBILITY WHO SHALL FOLLOW ALL APPLICABLE CODES, REGULATIONS, ORDINANCES AND STANDARDS OF THE LOCAL BUILDING CODE AUTHORITY. CONSULT PROJECT ARCHITECT IN CASE OF QUESTIONS.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL MEANS AND METHODS, PROCEDURES SHALL BE IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND STANDARDS. SAFETY PRECAUTIONS, PROGRAMS AND ENDORSEMENTS AND TEMPORARY BRACING OF THE STRUCTURAL FRAME TO BE TEMPORARILY BRACED DURING CONSTRUCTION AS DEMO AND PERMANENT BRACING CAN BE INSTALLED.
7. CONSTRUCTION AND CONSTRUCTION RELATED ACTIVITIES SHALL BE THOROUGHLY COORDINATED WITH THE OWNER AND SHALL NOT BLOCK EXISTING MEANS OF EGRESS. WORK SHALL BE PHASED SO THAT SAFE ACCESS TO AND EGRESS FROM THE BUILDINGS IS MAINTAINED AT ALL TIMES. SITE ACCESS SHALL BE AS ARRANGED THROUGH THE OWNER.
8. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED (AS REQUIRED) PRIOR TO COMMENCING WORTH
9. SPECIAL CONTROLS: THE CONTRACTOR SHALL INSTITUTE THE NECESSARY MEASURE TO PREVENT/MINIMIZE DUST, FUMES, ODORS, DEBRIS OR LIQUIDS FROM THIS PROJECT FROM ENTERING NON-CONSTRUCTION AREAS OF THE BUILDING. CONTRACTOR SHALL PROVIDE THE NECESSARY PROTECTION FOR FINISHED MATERIALS BELOW.

NEW WOOD FRAMING

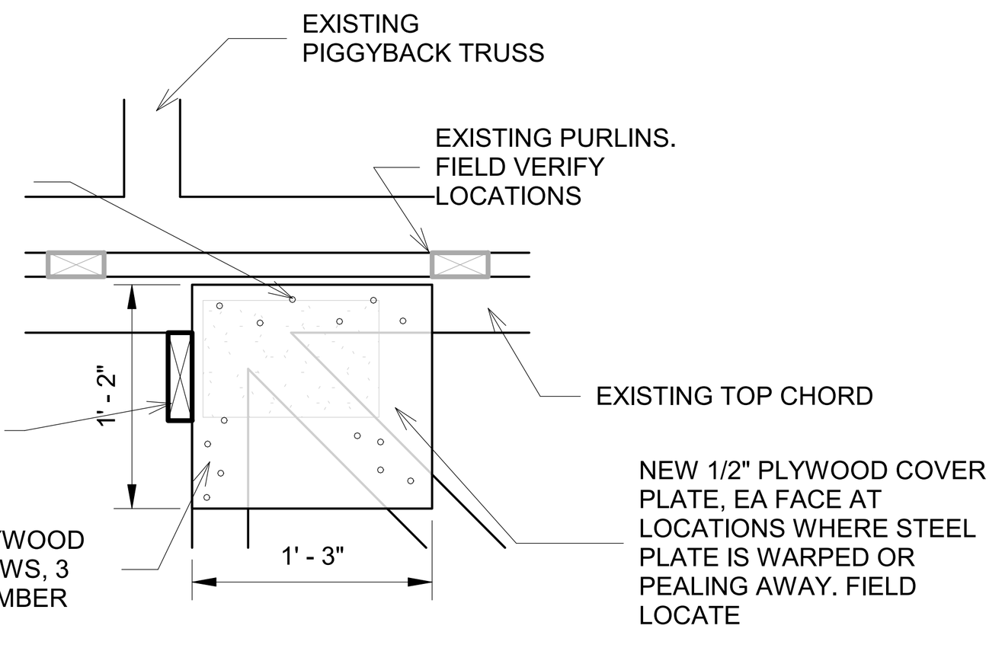
1. ALLOWABLE STRESSES AND GRADES FOR FRAMING MEMBERS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "NATIONAL DESIGN SPECIFICATIONS FOR STRESS-GRADE LUMBER AND ITS FASTENINGS" AS RECOMMENDED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
2. FRAMING TO BE FOLLOWING GRADES (U.O.N.):
   STUDS @ INTERIOR & EXTERIOR WALLS - No. 2 SYP (19% MAX M.C.)
   SOLE PLATES - No. 2 SYP (19% MAX M.C.)
   RAFTERS, JOISTS, HEADERS - No. 2 SYP (19% MAX M.C.)
   EXTERIOR EXPOSED JOISTS - No. 1 SYP (19% MAX M.C.)
3. "LVL" MEMBERS SHALL BE LAMINATED VENEER LUMBER WITH THE FOLLOWING MINIMUM PROPERTIES:
   E - 2,000,000 PSI
   Fb - 2900 PSI
   Fv - 290 PSI
4. WOOD SIZES SHOWN ON DRAWINGS ARE NOMINAL SIZES, BEFORE DRESSING.
5. PROVIDED METAL FRAMING ANCHORS AT ALL LVL AND RAFTER BEARING POINTS.
6. WHERE CONNECTED HARDWARE IS SHOWN ON STRUCTURAL DRAWINGS, THE TYPES, SIZE, SPACING AND ALIGNMENT ARE CRITICAL AND MUST BE SHOWN. DO NOT UNDERCUT WOOD. PREBORE HOLES WHERE REQUIRED TO PREVENT SPLITTING. CONNECTIONS MUST PULL AND HOLE MEMBERS BEING JOINED IN CLOSE CONTACT.
7. ROOF SHEATHING TO BE 19/32" APA RATED SHEATHING, EXPOSURE 1, WITH SPAN RATING OF 24/0.
8. WALL SHEATHING TO BE 15/32" APA RATED SHEATHING, EXPOSURE 1, WITH SPAN RATING OF 24/16.
9. ENGINEER MAY SUPPLY LIST OF "SIMPSON" METAL CONNECTOR HARDWARE AT THE CONTRACTOR'S REQUEST.
10. ALL DETAILS OF FRAMING, NAILING, AND MEMBER SIZES SHALL BE IN ACCORDANCE WITH THE 2018 NORTH CAROLINA BUILDING CODE, CHAPTER 23. THIS IS A COMMERCIAL USE STRUCTURE AND FRAMING DETAILS PER THE RESIDENTIAL CODE DO NOT APPLY.
11. SCREWS AS SPECIFIED SHALL BE SIMPSON (OR APPROVED EQUAL). SCREWS MUST BE LONG ENOUGH TO ENGAGE ALL WOOD MATERIAL(S).

