# VA DURHAM - PACU RENOVATION RENOVATION & EXPANSION TO EXISTING BUILDING

DURHAM VAMC

DURHAM, NC

Owner: **Durham VAMC**  Architectural: **Perkins Eastman Architects**  Structural: Laurene, Rickher & Sorrel, P.C. Mechanical & Plumbing: AME Consultant Engineers, PC Electrical: **AME Consultant Engineers, PC**  Fire Protection: **AME Consultant Engineers, PC**  Telecom: **AME Consultant Engineers, PC**  Interior: **Atriax Group** 

Durham, NC 27705 520 West Sixth Street, Charlotte NC,

8701 Red Oak Blvd, Suit 500, Charlotte, NC 28217

705 E Morehead St, Charlotte, NC

102 3rd Ave NE 28601, Hickory, NC 28603-1629

# DRAWING SCHEDULE

SHEET#	DRAWING TITLE	SHEET ISSUE DATE	CURRENT REVISION	CURRENT REVISION DATE	DWG	OF DWG	SHEET#	DRAWING TITLE
GENERA	L						PLUMBIN	IG
	COVER & SHEET INDEX	12/22/2020			1	78	P-001	PLUMBING - GENERAL NOTES, SCHEDULES AND
G-002	CODE SUMMARY	12/22/2020			2	78		LEGENDS
G-100	PHASING PLAN	12/22/2020			3	78	P-501	PLUMBING - RISERS
	LIFE SAFETY PLAN - PHASE 1A.1	12/22/2020			4	78	P-701	PLUMBING - DETAILS
	LIFE SAFETY PLAN - PHASE 1A.2	12/22/2020			5	78	PD101	PLUMBING - FOURTH FLOOR PLAN - WASTE AND VENT - DEMOLITION
G-103 G-104	LIFE SAFETY PLAN - PHASE 1B LIFE SAFETY PLAN - PHASE 2A	12/22/2020 12/22/2020			6 7	78 78	PD102	PLUMBING - FOURTH FLOOR PLAN - WATER SUPPLY -
	LIFE SAFETY PLAN - COMPLETE	12/22/2020			8	78		DEMOLITION
	ECTURAL EXISTING	12,22,2020					PD103 PL201	PLUMBING - FOURTH FLOOR PLAN - MEDICAL GAS - DEMOLITION PLUMBING - FOURTH FLOOR PLAN - WASTE & VENT - NEV
AE101	FOURTH FLOOR PLAN - EXISTING	12/22/2020			9	78	PLZUI	WORK
AE102	EXISTING MECH ROOM & ELEV MACH ROOM & ROOF PLAN	12/22/2020			10	78	PL301	PLUMBING - FOURTH FLOOR PLAN - WATER SUPPLY - NEW WORK
ARCHITE	ECTURAL DEMOLITION						PL302	PLUMBING - SECOND FLOOR PLAN - WATER SUPPLY -
AD101	FOURTH FLOOR PLAN - DEMOLITION	12/22/2020			11	78	PL401	NEW WORK PLUMBING - FOURTH FLOOR PLAN - MEDICAL GAS - NEW
AB101	FOURTH FLOOR PLAN - ASBESTOS ABATEMENT	08/11/2021			12	78	r-L4U I	WORK
ARCHITE			1					1
A-001	NOTES, ABBREVIATIONS, LEGENDS	12/22/2020			13	78	ELECTRI	CAL
A-002	PARTITION TYPES	12/22/2020			14	78	E-001	ELECTRICAL - GENERAL NOTES AND LEGENDS
A-003	UL DESIGN ASSEMBLY UL DESIGN ASSEMBLY	12/22/2020 12/22/2020			15	78 78	E-501	ELECTRICAL - DETAILS
A-004 A-005	UL DESIGN ASSEMBLY UL DESIGN ASSEMBLY	12/22/2020			16 17		E-601	ELECTRICAL - RISER DIAGRAM
A-005 A-006	TYPICAL DETAILS	12/22/2020			17	78 78	E-602	ELECTRICAL - SCHEDULES
A-101	FOURTH FLOOR PLAN - NEW CONSTRUCTION	12/22/2020			19	78	E-603	ELECTRICAL - PANEL SCHEDULES ELECTRICAL - FOURTH FLOOR - DEMOLITION PLAN
A-102	ENLARGED FOURTH FLOOR PLAN - NEW CONSTRUCTION				20	78	ED101 EL101	ELECTRICAL - FOURTH FLOOR - DEMOLITION PLAN  ELECTRICAL - FOURTH FLOOR - LIGHTING PLAN
A-201	FOURTH FLOOR REFLECTED CEILING PLAN	12/22/2020			21	78	EP101	ELECTRICAL - FOURTH FLOOR - POWER PLAN
A-301	SECTIONS	12/22/2020			22	78	EY101	ELECTRICAL - FOURTH FLOOR - NURSE CALL PLAN
A-401	INTERIOR ELEVATIONS	12/22/2020			23	78	21101	
A-402	INTERIOR ELEVATIONS	12/22/2020			24	78	TELECO	M
A-501	TYPICAL MILLWORK DETAIL	12/22/2020			25	78	T-001	TELECOM - GENERAL NOTES, LEGENDS, AND DETAILS
A-601	DOOR FRAMES AND SCHEDULE	12/22/2020			26	78	T-501	TELECOM - DETAILS
EQUIPMI	ENT						T-601	TELECOM - RISER DIAGRAMS
A-701	FOURTH FLOOR EQUIPMENT PLAN	12/22/2020			27	78	TD101	TELECOM - FOURTH FLOOR PLAN - DATA
A-702	EQUIPMENT SCHEDULE	12/22/2020			28	78	TN101 TY101	TELECOM - FOURTH FLOOR PLAN - DATA TELECOM - FOURTH FLOOR PLAN - SECURITY/MEDICAL
A-703	EQUIPMENT SCHEDULE	12/22/2020			29	78	11101	SYSTEMS
A-704	EQUIPMENT SCHEDULE	12/22/2020			30	78		
A-705	EQUIPMENT SCHEDULE EQUIPMENT SCHEDULE	12/22/2020 12/22/2020			31	78		
A-706 A-707	EQUIPMENT SCHEDULE	12/22/2020			32 33	78 78		
INTERIO	R			,				
IN101	FOURTH FLOOR FINISH PLANS AND SCHEDULE	12/22/2020			34	78		
STRUCT		10/00/000	1	I				
S-100	FRAMING PLANS	12/22/2020			35	78		
	OTECTION	T		1				
F-001	FIRE PROTECTION - GENERAL NOTES, DETAILS, LEGEND	12/22/2020			36	78		
F-002	FIRE PROTECTION - DETAILS	12/22/2020			37	78		
F-601	FIRE ALARM - RISER FIRE PROTECTION - FOURTH FLOOR PLAN - DEMOLITION	12/22/2020 12/22/2020			38	78		
FD101 FD102	FIRE ALARM - FOURTH FLOOR PLAN - DEMOLITION	12/22/2020			39 40	78 78		
FA201	FIRE ALARM - FOURTH FLOOR PLAN - FIRE ALARM	12/22/2020			41	78		
FX201	FIRE PROTECTION - FOURTH FLOOR PLAN - NEW WORK	12/22/2020			42	78		
MECHAN	IICAL							
M-001	MECHANICAL - GENERAL NOTES AND LEGENDS	12/22/2020			43	78		
M-501	MECHANICAL - CONTROLS	12/22/2020			44	78		
M-601	MECHANICAL - SCHEDULES & CALCULATIONS	12/22/2020			45	78		
M-701	MECHANICAL - DETAILS	12/22/2020			46	78		
	MECHANICAL - DETAILS	12/22/2020			47	78		
	1				48	78		
MD101	MECHANICAL - FOURTH FLOOR PLAN - DEMOLITION	12/22/2020						
MD101 MH200	MECHANICAL - FOURTH FLOOR PLAN - PHASING	12/22/2020			49	78		
M-702 MD101 MH200 MH201	MECHANICAL - FOURTH FLOOR PLAN - PHASING MECHANICAL - FOURTH FLOOR PLAN - DUCT	12/22/2020 12/22/2020			50	78		
MD101 MH200 MH201 MH202	MECHANICAL - FOURTH FLOOR PLAN - PHASING MECHANICAL - FOURTH FLOOR PLAN - DUCT MECHANICAL - ELEVATOR TOWER PLAN - DUCT	12/22/2020 12/22/2020 12/22/2020			50 51	78 78		
MD101 MH200 MH201	MECHANICAL - FOURTH FLOOR PLAN - PHASING MECHANICAL - FOURTH FLOOR PLAN - DUCT	12/22/2020 12/22/2020			50	78		

SHEET#	DRAWING TITLE	ISSUE DATE	CURRENT REVISION	CURRENT REVISION DATE	DWG	OF DWG
PLUMBIN	IG					
P-001	PLUMBING - GENERAL NOTES, SCHEDULES AND LEGENDS	12/22/2020			54	78
P-501	PLUMBING - RISERS	12/22/2020			55	78
P-701	PLUMBING - DETAILS	12/22/2020			56	78
PD101	PLUMBING - FOURTH FLOOR PLAN - WASTE AND VENT - DEMOLITION	12/22/2020			57	78
PD102	PLUMBING - FOURTH FLOOR PLAN - WATER SUPPLY - DEMOLITION	12/22/2020			58	78
PD103	PLUMBING - FOURTH FLOOR PLAN - MEDICAL GAS - DEMOLITION	12/22/2020			59	78
PL201	PLUMBING - FOURTH FLOOR PLAN - WASTE & VENT - NEW WORK	12/22/2020			60	78
PL301	PLUMBING - FOURTH FLOOR PLAN - WATER SUPPLY - NEW WORK	12/22/2020			61	78
PL302	PLUMBING - SECOND FLOOR PLAN - WATER SUPPLY - NEW WORK	12/22/2020			62	78
PL401	PLUMBING - FOURTH FLOOR PLAN - MEDICAL GAS - NEW WORK	12/22/2020			63	78
ELECTRI	CAI					
E-001	ELECTRICAL - GENERAL NOTES AND LEGENDS	12/22/2020			64	78
E-501	ELECTRICAL - DETAILS	12/22/2020			65	78
E-601	ELECTRICAL - RISER DIAGRAM	12/22/2020			66	78
E-602	ELECTRICAL - SCHEDULES	12/22/2020			67	78
E-603	ELECTRICAL - PANEL SCHEDULES	12/22/2020			68	78
ED101	ELECTRICAL - FOURTH FLOOR - DEMOLITION PLAN	12/22/2020			69	78
EL101	ELECTRICAL - FOURTH FLOOR - LIGHTING PLAN	12/22/2020			70	78
EP101	ELECTRICAL - FOURTH FLOOR - POWER PLAN	12/22/2020			71	78
EY101	ELECTRICAL - FOURTH FLOOR - NURSE CALL PLAN	12/22/2020			72	78
TELECO	M					
T-001	TELECOM - GENERAL NOTES, LEGENDS, AND DETAILS	12/22/2020			73	78
T-501	TELECOM - DETAILS	12/22/2020			74	78
T-601	TELECOM - RISER DIAGRAMS	12/22/2020			75	78
TD101	TELECOM - FOURTH FLOOR PLAN- DEMOLITION	12/22/2020			76	78
T11404	TELEGONA FOLIDALI ELOOD DI ANI DATA	40/00/0000		1		

12/22/2020

12/22/2020

### GENERAL NOTES - DURHAM VAMC SPECIFIC :

1. CONTRACTOR IS RESPONSIBLE FOR BECOMING FAMILIAR WITH THE WORK AND ALL AREAS OF THE EXISTING BUILDING AFFECTED BY THE WORK, CAREFULLY VERIFYING ALL DIMENSIONS, AND BRINGING ANY DISCREPANCIES TO THE IMMEDIATE ATTENTION OF THE COR. 2. CONTRACTOR WILL INCLUDE INFORMATION DESCRIBING COMPLIANCE WITH ICRA REQUIREMENTS IN THE NARRATIVE. 3. CONTRACTOR WILL OBTAIN A PERMIT PRIOR TO BEGINNING WORK ABOVE CEILINGS. 4. CONTRACTOR MUST OBTAIN HOT WORK PERMITS DAILY FOR WELDING, SOLDERING, TORCH CUTTING, AND BURNING 24 HOURS PRIOR TO THE START OF WORK FROM THE COR. FIRE WATCH IS REQUIRED. CONTRACTOR WILL FURNISH FIRE EXTINGUISHERS. CONTRACTOR MUST ACQUIRE AND HOLD THESE PERMITS AT THE WORK SITE AT ALL TIMES. 5. NO SMOKING EXCEPT IN DESIGNATED AREAS OUTSIDE OF BUILDING AS DEFINED IN SPECIFICATIONS SECTION 01 00 00. 6. CONTRACTOR SHALL PROTECT THE EXISTING FACILITY AND REPAIR ANY DAMAGE RESULTING FROM THE WORK. 7. CONTRACTOR WILL NOTIFY THE COR SEVEN DAYS PRIOR TO ANY CORE DRILLING. 8. CONTRACTOR WILL PROVIDE THREE WEEKS NOTICE IN WRITING PRIOR THE SHUT DOWN OF ANY UTILITY.

9. CONTRACTOR WILL NOTIFY THE COR OF ANY DAMAGED FIRE SPRINKLER COMPONENTS AND REPAIR IMMEDIATELY. 10.CONTRACTOR WILL LEGALLY REMOVE AND DISPOSE OF ALL DEBRIS.

#### PROTECTION COORDINATION & REQUIREMENTS

1. CONTRACTOR SHALL MAINTAIN ALL SITE AREAS IN A SAFE CONDITION AT ALL TIMES. 2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROTECTION FOR BUILDING, SYSTEMS, OCCUPANTS, AND PEDESTRIANS AT ALL TIMES DURING CONSTRUCTION. 3. CONTRACTOR SHALL SUBMIT SAFETY PLAN TO COR FOR REVIEW INDICATING ALL SAFETY MEASURES TO BE IMPLEMENTED DURING CONSTRUCTION. 4. CONTRACTOR IS RESPONSIBLE FOR PROVIDING SAFE WORKING CONDITIONS FOR ALL WORKERS PER OSHA REQUIREMENTS.

#### MECHANICAL SYSTEMS

1. CONTRACTOR SHALL PROTECT MECHANICAL UNITS INCLUDING AIR HANDLERS, COMPRESSORS, AND PIPING AS NECESSARY, AND CONTRACTOR SHALL MAINTAIN AIR FLOW (INTAKE & EXHAUST) AT EQUIPMENT AT ALL TIMES. INTAKES ADJACENT TO WORK AREAS SHALL BE FILTERED FROM DUST AND DEBRIS WITH MINIMUM MERV13 FILTER CLOTH.

1. COR WILL DETERMINE AVAILABILITY OF POWER SUPPLY (IF ANY) AT THE TIME OF THE AWARD OF THE CONSTRUCTION 2. IF THE VA IS UNABLE TO PROVIDE A TEMPORARY ELECTRICAL CONNECTION DURING CONSTRUCTION, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE ELECTRICITY TO SUPPORT THE WORK. CONTRACTOR WILL REQUEST AN AREA TO USE THE GENERATOR AT LEAST SEVEN (7) CALENDAR DAYS PRIOR TO USE. CONTRACTOR IS RESPONSIBLE FOR PROTECTING OUTSIDE BUILDING AIR INTAKES FROM EXHAUST FOR THE DURATION OF THE PROJECT. 3. CONTRACTOR SHALL REQUEST POWER SHUTDOWNS OF EQUIPMENT THROUGH COR. CONTRACTOR SHALL NOT SHUTDOWN EQUIPMENT OR ENGAGE WITH VA BREAKERS OR DISCONNECTS ON ACTIVE EQUIPMENT.

### ACCESS AND MATERIAL STAGING

1. ROOF ACCESS WILL BE COORDINATED WITH THE COR. 2. COR WILL DETERMINE AVAILABILITY OF ACCESS AND STAGING AREAS AND IDENTIFY POTENTIAL LOCATIONS (IF ANY) AT THE TIME OF THE ISSUANCE OF THE NOTICE TO PROCEED. AREA FOR STAGING OR STORAGE MAY NOT BE AVAILABLE TO THE CONTRACTOR DURING CONSTRUCTION. 3. STORAGE IS NOT PERMITTED AROUND AHU INTAKES.

4. ALL HOIST MOVEMENTS MUST TAKE PLACE AFTER HOURS OR ON WEEKENDS. 5. CONTRACTOR SHALL PLAN STAGING AND STORAGE AREAS TO MINIMIZE IMPACT TO EXISTING INFRASTRUCTURE AND

ALLOW FOR ACCESS TO EXISTING EQUIPMENT. 6. CONTRACTOR SHALL INCLUDE REQUESTS FOR ACCESS AND STAGING AREAS IN THE NARRATIVE AND SCHEDULE.

# SECURITY REQUIREMENTS

77

78

78

78

1. ROOF ACCESS POINTS / DOORS SHALL BE KEPT LOCKED AT ALL TIMES TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING ROOF OR MECHANICAL ROOMS / STAIRS LEADING TO ROOF. DOORS SHALL NOT BE PROPPED OPEN. 2. ALL MATERIAL AND EQUIPMENT SHALL BE KEPT IN A SECURED STATE AT ALL TIMES. 3. EXTERIOR STORAGE AREAS SHALL BE SECURED AND KEPT LOCKED AT ALL TIMES EXCEPT WHEN ADDING OR REMOVING 4. CONTRACTOR SHALL SUPPLY TEMPORARY GUARD RAILS ON ROOFTOP WHERE GUARD RAILS ARE NOT ALREADY INSTALLED AS REQUIRED.

# MEDICAL CENTER OPERATIONS

1. BUILDING AREAS WILL BE OCCUPIED AT ALL TIMES. CONTRACTOR WILL SCHEDULE THE WORK TO MINIMIZE DISRUPTION TO PATIENT COMFORT AND MEDICAL CENTER OPERATIONS. 2. CONTRACTOR SHALL PROVIDE A SCHEDULE THAT PROJECTS THE WORK FOR TWO WEEKS EACH WEEK FOR COR APPROVAL THROUGHOUT THE DURATION OF THE PROJECT. CONTRACTOR SHOULD INCLUDE STAGING/STORAGE AREA AND TEMPORARY POWER REQUESTS IN THE SCHEDULE INFORMATION. WORK AREA PREPARATION & PROTECTION

1. CONTRACTOR MUST PROVIDE WALK-OFF MATS AND ANY OTHER METHODS OF PROTECTION NEEDED DURING THE CONSTRUCTION/REPAIR PROCESS, IN ORDER TO PROTECT STAIRWELLS AND CORRIDORS FROM DIRT AND DEBRIS. 2. CONTRACTOR MUST INSTALL FILTERS OVER ROOF DRAINS TO PREVENT DEBRIS FROM ENTERING ROOF DRAIN. REMOVE DEBRIS FROM ROOFS ON A DAILY BASIS. 3. CONTRACTOR SHALL PROVIDE WALK-OFF MATS AT ROOF SURFACES WHERE CONSTRUCTION TRAFFIC AND DEBRIS WILL AFFECT EXISTING ROOF.

4. ALL PROTECTION MEASURES MUST BE APPROVED BY COR PRIOR TO START OF WORK. 5. REFERENCE SPECIFICATION SECTION 01.35.26, SUBSECTION 1.2, FOR INFECTION CONTROL RISK ASSESSMENT PROCEDURES.

# **GENERAL NOTES:**

- 1. ALL DIMENSIONS SHALL BE VERIFIED CAREFULLY AND ANY DISCREPANCIES BROUGHT TO THE IMMEDIATE ATTENTION OF THE VA COR.
- 2. GENERAL CONTRACTOR SHALL PROTECT EXISTING CORRIDORS, ELEVATORS, DOORS, ETC. AND REPAIR ANY DAMAGE RESULTING FROM RENOVATION, DEMOLITION OR TRANSPORTATION OF MATERIALS ASSOCIATED WITH THIS PROJECT. 3. NOTIFY THE VA COR PRIOR TO ANY HAMMER DRILLING, SAW CUTTING, OR CORE DRILLING. THIS MUST BE SCHEDULED 7
- 5. REPAIR OR REPLACE ALL PROPERTY OF THE OWNER DAMAGED BY CONSTRUCTION, INCLUDING BUT NOT LIMITED TO:

4. THE VA COR SHALL BE GIVEN THREE WEEKS NOTICE, IN WRITING, BEFORE ANY UTILITY SYSTEM SHUTDOWN IS

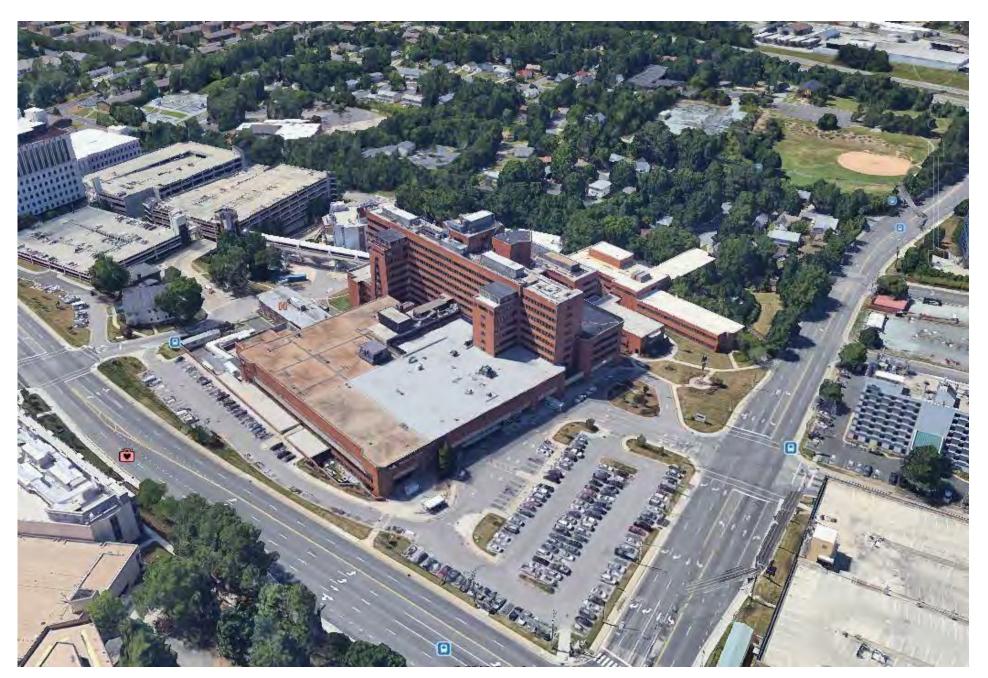
- EQUIPMENT, FLOORS, BASES, CEILING TILES, AND WALLS. 6. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMMEDIATELY REPAIR ANY DAMAGED FIRE SPRINKLER PIPING DURING DEMOLITION AND CONSTRUCTION. 7. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FOR ASSISTANCE AND GUIDANCE, BUT EXACT LOCATIONS,
- DISTANCES, LEVELS, QUANTITIES SHALL BE GOVERNED BY ACTUAL CONDITIONS FOUND AT THE JOB SITE AND MUST BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND BECOME FAMILIAR WITH ALL AREAS OF THE EXISTING BUILDING AFFECTED BY THE WORK, PRIOR TO COMMENCING THE WORK

# INTEGRATED PROJECT TEAM APPROVAL SIGNATURES

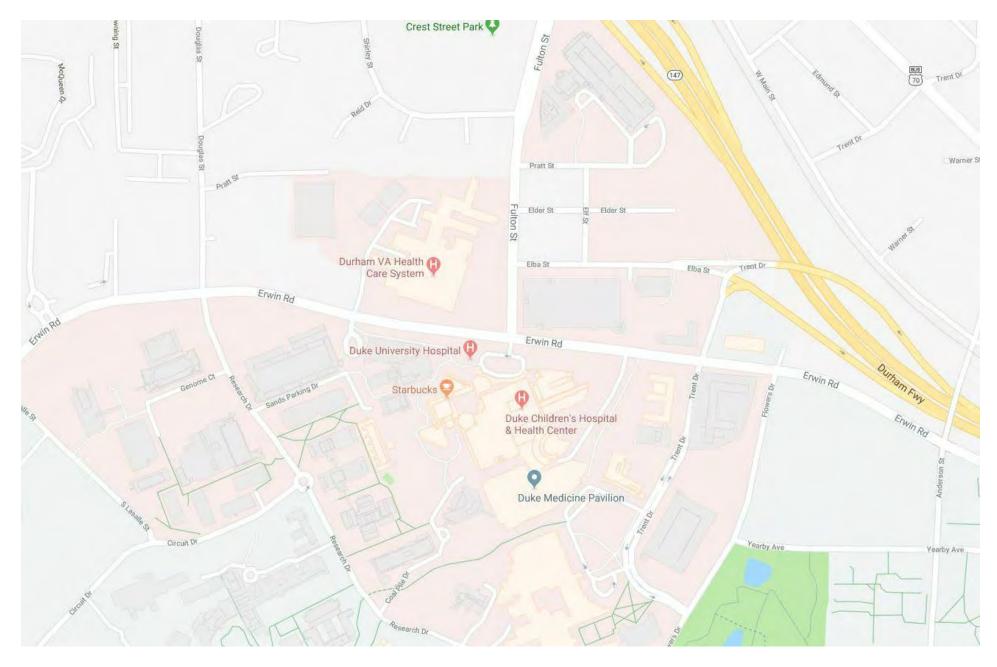
MEDICAL CENTER DIRECTOR:	
ASSISTANT DIRECTOR:	
ASSOCIATE DIRECTOR:	
CHIEF OF STAFF:	
DIRECTOR OF PATIENT SERVICES:	
CHIEF OF FACILITIES MANAGEMENT:	

SAFETY OFFICER:

INFECTION CONTROL PRACTITIONER:



# **AERIAL VIEW**



**LOCATION MAP** 

PERKINS— **EASTMAN** 115 Fifth Avenue New York, NY 10003

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Atriax, pllc 102 3rd Avenue, NE **LAURENE, RICKHER** & SORRELL, P.C.



100 % BID DOCUMENTS

PROJECT No. 558-17-150 12/22/2020

Approved: Andreka Watlington

(Reproduce the following data on the building plans sheet 1 or 2)	<ul> <li>b. Total Building Perimeter</li> <li>c. Ratio (F/P) = (F/P)</li> <li>d. W = Minimum width of public way =</li> <li>e. Percent of frontage increase If = 100[F/P</li> </ul>	P – 0.25] x W/30 =(%)			(SECTION 1107)  EXISTING / NOT APPLICABLE  TOTAL ACCESSIBLE ACCESSIBLE TYPE A TYPE B TYPE B TOTAL UNITS UNITS UNITS UNITS UNITS UNITS UNITS UNITS ACCESSIBLE UNITS	2018 APPENDIX B  BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  STRUCTURAL DESIGN  (PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)
Name of Project:VA DURHAM - PACU RENOVATION	2 Unlimited area applicable under conditions of Se 3 Maximum Building Area = total number of storie	Section 507. es in the building x D (maximum3 stories) (50	06.2).		REQUIRED PROVIDED REQUIRED PROVIDED PROVIDED PROVIDED	DESIGN LOADS: EXISTING
Address:508 FULTON ST. DURHAM, NC Zip Code 27705	4 The maximum area of open parking garages mu 5 Frontage increase is based on the unsprinklered					Importance Factors:   Snow (IS)   Seismic (IE)
Owned By: City/County Private State		ALLOWABLE HEIGHT			ACCESSIBLE PARKING (SECTION 1106)  EXISTING	Live Leade: Poof pef
Code Enforcement Jurisdiction: City County State		ALLOWABLE	SHOWN ON PLAI	NS CODE REFERENCE 1	LOT OR PARKING TOTAL # OF PARKING SPACES # OF ACCESSIBLE SPACES PROVIDED TOTAL # AREA REQUIRED PROVIDED REGULAR WITH VAN SPACES WITH ACCESSIBLE	Mezzaninepsf
CONTACT: Atriax Group, PLLC Edward Henson NC# 8631 828-315-9962 ed.henson@atriaxgroup.com	Building Height in Feet (Table 504.3) 2  Building Height in Stories (Table 504.4) 3	-			5' ACCESS AISLE 132" ACCESS 8' ACCESS PROVIDED AISLE AISLE	Ground Snow Load: psf
DESIGNER FIRM NAME LICENSE # TELEPHONE # E-MAIL  Architectural Perkins Eastman Architects Bruce Moore NC# 5248 704-927-1541 b.moore@perkinseastman.com	1 Provide code reference if the "Shown on Plans"	" quantity is not based on Table 504.3 or 504	.4.			Wind Load: Ultimate Wind Speed mph (ASCE-7) Exposure Category
Structural Laurene Rickher Sorrell, PC Mark Rickher NC# 15464 704-522-0495 mrickher@lrspc.net  Plumbing AME Consulting Engineers, PC Farzad F. Roberts NC# 018549 704-295-4263 froberts@ame-pc.com	2 The maximum height of air traffic control towers 3 The maximum height of open parking garages n				TOTAL	SEISMIC DESIGN CATEGORY: A B C D
Fire Protection		FIRE PROTECTION REQUIREMENTS	EXIS	TING	PLUMBING FIXTURE REQUIREMENTS	Provide the following Seismic Design Parameters:  Risk Category (Table 1604.5)
TelecomAME Consulting Engineers, PC		FIRE RATING	DETAIL# DESIGN		(TABLE 2902.1) EXISTING	Spectral Response Acceleration SS%g S1%g  Site Classification (ASCE 7)
2018 NC BUILDING CODE:	DIST	ARATION         REQ'D         PROVIDED           TANCE         (W/*           EEET)         REDUCTION)	AND FOR SHEET# RATED	PENETRATION RATED	USE WATERCLOSETS URINALS LAVATORIES SHOWERS DRINKING FOUNTAINS  MALE FEMALE UNISEX MALE FEMALE UNISEX / TUBS REGULAR ACCESSIBLE  SPACE EXIST'G	Data Source: Field Test Presumptive Historical Data
<ul><li>New Building</li><li>☐ Addition</li><li>☐ Renovation</li><li>☐ 1st Time Interior Completion</li></ul>	Structural Frame,	-EEI) KEBOOTION)	ASSEMBL	LY JUINTS	NEW REQ'D	Basic structural system  Bearing Wall  Dual w/Special Moment Frame  Dual w/Intermediate R/C or Special Steel
Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements	including columns, girders, trusses		<del>                                     </del>		SPECIAL APPROVALS	Analysis Procedure:  Moment Frame Inverted Pendulum Equivalent Lateral Force Dynamic
Phased Construction	Bearing Walls  Exterior				Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)	Architectural, Mechanical, Components anchored?
2018 NC EXISTING BUILDING CODE: EXISTING:  Prescriptive Repair Chapter 14	North East					LATERAL DESIGN CONTROL: Earthquake
Alteration: Level I Level II Level III Level III Change of Use	West South					SOIL BEARING CAPACITIES:  Field Test (provide copy of test report) psf
CONSTRUCTED: (date) 1953 CURRENT OCCUPANCY(S) (Ch. 3): BUSINESS	Interior  Nonbearing Walls and		+ +		EXISTING	Presumptive Bearing capacity psf Pile size, type, and capacity
RENOVATED: (date)2021	Partitions  Exterior walls				ENERGY SUMMARY ENERGY REQUIREMENTS:	
Proposed:   I   II   IV	North East				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.	EXISTING 2018 APPENDIX B
BASIC BUILDING DATA  Construction Type:	West South				If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.	BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  MECHANICAL DESIGN
Construction Type: I-A III-A IIII-A IV V-A (check all that apply) II-B III-B IIII-B V-B	Interior walls and partitions Floor Construction				Existing building envelope complies with code:  No Yes (The remainder of this section is not applicable)	(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)
Sprinklers: No Partial Yes NFPA 13 NFPA 13R NFPA 13D  Standpipes: No Yes Class I II III Wet Dry	Including supporting beams				Exempt Building: No Yes (Provide code or statutory reference):	MECHANICAL SUMMARY  MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT  Prescriptive
Fire District:  No Yes  Flood Hazard Area:  No Yes  Special Inspections Required:  No Yes  Yes (Contact the local inspection jurisdiction for additional	and joists  Floor Ceiling Assembly  Columns Supporting Floors				Climate Zone: 3A 4A 5A	Thermal Zone
Special inspections Required: No procedures and requirements.)	Roof Construction, including supporting beams and joists		1 1		Method of Compliance: Energy Code Performance Prescriptive  ASHRAE 90.1 Performance Prescriptive	winter dry bulb: 17.5*F_summer dry bulb: 93.2*F
Gross Building Area Table	Roof Ceiling Assembly  Columns Supporting Roof				(If "Other" specify source here)	Interior design conditions
FLOOR         EXISTING (SQ FT)         NEW (SQ FT)         SUB-TOTAL           Fourth Floor         2,599         1,797         4,396	Shaft Enclosures - Exit Shaft Enclosures - Other				THERMAL ENVELOPE (Prescriptive method only)  Roof Assembly (each assembly)	winter dry bulb: 70*F summer dry bulb: 75*F
	Corridor Separation		+ + -		Description of assembly:  U-Value of total assembly:	relative humidity:50% R.H
	Occupancy/Fire Barrier Separation  Party/Fire Wall Separation				R-Value of insulation:  Skylights in each assembly:  LLV the of statistic to the statistic	Building heating load: EXISTING - NO CHANGE
TOTAL 4,396	Smoke Barrier Separation Smoke Partition				U-Value of skylight:  total square footage of skylights in each assembly:	Building cooling load: <u>EXISTING - NO CHANGE</u>
ALLOWABLE AREA	Tenant/Dwelling Unit/ Sleeping Unit Separation				Ceiling Assembly (each assembly)  Description of assembly:	Mechanical Spacing Conditioning System  Unitary
Primary Occupancy Classification(s):  Assembly	Incidental Use Separation  * Indicate section number permitting reduction				U-Value of total assembly:  R-Value of insulation:  Skylights in each assembly:	description of unit:  heating efficiency:  MODULAR ROOFTOP AIR HANDLING UNIT  REFER TO MECHANICAL DRAWING SCHEDULES
Business Educational	, 3				Skylights in each assembly:  U-Value of skylight:  total square footage of skylights in each assembly:	cooling efficiency: REFER TO MECHANICAL DRAWING SCHEDULES size category of unit: REFER TO MECHANICAL DRAWING SCHEDULES
Factory F-1 Moderate F-2 Low		PERCENTAGE OF WALL OPENING CAI	LCULATIONS		Exterior Walls (each assembly)	Boiler Size category. If oversized, state reason.:
Institutional I-1 Condition I 1 2	FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)	Description of assembly:  U-Value of total assembly:  R-Value of insulation:	Chiller Size category. If oversized, state reason.:
□ I-2 Condition       □ 1       □ 2         □ I-3 Condition       □ 1       □ 2       □ 3       □ 4       □ 5		(TABLE 705.8)			Openings (windows or doors with glazing)	List equipment efficiencies:
Mercantile I-4					Solar heat gain coefficient: projection factor:	
Residential R-1 R-2 R-3 R-4 Storage S-1 Moderate S-2 Low High-piled	2018 NC Administrative Code and Policies				Door R-Values: Walls below grade (each assembly)	EXISTING 2018 APPENDIX B
Parking Garage Open Enclosed Repair Garage	2010 NO Administrative Gode and Folicies	LIFE SAFETY SYSTEM REQUIREMENT	rs		Description of assembly:  U-Value of total assembly:	BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  ELECTRICAL DESIGN
Utility and Miscellaneous  Accessory Occupancy Classification(s):	Emergency Lighting:	☐ No ☐ Yes			R-Value of insulation:  Floors slab on grade	(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)
Incidental Uses (Table 509):  Special Uses (Chapter 4 – List Code Sections):	Exit Signs: Fire Alarm:	No Yes No Yes			Description of assembly:  LLValue of total assembly:	ELECTRICAL SUMMARY
Special Provisions: (Chapter 5 – List Code Sections):	Smoke Detection Systems: Carbon Monoxide Detection:	No  Yes  Partial  Partial  Yes			R-Value of insulation:  Horizontal/vertical requirement:	ELECTRICAL SYSTEM AND EQUIPMENT
Non-Separated Use (508.3) - The required type of construction for the building shall be determined by					slab heated:	Method of Compliance: Energy Code Performance Prescriptive  ASHRAE 90.1 Performance Prescriptive
applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of	Life Safety Plan Sheet #:	LIFE SAFETY PLAN REQUIREMENTS				Lighting schedule (each fixture type)
construction, so determined, shall apply to the entire building.  Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall	Fire and/or smoke rated wall locations (	(Chapter 7)				lamp type required in fixture  REFER TO ELECTRICAL  DRAWINGS FOR LUMINAIRE  SCHEDULE
be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.	Assumed and real property line location:  Exterior wall opening area with respect to	. ,	3)	A separate schematic plan i	ndicating where fire rated floor/ceiling and/or roof structure is provided for	ballast type used in the fixture  number of ballasts in fixture
_Actual Area of Occupancy A + Actual Area of Occupancy B < 1  Allowable Area of Occupancy A Allowable Area of Occupancy B	Occupancy Use for each area as it related to the occupant loads for each area.			purposes of occupancy sepa	aration	total wattage per fixture total interior wattage specified vs. allowed (whole building or space by space)
Allowable Alea of Оссирансу А       +       + =       < 1.00	Exit access travel distances (1017)	oc 1006 2.4.9.4006 2.274\\		Location of doors with delay	ed egress locks and the amount of delay (1010.1.9.7)  omagnetic egress locks (1010.1.9.9)	total exterior wattage specified vs. allowed
STORY DESCRIPTION AND (A) (B) (C) (D)	Common path of travel distances (Table  Dead end lengths (1020.4)	ισο τυυυ.Δ.1 α τυυυ.δ.Δ(1))		Location of doors equipped	with hold-open devices	Additional Efficiency Package Options (When using the 2018 NCECC; not required for ASHRAE 90.1)
NO. USE BLDG AREA PER TABLE 506.24 AREA FOR FRONTAGE ALLOWABLE AREA PER STORY (ACTUAL) AREA INCREASE1,5 STORY OR UNLIMITED2,3	Clear exit widths for each exit door  Maximum calculated occupant load cap based on egress	pacity each exit door can accommodate		Location of emergency esca	fire area (202)	C406.2 More Efficient HVAC Equipment Performance C406.3 Reduced Lighting Power Density C406.4 Enhanced Digital Lighting Controls
1 BUSINESS 4,396 UL	width (1005.3)  Actual occupant load for each exit door				smoke compartment for Occupancy Classification I-2 (407.5)  table notes that may have been utilized regarding the items above	C406.4 Ennanced Digital Lighting Controls  C406.5 On-Site Renewable Energy  C406.6 Dedicated Outdoor Air System
						C406.7 Reduced Energy Use in Service Water Heating
CONSULTANT	ΛΓ	RCHITECT/ENG		DECODD 1	Drawing Title	Phase Project Title
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VA FORM 08 - 6231

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NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

Date:

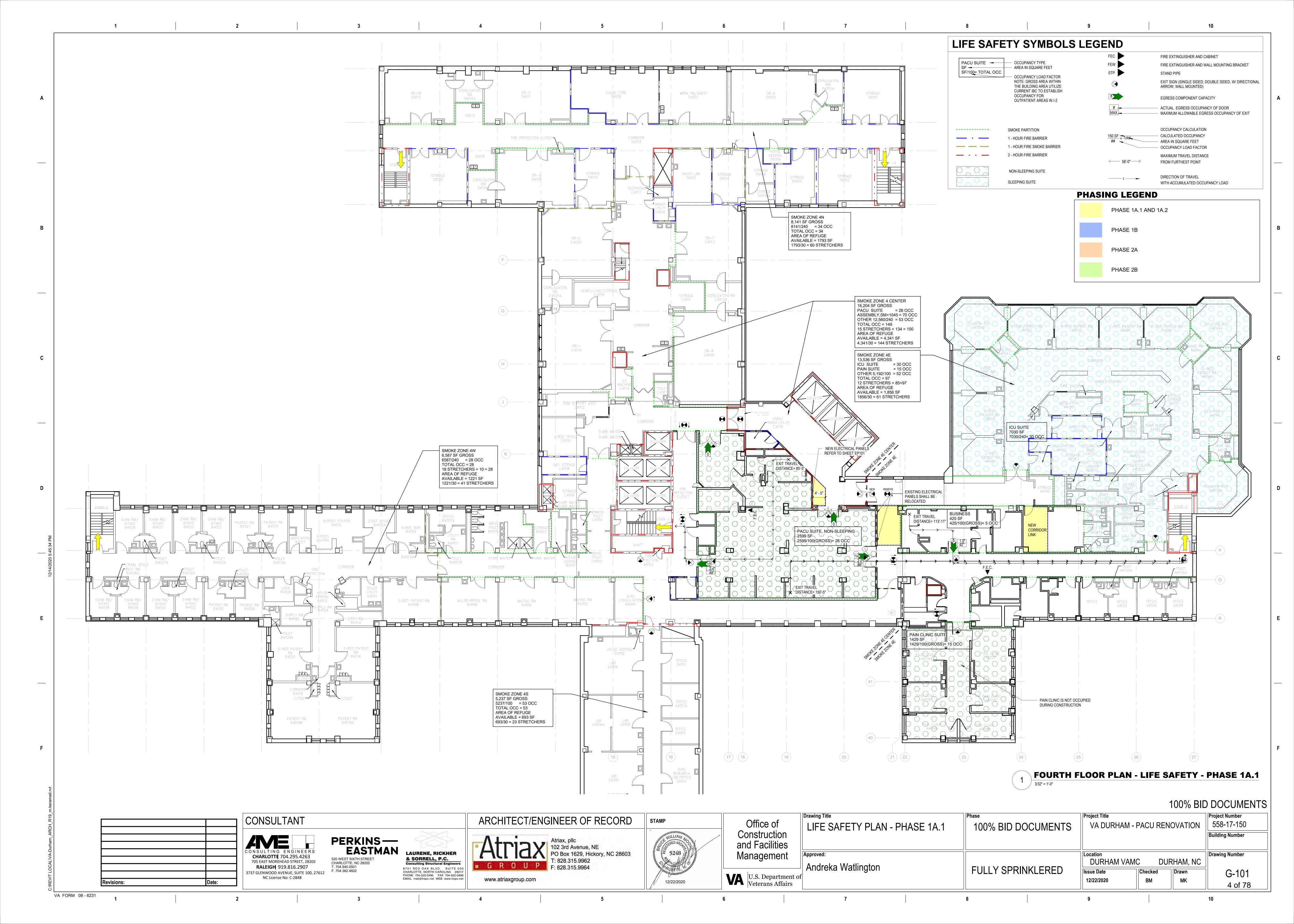
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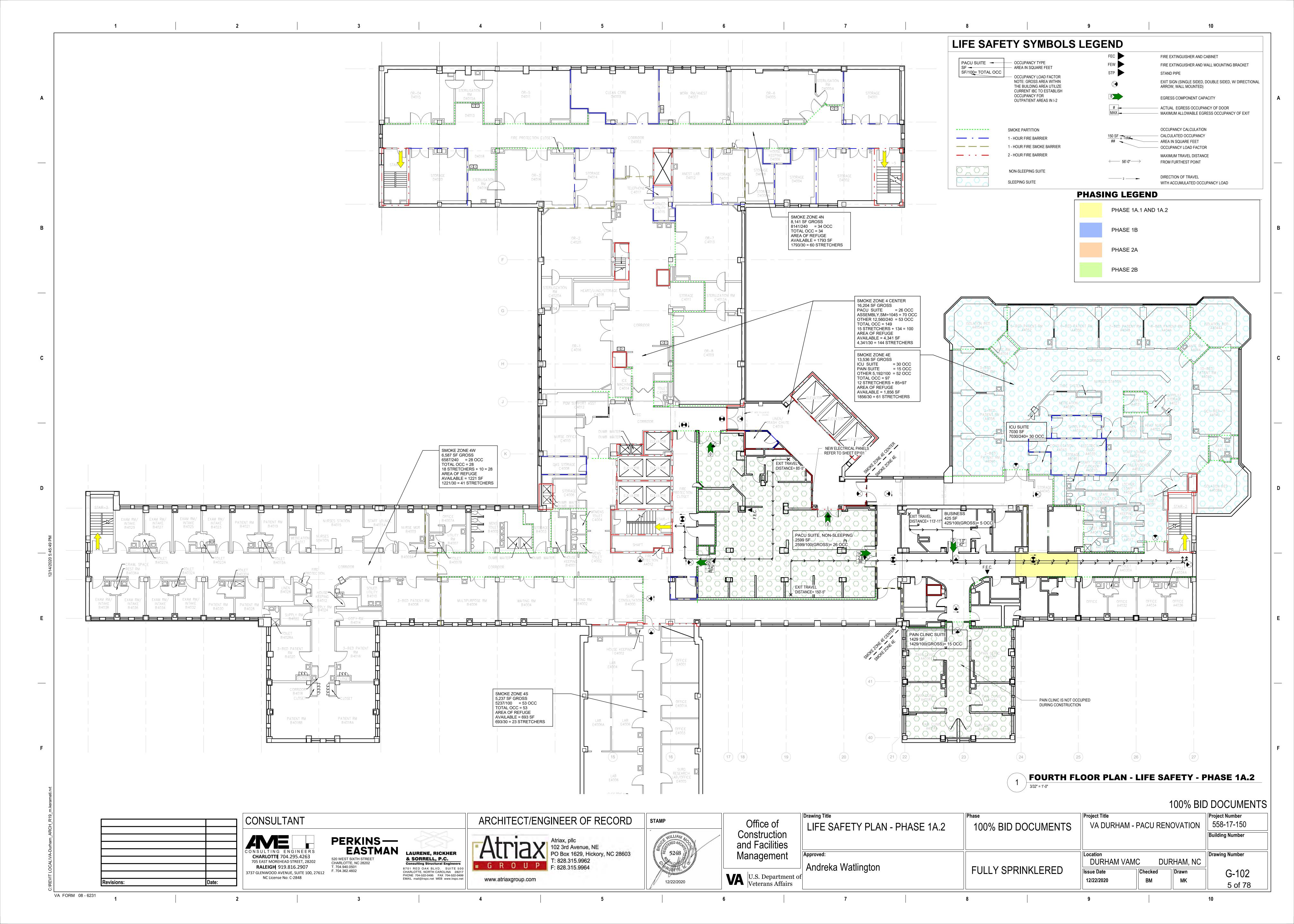
U.S. Department of Veterans Affairs

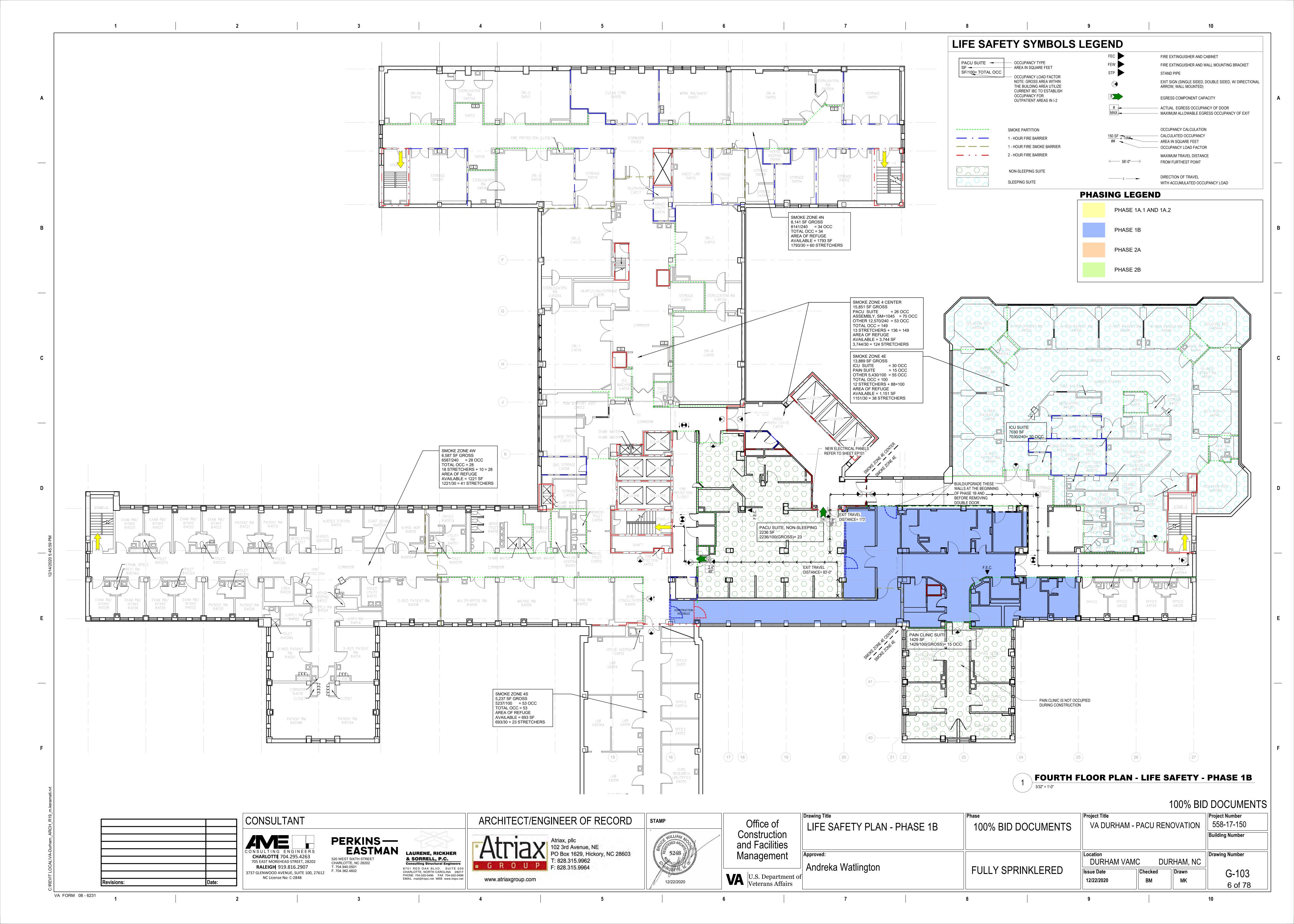
Andreka Watlington

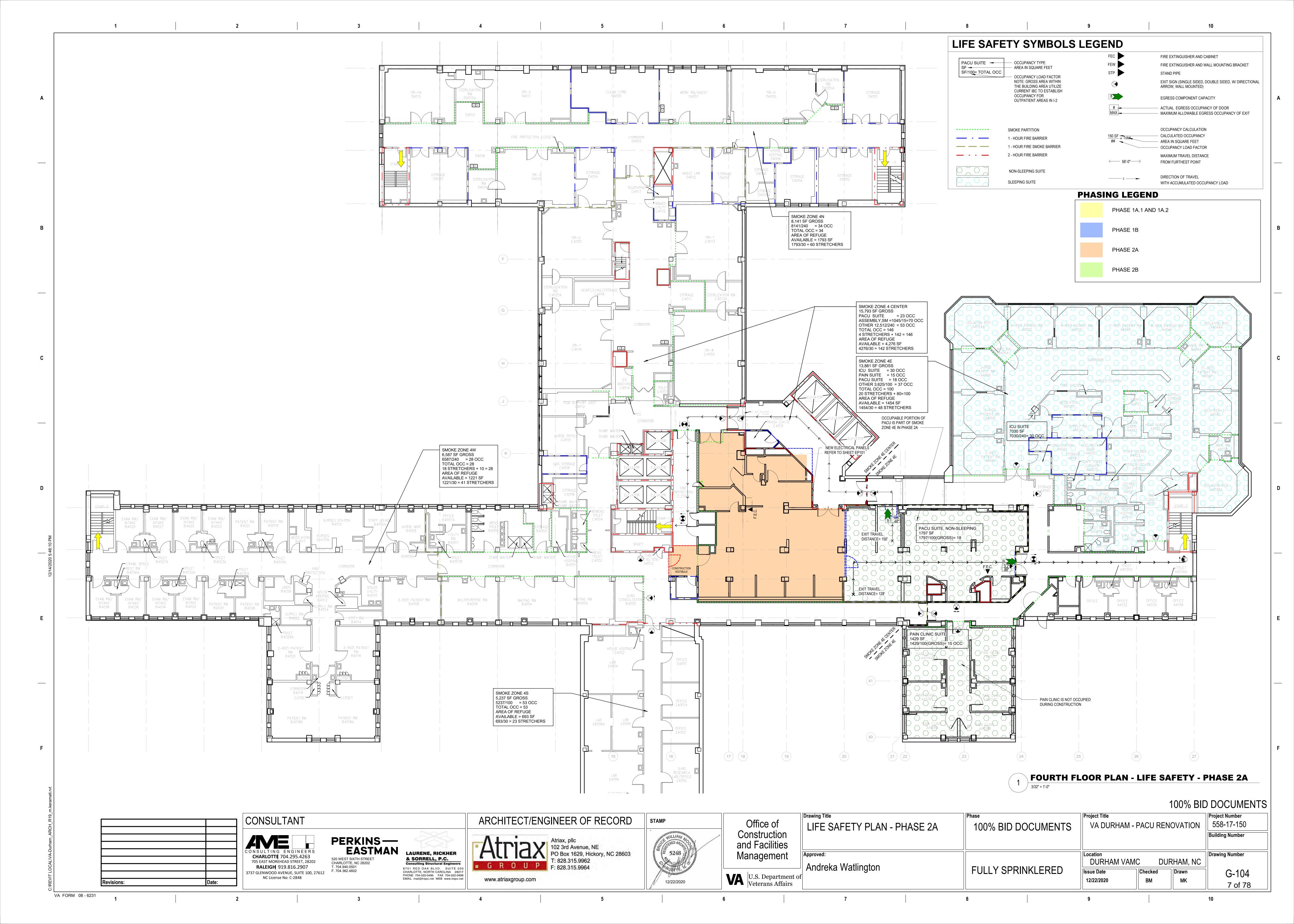
Drawing Number DURHAM VAMC DURHAM, NC FULLY SPRINKLERED Checked G-002 Drawn 12/22/2020 EH 2 of 78