WOOD REPAIR

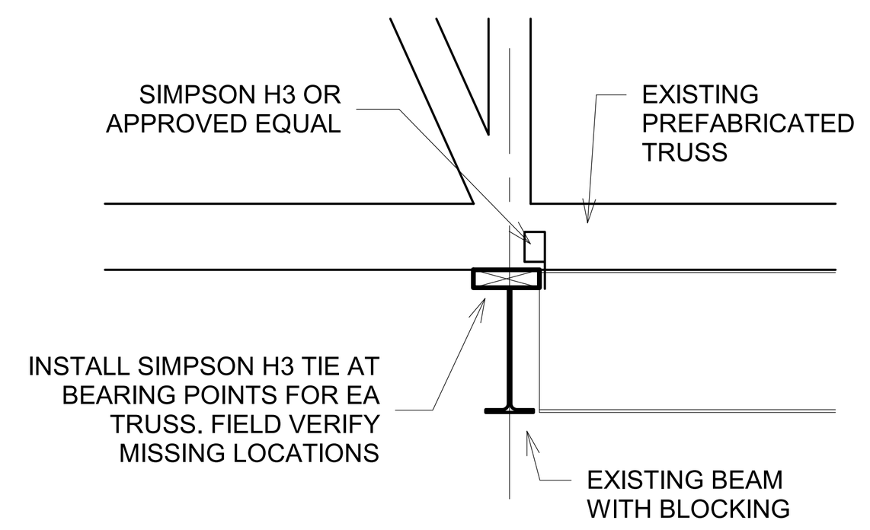
1. ALL REPAIRS SHALL BE PERFORMED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA EXISTING BUILDING CODE AND THE 2018 NORTH CAROLINA BUILDING CODE.
2. ACCORDING TO THE EXISTING STRUCTURAL DRAWINGS, THE FOLLOWING ARE THE DESIGN LOADS ON THE WOOD TRUSSES:

TOP CHORD:	DL= 14PSF	LL=20PSF
BOTTOM CHORD:	DL=5PSF	LL=10PSF

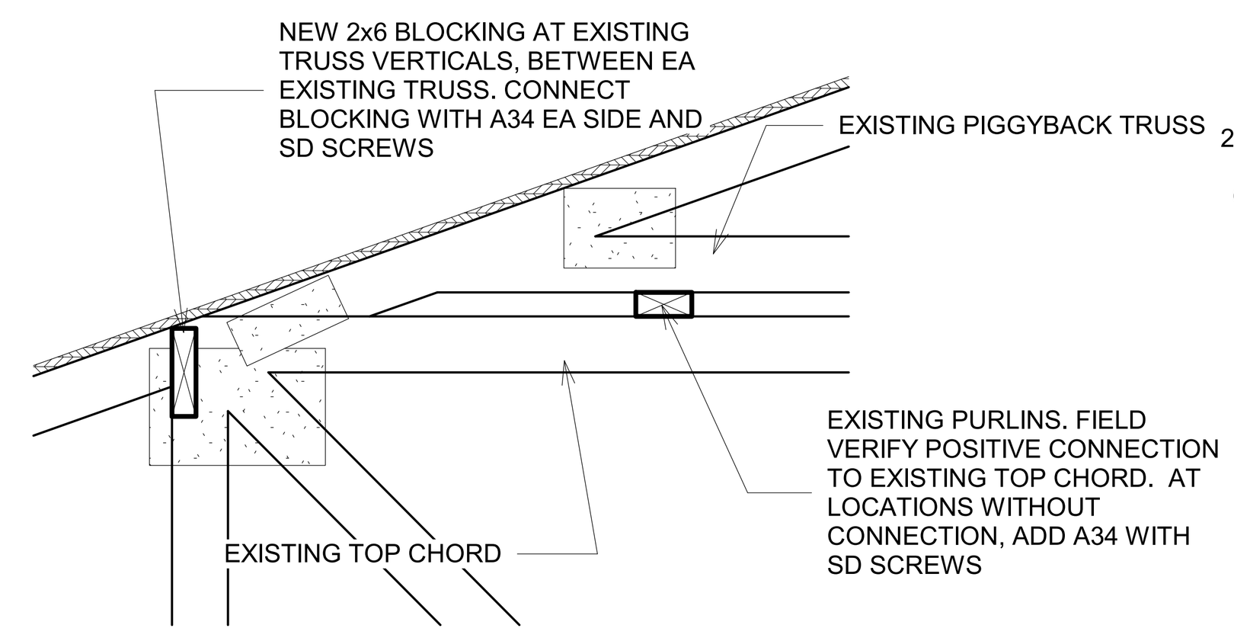
3. EXISTING TRUSS MEMBER REPAIR SHALL CONSIST OF SISTERING MEMBERS ON EA SIDE. ONCE ONE SIDE HAS BEEN INSTALLED, ROTTEN WOOD CAN BE REMOVED, IF POSSIBLE. ATTACHMENT OF SISTERING MEMBER SHALL BE IN SOLID MATERIAL.
4. REPAIRS SHALL BE PERFORMED WITH NEW 2x4 OR 2x6 SOUTHERN YELLOW PINE MEMBERS, GRADE NO. 2, AS NOTED IN DETAILS.
5. AT REPAIRS OF WOOD TOP CHORD TRUSS MEMBERS (DO TO SPLITTING OR MOISTURE) NEW PLYWOOD DECKING SHALL BE INSTALLED IN PANELS AS DETAILED IN 12/SC103.
6. NEW PLYWOOD SHEETING SHALL BE STRUCTURAL I, 5/8" THICK WITH A SPAN RATING NOT LESS THAN 24/0.
7. SCREWS AS SPECIFIED SHALL BE SIMPSON (OR APPROVED EQUAL). SCREWS MUST BE LONG ENOUGH TO ENGAGE ALL WOOD MATERIAL.



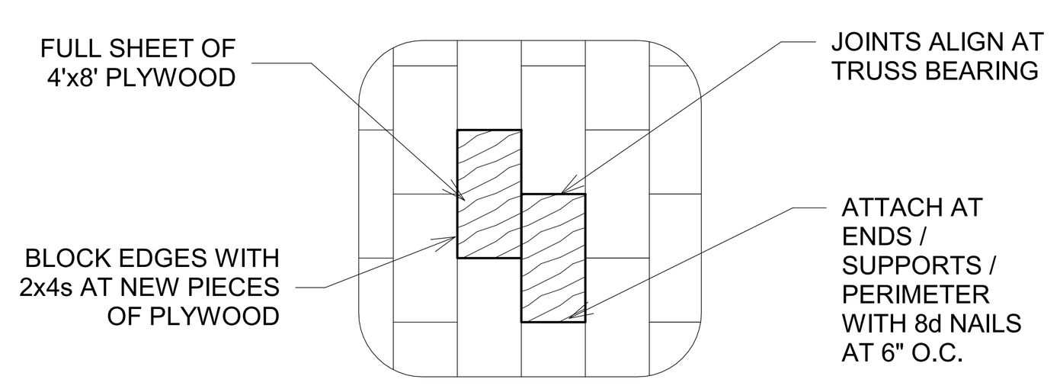
9 TRUSS PLATE REINFORCMENT
1" = 1'-0"



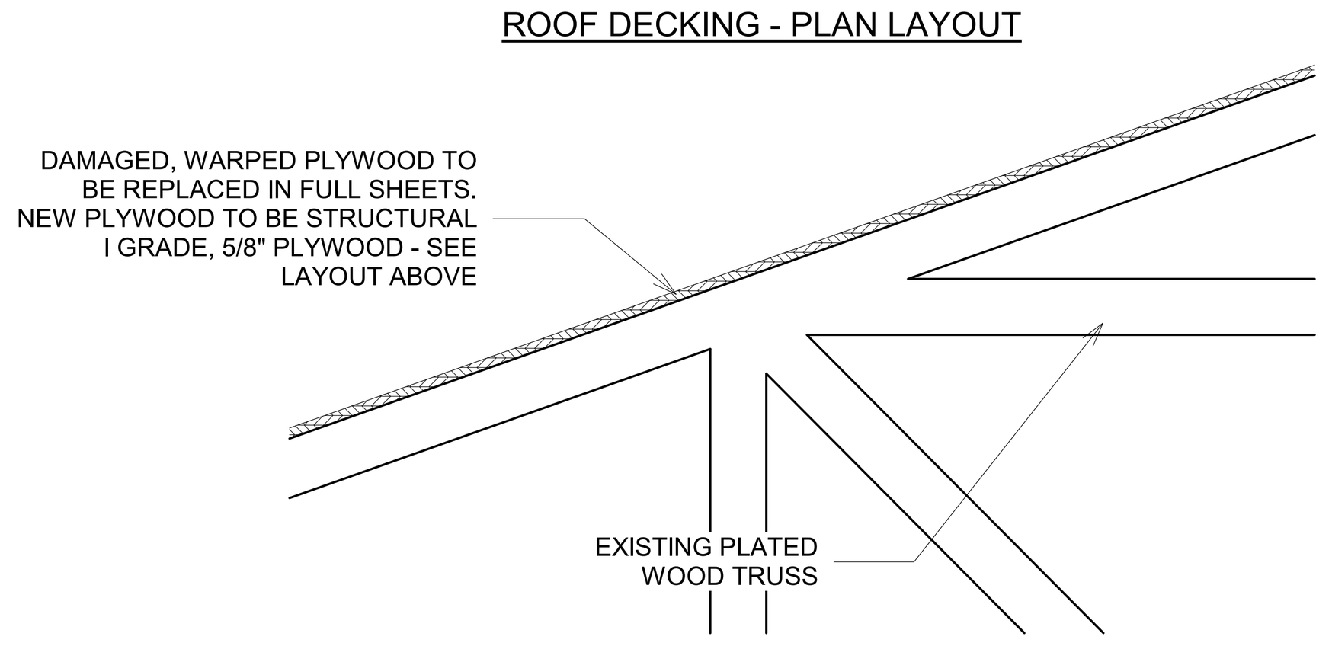
10 AT MISSING H3 TIE
3/4" = 1'-0"



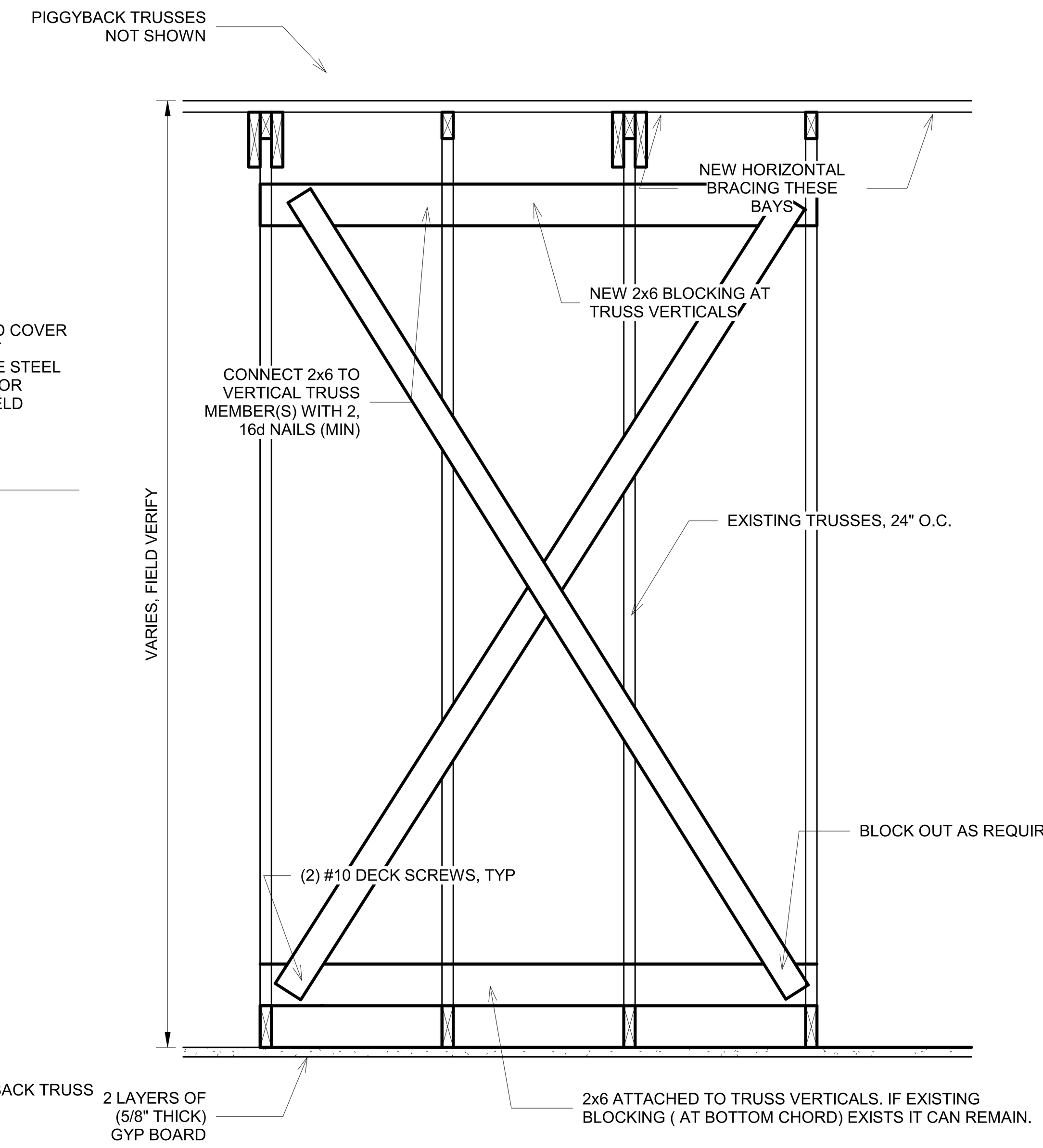
11 AT TYPICAL ROOF EDGE
1" = 1'-0"