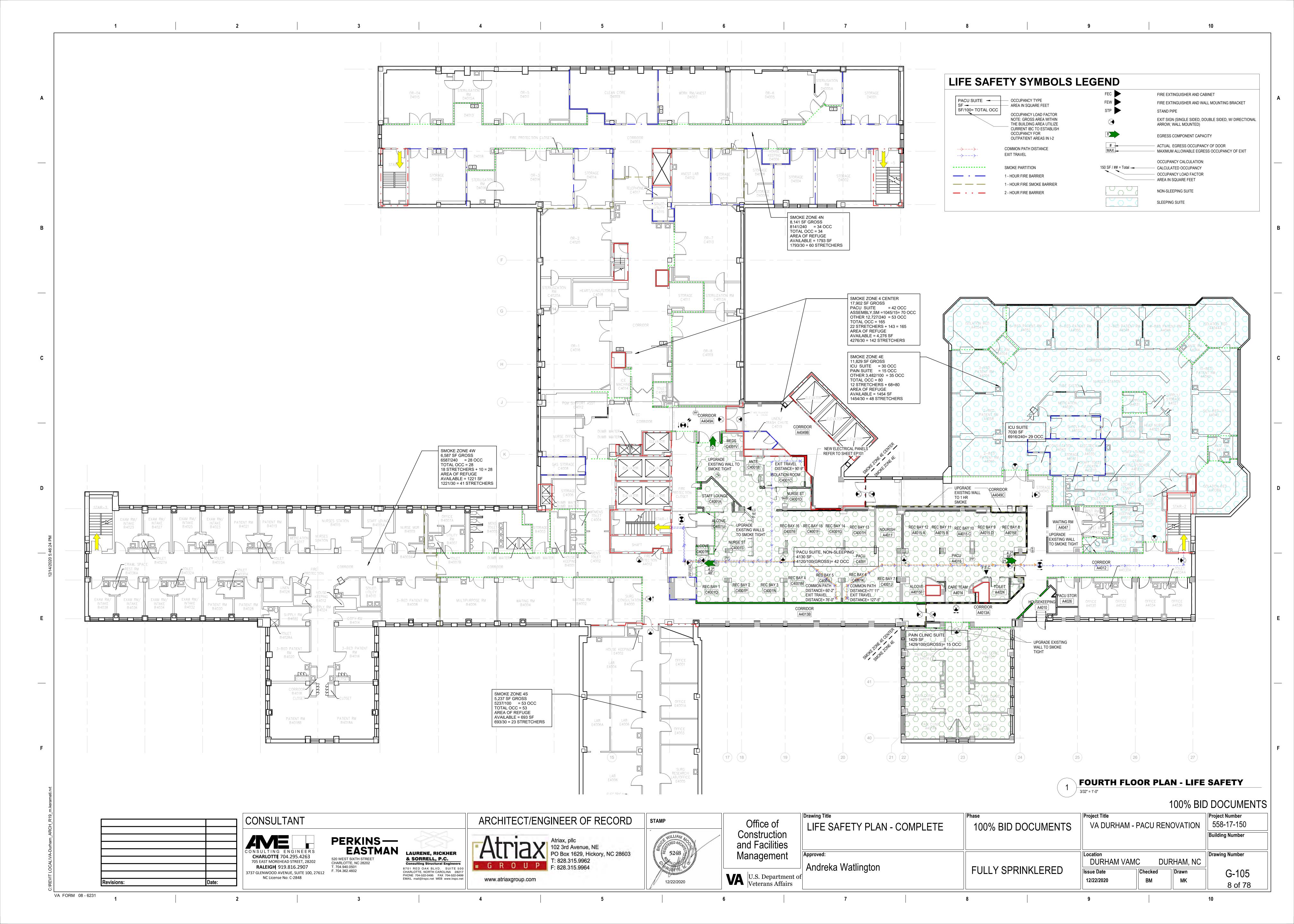
PHASING LEGEND ICRA REQUIREMENTS REFER TO SPECIFICATION SECTION 01.35.26 VI. CONSTRUCT ANTEROOM AND REQUIRE ALL PERSONNEL TO PASS THROUGH THIS ROOM SO THEY CAN BE II. CLASS III AND IV - DRYWALL BARRIER ERECTED WITH JOINTS COVERED OR SEALED TO PREVENT DUST E. BEFORE ANY CONSTRUCTION ON SITE BEGINS, ALL CONTRACTOR PERSONNEL INVOLVED IN THE 5. THE CONTRACTOR SHALL NOT HAUL DEBRIS THROUGH PATIENT-CARE AREAS WITHOUT PRIOR APPROVAL A. INFECTION CONTROL IS CRITICAL IN ALL MEDICAL CENTER FACILITIES. INTERIOR CONSTRUCTION VACUUMED USING A HEPA VACUUM CLEANER BEFORE LEAVING WORK SITE OR THEY CAN WEAR CLOTH OR CONSTRUCTION OR RENOVATION ACTIVITY SHALL BE EDUCATED AND TRAINED IN INFECTION PREVENTION OF THE COR AND THE MEDICAL CENTER. WHEN, APPROVED, DEBRIS SHALL BE HAULED IN ENCLOSED DUST AND DEBRIS FROM ESCAPING. PHASE 1A.1 AND 1A.2 ACTIVITIES CAUSING DISTURBANCE OF EXISTING DUST OR CREATING NEW DUST SHALL BE CONDUCTED PAPER COVERALLS THAT ARE REMOVED EACH TIME THEY LEAVE WORK SITE. III. CLASS III AND IV - SEAL ALL PENETRATIONS IN EXISTING BARRIER AIRTIGHT MEASURES ESTABLISHED BY THE MEDICAL CENTER. PROOF CONTAINERS OR WRAPPED IN PLASTIC AND SEALED WITH DUCT TAPE. NO SHARP OBJECTS SHOULD IV. CLASS III AND IV - BARRIERS AT PENETRATION OF CEILING ENVELOPES, CHASES AND CEILING SPACES TO WITHIN VENTILATION-CONTROLLED AREAS THAT MINIMIZE THE FLOW OF AIRBORNE PARTICLES INTO PATIENT VII. ALL PERSONNEL ENTERING WORK SITE ARE REQUIRED TO WEAR SHOE COVERS. SHOE COVERS SHALL BE F. A DUST CONTROL PROGRAM WILL BE ESTABLISH AND MAINTAINED AS PART OF THE CONTRACTOR'S BE ALLOWED TO CUT THROUGH THE PLASTIC. WIPE DOWN THE EXTERIOR OF THE CONTAINERS WITH A DAMP AREAS. EXTERIOR CONSTRUCTION ACTIVITIES CAUSING DISTURBANCE OF SOIL OR CREATING DUST IN SOME CHANGED EACH TIME THE WORKER EXITS THE WORK AREA. STOP MOVEMENT AIR AND DEBRIS INFECTION PREVENTIVE MEASURES IN ACCORDANCE WITH THE FGI RAG TO REMOVE DUST. ALL EQUIPMENT, TOOLS, MATERIAL, ETC. TRANSPORTED THROUGH OCCUPIED V. CLASS IV ONLY - ANTEROOM OR DOUBLE ENTRANCE OPENINGS THAT ALLOW WORKERS TO REMOVE AREAS SHALL BE MADE FREE FROM DUST AND MOISTURE BY VACUUMING AND WIPE DOWN. OTHER MANNER SHALL BE CONTROLLED. B. UPON COMPLETION: GUIDELINES FOR DESIGN AND CONSTRUCTION OF HEALTHCARE FACILITIES. PRIOR TO START OF WORK, PHASE 1B I. DO NOT REMOVE BARRIERS FROM WORK AREA UNTIL COMPLETED PROJECT IS INSPECTED BY THE COR. B. AN AHA ASSOCIATED WITH INFECTION CONTROL SHALL BE PERFORMED BY VA PERSONNEL IN PROTECTIVE CLOTHING OR VACUUM OFF EXISTING CLOTHING PREPARE A PLAN DETAILING PROJECT-SPECIFIC DUST PROTECTION MEASURES WITH ASSOCIATED PRODUCT 6. THERE SHALL BE NO STANDING WATER DURING CONSTRUCTION. THIS INCLUDES WATER IN EQUIPMENT ACCORDANCE WITH FGI GUIDELINES (I.E. INFECTION CONTROL RISK ASSESSMENT [ICRA]). THE ICRA II. REMOVE CONSTRUCTION BARRIERS AND CEILING PROTECTION CAREFULLY TO MINIMIZE SPREADING OF VI. CLASS III AND IV - AT ELEVATORS SHAFTS OR STAIRWAYS WITHIN THE FIELD OF CONSTRUCTION, DATA, INCLUDING PERIODIC STATUS REPORTS, AND SUBMIT FOR REVIEW FOR COMPLIANCE WITH CONTRACT DRIP PANS AND OPEN CONTAINERS WITHIN THE CONSTRUCTION AREAS. ALL ACCIDENTAL SPILLS SHALL BE PROCEDURE FOUND ON THE AMERICAN SOCIETY FOR HEALTHCARE ENGINEERING (ASHE) WEBSITE WILL BE DIRT AND DEBRIS ASSOCIATED WITH CONSTRUCTION, OUTSIDE OF NORMAL WORK HOURS. OVERLAPPING FLAP MINIMUM OF TWO FEET WIDE OF POLYETHYLENE ENCLOSURES FOR PERSONNEL REQUIREMENTS IN ACCORDANCE WITH SECTION 01 33 23, SHOP DRAWINGS, CLEANED UP AND DRIED WITHIN 12 HOURS. REMOVE AND DISPOSE OF POROUS MATERIALS THAT REMAIN UTILIZED. RISK CLASSIFICATIONS OF CLASS II OR LOWER WILL REQUIRE APPROVAL BY THE COR BEFORE III. CONTAIN CONSTRUCTION WASTE BEFORE TRANSPORT IN TIGHTLY COVERED CONTAINERS. ACCESS. PRODUCT DATA AND SAMPLES. DAMP FOR MORE THAN 72 HOURS. PHASE 2A BEGINNING ANY CONSTRUCTION WORK. RISK CLASSIFICATIONS OF CLASS III OR HIGHER WILL REQUIRE A IV. COVER TRANSPORT RECEPTACLES OR CARTS. TAPE COVERING UNLESS SOLID LID. DISPOSE OF WASTE IN D. PRODUCTS AND MATERIALS: G. MEDICAL CENTER INFECTION CONTROL PERSONNEL WILL MONITOR FOR AIRBORNE DISEASE (E.G. 7. AT COMPLETION, REMOVE CONSTRUCTION BARRIERS AND CEILING PROTECTION CAREFULLY, OUTSIDE OF 1. SHEET PLASTIC: FIRE RETARDANT POLYSTYRENE, 6-MIL THICKNESS MEETING LOCAL FIRE CODES. HAS PERMIT BEFORE BEGINNING ANY CONSTRUCTION WORK. THE INFECTION CONTROL PERMITS WILL BE COR APPROVED OUTSIDE TRASH/ROLL-OFF DUMPSTER. ASPERGILLOSIS) DURING CONSTRUCTION. A BASELINE OF CONDITIONS WILL BE ESTABLISHED BY THE NORMAL WORK HOURS. VACUUM AND CLEAN ALL SURFACES FREE OF DUST AFTER THE REMOVAL. POSTED OUTSIDE THE APPROPRIATE CONSTRUCTION AREAS DURING THE ENTIRE LENGTH OF THE PROJECT. FOAM ROLL AT THE BOTTOM TO ASSIST WITH NEGATIVE PRESSURE SEAL. MEDICAL CENTER PRIOR TO THE START OF WORK AND PERIODICALLY DURING THE CONSTRUCTION STAGE TO V. VACUUM WORK AREA WITH HEPA FILTERED VACUUMS. I. FINAL CLEANUP: 1. UPON COMPLETION OF PROJECT, OR AS WORK PROGRESSES, REMOVE ALL CONSTRUCTION DEBRIS FROM MORE THAN ONE PERMIT MAY BE ISSUED FOR A CONSTRUCTION PROJECT IF THE WORK IS LOCATED IN VI. WET MOP AREA WITH CLEANER/DISINFECTANT. 2. BARRIER DOORS: SELF CLOSING, ONE-HOUR, TWO-HOUR, FIRE-RATED, SOLID CORE WOOD IN STEEL DETERMINE IMPACT OF CONSTRUCTION ACTIVITIES ON INDOOR AIR QUALITY WITH SAFE THRESHOLDS PHASE 2B VII. UPON COMPLETION, RESTORE HVAC SYSTEM WHERE WORK WAS PERFORMED. ABOVE CEILING, VERTICAL SHAFTS AND UTILITY CHASES THAT HAVE BEEN PART OF THE CONSTRUCTION. SEPARATE AREAS REQUIRING SEPARATE CLASSES. THE REQUIRED INFECTION CONTROL PRECAUTIONS WITH FRAME, PAINTED. ESTABLISHED. 3. DUST PROOF, ONE-HOUR, TWO-HOUR, FIRE-RATED, DRYWALL. H. IN GENERAL, THE FOLLOWING PREVENTIVE MEASURES SHALL BE ADOPTED DURING CONSTRUCTION TO 2. PERFORM HEPA VACUUM CLEANING OF ALL SURFACES IN THE CONSTRUCTION AREA. THIS INCLUDES EACH CLASS ARE AS FOLLOWS: VIII. RETURN PERMIT TO THE COR. 4. HIGH EFFICIENCY PARTICULATE AIR-EQUIPPED FILTRATION MACHINE RATED AT 95% CAPTURE OF 0.3 KEEP DOWN DUST AND PREVENT MOLD. WALLS, CEILINGS, CABINETS, FURNITURE (BUILT-IN OR FREE STANDING), PARTITIONS, FLOORING, ETC. 4. CLASS IV REQUIREMENTS: A. DURING CONSTRUCTION WORK: C. BARRIERS SHALL BE ERECTED AS REQUIRED BASED UPON CLASSIFICATION (CLASS III AND IV REQUIRES MICRONS INCLUDING POLLEN, MOLD SPORES AND DUST PARTICLES. HEPA FILTERS SHOULD HAVE ASHRAE 1. CONTRACTOR SHALL VERIFY THAT CONSTRUCTION EXHAUST TO EXTERIOR IS NOT REINTRODUCED TO THE 3. ALL NEW AIR DUCTS SHALL BE CLEANED PRIOR TO FINAL INSPECTION. SYMBOL LEGEND I. OBTAIN PERMIT FROM THE COR. BARRIERS) AND SHALL BE CONSTRUCTED AS FOLLOWS: 85 OR OTHER PREFILTER TO EXTEND THE USEFUL LIFE OF THE HEPA. PROVIDE BOTH PRIMARY AND MEDICAL CENTER THROUGH INTAKE VENTS, OR BUILDING OPENINGS. HEPA FILTRATION IS REQUIRED WHERE J. EXTERIOR CONSTRUCTION II. ISOLATE HVAC SYSTEM IN AREA WHERE WORK IS BEING DONE TO PREVENT CONTAMINATION OF DUCT 1. CLASS III AND IV - CLOSED DOOR WITH MASKING TAPE APPLIED OVER THE FRAME AND DOOR IS THE EXHAUST DUST MAY REENTER THE MEDICAL CENTER. 1. CONTRACTOR SHALL VERIFY THAT DUST WILL NOT BE INTRODUCED INTO THE MEDICAL CENTER THROUGH SECONDARY FILTRATIONS UNITS. MAINTENANCE OF EQUIPMENT AND REPLACEMENT OF THE HEPA FILTERS VA ROUTE FROM OR TO PACU DURING 2. EXHAUST HOSES SHALL BE EXHAUSTED SO THAT DUST IS NOT REINTRODUCED TO THE MEDICAL CENTER. SYSTEM. ENSURE THAT THE HVAC DEPARTMENT IS NOTIFIED BEFORE ANY WORK BEGINS THAT INVOLVES ACCEPTABLE FOR PROJECTS THAT CAN BE CONTAINED IN A SINGLE ROOM. AND OTHER FILTERS WILL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INTAKE VENTS, OR BUILDING OPENINGS. HEPA FILTRATION ON INTAKE VENTS IS REQUIRED WHERE DUST 2. CONSTRUCTION, DEMOLITION OR RECONSTRUCTION NOT CAPABLE OF CONTAINMENT WITHIN A SINGLE 5. EXHAUST HOSES: HEAVY DUTY, FLEXIBLE STEEL REINFORCED; VENTILATION BLOWER HOSE 3. ADHESIVE WALK-OFF/CARPET WALK-OFF MATS SHALL BE USED AT ALL INTERIOR TRANSITIONS FROM THE MAY BE INTRODUCED. REMOVING OR ISOLATING THE HVAC SYSTEM. (PHASES 1A.2, 1A.3, 1B, 2A & 2B SIMILAR) III. COMPLETE ALL CRITICAL BARRIERS I.E. SHEETROCK, PLYWOOD, PLASTIC, TO SEAL AREA FROM NON-ROOM SHALL HAVE THE FOLLOWING BARRIERS ERECTED AND MADE PRESENTABLE ON HOSPITAL OCCUPIED 6. ADHESIVE WALK-OFF MATS (I.E., STICKY MATS): PROVIDE MINIMUM SIZE MATS OF 24 INCHES X 36 INCHES. CONSTRUCTION AREA TO OCCUPIED MEDICAL CENTER AREA. THESE MATS SHALL BE CHANGED AS OFTEN AS 2. DUST CREATED FROM DISTURBANCE OF SOIL SUCH AS FROM VEHICLE MOVEMENT WILL BE WETTED WITH WORK AREA OR IMPLEMENT CONTROL CUBE METHOD (CART WITH PLASTIC COVERING AND SEALED THE COR, UPON EVALUATION OF THE PROJECT, MAY REQUIRE DRY MAT/WET MAT/STICKY MAT COMBO TO REQUIRED TO MAINTAIN CLEAN WORK AREAS DIRECTLY OUTSIDE CONSTRUCTION AREA AT ALL TIMES. USE OF A WATER TRUCK AS NECESSARY 3. ALL CUTTING, DRILLING, GRINDING, SANDING, OR DISTURBANCE OF MATERIALS SHALL BE CONNECTION TO WORK SITE WITH HEPA VACUUM FOR VACUUMING PRIOR TO EXIT) BEFORE CONSTRUCTION I. CLASS III AND IV (WHERE DUST CONTROL IS THE ONLY HAZARD, AND AN AGREEMENT IS REACHED WITH THE PREVENT CONTAMINATES FROM BEING INTRODUCED IN PATIENT SENSITIVE AREAS. 4. VACUUM AND WET MOP ALL TRANSITION AREAS FROM CONSTRUCTION TO THE OCCUPIED MEDICAL CENTER CONTRACTOR ROUTE FROM ELEVATORS ACCOMPLISHED WITH TOOLS EQUIPPED WITH EITHER LOCAL EXHAUST VENTILATION (I.E. VACUUM BEGINS. INSTALL CONSTRUCTION BARRIERS AND CEILING PROTECTION CAREFULLY, OUTSIDE OF NORMAL COR AND MEDICAL CENTER) - AIRTIGHT FLAME RETARDANT 6 MIL OR GREATER PLASTIC BARRIER THAT 7. DISINFECTANT: HOSPITAL-APPROVED DISINFECTANT OR EQUIVALENT PRODUCT AT THE END OF EACH WORKDAY. VACUUM SHALL UTILIZE HEPA FILTRATION. MAINTAIN SURROUNDING AREA TO CONSTRUCTION ZONE DURING EXTENDS FROM THE FLOOR TO CEILING. SEAMS SHALL BE SEALED WITH DUCT TAPE TO PREVENT DUST AND 8. PORTABLE CEILING ACCESS MODULE SYSTEMS) OR WET SUPPRESSION CONTROLS. PHASE 1A & 1B IV. MAINTAIN NEGATIVE AIR PRESSURE WITHIN WORK SITE UTILIZING HEPA EQUIPPED AIR FILTRATION UNITS. REMOVE DEBRIS AS IT IS CREATED. TRANSPORT THESE OUTSIDE THE CONSTRUCTION AREA IN CONTAINERS DEBRIS FROM ESCAPING (PHASES 2A & 2B SIMILAR) V. SEAL HOLES, PIPES, CONDUITS, AND PUNCTURES. WITH TIGHTLY FITTING LIDS. TEMPORARY CONSTRUCTION BARRIER 2 HR RATED GYPSUM PARTITION TO DECK ABOVE SHAFTWALL CONSTRUCTION SIMILAR TO PARTITION F42 TEMPORARY CONSTRUCTION BARRIER 1 HR RATED GYPSUM PARTITION TO DECK ABOVE MOBILE CONSTRUCTION DUST BARRIER NON-RATED METAL STUD AND FIRE RETARDANT PLASTIC PARTITION TO CEILING ABOVE TEMPORARY CONSTRUCTION DOOR IN HOLLOW METAL FRAME TEMPORARY CONSTRUCTION FIRE EXTINGUISHER AND WALL LABEL PHASING KEYED NOTES **EXISTING SUMMARY:** EXISTING PACU = 9 TREATMENT BAYS AND A SMALL ISO ROOM . CORRIDOR 1 M AINTAIN EXISTING HVAC INTO EXISTING PACU, SEE MECHANICAL FOR TEMPORARY HEATING AND AIR CONDITIONING REQUIRED DUE TO CEILING CONGESTION. MEANS AND METHODS BY RELOCATE EXISTING ELECTRICAL PANELS INTO NEW FURRED WALL, PROVIDE TEMPORARY MOBILE CONSTRUCTION DUST WALLS TO ISOLATE CONSTRUCTION. VA ACCESS TO EXISTING PACU SHALL BE THRU THE EXISTING WEST DOOR IN PHASE 1A.1 3 CLOSE OFF ACCESS TO WAITING ROOM WITH TEMPORARY MOBILE CONSTRUCTION DUST WALLS AND INSTALL NEW CORRIDOR LINK ON WEEKEND WORK. 4 WORK IN THIS CORRIDOR WILL BE WEEKEND WORK. MAINTAIN EGRESS AT ALL OCCUPIED PERIODS. WHEN ITEM 3 ABOVE IS COMPLETE, EGRESS SHIFTS NORTH 5 TEMPORARY MOBILE CONSTRUCTION DUST WALLS, PHASE 1A & 1B PHASE 1B CONTRACTOR ELEVATOR INSTALL 1 HR RATED CONSTRUCTION BARRIER AND 45 MIN DOOR, SEE DOORS BELOW SEE THE VA FOR USE RESTRICTIONS ISOLATION ROOM INSTALL CROSS CORRIDOR SMOKE BARRIER DOOR PROVIDE PROTECTIVE PADS ON WALLS AND CLOSES SMALL STORAGE ROOM, SHOWER ROOM, 1 OFFICE, PART OF CORRIDOR AND WAITING PROVIDE FLOOR PROTECTION. TO BUILD A REAR CORRIDOR CONNECTION, HOUSE KEEPING, PACU STORAGE AND DUCT CHASE OTHER CONTRACTORS AND STAFF MAY BE 9 INSTALL NEW ROOF TOP UNIT, CONNECT TO ELECTRICAL, CHILLED WATER ETC. EXTEND DUCT USING THIS ELEVATOR AT THE SAME TIME THRU EXTERIOR WINDOW AND INFILL WITH BRICK. 10 REBUILD SOUTH PACU WALL (INTO THE EXISTING CORRIDOR) SO THAT IT DOES NOT DISTURB STAFF LOUNGE EXISTING PACU 11 NEW DOOR & WALL TO SEPARATE PACU CONSTRUCTION FROM CORRIDOR. 12 TEMPORARY 1 HOUR RATED CONSTRUCTION BARRIER WITH CONTRACTOR DOOR - AFTER HOURS ONLY, DO NOT DISTURB PACU OPERATIONS. 13 UPGRADE EXISTING WALL TO 1 HOUR 14 CONSTRUCT 8 NEW TREATMENT BAYS, PATIENT LIFTS, SMALL NURSE STATION, AND RENOVATE REC BAY 13 PATIENT TOILET.(NOURISHMENT MILLWORK INSTALLED AT LAST PHASE) WAITING RM 15 INSTALL 48" TEMPORARY DOOR IN NEW PARTITION TO PROVIDE ACCESS TO PACU PHASE 1B 16 DISCONNECT TEMPORARY HVAC IN PACU EXPANSION AREA 1B AND RUN OFF NEW ROOF TOP NOURISH REC BAY 16 REC BAY 15 REC BAY UNIT. TEMPORARY HVAC CONTINUES IN PHASE 2A AREA. NURSE ST REC BAY 12 REC BAY 11 REC BAY 10 REC BAY 9 REC BAY 8 PHASE 2A SUMMARY: 17 OPEN UP 8 NEW TREATMENT BAYS FROM PHASE 1B AND CLOSE DOWN EXISTING PACU 18 TEMPORARY CONSTRUCTION BARRIERS TO CLOSE OFF THE EXISTING PACU. CONTRACTOR ACCESS THRU EXISTING WEST PACU SINGLE DOOR. PHASE 1B DO NOT DISTURB CONTRACTOR ROUTE 19 RENOVATE EXISTING PACU AREA 20 COMPLETE ROOF TOP ISOLATION FAN AND DUCT ROUTE TO ISOLATION ROOM 21 SEE MECHANICAL FOR SHAFT CONSIDERATIONS ADHESIVE WALK-25 TEMPORARY MOBILE CONSTRUCTION DUST WALLS PHASE 2A &B REC BAY 2 REC BAY 3 REC BAY 6 REC BAY 7 22 OPEN UP RENOVATED EXISTING PACU 23 ADD TEMPORARY MOBILE CONSTRUCTION DUST WALL TO INSTALL NOURISHMENT MILLWORK 24 INSTALL NOURISHMENT MILLWORK AND SECURE OR REMOVE DOOR TO CORRIDOR HOUSEKEEPING CORRIDOR (8) PHASING TEMPORARY DOORS PHASE 1A & 1B -HM OR SOLID CORE WD DOOR, 4'-0" X 7'-0" X 1 3/4", 45 MIN RATED WITH NARROW LITE, CLOSER, STOREROOM FUNCTION, CONTRACTOR KEY, RATED HOLLOW METAL FRAME, SMOKE/SOUND SEALS, 1 1/2 PR 5" X 4 1/2" BALL BEARING HINGES. SET IN 1 HOUR RATED TEMPORARY CONSTRUCTION BARRIER SIMILAR TO PARTITION TYPE A41 WITH 3" SOUND BATTS. BARRIER TO EXTEND TO DECK HM OR SOLID CORE WD DOOR, 3'-6" X 7'-0" X 1 3/4", 45 MIN RATED WITH NARROW LITE, CLOSER, STOREROOM FUNCTION, CONTRACTOR KEY, RATED HOLLOW METAL FRAME, SMOKE/SOUND SEALS, 1 1/2 PR 5" X 4 1/2" BALL BEARING HINGES. SET IN NEW 1 HOUR RATED SMOKE BARRIER PARTITION TYPE A41 WITH 3" SOUND BATTS. PARTITION TO EXTEND TO DECK ABOVE. SEE PARTITION SCHEDULE SHEET A-002 HM OR SOLID CORE WD DOOR, 4'-0" X 7'-0" X 1 3/4", 45 MIN RATED WITH NARROW LITE, CLOSER, STOREROOM FUNCTION, CONTRACTOR KEY, RATED HOLLOW METAL FRAME, SMOKE/SOUND SEALS, 1 1/2 PR 5" X 4 1/2" BALL BEARING HINGES SET IN 1 HOUR RATED TEMPORARY CONSTRUCTION BARRIER SIMILAR TO PARTITION TYPE --- WITH 3" SOUND BATTS. BARRIER TO EXTEND TO DECK ABOVE 4'-0" WIDTH TO ACCOMMODATE EQUIPMENT MOVEMENT BETWEEN PHASE 1 & 2 THIS WORK SHALL NOT DISTURB PACU OPERATIONS, SHALL BE AFTER HOURS HM OR SOLID CORE WD DOOR, 4'-0" X 7'-0" X 1 3/4", 45 MIN RATED WITH NARROW LITE, AUTO DOOR OPERATOR, CR/PUSH PAD ACTIVATORS, STOREROOM FUNCTION, ELECTRIC STRIKE, CONTRACTOR AND VA KEYS, RATED HOLLOW METAL FRAME. SMOKE/SOUND SEALS. 1 1/2 PR 5" X 4 1/2" BALL BEARING HINGES. SET IN NEW 1 HOUR RATED SMOKE BARRIER PARTITION TYPE A41 WITH 3" SOUND BATTS. PARTITION TO EXTEND TO DECK ABOVE THE VA WILL MOVE THE PAIN CLINIC OUT OF THIS WING DURING HM OR SOLID CORE WD DOOR, 4'-0" X 7'-0" X 1 3/4", 45 MIN RATED WITH NARROW CONSTRUCTION. LITE, CLOSER, STOREROOM FUNCTION, CONTRACTOR KEY, RATED HOLLOW THE CORRIDOR AREA PAIN CLINIC ROOMS WILL NOT BE METAL FRAME, SMOKE/SOUND SEALS, 1 1/2 PR 5" X 4 1/2" BALL BEARING HINGES. AVAILABLE FOR CONSTRUCTION MATERIAL STORAGE. SET IN 1 HOUR RATED TEMPORARY CONSTRUCTION BARRIER SIMILAR TO USE OF OFFICE SPACE IS NOT ALLOWED EXCEPT AS SHOWN PARTITION TYPE A41 WITH 3" SOUND BATTS. BARRIER TO EXTEND TO DECK FOR TEMPORARY HVAC EQUIPMENT. TEMPORARY CONSTRUCTION VESTIBULE DOOR, DUST TIGHT PER ICRA HM DOOR, 3'-0" X 7'-0" X 1 3/4", 90 MIN RATED WITH, CLOSER, STOREROOM FUNCTION, CONTRACTOR KEY, RATED HOLLOW METAL FRAME, 1 1/2 PR 4 1/2" X 4 FOURTH FLOOR PLAN - PHASING //2" HINGES. SET IN 2 HOUR RATED TEMPORARY CONSTRUCTION BARRIEF SIMILAR TO PARTITION TYPE F42 (5 1/4" THICKNESS). BARRIER TO EXTEND TO DECK ABOVE. REMOVE EXISTING PAIN CLINIC DOOR AND RE-INSTALL AT THE END OF CONSTRUCTION. CONTRACTOR NOTES: 1. ALWAYS MAINTAIN A SAFE AND SECURE SITE. 2. PROVIDE ACTIVE CONSTRUCTION SIGNAGE AT EACH CONSTRUCTION POINT OF ENTRY 3. REFER TO ICRA REQUIREMENTS. 100% BID DOCUMENTS Drawing Title Project Number **Project Title** CONSULTANT ARCHITECT/ENGINEER OF RECORD STAMP Office of 558-17-150 VA DURHAM - PACU RENOVATION PHASING PLAN 100% BID DOCUMENTS Construction **Building Number** PERKINS and Facilities **EASTMAN** DNSULTING ENGINEERS PO Box 1629, Hickory, NC 28603 LAURENE, RICKHER 5248 Management **Drawing Number** Approved: **CHARLOTT** 704.295.4263 & SORRELL, P.C. 520 WEST SIXTH STREET **DURHAM VAMC** DURHAM, NC 705 EAST MOREHEAD STREET, 28202 CHARLOTTE, NC 28202 Consulting Structural Engineers Andreka Watlington **RALEIGH** 919.816.2907 F: 828.315.9964 T. 704.940.0501 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 **FULLY SPRINKLERED** 737 GLENWOOD AVENUE, SUITE 100, 27612 F. 704.362.4602 Checked G-100 **Issue Date** Drawn U.S. Department of Veterans Affairs PHONE 704-522-0495 FAX 704-522-0499 NC License No: C-2848 EMAIL mail@lrspc.net WEB www.lrspc.net www.atriaxgroup.com 12/22/2020 BM MK 3 of 78 VA FORM 08 - 6231

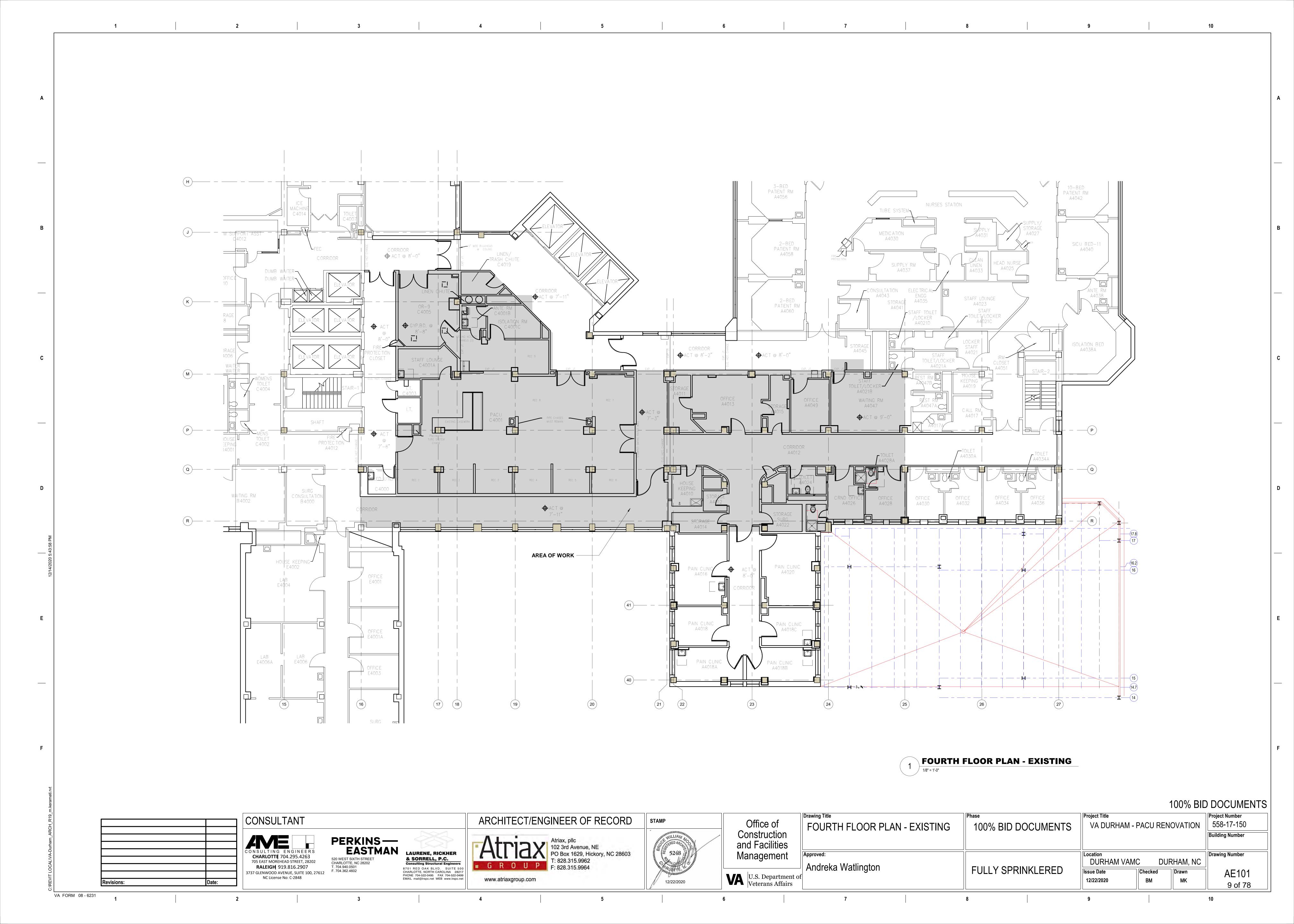


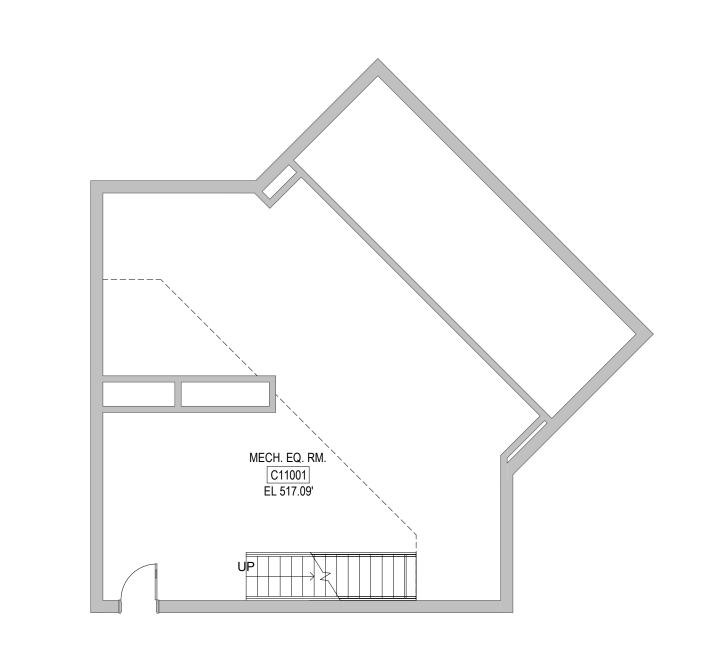




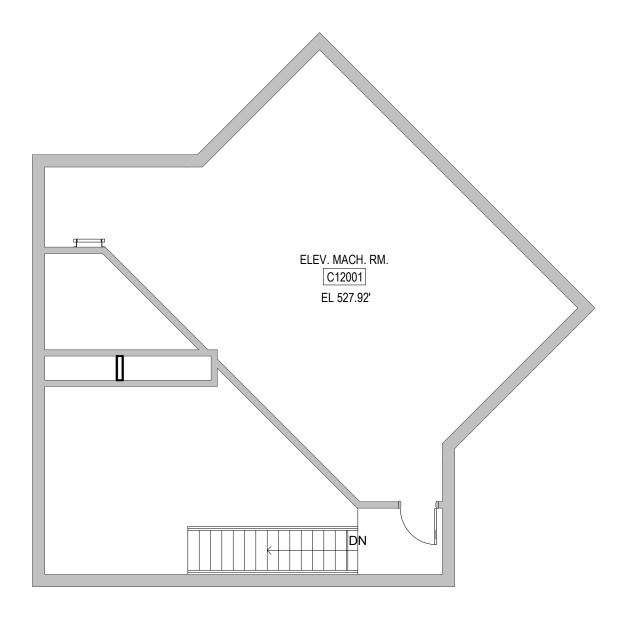




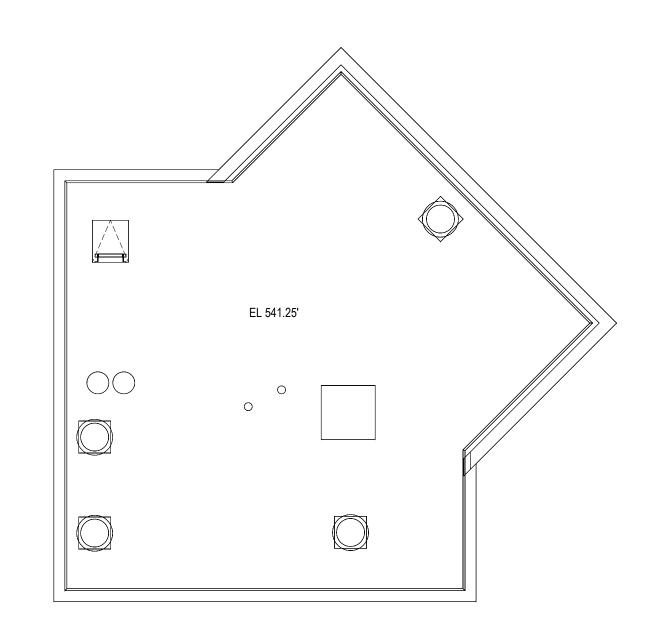












**EXISTING ROOF PLAN** REFERENCE PLAN FOR MEP, REFER TO MEP DRAWINGS.

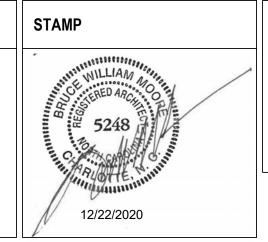
CONSULTANT CONSULTING ENGINEERS
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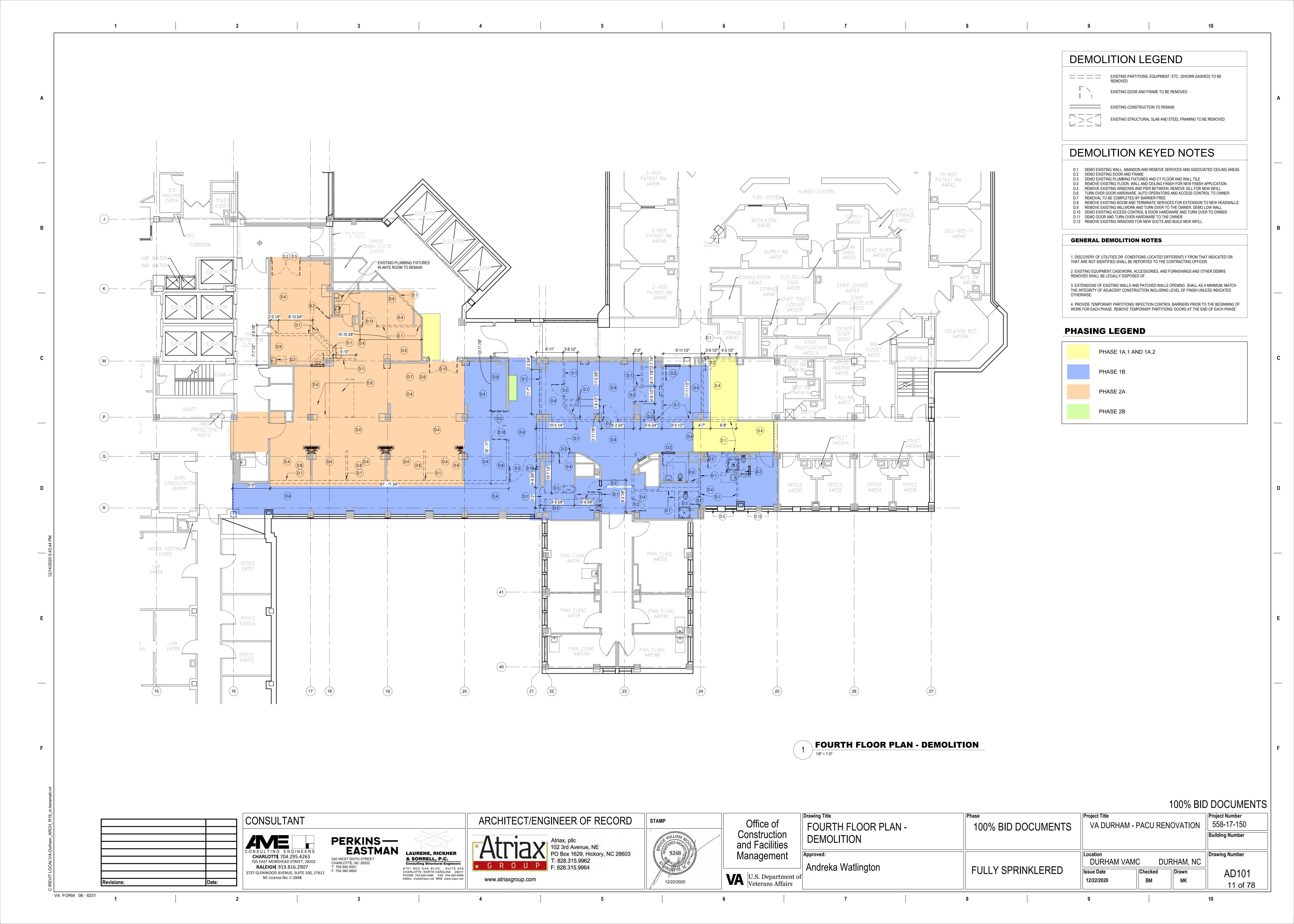
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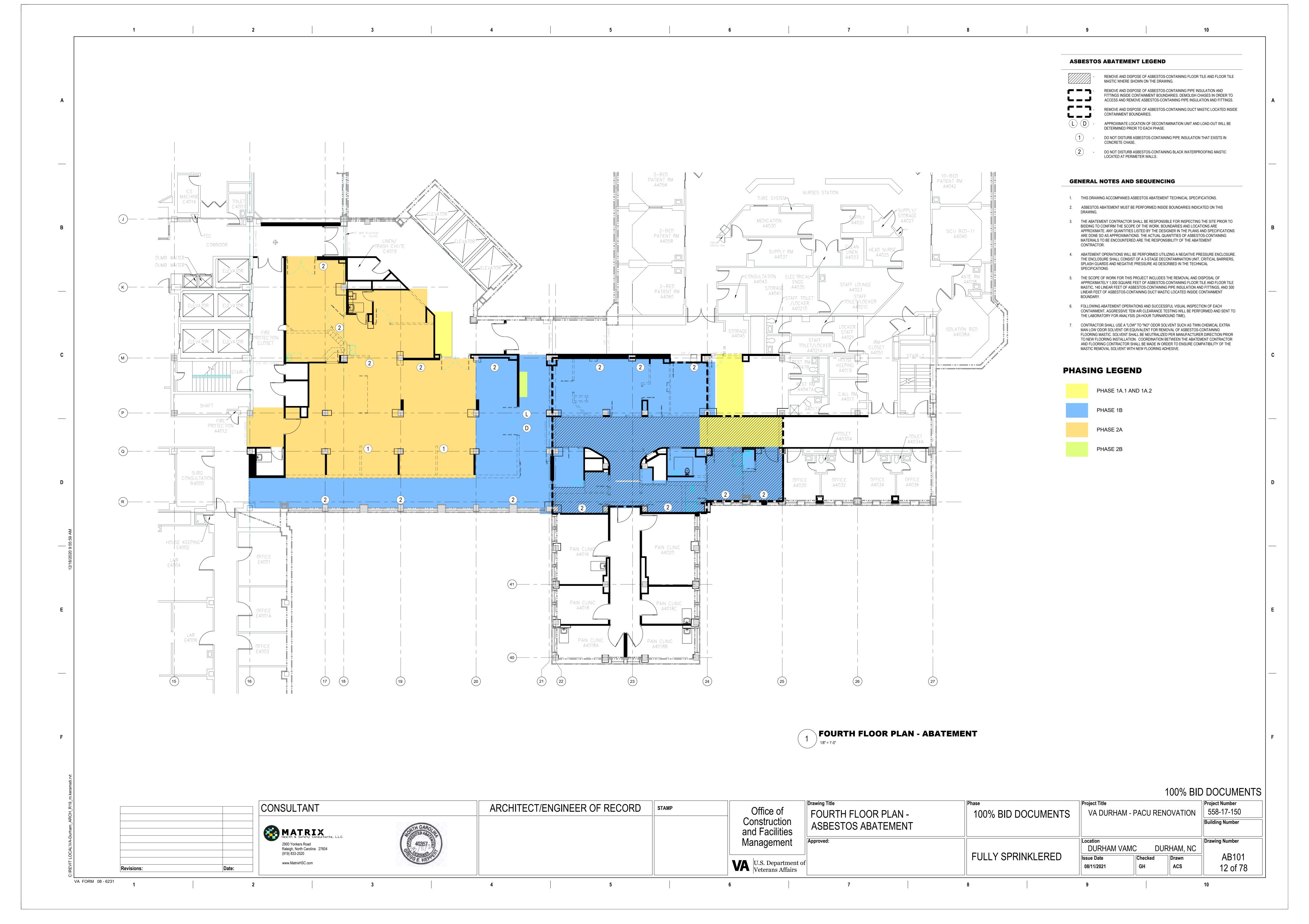
ARCHITECT/ENGINEER OF RECORD Atriax, pllc 102 3rd Avenue, NE PO Box 1629, Hickory, NC 28603 T: 828.315.9962 F: 828.315.9964 www.atriaxgroup.com



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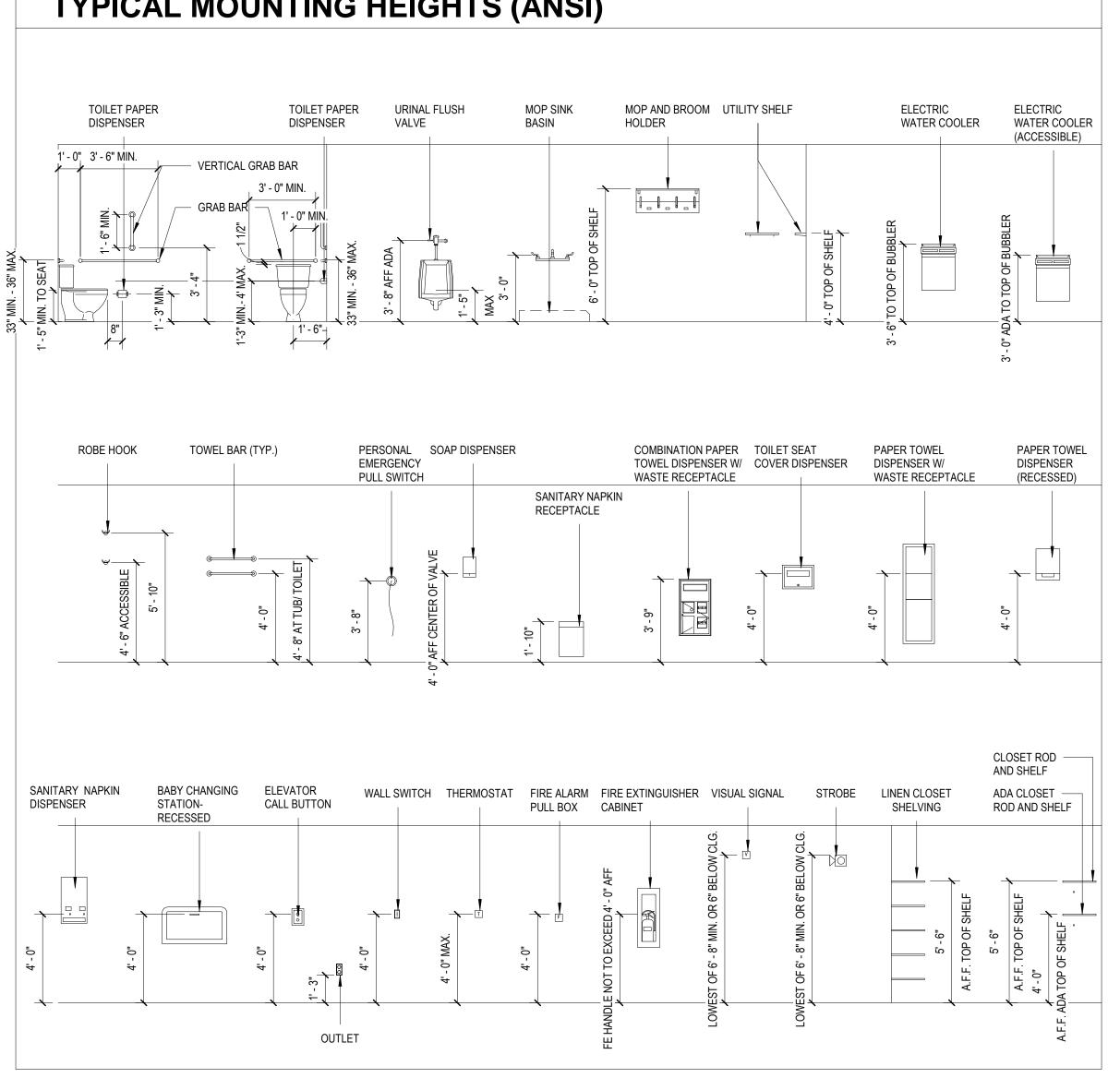
100% BID DOCUMENTS Drawing Title Project Number Project Title 558-17-150 VA DURHAM - PACU RENOVATION EXISTING MECH ROOM & ELEV 100% BID DOCUMENTS **Building Number** MACH ROOM & ROOF PLAN Drawing Number Approved: Location **DURHAM VAMC** DURHAM, NC Andreka Watlington FULLY SPRINKLERED Issue Date Checked Drawn MK 12/22/2020 ВМ 10 of 78