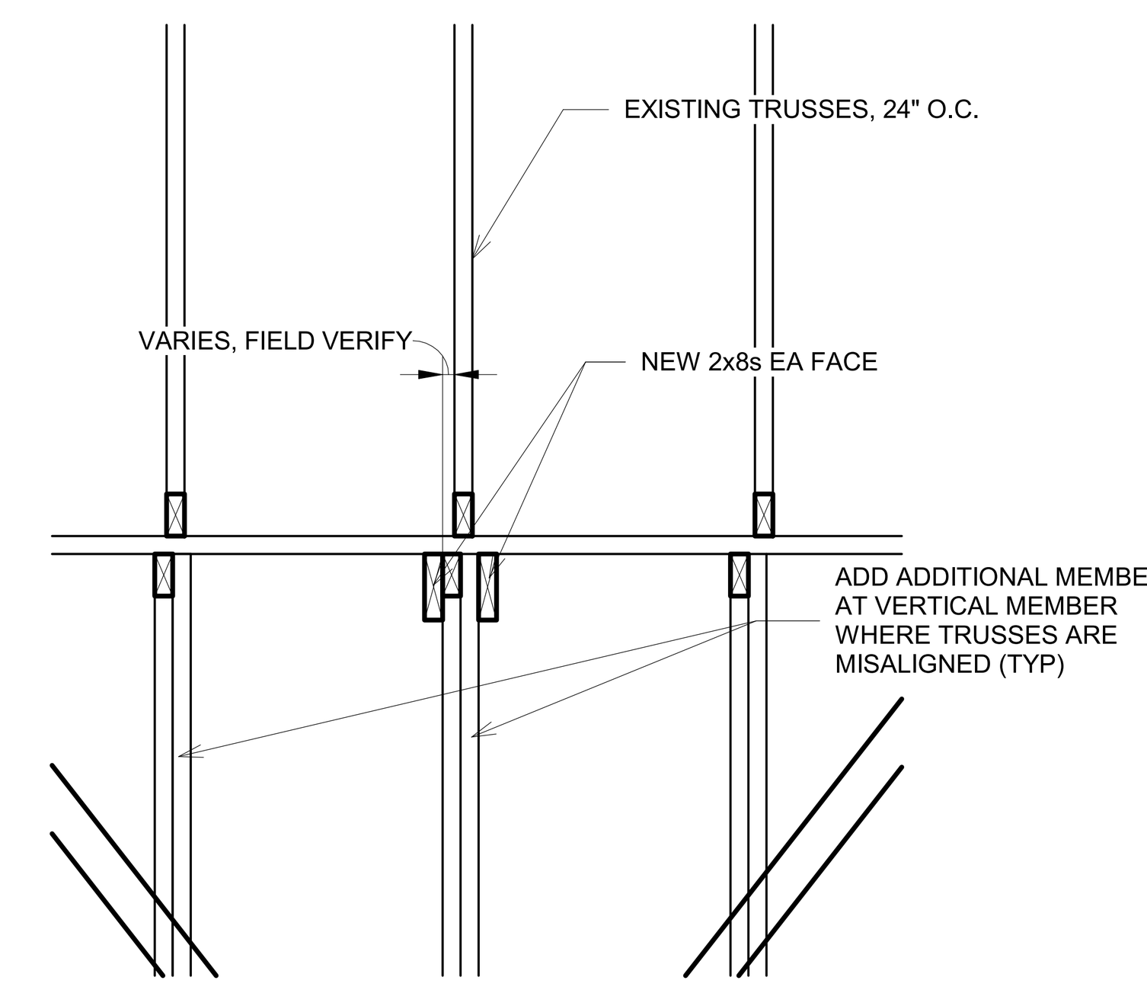
ROOF DECKING - PLAN LAYOUT



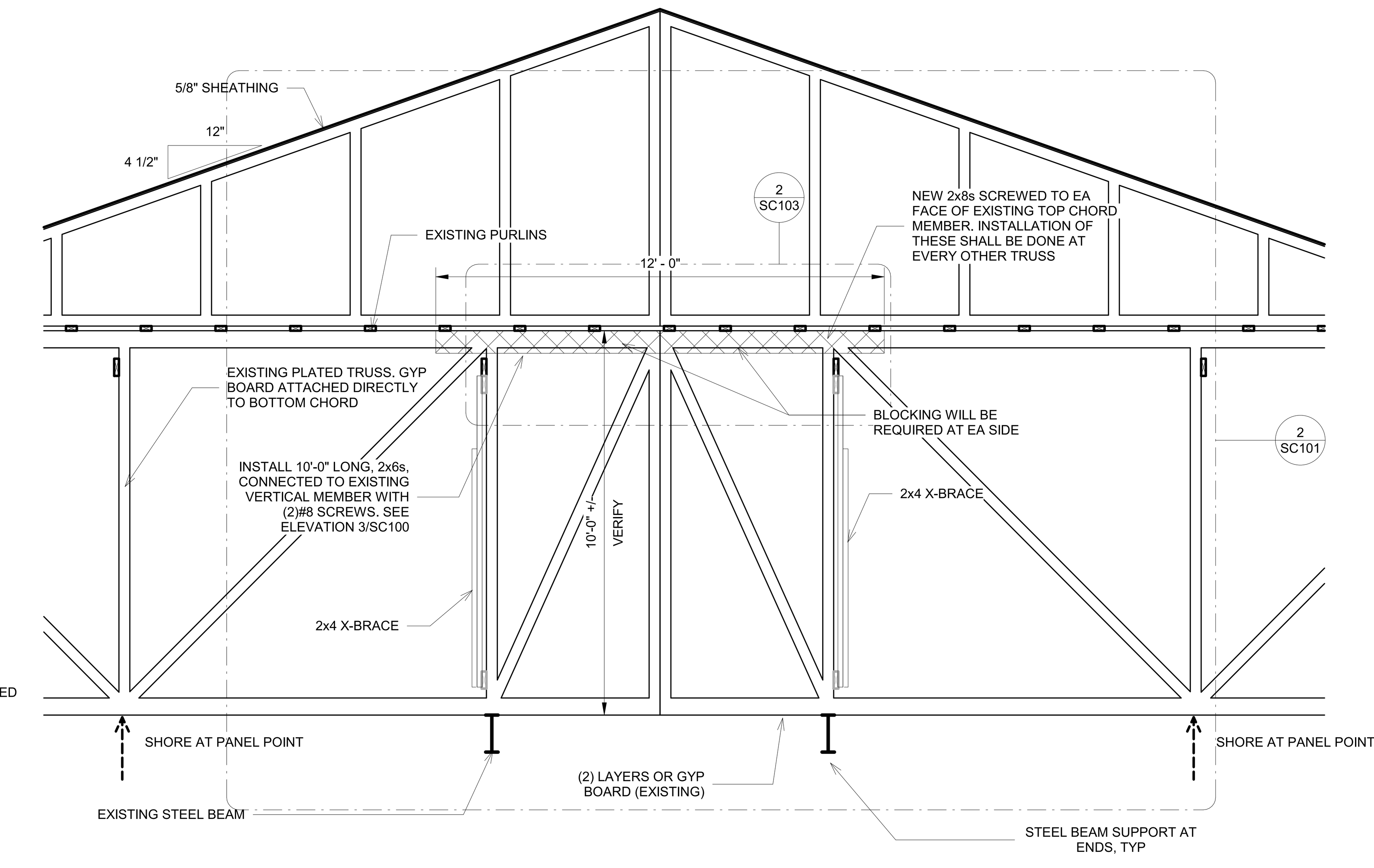