DBL DOUBLE HAND DRYER PRE-FINISHED TEMP AIR CONDITIONER / CONDITIONING DEGREE HDBD PRF POLYURETHANE SPORTS FLOORING HARDBOARD ACC ACCESSIBLE DEMOLITION HDR PROPERTY ACCSY DETAIL HDW HARDWARE PRESSURE TREATED ACCESSORY HDWD ACOUS INSUL ACOUSTICAL INSULATION DRINKING FOUNTAIN HARDWOOD POURED SEALANT ACOUS PNL ACOUSTICAL PANELS DOUBLE HUNG HDWL POUNDS PER SQUARE FOOT HEADWALL TK BD POUNDS PER SQUARE INCH ACP LAY-IN ACOUSTIC PANEL CEILING PADS HOLLOW METAL TOC HNDRL **HORIZ** PT/E HORIZONTAL **EPOXY PAINT** FLAT PAINT DISPENSER **HEAT PUMP** ACCESS PANEL ACOUSTICAL HIGH PRESSURE HIGH GLOSS PAINT ACOUSTICAL CEILING TILE DAMPPROOFING HORSEPOWER SEMIGLOSS PAINT PTD PAPER TOWEL DISPENSER TRTD AREA DRAIN DOOR / DRAIN HAND RAIL AMERICANS WITH DISABILITIES ACT DOWNSPOUT HAND SINK PARTITION HEIGHT PAVED ADDITIONAL DISHWASHER HEATING / VENTILATION / AIR POLYVINYL CHLORIDE ADDENDUM TYP CONDITIONING ADJUSTABLE / ADJACENT DRAWER PAVING **HOT WATER** HEAT TRANSFER ADMINISTRATION EAST HOT WATER PUMP ABOVE FINISHED COUNTER EACH RATE OF FLOW EACH FACE HYDRANT **QUARRY TILE** ABOVE FINISHED FLOOR VERTICAL END GUARDS IRONING CABINET QUANTITY ABOVE FINISHED GRADE INSIDE DIAMETER UNO ABOVE FINISHED SLAB ELECTRIC HAND DRYER QUARTZ FLOORING UR INCH / INCHES ANCHOR EXTERIOR INSULATION AND FINISH QUARTZ RESIN INCLUDE(D) / INCLUDING SYSTEM QUARTZ TILE AIR HANDLING UNIT INSULATE / INSULATION VAC **EXPANSION JOINT** INSUL RISER ELEVATION ALTERNATE INTERIOR **RADIUS** ELECTRICAL VCT RETURN AIR ALUMINUM **ELEVATOR** INTERTEK TESTING SERVICES **VENT** ELEV RUBBER BASE ANODIZED ELECTROMAGNETIC JUNCTION BOX **VERT** RUBBER BASE ACOUSTICAL PANEL CEILING EXPANDED METAL JAN CLO JANITOR'S CLOSET **VEST** REFLECTED CEILING PLAN **EMERGENCY** JANITOR'S SINK **ROOF DRAIN ENCL** ENCLOSED / ENCLOSURE KITCHEN **APARTMENT** RECESSED **ENGR ENGINEER** ANGLE ARCHITECT(URAL) RECEPTACLE ENTRANCE LITER REFERENCE EDGE OF SLAB LABORATORY AMERICAN SOCIETY FOR TESTING REFRIGERATOR ELECTRIC PANEL BOARD LAMINATE(D) MATERIALS REFLECTED ACOUSTICAL TILE CEILING EQUAL(LY) LAVATORY REG REGISTER **EQUIPMENT** POUND(S) AUTOMATIC REINFORCE(D) **AVERAGE** POURED EPOXY LINEN CLOSET REQ REQUIRED WALL-MOUNTED SOUND ABSORPTION POURED EPOXY FLOORING LINEAR FOOT (FEET) RESIL RESILIENT **ESCAL ESCALATOR** LEFT HAND RESTROOM ACOUSTIC WALL TREATMENT EST **ESTIMATE** LIBRARY RETURN EACH WAY LINOLEUM REVISE / REVISION BITUMINOUS ELECTRIC WATER COOLER LOCKER RESILIENT FLOORING BASELINE EXTERIOR FINISH LINOLEUM ROOFING BLACK LOW POINT RIGHT HAND **EXIST EXISTING** LIGHT VWC ROOM EXP LINOLEUM TILE FLOORING **EXPANSION ROUGH OPENING** BLOWOFF EXTERIOR LTWT LIGHT WEIGHT RIGHT OF WAY FIRE ALARM LOUVER RAILROAD BEDROOM **METER ROLL ROOFING** BEARING FRESH AIR INTAKE MACH MACHINE RAPID START BOTH SIDES **FBRK** MAT WALK-OFF MAT FIREBRICK **ROUGH SAWN** BASEMENT MATL PREFABRICATED FABRIC CEILING PANEL MATERIAL RUBBER SHEET BETWEEN FCU FAN COIL UNIT MAXIMUM RUBBER SHEET FLOORING **BUILT UP ROOFING** FLOOR DRAIN MACHINE BOLT REINFORCING STEEL FOUNDATION MAIL BOX RIGHT CELSIUS FIRE EXTINGUISHER MIXING BOX RUBBER TILE FLOORING CHANNEL FIRE EXTINGUISHER CABINET MOP/BROOM HOLDER **RUBBER TRANSITION STRIP** CENTER TO CENTER FINISH FLOOR ELEVATION MEDICINE CABINET REDWOOD CABINET FGL **FIBERGLASS** ACOUSTIC LAY-IN METAL CEILING PADS RAIN WATER LEADER CATCH BASIN FIRE HOSE MECHANICAL ENGINEER SOUTH CUBICLE CURTAIN TRACK FHC FIRE HOSE CABINET MECH MECHANICAL SANITARY CEM FIN MED MEDIUM SOLID CORE CEM PLAS CEMENT PLASTER (STUCCO) FIN FLR FINISHED FLOOR MEZZ MEZZANINE SCHEDULE FIN FLR FINISH FLOOR MANUFACTURE(R) SCRN SCREEN CORNER GUARD FIXT STRUCTURAL CLAY TILE CHILLER FLASH FLASH(ING) MINIMUM COAT HOOK FLR FLOOR **MIRROR** SECT SECTION CHBD CHALKBOARD FLRSK FLOOR SINK MISCELLANEOUS SQUARE FEET CHFR CHAMFER **FLUOR FLUORESCENT** MKR BD MARKER BOARD CAST IRON FACTORY MUTUAL FM MLDG MOULDING SINGLE HUNG CAST IN PLACE FOC FACE OF CONCRETE MILLIMETER SHOWER CONTROL JOINT FOF FACE OF FINISH MASONRY OPENING SHOWER HEAD CENTERLINE FOM FACE OF MASONRY MOISTURE RESISTANT CL D CLOTHES DRYER FOS FACE OF STUDS MOP SINK FOW MOP SERVICE BASIN FACE OF WALL CLG HT CEILING HEIGHT MOUNTED SEA LEVEL CONTRACT LIMIT LINE FIREPLACE MTL METAL SPOT LIGHT XPS METAL TRANSITION STRIP SLIDING FIBER REINFORCED GYPSUM MULL MULLION SANITARY NAPKIN DISPENSER CONCRETE MASONRY UNIT MVBL MOVABLE FIBERGLASS REINFORCED PLASTIC SANITARY NAPKIN DISPOSAL UNIT CNTR COUNTER FRT FIRE RETARDANT TREATED MICROWAVE SUSPENDED PLASTER CEILING CARBON MONOXIDE FIRE STAND PIPE NORTH SPECIFY / SPECIFICATION CASED OPENING **FSTNR** NOT AVAILABLE / APPLICABLE **FASTENER** SOLID PHENOLIC POLYMER (TRESPA) CERTIFICATE OF OCCUPANCY FTG NATURAL SPEAKER CLEANOUT **FURG** FURRING NATIONAL FIRE PROTECTION SOLID POLYMER RESIN (3FORM) COMPANY FUT **FUTURE** ASSOCIATION SQUARE CUTOUT NOT IN CONTRACT FABRIC WALL COVER SQUARE INCH(ES) COLUMN NON-ACOUSTIC STRETCHED FABRIC NUMBER SOLID SURFACE POLYMER (CORIAN) COMBINATION PANEL WALL INSTALATION NOM NOMINAL SOLID POLYMER (CORIAN) RUB RAIL CONC CONCRETE NOT TO SCALE STAINLESS STEEL CONC FLR SEALED CONCRETE FLOOR STAINLESS STEEL RUB RAIL ON CENTER GALVANIZE(D) SINGLE THROW CONT OUTSIDE DIAMETER CONTINUE STAIRS OUTSIDE FACE CONTROLLER GENERAL CONTRACTOR STREET CONV OWNER FURNISHED / CONTRACTOR GDISP GARBAGE DISPOSAL STAIN INSTALLED CORR CORRIDOR / CORRUGATED GEN STATION GFP GFRP OR GFRG FREESTANDING PANEL STD STANDARD OPH OPPOSITE HAND CLOSET ROD **GFRG** GLASS FIBER REINFORCED GYPSUM STIF STIFFENER OPNG CONTROL RELAY GFRP GLASS FIBER REINFORCED POLYMER STON STONE OPP OPPOSITE CONTROL ROOM GLASS / GLAZING STOR STORAGE OUNCE CRASH RAIL GL BLK GLASS BLOCK STRUCT STRUCTURE / STRUCTURAL PARALLEL CAST STONE **GLASS MOSIAC TILE** SUSPENDED UNIT HEATER PARAPET CONTROL SWITCH GLZ SURFACE SURF PART PARTIAL CSWK CASEWORK GLZ CMU GLAZED CONCRETE MASONRY UNIT SUSP SUSPENDED PATTERN CERAMIC TILE GPM GALLONS PER MINUTE VINYL SOLID PANEL (ACROVYN) PARTICLE BOARD CERAMIC TILE BASE **GROSS** PRECAST CONCRETE GR LN GRADE LINE SYMMETRICAL PED PEDESTAL COPPER GRAN **GRANITE** SYNTHETIC PERF PERFORATED CU FT CUBIC FOOT **GREASE TRAP** SYS SYSTEM PERIM PERIMETER CU YD CUBIC YARD **GROSS TON** TREAD PERP PERPENDICULAR CUBICLE CURTAIN TOP AND BOTTOM PROPERTY LINE CURT CURTAIN GYPSUM TONGUE AND GROOVE PLASTIC LAMINATE PLAM CASEMENT WINDOW GYPSUM BOARD TUB / SHOWER PLAS PLASTIC HIGH CHEMICAL WASTE LINE TOWEL BAR PLAS PLASTER CLOCKWISE HC HOLLOW CORE TERRA COTTA PLYWD PLYWOOD COLD WATER PIPING HCP HANDICAPPED TCZ **CEMENTITIOUS TERRAZZO** PAIR DEEP **HEAVY DUTY** TEL TELEPHONE PREFAB PREFABRICATED

MATERIALS LEGEND SYMBOLS LEGEND SEE DISCIPLINE SHEETS FOR DISCIPLINE SPECIFIC SYMBOLS BATT INSULATION <u>A</u> 101 SHEET A201 Sheet No. Sequence **ELEVATION** Sheet Type CONCRETE Discipline **ELEVATION** —BUILDING SECTION RIGID INSULATION BRICK IN SECTION ( 0 )— — GRID LINE WALL SECTION PLYWOOD CONCRETE MASONRY UNIT Room Name 0-0000 GYPSUM / PLASTER CULTURED STONE 101 **ELEVATION** MARKERS EXTERIOR COMPOSITE WINDOW TYPE SECTION MARKERS WOOD BLOCKING PEA GRAVEL CEILING TAG EQUIPMENT / REVISION No. **FURNITURE TAG** 1 SCOPE NOTE CLOUD CENTER LINE SMOKE PARTITION • 1 - HOUR FIRE BARRIER FLOW ARROW ■ ■ 1 - HOUR FIRE SMOKE BARRIER 2 - HOUR FIRE BARRIER **TYPICAL MOUNTING HEIGHTS (ANSI) TOILET PAPER** TOILET PAPER URINAL FLUSH MOP SINK MOP AND BROOM UTILITY SHELF ELECTRIC ELECTRIC WATER COOLER WATER COOLER DISPENSER DISPENSER VALVE BASIN HOLDER (ACCESSIBLE) 1' - 0" 3' - 6" MIN. VERTICAL GRAB BAR



Project Number

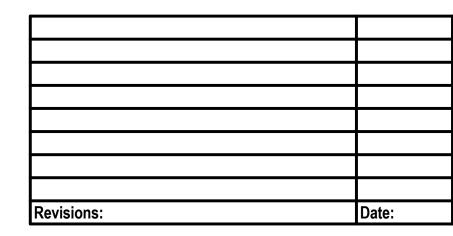
**Building Number** 

Drawing Number

A-001

13 of 78

558-17-150



**CONSULTANT CHARLOTT** # 704.295.4263 705 EAST MOREHEAD STREET, 28202 **RALEIGH** 919.816.2907 3737 GLENWOOD AVENUE, SUITE 100, 27612 F. 704.362.4602 NC License No: C-2848

ATC

CAB

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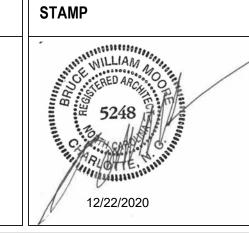
CW

CW

CG

PERKINS— **EASTMAN** 520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501

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**TEMPERATURE** 

**TEMPORARY** 

THICKNESS

THRESHOLD

THROUGH

TACK BOARD

TOP OF SLAB

TOP OF WALL

ACCENT RAIL

TREATED

TERRAZO

TELEVISION

UNDERCUT

UNFINISHED

URINAL

VOLT

VACUUM

VINYL BASE

VENTILATE

**VERTICAL** 

VESTIBULE

VENEER

VOLUME

VERIFY IN FIELD

VACUUM PUMP

VANISHING POINT

VAPOR PRESSURE

VENEER PLASTER

VAPOR RETARDER

VENT STACK

SHEET VINYL

WIDE

WEST

WALL TO WALL

WITHOUT

WOOD BASE

WATER CLOSET

WALLCOVERING

WOOD HAND RAIL

WOOD PANELING

WOOD SHELVING

WOOD VENEER

WIDE FLANGE

WIRED GLASS

WROUGHT IRON

WATERPROOF

**WORKING POINT** 

WIRE ROPE

YARD

WATERPROOF MEMBRANE

WEATHER RESISTANT

WATER REPELLENT

WELDED WIRE FABRIC

EXTRUDED POLYSTYRENE

WALL HUNG

FLOORING

WOOD WALL MOULDINGS

WOOD CHAIR, CRASH, OR HAND RAIL

WOOD TILE OR PARQUET FLOORING

ATHLETIC/ACOUSTIC ISOLATED WOOD

WASHER / DRYER

SOLID VINYL TILE

VENT THRU ROOF

VINYL (ACROVYN) RAIL

VOLUMETRIC SWITCH

VINYL TRANSITION STRIP

VINYL WALLCOVERING

VENEER PLASTIC CEILING/SOFFIT

UNDERGROUND

TYPICAL

TACKABLE PANELING

TOILET PAPER DISPENSER

INTERIOR POURED EPOXY RESIN

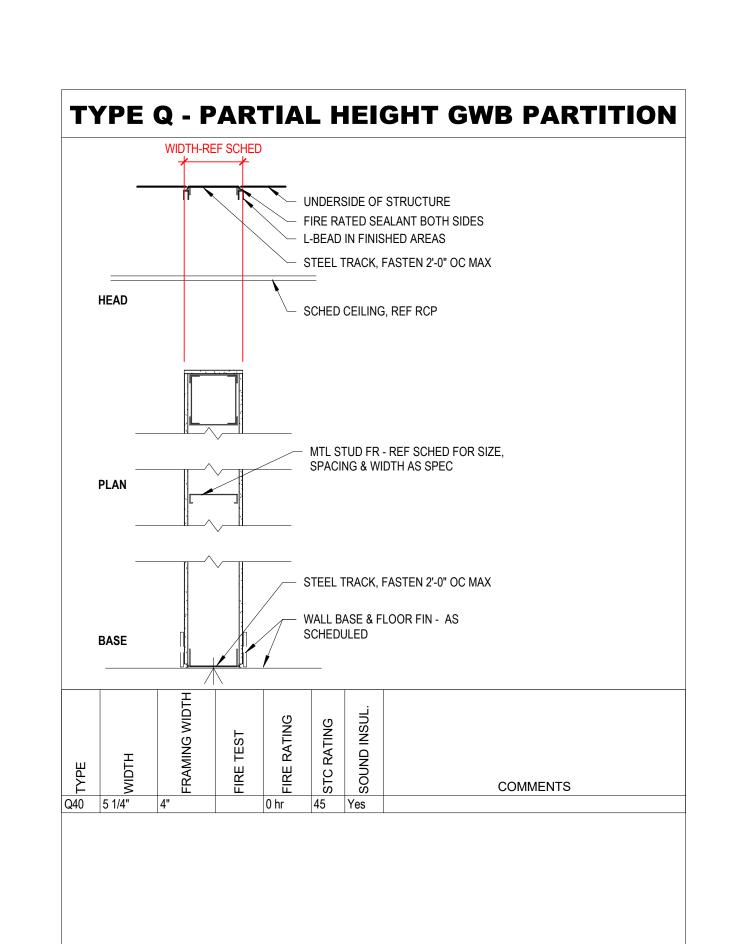
UNDERWRITER'S LABORATORY

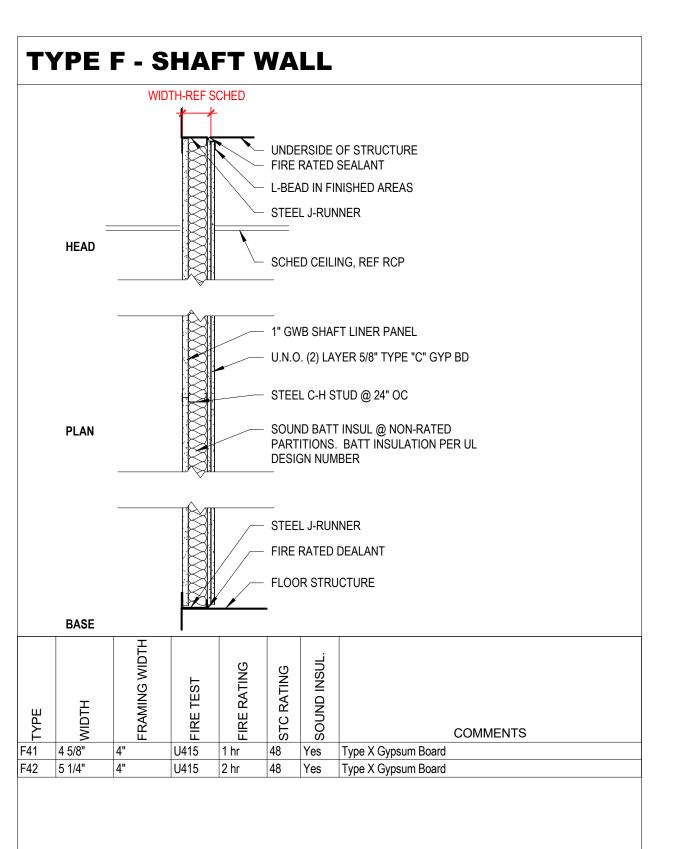
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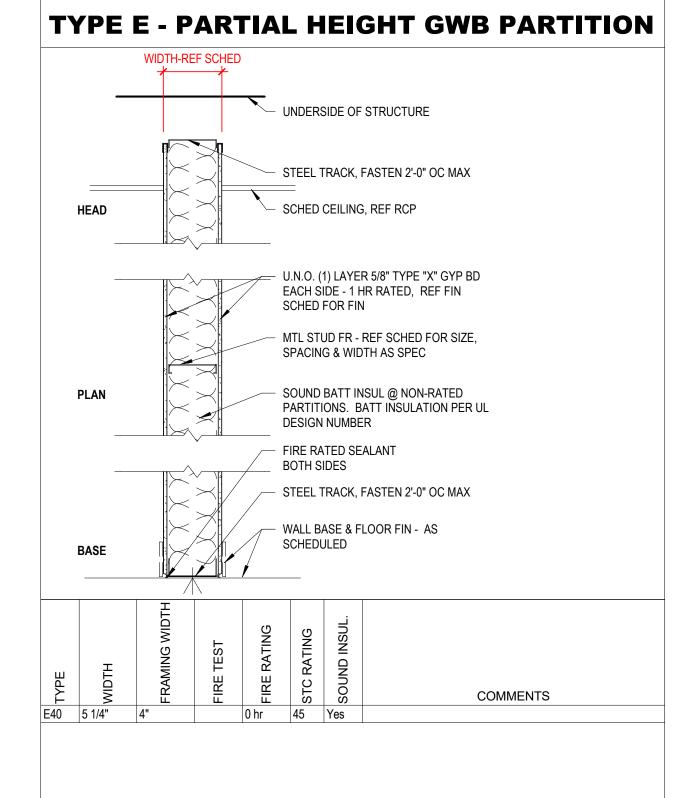
VINYL COMPOSITION TILE

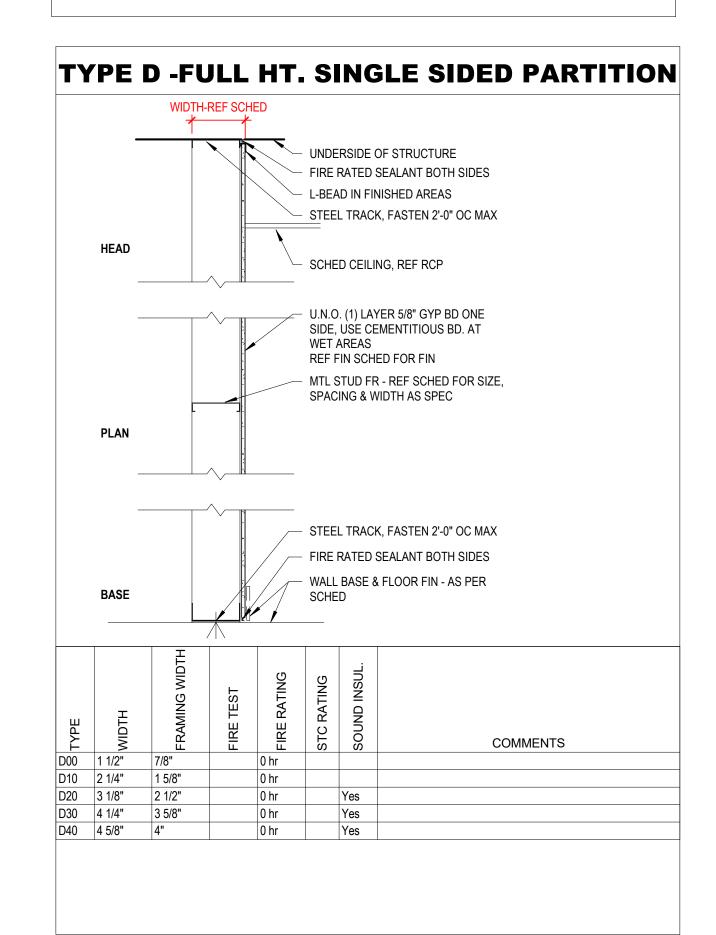
TOP OF CONCRETE

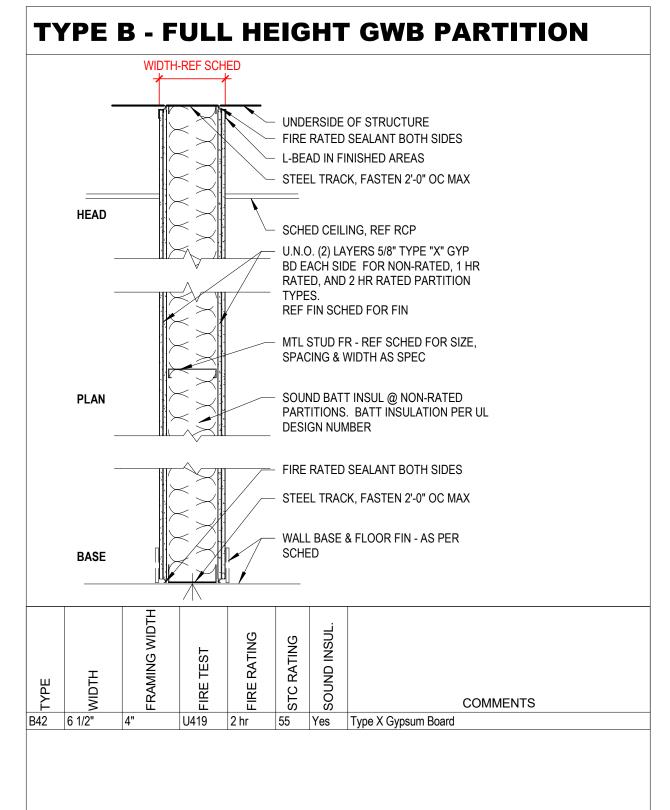
100% BID DOCUMENTS Drawing Title **Project Title** VA DURHAM - PACU RENOVATION NOTES, ABBREVIATIONS, 100% BID DOCUMENTS LEGENDS Approved: Location **DURHAM VAMC** DURHAM, NC Andreka Watlington **FULLY SPRINKLERED** Checked **Issue Date** Drawn 12/22/2020 BM MK

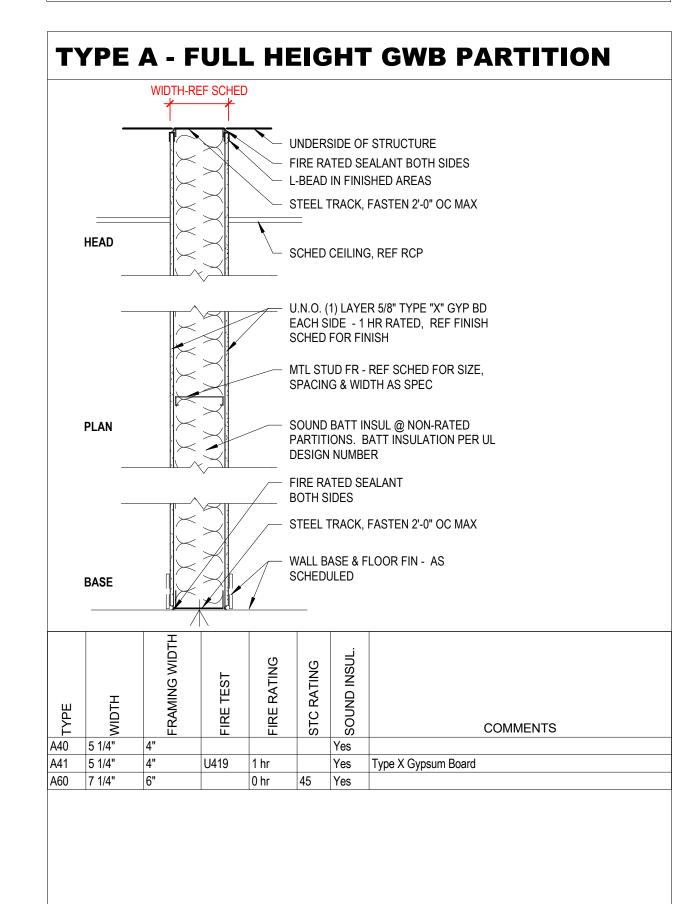


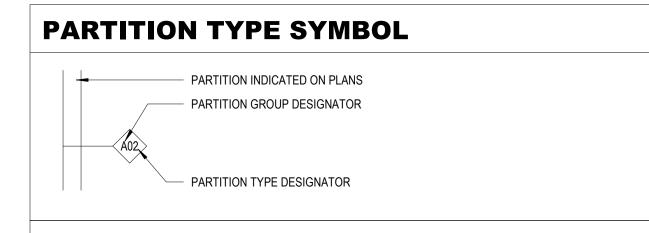












# PARTITION TYPE NOTES

1. REFER TO FLOOR PLANS FOR PARTITION TYPE LOCATIONS.

BY DETAIL OR NOTE.

REQUIREMENTS.

2. IN ALL BATHROOMS PROVIDE, MOISTURE RESISTANT GYP. BD. ON ALL WALLS AND CEILINGS.

3. IN ALL ROOMS OTHER THAN BATHROOMS WHICH CONTAIN SINKS OR OTHER PLUMBING FIXTURES PROVIDE MOISTURE RESISTANT GYP. BD. ON THE WET WALL AND RETURN 4'-0" ON THE SIDE WALLS. 4. ALL GYPSUM BOARD SHALL BE 5/8" THICK, UNO. AT FIRE RATED ASSEMBLIES, PROVIDE TYPE 'X' GYP. BD.

MINIMUM, OR AS REQUIRED BY FIRE RATED ASSEMBLY. 5. FOR FIRE RATED ASSEMBLIES, OBTAIN AND FULLY CONFORM TO DESIGN REQUIREMENTS OF

UNDERWRITERS LABORATORIES. INC(UL) FOR EACH PARTITION ASSEMBLY, UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED OR DESIGNATED BY A DETAIL OR NOTE, AS ALLOWED BY UL DESIGN.

6. FIRE-RESISTANCE-RATED & STC-RATED PARTITIONS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE TESTED ASSEMBLY UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED OR DESIGNATED

7. STC-RATED PARTITION CONSTRUCTION SHALL HAVE ALL PENETRATIONS AND INTERSECTIONS SEALED AIR TIGHT WITH ACOUSTICAL SEALANT.

8. SEPARATE METALLIC OUTLETS OR SWITCH BOXES LOCATED ON OPPOSITE SIDES OF WALLS OR PARTITIONS BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES (U.L, INC.).

9. REFER TO SPECIFICATIONS FOR VERTICAL PARTITION SPACING CRITERIA AND METAL STUD GAUGES,

10. REFER TO FINISH SCHEDULE AND REFLECTED CEILING PLANS FOR THE CEILING TYPE AND HEIGHT.

11. REFER TO FINISH SCHEDULE, INTERIOR ELEVATIONS, INTERIOR DETAILS AND ARCHITECTURAL CASEWORK DETAILS FOR WALL FINISHES AND WALL MOUNTED ACCESSORIES TO COORDINATE BLOCKING

COORDINATE HEIGHTS OF GYP. BD. WITH CEILING HEIGHTS AND WITH PARTITION DETAILS INDICATED.

12. PROVIDE ADEQUATE BACKUP AND BLOCKING FOR ALL WALL OR CEILING MOUNTED EQUIPMENT, ARCHITECTURAL WOODWORK, CASEWORK, LIGHTING, OR OTHER VA MISCELLANEOUS ITEMS & MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION EQUIPMENT TO ASSURE A PROPER

13. ALL DOOR OPENINGS ARE TO BE 4 INCHES FROM ADJACENT WALL U.N.O..

INSTALLATION. ALL BLOCKING TO BE NON COMBUSTIBLE.

14. REFER TO LIFE SAFETY PLANS AND THE PROJECT CODE ANALYSIS SUMMARY FOR FURTHER WALL, FLOOR/CEILING ASSEMBLY RATING REQUIREMENTS.

15. MAINTAIN CONTINUOUS SMOKE/ FIRE RATED PARTITION AT INTERSECTIONS OF RATED WALLS AND NON-RATED WALLS. WRAP GYPSUM BOARD AT JAMBS AND HEAD OF NON-RATED DOORWAYS AND OPENINGS IN RATED WALLS AS REQUIRED TO MAINTAIN WALL RATING.

16. ALL PARTITION THICKNESSES SHOWN ARE ACTUAL DIMENSIONS. FINISHED FACES OF PARTITIONS TO RUN FLUSH, CONTINUOUS AND SMOOTH, U.N.O..

17. ALL GYP. BD. WALL AND CEILING CONTROL JOINTS SHALL BE PROVIDED PER THE PROJECT

SPECIFICATIONS. COORDINATE ALL LOCATIONS WITH THE ARCHITECT PRIOR TO INSTALLATION.

18. ALL GYP. BD. WALL AND CEILING CONTROL JOINTS AT RATED CONDITIONS SHALL BE INSTALLED PER GYPSUM ASSOCIATION GUIDELINES (GA-234-08). UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED OR DESIGNATED BY DETAIL OR NOTE. COORDINATE ALL LOCATIONS WITH THE ARCHITECT PRIOR TO INSTALLATION.

19. REFER TO STRUCTURAL DRAWINGS FOR SPECIFICATIONS & REINFORCEMENT REQUIREMENTS OF MASONRY PARTITIONS.

20. REFER TO WALL SECTIONS FOR EXTERIOR WALL CONSTRUCTION.

21. IN ALL ELECTRICAL ROOMS, INSTALL FRT PLYWOOD FLOOR TO CEILING ON ALL WALLS IN ADDITION TO WALL TYPE REQUIREMENTS. COORDINATE WITH ELECTRICAL CONTRACTOR.

22. IN ALL LOW VOLTAGE & TELE/DATA ROOMS, INSTALL FRT PLYWOOD FLOOR TO CEILING ON ALL WALLS IN ADDITION TO WALL TYPE REQUIREMENTS. COORDINATE WITH LOW VOLTAGE CONTRACTOR.

100% BID DOCUMENTS

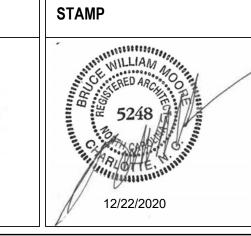
VA FORM 08 - 6231

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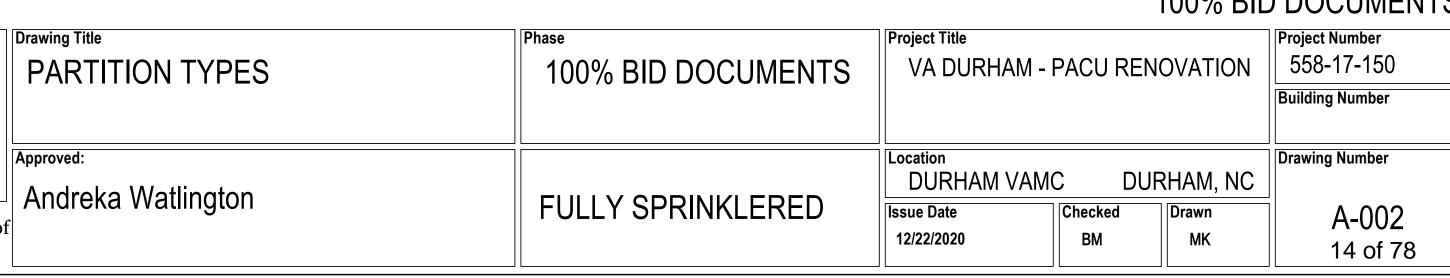
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Design/System/Construction/Assembly Usage Disclaimer · Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and

 Authorities Having Jurisdiction should be consulted before construction. Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.

· When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.

Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances

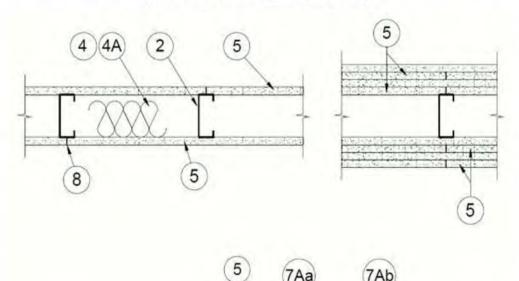
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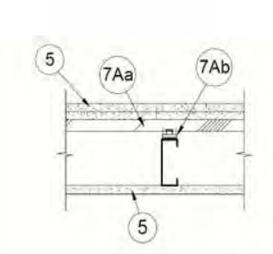
August 05, 2020 Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5

\* Indicates such products shall bear the UL or cUL Certification

Mark for jurisdictions employing the UL or cUL Certification

(such as Canada), respectively.





 Floor and Ceiling Runners — (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track

CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

FUSION BUILDING PRODUCTS — Viper25™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper25™ Track

1B. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

SION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1C. Framing Members\* — Floor and Ceiling Runners — (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max. **ALLSTEEL & GYPSUM PRODUCTS INC** — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and

**QUAIL RUN BUILDING MATERIALS INC** — Type SUPREME D24/30EQD and Type SUPREME D20

**SCAFCO STEEL STUD MANUFACTURING CO** — Type SUPREME D24/30EQD and Type SUPREME D20

**STEEL CONSTRUCTION SYSTEMS INC** — Type SUPREME D24/30EQD and Type SUPREME D20

**UNITED METAL PRODUCTS INC** — Type SUPREME D24/30EQD and Type SUPREME D20

1D. Floor and Ceiling Runners — (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. Framing Members\* — Floor and Ceiling Runners — (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1F. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max. SUPER STUD BUILDING PRODUCTS — The Edge

1G. Framing Members\* — Floor and Ceiling Runner — For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling **STUDCO BUILDING SYSTEMS** — CROCSTUD Track

1H. Floor and Ceiling Runners — (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.018 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

FUSION BUILDING PRODUCTS — Viper20™ Track VT100

TELLING INDUSTRIES L L C — Viper20™ Track

RESCUE METAL FRAMING, L L C — AlphaTRAK

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track VT100

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

11. Framing Members\* — Floor and Ceiling Runners — (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max. TELLING INDUSTRIES L L C — TRUE-TRACK™

1J. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max. TELLING INDUSTRIES L L C — Viper25™ Track

1K. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC

1L. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1M. Framing Members\* — Floor and Ceiling Runners — Not Shown — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max. RONDO BUILDING SERVICES PTY LTD — Rondo Wall Track

1N. Framing Members\* — Floor and Ceiling Runners — Not Shown — As an alternate to Item 1 — For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max. OEG BUILDING MATERIALS — OEG Track

10. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2Q, proprietary channel shaped runners, min width to accommodate stud size, fabricated from min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

2. **Steel Studs** — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less

2A. Steel Studs — (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J or Type ULIX) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min

depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. Framing Members\* - Steel Studs — (As an alternate to Item 2, For use with Items 5C, 5I or Type ULIX) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™

CRACO MFG INC — SmartStud25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

IMPERIAL MANUFACTURING GROUP INC — Viper25™

FUSION BUILDING PRODUCTS — Viper25™

2C. Framing Members\* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

2D. Framing Members\* — Steel Studs — In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

**STEEL CONSTRUCTION SYSTEMS INC** — Type SUPREME D24/30EQD and Type SUPREME D20

**UNITED METAL PRODUCTS INC** — Type SUPREME D24/30EQD and Type SUPREME D20

max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

2E. Framing Members\* — Steel Studs — (Not Shown, As an alternate to Item 2) — For use with

Items 5F or 5G or 5I or Type ULIX only, channel shaped studs, min depth as indicated under Item

5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

**CLARKDIETRICH BUILDING SYSTEMS** — CD ProSTUD

2F. Framing Members\* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than SUPER STUD BUILDING PRODUCTS — The Edge

2G. Framing Members\* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height. STUDCO BUILDING SYSTEMS — CROCSTUD

2H. Framing Members\* — Steel Studs — (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height. TELLING INDUSTRIES L L C — TRUE-STUD™

2I. Framing Members\* — Steel Studs — (As an alternate to Item 2, For use with Items 5C or 5L or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only. **TELLING INDUSTRIES L L C** — Viper25™

2J. Framing Members\* — Metal Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly

2K. Framing Members\* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height. EB METAL INC — NITROSTUD

TELLING INDUSTRIES L L C — Viper20™

2L. Framing Members\* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height. OLMAR SUPPLY INC — PRIMESTUI

2M. Framing Members\* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2N. **Framing Members\***— **Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height. **RESCUE METAL FRAMING, L L C** — AlphaSTUD

20. **Framing Members\*** — **Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max. RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

2P. **Framing Members\*** — **Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max. **OEG BUILDING MATERIALS** — OEG Stud

2Q. Framing Members\* — Steel Studs — Not Shown — In lieu of Item 2 — For use with Item 10, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

3. Wood Structural Panel Sheathing — (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head selfdrilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. Batts and Blankets\* — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

4A. **Batts and Blankets\*** — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire

4B. **Fiber, Sprayed\*** — (Optional, for use with Type ULIX) Where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).

AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

5. Gypsum Board\* — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULIX need not be staggered. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are

#### **Gypsum Board Protection on Each Side of Wall**

Rating, Hr	Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	Layers & Thkns of Panel	Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

layers, 3/4 in. thick | 2 in. CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

layers, 1/2 in. thick Optional

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — 1/2 in. thick Type C and 5/8 in. thick Type SCX

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, ULIX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE

**USG BORAL DRYWALL SFZ LLC** — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

**USG MEXICO S A DE C V** — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR,

IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, Steel Framing Members\*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum

board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as

5A. **Gypsum Board\*** — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6. CGC INC — Type SHX.

**UNITED STATES GYPSUM CO** — Type FRX-G, SHX.

**USG MEXICO S A DE C V** — Type SHX.

described in Item 6.

5B. Gypsum Board\* — (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A. (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud

cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12). RAY-BAR ENGINEERING CORP — Type RB-LBG

5C. **Gypsum Board\*** — (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory. CGC INC — Type SCX, ULIX.

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type SCX

**UNITED STATES GYPSUM CO** — Type SCX, SGX, ULIX.

USG BORAL DRYWALL SFZ LLC — Type SCX

**USG MEXICO S A DE C V** — Type SCX

CGC INC — Type USGX

5D. **Gypsum Board\*** — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.

UNITED STATES GYPSUM CO — Type USGX

USG BORAL DRYWALL SFZ LLC — Type USGX

**USG MEXICO S A DE C V** — Type USGX

5E. **Gypsum Board\*** — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. **Gypsum Board\*** — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in. THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type SCX

**UNITED STATES GYPSUM CO** — 5/8 in. thick Type SCX, SGX, ULIX

**USG BORAL DRYWALL SFZ LLC** — 5/8 in. thick Type SCX, SGX

5G. Gypsum Board\* — (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

# **Gypsum Board Protection on Each Side of Wall**

Rating, Hr	Min Stud No. of Layers Depth, in. & Thickness Item 2E of Panel		Min Thkns of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX or 3/4 in. thick Types IP-X3 or ULTRACODE

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — 1/2 in. thick Types C and 5/8 in. thick SCX

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or, 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR, ULIX; 3/4 in. thick Types IP-X3 or ULTRACODE

**USG BORAL DRYWALL SFZ LLC** — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. Gypsum Board\* — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

51. **Gypsum Board\*** — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5. CGC INC — Type ULIX, ULX

UNITED STATES GYPSUM CO — Type ULIX, ULX

**USG MEXICO S A DE C V** — Type ULX

5J. Gypsum Board\* — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

6. Fasteners — (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Single layer system with Type ULIX: 1 in. long, spaced 12 in. OC in the field and perimeter, when panels are applied horizontally or vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels,

spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels** — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.

7A. Framing Members\* — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max, 24 in, OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item Not for use with Item 5A.

b. Steel Framing Members\* — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members\*** — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as

a. Furring Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members\*** — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips. KINETICS NOISE CONTROL INC — Type Isomax

7C. Framing Members\* — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. Steel Framing Members\* — Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. **PLITEQ INC** — Type GENIECLIP

7D. **Steel Framing Members\*** — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. Steel Framing Members\* — Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7E. **Steel Framing Members\*** — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Eb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. Steel Framing Members\* — Used to attach furring channels (Item 7Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. **REGUPOL AMERICA** — Type SonusClip

7F. **Steel Framing Members\*** — (Optional on one or both sides, not shown, for single or double layer systems) — Resilient channels and Steel Framing Members as described below: a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in.

board attached to resilient channels as described in Item 5. Not for use with Item 5A and b. Steel Framing Members\* — Used to attach resilient channels (Item 7Fa) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in.

pan-head self-drilling screw.

Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum

7G. Framing Members\* — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described

**KEENE BUILDING PRODUCTS CO INC** — Type RC+ Assurance Clip

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. or 1-1/2 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item Not for use with Item 5A.

b. Steel Framing Members\* — Used to attach furring channels (Item 7Ga) to studs (Item 2). Clips spaced max. 48 in. OC. Clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted **CLARKDIETRICH BUILDING SYSTEMS** — Type ClarkDietrich Sound Clip

8. **Joint Tape and Compound** — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may

9. Siding, Brick or Stucco — (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

be omitted when gypsum panels are supplied with a square edge.

UNITED STATES GYPSUM CO — Type AS

Federal specification QQ-L-201f, Grade "C".

10. Caulking and Sealants\* — (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.

11. Lead Batten Strips — (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. Lead Batten Strips — (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. Lead Discs or Tabs — (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the

12A. Lead Discs — (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. Lead Batten Strips — (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead

14. **Lead Tabs** — (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal

specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape

backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

15. Barrier Mesh — (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 5) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.

**CLARKDIETRICH BUILDING SYSTEMS** — Barrier Mesh, Barrier Mesh Clips

#### \* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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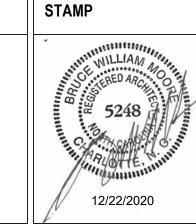
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100% BID DOCUMENTS **Drawing Title Project Number Project Title** 558-17-150 VA DURHAM - PACU RENOVATION **UL DESIGN ASSEMBLY** 100% BID DOCUMENTS **Building Number Drawing Number** Approved: Location **DURHAM VAMC** DURHAM, NC Andreka Watlington **FULLY SPRINKLERED** A-003 Checked Drawn 12/22/2020 BM MK 15 of 78

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#### BXUV.U415

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 Authorities Having Jurisdiction should be consulted before construction. Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.

· When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.

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Certified for Canada See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances

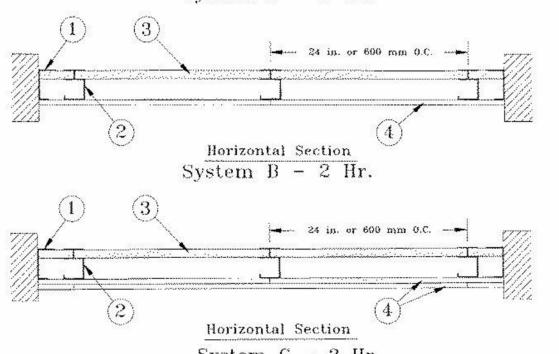
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> Design No. U415 August 05, 2020

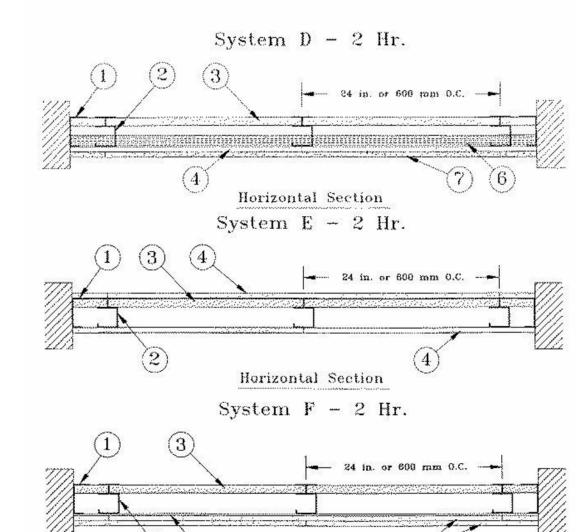
# Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr

#### \* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

System A - 1 Hr.



System C - 2 Hr. 24 in. or 600 mm 0.C. Horizontal Section



Horizontal Section

System G - 3 Hr.

Horizontal Section

System I - 4 Hr.

24 in. or 800 mm 0.C. ---Horizontal Section

1. Floor, Side and Ceiling Runners — "J" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A, 4B, 4C, 4D or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" - shaped studs (Item 2A) may be used as side runners in place of "J" - shaped runners.

2. Steel Studs — "C-H" - shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Items 2D, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).

2A. Steel Studs — (Not Shown) — "E" - shaped studs installed back to back in place of "C-H" shaped studs (Item 2) "E" - shaped studs secured together with steel screws spaced a maximum 12 in. OC. Fabricated from min 25 MSG (min 20 MSG when Item 2D, 4A, 4B or 7 is used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used), with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 to 1/2 in. less than floor to ceiling heights.

2B. Furring Channels — (Optional, Not Shown) — For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each ntersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. . Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).

2C. Furring Channels — For use with System I - "Hat" - shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in. OC.

2D. Steel Framing Members\* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 4.

b. Steel Framing Members\* — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels. PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

2E. **Steel Framing Members\*** — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. . Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7). a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC

perpendicular to studs. Channels secured to studs as described in Item b. Ends of

galvanized steel wire. Gypsum board attached to furring channels as described in Item 4. b. **Steel Framing Members\*** — Used to attach furring channels (Item 2Ea) to studs. Clips spaced 24 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG

2F. Steel Framing Members\* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 3.

b. Steel Framing Members\* — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A ). Clips spaced max. 24 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. PLITEQ INC — Type GENIECLIP

2G. Steel Framing Members\* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7). a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 2Gb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG

galvanized steel wire. Gypsum board attached to furring channels as described in Item 4. b. Steel Framing Members\* — Used to attach furring channels (Item 2Ga) to studs. Clips spaced 24 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

2H. Steel Framing Members\* — (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).

a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 4.

b. **Steel Framing Members\*** — Used to attach resilient channels (Item 2Ha) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw. **KEENE BUILDING PRODUCTS CO INC** — Type RC+ Assurance Clip

21. Steel Framing Members\* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer

units (Item 7). a. Furring Channels — Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. or 1-1/2 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 4.

b. Steel Framing Members\* — Used to attach furring channels (Item 2Ia) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

**CLARKDIETRICH BUILDING SYSTEMS** — Type ClarkDietrich Sound Clip

3. **Gypsum Board\*** — Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "J" - runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt

joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips. CGC INC — Type SLX

UNITED STATES GYPSUM CO — Type SLX

**USG BORAL DRYWALL SFZ LLC** — Type SLX

**USG MEXICO S A DE C V** — Type SLX

#### 4. Gypsum Board\* —

### System A — 1 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, WRC, WRX, USGX. When ULIX is used insulation, Item 6, Batts and Blankets\* is required and minimum stud depth is 4 in.

**USG BORAL DRYWALL SFZ LLC** — Types C, SCX, SGX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

# System B — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX

UNITED STATES GYPSUM CO - 1/2 in. Types C, IP-X2, IPC-AR, or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX

**USG BORAL DRYWALL SFZ LLC** — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, USGX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

# System C — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, secured with 1-1/4 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field when installed vertically or 8 in. OC along the vertical edges and in the field when installed horizontally. Horizontal joints need not be backed by steel framing. Screws along side joints offset 4 in. Requires min 4 in. deep framing per Items 1, 2 and 3. Requires min 3 in. thick mineral wool batts per Item 6.

**CGC INC** — Types IP-X3 or ULTRACODE **UNITED STATES GYPSUM CO** — Types IP-X3 or ULTRACODE

**USG BORAL DRYWALL SFZ LLC** — Type ULTRACODE

**USG MEXICO S A DE C V** — Types IP-X3 or ULTRACODE

# System D — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached directly to studs with 1 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing. Requires face layer of 1/2 or 5/8 in. thick cementitious backer units per Item 7 and min 1-1/2 in, thick mineral wool batts per Item 6.

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX,

**USG BORAL DRYWALL SFZ LLC** — Types C, SCX, SGX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

#### System E — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. OC when installed vertically or 8 in. when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX,

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR: 5/8 in. Types AR. C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

**USG BORAL DRYWALL SFZ LLC** — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, USGX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

#### System F — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically in two layers. Inner or base layer attached to resilient furring channels (Item 2B) with 1 in. long Type S steel screws spaced 24 in. Outer or face layer attached to resilient furring channels (Item 2B) with 1-5/8 in. long Type S steel screws spaced 12 in. OC and staggered 12 in. from base layer screws. Joints between inner and outer layers staggered 24 in.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX

UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

**USG BORAL DRYWALL SFZ LLC** — 1/2 in. Type C; 5/8 in. Types C, SCX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

#### System G — 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in three layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in OC when installed horizontally. Middle layer attached to studs with 1-5/8 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 2-1/4 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. . Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent

**CGC INC** — Types C, IP-X2, IPC-AR, WRC

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, WRC

**USG BORAL DRYWALL SFZ LLC** — Type C

**USG MEXICO S A DE C V** — Types C, IP-X2, IPC-AR, WRC

# System H — 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, two layers over the flange of the "C" section of the studs, one layer over the flange of the "H" section of the studs. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered

over studs and staggered 24 in. on adjacent layers. **CGC INC** — Types C, IP-X2, IPC-AR, WRC

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type C

**UNITED STATES GYPSUM CO** — Types C, IP-X2, IPC-AR, WRC

**USG BORAL DRYWALL SFZ LLC** — Type C

**USG MEXICO S A DE C V** — Types C, IP-X2, IPC-AR, WRC

# System I — 4 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 4 ft wide (or 1200 mm for metric spacing) wallboard with square or tapered edges. Total of four layers to be used. First and second (inner) layers applied vertically or horizontally over the steel studs. Horizontal joints need not be backed by steel framing. When applied vertically, joints centered over studs and staggered min 24 in., otherwise all joints staggered min 12 in. First layer secured to studs with 1-1/4 in. long Type S self-drilling, selftapping bugle-head steel screws spaced 24 in. OC. Second layer secured to study with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Third layer applied vertically over the furring channels (Item 2C) with a 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Fourth layer applied vertically or horizontally with 2-1/4 in. long Type S selfdrilling, self-tapping bugle-head steel screws spaced 12 in. OC. When applied vertically, joints to be staggered min 24 in. from third layer, otherwise all joints staggered min 12 in.

**CGC INC** — Types IP-X3 or ULTRACODE

**UNITED STATES GYPSUM CO** — Types IP-X3 or ULTRACODE

**USG MEXICO S A DE C V** — Types IP-X3 or ULTRACODE

**USG BORAL DRYWALL SFZ LLC** — Type ULTRACODE

4A. Gypsum Board\* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 9) or Lead Discs or Tabs (see Item 10). **RAY-BAR ENGINEERING CORP** — Type RB-LBG

4B. Gypsum Board\* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or #6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

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**NEW ENGLAND LEAD BURNING CO INC, DBA NELCO** — Type Nelco

4C. **Gypsum Board\*** — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 9A) or Lead Discs (see Item 10A). Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4D. Gypsum Board\* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5. Joint Tape and Compound — (Not Shown)

# Systems A, B, C, E, F, G, H, I

Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

6. Batts and Blankets\* —

#### Systems A, B, E, F, G, H, I

(Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance.

System A With Type ULIX Gypsum Boards

#### Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ)

Systems C & D Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the

studs and floor and ceiling runners. **ROCKWOOL** — Type AFB, min. density 1.8 pcf / 28.8 kg/m<sup>3</sup>

THERMAFIBER INC — Type SAFB, SAFB FF

Categories for names of Classified companies.

7. Cementitious Backer Units\* — (System D) — Nom 1/2 or 5/8 in. thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced 8 in. OC and staggered 8 in. from gypsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints. **UNITED STATES GYPSUM CO** — Type DCB

8. Laminating Adhesive\* — (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 1/4 in. square notched trowel. See Adhesives (BYWR) in the Fire Resistance Directory or Adhesives (BJLZ) in the Building Materials Directory for names of Classified companies.

9. Lead Batten Strips — (Not Shown, For Use With Item 4A) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have

a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints.

9A. Lead Batten Strips — (Not Shown, for use with Item 4C) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".. Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations.

10. Lead Discs or Tabs — (Not Shown, For Use With Item 4A) — Used in lieu of or in addition to the lead batten strips (Item 9) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

10A. Lead Discs — (Not Shown, for use with Item 4C) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

11. Lead Batten Strips — (Not Shown, For Use With Item 4B) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4B) and optional at remaining stud locations.

12. **Lead Tabs** — (Not Shown, For Use With Item 4B) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 4B) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL **Certification (such as Canada), respectively.** 

Last Updated on 2020-08-05

100% BID DOCUMENTS

**CONSULTANT CHARLOTT** 704.295.4263 705 EAST MOREHEAD STREET, 28202 **RALEIGH** 919.816.2907 737 GLENWOOD AVENUE, SUITE 100, 27612 F. 704.362.4602 NC License No: C-2848

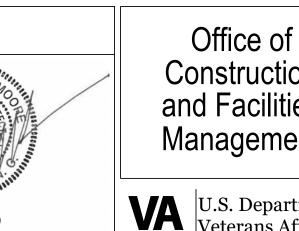
PERKINS— **EASTMAN** 520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501

**REGUPOL AMERICA** — Type SonusClip

**LAURENE, RICKHER** & SORRELL, P.C. Consulting Structural Engineers 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 HONE 704-522-0495 FAX 704-522-0499 EMAIL mail@Irspc.net WEB www.Irspc.net

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Construction and Facilities Management

**Drawing Title** 

U.S. Department of Veterans Affairs

Approved: Andreka Watlington

**UL DESIGN ASSEMBLY** 

Location **FULLY SPRINKLERED** 

100% BID DOCUMENTS

**Project Title** 

12/22/2020

**Project Number** 558-17-150 VA DURHAM - PACU RENOVATION **Building Number Drawing Number DURHAM VAMC** DURHAM, NC

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A-004 16 of 78

# XHBN.HW-D-0060 - Joint Systems

Design/System/Construction/Assembly Usage Disclaimer · Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and

 Authorities Having Jurisdiction should be consulted before construction. Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information

cannot always address every construction nuance encountered in the field.

· When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.

• Only products which bear UL's Mark are considered Certified.

# XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada See General Information for Joint Systems

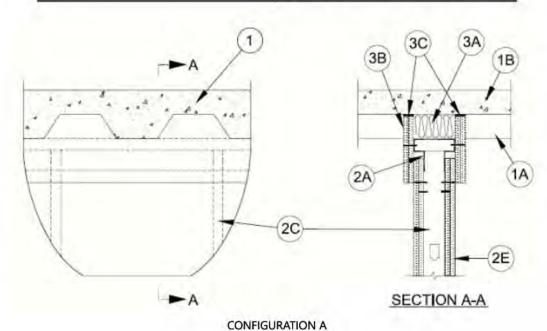
See General Information for Joint Systems Certified for Canada

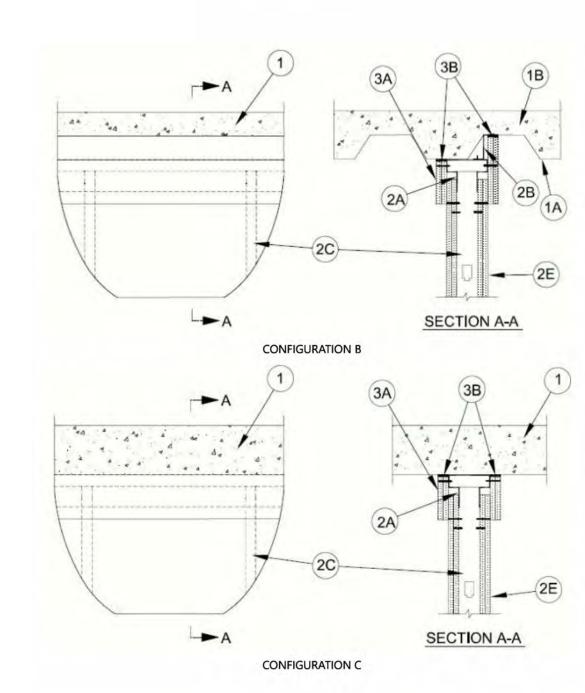
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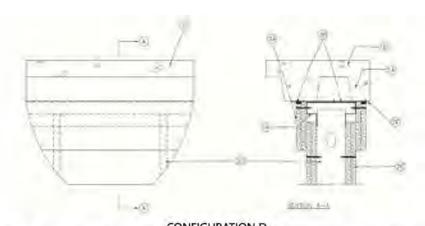
February 04, 2020

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1, 2 and 3 Hr (See Item 2)	F Ratings — 1, 2 and 3 Hr (See Item 2)
Nominal Joint Width - 1 or 2 In. (See Item 3)	FT Ratings — 1, 2 and 3 Hr (See Item 2)

Class II or III Movement Capabilities — 100% Compression or Extension or 100% Compression (See Item 3)	FH Ratings — 1, 2 and 3 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/lin ft	FTH Ratings — 1, 2 and 3 Hr (See Item 2)
L Rating At 400°F — Less Than 1 CFM/lin ft	Nominal Joint Width - 25 or 51 mm (See Item 3)
	Class II or III Movement Capabilities — 100% Compression or Extension or 100% Compression (See Item 3)
	L Rating At Ambient — Less Than 5.1 L/s/m <sup>3</sup>
	L Rating At 400°F — Less Than 5.1 L/s/m <sup>3</sup>







CONFIGURATION D 1. Floor Assembly — The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory. The hourly fire rating of the floor assembly shall be equal to or greater than the hourly fire rating of the wall assembly. The floor assembly shall include the

following construction features: A. Steel Floor and Form Units\* — Max 3 in. (76 mm) deep galv fluted floor units.

B. Concrete — Min 2-1/2 in. (64 mm) thick reinforced (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete, as measured from the top plane of the floor units.

1A. Roof Assembly — As an alternate to Item 1, the fire-rated roof assembly shall be constructed of the materials and in the manner described in the individual P700, P800 or P900 series Roof-Ceiling Designs in the UL Fire Resistance Directory and shall contain max 3 in. (76 mm) deep galv steel fluted roof units. The hourly fire rating of the roof assembly shall be equal to or greater than the hourly fire rating of the wall assembly. In the case of spray-applied protection materials on the steel roof units, the joint system shall be installed prior to the sprayapplied protection material.

1B. Floor Assembly — As an alternate to Item 1, min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete or any min 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units\*. See Precast Concrete Units (CFTV) category in the Fire Resistance Directory for names of

2. Wall Assembly — The 1, 2 or 3 hr fire-rated gypsum board /steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400-Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the

following construction features:

A. Light Gauge Framing\* - Deflection Trak — Deflection trak of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2C) and with offset legs to accommodate wall cladding (Item 3A). Deflection trak installed parallel or perpendicular to the floor units. When installed perpendicular (Configuration A), min No. 25 gauge deflection trak secured on both sides to valley of floor units with 1-1/2 in. (38 mm) long welds spaced max 12 in. (305 mm) OC. Min No. 20 gauge deflection trak may be secured with steel fasteners spaced 12 in. (305 mm) OC. When installed parallel (Configuration B), min No. 25 gauge deflection trak secured on one side to valley of floor units with 1-1/2 in. (38 mm) long welds spaced 12 in. (305 mm) OC. Min No. 20 gauge deflection trak may be secured with steel fasteners spaced max 12 in. (305 mm) OC. The other side of the deflection trak is secured to Z-Furring clips (Item 2B) with two No. 8 by 1/2 in. (13 mm) long tec screws. When steel plate (Item 2F) is used to cover flute immediately above wall oriented parallel to it, deflection trak secured to steel plate with two No. 8 self-drilling, self-tapping steel screws spaced 24 in. (610 mm) OC. On concrete floor (Configuration C), min No. 20 gauge deflection trak attached to concrete at ceiling with steel fasteners spaced max 12 in. (305 mm) OC. FIRE TRAK CORP — Shadowline

A1. Steel Framing Members\* — Sound Isolation Clips — (Not Shown) — When wall is installed perpendicular to the floor or roof units, the sound isolation clips can be used as an alternate attachment means for the ceiling trak (Item 2A) to the bottom of the floor or roof assembly. Sound isolation clips to be installed in accordance with the accompanying installation instructions and as described herein. Sound isolation clip installed through nom 1 in. (25 mm) diam hole in ceiling trak and attached to top of ceiling trak using four min No. 8 by 1/2 in. (13 mm) long self-tapping galv steel screws. Sound isolation clips to be installed adjacent to every stud location but not more than 24 in. (610 mm) OC and attached to the underside of floor or roof assembly using min 3/16 in. (5 mm) diam by 2 1/2 in. (64 mm) long steel masonry anchors. PAC INTERNATIONAL L C — Type RSIC-U-HD

B. **Z-Furring** — (Parallel Units) — When trak is installed parallel to floor units, Z-Furring clips are attached to the bottom of the floor units within the crests with two steel fasteners . Clip spacing not to exceed 24 in. (610 mm) OC.

C. Studs — Steel studs to be min 2-1/2 in. (64 mm) wide and as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Studs cut 1-1/2 in. (38 mm) less in length than the assembly height with bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. Stud spacing not to exceed 24 in. (610 mm) OC.

D. Framing Members\* — (Not Shown — Optional) — When specified in the individual U400, V400 or W400 Series Wall and Partition Design, the gypsum board on one side of the wall may be secured with furring channels and Steel Framing Members as described

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b.

b. Steel Framing Members\* — Used to attach furring channels (Item C1a) to studs. Clips spaced max 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clips for use with 2-23/32 in. wide furring channels.

E. **Gypsum Board\*** — Gypsum board sheets installed and attached to studs and runners as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a nominal 1 in. (25 mm) gap shall be maintained between top of the gypsum board and the bottom flange of the deflection trak. Top row of screws shall be installed into the studs, or furring channels (Item 2D), 3 in. (76 mm) below the top edge of the

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

gypsum board sheets. F. **Steel Plate** — (Required for Configuration D) When wall is parallel to and directly under a flute of the floor or roof deck, a min 16MSG (0.059 in. or 1.5 mm thick) galv steel plate cut to a width to span the flute, overlapping min. 1-1/2 in. (38 mm) onto the adjacent valleys of fluted deck, shall be used for securement of the ceiling deflection track. Plate to be continuous above wall and fastened to valleys of floor or roof assembly with 1/4 in. (6 mm) diam by min 3/4 in. (19 mm) long steel actuated fasteners spaced max 24" (610 mm) OC.

The hourly assembly rating of the joint system is equal to the fire rating of the wall.

# Firestop Configuration A

3. Joint System — Max separation between the top of the bottom flange of the deflection trak and top of gypsum board (at the time of installation of the joint system) is 1 in. (25 mm) or 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width of 1 in. (25 mm) or 100% compression from its installed width of 2 in. (51 mm). The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:

A. Packing Material — Min 4 pcf (64 kg/m³) density mineral wool batt insulation cut to the shape of the fluted deck, 25 percent larger than the area of the flutes and compressed into the flutes of the steel floor units above the ceiling runner as a

permanent form. In addition, when sound isolation clips (Item 2A1) are used, mineral wool batt insulation, cut to a thickness 25 percent greater than the gap, shall be compressed and installed to fill the entire space between the top of the ceiling trak and the underside of the floor or roof, between and around the isolation clips, flush with both sides of the ceiling trak.

B. Wall Cladding — Strips of the gypsum board material cut to the contour of the steel floor units and attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. (76 mm) OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm) from the steel floor units and overlap the gypsum board 4 in. (102 mm).

C. Fill, Void or Cavity Material\* — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the surface of the steel floor units, flush with each surface of the cladding. **3M COMPANY** — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Seal N/S

**DAP PRODUCTS INC** — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant

**GRABBER CONSTRUCTION PRODUCTS INC** — GrabberGard EFC, GrabberGard IFC

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A or FS-ONE MAX Intumescent

NATIONAL GYPSUM CO — FS-90

NUCO INC — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 3600EX, 4100NS, 4800DW

RECTORSEAL — FlameSafe FS3000, Metacaulk 1200, Biostop 750, FS3001, FS3005

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900,

**SPECIFIED TECHNOLOGIES INC** — SpecSeal ES Sealant

TREMCO INC — TREMstop Acrylic

**UNITED STATES GYPSUM CO** — FC, RFC

### Firestop Configuration B

3. Joint System — Max separation between the top of the bottom flange of the deflection trak and top of gypsum board (at the time of installation of the joint system) is 1 in. (25 mm) or 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width of 1 in. (25 mm) or 100% compression from its installed width of 2 in. (51 mm). The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:

A. **Wall Cladding** — Strips of the gypsum board material attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. (76 mm) OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm) from the steel floor units and overlap the gypsum board 4 in. (102 mm).

B. Fill, Void or Cavity Material\* — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the surface of the steel floor units, flush with each surface of the cladding. **3M COMPANY** — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Seal N/S

**DAP PRODUCTS INC** — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant

**GRABBER CONSTRUCTION PRODUCTS INC** — GrabberGard EFC, GrabberGard IFC

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

NATIONAL GYPSUM CO — FS-90

NUCO INC — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 3600EX, 4100NS, 4800DW

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900,

**SPECIFIED TECHNOLOGIES INC** — SpecSeal ES Sealant

TREMCO INC — TREMstop Acrylic

**UNITED STATES GYPSUM CO** — FC, RFC

# **Firestop Configuration C**

3. Joint System — Max separation between the top of the bottom flange of the deflection trak and top of gypsum board (at the time of installation of the joint system) is 1 in. (25 mm) or 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width of 1 in. (25 mm) or 100% compression from its installed width of 2 in. (51 mm). The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:

A. Wall Cladding — Strips of the gypsum board material attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. (76 mm) OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm), or max 3/8 in. (9.5 mm) when Item 2A1 is used, from the bottom of the concrete floor and overlap the gypsum board 4 in. (102 mm).

A1. Packing Material — (Not Shown) — When sound isolation clips (Item 2A1) are used, min 4 pcf (64 kg/m<sup>3</sup>) density mineral wool batt insulation, cut to a thickness 25 percent greater than the gap, shall be compressed and installed to fill the entire space between the top of the ceiling trak and the underside of the floor or roof, between and around the isolation clips, flush with both sides of the ceiling trak.

B. Fill, Void or Cavity Material\* — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the bottom of the concrete floor , flush with each surface of the cladding. 3M COMPANY — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Seal N/S

**DAP PRODUCTS INC** — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant

**GRABBER CONSTRUCTION PRODUCTS INC** — GrabberGard EFC, GrabberGard IFC

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A, FS-ONE or FS-ONE MAX Intumescent Sealant

NATIONAL GYPSUM CO — FS-90

**NUCO INC** — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 3600EX, 4100NS, 4800DW

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900,

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

TREMCO INC — TREMstop Acrylic

**UNITED STATES GYPSUM CO** — FC, RFC

#### Firestop Configuration D

3. Joint System — Max separation between the top of the bottom flange of the deflection trak and top of gypsum board (at the time of installation of the joint system) is 1 in. (25 mm) or 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width of 1 in. (25 mm) or 100% compression

from its installed width of 2 in. (51 mm). Item 2F must be used for this Configuration. The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material

(Item 3C) as follows: A. **Wall Cladding** — Strips of the gypsum board material attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. (76 mm) OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm), or max 3/8 in. (9.5 mm) when Item 2A1 is used, from the bottom of the concrete floor and overlap the gypsum

B. Fill, Void or Cavity Material\* — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the bottom of the concrete floor , flush with each surface of the cladding.

3M COMPANY — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Seal N/S

EGS NELSON FIRESTOP — ES 1399 Sealant

**DAP PRODUCTS INC** — DAP Firestop Sealant

 $\textbf{GRABBER CONSTRUCTION PRODUCTS INC} \ - \ \text{GrabberGard EFC, GrabberGard IFC}$ 

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A, FS-ONE or FS-ONE MAX Intumescent Sealant

NATIONAL GYPSUM CO — FS-90

**NUCO INC** — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 3600EX, 4100NS, 4800DW

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900,

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

UNITED STATES GYPSUM CO — FC, RFC

TREMCO INC — TREMstop Acrylic

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2020-02-04

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# UL Product **iQ**"

XHBN.BW-S-0003 - Joint Systems

Design/System/Construction/Assembly Usage Disclaimer

• Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and

 Authorities Having Jurisdiction should be consulted before construction. Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information

cannot always address every construction nuance encountered in the field. · When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate

materials and alternate methods of construction. • Only products which bear UL's Mark are considered Certified.

XHBN - Joint Systems

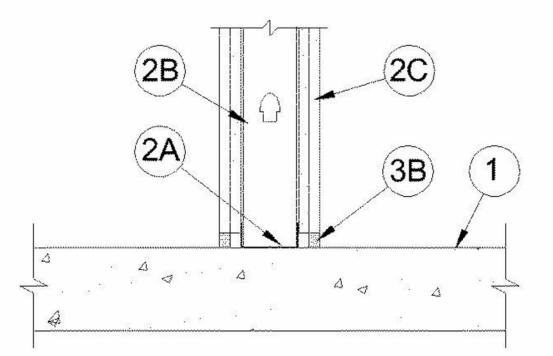
See General Information for Joint Systems

System No. BW-S-0003

November 18, 2008 Assembly Ratings — 1 and 2 Hr (See Item 2)

L Rating At Ambient — Less Than 1 CFM/Lin Ft (See Item 3B) L Rating At 400°F — Less Than 1 CFM/Lin Ft (See Item 3B)

Joint Width — 3/4 In. Max



1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) structural concrete. Floor may also be constructed of any 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units\*. See **Precast Concrete Units** category in the Fire Resistance Directory for names of manufactures.

2. Wall Assembly — The 1 or 2 h fire-rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory. In addition, the wall may incorporate a head-of-wall joint system constructed as specified in the HW Series Joint Systems in the UL Fire Resistance Directory. The wall shall include the following construction features: A. Steel Floor Runner — Floor runners of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2B). Floor runners to

spaced 12 in. (305 mm) OC. B. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in, resting on and fastened to floor runner with sheet metal screws. Stud spacing not to exceed 24 in. (610

be provided with min 1-1/4 in. (32 mm) flanges. Runners secured with steel fasteners

C. **Gypsum Board\*** — Gypsum board installed to a min total thickness of 5/8 in. (16 mm) or 1-1/4 in. (32 mm) on each side of wall for a 1 or 2 hr fire rated wall, respectively. Wall

to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except that a max 3/4 in. (19 mm) gap shall be maintained between the bottom of the gypsum board and the top of the concrete floor. The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. Joint System — Max separation between top of floor and bottom of gypsum board is 3/4 in. (19 mm). The joint system consists of a packing material and a fill material, as follows: A. Packing Material — (Optional, Not Shown) - Mineral wool batt insulation, polyethylene backer rod or glass fiber insulation firmly packed into the gap between the bottom of the gypsum board and the top of the concrete floor and recessed from each surface of the wall to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material\*-Sealant — Min 1/2 in. (13 mm) thickness of fill material installed on each side of the wall between the bottom of the gypsum board and the top of the concrete floor, flush with each surface of the wall. When mineral wool batt insulation is used as a packing material, min thickness of fill material on each side of the wall is 1/4 in. (6 mm). SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant, SpecSeal LCI Sealant, SpecSeal LC150

Note: L Ratings apply when SpecSeal ES Sealant is used.

Sealant, Pensil 300 Sealant or SpecSeal Series SIL300.

mm) OC.

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL **Certification (such as Canada), respectively.** 

Last Updated on 2008-11-18

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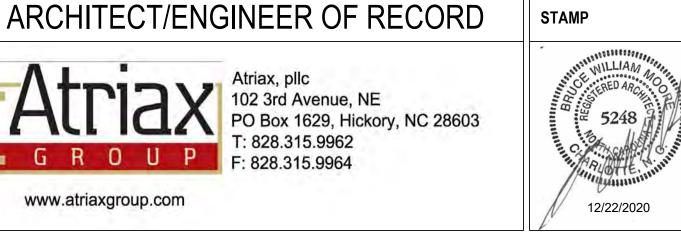
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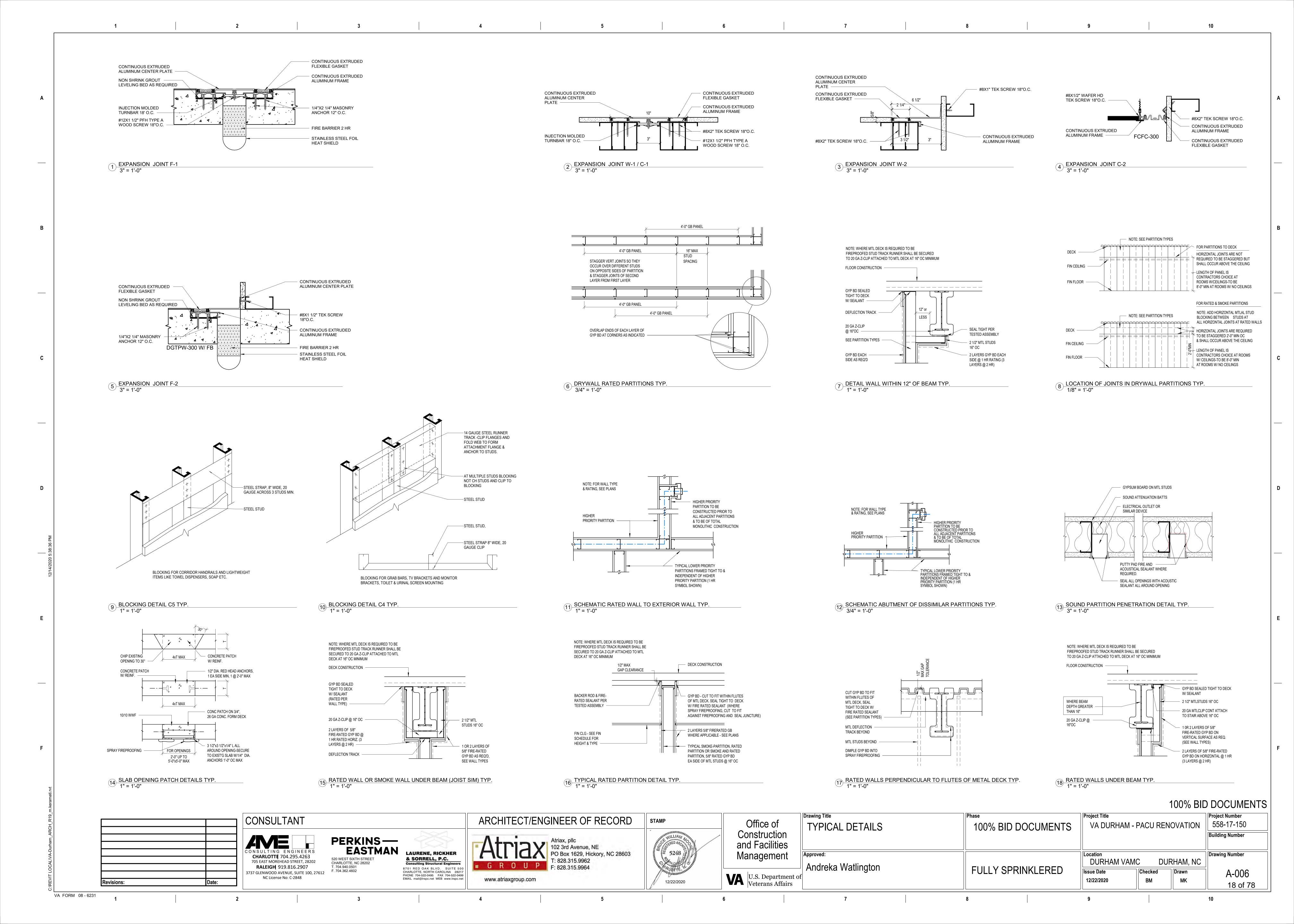


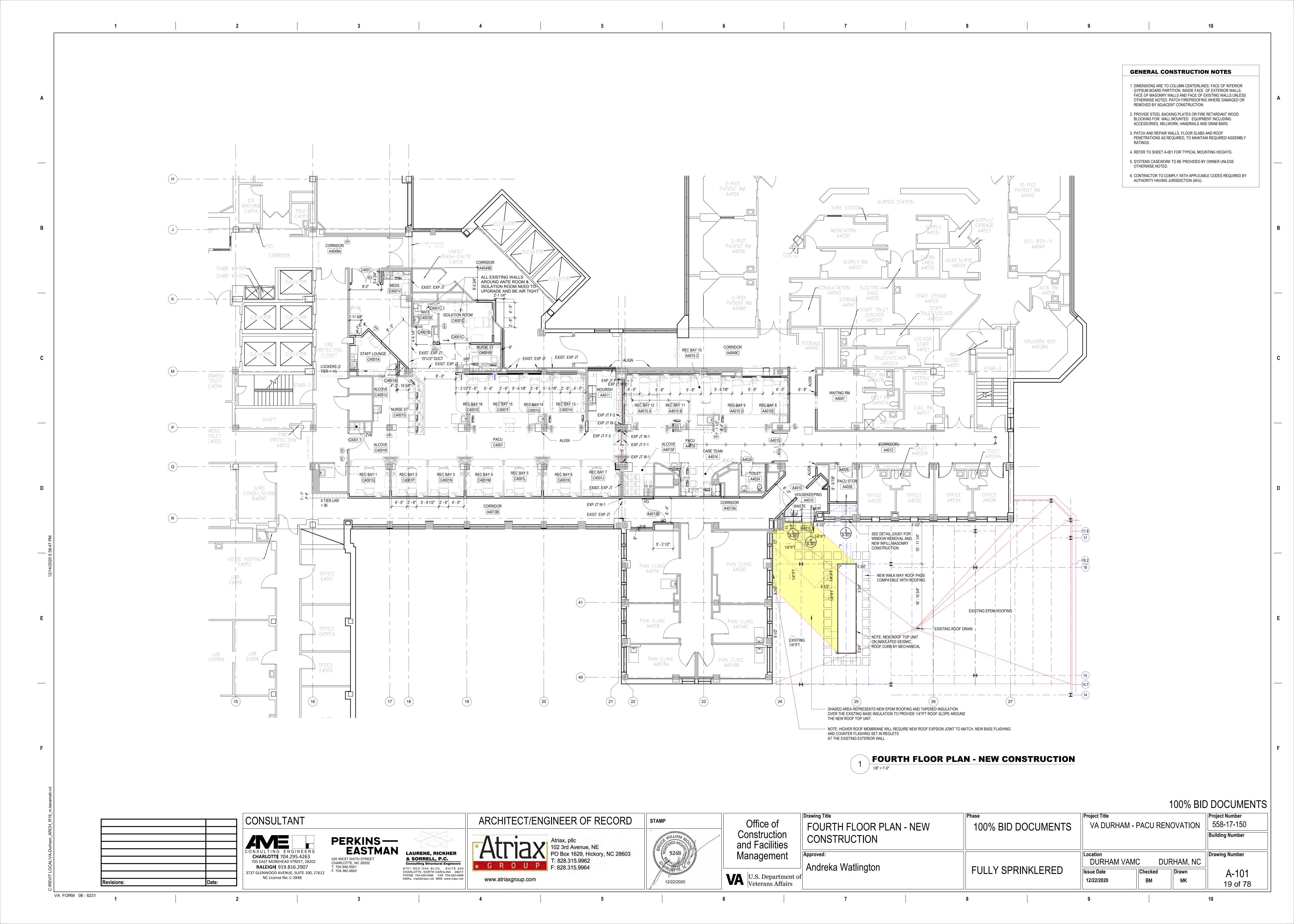


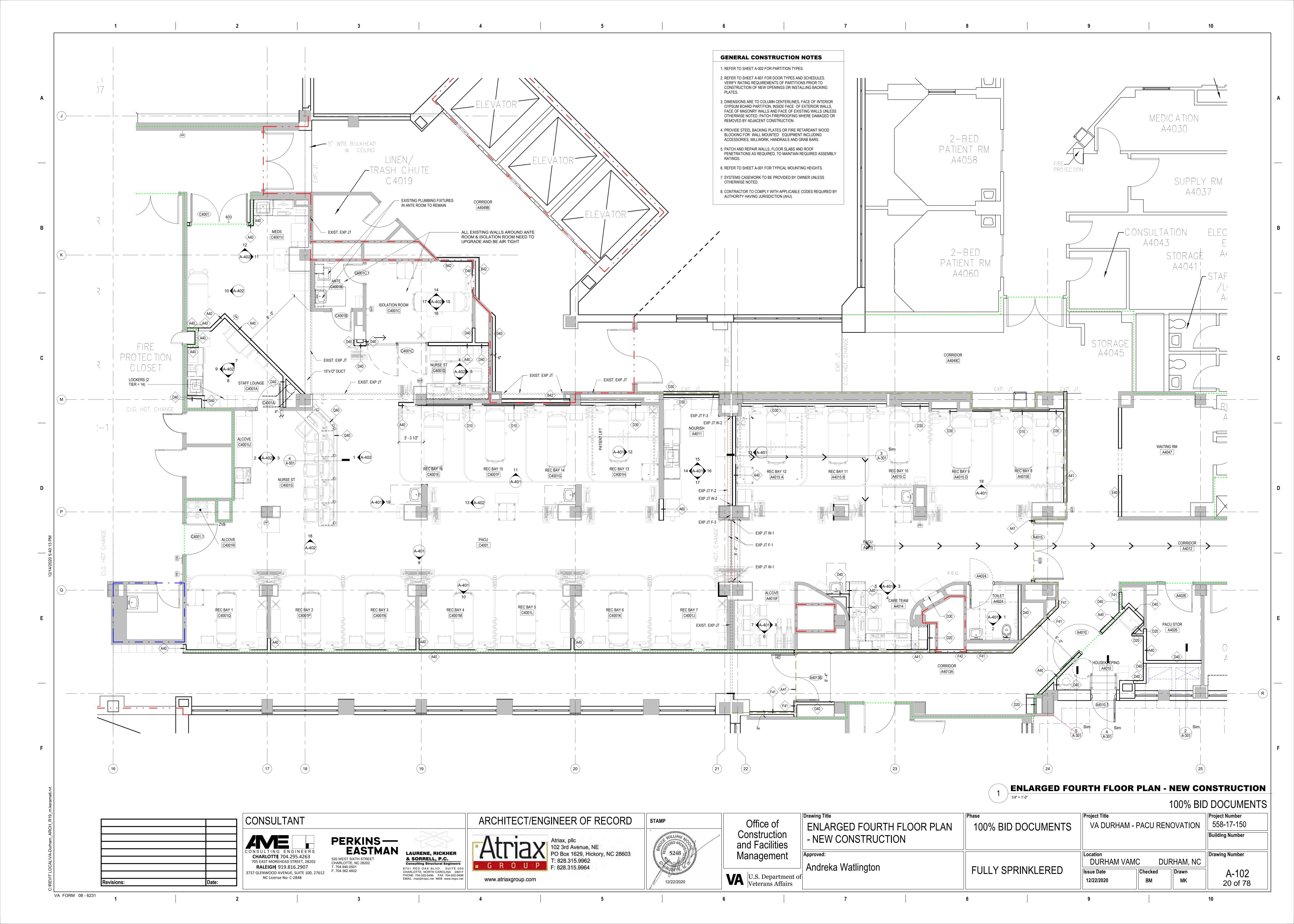


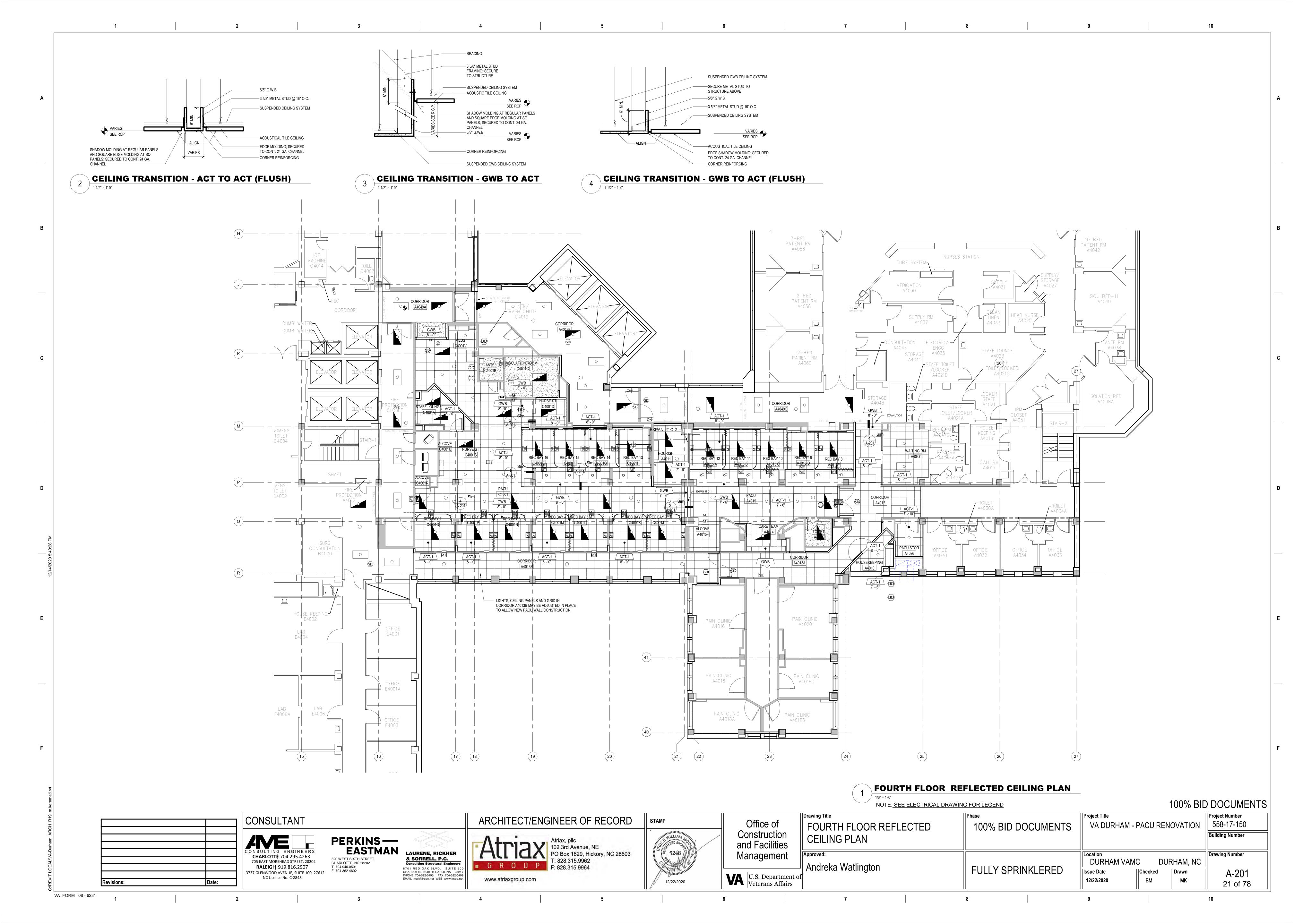
Approved: Andreka Watlington

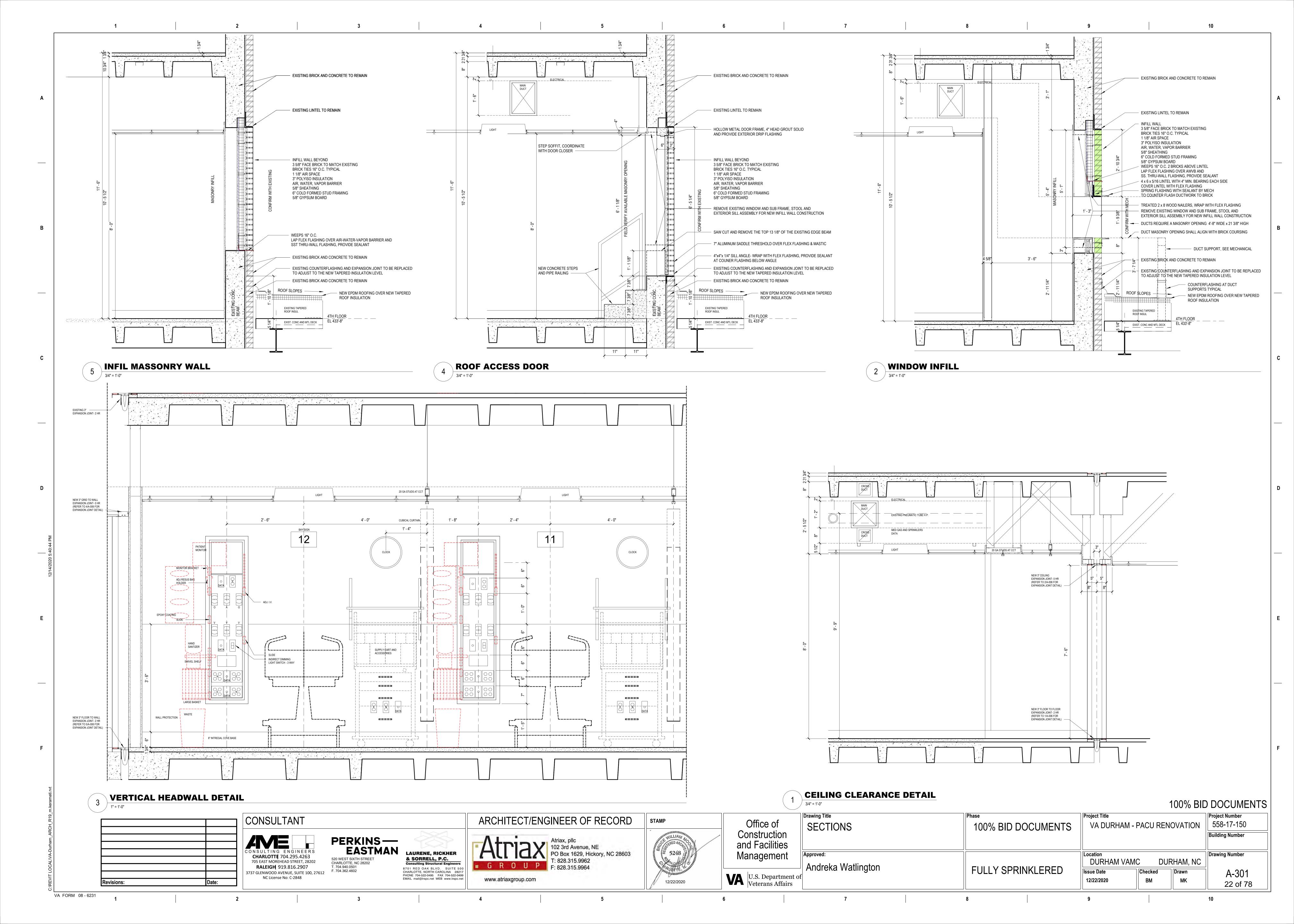
**Drawing Title Project Title Project Number** 558-17-150 VA DURHAM - PACU RENOVATION **UL DESIGN ASSEMBLY** 100% BID DOCUMENTS **Building Number Drawing Number** Location **DURHAM VAMC** DURHAM, NC **FULLY SPRINKLERED** Checked A-005 Drawn 12/22/2020 BM MK 17 of 78

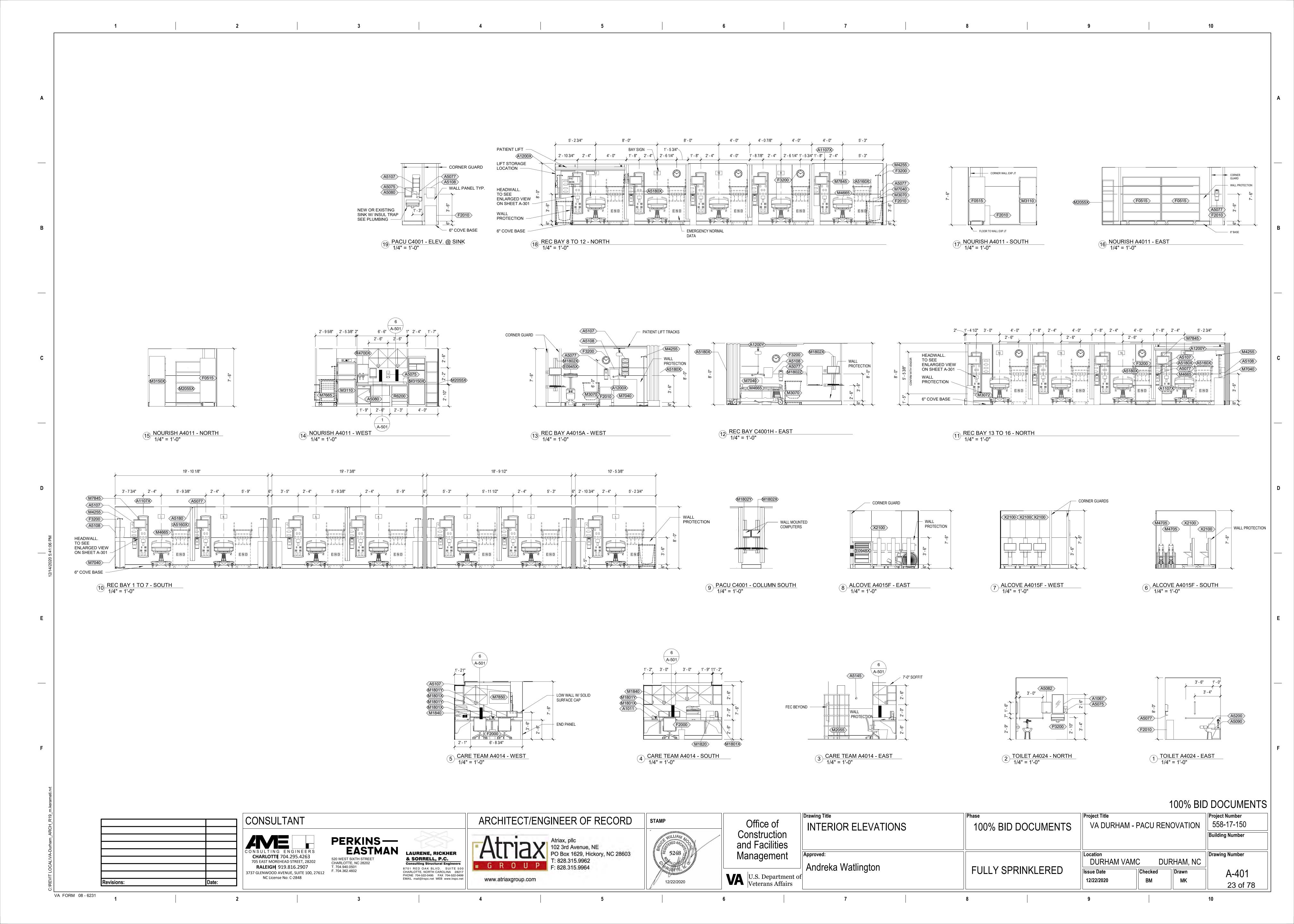


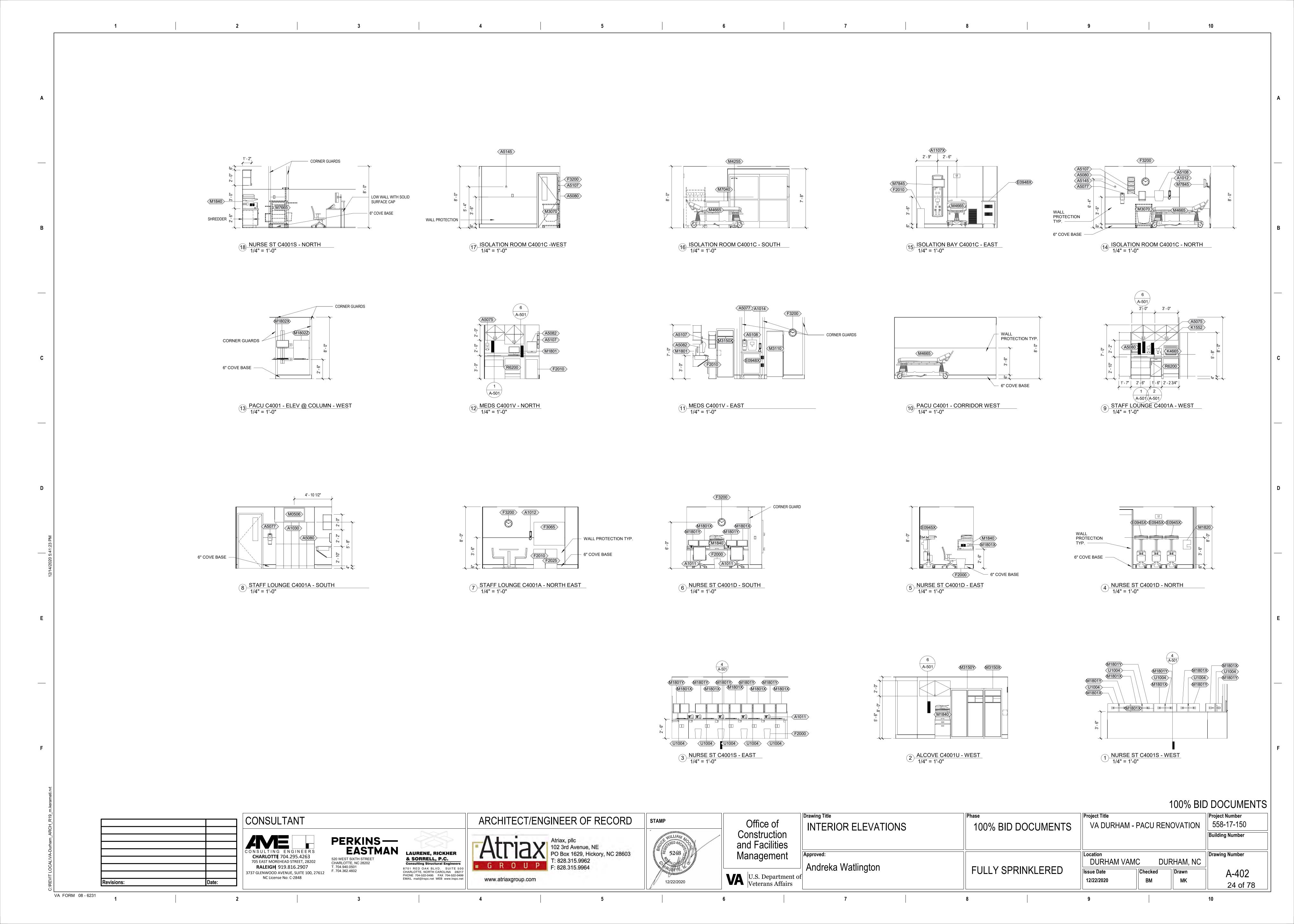


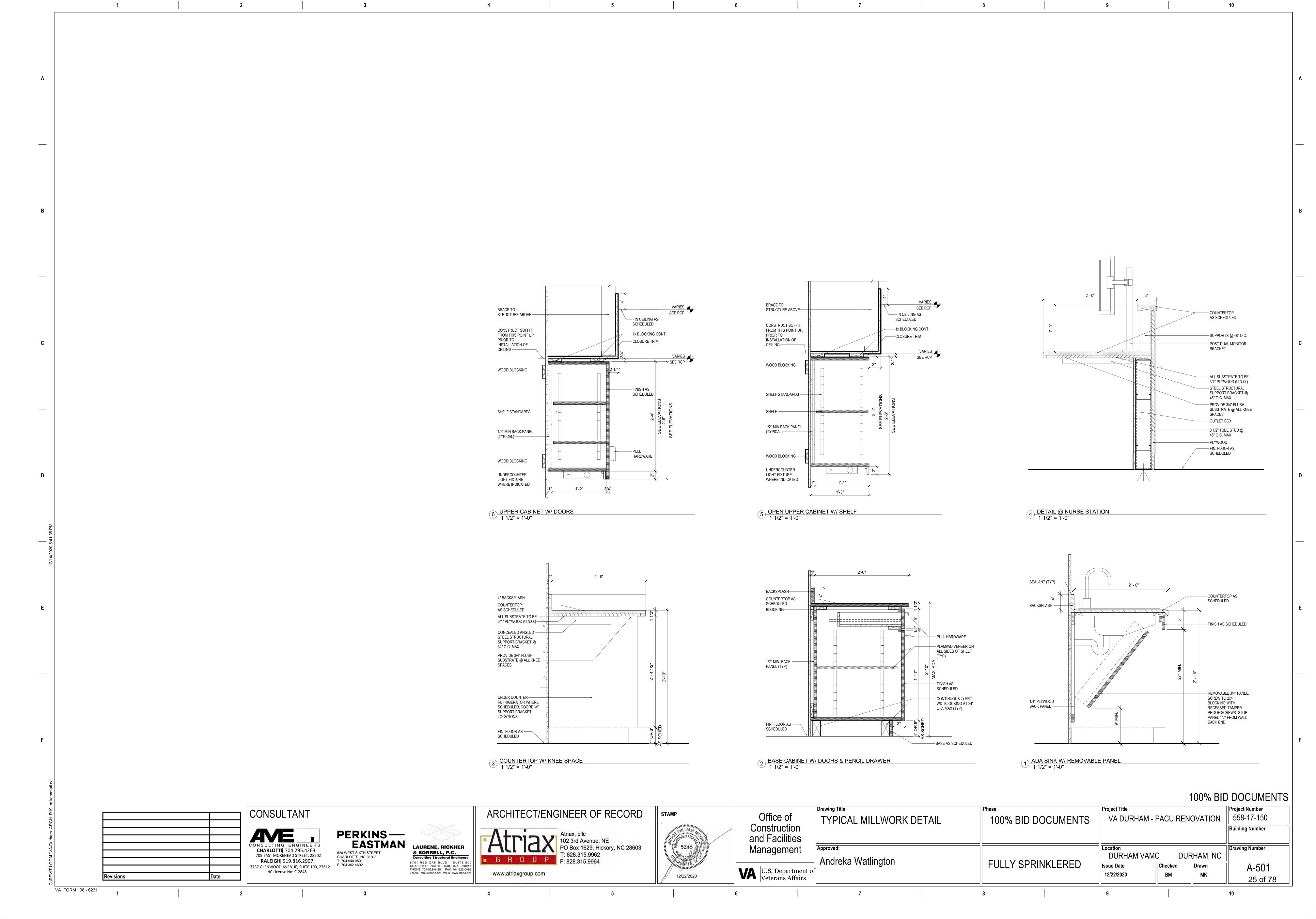












**ABBREVIATIONS** <u>DOOR:</u> AL = ALUMINUM FRP = FIBERGLASS REINFORCED PANEL HM = HOLLOW METAL WD = WOODNV = NARROW VISION T = 1/4" TEMPERED GLASS (GL-1) F = FIRE GLASS PER RATING (GL-4) <u>HARDWARE:</u> ADO = AUTO DOOR OPENER CR = CARD READER EL = ELECTRIC LATCH KP = KEYPAD LL = LEAD LINED PP = PUSH PAD RR = REMOTE RELEASE WP = WAVE PAD ES = ELECTRIC STRIKE DOOR / FRAME FINISH ST= STAINED

PT= PAINTED

DEAD BOLT:

NOTE: RATED DOORS WHERE A DOOR IS NOTED AS RATED, IT SHALL DESIGNATE A RATED ASSEMBLY WHICH SHALL INCLUDE DOOR, FRAME, HARDWARE AND ALL PARTS OF THE DOOR. ALL ITEMS MAKING UP THE TOTAL ASSEMBLY SHALL BE RATED AND/OR LISTED WITH TESTING AGENCY RECOGNIZED BY THE LOCAL GOVERNING BUILDING AUTHORITY AND WITH ALL COMPONENTS MEETING THE LABILE REQUIREMENTS FOR THAT RATING/LISTING. SUGGESTED HARDWARE LOCATIONS - 39 5/16" FROM FINISHED FLOOR DOOR KNOB: C/L OF KNOB

OOR PULL:	C/L OF GRIP	- 42" FROM FINISHED FLOOR
USH PLATE:	C/L OF PLATE	- 45" FROM FINISHED FLOOR
USH BARS:	C/L OF BAR	- 40" FROM FINISHED FLOOR
OSPITAL ARM PULLS	: C/L OF LOWER BASE	- 45" FROM FINISHED FLOOR
OSPITAL LATCH:	C/L OF LATCH	- 45 3/4" FROM FINISHED FLOOR
XIT DEVICES:		

LEVER BAR: C/L OF CROSS BAR - 36" FROM FINISHED FLOOR

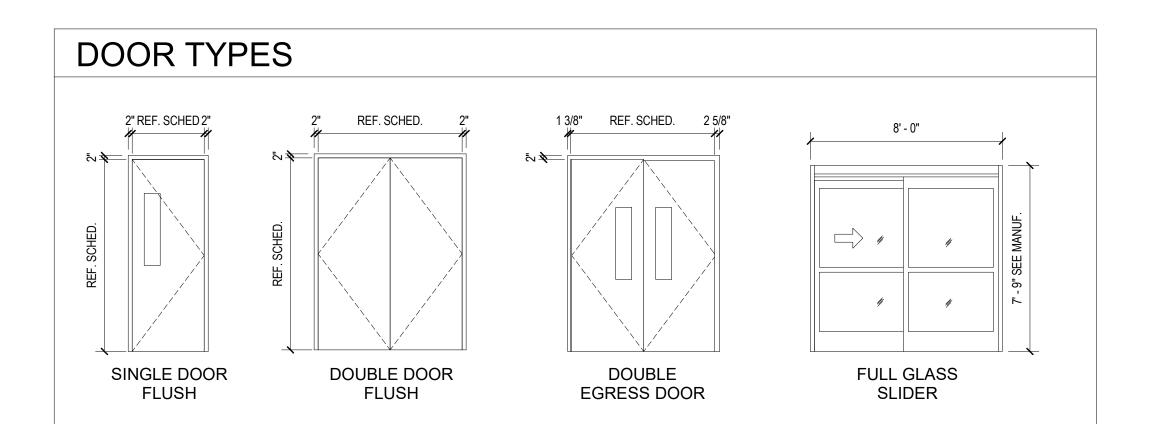
NOTE: ALL CONDITIONS SHOWN ARE NOT NECESSARILY IN THIS PROJECT.