12 AT DAMAGED ROOF SHEATHING
1" = 1'-0"



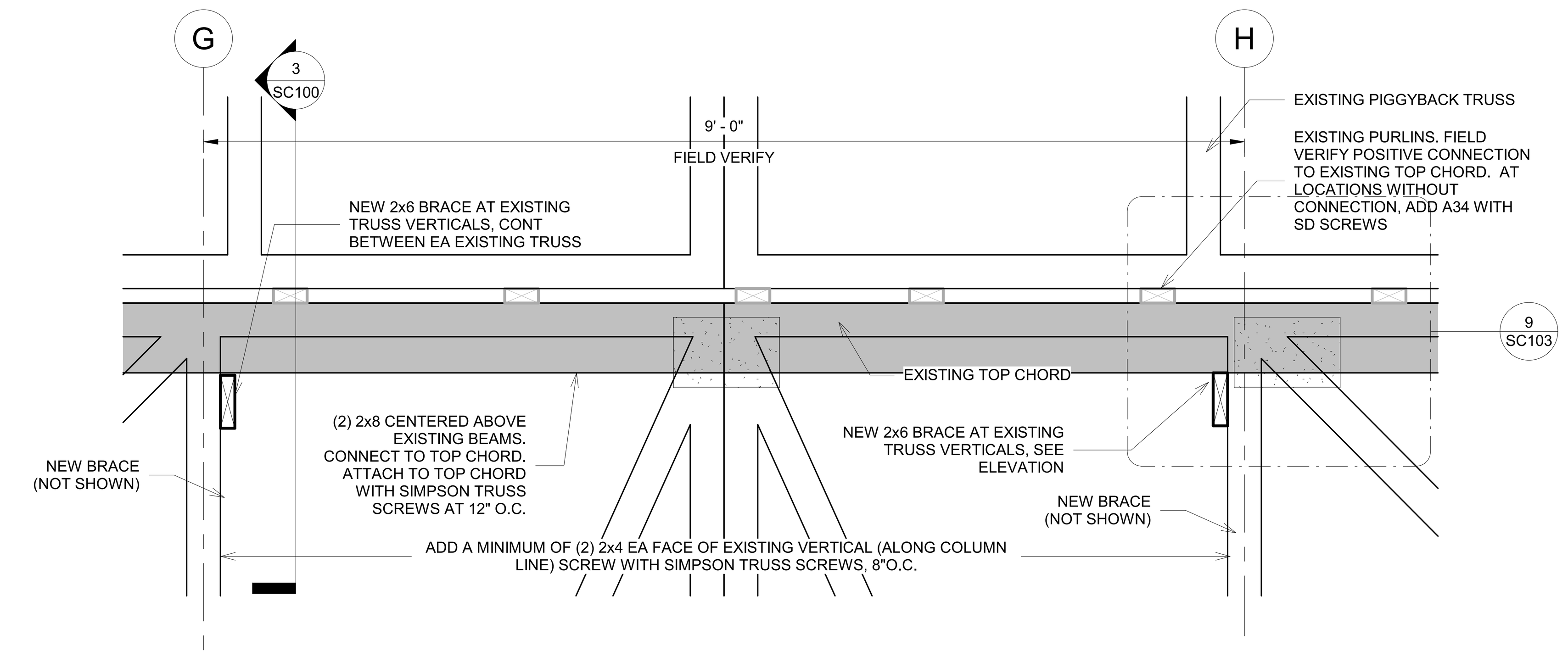
7 BRACE DETAIL
3/4" = 1'-0"