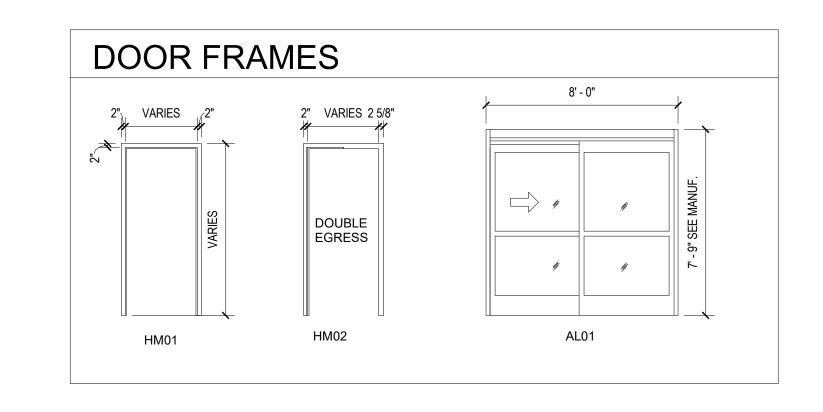
C/L OF TOUCH BAR - 40" FROM FINISHED FLOOR

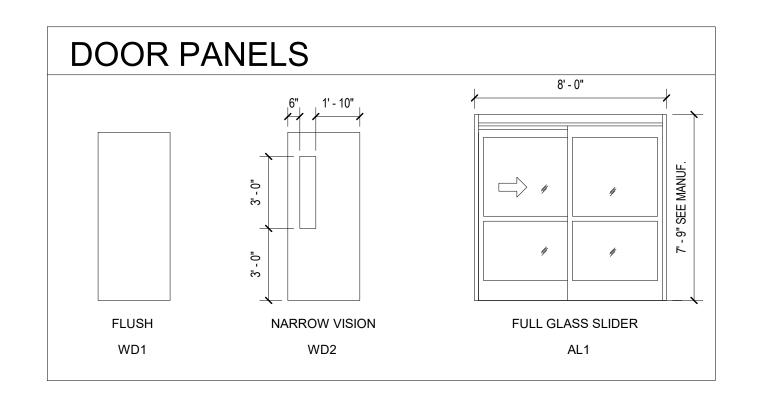
- 42" WHERE NO DOOR KNOB

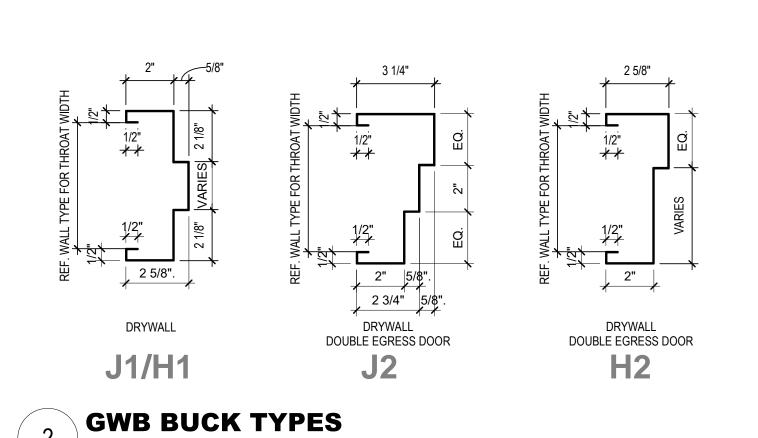
- 44" WHERE DOOR KNOB

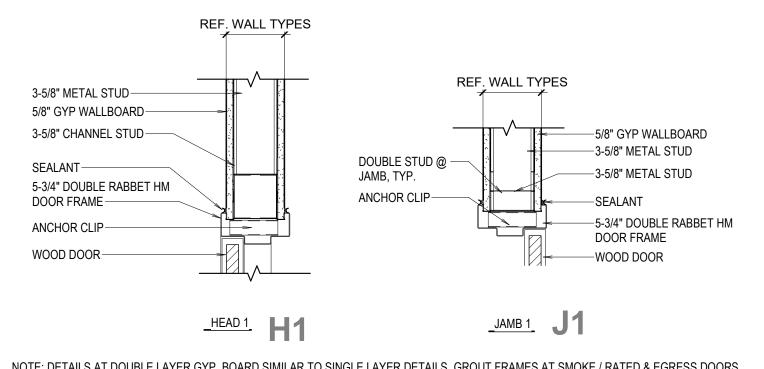
								DOC	OR SCHEDU	JLE					
	To Room: Door Type DOOR									FRAME			Door Fire		
WT	To Room: Name	Number	Mark	Width	Height	Thickness	Material	Finish	Туре	Material	Finish	Туре	Rating	Hardware	Comments
C4001C.1	ANTE	C4001B	3Q	2' - 6"	7' - 0"	1 3/4"	WD	ST	HM01	HM	PT	-	0	EXIST	EXISTING DOOR
C4001B	ANTE	C4001B	3Q	2' - 6"	7' - 0"	1 3/4"	WD	ST	HM01	HM	PT	-	0	EXIST	EXISTING DOOR
C4001.1	PACU	C4001	1X	4' - 0"	7' - 0"	1 3/4"	WD	ST	HM01	HM	PT	-	SMOKE	EXIST	EXISTING DOOR- CR
C4001	PACU	C4001	2VV-NN	7' - 4"	7' - 0"	1 3/4"	HM	ST	HM01	HM	PT	-	SMOKE	A1	ADO, CR, PP
C4001A	STAFF LOUNGE	C4001A	1S	3' - 0"	7' - 0"	1 3/4"	WD	ST	HM01	HM	PT	-	0	1Q	AUTO DOOR BOT
A4015	CORRIDOR	A4012	2VV-NN	7' - 4"	7' - 0"	1 3/4"	HM	ST	HM01	НМ	PT	-	45MIN-SMOKE	A1	ADO, WP, PP, F
A4026	PACU STOR	A4026	1U	3' - 6"	7' - 0"	1 3/4"	WD	ST	HM01	НМ	PT	-	SMOKE	4A	CLASS, ADO,CR,PP,ES
A4010	HOUSEKEEPING	A4010	2U-180	3' - 6"	7' - 0"	1 3/4"	HM	ST	HM01	HM	PT	-	SMOKE	5B	STORERM, 180
A4013B	CORRIDOR	A4013A	2SS-NN	6' - 0"	7' - 0"	1 3/4"	HM	ST	HM02	HM	PT	F	20MIN-SMOKE	A2	HOLD OPEN, TIE TO FA, NV
A4024	TOILET	A4024	1S	3' - 0"	7' - 0"	1 3/4"	WD	ST	HM01	HM	PT	-	0	2K	EMERGENCY SWING FRAME
C4001C	ISOLATION ROOM	C4001C	ICU DR	8' - 0"	7' - 8"	1 3/4"	AL	CLEAR ANOD	AL01	CLEAR ANOD	CLEAR ANOD	Т	0	BY MANUFACTURER	ADO, WP, AIR TIGHT GASKET
A4010.1	HOUSEKEEPING	A4010	1S	3' - 0"	6' - 1"	1 3/4"	HM	PT	HM01	НМ	PT	-	0	E3	STORERM, CLOSER, OVERHEAD STOP, INSULATED, TO ROOF, PAINT VA BRONZE, DRIP, DPS











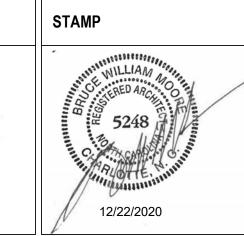
# GWB HEAD AND JAMB DETAILS

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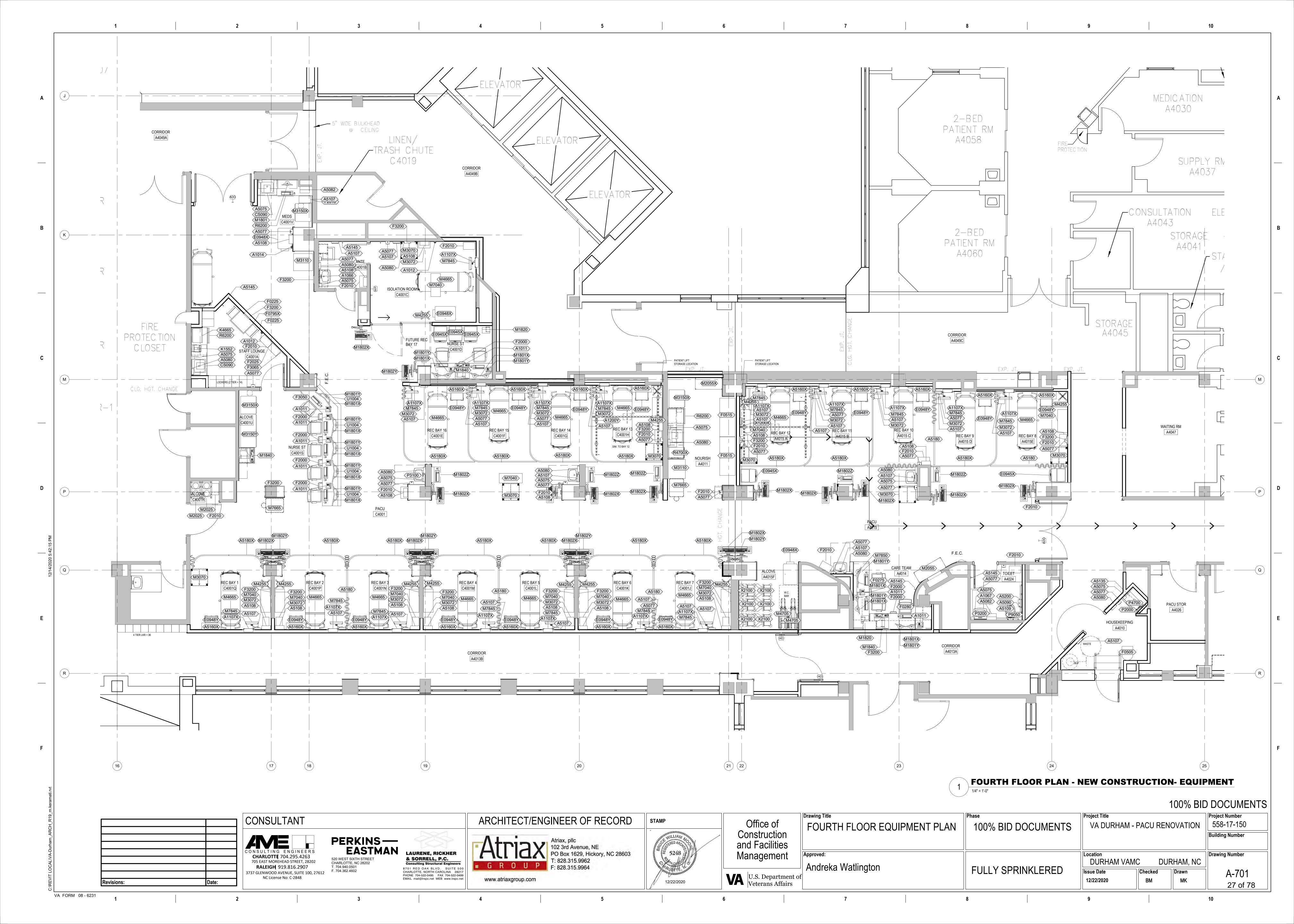
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Office of Construction and Facilities Management U.S. Department of Veterans Affairs

			100% BII	D DOCUMENTS
	Drawing Title DOOR FRAMES AND SCHEDULE	Phase 100% BID DOCUMENTS	Project Title  VA DURHAM - PACU RENOVATION	Project Number 558-17-150  Building Number
t o	Andreka Watlington	FULLY SPRINKLERED	Location DURHAM VAMC DURHAM, NC Issue Date 12/22/2020 Checked BM Drawn MK	Drawing Number  A-601 26 of 78



ABBREVIATIONS OF UTILITIES ON JSN# SCHEDULES **UTILITY 1: PLUMBING (WATER AND DRAINAGE UTILITY 3: MEDICAL GAS** UTILITY 4: MISCELLANEOUS GAS UTILITY 6: MISCELLANEOUS GAS **ACQUISITION CODE LEGEND UTILITY 2: ELECTRICAL UTILITY 5: NON-MEDICAL GAS** CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION DESCRIPTION DESCRIPTION CODE DESCRIPTION STEAM 120 VOLT, CONVENTIONAL OUTLET OXYGEN NATURAL GAS EARTH GROUND HOT AND COLD WATER GOVERNMENT FURNISHED AND INSTALLED EMPTY CONDUIT/PULL CORD & WALL/CEILING SUPPORT REQ VV COLD WATER AND DRAIN 120 VOLT, SPECIAL OUTLET VACUUM NITROGEN GAS LIQUID PROPANE GAS LEAD LINED WALLS EARTH GROUND AND WALL/CEILING SUPPORT REQ AIR, LOW PRESSURE NITROUS OXIDE GOVERNMENT FURNISHED, CONTRACTOR HOT WATER AND DRAIN 208/220 VOLT METHANE REMOTE ALARM GROUND LEAD LINED WALLS AND WALL/CEILING SUPPORT REQ 120 AND 208/220 VOLT AIR, HIGH PRESSURE NITROGEN AND NITROUS OXIDE GAS EMPTY CONDUIT WITH PULL CORD COLD AND HOT WATER AND DRAIN BUTANE CAT 6 WIRE TO NEAREST TELECOMMUNICATIONS ROOM INSTALLED TREATED WATER AND DRAIN 440 VOLT 3 PHASE OXYGEN AND MEDICAL AIR CARBON DIOXIDE GAS PROPANE VENT TO ATMOSPHERE SPECIAL ELECTRICAL REQUIREMENTS HYDROGEN GAS CC CONTRACTOR FURNISHED AND INSTALLED COLD, HOT AND TREATED WATER AND DRAIN OXYGEN, VACUUM AND MEDICAL AIR LIQUID CARBON DIOXIDE SPECIAL GAS REQUIREMENTS COLD AND TREATED WATER AND DRAIN 208/220 VOLT, 3 PHASE VACUUM AND HP AIR LIQUID NITROGEN RESERVED LIQUID GAS REQUIREMENTS INSTRUMENT AIR ACETYLENE GAS HOT AND TREATED WATER AND DRAIN MEDICAL AIR RF/MAGNETIC SHIELDING DRAIN ONLY WALL/CEILING SUPPORT REQUIRED COLD WATER ONLY UTIL\_1\_Water Drain UTIL\_2\_Elec UTIL\_3\_MedGas UTIL\_4\_MiscGas UTIL\_5\_NonMedGas UTIL\_6\_Misc Room: Name Type Mark Comments Room: Number Description HOUSEKEEPING A5075 Dispenser, Soap, Disposable V V Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve. HOUSEKEEPING Dispenser, Hand Sanitizer, Hands-Free A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. HOUSEKEEPING A5080 Dispenser, Paper Towel, SS, Surface Mounted A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility. A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd HOUSEKEEPING Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. HOUSEKEEPING A5135 Shelf, Utility W/ Mop/Broom Holders, SS, Surf Mntd C C Barrier Free Lifts HOUSEKEEPING F0505 Bucket, Mop, With Wringer, 26 Quart Mobile mop bucket / wringer combination, approximately 35" H x 17" W x 22" D with four 2" casters. Total capacity is 26 quarts. Unit used for general hard surface floor maintenance. Eyewash, Wall Mounted, Hands-Free (P2451 Included: Valve HOUSEKEEPING Wall mounted emergency eye wash station. The flow of water from the unit is activated by hand. Upon initiation of water flow the unit will operate hands free to provide streams of water to clear foreign particles or dilute caustic liquids from the eyes in emergency Mixing, Thermostatic, Eyewash) situations. Used in laboratories and areas of the hospital where employees are subject to foreign bodies or liquid material to the eyes. Mop service sink approximately 10"H x 36"W x 24"D. Also called a mop service basin and a mop receptor. Unit is made of molded stone and is a one piece item. It shall include a service faucet hose, hose bracket and mop hanger. Used in utility rooms for cleaning HOUSEKEEPING P4700 Sink, Mop, Molded Stone mops and floor cleaning equipment. Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve. A4011 NOURISH A5075 Dispenser, Soap, Disposable **NOURISH** A5077 Dispenser, Hand Sanitizer, Hands-Free A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. NOURISH A5080 Dispenser, Paper Towel, SS, Surface Mounted A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility. NOURISH F0515 | Cart, Supply, Linen Closed linen supply cart. Equipped with four (4) non-marking rubber tire roller bearing casters and heavy duty cover. May be used for the delivery and user storage of clean linen as well as the return of soiled linen. NOURISH F2010 Basket, Wastepaper, Step-On "Step-on" wastepaper basket with inner liner and foot petal activated flip top. A4011 **NOURISH** M2055X | Shelving, Storage, Wire, CRS, w/Adjustable Shelves (42") Stationary, wire, shelving unit. Unit has fully adjustable shelves constructed of stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Price provided is for a unit approximately 74"H x 18"D x 48"W with four NOURISH M3110 Cabinet, Warming, F/S, 2 Heated Compartment, Elect Freestanding, single or double door warming cabinet with 2 heated compartments. Compartment and exterior walls are made from stainless steel. Thick fiberglass insulation maintains the interior temperature and keeps the exterior from becoming too hot. Equipped with a sealing door, thermostatic temperature control, status display, heat indicating light, over temperature protection, alarms and an air circulating fan. Unit may have an optional temperature recorder. Manufacturer recommends using a fused disconnect switch in the electrical power circuit. Cabinet may also be installed in a recess. Designed for heating and storing solutions and blankets used in patient care areas. NOURISH M3150X Distribution System, Medication, Automatic, Omni Min VV VA to verify the model and cutsheets. An automated dispensing system that provides controlled dispensing, inventory and security. Size and cost will vary dependent on number of modules selected. NOURISH M7665 Defibrillator/Monitor/Recorder Automatic Portable defibrillator-monitor-recorder with built in advisory protocol. Unit is designed for use by ambulance crews and cardiac arrest teams where a physician will not be available to determine if defibrillation is appropriate. System provides lead II ECG monitoring only, recording and logging of a resuscitation event for later review. This system provides up to 360 joules output and has an external battery charger available. Unit is sometimes referred to as an "Automatic Advisory Defibrillator" or "AAD". Unit may be line powered with an optional battery substitute pack. NOURISH R4700X | Countertop Ice Maker VA to verify purchase order and cutsheet. Ice Maker, Cubes, Countertop, Similar to Follett Countertop Model 12Cl400A NOURISH R6200 Refrigerator, U/C or F/S, 5 Cu Ft Utility refrigerator approximately 35" H x 24" W x 26" D. The unit has a two tray ice cube cooling system. The refrigerator fits standard architectural dimensions for undercounter installation. The unit is perfect for use in nurses' station, wards, and laboratories, pharmacies or wherever space is limited. CARE TEAM A1011 Telephone, Desk, 1 Line Telephone, desk, 1 line. CARE TEAM A5145 Hook, Garment, Double, SS, Surface Mounted A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel. CARE TEAM VV Highback contemporary swivel chair, 41" high X 23" wide X 23" deep with five (5) caster swivel base and arms. Chair may be used at desks or in conference rooms. Back and seat are foam padded and upholstered with either woven textile fabric or vinyl. F0275 Chair, Swivel, High Back F0280 Chair, Swivel, Low Back V V Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl. A4014 CARE TEAM CARE TEAM F2000 Basket, Wastepaper, Fire Resistant Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations. A4014 CARE TEAM Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included) F3200 Clock, Battery, 12" Diameter A4014 CARE TEAM M1801X | Computer, Microprocessing, w/Flat Panel Monitor( Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive: 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information. Desktop-System) Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB CARE TEAM M1801Y Computer, Microprocessing, w/Flat Panel Monitor( Desktop-Pact) A4014 hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information. Electric data record imprinter. The device accepts embossed plastic patient cards in either the 50 column or the 80 column format and adjusts automatically for card size and form thickness. Device will provide clear readable impressions with a cycle that is less than 1 **CARE TEAM** M1820 Imprinter, Data Record, Electric second in length. Electro-mechanical design provides for a consistent impression that is independent of operator knowledge or technique. Unit may include a date/time stamp as an accessory. **CARE TEAM** M1840 Printer/Copier/Fax Combination Multifunctional printer, fax, scanner and copier (PFC) all-in-one machine. CARE TEAM M2055 Shelving, Storage, Wire, CRS, w/Adjustable Shelves (48") Stationary, wire, shelving unit. Unit has fully adjustable shelves constructed of stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Price provided is for a unit approximately 74"H x 18"D x 48"W with four M7850 Monitor, Physiological, Central, 8 Bed, Color Eight bed central physiologic monitoring station. System consists of a central monitor that displays patient information from bedside monitors. It also centralizes alarm and recording functions from ECG tracings to vital signs display. Up to eight patients monitoring CARE TEAM capabilities. Designed for use in the ICU, CCU, emergency room or recovery room. A4015 PACU A1000 Fire Extinguisher 10 pound dry chemical fire extinguisher with charging gauge. Other types and sizes are available. Contractor to provide cabinet. A5075 Dispenser, Soap, Disposable PACU Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve. A4015 PACU A5077 Dispenser, Hand Sanitizer, Hands-Free V V A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. A4015 PACU A5080 Dispenser, Paper Towel, SS, Surface Mounted A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility. A4015 PACU A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. A4015 PACU A5180 Track, Cubicle, Surface Mounted, With Curtain Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. PACU E0945X Cart, Computer, Mobile A4015 Per existing in-use model. VA to verify the purchase order and cutsheets. This typical includes: 1 Cart Body, w/Computer Support A4015 PACU F2010 Basket, Wastepaper, Step-On "Step-on" wastepaper basket with inner liner and foot petal activated flip top. A4015 **PACU** M1802X | Computer, Microprocessing, w/Flat Panel Monitor( Wall A wall mounted retractable work station. Work station is used as a computer station in treatment rooms, exam rooms and areas where the physical space in limited. Mounted-System) M1802Y | Computer, Microprocessing, w/Flat Panel Monitor(Wall A wall mounted retractable work station. Work station is used as a computer station in treatment rooms, exam rooms and areas where the physical space in limited. Mounted-Pact) A4015 PACU M1802Z | Computer, Microprocessing, w/Flat Panel Monitor(Wallaroo-Pact) D Wall mounted work station. VA to verify the purchase order and cutsheets A4015 PACU M3070 Hamper, Linen, Mobile, w/Lid Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters. For linen transport in hospitals and clinics. A1107X Rail System, Utility, Gas and Electric A4015 A REC BAY 12 Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, 9 normal outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. REC BAY 12 A4015 A A1200X Lift, Patient, Ceiling -Mount, 600 Lb Capacity Barrier Free Lifts. UNILIFT A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 12 A5077 Dispenser, Hand Sanitizer, Hands-Free A4015 A A4015 A REC BAY 12 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. REC BAY 12 A5108 Waste Disposal Unit, Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height REC BAY 12 A5160X | Shelf. Wall Mounted REC BAY 12 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D A4015 A REC BAY 12 VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back F2010 Basket, Wastepaper, Step-On REC BAY 12 "Step-on" wastepaper basket with inner liner and foot petal activated flip top. REC BAY 12 F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). REC BAY 12 VV Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters. For linen transport in hospitals and clinics. M3070 Hamper, Linen, Mobile, w/Lid REC BAY 12 Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging 1. M3072 Frame, Infectious Waste Bag w/Lid A4015 A infectious waste at point of waste generation. A4015 A | REC BAY 12 M4255 Stand, IV, Adjustable VV Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away REC BAY 12 Stretcher, Recovery, Surgical chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. A4015 A REC BAY 12 Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a 1 M7040 Table, Overbed vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. A4015 A REC BAY 12 M7845 Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four Α waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms.

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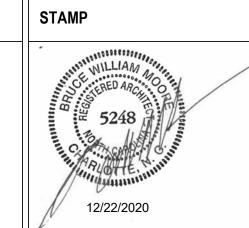
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Office of Construction and Facilities Management U.S. Department of Veterans Affairs

		100% BI	D DOCUMENTS
Drawing Title  EQUIPMENT SCHEDULE	100% BID DOCUMENTS	Project Title VA DURHAM - PACU RENOVATION	Project Number 558-17-150  Building Number
Approved: Andreka Watlington	FULLY SPRINKLERED	Location DURHAM VAMC DURHAM, NC  Issue Date 12/22/2020 BM Drawn MK	Drawing Number  A-702 28 of 78

**UTILITY 4: MISCELLANEOUS GAS UTILITY 6: MISCELLANEOUS GAS UTILITY 1: PLUMBING (WATER AND DRAINAGE UTILITY 2: ELECTRICAL UTILITY 3: MEDICAL GAS UTILITY 5: NON-MEDICAL GAS ACQUISITION CODE LEGEND** CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION DESCRIPTION DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION OXYGEN STEAM 120 VOLT, CONVENTIONAL OUTLET NATURAL GAS EARTH GROUND GOVERNMENT FURNISHED AND INSTALLED HOT AND COLD WATER EMPTY CONDUIT/PULL CORD & WALL/CEILING SUPPORT REQ VV COLD WATER AND DRAIN VACUUM NITROGEN GAS LIQUID PROPANE GAS LEAD LINED WALLS EARTH GROUND AND WALL/CEILING SUPPORT REQ 120 VOLT, SPECIAL OUTLET AIR, LOW PRESSURE HOT WATER AND DRAIN 208/220 VOLT NITROUS OXIDE METHANE REMOTE ALARM GROUND LEAD LINED WALLS AND WALL/CEILING SUPPORT REQ GOVERNMENT FURNISHED, CONTRACTOR NITROGEN AND NITROUS OXIDE GAS COLD AND HOT WATER AND DRAIN 120 AND 208/220 VOL AIR. HIGH PRESSURE BUTANE EMPTY CONDUIT WITH PULL CORD CAT 6 WIRE TO NEAREST TELECOMMUNICATIONS ROOM INSTALLED TREATED WATER AND DRAIN 440 VOLT 3 PHASE OXYGEN AND MEDICAL AIR CARBON DIOXIDE GAS PROPANE VENT TO ATMOSPHERE SPECIAL ELECTRICAL REQUIREMENTS HYDROGEN GAS SPECIAL GAS REQUIREMENTS CC CONTRACTOR FURNISHED AND INSTALLED COLD. HOT AND TREATED WATER AND DRAIN OXYGEN, VACUUM AND MEDICAL AIR LIQUID CARBON DIOXIDE COLD AND TREATED WATER AND DRAIN 208/220 VOLT, 3 PHASE VACUUM AND HP AIR LIQUID NITROGEN RESERVED LIQUID GAS REQUIREMENTS ACETYLENE GAS HOT AND TREATED WATER AND DRAIN MEDICAL AIR INSTRUMENT AIR RF/MAGNETIC SHIELDING DRAIN ONLY WALL/CEILING SUPPORT REQUIRED COLD WATER ONLY Type Mark Count Room: Name Comments UTIL\_1\_Water Drain UTIL\_2\_Elec UTIL\_3\_MedGas UTIL\_4\_MiscGas UTIL\_5\_NonMedGas UTIL\_6\_Misc ACQ/INS Room: Number REC BAY 11 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. REC BAY 11 V V A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. A5077 Dispenser, Hand Sanitizer, Hands-Free REC BAY 11 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting REC BAY 11 A5160X | Shelf, Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height REC BAY 11 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. REC BAY 11 E0948Y Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back REC BAY 11 F3200 Clock, Battery, 12" Diameter VV Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included) REC BAY 11 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation REC BAY 11 VV Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away M4665 | Stretcher, Recovery, Surgical chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 11 M7845 | Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. REC BAY 10 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. REC BAY 10 A5077 Dispenser, Hand Sanitizer, Hands-Free V V A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 10 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd VV Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. REC BAY 10 A5108 Waste Disposal Unit, Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. REC BAY 10 A5160X | Shelf, Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height -REC BAY 10 Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas A5180 Track, Cubicle, Surface Mounted, With Curtain where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. A4015 C REC BAY 10 E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back F2010 Basket, Wastepaper, Step-On REC BAY 10 V V "Step-on" wastepaper basket with inner liner and foot petal activated flip top. REC BAY 10 F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). REC BAY 10 Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging M3072 Frame, Infectious Waste Bag w/Lid infectious waste at point of waste generation A4015 C | REC BAY 10 M4665 | Stretcher, Recovery, Surgical VV Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. A4015 C REC BAY 10 M7845 Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four Α waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. A4015 D | REC BAY 9 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. A4015 D REC BAY 9 A5077 Dispenser, Hand Sanitizer, Hands-Free VV A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. A4015 D | REC BAY 9 A5107 Dispenser, Glove, Surgical/Examination, Wall Mnto Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting A4015 D | REC BAY 9 VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height A5160X | Shelf, Wall Mounted A4015 D REC BAY 9 A5180 Track, Cubicle, Surface Mounted, With Curtain Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote A4015 D REC BAY 9 VV Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. E0948Y Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV VA to verify purchase order and cutsheets, similar to Harloff MDS1821K15, optional raised back A4015 D REC BAY 9 VV Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). REC BAY 9 F3200 Clock, Battery, 12" Diameter REC BAY 9 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation. A4015 D REC BAY 9 VV Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away M4665 Stretcher, Recovery, Surgical chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. M7845 Monitor, Physiological, Bedside, 4 Channel A4015 D | REC BAY 9 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 A4015E REC BAY 8 A1107X Rail System, Utility, Gas and Electric swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch A5077 Dispenser, Hand Sanitizer, Hands-Free REC BAY 8 VV A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 8 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting A4015E REC BAY 8 A5108 Waste Disposal Unit, Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. A4015E REC BAY 8 A5160X | Shelf, Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height A4015E REC BAY 8 E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back "Step-on" wastepaper basket with inner liner and foot petal activated flip top. A4015E REC BAY 8 F2010 Basket, Wastepaper, Step-On A4015E REC BAY 8 F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). REC BAY 8 M3070 Hamper, Linen, Mobile, w/Lid Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters. For linen transport in hospitals and clinics. Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging REC BAY 8 M3072 Frame, Infectious Waste Bag w/Lid infectious waste at point of waste generation VV Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. A4015E REC BAY 8 M4255 Stand, IV, Adjustable Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away REC BAY 8 M4665 Stretcher, Recovery, Surgical chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 8 M7040 Table, Overbed Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. REC BAY 8 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four M7845 | Monitor, Physiological, Bedside, 4 Channel waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. ALCOVE E0948X PROS C VV VA to verify purchase order and cutsheets. Procedure Cart, Storage, Mobile, 42"H x 32"W x 22"D A4015F ALCOVE M4705 Wheelchair, Patient Transport, Folding folding patient transport wheelchair. Constructed of chrome plated steel with detachable armrest and footrests. Unit has heavy duty front casters with sealed radial high-precision ball bearing assembly. Unit is used for patient transport. VA to verify purchase order and cutsheets. High definition, diagnostic ultrasound system for Radiology, Cardiology, Vascular, ob-gyn, Perinatology, and Surgical imaging applications. The unit employs curved, phased and linear array imaging technology. The system A4015F ALCOVE X2100 Scanner, Ultrasound, General Purpose supports colorflow, pulse and continuous wave imaging modalities. On board software measurement packages available for all imaging applications. The system is DICOM 3.0 compatible, for easy linkage to filmless image management systems and review stations. In addition, a full line of probes and conventional recording devices are available. TOILET A1067 Mirror, Float Glass, ADA Accessible A high quality 1/4" polished float glass mirror with a stainless steel frame. Frame holds mirror in a tilted position for accessibility and compliance with ADA requirements. Mirror has a galvanized steel back secured to frame with concealed screws with integral horizontal hanging brackets. Mirror shall be approximately 18" wide and 36" high. Other sizes are available. A4024 TOILET A5075 Dispenser, Soap, Disposable V V Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve A4024 **TOILET** A5077 Dispenser, Hand Sanitizer, Hands-Free V V A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. A5082 Dispenser, Paper Towel, Sensor, Hands Free **TOILET** A surface mounted, sensor activated, automatic, roll paper towel dispenser. The unit dispenses a paper towel automatically only when hands are place in position below the dispeser for maximum sanitation and hygiene. May include adjustable settings for sheet length, time delay, and sensor range. Unit is battery operated or with optional AC power adapter. A4024 **TOILET** A5090 Disposal, Sanitary Napkin, SS, Surface Mounted A surface mounted, satin finish stainless steel, sanitary napkin disposal. Disposal features a flip-up cover, secured to the container by a heavy duty stainless steel piano-hinge. Disposal may be secured to wall or toilet partition. For general purpose use in female toilet stalls or rooms and uni-sex toilet rooms. A5109 Grab Bar, 1-1/4" Dia., SS, 2 Wall, W/C Accessible **TOILET** A 1-1/4" diameter, satin finish stainless steel, peened gripping surface, 2 wall toilet stall/ room, grab bar with concealed mounting flanges are provided to conceal mounting screws. A selection of mounting kits and concealed anchor devices are available from the manufacturers for different types of installations. Grab bar shall comply with barrier-free accessibility guidelines for structural strength. For typical water closet applications in toilet stalls and rooms where ADA (American's With Disabilities Act) requirements must be met. TOILET A5145 Hook, Garment, Double, SS, Surface Mounted A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel. A4024 TOILET A5200 Dispenser, Toilet Tissue, SS, 2-Roll, Surface Mntd A concealed surface mounted, double roll, satin finish stainless steel, toilet tissue dispenser. Unit accommodates two standard-core toilet tissue rolls through 5" in diameter. Spindles are chrome plated plastic with a heavy-duty internal spring and turn freely for non-controlled delivery. For general purpose use in restrooms. TOILET F2010 Basket, Wastepaper, Step-On V V "Step-on" wastepaper basket with inner liner and foot petal activated flip top. 100% BID DOCUMENTS Drawing Title **Project Number Project Title** 

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		CONSULTING ENG CHARLOTT# 704.29
		705 EAST MOREHEAD STR
		RALEIGH 919.816
		3737 GLENWOOD AVENUE, S NC License No: C-2
Revisions:	Date:	

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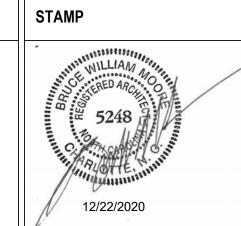
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PERKINS— **EASTMAN LAURENE, RICKHER** & SORRELL, P.C. 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 HONE 704-522-0495 FAX 704-522-0499 EMAIL mail@lrspc.net WEB www.lrspc.net

ABBREVIATIONS OF UTILITIES ON JSN# SCHEDULES

ARCHITECT/ENGINEER OF RECORD PO Box 1629, Hickory, NC 28603 www.atriaxgroup.com



Office of Construction and Facilities Management U.S. Department of Veterans Affairs

**EQUIPMENT SCHEDULE** 100% BID DOCUMENTS Approved: Andreka Watlington **FULLY SPRINKLERED** 

558-17-150 VA DURHAM - PACU RENOVATION **Building Number Drawing Number DURHAM VAMC** DURHAM, NC Checked A-703 Drawn 12/22/2020 MK BM 29 of 78

ABBREVIATIONS OF UTILITIES ON JSN# SCHEDULES UTILITY 1: PLUMBING (WATER AND DRAINAGE **UTILITY 2: ELECTRICAL UTILITY 3: MEDICAL GAS ACQUISITION CODE LEGEND UTILITY 5: NON-MEDICAL GAS** CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION DESCRIPTION DESCRIPTION CODE DESCRIPTION OXYGEN STEAM EARTH GROUND HOT AND COLD WATER 120 VOLT, CONVENTIONAL OUTLET NATURAL GAS GOVERNMENT FURNISHED AND INSTALLED EMPTY CONDUIT/PULL CORD & WALL/CEILING SUPPORT REQ VV COLD WATER AND DRAIN VACUUM NITROGEN GAS LIQUID PROPANE GAS LEAD LINED WALLS EARTH GROUND AND WALL/CEILING SUPPORT REQ 120 VOLT, SPECIAL OUTLET AIR, LOW PRESSURE NITROUS OXIDE GOVERNMENT FURNISHED, CONTRACTOR HOT WATER AND DRAIN 208/220 VOLT METHANE REMOTE ALARM GROUND LEAD LINED WALLS AND WALL/CEILING SUPPORT REQ NITROGEN AND NITROUS OXIDE GAS COLD AND HOT WATER AND DRAIN 120 AND 208/220 VOLT AIR. HIGH PRESSURE BUTANE EMPTY CONDUIT WITH PULL CORD CAT 6 WIRE TO NEAREST TELECOMMUNICATIONS ROOM INSTALLED TREATED WATER AND DRAIN 440 VOLT 3 PHASE OXYGEN AND MEDICAL AIR CARBON DIOXIDE GAS PROPANE VENT TO ATMOSPHERE SPECIAL ELECTRICAL REQUIREMENTS HYDROGEN GAS CC CONTRACTOR FURNISHED AND INSTALLED COLD. HOT AND TREATED WATER AND DRAIN OXYGEN, VACUUM AND MEDICAL AIR LIQUID CARBON DIOXIDE SPECIAL GAS REQUIREMENTS COLD AND TREATED WATER AND DRAIN 208/220 VOLT, 3 PHASE VACUUM AND HP AIR LIQUID NITROGEN RESERVED LIQUID GAS REQUIREMENTS ACETYLENE GAS HOT AND TREATED WATER AND DRAIN MEDICAL AIR INSTRUMENT AIR RF/MAGNETIC SHIELDING DRAIN ONLY WALL/CEILING SUPPORT REQUIRED COLD WATER ONLY Type Mark Comments UTIL\_1\_Water Drain UTIL\_2\_Elec UTIL\_3\_MedGas UTIL\_4\_MiscGas UTIL\_5\_NonMedGas UTIL\_6\_Misc Count Room: Number Room: Name Description C4001 PACU A1000 | Fire Extinguisher V V 10 pound dry chemical fire extinguisher with charging gauge. Other types and sizes are available. Contractor to provide cabinet. C4001 PACU Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve. A5075 Dispenser, Soap, Disposable C4001 PACU A5077 Dispenser, Hand Sanitizer, Hands-Free A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. C4001 **PACU** A5080 Dispenser, Paper Towel, SS, Surface Mounted A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility. C4001 **PACU** VV Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd C4001 **PACU** A5108 Waste Disposal Unit, Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. C4001 **PACU** F2010 Basket, Wastepaper, Step-On "Step-on" wastepaper basket with inner liner and foot petal activated flip top. C4001 **PACU** Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included) F3200 Clock, Battery, 12" Diameter C4001 **PACU** M1802X | Computer, Microprocessing, w/Flat Panel Monitor( Wall A wall mounted retractable work station. Work station is used as a computer station in treatment rooms, exam rooms and areas where the physical space in limited. Mounted-System) C4001 PACU M1802Y | Computer, Microprocessing, w/Flat Panel Monitor( Wall A wall mounted retractable work station. Work station is used as a computer station in treatment rooms, exam rooms and areas where the physical space in limited. Mounted-Pact) **PACU** M1802Z | Computer, Microprocessing, w/Flat Panel Monitor(Wallaroo-Pact) V V Wall mounted work station. VA to verify the purchase order and cutsheets -**PACU** M3070 Hamper, Linen, Mobile, w/Lid Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters. For linen transport in hospitals and clinics. C4001 **PACU** M4665 Stretcher, Recovery, Surgical Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. C4001 **PACU** M7040 Table, Overbed Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. PACU M7665 Defibrillator/Monitor/Recorder Automatic VV Portable defibrillator-monitor-recorder with built in advisory protocol. Unit is designed for use by ambulance crews and cardiac arrest teams where a physician will not be available to determine if defibrillation is appropriate. System provides lead II ECG monitoring only, recording and logging of a resuscitation event for later review. This system provides up to 360 joules output and has an external battery charger available. Unit is sometimes referred to as an "Automatic Advisory Defibrillator" or "AAD". Unit may be line powered with an PACU M7845 | Monitor, Physiological, Bedside, 4 Channel VV 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. STAFF LOUNGE A1012 Telephone, Wall Mounted, 1 Line VVTelephone, wall mounted, 1 line. Two person locker, double tier, 72Hx12Wx18D. This unit includes hooks for coats and hats. Door equipped with safety guard handles. Designed for storage of coats, hats, and other personal belongings. Other width and depths are available. STAFF LOUNGE A1030 Locker, 2 Person, Over/Under STAFF LOUNGE A5075 Dispenser, Soap, Disposable V V Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve. STAFF LOUNGE A5077 Dispenser, Hand Sanitizer, Hands-Free A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. A5080 Dispenser, Paper Towel, SS, Surface Mounted C4001A STAFF LOUNGE C C A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility A5145 Hook, Garment, Double, SS, Surface Mounted STAFF LOUNGE A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel. F0225 Chair, Dining Room STAFF LOUNGE Dining room chair with glides. Chair has straight legs with cushioned cloth or vinyl seat. STAFF LOUNGE F0795X Table, Dining Dining table. rectangle 30" X 24". Used in dining facilities and can comfortably seat up to Two (2) persons. C4001A STAFF LOUNGE F2010 Basket, Wastepaper, Step-On "Step-on" wastepaper basket with inner liner and foot petal activated flip top. STAFF LOUNGE | F2025 | Container, Recycling, Small Recycling container shall be approximately 10-gallons in capacity. The container may be Recycle Blue in color with the recycle symbol identified on the container STAFF LOUNGE F3065 Whiteboard/Bulletin Board, Combination VV A combination whiteboard and bulletin board, half LCS and half cork. Available with either aluminum or wood frame. It can be used in patient rooms or in any appropriate space in the facility STAFF LOUNGE F3200 Clock, Battery, 12" Diameter VV Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included) K1552 Brewer, Coffee, Auto, Elect, 3 Burner, Front/Back STAFF LOUNGE Space saving front to back automatic coffee maker. This unit includes a heating tank, connection for a cold water supply, decanter service with three burners, funnel and a water flow controller. The unit is used for semi-automatic coffee brewing in cafeterias and commercial institutions. The unit automatically shuts off the water flow when enough has passed through to fill the pot. The unit is normally provided plumbed with a hot water faucet to the side for making other hot drinks (tea, cider, cocoa, etc.). The database height dimension does not include the clearance for coffee decanters warming on the upper burners STAFF LOUNGE K4665 Oven, Microwave, Consumer Counter mounted microwave oven for average duty use. The exterior cabinet can be metal or heavy duty impact resistant plastic. The oven delivers instant energy for rapid heating, defrosting or prime cooking. The oven has touch pad controls, digital timer, power level | 1 selector and preprogrammed selectors for commonly cooked items. This oven is commonly found in staff lounges. STAFF LOUNGE M0506 Television, Flat Screen Flat screen television with approximately 20' diagonal screen size. The TV will have built-in speakers, NTSC tuner, a 16:9 wide screen aspect ratio, a minimum of 1280 x 768 resolution and a remote control R6200 Refrigerator, U/C or F/S, 5 Cu Ft STAFF LOUNGE Utility refrigerator approximately 35" H x 24" W x 26" D. The unit has a two tray ice cube cooling system. The refrigerator fits standard architectural dimensions for undercounter installation. The unit is perfect for use in nurses' station, wards, and laboratories, pharmacies or wherever space is limited. ANTE A1066 Mirror, Float Glass, With SS Frame A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting. For mounting above single wall mounted lavatories located in toilet areas, Doctors examination offices, etc. May also be used above double lavatories, either wall or countertop mounted, found in restroom areas. A5075 Dispenser, Soap, Disposable V V Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve. C4001B ANTE ANTE A5077 Dispenser, Hand Sanitizer, Hands-Free A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. C4001B ANTE A5080 Dispenser, Paper Towel, SS, Surface Mounted C4001B A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility. ANTE C4001B A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. C4001B ANTE A5108 Waste Disposal Unit, Sharps ANTE C4001B A5145 Hook, Garment, Double, SS, Surface Mounted A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel. C4001B ANTE F2010 Basket, Wastepaper, Step-On "Step-on" wastepaper basket with inner liner and foot petal activated flip top. ISOLATION ROOM A1012 Telephone, Wall Mounted, 1 Line Telephone, wall mounted, 1 line. ISOLATION ROOM A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. ISOLATION ROOM | A5077 | Dispenser, Hand Sanitizer, Hands-Free VV A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. ISOLATION ROOM A5080 Dispenser, Paper Towel, SS, Surface Mounted A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility. ISOLATION ROOM | A5107 | Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. ISOLATION ROOM | A5108 | Waste Disposal Unit, Sharps VV A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. ISOLATION ROOM A5145 Hook, Garment, Double, SS, Surface Mounted A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel. ISOLATION ROOM | E0948X | PROS C VV VA to verify purchase order and cutsheets. Procedure Cart, Storage, Mobile, 42"H x 32"W x 22"D ISOLATION ROOM | F2010 | Basket, Wastepaper, Step-On "Step-on" wastepaper basket with inner liner and foot petal activated flip top. Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included) ISOLATION ROOM | F3200 | Clock, Battery, 12" Diameter ISOLATION ROOM | M3070 | Hamper, Linen, Mobile, w/Lid Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters. For linen transport in hospitals and clinics. ISOLATION ROOM | M3072 | Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation ISOLATION ROOM M4255 Stand, IV, Adjustable VV Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. ISOLATION ROOM M4665 Stretcher, Recovery, Surgical Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. ISOLATION ROOM M7040 Table, Overbed Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. ISOLATION ROOM M7845 Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. NURSE ST A1011 Telephone, Desk, 1 Line Telephone, desk, 1 line. NURSE ST V V Per existing in-use model. VA to verify the purchase order and cutsheets. This typical includes: 1 Cart Body, w/Computer Support E0945X | Cart.Computer, Mobile -NURSE ST VV Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl. F0280 Chair, Swivel, Low Back NURSE ST F2000 Basket, Wastepaper, Fire Resistant Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations. C4001D NURSE ST F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included) C4001D NURSE ST M1801X | Computer, Microprocessing, w/Flat Panel Monitor( Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information Desktop-System) NURSE ST M1801Y | Computer, Microprocessing, w/Flat Panel Monitor( Desktop-Pact) Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information. C4001D NURSE ST M1820 Imprinter, Data Record, Electric Electric data record imprinter. The device accepts embossed plastic patient cards in either the 50 column or the 80 column format and adjusts automatically for card size and form thickness. Device will provide clear readable impressions with a cycle that is less than 1 Α second in length. Electro-mechanical design provides for a consistent impression that is independent of operator knowledge or technique. Unit may include a date/time stamp as an accessory. C4001D NURSE ST M1840 Printer/Copier/Fax Combination V V Multifunctional printer, fax, scanner and copier (PFC) all-in-one machine. 100% BID DOCUMENTS Drawing Title **Project Title Project Number CONSULTANT** ARCHITECT/ENGINEER OF RECORD STAMP Office of 558-17-150 **EQUIPMENT SCHEDULE** VA DURHAM - PACU RENOVATION 100% BID DOCUMENTS Construction **Building Number** PERKINS and Facilities **EASTMAN LAURENE, RICKHER** 5248 Drawing Number Management Approved:

Andreka Watlington

U.S. Department of Veterans Affairs

**DURHAM VAMC** 

12/22/2020

**FULLY SPRINKLERED** 

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VA FORM 08 - 6231

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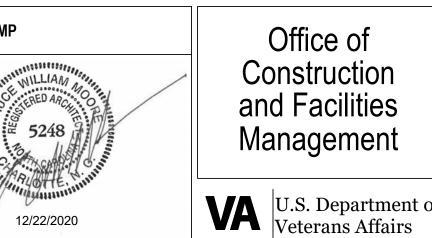
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**UTILITY 1: PLUMBING (WATER AND DRAINAGE** UTILITY 4: MISCELLANEOUS GAS **ACQUISITION CODE LEGEND UTILITY 2: ELECTRICAL UTILITY 3: MEDICAL GAS UTILITY 5: NON-MEDICAL GAS** CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION DESCRIPTION DESCRIPTION CODE DESCRIPTION OXYGEN STEAM HOT AND COLD WATER 120 VOLT, CONVENTIONAL OUTLET NATURAL GAS EARTH GROUND GOVERNMENT FURNISHED AND INSTALLED EMPTY CONDUIT/PULL CORD & WALL/CEILING SUPPORT REQ VV I IQUID PROPANE GAS EARTH GROUND AND WALL/CEILING SUPPORT REQ VACUUM NITROGEN GAS LEAD LINED WALLS COLD WATER AND DRAIN 120 VOLT, SPECIAL OUTLET AIR, LOW PRESSURE GOVERNMENT FURNISHED, CONTRACTOR HOT WATER AND DRAIN 208/220 VOLT NITROUS OXIDE METHANE REMOTE ALARM GROUND LEAD LINED WALLS AND WALL/CEILING SUPPORT REQ COLD AND HOT WATER AND DRAIN 120 AND 208/220 VOLT AIR, HIGH PRESSURE NITROGEN AND NITROUS OXIDE GAS BUTANE EMPTY CONDUIT WITH PULL CORD CAT 6 WIRE TO NEAREST TELECOMMUNICATIONS ROOM INSTALLED OXYGEN AND MEDICAL AIR CARBON DIOXIDE GAS PROPANE VENT TO ATMOSPHERE TREATED WATER AND DRAIN 440 VOLT. 3 PHASE COLD. HOT AND TREATED WATER AND DRAIN SPECIAL ELECTRICAL REQUIREMENTS OXYGEN, VACUUM AND MEDICAL AIR LIQUID CARBON DIOXIDE HYDROGEN GAS SPECIAL GAS REQUIREMENTS CC CONTRACTOR FURNISHED AND INSTALLED COLD AND TREATED WATER AND DRAIN 208/220 VOLT, 3 PHASE VACUUM AND HP AIR LIQUID NITROGEN RESERVED LIQUID GAS REQUIREMENTS ACETYLENE GAS INSTRUMENT AIR HOT AND TREATED WATER AND DRAIN MEDICAL AIR RF/MAGNETIC SHIELDING DRAIN ONLY WALL/CEILING SUPPORT REQUIRED COLD WATER ONLY Type Mark UTIL\_1\_Water Drain UTIL\_2\_Elec UTIL\_3\_MedGas UTIL\_4\_MiscGas UTIL\_5\_NonMedGas UTIL\_6\_Misc ACQ/INS Count Room: Number Room: Name Comments Description REC BAY 16 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. C4001E REC BAY 16 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd V V Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. C4001E REC BAY 16 A5160X Shelf. Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height -REC BAY 16 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15, optional raised back REC BAY 16 C4001E REC BAY 16 F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included) C4001E REC BAY 16 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation. VV Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away REC BAY 16 M4665 Stretcher, Recovery, Surgical chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 15 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. V V A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. C4001F REC BAY 15 A5077 Dispenser, Hand Sanitizer, Hands-Free C4001F REC BAY 15 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. REC BAY 15 A5160X | Shelf, Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height -C4001F REC BAY 15 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track VV Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. C4001F REC BAY 15 E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back REC BAY 15 F3200 Clock, Battery, 12" Diameter VV Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging REC BAY 15 M3072 Frame, Infectious Waste Bag w/Lid infectious waste at point of waste generation REC BAY 15 VV Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away M4665 Stretcher, Recovery, Surgical chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 15 M7845 | Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. REC BAY 14 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. V V A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 14 Dispenser, Hand Sanitizer, Hands-Free VV Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. REC BAY 14 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height REC BAY 14 A5160X | Shelf, Wall Mounted REC BAY 14 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back REC BAY 14 E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). REC BAY 14 F3200 Clock, Battery, 12" Diameter C4001G REC BAY 14 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation VV Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away M4665 Stretcher, Recovery, Surgical REC BAY 14 chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 14 M7845 Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. REC BAY 13 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. REC BAY 13 A1200Y Lift, Patient, Ceiling -Mount, 1000 Lb Capacity Barrier Free Lifts, UNILIFT A5077 Dispenser, Hand Sanitizer, Hands-Free C4001H REC BAY 13 A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 13 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. REC BAY 13 A5108 Waste Disposal Unit, Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. C4001H REC BAY 13 A5160X | Shelf, Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas C4001H REC BAY 13 where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. C4001H REC BAY 13 E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back REC BAY 13 C4001H F2010 Basket, Wastepaper, Step-On "Step-on" wastepaper basket with inner liner and foot petal activated flip top. F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). C4001H REC BAY 13 REC BAY 13 Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters. For linen transport in hospitals and clinics. C4001H M3070 Hamper, Linen, Mobile, w/Lid REC BAY 13 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation C4001H REC BAY 13 M4255 Stand, IV, Adjustable Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. REC BAY 13 M4665 Stretcher, Recovery, Surgical Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 13 M7040 Table, Overbed Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a 1 vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. REC BAY 13 M7845 Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. REC BAY 7 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. C4001J REC BAY 7 A5077 Dispenser, Hand Sanitizer, Hands-Free VV A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. C4001J REC BAY A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. REC BAY 7 A5108 Waste Disposal Unit, Sharps VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height REC BAY A5160X | Shelf, Wall Mounted -C4001J REC BAY 7 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. C4001J REC BAY 7 E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back **REC BAY 7** VV Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). F3200 Clock, Battery, 12" Diameter C4001J REC BAY 7 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation REC BAY M4255 Stand, IV, Adjustable VV Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. C4001J Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away REC BAY 7 M4665 Stretcher, Recovery, Surgical chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. C4001J REC BAY 7 M7040 Table, Overbed Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. REC BAY 7 M7845 Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms.

		CONSULTANT	PERKINS — EASTMAN		ARCHITECT/ENGINEER OF RECORD  Atriax, pllc 102 3rd Avenue, NE	STAMP  STAMP  WILLIAM  SERED ARCH  STAMP	C ar
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VA FORM 08 - 6231

ABBREVIATIONS OF UTILITIES ON JSN# SCHEDULES



				•	100% BII	DOCUMENTS
	Drawing Title EQUIPMENT SCHEDULE	100% BID DOCUMENTS	Project Title VA DURHAM - I	PACU REN	OVATION	Project Number 558-17-150  Building Number
: of	Andreka Watlington	FULLY SPRINKLERED	Location DURHAM VAMO Issue Date 12/22/2020	C DUF Checked BM	RHAM, NC Drawn MK	Drawing Number  A-705  31 of 78

ABBREVIATIONS OF UTILITIES ON JSN# SCHEDULES UTILITY 4: MISCELLANEOUS GAS **UTILITY 1: PLUMBING (WATER AND DRAINAGE UTILITY 2: ELECTRICAL UTILITY 3: MEDICAL GAS UTILITY 5: NON-MEDICAL GAS UTILITY 6: MISCELLANEOUS GAS ACQUISITION CODE LEGEND** CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION DESCRIPTION DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION OXYGEN STEAM 120 VOLT, CONVENTIONAL OUTLET NATURAL GAS EARTH GROUND GOVERNMENT FURNISHED AND INSTALLED HOT AND COLD WATER EMPTY CONDUIT/PULL CORD & WALL/CEILING SUPPORT REQ VV COLD WATER AND DRAIN VACUUM NITROGEN GAS LIQUID PROPANE GAS LEAD LINED WALLS EARTH GROUND AND WALL/CEILING SUPPORT REQ 120 VOLT, SPECIAL OUTLET HOT WATER AND DRAIN 208/220 VOLT AIR, LOW PRESSURE NITROUS OXIDE METHANE REMOTE ALARM GROUND LEAD LINED WALLS AND WALL/CEILING SUPPORT REQ GOVERNMENT FURNISHED, CONTRACTOR COLD AND HOT WATER AND DRAIN 120 AND 208/220 VOLT AIR. HIGH PRESSURE NITROGEN AND NITROUS OXIDE GAS BUTANE EMPTY CONDUIT WITH PULL CORD CAT 6 WIRE TO NEAREST TELECOMMUNICATIONS ROOM INSTALLED TREATED WATER AND DRAIN 440 VOLT 3 PHASE OXYGEN AND MEDICAL AIR CARBON DIOXIDE GAS PROPANE VENT TO ATMOSPHERE SPECIAL ELECTRICAL REQUIREMENTS CC CONTRACTOR FURNISHED AND INSTALLED HYDROGEN GAS COLD, HOT AND TREATED WATER AND DRAIN OXYGEN, VACUUM AND MEDICAL AIR LIQUID CARBON DIOXIDE SPECIAL GAS REQUIREMENTS COLD AND TREATED WATER AND DRAIN 208/220 VOLT, 3 PHASE VACUUM AND HP AIR LIQUID NITROGEN RESERVED LIQUID GAS REQUIREMENTS ACETYLENE GAS HOT AND TREATED WATER AND DRAIN MEDICAL AIR INSTRUMENT AIR RF/MAGNETIC SHIELDING DRAIN ONLY WALL/CEILING SUPPORT REQUIRED COLD WATER ONLY UTIL\_1\_Water Drain UTIL\_2\_Elec UTIL\_3\_MedGas UTIL\_4\_MiscGas UTIL\_5\_NonMedGas UTIL\_6\_Misc Count Room: Number Room: Name Type Mark Comments Description REC BAY 6 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. C4001K REC BAY 6 Dispenser, Hand Sanitizer, Hands-Free V V A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 6 C4001K A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. C4001K REC BAY 6 A5108 Waste Disposal Unit, Sharps VV A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. REC BAY 6 A5160X | Shelf, Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height C4001K REC BAY 6 A5180 Track, Cubicle, Surface Mounted, With Curtain Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track C4001K REC BAY 6 Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. C4001K REC BAY 6 E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back C4001K REC BAY 6 F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). REC BAY 6 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation REC BAY 6 M4255 Stand, IV, Adjustable VV Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. C4001K REC BAY 6 M4665 Stretcher, Recovery, Surgical Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 6 M7040 | Table, Overbed Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a 1 vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. C4001K REC BAY 6 M7845 | Monitor, Physiological, Bedside, 4 Channel VV 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. REC BAY 5 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. REC BAY 5 A5077 Dispenser, Hand Sanitizer, Hands-Free VV A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 5 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. C4001L REC BAY 5 A5108 Waste Disposal Unit, Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. C4001L REC BAY 5 A5160X | Shelf, Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height C4001L REC BAY 5 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D REC BAY VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back F3200 Clock, Battery, 12" Diameter REC BAY 5 Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging REC BAY 5 M3072 Frame, Infectious Waste Bag w/Lid C4001L REC BAY 5 M4255 Stand, IV, Adjustable Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. M4665 Stretcher, Recovery, Surgical C4001L REC BAY 5 Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 5 M7040 Table, Overbed VV Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four REC BAY 5 M7845 Monitor, Physiological, Bedside, 4 Channel waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 REC BAY 4 A1107X Rail System, Utility, Gas and Electric swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. REC BAY 4 A5077 Dispenser, Hand Sanitizer, Hands-Free VV A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 4 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. REC BAY 4 A5108 Waste Disposal Unit. Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. REC BAY 4 A5160X Shelf. Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height C4001M -REC BAY 4 A5180 Track, Cubicle, Surface Mounted, With Curtain Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. REC BAY 4 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D C4001M REC BAY 4 VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back C4001M REC BAY 4 F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). REC BAY 4 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation. C4001M REC BAY 4 M4255 Stand, IV, Adjustable Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. C4001M REC BAY 4 M4665 Stretcher, Recovery, Surgical Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 4 VV Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a M7040 Table, Overbed vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. REC BAY 4 M7845 Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. REC BAY 3 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. REC BAY 3 A5077 Dispenser, Hand Sanitizer, Hands-Free C4001N VV A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 3 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting REC BAY 3 A5108 Waste Disposal Unit, Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height C4001N REC BAY 3 A5160X Shelf. Wall Mounted

REC BAY 3 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back REC BAY 3 C4001N REC BAY 3 F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). C4001N REC BAY 3 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation. M4255 Stand, IV, Adjustable REC BAY 3 VV Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away REC BAY 3 Stretcher, Recovery, Surgical chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. VV Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a

where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote.

vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair.

100% BID DOCUMENTS

C4001N

VA FORM 08 - 6231

REC BAY 3

REC BAY 3

REC BAY 3

**CONSULTANT CHARLOTT** 704.295.4263 705 EAST MOREHEAD STREET, 28202 **RALEIGH** 919.816.2907 737 GLENWOOD AVENUE, SUITE 100, 27612 F. 704.362.4602 NC License No: C-2848

A5180 Track, Cubicle, Surface Mounted, With Curtain

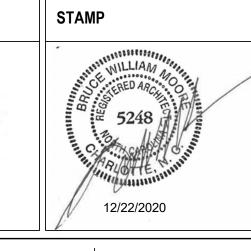
M7845 | Monitor, Physiological, Bedside, 4 Channel

M7040 Table, Overbed

PERKINS— **EASTMAN** 520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501

**LAURENE, RICKHER** & SORRELL, P.C. Consulting Structural Engineers 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 HONE 704-522-0495 FAX 704-522-0499 EMAIL mail@Irspc.net WEB www.Irspc.net





Office of Construction and Facilities Management U.S. Department of Veterans Affairs

Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas

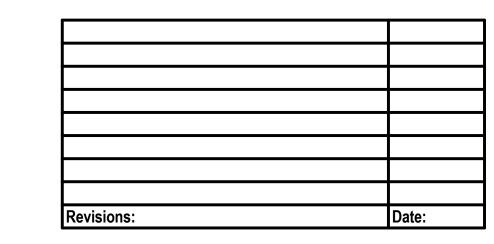
4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four

waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms.

**Drawing Title Project Number Project Title** 558-17-150 VA DURHAM - PACU RENOVATION **EQUIPMENT SCHEDULE** 100% BID DOCUMENTS **Building Number Drawing Number** Approved: Location **DURHAM VAMC** DURHAM, NC Andreka Watlington **FULLY SPRINKLERED** A-706 Checked Drawn 12/22/2020 BM MK 32 of 78

ABBREVIATIONS OF UTILITIES ON JSN# SCHEDULES **UTILITY 1: PLUMBING (WATER AND DRAINAGE UTILITY 3: MEDICAL GAS UTILITY 4: MISCELLANEOUS GAS ACQUISITION CODE LEGEND UTILITY 2: ELECTRICAL UTILITY 5: NON-MEDICAL GAS** CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION CODE DESCRIPTION DESCRIPTION DESCRIPTION CODE DESCRIPTION STEAM OXYGEN EARTH GROUND HOT AND COLD WATER 120 VOLT, CONVENTIONAL OUTLET NATURAL GAS GOVERNMENT FURNISHED AND INSTALLED EMPTY CONDUIT/PULL CORD & WALL/CEILING SUPPORT REQ VV 120 VOLT, SPECIAL OUTLET COLD WATER AND DRAIN VACUUM NITROGEN GAS LIQUID PROPANE GAS LEAD LINED WALLS EARTH GROUND AND WALL/CEILING SUPPORT REQ AIR, LOW PRESSURE NITROUS OXIDE GOVERNMENT FURNISHED, CONTRACTOR HOT WATER AND DRAIN 208/220 VOLT METHANE REMOTE ALARM GROUND LEAD LINED WALLS AND WALL/CEILING SUPPORT REQ EMPTY CONDUIT WITH PULL CORD 120 AND 208/220 VOLT AIR, HIGH PRESSURE NITROGEN AND NITROUS OXIDE GAS COLD AND HOT WATER AND DRAIN BUTANE CAT 6 WIRE TO NEAREST TELECOMMUNICATIONS ROOM INSTALLED TREATED WATER AND DRAIN 440 VOLT 3 PHASE OXYGEN AND MEDICAL AIR CARBON DIOXIDE GAS PROPANE VENT TO ATMOSPHERE SPECIAL ELECTRICAL REQUIREMENTS HYDROGEN GAS CC CONTRACTOR FURNISHED AND INSTALLED COLD, HOT AND TREATED WATER AND DRAIN OXYGEN, VACUUM AND MEDICAL AIR LIQUID CARBON DIOXIDE SPECIAL GAS REQUIREMENTS COLD AND TREATED WATER AND DRAIN 208/220 VOLT, 3 PHASE VACUUM AND HP AIR LIQUID NITROGEN RESERVED LIQUID GAS REQUIREMENTS INSTRUMENT AIR ACETYLENE GAS HOT AND TREATED WATER AND DRAIN MEDICAL AIR RF/MAGNETIC SHIELDING DRAIN ONLY WALL/CEILING SUPPORT REQUIRED COLD WATER ONLY Type Mark UTIL\_1\_Water Drain UTIL\_2\_Elec UTIL\_3\_MedGas UTIL\_4\_MiscGas UTIL\_5\_NonMedGas UTIL\_6\_Misc Room: Number Room: Name Comments Description REC BAY 2 A1107X Rail System, Utility, Gas and Electric Vertical headwall, similar or equal to Contour by Hill-rom, 16in X 65in, recessed/ flush & surface application, 2 O, 1 A, 3 V, 8 emergency outlets, patient monitor data & power, 2 vertical accessory rails, patient monitor mount, IV mount, 3 slides mounts, 1 swivel table top, 1 large basket, adjustable recessed bag holder, nurse call code blue, 3 data, 1 exam indirect light switch. C4001P REC BAY 2 Dispenser, Hand Sanitizer, Hands-Free V V A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. REC BAY 2 A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. REC BAY 2 A5108 Waste Disposal Unit, Sharps VV A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. REC BAY 2 A5160X | Shelf, Wall Mounted VA to verify purchase order and cutsheets. A surface mounted, satin finish, stainless steel shelf 30" W x 10" D with adjustable height C4001P REC BAY 2 A5180X Track, Cubicle, Surface Mounted, With Curtain-L Shape Track Surface mounted cubicle track, with curtain. Track constructed of thick extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed. Price listed is per foot of the track, curtains to be priced per quote. E0948Y | Cart, General Storage, Mobile, 34"H x 24 3/4 W x 22" D REC BAY 2 VV VA to verify purchase order and cutsheets. similar to Harloff MDS1821K15,optional raised back C4001P REC BAY 2 F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). REC BAY 2 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation REC BAY 2 VV Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. C4001P M4255 Stand, IV, Adjustable REC BAY 2 M4665 Stretcher, Recovery, Surgical Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. REC BAY 2 M7040 Table, Overbed VV Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. REC BAY 2 M7845 | Monitor, Physiological, Bedside, 4 Channel 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. 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M3070 Hamper, Linen, Mobile, w/Lid REC BAY 1 M3072 Frame, Infectious Waste Bag w/Lid Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions. REC BAY M4255 Stand, IV, Adjustable C4001Q REC BAY 1 M4665 Stretcher, Recovery, Surgical Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee catch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications. C4001Q REC BAY 1 M7040 Table, Overbed Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a 1 vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair. 4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four REC BAY 1 M7845 | Monitor, Physiological, Bedside, 4 Channel waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms. ALCOVE F2010 Basket, Wastepaper, Step-On "Step-on" wastepaper basket with inner liner and foot petal activated flip top. ALCOVE Medical gas cylinder storage rack. Unit is a modular cage frame for holding various sizes of gas cylinders. Nylon or fabric securing straps can be attached to the frame bars to stabilize gas cylinders. Add additional units or specify size as required when ordering. This M2025 Rack, Storage, Cylider, Gas item is often locally fabricated. NURSE ST A1011 Telephone, Desk, 1 Line VVTelephone, desk, 1 line. C4001S NURSE ST Chair, Swivel, Low Back Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl. C4001S NURSE ST F2000 Basket, Wastepaper, Fire Resistant Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations. Whiteboard unit, approximately 36" H x 48" W consisting of a white porcelain enamel writing surface with an attached chalk tray. Magnetic surface available. Image can be easily removed with a standard chalkboard eraser. For use with water color pens. Unit is ready C4001S NURSE ST F3050 Whiteboard, Dry Erase NURSE ST M1801X | Computer, Microprocessing, w/Flat Panel Monitor( Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information. Desktop-System) Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB NURSE ST M1801Y | Computer, Microprocessing, w/Flat Panel Monitor( Desktop-Pact) hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information. C4001S NURSE ST U1004 | Computer Articulating Arm V V VA to verify purchase order and cutsheets C4001U ALCOVE M1840 Printer/Copier/Fax Combination Multifunctional printer, fax, scanner and copier (PFC) all-in-one machine. ALCOVE M3150X Distribution System, Medication, Automatic, Omni Min C4001U VA to verify the model and cutsheets. An automated dispensing system that provides controlled dispensing, inventory and security. Size and cost will vary dependent on number of modules selected. -C4001U ALCOVE M3150Y Distribution System, Medication, Automatic, Omni Min VV VA to verify the model and cutsheets. An automated dispensing system that provides controlled dispensing, inventory and security. Size and cost will vary dependent on number of modules selected. -\_ C4001V MEDS A1014 Telephone, Wall Mounted, 1 Line, With Speaker V V Telephone, wall mounted, 1 line, with speaker. C4001V MEDS A5075 Dispenser, Soap, Disposable Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve. MEDS C4001V A5077 Dispenser, Hand Sanitizer, Hands-Free A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated. MEDS A5082 Dispenser, Paper Towel, Sensor, Hands Free C4001V A surface mounted, sensor activated, automatic, roll paper towel dispenser. The unit dispenses a paper towel automatically only when hands are place in position below the dispesser for maximum sanitation and hygiene. May include adjustable settings for sheet length, time delay, and sensor range. Unit is battery operated or with optional AC power adapter. C4001V MEDS A5107 Dispenser, Glove, Surgical/Examination, Wall Mntd VV Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting. MEDS C4001V A5108 Waste Disposal Unit, Sharps A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps. C4001V MEDS E0948X PROS C VA to verify purchase order and cutsheets. Procedure Cart, Storage, Mobile, 42"H x 32"W x 22"D C4001V MEDS "Step-on" wastepaper basket with inner liner and foot petal activated flip top. F2010 Basket, Wastepaper, Step-On MEDS F3200 Clock, Battery, 12" Diameter Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included). C4001V MEDS Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB C4001V M1801 Computer, Microprocessing, w/Flat Panel Monitor hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information. M3110 Cabinet, Warming, F/S, 2 Heated Compartment, Elect Freestanding, single or double door warming cabinet with 2 heated compartments. Compartment and exterior walls are made from stainless steel. Thick fiberglass insulation maintains the interior temperature and keeps the exterior from becoming too hot. Equipped C4001V MEDS with a sealing door, thermostatic temperature control, status display, heat indicating light, over temperature protection, alarms and an air circulating fan. Unit may have an optional temperature recorder. Manufacturer recommends using a fused disconnect switch in the electrical power circuit. Cabinet may also be installed in a recess. Designed for heating and storing solutions and blankets used in patient care areas. M3150X Distribution System, Medication, Automatic, Omni Min VA to verify the model and cutsheets. An automated dispensing system that provides controlled dispensing, inventory and security. Size and cost will vary dependent on number of modules selected. MEDS C4001V

100% BID DOCUMENTS



MEDS

VA FORM 08 - 6231

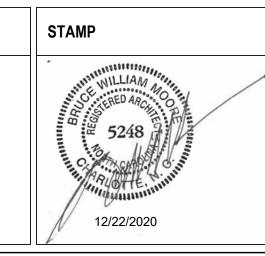
**CONSULTANT CHARLOTT** 704.295.4263 705 EAST MOREHEAD STREET, 28202 **RALEIGH** 919.816.2907 737 GLENWOOD AVENUE, SUITE 100, 27612 F. 704.362.4602 NC License No: C-2848

R6200 Refrigerator, U/C or F/S, 5 Cu Ft

PERKINS— **EASTMAN** 520 WEST SIXTH STREET T. 704.940.0501

**LAURENE, RICKHER** & SORRELL, P.C. Consulting Structural Engineers 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 HONE 704-522-0495 FAX 704-522-0499 EMAIL mail@Irspc.net WEB www.Irspc.net



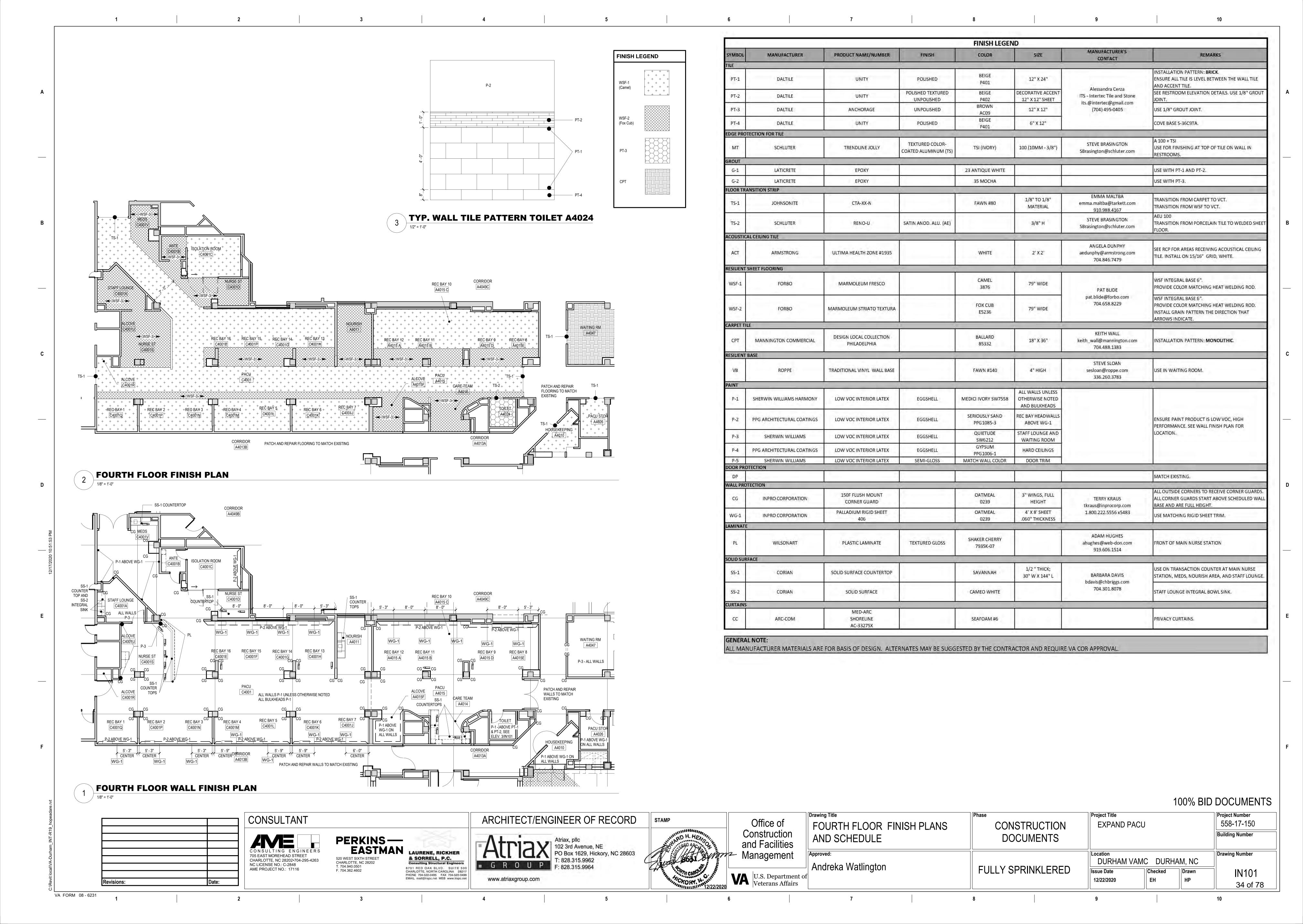


or wherever space is limited.

Office of Construction and Facilities Management U.S. Department of Veterans Affairs

Utility refrigerator approximately 35" H x 24" W x 26" D. The unit has a two tray ice cube cooling system. The refrigerator fits standard architectural dimensions for undercounter installation. The unit is perfect for use in nurses' station, wards, and laboratories, pharmacies

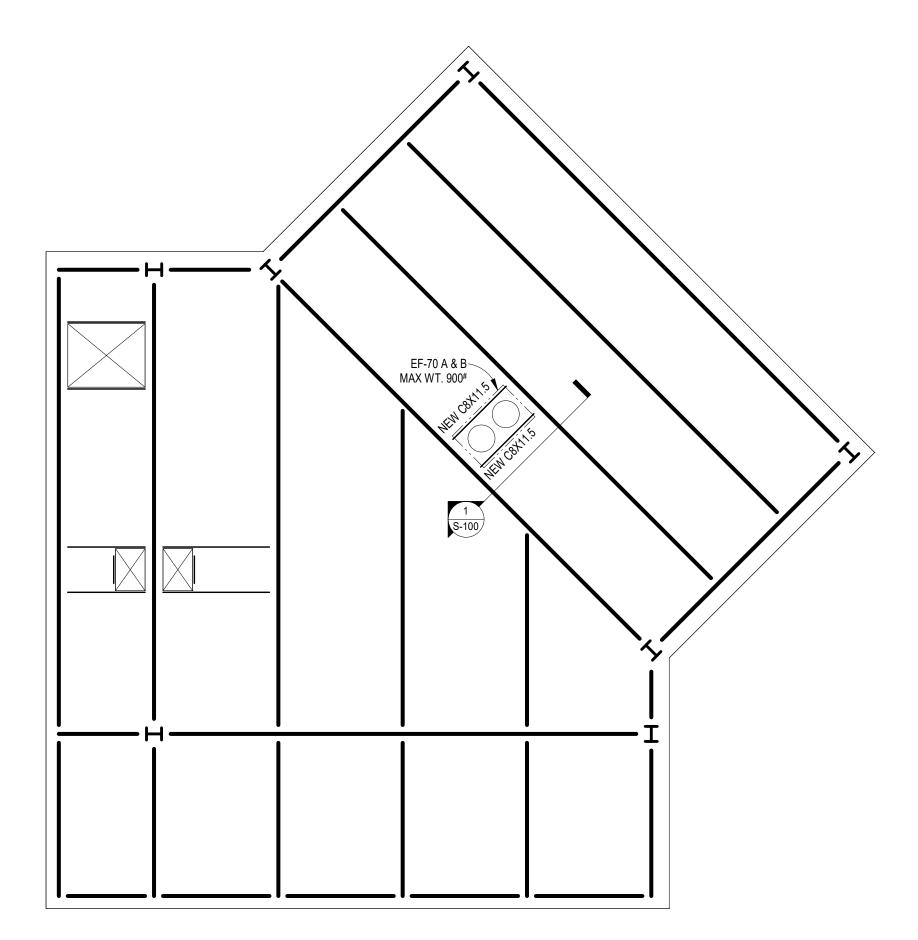
**Drawing Title Project Number Project Title** 558-17-150 VA DURHAM - PACU RENOVATION **EQUIPMENT SCHEDULE** 100% BID DOCUMENTS **Building Number Drawing Number** Approved: **DURHAM VAMC** DURHAM, NC Andreka Watlington **FULLY SPRINKLERED** A-707 Checked Drawn 12/22/2020 BM MK 33 of 78



REFER TO SHEET A-101 FOR ADJACENT AREAS AHU-70 4,900#— MAX. WT. (A.2) (A) (A.6) NOTE: 1) CURB TO BE PROVIDED BY AHU SUPPLIER. CURB MUST BEAR DIRECTLY OVER EXISTING STEEL BEAMS

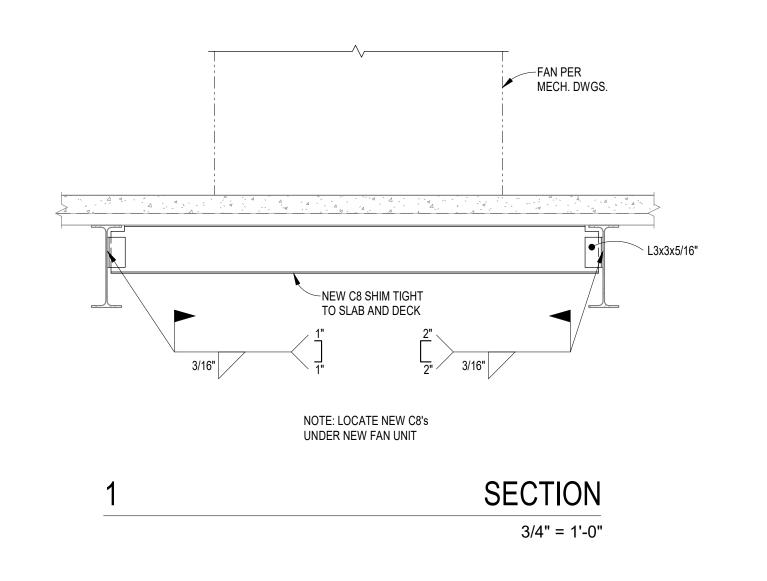
AHU STRUCTURAL FRAMING PLAN 1/8" = 1'-0"

VA FORM 08 - 6231



NOTE: 1) FAN SUPPLIER SHALL PROVIDE ALL TIE DOWNS FOR FAN LATERAL SUPPORT. 2) FAN TIE DOWNS TO BE ATTACHED DIRECTLY TO STEEL BM's OR USE
THROUGH - BOLT CONNECTION IN SLAB.
3) STEEL CHANNELS TO BE ASTM A36 STEEL.

FAN ROOF FRAMING PLAN 3/16" = 1'-0"



# 100% BID DOCUMENTS

Drawing Title Project Title Project Number CONSULTANT ARCHITECT/ENGINEER OF RECORD STAMP PERKINS—
EASTMAN
SIXTH STREET
C 28202

LAURENE, RICKHER
& SORRELL, P.C.
Consulting Structural Engineers
8701 RED OAK BLVD. SUITE 500
CHARLOTTE, NORTH CAROLINA 28217
PHONE 704-522-0495 FAX 704-522-0499
EMAIL mail@lrspc.net WEB www.lrspc.net Office of 558-17-150 **EXPAND PACU** FRAMING PLANS CONSTRUCTION Construction and Facilities **Building Number** CONSULTING ENGINEERS
705 EAST MOREHEAD STREET
CHARLOTTE, NC 28202•704-295-4263
NC LICENSE NO.: C-2848
AME PROJECT NO.: 17116 DOCUMENTS WOUDEAL 15464 CA Drawing Number Management Approved: Location T: 828.315.9962 F: 828.315.9964 **DURHAM VAMC** DURHAM, NC Andreka Watlington FULLY SPRINKLERED Issue Date Checked Drawn S-100 U.S. Department of Veterans Affairs www.atriaxgroup.com MSR 12/22/2020 JAR 35 of 78

#### SPRINKLER SYSTEM DESIGN CRITERIA

- SPRINKLER HEADS SHALL BE SPACED IN ACCORDANCE WITH NFPA 13 AND THE MANUFACTURERS APPROVAL LISTING.
- SPRINKLER HEAD SPACING SHALL NOT EXCEED 130 SQ.FT PER HEAD FOR ORDINARY
- ORDINARY HAZARD GROUP 1 OCCUPANCIES INCLUDE BUT NOT LIMITED TO: MECHANICAL ROOMS, ELECTRICAL ROOMS, AND JANITOR ROOMS. ALL OTHER AREAS SHALL BE LIGHT HAZARD.
- . ORDINARY HAZARD GROUP 2 OCCUPANCIES INCLUDE BUT NOT LIMITED TO: STORAGE ROOMS
- DESIGN DENSITY FOR LIGHT HAZARD .10/1500 + 100 HOSE MINIMUM DESIGN DENSITY FOR ORDINARY HAZARD 1 - .15/1500 + 250 HOSE MINIMUM
- FP CONTRACTOR SHALL TERMINATE THE HYDRAULIC CALCULATIONS AT THE CITY CONNECTION MINIMUM. INDICATE ON DRAWINGS AL UNDERGROUND PIPE AND FITTINGS BOTH NEW AND EXISTING.

#### EXISTING SPRINKLER SYSTEM SHUTDOWN

SHUTDOWNS SHALL BE FULLY COORDINATED WITH AND WRITTEN APPROVAL RECEIVED FROM THE OWNER AND LOCAL FIRE MARSHAL PRIOR TO START OF ANY WORK. DURING THESE SHUTDOWNS, THE CONTRACTOR SHALL PROVIDE FIRE WATCHES AND PORTABLE FIRE EXTINGUISHERS MEETING THE REQUIREMENTS OF THE LOCAL FIRE MARSHAL. CONTRACTOR SHALL PERFORM THIS WORK OUTSIDE OF NORMAL BUSINESS HOURS AS REQUIRED & AS DIRECTED BY THE OWNER.

	FIRE PROTECTION ABBREVIATIONS
TYPE	DESCRIPTION
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ETR	EXISTING TO REMAIN
ETBD	EXISTING TO BE DEMOLISHED
FM	FACTORY MUTUAL
FP	FIRE PROTECTION
GPM	GALLONS PER MINUTE
MAX	MAXIMUM
MIN	MINIMUM
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NICET	NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES
NTS	NOT TO SCALE
OC	ON CENTER
OS&Y	OUTSIDE SCREW AND YOKE
PE	PROFESSIONAL ENGINEER
SCH	SCHEDULE
SF	SQUARE FOOT
UL	UNDERWRITERS LABORATORIES
٥F	DEGREE FAHRENHEIT

#### FIRE PROTECTION LEGEND

- NEW STANDARD COVERAGE, PENDANT SPRINKLER HEAD
- (ETBD) STANDARD COVERAGE, PENDANT SPRINKLER HEAD
- (ETR) STANDARD COVERAGE, PENDANT SPRINKLER HEAD

# **SEISMIC AND WIND REQUIREMENTS FOR FIRE PROTECTION SYSTEMS**

INFORMATION FOR IBC-2015 / ASCE 7-10

- PER 2015 INTERNATIONAL BUILDING CODE, MECHANICAL EQUIPMENT AND COMPONENTS, INCLUDING THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED FOR SEISMIC FORCES IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7-10. B. EXTERIOR EQUIPMENT (INCLUDING ROOF CURBS AND ROOF RAILS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH CHAPTERS 26 THROUGH 29 OF ASCE
- WHERE DESIGN FOR SEISMIC AND WIND LOADS IS REQUIRED, THE MORE DEMANDING FORCE MUST BE USED. REFERENCE THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN CATEGORY, WIND
- USE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH COMPONENT. FOR ALL COMPONENTS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL.
- WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC ENGINEER. DO NOT POUR ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF APPROVED SEISMIC SUBMITTAL. H. SEISMIC RESTRAINTS FOR PIPING AND CONDUIT MUST BE SHOWN ON SEISMIC SUBMITTAL LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS.

#### SEISMIC DESIGN CATEGORY C RISK CATEGORY IV

		COMPONENT IMPORTANCE FACTOR (I		
		1.5		
COMPONENT IDENTIFICATION		SEISMIC RESTRAINT REQUIREMENT	ASCE 7-10 REFERENCE	
ROOF	MOUNTED	RESTRAIN ALL	13.1.4.5	
FLOOR	MOUNTED	RESTRAIN ALL	13.1.4.5	
WALL	MOUNTED	RESTRAIN ALL	13.1.4.5	
COMPONE	NT SUPPORTS	RESTRAIN ALL	13.6.5	
SUSPENDED EQUIPMENT	INLINE W/ PIPE	RESTRAIN IF >75 LBS PROVIDE FLEX. CONN. (SEE NOTE 1)	13.6.7	
	NOT INLINE W/ PIPE	RESTRAIN ALL	13.1.4.5	
SUSPENDED DUCTILE PIPING (STEEL, AL, CU, ETC.)		RESTRAIN IF>2" (SEE NOTE 2)	13.6.8.3.3.a	
SUSPENDED NON DUCTILE PIPING (CAST IRON, PLASTIC, CERAMIC)		RESTRAIN ALL (SEE NOTE 2)	13.6.8.3.3	
SUSPENDED P	IPE ON TRAPEZE	RESTRAIN IF ANY PIPE ON TRAPEZE >2" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE >10 LBS/FT (SEE NOTE 2)	13.6.8.3.1	
COMPONENT CERTIFICATION		REQUIRED (SEE NOTE 3)	13.2.2	

1. FLEXIBLE CONNECTIONS REQUIRED FOR PIPE CONNECTIONS ONLY.

- RESTRAINT IS NOT REQUIRED IF THE PIPING IS SUPPORTED BY HANGERS WHERE EACH HANGER IS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE PIPE OR DUCT TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON A TRAPEZE, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12 INCHES OR LESS. WHERE ROD HANGERS ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS, EYES NUTS OR OTHER DEVICES TO PREVENT BENDING IN THE
- COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT THE TIME OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD.

### FIRE PROTECTION GENERAL NOTES

- THE INFORMATION GIVEN HEREIN AND ON THE PLANS IS AS EXACT AS COULD BE SECURED FOR BIDDING PURPOSES, AND ITS ACCURACY IS NOT GUARANTEED. THE AUTOMATIC SPRINKLER CONTRACTOR IS RESPONSIBLE FOR EXAMINING THE JOB CONDITIONS AND VERIFYING ALL MEASUREMENTS, DISTANCES, ELEVATIONS, CLEARANCES, PIPE SIZES, ETC. BEFORE STARTING THE WORK.
- THE DESIGN, MATERIALS, AND INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA-13, MANUFACTURERS RECOMMENDATIONS, APPLICABLE STATE AND LOCAL CODES, OWNERS INSURANCE UNDERWRITER, AND ALL AUTHORITIES HAVING JURISDICTION.
- THE AUTOMATIC SPRINKLER CONTRACTOR IS RESPONSIBLE FOR PROVIDING DESIGN, SHOP DRAWINGS, AND HYDRAULIC CALCULATIONS INCLUDING BUT NOT LIMITED TO ALL ITEMS WHICH APPLY AS OUTLINED IN NFPA-13 SECTION 23.1; "WORKING PLANS".
- THE AUTOMATIC SPRINKLER CONTRACTOR IS RESPONSIBLE FOR SUBMITTING SHOP DRAWINGS AND HYDRAULIC CALCULATIONS TO ALL AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO THE STATE AND LOCAL FIRE
- SPRINKLERS INSTALLED IN CEILING TILES SHALL BE LOCATED IN THE CENTER OF TILE, BASED ON THE REFLECTED CEILING PLANS CONTAINED IN THE CONTRACT DOCUMENTS, AND COORDINATED WITH THE CEILING CONTRACTOR.

MARSHAL, INSURANCE UNDERWRITER, VA VISN AND THE OWNER.

- THE AUTOMATIC SPRINKLER CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS, RISES AND DROPS IN PIPING, AND AUXILIARY DRAINS AS REQUIRED BY BUILDING CODES, WHETHER SHOWN ON PLANS OR NOT.
- THE AUTOMATIC SPRINKLER CONTRACTOR SHALL OBTAIN A CURRENT FIRE PUMP TEST WITHIN 12 MONTHS OF COMPLETING WORK.
- . ALL NEW FIRE PROTECTION PIPING SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH NFPA-13.
- . ALL EXPOSED FIRE PROTECTION PIPING IN CLOSETS, STAIRWELLS, MECHANICAL ROOMS ETC., SHALL BE PAINTED RED.
- 10. ALL ARM-OVERS TO BE 1" UNLESS NOTED OTHERWISE.
- 11. FIRE PROTECTION CONTRACTOR SHALL COORDINATE WITH ALL TRADES TO ENSURE THAT HIS WORK DOES NOT INTERFERE WITH EQUIPMENT, EQUIPMENT SERVICE CLEARANCES, PIPING, ETC.
- 12. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO DETERMINE FIELD CONDITIONS AND EXTENT OF THE WORK UNDER THIS CONTRACT. LACK OF KNOWLEDGE OF EXISTING FIELD CONDITIONS WILL NOT BE CONSIDERED A BASIS FOR CHANGE ORDERS.

#### AUTOMATIC SPRINKLER AND FIRE PROTECTION SPECIFICATIONS

# PART 1 - GENERAI

#### 1.1 SECTION INCLUDES:

A. THE EXTENT OF FIRE SPRINKLER WORK IS INDICATED BY DRAWINGS AND SCHEDULES AND BY THE REQUIREMENTS OF THIS SECTION, AND IS HEREBY DEFINED TO INCLUDE, BUT NOT NECESSARILY LIMITED TO FEED AND CROSS MAIN PIPING, BRANCH LINE PIPING, TEST VALVES, TEST CONNECTIONS AND SPRINKLERS.

#### 1.2 QUALITY ASSURANCE:

- A. MANUFACTURERS: FIRMS REGULARLY ENGAGED IN THE MANUFACTURE OF FIRE SPRINKLERS AND PIPING ACCESSORIES OF TYPE AND SIZES REQUIRED, WHOSE PRODUCTS HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR NOT LESS THAN FIVE YEARS.
- B. NFPA STANDARDS: COMPLY WITH THE LATEST EDITION OF NFPA 13, "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS". HANGER RODS AND HANGER SPACING SHALL CONFORM TO NFPA 13.
- C. UL LABELS: PROVIDE FIRE SPRINKLER PIPING PRODUCTS WHICH HAVE BEEN APPROVED AND LABELED BY UNDERWRITERS LABORATORIES FOR THE USE AND INSTALLATION INTENDED.

D. LOCAL FIRE DEPARTMENT/MARSHAL REGULATIONS: COMPLY WITH GOVERNING REGULATIONS

- PERTAINING TO FIRE SPRINKLER SYSTEMS.
- E. OWNER INSURANCE UNDERWRITER: COMPLY WITH ALL REQUIREMENTS OF THE OWNER'S INSURANCE UNDERWRITER.

#### 1.3 SUBMITTALS:

A. ALL SUBMITTALS SHALL BE DATED AND SHALL CONTAIN THE PROJECT NAME; DESCRIPTION OR NAMES OF EQUIPMENT; MATERIALS OR EQUIPMENT WHICH ARE TO BE INSTALLED. EQUIPMENT AND MATERIALS TO BE SUBMITTED SHALL INCLUDE THE FOLLOWING; SPRINKLERS, VALVES, GAUGES, TAMPER SWITCHES, FLOW SWITCHES, ELECTRIC MOTOR GONG, INSPECTORS TEST VALVES, FIRE VALVE CABINETS, SPARE SPRINKLER CABINET, HANGERS, INCLUDING PIPE MATERIALS AND FITTINGS. PROVIDE MANUFACTURERS PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR ALL EQUIPMENT AND MATERIALS.

#### **B. SHOP DRAWINGS:**

SUBMIT LEGIBLE COPIES OF EACH DRAWING. EACH DRAWING SHALL HAVE A CLEAR SPACE FOR STAMPS. WHEN PHRASE "BY OTHERS" APPEARS ON SHOP DRAWINGS, THE CONTRACTOR SHALL INDICATE ON DRAWING WHO IS TO FURNISH MATERIAL OR OPERATIONS SO MARKED BEFORE SUBMITTAL. WHEN SHOP DRAWINGS ARE CHECKED "RESUBMIT", OR WORDS OF LIKE MEANING, CONTRACTOR SHALL CORRECT ORIGINAL DOCUMENT AND SUBMIT A NEW COPY FOR APPROVAL TO THE ENGINEER. AFTER COMPLETION OF CHECKING EACH SUBMISSION OF SHOP DRAWINGS, THE ENGINEER WILL RETURN CHECKED COPIES TO CONTRACTOR AND COR FOR REVIEW. FOR USE OF ALL TRADES, THE CONTRACTOR SHALL PROVIDE SUCH NUMBER OF COPIES AS REQUIRED FOR FIELD DISTRIBUTION. SUBMIT SEVEN (7) COPIES OF EACH SUBMITTAL.

- 1. SUBMIT SHOP DRAWINGS FOR THE SPRINKLER PIPING, SHOWING THE PIPE SIZES, LOCATION, ELEVATION AND SLOPES OF HORIZONTAL RUNS, FITTINGS, ACCESSORIES, VALVES, GAUGES, HOSE CONNECTIONS, EQUIPMENT CONNECTIONS, WIRING DIAGRAMS AND TYPICAL DETAILS FOR HANGERS AND ANCHORAGES.
- 2. SUBMITTED SHOP DRAWINGS SHALL COMPLY WITH ALL APPLICABLE ITEMS INDICATED BY NFPA 13, SECTION 6-1, "WORKING PLANS".
- 3. COMPLETELY COORDINATING SHOP DRAWINGS AS SPECIFIED ABOVE, INDICATING ALL ANTICIPATED OFFSETS AND PIPE ROUTING, SHALL BE SUBMITTED WITH HYDRAULIC VERIFICATION BEFORE ANY PIPE IS FABRICATED OR INSTALLED.
- 4. ALL SUBMITTALS SHALL BEAR A CURRENT NICET LEVEL III CERTIFICATION NUMBER IN "FIRE
- SPRINKLER LAYOUT" AND SIGNATURE. 5. ANY SUBMITTALS NOT COMPLYING WITH PARAGRAPH B.1 THROUGH B.4 ABOVE WILL
- BE REJECTED. C. MANUFACTURER'S DATA: SUBMIT MANUFACTURER'S DATA ON ALL STYLES OF SPRINKLER

HEADS USED AS WELL AS ALL VALVES, FLOW SWITCHES, TAMPER SWITCHES, DETECTION

- SYSTEM AND SIMILAR DEVICES. D. CERTIFICATION OF INSTALLATION, FIRE SPRINKLER PIPING: SUBMIT CERTIFICATE UPON COMPLETION OF FIRE SPRINKLER PIPING WORK STATING THAT THE WORK HAS BEEN COMPLETED AND TESTED IN ACCORDANCE WITH NFPA 13, AND THAT THERE ARE NO DEFECTS
- IN THIS SYSTEM AND IT IS OPERATIONAL. 1.4 FIRE SPRINKLER SYSTEM DESIGN CRITERIA:

AUTHORITY HAVING JURISDICTION.

- A. GENERAL:
- 1. DESIGN CRITERIA: AS REQUIRED BY NFPA-13 MINIMUM AND PER LOCAL

# PART 2 - PRODUCTS

#### 2.1 MATERIALS: A. GENERAL:

- 1. PROVIDE MATERIALS COMPLYING WITH NFPA NO. 13 "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS". SIZE DRAIN PIPING TO PROPERLY DRAIN THE PIPING SYSTEM IN ACCORDANCE WITH NFPA 13.
- 2. THE CONTRACTOR SHALL VERIFY THE EXPECTED WORKING PRESSURE FOR EACH PIPING SYSTEM AND SHALL INSTALL PIPING, FITTINGS AND VALVES WITH A SUITABLE WORKING PRESSURE FOR THE SYSTEM, HOWEVER, NO LESS THAN 175 PSI.
- B. FIRE SPRINKLER PIPING ABOVE GROUND: STEEL PIPE OF THE SIZE INDICATED. 1. WET PIPE SYSTEM: PROVIDE SCHEDULE 10 BLACK STEEL PIPING FOR PIPE SIZES 2-1/2" OR LARGER. PROVIDE SCHEDULE 40 BLACK STEEL PIPING FOR PIPE SIZES 2"OR SMALLER.
  - PIPING SHALL COMPLY WITH STANDARDS AS LISTED IN NFPA 13. A. CAST IRON FITTINGS: ANSI/ASME B16.1, FLANGES AND FITTINGS, ANSI/ASME B16.4,
  - SCREWED FITTINGS. B. MALLEABLE IRON FITTINGS: ANSI/ASME B16.3, SCREWED FITTINGS.

#### C. GROOVED FITTINGS AND COUPLINGS:

- A. GROOVED FITTINGS AND COUPLINGS SHALL BE DESIGNED FOR USE ON FIRE SPRINKLER SYSTEMS. USE ROLLED GROOVED ONLY. (NO CUT GROOVES)
- D. ALL MATERIAL AND PRODUCTS SHALL BE APPROVED FOR THE PARTICULAR SERVICE LISTED BY UL/FM AND LOCAL CODES WHERE APPLICABLE, AND INSTALLED IN ACCORDANCE WITH NFPA 13, OTHER APPLICABLE CHAPTERS AND MANUFACTURER'S RECOMMENDATIONS.
- E. GROOVED FITTINGS AND COUPLINGS SHALL BE OF SAME MANUFACTURER AND SHALL BE LISTED TO BE COMPATIBLE.
  - 1. FITTINGS: SHALL BE CAST OF DUCTILE IRON AND CONFORMING TO ASTM A536 WITH INTEGRAL SHOULDER AND BACKSTOP LUGS.
- 2. COUPLINGS: SHALL BE CAST OF DUCTILE IRON CONFORMING TO ASTM A536 WITH SQUARE NECK CARBON STEEL NUTS AND BOLTS CONFORMING TO ASTM A449.
- 3. GASKETS: SHALL BE GRADE E (TYPE A FLUSH SEAL FOR DRY SERVICE) OF THE CENTRAL CAVITY PRESSURE RESPONSIVE DESIGN. GASKET STYLE AND GRADE SHALL BE SUITED FOR INTENDED SERVICE.

#### F. HANGERS:

- REFERENCES:
- A. NFPA 13 INSTALLATION OF SPRINKLER SYSTEMS.
- B. UL 203 PIPE HANGER EQUIPMENT FOR FIRE PROTECTIONS SERVICE.

#### 2. REGULATORY REQUIREMENTS:

G. FIRE SPRINKLER PIPING SPECIALTIES:

A. SUPPORTS FOR SPRINKLER PIPING: IN CONFORMANCE WITH NFPA 13.

1. GENERAL: PROVIDE FACTORY FABRICATED FIRE SPRINKLER PIPING PRODUCTS OF THE SIZE AND TYPE INDICATED. WHERE NOT INDICATED, PROVIDE AS DETERMINED BY THE INSTALLER TO COMPLY WITH THE INSTALLATION REQUIREMENTS AND WITH NFPA 13, WHERE APPLICABLE, PROVIDE SIZES AND TYPES WHICH MATCH PIPING AND EQUIPMENT CONNECTIONS.

#### H. FIRE SPRINKLERS:

- 1. PROVIDE AUTOMATIC SPRINKLERS AS REQUIRED PER NFPA 13.
- A. ALL NEW AUTOMATIC SPRINKLERS ARE TO BE INSTALLED ON RETURN BEND AND CENTERED IN CEILING TILE AS INDICATED ON DRAWING. F.P. CONTRACTOR MAY USE FLEXIBLE RETURN BEND AS APPROVED BY THE LOCAL AUTHORITY.
- 2. GUARDS AND SHIELDS: SPRINKLERS WHICH ARE SO LOCATED AS TO BE SUBJECT TO MECHANICAL INJURY (IN EITHER THE UPRIGHT OR THE PENDANT POSITION) SHALL BE PROTECTED WITH APPROVED GUARDS.
- 3. STOCK OF SPARE SPRINKLERS: THE STOCK OF SPARE SPRINKLERS SHALL BE PER NFPA 13. THE STOCK OF SPARE SPRINKLERS SHALL INCLUDE ALL TYPES AND RATINGS INSTALLED.

# PART 3 - EXECUTION

#### 3.1 GENERAL

- A. COMPLY WITH THE REQUIREMENTS OF THE "GENERAL" SECTIONS OF THESE SPECIFICATIONS, OWNER'S INSURANCE UNDERWRITER AND THE LATEST EDITION OF NFPA 13 FOR THE INSTALLATION OF FIRE SPRINKLER SYSTEM MATERIALS. INSTALL FIRE SPRINKLER SYSTEM PRODUCTS WHERE SHOWN, IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT THE FIRE SPRINKLER SYSTEM COMPLIES WITH ALL REQUIREMENTS AND SERVES ITS INTENDED PURPOSES.
- B. COORDINATE WITH OTHER WORK, INCLUDING PLUMBING PIPING AS NECESSARY TO INTERFACE COMPONENTS OF FIRE SPRINKLER PIPING PROPERLY WITH OTHER WORK AND TO AVOID INTERFERENCE WITH WORK OF ALL OTHER TRADES AND OBSTRUCTIONS WHICH MIGHT BE IN THE FIELD.
- C. LOCATE SPRINKLERS THROUGHOUT AREA AS INDICATED ON THE DRAWINGS. WHERE HEADS ARE REQUIRED IN MODULAR CEILING (2 X 2 ACOUSTICAL TILES, ETC.), THEY SHALL BE CENTERED IN THE TILES USING "RETURN BENDS" UNLESS OTHERWISE INDICATED. F.P. CONTRACTOR MAY USE FLEXIBLE RETURN BEND AS APPROVED
- BY THE LOCAL AUTHORITY. D. APPLY SIGNS TO ALL VALVES TO IDENTIFY THEIR PURPOSE AND FUNCTIONS AS PER NFPA 13.
- E. EXTRA CARE AND PROVISIONS SHALL BE MADE TO KEEP DEBRIS FROM ENTERING ABOVE GROUND PIPING.
- F. DRAINS SHALL BE PROVIDED AT ALL LOW POINTS OF FIRE SPRINKLER PIPING IN ACCORDANCE WITH NFPA 13 REQUIREMENTS.

# 3.2 SEISMIC BRACING:

PROVIDE SEISMIC BRACING ACCORDING TO SECTION 1621 OF THE NORTH CAROLINA BUILDING CODE AND NFPA-13 CHAPTER 9.3 REQUIREMENTS. REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SEISMIC CATEGORY INFORMATION.

# 3.3 SYSTEM FLUSHING:

A. ABOVE GROUND PIPING: ALL ABOVE GROUND SPRINKLER PIPING SHALL BE FLUSHED AS PER NFPA 13. COMPLETED TEST CERTIFICATE INDICATING COMPLIANCE OF FLUSHING AS PER NFPA 13 SHALL BE PROVIDED.