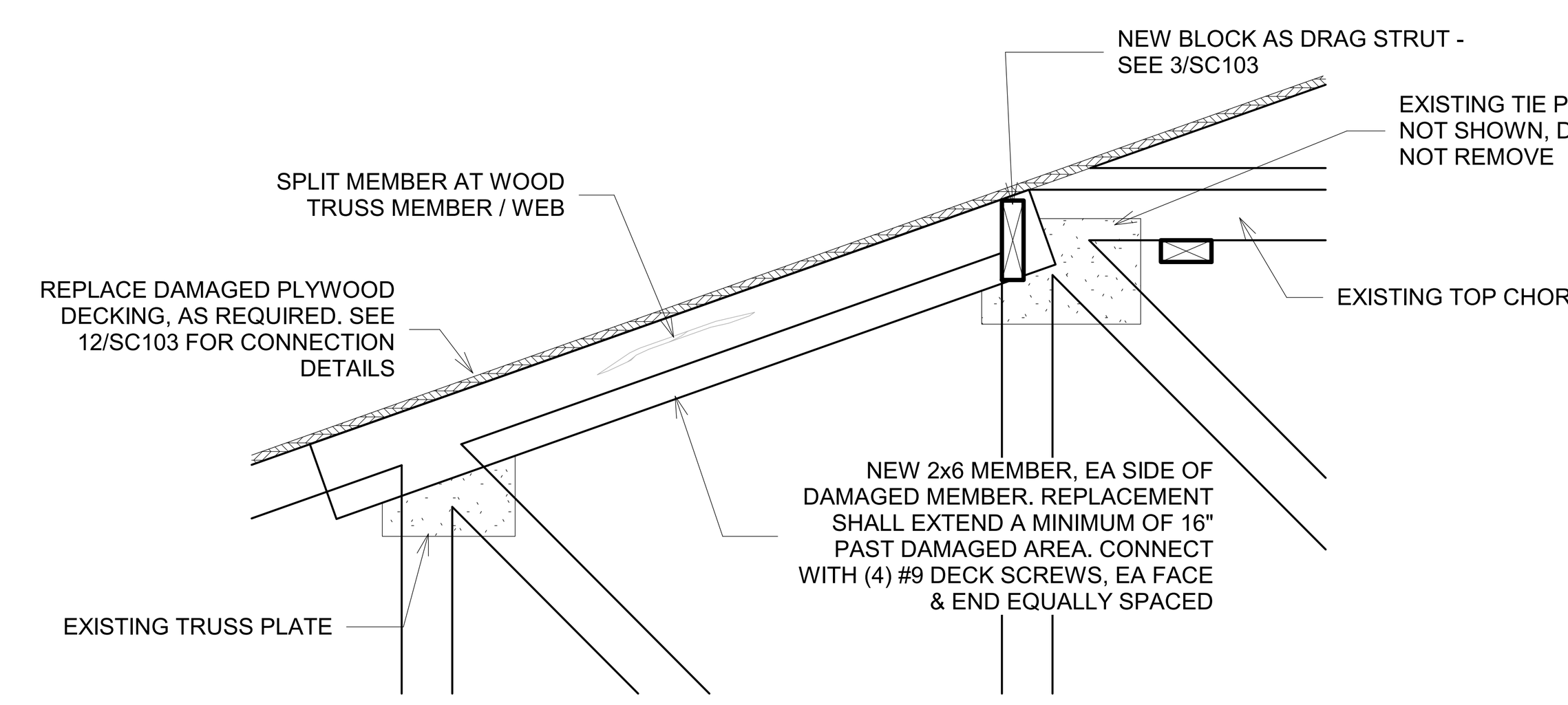
8 MISALIGNED TRUSS MEMBERS
3/4" = 1'-0"



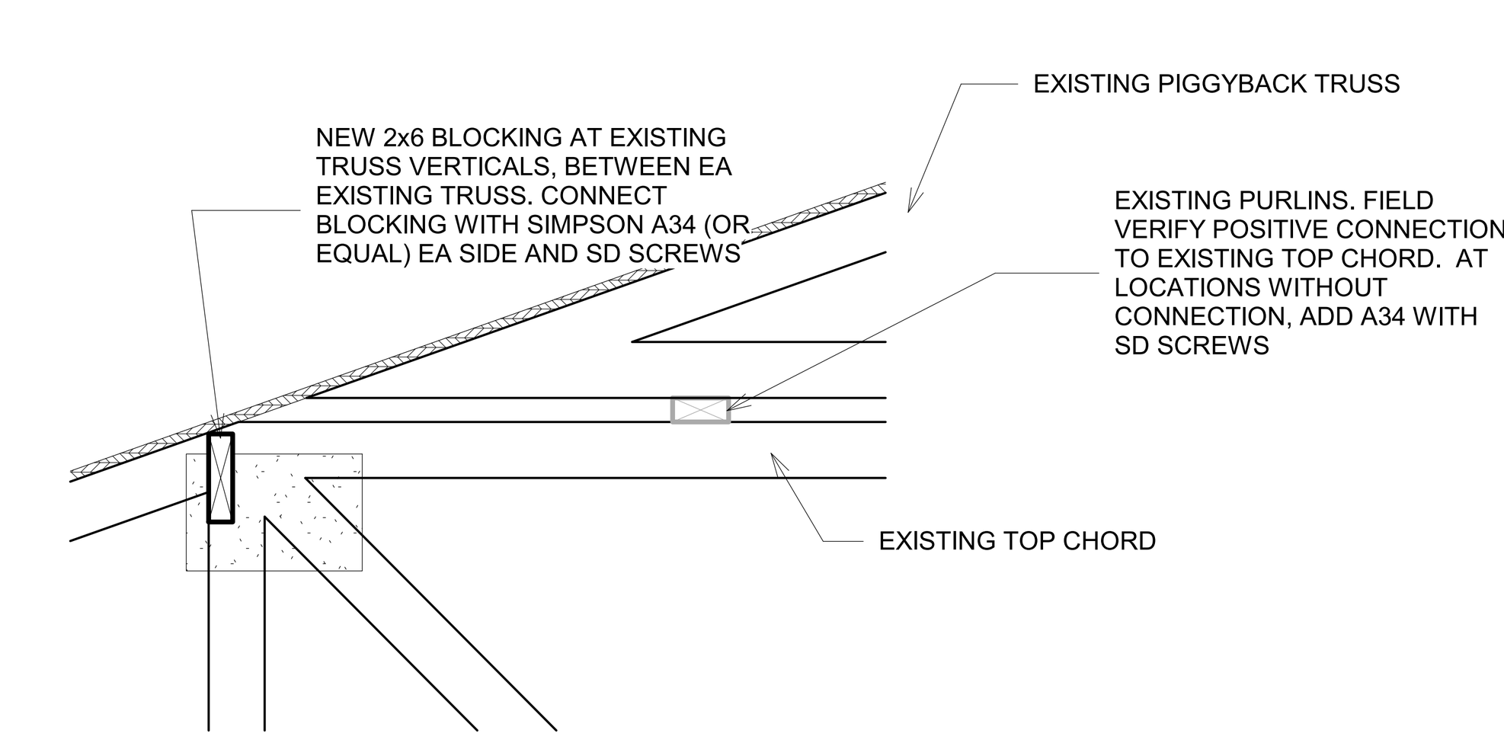
1 TYPICAL TRUSS ELEVATION (AT RIDGE)
3/8" = 1'-0"