# 3.4 SYSTEM HYDROSTATIC TESTING:

- A. ABOVE GROUND PIPING: SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH NFPA 13.
- B. REPAIR OR REPLACE PIPING SYSTEM AS REQUIRED TO ELIMINATE LEAKAGE IN ACCORDANCE WITH NFPA STANDARDS AND RETEST AS SPECIFIED TO DEMONSTRATE COMPLIANCE. TESTING SHALL NOT BE CONSIDERED COMPLETE UNTIL A TEST COMPLETED TEST CERTIFICATE IS PROVIDED.
- C. TESTS SHALL BE WITNESSED BY AUTHORITY HAVING JURISDICTION, ENGINEER, AND OWNER'S INSURANCE UNDERWRITER.

# **EXISTING CONDITIONS NOTE**

THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON 10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT

100% BID DOCUMENTS



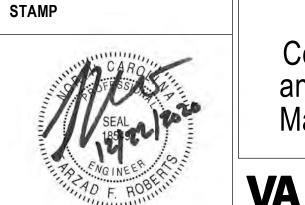
PERKINS— EASTMAN 520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501 F. 704.362.4602

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U.S. Department of Veterans Affairs

Drawing Title

NOTES, DETAILS, LEGEND Andreka Watlington

FIRE PROTECTION - GENERAL

**Project Number Project Title** 558-17-150 VA DURHAM - PACU RENOVATION 100% BID DOCUMENTS **Building Number Drawing Number** Location **DURHAM VAMC** DURHAM, NC **FULLY SPRINKLERED Issue Date** Checked F-001 Drawn FFR JCF 36 of 78

VA FORM 08 - 6231

CONSULTANT CONSULTING ENGINEERS
705 EAST MOREHEAD STREET
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STAMP

Office of Construction and Facilities Management U.S. Department of Veterans Affairs

Approved:

Drawing Title Project Title VA DURHAM - PACU RENOVATION FIRE PROTECTION - DETAILS 100% BID DOCUMENTS Location **DURHAM VAMC** DURHAM, NC Andreka Watlington FULLY SPRINKLERED Issue Date Checked 12/22/2020 FFR

STIFFENING EACH CONNECTION OF TRUSS COMBINATION LATERAL AND LONGITUDINAL BRACING LATERAL OR LONGITUDINAL BRACING NOTE:
BRACING DETAILS ARE FOR REFERENCE ONLY. INSTALL SEISMIC RESTRAINTS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND IN ACCORDANCE WITH SEISMIC RESTRAINTS DESIGN DOCUMENTS. REFER TO FIRE PROTECTION SPECIFICATIONS.

100% BID DOCUMENTS

Project Number

**Building Number** 

Drawing Number

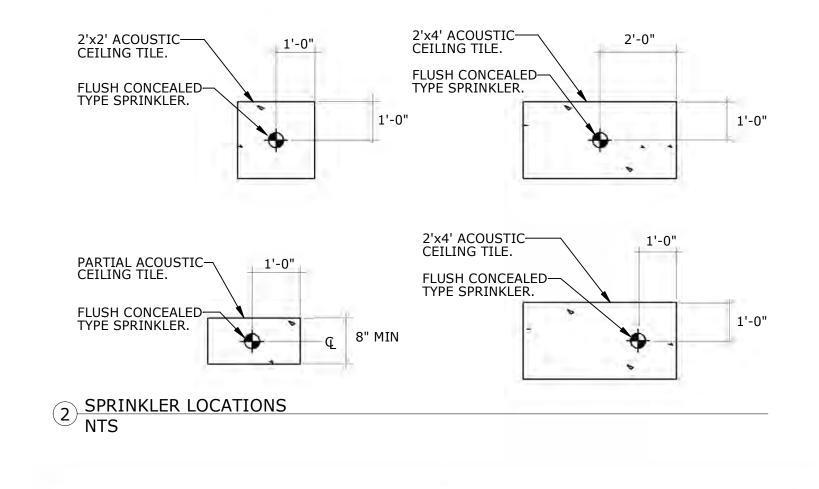
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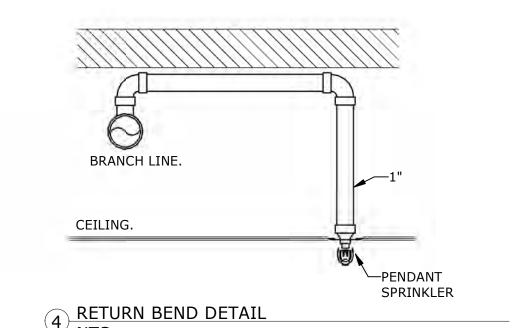
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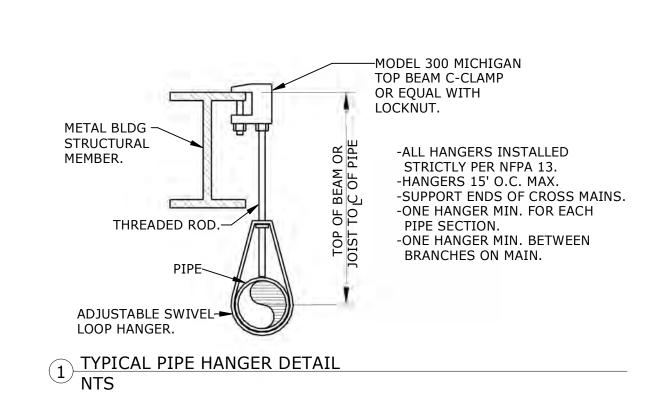
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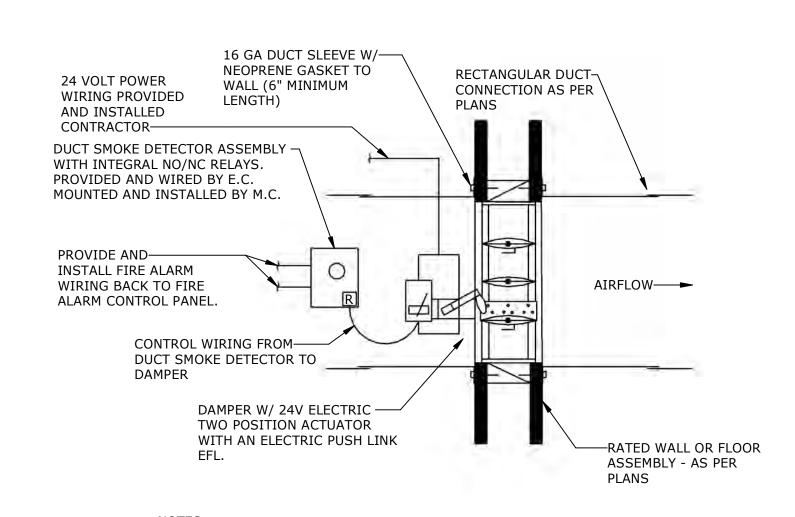
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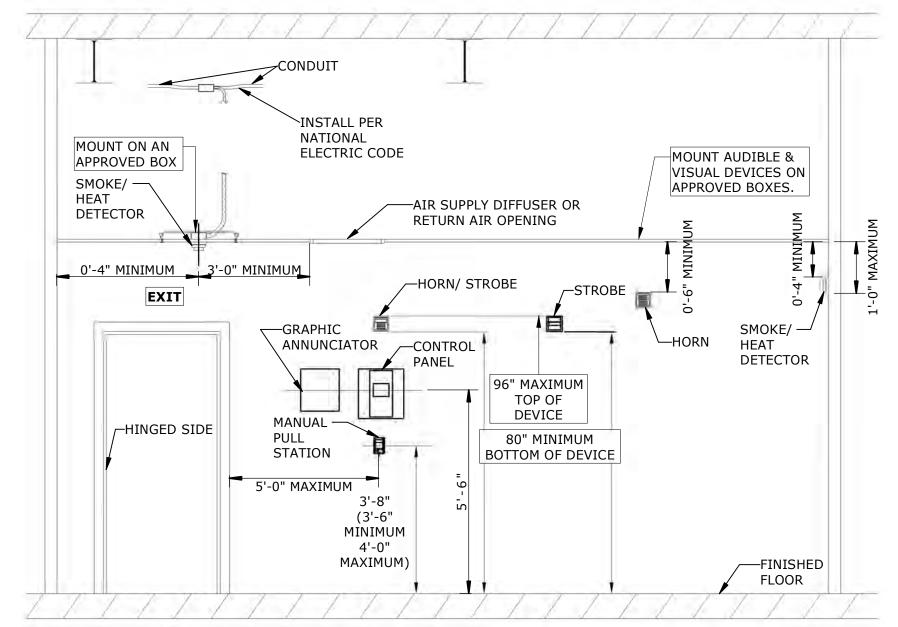
SYMBOL LEGEND **DESCRIPTION** FIRE ALARM CONTROL PANEL, SURFACE MOUNTED AT 60" AFF TO TOP OF CABINET, FIRE ALARM NOTIFICATION APPLIANCE POWER EXTENDER PANEL. SURFACE MOUNTED AT 60" AFF TO TOP OF CABINET, UON. FIRE ALARM MANUAL PULL STATION, SEMI-FLUSH MOUNTED 46" AFF, UON. FIRE ALARM VISUAL (STROBE) APPLIANCE, WALL MOUNTED AT 80" AFF, OR 6" BELOW FINISHED CEILING, WHICHEVER IS LOWER, UON. SUBSCRIPT INDICATES CANDELA VALUE. 'CLG' INDICATES CEILING MOUNTED. FIRE ALARM SYSTEM CEILING MOUNTED SMOKE DETECTOR. FIRE ALARM SYSTEM ADDRESSABLE SHUTDOWN CONTROL RELAY, OR MONITORING MODULE AS REQUIRED. FIRE ALARM SYSTEM DOOR HOLD OPEN DEVICE. FIRE ALARM SPEAKER. FIRE ALARM SYSTEM DUCT SMOKE DETECTOR ASSEMBLY WITH WIRING PER MANUFACTURERS RECOMMENDATIONS. PROVIDE SMOKE DETECTOR, HOUSING, SAMPLING TUBE, SHUTDOWN RELAY, AND REMOTE LABELED KEY TEST SWITCH WITH INDICATOR LIGHT. PROVIDE ACCESS PANELS WHERE UNITS ARE LOCATED ABOVE INACCESSIBLE CEILINGS. REFER TO DAMPER DETAIL THIS SHEET FOR ADDITIONAL INFORMATION. SUBCRIPT 'FS' INDICATES FIRE/SMOKE DAMPER. SUBSCRIPT 'SD' INDICATES SMOKE DAMPER.



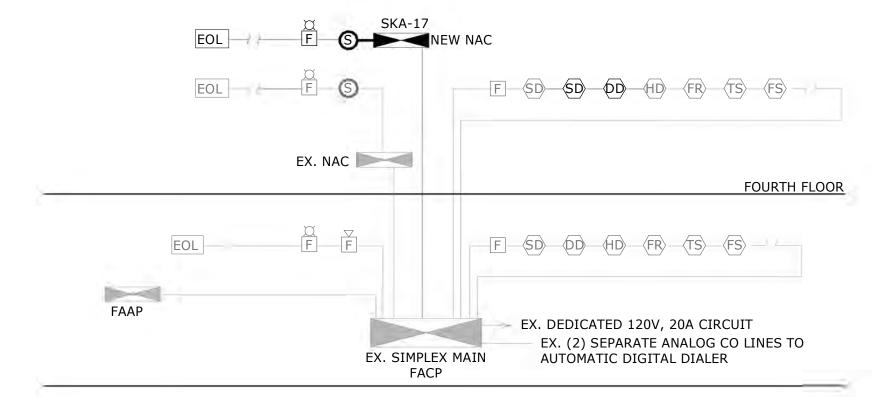
1. CONTRACTOR SHALL COORDINATE SAMPLING TUBE LENGTH AND

- DUCTWORK SHAPE. 2. PROVIDE CONTROL WIRING FROM DUCT SMOKE DETECTOR RELAYS LOCATED NEAR ALL ASSOCIATED FIRE/SMOKE DAMPERS AND HVAC EQUIPMENT TO DAMPER MOTORS AND HVAC EQUIPMENT SHUTDOWN
- CONTROL INPUTS. 3. PROVIDE/INSTALL ALL NECESSARY 24V HVAC CONTROL POWER, RELAYS, WIRING, AND CONDUIT.
- 4. IF CONTRACTOR REQUIRES ADDITIONAL LINE VOLTAGE CIRCUITS FOR CONTROL POWER OR ADDITIONAL CONTROL PANELS OTHER THAN WHAT IS SHOWN ON DRAWINGS, CONTRACTOR SHALL ABSORB ALL
- COSTS INCLUDING ELECTRICAL AND DATA CONNECTIONS/CABLING. 5. CONTRACTOR SHALL PROVIDE/INSTALL DUCT SMOKE DETECTOR REMOTE INDICATOR LIGHT/AUDIBLE DEVICE FLUSH IN CEILING OR
- WALL, MOUNTED NEAR ASSOCIATED DUCT SMOKE DETECTOR. 6. CONTRACTOR SHALL COORDINATE WITH CONTROLS CONTRACTOR TO DETERMINE PROPER SHUTDOWN SEQUENCE FOR FIRE/SMOKE DAMPERS AND HVAC EQUIPMENT.

3 DAMPER DETAIL NTS



2 NFPA 72 AND ABA DEVICE INSTALLATION REQUIREMENTS NTS



**FIRE ALARM NOTES:** 

- 1. PROVIDE ALL REQUIRED WIRING, INITIATING DEVICE CIRCUIT CARDS, RELAYS, PROGRAMMING, POWER EXTENDERS, POWER SUPPLIES, AMPLIFIERS, ANCILLIARY DEVICES, ETC. PER MANUFACTURER'S DIRECTION FOR A COMPLETE FUNCTIONING SYSTEM. 2. FIRE ALARM SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH 2017 NFPA 72, STATE BUILDING CODE
- REQUIREMENTS, AND DRAWING SPECIFICATION.
- 3. VERIFY COMPONENT TYPES AND QUANTITIES WITH THE ELECTRICAL PLANS. 4. ALL WIRING SHALL BE IN 3/4" CONDUIT, FACTORY PAINTED RED .
- 5. SYSTEM SHALL BE ADDRESSABLE. PROVIDE MONITORING MODULES FOR SIGNALING DEVICES AS REQUIRED. 6. FIRE ALARM TERMINAL CABINET DESIGNATION SHALL REPRESENT ALL REQUIRED POWER EXTENDERS, BATTERY
- CABINETS, ETC. 7. PROVIDE CLASS "A" WIRING SYSTEM FOR INITIATING DEVICE LOOPS AND CLASS "B" WIRING SYSTEMS FOR
- INDICATING DEVICE LOOPS. 8. ALL FIRE ALARM A/V DEVICES SHALL BE WHITE. 9. LOCATE SMOKE DETECTORS AT LEAST THREE FEET AWAY FROM HVAC DIFFUSER.
- 10. FIRE ALARM NOTIFICATION APPLIANCES SHALL BE IDENTIFIED PER SMOKE ZONES SHOWN ON PLANS. ANY DEVICES MOVED FROM ONE ZONE TO THE OTHER SHALL BE REVISED TO INDICATE NEW SMOKE ZONE.

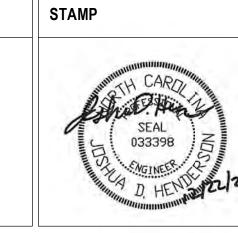
1 FIRE ALARM RISER DIAGRAM NTS

100% BID DOCUMENTS

CONSULTANT 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

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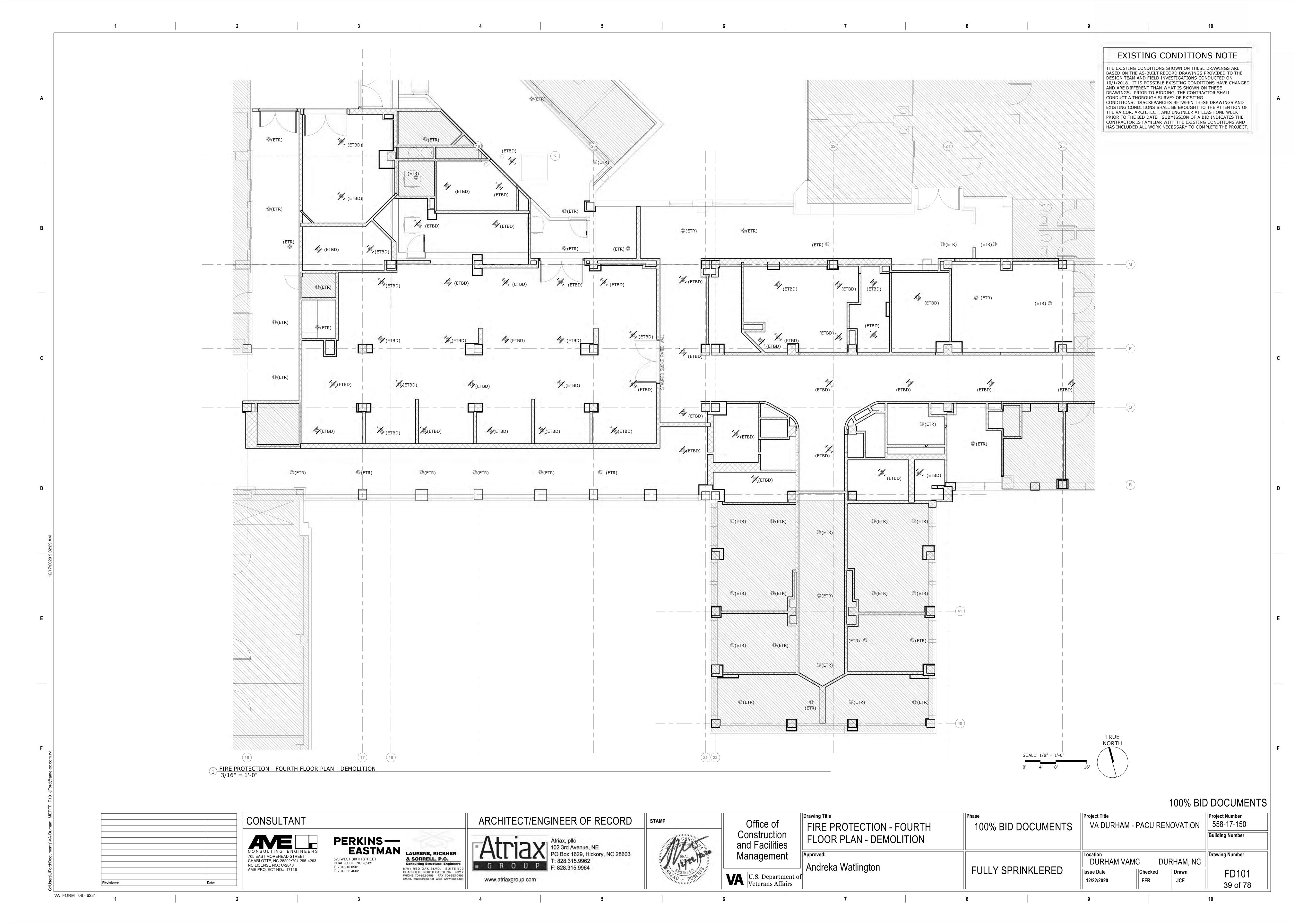
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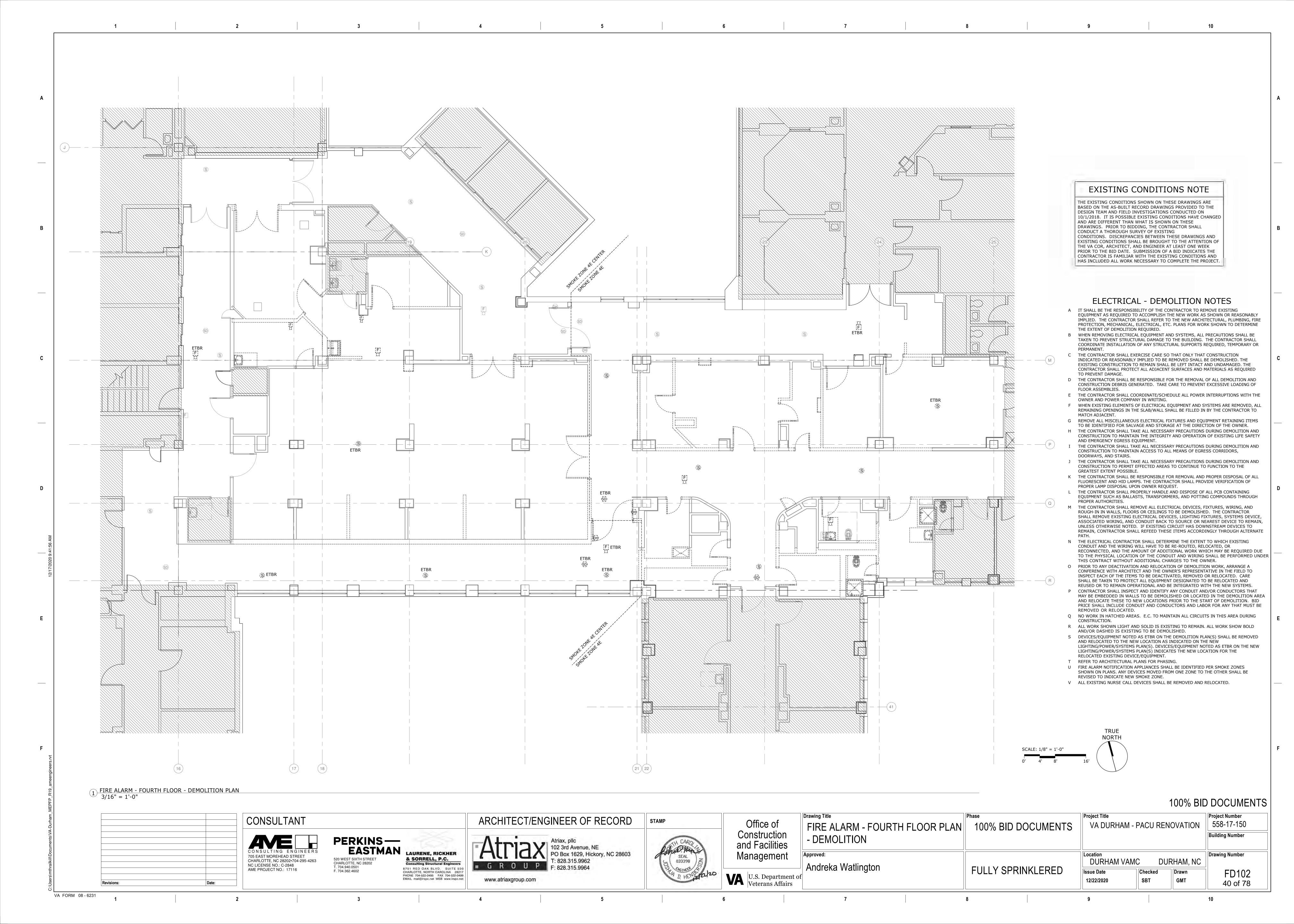


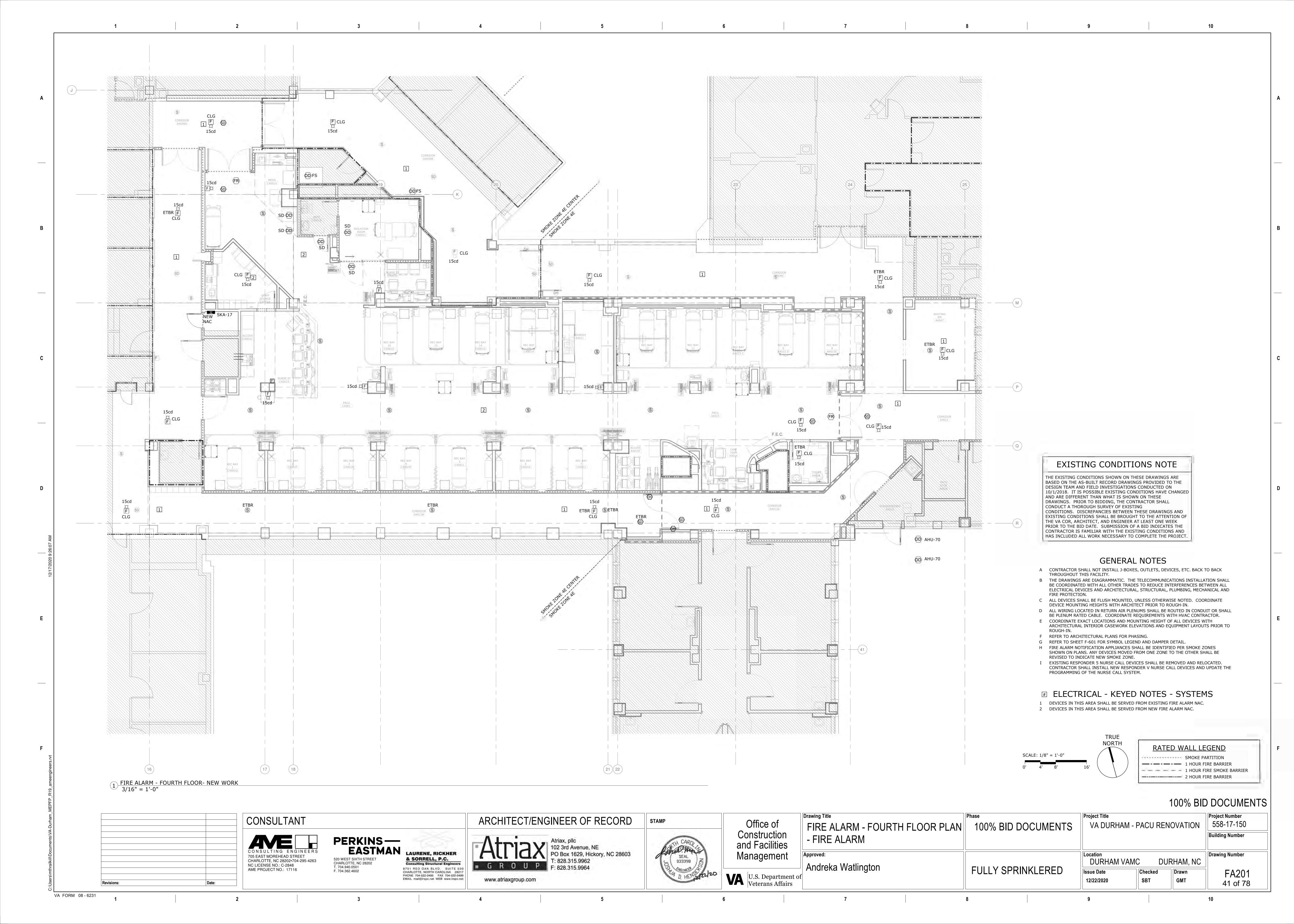
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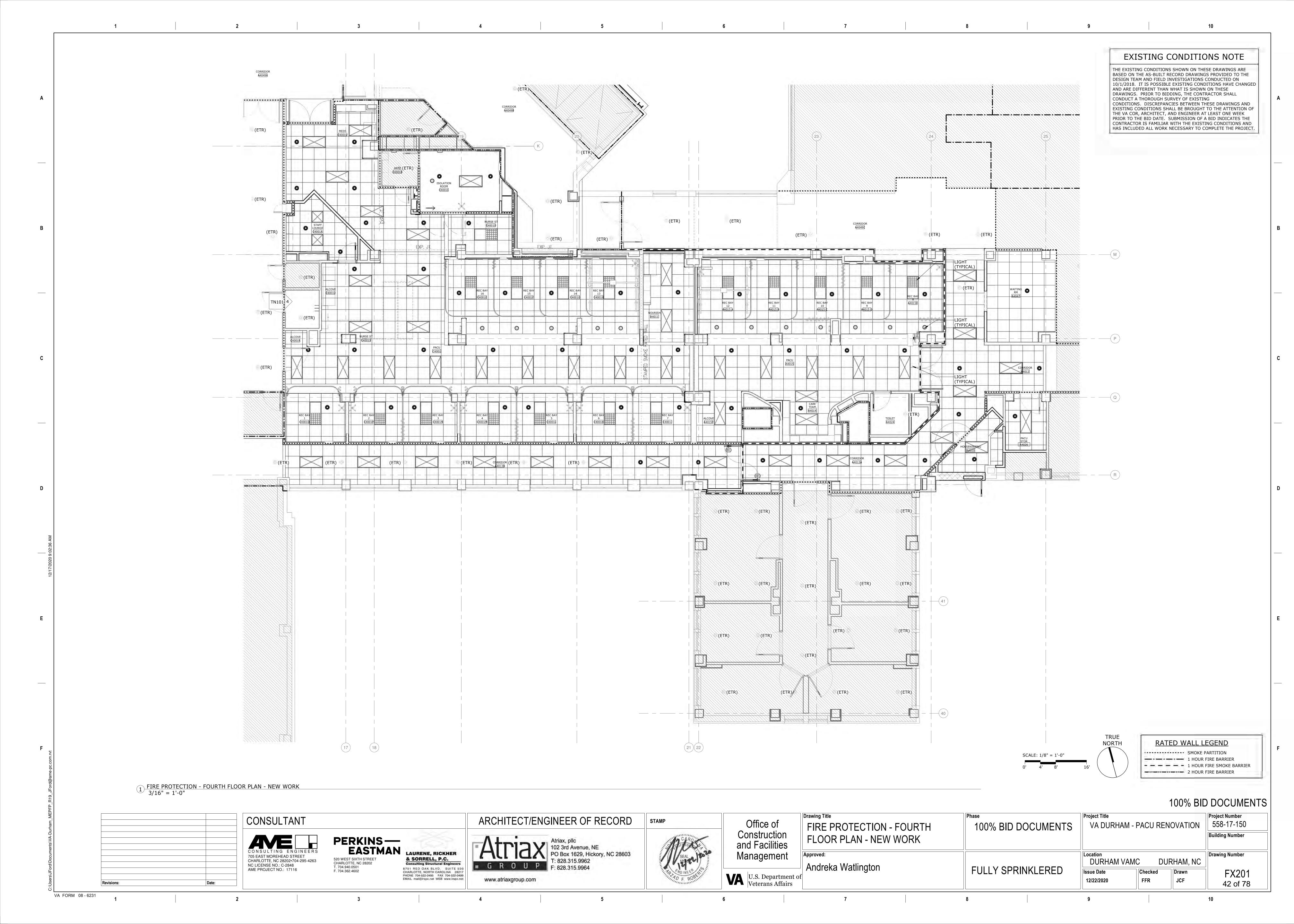
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ring Title IRE ALARM - RISER	Phase 100% BID DOCUMENTS	Project Title VA DURHAM - PACU		Project Number 558-17-150
				Building Number
ndreka Watlington		Location DURHAM VAMC	DURHAM, NC	Drawing Number
	FULLY SPRINKLERED	Issue Date 12/22/2020 Checke SBT	Drawn GMT	F-601 38 of 78

VA FORM 08 - 6231









#### COORDINATION DRAWINGS

- A MEETING SHALL BE ARRANGED BY THE CONTRACTOR AND TAKE PLACE PRIOR TO STARTING THE COORDINATION DRAWINGS. THIS MEETING SHALL INCLUDE AT A MINIMUM THE VA COR, CONTRACTOR, AND KEY SUBCONTRACTORS TO CONFIRM THE REQUIREMENTS OF THE COORDINATION DRAWINGS PRIOR TO THEM BEING SUBMITTED.
- THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES SO THAT THE FOLLOWING LISTS OF ITEMS CAN BE INDICATED ON A COMMON SET OF PLANS. FLOOR PLANS AND SECTIONS ARE TO BE DRAWN TO SCALE IN ALL CONGESTED AREAS SUCH AS A4012 CORRIDOR, A4013A CORRIDOR, DUCT CHASES PLAN EAST AND WEST OF EAST & WEST OF A4014 CARE TEAM ROOM A4026 PACU STORAGE, A4010 HOUSEKEEPING, C4001 PACU, DUCT CHASES PLAN NORTH OF C4001B ANTE AND C4001C ISOLATION ROOM, ETC. THESE SHALL BE SUBMITTED COLLECTIVELY FROM ALL DISCIPLINES INTO ONE OVERALL DOCUMENT FOR REVIEW BY THE ENGINEER ON AN AS NEEDED BASIS OR WHERE SPECIFICALLY DIRECTED WITHIN THE CONTRACT DOCUMENTS. THESE COORDINATION DRAWINGS SHALL BE SUBMITTED FOR REVIEW PRIOR TO ANY OTHER INDIVIDUAL PRODUCT DATA OR FABRICATION DRAWINGS. SHOW THE FOLLOWING AT A MINIMUM: CEILING
- FLOOR
- ROOF OR FLOOR DECKING ABOVE STRUCTURAL ELEMENTS
- LIGHT FIXTURES LARGE ELECTRICAL/TELECOM CONDUITS/PULL BOXES/CABLE
- HVAC DUCTWORK HVAC EQUIPMENT ABOVE CEILING, INDICATING SERVICE
- CLEARANCES HVAC PIPING
- PLUMBING PIPING
- SPRINKLER PIPING MOUNTING RACKS AND SUPPORT ASSEMBLIES FOR ASSOCIATED PIPING/DUCTWORK
- IT IS IMPORTANT TO NOTE THAT DUCTWORK/PIPING/CABLE TRAY, ETC. CANNOT BE FABRICATED UNTIL COORDINATION DRAWINGS HAVE BEEN COMPILED, SUBMITTED, AND APPROVED. ANY MATERIAL PROCUREMENT OR INSTALLATION WORK COMMENCED PRIOR TO APPROVAL IS TAKEN AT THE RISK OF THE CONTRACTOR AND MAY HAVE TO BE MODIFIED/MOVED AT THEIR COST.

## SEISMIC & WIND REQUIREMENTS FOR HVAC SYSTEMS

INFORMATION FOR IBC-2015/ASCE 7-10

- PER 2015 INTERNATIONAL BUILDING CODE, MECHANICAL EQUIPMENT AND COMPONENTS, INCLUDING THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED FOR SEISMIC FORCES IN ACCORDANCE
- WITH CHAPTER 13 OF ASCE 7-10. EXTERIOR EQUIPMENT (INCLUDING ROOF CURBS AND ROOF RAILS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH
- CHAPTERS 26 THROUGH 29 OF ASCE 7-10. WHERE DESIGN FOR SEISMIC AND WIND LOADS IS REQUIRED, THE MORE DEMANDING FORCE MUST BE
- REFERENCE THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN CATEGORY, WIND SPEED, ETC.

USE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH COMPONENT.

- 5. FOR ALL COMPONENTS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC ENGINEER. DO NOT POUR
  - ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF APPROVED SEISMIC SUBMITTAL. SEISMIC RESTRAINTS FOR DUCTWORK, PIPING AND CONDUIT MUST BE SHOWN ON SEISMIC SUBMITTAL LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS.

SEISMIC DESIGN CATEGORY: C RISK CATEGORY: IV ALL COMPONENTS HAVE Ip = 1.5

		COMPONENT IMP FACTOR (1	
		1.5	
	PONENT FICATION	SEISMIC RESTRAINT REQUIREMENT	ASCE 7-10 REFERENCE
ROOF	MOUNTED	RESTRAIN ALL	13.1.4.5
FLOOR	MOUNTED	RESTRAIN ALL	13.1.4.5
WALL I	MOUNTED	RESTRAIN ALL	13.1.4.5
COMPONE	T SUPPORTS	RESTRAIN ALL	13.6.5
SUSPENDED	INLINE W/ DUCT/PIPE	RESTRAIN IF > 75 LBS PROVIDE FLEX . CONN. (SEE NOTE 1)	13.6.7
EQUIPMENT	NOT INLINE W/ DUCT/PIPE	RESTRAIN ALL	13.1.4.5
PI	ED DUCTILE PING L, CU, ETC.)	RESTRAIN IF > 2" (SEE NOTE 2)	13.6.8.3.3.a
PIPING (	NON-DUCTILE CAST IRON, CERAMIC)	RESTRAIN ALL (SEE NOTE 2)	13.6.8.3.3
	NDED PIPE RAPEZE	RESTRAIN IF ANY PIPE ON TRAPEZE >2" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE >10 LBS/FT (SEE NOTE 2)	13.6.8.3.1
DUC	TWORK	RESTRAIN IF > 6 SQ. FT. OR > 17 LBS/FT (SEE NOTES 2,3)	13.6.7
	E DUCTS ON APEZE	RESTRAIN IF TOTAL WEIGHT OF DUCTS ON TRAPEZE > 10 LBS/FT (SEE NOTES 2,3)	13.6.7
	PONENT FICATION	REQUIRED (SEE NOTE 4)	13.2.2

TABLE NOTES: FLEXIBLE CONNECTIONS REQUIRED FOR PIPE CONNECTIONS ONLY.

- RESTRAINT IS NOT REQUIRED IF THE PIPING OR DUCTWORK IS SUPPORTED BY HANGERS WHERE EACH HANGER IS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE PIPE OR DUCT TO THE SUPPORTING STRUCTURE. WHERE PIPES OR DUCTS ARE SUPPORTED ON A TRAPEZE, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12 INCHES OR LESS. WHERE ROD HANGERS ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS, EYE NUTS OR OTHER DEVICES TO PREVENT BENDING
- ALL PIPING AND DUCTWORK, REGARDLESS OF SIZE, DESIGNED TO CARRY TOXIC, HIGHLY TOXIC, OR EXPLOSIVE GASES OR USED FOR SMOKE CONTROL MUST BE RESTRAINED. COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT THE TIME OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD.

DUCT SEALING REQUIREMENTS

CONNECTIONS. PRESSURE SENSITIVE TAPE SHALL NOT BE USED AS THE PRIMARY SEALANT, UNLESS IT

HAS BEEN CERTIFIED TO COMPLY WITH UL-181A OR UL181B BY AN INDEPENDENT TESTING LABORATORY

LONGITUDINAL SEAMS ARE JOINTS ORIENTED IN THE DIRECTION OF AIRFLOW. TRANSVERSE JOINTS

ARE CONNECTIONS OF TWO DUCT SECTIONS ORIENTED PERPENDICULAR TO AIRFLOW. DUCT WALL

PENETRATIONS ARE OPENINGS MADE BY ANY SCREW FASTENER, PIPE, ROD, OR WIRE. SPIRAL LOCK

DUCT PRESSURE CLASS REQUIREMENTS

SEAMS IN ROUND DUCTS NEED NOT BE SEALED. ALL OTHER CONNECTIONS ARE CONSIDERED

TRANSVERSE JOINTS, INCLUDING BUT NOT LIMITED TO SPIN-INS, TAPS AND OTHER BRANCH

DUCT LEAKAGE TESTING IS REQUIRED. REFER TO SECTION 3.2 IN SPECIFICATION 23 31 00.

CONNECTIONS, ACCESS DOORS FRAMES AND JAMBS, DUCT CONNECTIONS TO EQUIPMENT, ETC.

SEAL ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, WALL PENETRATIONS, AND DUCT

ALL DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SEAL CLASS "A"

AND THE TAPE IS USED IN ACCORDANCE WITH THAT CERTIFICATION.

DUCT SYSTEM

MEDIUM PRESSURE SUPPLY (UPSTREAM OF VAV UNITS)

LOW PRESSURE SUPPLY (DOWNSTREAM OF VAV UNITS)

LOW PRESSURE RETURN

LOW PRESSURE EXHAUST

#### MECHANICAL GENERAL NOTES

- GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH HVAC DRAWING OF THIS SET. SEE EACH DRAWING FOR SPECIFIC NOTES APPLICABLE TO THAT DRAWING.
- OVERHEAD PIPING AND DUCTWORK IN SPACES WITHOUT HUNG CEILINGS SHALL BE RUN AS CLOSE TO ROOF DECK AS PRACTICAL, AS CLOSE TO PARALLEL JOISTS AS POSSIBLE AND ABOVE LIGHTING FIXTURES TO CONCEAL
- . OVERHEAD DUCTWORK AND PIPING IN SPACES WITH CEILINGS SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
- 4. COORDINATE LOCATION OF GRILLES, REGISTERS, DIFFUSERS, THERMOSTATS AND OTHER WALL OR CEILING MOUNTED HVAC ACCESSORIES WITH REFLECTED CEILING PLAN, LIGHTING FIXTURE LAYOUT AND ACCESSORIES INSTALLED BY OTHER TRADES SO AS TO PRESENT A NEAT AND ATTRACTIVE INSTALLATION THROUGHOUT THE ENTIRE BUILDING. IT IS THE INTENT FOR GRILLES, REGISTERS AND DIFFUSERS TO BE INSTALLED IN THE CENTER OF CEILING PANELS.
- ARRANGE PIPING AND DUCTWORK, PARTICULARLY ABOVE CEILING AS REQUIRED TO CLEAR STRUCTURE, DUCTS, CONDUITS, ETC. ALLOWING SPACE FOR PIPE HANGERS, ACCESS TO VALVES, FILTERS, AND MAINTENANCE OF
- . EQUIPMENT WITH FILTERS SHALL BE INSTALLED SO THAT FILTERS CAN BE EASILY REMOVED AND REPLACED.
- COORDINATE LOCATION AND INSTALLATION OF EQUIPMENT WITH OTHER
- 8. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR EXACT
- LOCATIONS OF DOORS, WINDOWS, ETC. 9. THERMOSTATS SHALL BE LOCATED IN THE ROOMS INDICATED. INSTALL AT
- 48" ABOVE FINISH FLOOR. 10. PIPING, DUCTWORK, VENTS, ETC., EXTENDING THROUGH EXTERIOR WALLS
- AND ROOF SHALL BE FLASHED AND COUNTER FLASHED IN A WEATHERPROOF L1. PIPING AND DUCTWORK INSULATION SHALL RUN CONTINUOUSLY THROUGH
- NON-RATED FLOORS, WALLS, ROOF AND PARTITIONS, UNLESS OTHERWISE 12. FLEXIBLE AIR DUCTS SHALL HAVE UL 181 LISTING, FIBERGLASS SCRIM, R-6
- INSULATION, AND MAXIMUM DISTANCE OF 6'-0". 13. NO PIPING SHALL BE SMALLER THAN 3/4" UNLESS OTHERWISE NOTED.
- 14. PROVIDE UNION OR FLANGED CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON BOTH SIDES OF CONTROL VALVES AND PRESSURE REGULATING VALVES. PROVIDE SHUT-OFF VALVES ON BOTH SIDES OF AUTOMATIC
- 15. PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS. ADDITIONAL SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
- 16. SIZE REFRIGERANT PIPING AND PROVIDE SUCTION RISER TRAPS ON VERTICAL RISES PER MANUFACTURER'S INSTRUCTIONS.
- 17. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
- 18. PROVIDE BEARING PLATES AND OTHER NECESSARY REINFORCEMENTS AT DUCTWORK SUPPORTS TO ENSURE THAT DUCT INSULATION MAINTAINS REQUIRED "R" VALUES.
- 19. PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING THE FOLLOWING: A. DAMPER MOTORS AND/OR MOTOR OPERATED DAMPERS
- B. FILTERS C. FIRE DAMPERS AND SMOKE DAMPERS D. SMOKE DETECTORS
- 20. PROVIDE A MINIMUM OF THREE TIMES THE FAN DIAMETER OF STRAIGHT DUCTWORK OFF THE SUPPLY AIR FAN DISCHARGE BEFORE ANY TAKEOFFS OR
- PROVIDE EXTENDED VOLUME DAMPER CONTROL RODS SO THAT HANDLES ARE WELL CLEAR OF DUCT INSULATION.

PHASING & PRE-CONSTRUCTION NOTES

THE CONTRACTOR SHALL REVIEW THE PHASING REQUIREMENTS AND NOTES

INDICATED ON PHASING DRAWING G-100. THE EXISTING PACU AREA SHALL

REMAIN OCCUPIED MONDAY-SUNDAY. THE VA SHALL RELOCATE THE EXISTING

PAIN CLINIC DURING CONSTRUCTION. COORDINATE PHASING, DEMOLITION,

NEW WORK, AND ANY SHUT-DOWN OF EXISTING SYSTEMS WITH THE VA COR.

PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY

ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK

PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE CONTRACTOR

IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED IN HIS BID

CONDITIONS, AND NEW WORK SHOWN ON THE CONSTRUCTION DOCUMENTS.

SUBMISSION OF A PROPOSAL SHALL BE CONSIDERED AS EVIDENCE THAT SUCH

REQUIRED TO ALLOW THE AREAS INDICATED ON PHASING DRAWING G-100 TO

REMAIN OCCUPIED DURING CONSTRUCTION. PORTABLE HVAC UNITS SHALL BE

MANUFACTURED AND INTENDED FOR HOSPITALS WITH FILTRATION EQUAL TO

THE SCHEDULED AIR HANDLING UNIT. THE CONTRACTOR HAS THE OPTION OF

DAMPERS, SMOKE DAMPERS, AND/OR COMBINATION FIRE/SMOKE DAMPERS AS

NEEDED TO COMPLY WITH LIFE SAFETY REQUIREMENTS FOR PENETRATIONS OF

TYING PORTABLE HVAC UNITS INTO EXISTING SYSTEMS/DUCTWORK DURING

CONSTRUCTION. THE CONTRACTOR SHALL ALSO PROVIDE TEMPORARY FIRE

RATED ASSEMBLIES. REFER TO PHASING DRAWING G-100 FOR POSSIBLE

THE CONTRACTOR SHALL INCLUDE IN THEIR BID ALL WORK NEEDING TO BE

DONE AFTER HOURS OR ON WEEKENDS (SUCH AS WORK IN BAYS 6 AND 13),

AND ANY NEED FOR TEMPORARY HEATING & COOLING. LATER CLAIMS FOR

EXTRA LABOR OR MATERIALS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED

. THE SPACE ABOVE CEILING IS VERY CONGESTED WITH EXISTING MECHANICAL

PIPING, ELECTRICAL CONDUIT, LIGHTS, CABLE TRAYS, LOOSE CABLES,

THE NEW WORK AND TO MAINTAIN THE ARCHITECT'S CEILING HEIGHTS.

COORDINATION DRAWINGS ARE REQUIRED - REFER TO COORDINATION

FROM DUST AND DEBRIS WITH MINIMUM MERV 13 FILTRATION

PRESSURE IS BEING MAINTAINED DURING CONSTRUCTION.

. ALL PHASES UNDER CONSTRUCTION SHALL BE KEPT UNDER NEGATIVE PRESSURE (-0.1" W.C. MINIMUM) AND EXHAUSTED DIRECTLY OUTDOORS. CONTRACTOR SHALL PROVIDE TEMPORARY VISUAL PRESSURE DIFFERENTIAL DISPLAY(S) TO ALLOW THE VA COR TO MONITOR AND VERIFY NEGATIVE

EQUIPMENT, DUCTWORK, MECHANICAL PIPING, PLUMBING PIPING, SPRINKLER

ABANDONED ITEMS, ETC. INSTALLATION OF NEW EQUIPMENT AND DUCTS WILL

ROUTE DUCTS AND PIPES (INCLUDING EXISTING TO REMAIN) AS REQUIRED FOR

BE CHALLENGING. THE CONTRACTOR SHALL RELOCATE, RE-SIZE, AND/OR RE-

. ANY AIR INTAKES AND RETURNS ADJACENT TO WORK AREAS SHALL BE FILTERED

ANY WORK REQUIRING SHUTDOWNS, ANY WORK THAT MAY REQUIRE OVERTIME,

OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THE CONTRACT

PRIOR TO BIDDING, THE CONTRACTOR SHALL CAREFULLY EXAMINE AND

FAMILIARIZE HIMSELF WITH THE PHASING REQUIREMENTS, EXISTING

4. THE CONTRACTOR SHALL PROVIDE TEMPORARY HEATING & COOLING AS

DOCUMENTS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE

ALL WORK NECESSARY TO INSTALL THIS PROJECT.

A REVIEW AND EXAMINATION HAS BEEN PERFORMED.

LOCATION OF TEMPORARY HEATING AND COOLING UNIT.

WILL NOT BE RECOGNIZED.

DRAWING NOTES ON THIS SHEET.

## HEPA FILTER TESTING NOTES

MECHANICAL ABBREVIATIONS

AIR CONTROL VALVE

AIR HANDLING UNIT

ABOVE FINISHED FLOOR

CUBIC FEET PER MINUTE

DRY BULB TEMPERATURE

DIFFERENTIAL PRESSURE

DUCTLESS SPLIT SYSTEM

EXHAUST AIR

EXHAUST FAN

DUCTLESS CONDENSING UNIT

ENTERING AIR TEMPERATURE

EXTERNAL STATIC PRESSURE

EXISTING TO BE DEMOLISHED

INCHES WATER GAUGE (PRESSURE)

MAXIMUM OVER CURRENT PROTECTION

LEAVING AIR TEMPERATURE

MINIMUM CIRCUIT AMPACITY

1,000 BTU PER HOUR

NOISE CRITERIA

PRESSURE DROP

RELATIVE HUMIDITY

STATIC PRESSURE

TOTAL STATIC PRESSURE

TERMINAL UNIT (VAV)

VARIABLE AIR VOLUME

VARIABLE FREQUENCY DRIVE

**UNLESS NOTED OTHERWISE** 

WET BULB TEMPERATURE

OUTDOOR AIR

RETURN AIR

SUPPLY AIR

SENSIBLE

PHASE

EXISTING TO BE RELOCATED

EXISTING TO REMAIN

DEGREES FAHRENHEIT

ELEVATOR TOWER

FILTER HOUSING

FULL LOAD AMPS

HORSEPOWER

MAXIMUM

ENGINEERING CONTROL CENTER (BAS)

ACCESS DOOR

**ENGINEERS** 

DESCRIPTION

AIRFLOW MEASUREMENT STATION

AMERICAN SOCIETY OF HEATING,

REFRIGERATING, AND AIR CONDITIONING

AMERICAN SOCIETY OF MECH. ENGINEERS

CONTRACTING OFFICER'S REPRESENTATIVE

DESIGNATION

AD

ACV

AFF

AHU

AL

AMS

ASHRAE

ASME

CFM

COR

DCU

DP

DSS

EA

EAT

ECC

EF

ESP

ETBD

ETBR

ETR

ET

٥F

FLA

HP

LAT

MAX

MBH

MCA

MOCP

NC

OA

RA

RH

SA

SP

TSP

TU

VAV

VFD

WB

UNO

SENS

IN. WG.