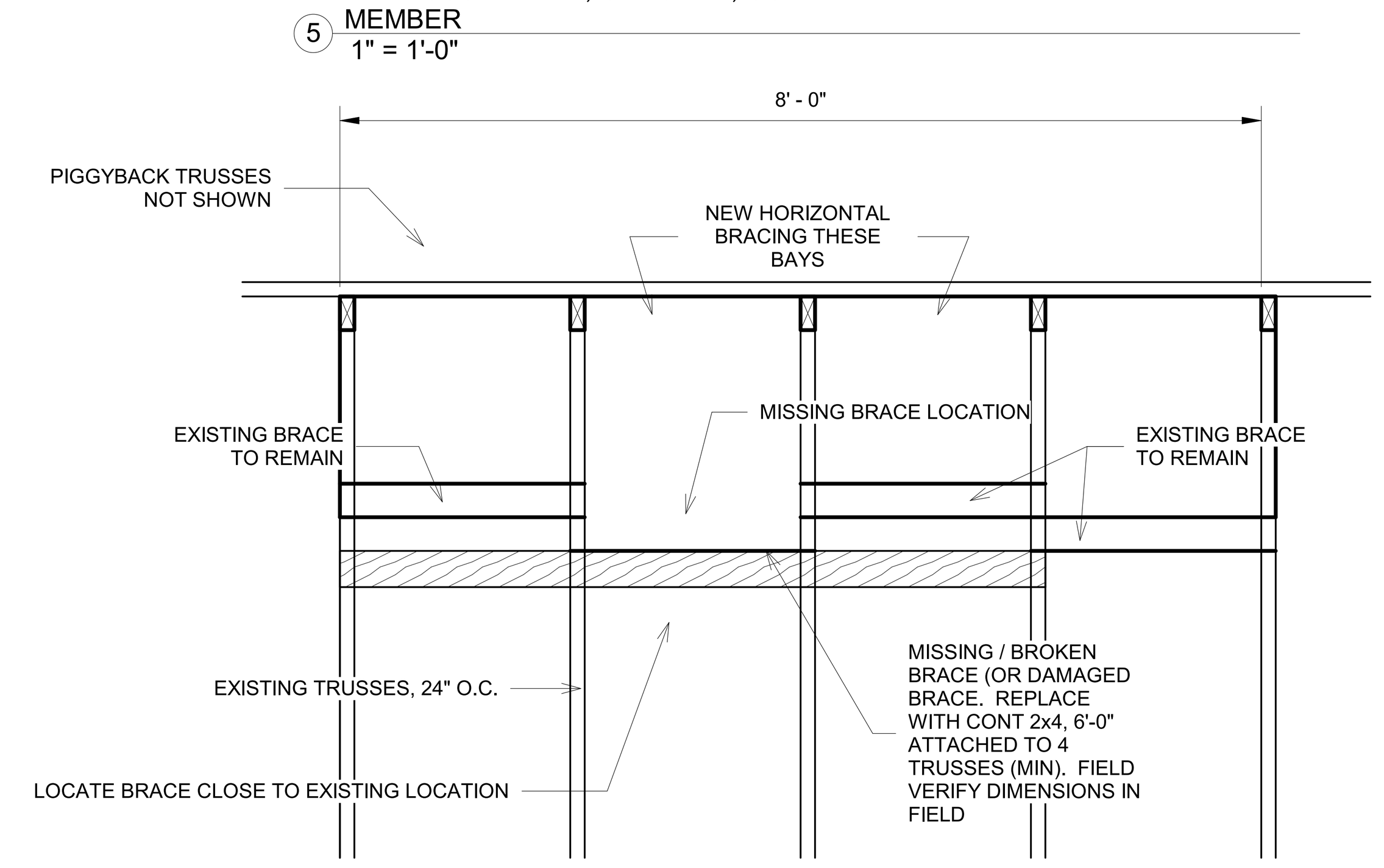
2 AT TOP CHORD ADDITIONAL BRACING
1" = 1'-0"



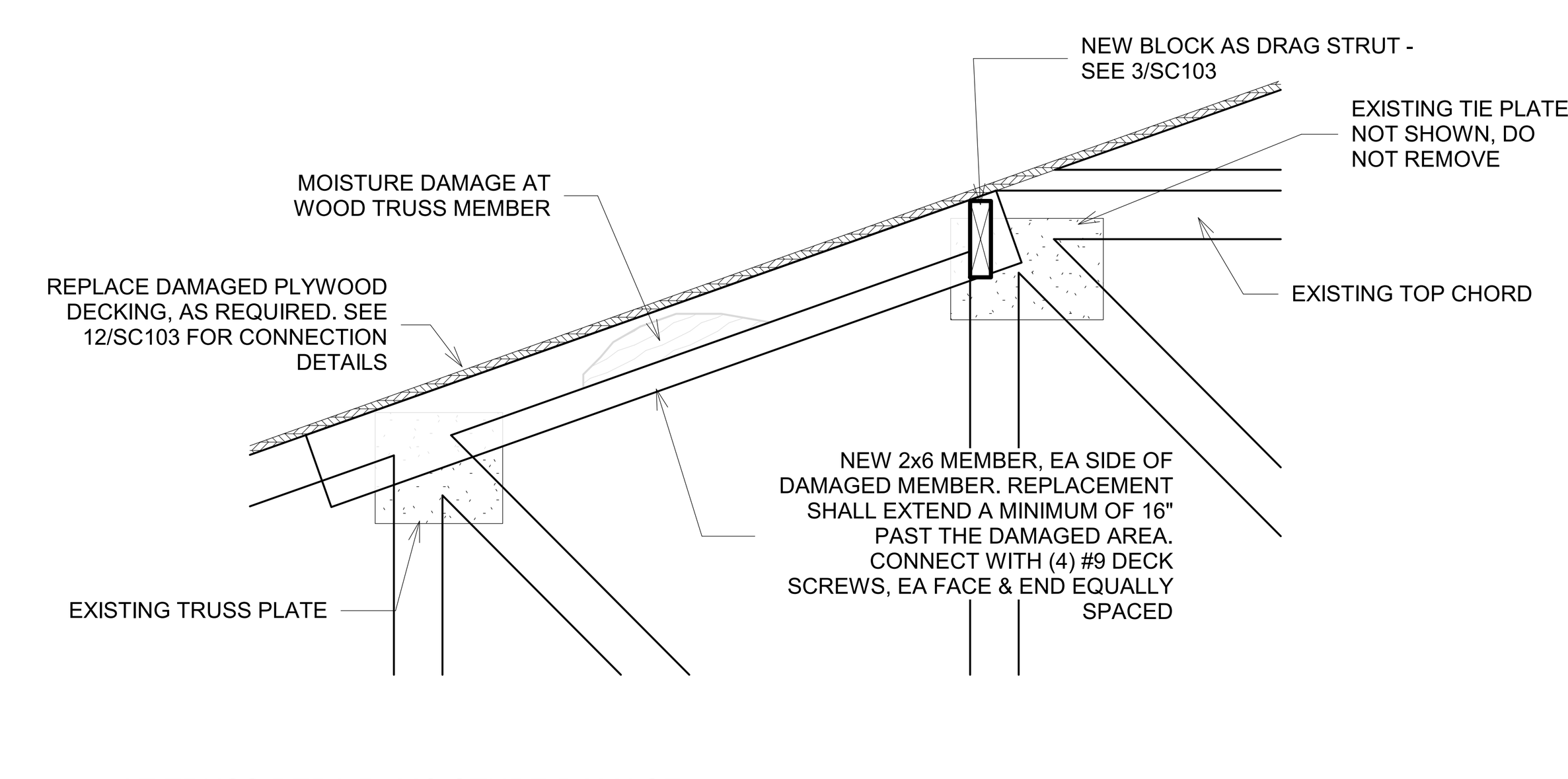
5 AT TRUSS REPAIR, CRACKED, CUT MEMBER
1" = 1'-0"



3 AT ROOF EDGE CONNECTION
1" = 1'-0"



6 BROKEN / MISSING LATERAL BRACE
3/4" = 1'-0"



4 AT TRUSS REPAIR, MOISTURE DAMAGE
1" = 1'-0"

NOT FOR CONSTRUCTION
FOR OWNER REVIEW AND PRICING

ISSUED FOR | DATE | APPR BY | #

NORTH CAROLINA PROFESSIONAL SEAL 35678 ENGINEER SUSAN KNOTT EASTERLING
4/27/23

GARDNER + McDANIEL CONSULTING ENGINEERS
3622 LYCKAN PKWY SUITE 1005 DURHAM, NC 27707
P. O. BOX 51967 DURHAM, NC 27717
919.489.0926 f 919.493.3625
info@gmengrs.com

CONSTRUCTION DOCUMENTS
EMERGENCY REPAIRS

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SCO FAYETTEVILLE VETERAN'S LONG TERM CARE FACILITY - EMERGENCY REPAIRS
PROJECT ADDRESS:
214 Cochran Ave, Fayetteville, NC 28301
SHEET TITLE:
TRUSS REPAIR DETAILS

DRAWING #: SC103
SHT. # OF
REVISION #:

GARDNER
& McDANIEL
CONSULTING ENGINEERS

April 27, 2023

Ms. Gretchen Cobb, RA, NCARB
Raymond
316 W. Millbrook Rd., Suite 201
Raleigh, NC 27701

Re: Fayetteville Veterans Home Rehabilitation
Fayetteville, NC
RAL 1002.011 - Structural Update
Gardner & McDaniel Project #22025

Dear Ms. Cobb:

For the past few months, we have been in communication with you and the client concerning the Veterans Long Term Care Facility in Fayetteville, NC. We have been to the site three times, had multiple calls and conversations to discuss the various issues and reviewed the current structural condition of the building. During this process, we determined the need for structural items to be addressed immediately – whether the roof is replaced or not. The core area is most critical and should be addressed first, with the wings addressed in subsequent phases. We prepared the necessary documentation for repairs in the core area (sent today) with subsequent repairs for the wings following as work begins in the core area.

The emergency structural repairs are critical and must be completed. Upon our review of the overall stability of the structure, we determined there is additional bracing of the existing piggyback trusses required to limit lateral movement, which is included in the core drawings. There are also other miscellaneous repairs critical to the structure's ability to support the design loads. The current construction of the roof trusses does not meet the design loads as prescribed by the building code.

Please distribute this communication to the appropriate contacts. We appreciate the opportunity to work with you on this project and please contact us if you have any follow-up questions or concerns.

Cordially,

GARDNER & McDANIEL, P.A. CONSULTING ENGINEERS

Susan Easterling

Susan Easterling, P.E

P.O. BOX 51967
DURHAM, NC 27717

(919) 489-0926
FAX (919) 493-3625

3622 LYCKAN PKWY, SUITE 1005
DURHAM, NC 27707