- CONTRACTOR SHALL PROVIDE TESTING OF HEPA FILTERS AFTER INSTALLATION PER VA REQUIREMENTS.
- ALLOWANCES SHALL BE MADE FOR THE ABILITY TO PROVIDE AEROSOL PHOTOMETRY TESTS (COMMONLY KNOWN AS DOP/PAO TESTING) OF THE HEPA FILTERS IN SITU. THIS TEST UTILIZES AN AEROSOL PHOTOMETER AS THE MEASURING DEVICE AND AN AEROSOL GENERATOR TO PRODUCE AN AEROSOL CHALLENGE TO THE FILTER. THE AEROSOL CHALLENGE MUST BE HOMOGENEOUSLY MIXED BEFORE ENTERING THE FILTER. PROVIDE SUFFICIENT UPSTREAM STRAIGHT RUN OF DUCT OR A DISPERSION PLATE AT THE HEPA HOUSING.
- EQUIPMENT REQUIRING HEPA FILTER TESTING INCLUDES AHU-70FH-70

#### VARIABLE FREQUENCY DRIVE (VFD) NOTES

- ALL VFD'S SHALL COMPLY WITH IEEE 519-2993.
- VFD MANUFACTURER SHALL CONDUCT A HARMONIC ANALYSIS AND PROVIDE INPUT FILTERING AND SHIELDING AS REQUIRED TO LIMIT TOTAL DEMAND (HARMONIC CURRENT) DISTORTION, TOTAL HARMONIC VOLTAGE DEMAND, AND RADIO-FREQUENCY INTERFERENCE.
- THE TEST AND BALANCE FIRM MAY NOT INCREASE THE FREQUENCY ON ANY VFD ABOVE 60 HZ TO ACHIEVE THE AIR AND WATER FLOW RATES SHOWN ON THESE CONSTRUCTION

### TEST AND BALANCE NOTES

MECHANICAL PIPING LEGEND

CHILLED WATER SUPPLY

CHILLED WATER RETURN

DOMESTIC COLD WATER FOR

HOT WATER SUPPLY (HEATING)

HOT WATER RETURN (HEATING)

MEDIUM PRESSURE STEAM (30 PSI)

MECHANICAL EQUIPMENT

DESCRIPTION

DESIGNATION

——CWS——

----CWR-----

——DCW----

——HWS——

——HWR——

—— MPS——

— MPR —

—— LPS —

— LPR —

--R--

——CD-—

M

PS

AND BALANCE AGENCY TO PERFORM A FULL TEST AND BALANCE OF THE RENOVATED AREAS AFTER UNITS, CHILLED WATER COILS, STEAM HEATING

#### EXISTING/DEMO/NEW LEGEND DESIGNATION DESCRIPTION EXISTING TO REMAIN (EQUIPMENT, DUCTWORK, PIPING, ETC.) EXISTING TO BE DEMO'D OR RELOCATED -REFER TO PLAN NOTES PRIOR TO DEMOLITION (EQUIPMENT, DUCTWORK, PIPING, ETC.) (EQUIPMENT, DUCTWORK, PIPING, ETC.) BEGINNING OR END OF NEW WORK -OR-CONNECT TO EXISTING

MECHANICAL SYMBOL LEGEND

MEDIUM PRESSURE STEAM (30 PSI)	DESIGNATION	DESCRIPTION
MEDIUM PRESSURE STEAM (30 PSI) CONDENSATE RETURN		SUPPLY AIR DUCT WITH TURNING VANES TURNING UP/DOWN
LOW PRESSURE STEAM (10 PSI) FOR STEAM-TO-STEAM HUMIDIFIERS		RETURN AIR DUCT WITH TURNING VANES TURNING UP/DOWN
LOW PRESSURE STEAM (10 PSI) CONDENSATE RETURN FOR STEAM-TO-STEAM HUMIDIFIERS		EXHAUST AIR DUCT WITH TURNING VANES TURNING UP/DOWN
REFRIGERANT PIPING		MITERED 90 ELBOW WITH TURNING VANES
CONDENSATE DRAIN PIPING	DUCT	MANUAL VOLUME DAMPER WITH EXTENDED CONTROL ROD
PIPE TURN UP (UP) PIPE TURN DOWN (DN)	M	MOTORIZED CONTROL DAMPER WITH 24V ACTUATOR
3-WAY CONTROL VALVE		CEILING MOUNTED SUPPLY DIFFUSER
2-WAY CONTROL VALVE		CEILING MOUNTED RETURN GRILLE
BUTTERFLY VALVE		CEILING MOUNTED EXHAUST GRILLE
FULL PORT BALL VALVE	DD[_]	DUCT SMOKE DETECTOR ASSEMBLY INCLUDING SAMPLING TUBE AND SHUTDOWN RELAY. INSTALLATION PER SECTION 907.3.1 OF THE 2015 INTERNATIONAL FIRE CODE
AUTOMATIC FLOW LIMITING VALVE	AD [	DUCT ACCESS DOOR LOCATION
CHECK VALVE	Ō	TEMPERATURE SENSOR. MOUNT 4'-0" A.F.F. PER THE ACCESSIBILITY CODE.
Y-STRAINER	$\Theta$	HUMIDITY SENSOR. MOUNT 4'-0" A.F.F. PER THE ACCESSIBILITY CODE.
UNION	P	PRESSURE SENSOR. MOUNT 4'-0" A.F.F. PER THE ACCESSIBILITY CODE.
	7	UNDERCUT DOOR (3/4")
DIRECTION OF FLOW  FLOW SWITCH	F/S	COMBINATION FIRE/SMOKE DAMPER, WITH 24V ACTUATOR, VERTICAL, WITH ACCESS DOOR AND DUCT SMOKE DETECTOR, UL 555 AND UL 555S.
FLOW METER	F/S	COMBINATION FIRE/SMOKE DAMPER, WITH 24V ACTUATOR, HORIZONTAL, WITH ACCESS DOOR AND DUCT SMOKE DETECTOR, UL 555 AND UL 555S.
TEMPERATURE SENSOR	FD	FIRE DAMPER, VERTICAL, DYNAMIC TYPE WITH BLADES OUT OF AIRSTREAM, WITH ACCESS DOOR, UL 555.
PRESSURE SENSOR	SD	SMOKE DAMPER, VERTICAL, WITH ACCESS DOOR AND DUCT SMOKE DETECTOR, UL 555.

- ALL VFD'S SHALL BE LIMITED TO A MAXIMUM 60 HZ.
- DOCUMENTS.

- THE CONTRACTOR SHALL HIRE AN APPROVED TEST CONSTRUCTION IS COMPLETE. TEST AND BALANCE SHALL INCLUDE (BUT NOT LIMITED TO) MODULAR AIR HANDLING UNITS, EXHAUST FANS, VAV TERMINAL COILS, STEAM HUMIDIFIERS, HEATING HOT WATER COILS, AND EXISTING EQUIPMENT TO REMAIN.
- THE CONTRACTOR IS RESPONSIBLE FOR THE TEST AND BALANCE OF ALL SYSTEMS WITHIN THE RENOVATED AREAS (INCLUDING EXISTING TO REMAIN EQUIPMENT) TO ACHIEVE THE AIR AND WATER FLOWS RATES INDICATED ON THESE CONSTRUCTION DOCUMENTS.
- THESE DRAWINGS ARE BASED ON EXISTING DOCUMENTS AND LIMITED FIELD OBSERVATIONS. THE CONTRACTOR SHALL CONDUCT A TEST OF EXISTING SYSTEMS PRIOR TO STARTING WORK TO ESTABLISH AIRFLOWS FOR ALL EXISTING AIR DISTRIBUTION DEVICES AND TO VERIFY SUFFICIENT AIRFLOW IS AVAILABLE TO ACHIEVE THE AIRFLOWS INDICATED ON THESE DRAWINGS. UPON COMPLETION OF WORK, ALL AIR DISTRIBUTION DEVICES NOT SPECIFICALLY TAGGED SHALL BE BALANCED TO THEIR ORIGINAL AIRFLOWS. REPORT ANY DEFICIENCIES TO THE VA COR AND ENGINEER PRIOR TO STARTING WORK.

## MECHANICAL CODE SUMMARY

- NAME OF PROJECT: DURHAM VAMC EXPAND PACU
- ADDRESS: 508 FULTON STREET DURHAM, NC 27705 PROPOSED USE: HOSPITAL
- OWNER/CONTACT PERSON: ANDREKA WATLINGTON
- CODE ENFORCEMENT JURISDICTION: VAMC BUILDING OCCUPANCY: I-2
- GROSS BUILDING AREA: EXISTING NO CHANGE METHOD OF COMPLIANCE: PRESCRIPTIVE THERMAL ZONE: 4A
- MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT.
- **EXTERIOR DESIGN CONDITIONS:** WINTER DRY BULB: 17.5°F SUMMER DRY BULB: 93.2°F
- SUMMER WET BULB: 74.0°F INTERIOR DESIGN CONDITIONS: WINTER DRY BULB: 70°F
- SUMMER DRY BULB: 75°F RELATIVE HUMIDITY: 50% R.H. BUILDING HEATING LOAD: EXISTING - NO CHANGE BUILDING COOLING LOAD: EXISTING - NO CHANGE
- MECHANICAL SPACING CONDITIONING SYSTEM DESCRIPTION OF UNIT: MODULAR ROOFTOP AIR HANDLING UNIT

HEATING EFFICIENCY: SEE SCHEDULES COOLING EFFICIENCY: SEE SCHEDULES HEAT OUTPUT OF SYSTEMS: SEE SCHEDULES COOLING OUTPUT OF SYSTEMS: SEE SCHEDULES

	MECHANICAL SHEET INDEX
SHEET NUMBER	SHEET NAME
M-001	MECHANICAL - GENERAL NOTES AND LEGENDS
M-501	MECHANICAL - CONTROLS
M-601	MECHANICAL - SCHEDULES & CALCULATIONS
M-701	MECHANICAL - DETAILS
M-702	MECHANICAL - DETAILS
MD101	MECHANICAL - FOURTH FLOOR PLAN - DEMOLITION
MH200	MECHANICAL - FOURTH FLOOR PLAN - PHASING
MH201	MECHANICAL - FOURTH FLOOR PLAN - DUCT
MH202	MECHANICAL - ELEVATOR TOWER PLAN - DUCT
MP201	MECHANICAL - FOURTH FLOOR PLAN - PIPE & CONTROLS
MP202	MECHANICAL - SECOND & THIRD FLOOR PLAN - PIPE & CONTROLS

## 100% BID DOCUMENTS

**Drawing Title Project Title Project Number** 558-17-150 VA DURHAM - PACU RENOVATION MECHANICAL - GENERAL NOTES 100% BID DOCUMENTS **Building Number** AND LEGENDS **Drawing Number** Approved: **DURHAM VAMC** DURHAM, NC Andreka Watlington **FULLY SPRINKLERED Issue Date** Checked M-001 Drawn FFR **WEB** 43 of 78

CONSULTANT

705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

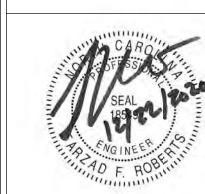
VA FORM 08 - 6231

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PO Box 1629, Hickory, NC 28603



Office of Construction and Facilities Management

www.atriaxgroup.com

ARCHITECT/ENGINEER OF RECORD

PRESSURE CLASS

4.0" PRESSURE CLASS

2.0" PRESSURE CLASS

2.0" PRESSURE CLASS

2.0" PRESSURE CLASS

EXISTING CONDITIONS NOTE

10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED

CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND

EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF

THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK

PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE

CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT

THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE

BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON

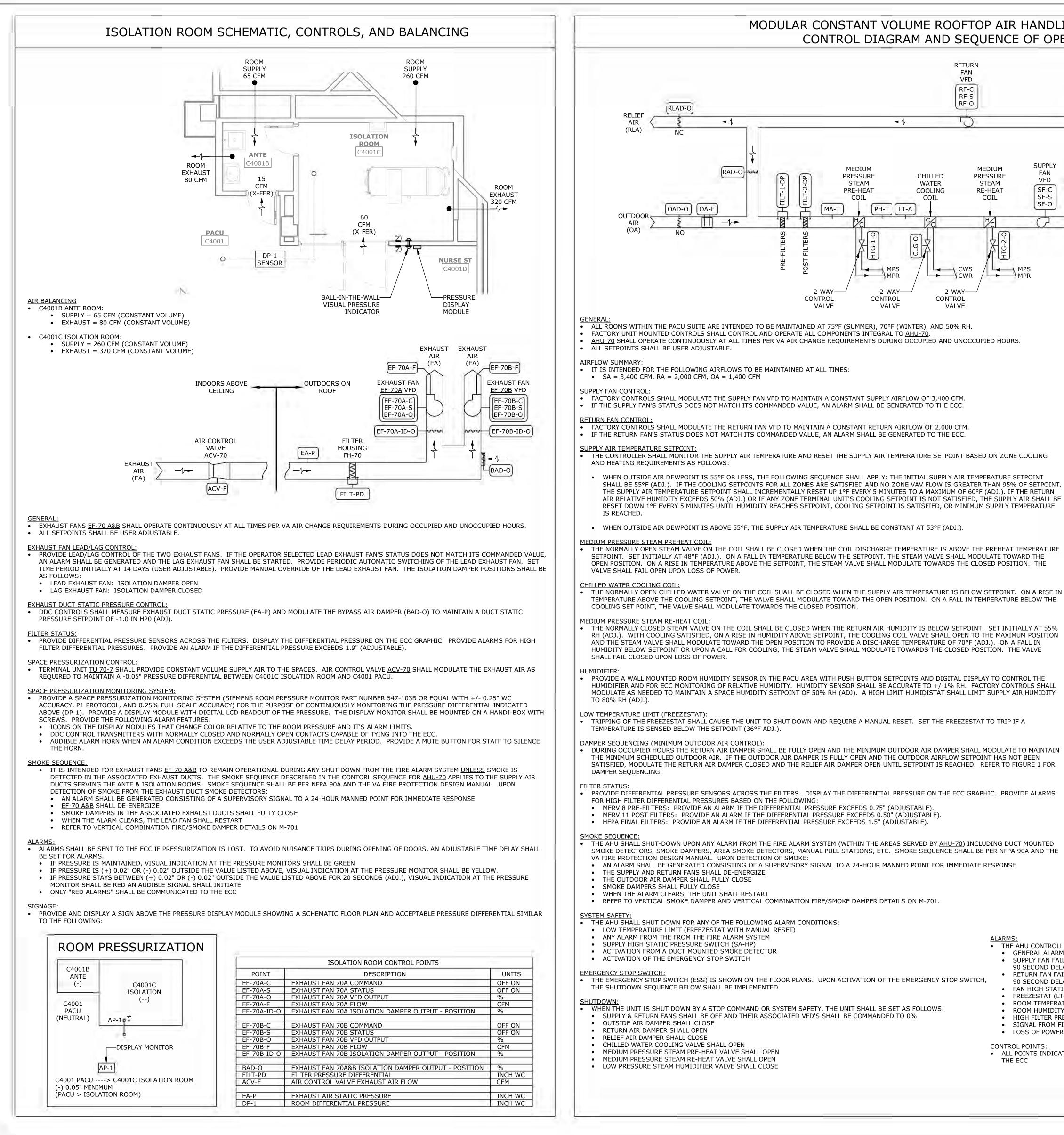
AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE

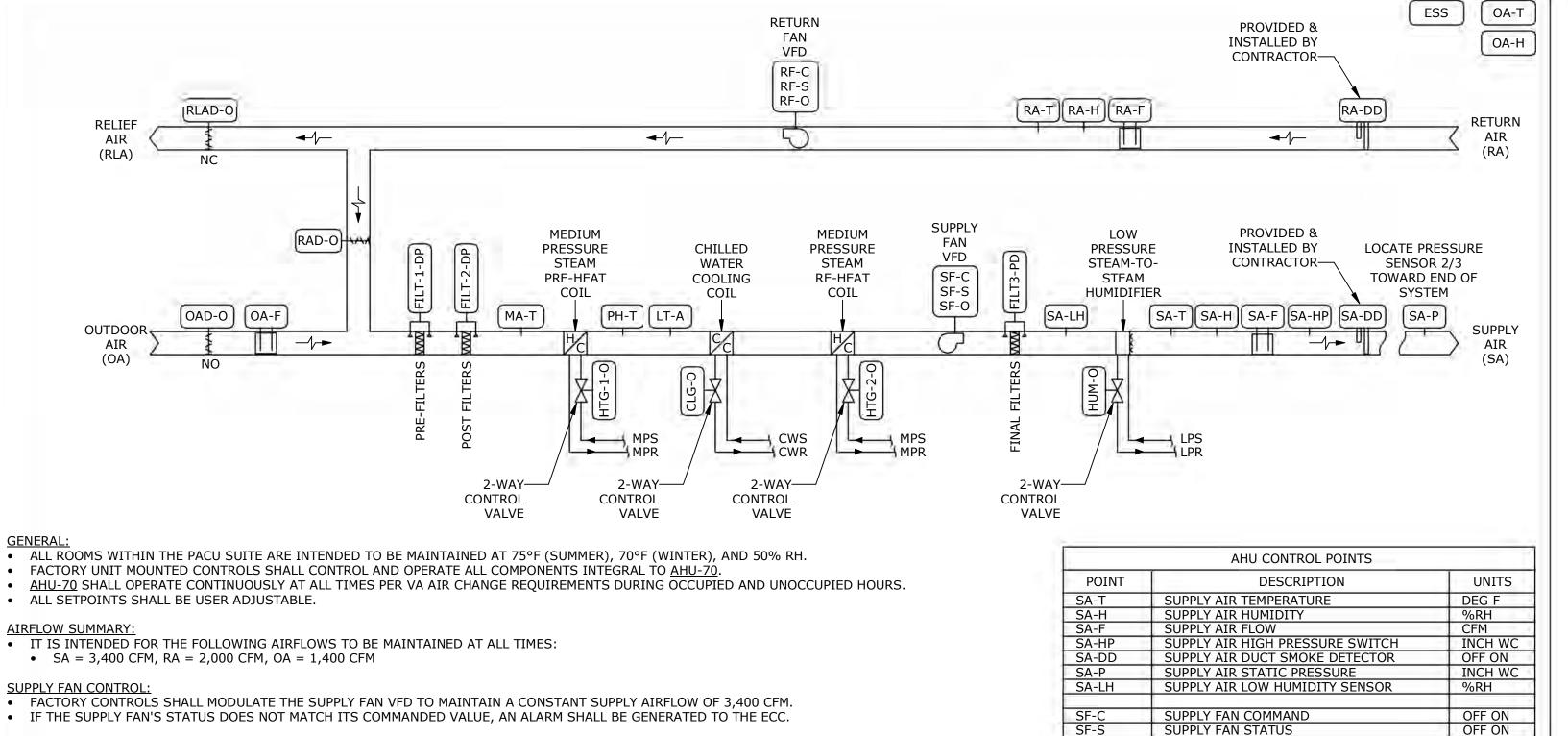
CONDUCT A THOROUGH SURVEY OF EXISTING

DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL

STAMP

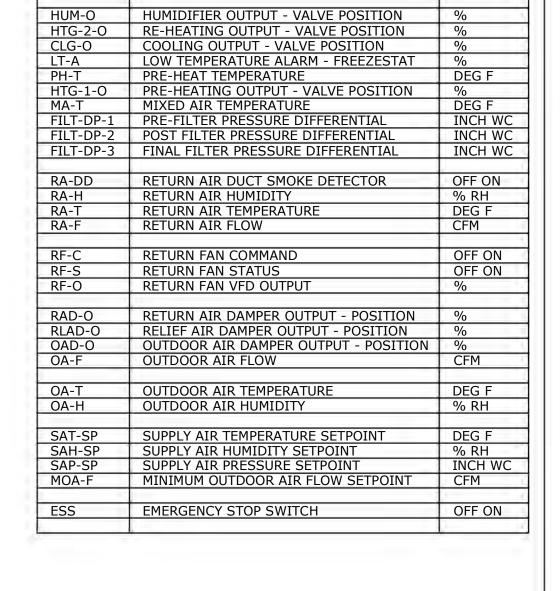
U.S. Department of Veterans Affairs





MODULAR CONSTANT VOLUME ROOFTOP AIR HANDLING UNIT AHU-70

CONTROL DIAGRAM AND SEQUENCE OF OPERATION



SUPPLY FAN VFD OUTPL

## OUTDOOR AND RETURN AIR DAMPER SEQUENCING DURING NORMAL OPERATION. RA DAMPER DAMPER—— DAMPER **POSITION** -RELIEF DAMPER → MINIMUM OUTDOOR AIRFLOW, CFM

• THE AHU CONTROLLER SHALL SIGNAL AN ALARM TO THE ECC UNDER THE FOLLOWING CONDITIONS: GENERAL ALARM FOR ANY FAULT

 SUPPLY FAN FAILURE (SUPPLY FAN STATUS DOES NOT MATCH SUPPLY FAN COMMANDED VALUE) WITH 90 SECOND DELAY RETURN FAN FAILURE (RETURN FAN STATUS DOES NOT MATCH RETURN FAN COMMANDED VALUE) WITH 90 SECOND DELAY

 FAN HIGH STATIC LIMIT (SA-HP>SETPOINT) WITH 60 SECOND DELAY FREEZESTAT (LT-A<SETPOINT) WITH 0 MINUTE DELAY</li> ROOM TEMPERATURE IS GREATER THAN 77°F OR LESS THAN 68°F ROOM HUMIDITY IS GREATER THAN 55% RH OR LESS THAN 45% RH

 HIGH FILTER PRESSURE DIFFERENTIAL (FILT-PD>SETPOINT) WITH 0 MINUTE DELAY SIGNAL FROM FIRE ALARM, SMOKE DAMPER, OR DUCT MOUNTED SMOKE DETECTOR LOSS OF POWER

• ALL POINTS INDICATED IN THE AHU CONTROL POINTS LIST SHALL BE DISPLAYED ON THE AHU GRAPHIC IN

#### WARMER COOLER ADJUST - SETPOINT SUPPLY AIR TEMPERATURE SUPPLY AIR FLOW HEATING VALVE COMMANDED POSITION %

SINGLE DUCT VAV TERMINAL UNIT CONTROL POINTS

MECHANICAL/ELECTRICAL/CONTROLS

COORDINATION NOTES

THE CONTRACTOR SHALL MATCH EXISTING GENERAL BUILDING DDC CONTROLS (SIEMENS) FOR ALL NEW

SIEMENS FRONT END. COORDINATE ALL CONTROLS WORK WITH THE VA COR

LOCATIONS, MOTORIZED CONTROL DAMPERS, CONDUIT, ETC.

HVAC EQUIPMENT, CONTROLS, ETC.

DUCT SMOKE DETECTORS.

IMPLEMENT SMOKE SEQUENCES

AND PROVIDING FULL INTEGRATION.

DEVELOPED OR COMPLETE. THE CONTRACTOR SHALL:

OPEN AS REQUIRED TO SATISFY ROOM TEMPERATURE SETPOINT.

HIGH SPACE TEMPERATURE - 3°F GREATER THAN SETPOINT

LOW SPACE TEMPERATURE - 3°F LOWER THAN SETPOINT

<u>ALARMS:</u> THE FOLLOWING ALARMS SHALL BE GENERATED TO THE ECC:

THE FOLLOWING POINTS SHALL BE DISPLAYED ON THE CONTROL GRAPHICS:

WITH OTHER TRADES AND FURNITURE/EQUIPMENT

TRANSDUCERS TO A WALL SENSOR IN THE PACU AREA

EQUIPMENT, CONTROLS, ETC. REFER TO ELECTRICAL DRAWINGS.

THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW CONTROL PANELS IF NEEDED

EQUIPMENT. THE CONTRACTOR SHALL FULLY INTEGRATE AND TIE ALL NEW CONTROLS INTO THE EXISTING

COORDINATE ALL HVAC EQUIPMENT, VFD'S, STARTERS, DISCONNECTS, CONTROL POWER JUNCTION BOXES

POWER WIRING, CONTROL WIRING, 24V CONTROL POWER TRANSFORMERS, SHUT-DOWN CONTROLS, DUCT

THE CONTRACTOR SHALL PROVIDE AND INSTALL 120V/24V CONTROL POWER TRANSFORMERS AS REQUIRE

AND DISTRIBUTE 24V CONTROL POWER TO ALL HVAC EQUIPMENT. THE CONTRACTOR SHALL PROVIDE AND

INSTALL ALL 24V POWER SUPPLIES, LOW VOLTAGE WIRING, RELAYS, CONTROL WIRING, AND CONDUIT FOR

FACTORY INSTALLED DDC CONTROLLER. IF FACTORY DDC CONTROLLERS ARE USED, THEY MUST BE CAPABLI

OF PROVIDING ALL POINTS TO THE ECC AS OUTLINED BY THE SEQUENCE OF OPERATIONS FOR EACH PIECE OF

THE CONTRACTOR SHALL PROVIDE AND INSTALL CONTROL POWER JUNCTION BOXES FOR CONTROL POWER TO

THE CONTRACTOR SHALL PROVIDE AND INSTALL FAN STARTERS (WHERE INDICATED) CAPABLE OF TYING INTO

THE ECC. PROVIDE AND INSTALL WIRING TO STARTER. PROVIDE AND INSTALL WIRING FROM STARTER TO FAN.

10. THE CONTRACTOR SHALL PROVIDE AND INSTALL SHUT-DOWN CONTROL WIRING FROM FIRE ALARM SYSTEM T

1. THE CONTRACTOR SHALL PROVIDE COMMUNICATION WITH THE FIRE ALARM SYSTEM AS REQUIRED TO

14. IF ADDITIONAL CONTROL POWER CIRCUITS OR ADDITIONAL CONTROL PANELS ARE NEEDED THAN THOSE

SHOWN, THE CONTRACTOR SHALL PROVIDE AND INCLUDE ALL COSTS INCLUDING ELECTRICAL AND DATA

16. THE CONTRACTOR IS RESPONSIBLE FOR TYING EQUIPMENT INDICATED ON PLANS INTO THE EXISTING ECC

GENERAL SEQUENCE OF OPERATIONS NOTES

THE SEQUENCE OF OPERATIONS PROVIDED IN THESE CONTRACT DOCUMENTS IS INTENDED TO COMMUNICATE

THE GENERAL DESIGN INTENT TO THE CONTROLS CONTRACTOR AND IS NOT INTENDED TO BE FULLY

. FULLY DEVELOP THE SEQUENCE OF OPERATIONS IN THE CONTROLS SUBMITTAL FOR ALL SYSTEMS

IDENTIFIED AND SHALL PRESENT ALL SETPOINTS, CONTROL PARAMETERS, AND ALARM POINTS.

INCORPORATE STANDARD FEATURES SUCH AS MINIMUM RUN TIME DELAYS AND DEAD BANDS FROM SETPOINT TO PREVENT EQUIPMENT FROM SHORT CYCLING AND WHEN HOVERING AROUND SETPOINTS.

ALL MONITORED POINTS SHALL INCLUDE EARLY HIGH/LOW ALARM NOTIFICATIONS PRIOR TO REQUIRING

CORRECTIVE ACTIONS OR EQUIPMENT SHUTDOWNS. TRANSMITTERS SHALL INCLUDE OUT-OF-RANGE FAIL-

SPECIFY TO A FAIL DE-ENERGIZER, HOLD LAST STATE, OR DEFAULT TO A PREDETERMINED SETPOINT. THE

PROGRAM SHALL ADDRESS OPERATIONAL ISSUES SUCH AS SUDDENLY APPLIED LOADS. THESE BASIC

FEATURES THAT ARE NECESSARY AND ARE PART OF A ROBUST CONTROLS INSTALLATION SHALL BE

INCLUDED IN THE SCOPE OF SERVICES FOR DELIVERABLES AT NO ADDITIONAL COST TO THE OWNER.

CONSTANT VOLUME TERMINAL UNIT W/ HOT WATER HEAT

CONTROL DIAGRAM AND SEQUENCE OF OPERATIONS

SUPPLY AIR TEMPERATURE SENSOR: PROVIDE A SUPPLY AIR TEMPERATURE SENSOR FOR MONITORING PURPOSES.

MODULATE AS REQUIRED TO MAINTAIN CONSTANT AIRFLOW. THE HOT WATER HEATING VALVE SHALL MODULATE

JNOCCUPIED MODE: DURING UNOCCUPIED MODE, THE DESIGN AIRFLOWS SHALL BE SET TO "UNOCCUPIED CFM SETPOINTS." THESE VALUES SHALL INITIALLY BE HALF OF THE "OCCUPIED CFM SETPOINTS" AND ADJUSTABLE

OCCUPIED MODE: DURING OCCUPIED MODE, THE DESIGN AIRFLOWS SHALL BE SET TO "OCCUPIED CFM

SETPOINTS." THESE VALUES SHALL MATCH THE SCHEDULED AIRFLOWS. THE PRIMARY AIR DAMPER SHALL

THROUGH THE ECC. THE PRIMARY AIR DAMPER SHALL MODULATE AS REQUIRED TO MAINTAIN CONSTANT

AIRFLOW. THE HOT WATER HEATING VALVE SHALL MODULATE OPEN AS REQUIRED TO SATISFY ROOM

HWR

—2-WAY CONTROL VALVE

**Drawing Number** 

M-501

44 of 78

12. LOCATE DISCHARGE AIR TEMPERATURE SENSORS 4'-0" DOWNSTREAM OF COILS (WHERE POSSIBLE).

13. ALL EQUIPMENT CONTROLLERS SHALL SEND AN ALARM TO THE ECC UPON POWER FAILURE.

REFER TO CONTROL DIAGRAMS FOR OPERATION SEQUENCES AND CONTROL POINTS.

17. THE CONTRACTOR SHALL PROVIDE CONTROL GRAPHICS AND FLOOR PLANS

SAFE POSITIONING FOR OPEN CIRCUITS OR LOSS OF COMMUNICATION.

SMOKE DETECTORS, COMBINATION FIRE/SMOKE DAMPERS, SMOKE DAMPERS, ECC CONTROL PANEL

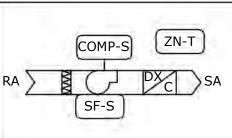
THE CONTRACTOR SHALL PROVIDE AND INSTALL DDC CONTROLLERS FOR ANY EQUIPMENT WITHOUT A

THE CONTRACTOR SHALL PROVIDE AND INSTALL ZONE TEMPERATURE SENSORS WITH BACKLIT DIGITAL DISPLAY, SETPOINT, AND UNOCCUPIED OVERRIDE. COORDINATE ZONE TEMPERATURE SENSOR LOCATIONS

THE CONTRACTOR SHALL PROVIDE AND INSTALL COPPER PRESSURE SENSOR TUBING FROM AHU

## DUCTLESS SPLIT SYSTEM CONTROL DIAGRAM AND SEQUENCE OF OPERATION

PRIMARY AIR DAMPER POSITION



FROM AHU

CONSULTANT 05 EAST MOREHEAD STREET NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

VA FORM 08 - 6231

CHARLOTTE, NC 28202•704-295-4263

PERKINS— EASTMAN

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PO Box 1629, Hickory, NC 28603

ARCHITECT/ENGINEER OF RECORD

AND HEATING REQUIREMENTS AS FOLLOWS:

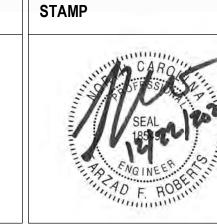
VALVE SHALL FAIL OPEN UPON LOSS OF POWER.

SHALL FAIL CLOSED UPON LOSS OF POWER.

IS REACHED.

TO 80% RH (ADJ.).

DAMPER SEQUENCING.



THE SUPPLY AIR TEMPERATURE SETPOINT SHALL INCREMENTALLY RESET UP 1°F EVERY 5 MINUTES TO A MAXIMUM OF 60°F (ADJ.). IF THE RETURN

SETPOINT. SET INITIALLY AT 48°F (ADJ.). ON A FALL IN TEMPERATURE BELOW THE SETPOINT, THE STEAM VALVE SHALL MODULATE TOWARD THE

OPEN POSITION. ON A RISE IN TEMPERATURE ABOVE THE SETPOINT, THE STEAM VALVE SHALL MODULATE TOWARDS THE CLOSED POSITION. THE

AND THE STEAM VALVE SHALL MODULATE TOWARD THE OPEN POSITION TO PROVIDE A DISCHARGE TEMPERATURE OF 70°F (ADJ.). ON A FALL IN

HUMIDITY BELOW SETPOINT OR UPON A CALL FOR COOLING, THE STEAM VALVE SHALL MODULATE TOWARDS THE CLOSED POSITION. THE VALVE

MODULATE AS NEEDED TO MAINTAIN A SPACE HUMIDITY SETPOINT OF 50% RH (ADJ). A HIGH LIMIT HUMIDISTAT SHALL LIMIT SUPPLY AIR HUMIDITY

SATISFIED, MODULATE THE RETURN AIR DAMPER CLOSED AND THE RELIEF AIR DAMPER OPEN UNTIL SETPOINT IS REACHED. REFER TO FIGURE 1 FOR

AIR RELATIVE HUMIDITY EXCEEDS 50% (ADJ.) OR IF ANY ZONE TERMINAL UNIT'S COOLING SETPOINT IS NOT SATISFIED, THE SUPPLY AIR SHALL BE RESET DOWN 1°F EVERY 5 MINUTES UNTIL HUMIDITY REACHES SETPOINT, COOLING SETPOINT IS SATISFIED, OR MINIMUM SUPPLY TEMPERATURE

> Office of Construction and Facilities Management

**Project Title** Drawing Title MECHANICAL - CONTROLS 100% BID DOCUMENTS Approved: **DURHAM VAMC** Andreka Watlington **FULLY SPRINKLERED Issue Date** Checked FFR

U.S. Department of Veterans Affairs

SEQUENCE: WHEN THE DUCTLESS SPLIT SYSTEM IS ENERGIZED, FACTORY CONTROLS SHALL BE USED TO MAINTAIN THE SPACE TEMPERATURE SETPOINTS. THE FACTORY DDC CONTROLLER AND THERMOSTAT SHALL MONITOR THE SPACE TEMPERATURE. ALARMS: AN ALARM SHALL BE SENT TO THE ECC FOR ANY OF THE FOLLOWING **CONDITIONS:**  ANY ALARM GENERATED BY THE DUCTLESS SPLIT SYSTEM • SPACE TEMPERATURE IS 85°F (ADJ.) OR GREATER 100% BID DOCUMENTS **Project Number** 558-17-150 VA DURHAM - PACU RENOVATION **Building Number** 

DURHAM, NC

Drawn

**WEB** 

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## MODULAR CONSTANT VOLUME ROOFTOP AIR HANDLING UNIT SCHEDULE

GENERAL	AIRFLO	W SUMMARY		STEAM-TO-ST	EAM HUMIDIF	FIER SECTION		FINA	L FILTER S	SECTION	SUPF	LY FAN SEC	TION		MEDI	UM PRESSU	RE STEAM RE	-HEAT COIL				CHIL	LED WATER CO	OLING COIL	SECTION				MEDIUM PRE	SSURE STEAM	1 PREHEAT CO	OIL SECTION		POST & PR	E-FILTER SE	CTION		RETURN FAN	SECTION		
				TOTAL A						SUP					ENTERIN	NG	TOTAL		OUT CONTRO	_	TOT	AL SEN	IS			FACE RUI			LIVILLIVIO	7			CONTROL POS								
			EAT/ERH LAT/LRH																																						
MARK MANUFACTURER	MODEL (CFM) (	$(CFM) \mid (CFM)$	I)  (°F/%RH)  (°F/%RH	) (LB/HR)	(IN.)	(PSI)	(IN.) ASS	SEMBLY (#	(EFFIC	CIENCY) (CF	M) H20	) (HP) (	(A) PHASE	E   (°F)   (°I	F) (PSI)	(LBS/HR	R) (MBH)	(#) (IN	I.) ASSEMB	.Y   (DB/WB)   (DI	3/WB) (MB	H) (MBI	H) (°F) (°F)	(GPM) (FT.	H20) (#)	(FPM) (I	N.) ASSEM	1BLY (°F) (°F	(PSI)	(LBS/HR) (	(#)	(IN.)	ASSEMBLY (#	) (EFFICIEN	CY) (#)	(EFFICIENC)	Y) (CFM)	(IN. H20) (H	P) (A) PI	HASE (LB	زر) NOTES
AHU-70 JCI/YORK	XTO-42x57 3,400 3	2,000 1,400	0 55/25 55/65	57	15	10.0	3/4 2	-WAY 4	H	EPA 3,4	00 2.5	5 1	3.7 208/39	ð 52.4 79	.5 10	103	100	1 2	2-WAY	85/67 52.	4/50.9 16	1 119	9 44 54	32 9	9.4 4	343 2	2Ø 2-WA	AY 17.5 76.4	4 30	234	220 1	2	2-WAY 4	MERV 1	1 4	MERV 8	2,000	2.0	8.5 20	08/3Ø 4,86	1 ALL

#### BASIS OF DESIGN IS JCI/YORK. APPROVED EQUALS ARE TRANE, CARRIER, AND DAIKIN.

- CONFIGURE AHU AND ROOF CURB AS SHOWN IN THIS SCHEDULE. REFER TO THE FLOOR PLANS FOR ACCESS DOOR AND PIPE CONNECTION LOCATIONS.
- PROVIDE FACTORY SEISMIC CERTIFICATION IN COMPLIANCE WITH ASCE 7-16 REQUIREMENTS. PROVIDE HIGH WIND (+/- 140 PSF) CERTIFICATION IS NOT AVAILABLE, THE CONTRACTOR SHALL EITHER PROVIDE APPROVED SHAKE TABLE TESTING IN ACCORDANCE WITH ASCE STANDARD
- 7-10 SECTION 13.2.5 OR PROVIDE EXPERIENCE DATA IN ACCORDANCE WITH ASCE STANDARD 7-10 SECTION 13.2.6. EVIDENCE DEMONSTRATING COMPLIANCE SHALL BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION AFTER REVIEW AND ACCEPTANCE BY A REGISTERED DESIGN PROFESSIONAL. 4. PROVIDE FACTORY 2" DOUBLE WALL CONSTRUCTION WITH R-13 INSULATION, NO-THROUGH-METAL DESIGN, FLEXIBLE DUCT CONNECTIONS, AND FACTORY LED LIGHTS IN ALL SECTIONS WIRED TO A SINGLE SWITCH FOR A 120/1Ø CONNECTION.
- 5. PROVIDE FACTORY STAINLESS STEEL DRAIN PAN WITH UL 508 LISTED CONDENSATE HIGH LEVEL SWITCH IN THE DRAIN. INTERLOCK SWITCH TO CLOSE THE CHILLED WATER VALVE FOR HIGH CONDENSATE LEVEL. 6. PROVIDE SUPPLY AND RETURN FANS WITH:
- A. PREMIUM EFFICIENCY MOTORS WITH THERMAL OVERLOAD PROTECTION
- B. FACTORY INSTALLED VARIABLE FREQUENCY DRIVES WITH BYPASS C. 2" DEFLECTION SPRINGS UNDER FAN FOR OPTIMAL NOISE AND VIBRATION CONTROL
- D. FACTORY AIRFLOW MEASURING DEVICES INTEGRAL TO THE FAN CAPABLE OF MEASURING AIR VOLUME WITHIN +/- 5% ACCURACY.
- PROVIDE FACTORY AIRFLOW MEASURING DEVICE ON THE OUTDOOR AIR INTAKE CAPABLE OF MEASURING AIR VOLUME WITHIN +/- 5% ACCURACY. 8. PROVIDE FACTORY INSTALLED MOTOR OPERATED ULTRA LOW LEAKAGE DAMPERS (2 CFM/FT<sup>2</sup> AT 1 IN. WG) WITH 24V ELECTRIC ACTUATOR AND PILOT POSITIONERS.
- 9. PROVIDE FACTORY CONTROLS PACKAGE AND END DEVICES WIRED TO A CONTROL PANEL FOR 120/10 CONNECTION. FACTORY CONTROLS SHALL BE CAPABLE OF TYING INTO THE EXISTING SIEMENS ECC AND ACHIEVING ALL POINTS SHOWN ON THE CONTROLS DIAGRAM ON M-501.
- 10. PROVIDE FACTORY STEAM-TO-STEAM HUMIDIFIER WITH INSULATED 304 STAINLESS STEEL SAM-e HEADERS AND INTERNAL DRAIN WATER TEMPERING DEVICE. STEAM SYSTEM SHALL HAVE REPLACEABLE CYLINDERS FOR USE WITH POTABLE WATER. 11. PROVIDE FACTORY 24" SEISMIC INSULATED PLENUM ROOF CURB FOR THE ENTIRE UNIT. INSULATION SHALL BE 2" THICK ANTI-MICROBIAL CLOSED CELL TYPE (MINUMUM R-8). CURB SHALL BE USED AS A RETURN AIR PLENUM AND HAVE A RETUN AIR CONNECTION ON THE
- FRONT AS SHOWN. THE CONTRACTOR SHALL FABRICATE AND FIELD INSTALL ALUMINUM STEPS AT ALL ACCESS DOORS. 12. WEIGHT IS AN APPROXIMATE VALUE AND INCLUDES ACCESSORIES. A ROOF CURB HAS NOT BEEN INCLUDED. A SAFETY FACTOR HAS NOT BEEN INCLUDED.
- 13. ELECTRICAL NOTES: FOUR (4) SEPARATE ELECTRICAL CONNECTIONS ARE REQUIRED (SUPPLY FAN, RETURN FAN, LIGHTS & SWITCH, FACTORY PACKAGED CONTROLS). A. SUPPLY FAN: CONTRACTOR TO PROVIDE AND INSTALL 208/3Ø SERVICE TO THE FACTORY MOUNTED VFD. SUPPLY FAN: 208/3Ø, 5 HP, FLA=13.7A, MCA=17.1A, MOCP=30A
- B. RETURN FAN: CONTRACTOR TO PROVIDE AND INSTALL 208/3Ø SERVICE TO THE FACTORY MOUNTED VFD. RETURN FAN: 208/3Ø, 3 HP, FLA=8.6A, MCA=10.7A, MOCP=17.5A
- C. LIGHTS & SWITCH: CONTRACTOR TO PROVIDE AND INSTALL A 15A DISCONNECT. CONTRACTOR TO PROVIDE AND INSTALL WIRING FROM DISCONNECT TO LIGHT SWITCH.
- D. FACTORY PACKAGED CONTROLS: CONTRACTOR TO PROVIDE AND INSTALL A 15A DISCONNECT. CONTRACTOR TO PROVIDE AND INSTALL WIRING FROM DISCONNECT TO CONTROL PANEL.

FRONT SUPPLY	AHU-70 UNIT CONFIGURATION - SIDE VIEW	
CONNECTION ON UNIT—	27'-7"	
SA FO E BASE RAIL	DISCHARGE PLENUM HUMIDIFIER SECTION ACCESS A	
RA	RA → 24" SEISMIC INSULATED PLENUM ROOF CURB RA → RA	
FRONT RETURN CONNECTION ON CURB	UNIT DIMENSIONS  LENGTH = 27'-7"  WIDTH = 5'-7"  HEIGHT = 3'-6"  CURB HEIGHT = 2'-0"	

	AIR DISTRIBUTION SCHEDULE														
				PANEL SIZE	NECK SIZE				MAX. AIR						
MARK	MANUFACTURER	MODEL	TYPE	(IN.)	(IN.)	SYSTEM	INSTALLATION TYPE	MATERIAL	(CFM)	NOTES					
Α	PRICE	SPD	SQUARE PLAQUE	24"x24"	6"Ø	SUPPLY	LAY-IN	STEEL	75	1,2,3					
В	PRICE	SPD	SQUARE PLAQUE	24"x24"	8"Ø	SUPPLY	LAY-IN	STEEL	200	1,2,3					
С	PRICE	SPD	SQUARE PLAQUE	24"x24"	10"Ø	SUPPLY	SURFACE MOUNTED	STEEL	400	1,2,3					
D	PRICE	PDDR	SQUARE PLAQUE	12"x12"	6"Ø	SUPPLY	SURFACE MOUNTED	STEEL	75	1,2,3					
Е	PRICE	PDDR	PERFORATED	24"x24"	6"Ø	RETURN	LAY-IN	STEEL	75	1,2					
F	PRICE	PDDR	PERFORATED	24"x24"	8"Ø	RETURN	LAY-IN	STEEL	200	1,2					
G	PRICE	PDDR	PERFORATED	24"x24"	10"Ø	RETURN	LAY-IN	STEEL	400	1,2					
I	PRICE	PDDR	PERFORATED	12"x12"	6"Ø	EXHAUST	SURFACE MOUNTED	STEEL	100	1,2					
J	PRICE	630	LOUVERED FACE GRILLE	14"x26"	12"x24"	EXHAUST	SIDEWALL	STEEL	400	1,2,4					
K	PRICE	PDDR	PERFORATED	24"x24"	8"Ø	EXHAUST	LAY-IN	STEEL	200	1,2					
L	PRICE	PDDR	PERFORATED	12"x24"	6"Ø	RETURN	LAY-IN	STEEL	75	1,2					
М	PRICE	PDDR	PERFORATED	24"x24"	14"Ø	RETURN	LAY-IN	STEEL	800	1,2					

AIR DISTRIBUTION CALL-OUT SYMBOL

- .. BASIS OF DESIGN IS PRICE. APPROVED EQUALS ARE NAILOR, METAL AIRE, AND TITUS.
- 2. ALL DIFFUSERS, REGISTERS, AND GRILLES SHALL HAVE A MAXIMUM NC  $\leq 25$  AND MAXIMUM PD  $\leq 0.1$  IN. WG.

	The bir oberto, redistance, this chiefes struct three trivial for the second trivial for the
3.	PROVIDE FACTORY MOLDED INSULATION BLANKET WITH R-6 FOIL-BACKED INSULATION.
4.	PROVIDE 45° FIXED DEFLECTION, 3/4" BLADE SPACING. INSTALL WITH BLADES FACING DOWN.

						# OF FANS	AIRFLOW	S.P.	DISCHARGE VELOCITY		DRIVE	MOTOR	VOLTAGE/		SYSTEM	
MARK	AREA SERVED	MANUFACTURER	MODEL	TYPE	FUNCTION		(CFM)	(IN. WC.)	(FT/MIN)	CONTROL	TYPE	(HP)	PHASE	(dBA)	(LBS.)	NOTES
	ISOLATION & ANTE ROOMS		VEKTOR-H-9	LAB EXHAUST	EXHAUST	2 (A&B)	400	2.5	4,444	BAS	BELT	1-1/2	208/3Ø	80	950	ALL

- BASIS OF DESIGN IS GREENHECK. APPROVED EQUALS ARE COOK AND TWIN CITY.
- PROVIDE FACTORY SEISMIC CERTIFICATION IN COMPLIANCE WITH ASCE 7-10 REQUIREMENTS. PROVIDE FACTORY HIGH WIND (+/- 140 PSF) CERTIFICATION.
- 3. PROVIDE FACTORY 14" SEISMIC ROOF CURB. ROOF CURB SHALL MATCH PITCH OF ROOF. 4. PROVIDE A HIGH-PLUME LABORATORY EXHAUST SYSTEM CONSISTING OF TWO (2) FANS AND DUAL DRIVES. ONLY ONE (1) FAN SHALL OPERATE WHILE THE OTHER IS ON STANDBY.
- 5. TOTAL HEIGHT TO TOP OF STACK DISCHARGE SHALL BE NO LESS THAN 10'-0". 6. PROVIDE BYPASS AIR PLENUM, BYPASS AIR DAMPER WITH 24V ACTUATOR, WEATHERHOOD, AND SIDE EXHAUST INTAKE.
- PROVIDE FACTORY VFD RATED NEMA PREMIUM EFFICIENCY MOTOR WITH SHAFT GROUNDING AND THERMAL OVERLOAD PROTECTION.
- 8. PROVIDE EACH FAN WITH ISOLATION DAMPERS MOUNTED IN THE BYPASS AIR PLENUM AND 24V ACTUATORS. 9. PROVIDE EXTENDED LUBE LINES.
- 10. PROVIDE FLEXIBLE DUCT CONNECTION.
- 11. PROVIDE EACH FAN WITH FACTORY SURE-AIRE FLOW MONITORING STATION WITH 24V INPUT POWER TO MONITOR THE PRESSURE DIFFERENCE BETWEEN THE FAN INLET AND THE SMALLEST DIAMETER OF THE INLET CONE TO CALCULATE VOLUMETRIC FLOW RATE. PROVIDE FACTORY ELECTRONICS PACKAGE WITH PRESSURE TRANSMITTER AND LCD DIGITAL READOUT. 12. ELECTRICAL NOTES: THREE (3) SEPARATE ELECTRICAL CONNECTIONS ARE REQUIRED (EF-70A, EF-70B, AND FACTORY 24V ACCESSORIES).
- A. EXHAUST FAN EF-70A: CONTRACTOR TO PROVIDE AND INSTALL VFD WITH INTEGRAL DISCONNECT, BYPASS, AND NEMA 4X ENCLOSURE. MOUNT VFD ADJACENT TO FAN. CONTRACTOR TO PROVIDE AND INSTALL
- 208/3Ø WIRING TO VFD. CONTRACTOR TO PROVIDE AND INSTALL 208/3Ø WIRING FROM VFD TO FAN. B. EXHAUST FAN EF-70B: CONTRACTOR TO PROVIDE AND INSTALL VFD WITH INTEGRAL DISCONNECT, BYPASS, AND NEMA 4X ENCLOSURE. MOUNT VFD ADJACENT TO FAN. CONTRACTOR TO PROVIDE AND INSTALL
- 208/3Ø WIRING TO VFD. CONTRACTOR TO PROVIDE AND INSTALL 208/3Ø WIRING FROM VFD TO FAN. C. FACTORY 24V ACCESSORIES: CONTRACTOR TO PROVIDE AND INSTALL A 15A DISCONNECT. CONTRACTOR TO PROVIDE AND INSTALL 120/1Ø SERVICE TO THE DISCONNECT. CONTRACTOR TO PROVIDE AND INSTALL 24V CONTROLS POWER TRANSFORMER. CONTRACTOR TO PROVIDE AND INSTALL WIRING FROM DISCONNECT TO CONTROLS POWER TRANSFORMER.

					DUC	TLESS S	SPLIT	SYSTEM	1 CO	OLIN	G-ON	LY A/C UNI	T SCHED	ULE							
			DUCTLESS INC	OOR AIR HA	ANDLING U	NIT							[	DUCTLESS	OUTDOOR CO	ONDENSI	NG UNIT				
						FAN		ELEC	TRICAL					DX C	OOLING						
					SUPPLY		ESP							(R-	-410a)	HE	ATING	ELE	CTRICAL	-	
				NOMINAL	AIR	OUTDOOR	(IN.	VOLTAGE/	MCA	MOCP				TOTAL	EFFICIENCY	TOTAL	EFFICIENCY	VOLTAGE/	MCA	MOCP	WEI
MARK	AREA SERVED	MANUFACTURER	MODEL	TONS	(CFM)	AIR (CFM)	WG.)	PHASE	(A)	(A)	MARK	MANUFACTURER	MODEL	(MBH)	(SEER)	(MBH)	(COP)	PHASE	(A)	(A)	(LB
DSS-1	SOUTH IT CLOSET	MITSUBISHI	PKA-A18HA7	1.5	290-380	N/A	N/A	208/1Ø	1	N/A	DCU-1	MITSUBISHI	PUY-A18NKA7	18.0	18.5	N/A	N/A	208/1Ø	11	15	9

- BASIS OF DESIGN IS MITSUBISHI. APPROVED EQUALS ARE DAIKEN, LG, SAMSUNG. 2. PROVIDE OUTDOOR UNIT WITH FACTORY WIND BAFFLES ON THE FRONT, SIDE, AND REAR FOR LOW AMBIENT COOLING DOWN TO -20°F.
- 3. PROVIDE WITH 410a REFRIGERANT. 4. PROVIDE FACTORY COMMUNICATIONS INTERFACE CAPABLE OF TYING INTO THE EXISTING SIEMENS ECC
- 5. PROVIDE WITH FACTORY WIRED TEMPERATURE SENSOR AND MOUNTING BRACKETS. 6. PROVIDE WITH FACTORY MOUNTED STARTER WITH THERMAL OVERLOAD PROTECTION.
- 7. PROVIDE SINGLE POINT POWER CONNECTION TO OUTDOOR UNIT. INDOOR UNIT WIRED FROM OUTDOOR UNIT. PROVIDE FACTORY DISCONNECT SWITCH FOR THE INDOOR UNIT. CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH FOR OUTDOOR UNIT.
- 8. DUCTLESS SPLIT SYSTEM SHALL BE MANUFACTURED AND INTENDED FOR COMMERCIAL APPLICATIONS. RESIDENTIAL UNITS WILL NOT BE ACCEPTED. HEAT PUMPS WILL NOT BE ACCEPTED.
- 9. PROVIDE WITH FACTORY DRAIN PAN WATER LEVEL SENSOR. INSTALL SENSOR IN THE PRIMARY DRAIN PAN TO SHUT-DOWN UNIT IF THE PRIMARY DRAIN BECOMES RESTRICTED PER IMC. 10. PROVIDE 120V CORD & PLUG CONDENSATE PUMP (LITTLE GIANT OR EQUAL) WITH HIGH LEVEL SAFETY SWITCH. CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE ELECTRICAL CONNECTION FOR CONDENSATE PUMP.

							FIL	TER H	OUSIN	IG SCHI	EDULE										
	HOUSING PRE-FILTER FINAL FILTER																				
					AIRFLOW	WIDTH	DEPTH	HEIGHT	FILTERS	FILTER	MIN. PD	MAX. PD		EFFICIENCY	FILTER	MIN. PD	MAX. PD		EFFICIENCY		1
MARK	AREA SERVED	MANUFACTURER	MODEL	TYPE	(CFM)	(IN.)	(IN.)	(IN.)	(#)	SIZE (IN.)	(IN. WG.)	(IN. WG.)	TYPE	(%)	SIZE (IN.)	(IN. WG.)	(IN. WG.)	TYPE	(%)	MODEL	NOTES
FH-70	ISOLATION & ANTE ROOMS	CAMFIL	CF-1X1-212P-3GB-SS	BAG-IN/BAG-OUT	400	26	27	30	1	24x24x2	0.05	0.2	THROW AWAY	30%	24x24x12	0.5	1.0	HEPA	99.97%	CAMFIL XS	ALL
NOTES:																					

- BASIS OF DESIGN IS CAMFIL. REFER TO SPECIFICATIONS FOR APPROVED EQUALS. 2. PROVIDE T-304L STAINLESS STEEL HOUSING
- 3. PROVIDE SEPARATE ACCESS DOORS FOR PREFILTER AND HEPA FILTER.
- 4. PROVIDE FACTORY MOUNTED MAGNEHELIC DIFFERENTIAL PRESSURE GAGE WITH STAINLESS STEEL TUBING AND FITTINGS. 5. PROVIDE FACTORY WEATHER COVER CONSTRUCTED OF T-304L STAINLESS STEEL.

ROOM. NUMBER	ROOM NAME	FLOOR AREA (FT²)	CEILING HEIGHT (FT)	ROOM VOLUME (FT³)	VA REQUIRED TOTAL AIR CHANGES (ACH)	VA REQUIRED CALCULATED TOTAL AIRFLOW (CFM)	ACTUAL SUPPLY AIRFLOW PROVIDED (CFM)	VA REQUIRED OUTDOOR AIR CHANGES (ACH)	VA REQUIRED CALCULATED OUTDOOR AIRFLOW (CFM)	ACTUAL OUTDOOR AIRFLOW PROVIDED (CFM)	ACTUAL RETURN AIRFLOW PROVIDED (CFM)	ACTUAL EXHAUST AIRFLOW PROVIDED (CFM)	PRESSURE RELATIONSHI
A4011	NOURISH	185	7.5	1,388	6	139	150	2	46	50	100		POSITIVE
A4014	CARE TEAM	125	7.5	938	6	94	100	2	31	35	65		POSITIVE
A4015	PACU	392	7,5	2,940	6	294	300	2	98	100	200		POSITIVE
A4015A	REC BAY 12	94	8.0	752	6	75	75	2	25	25	50		POSITIVE
A4015B	REC BAY 11	83	8.0	664	6	66	75	2	22	25	50	reaction of	POSITIVE
A4015C	REC BAY 10	82	8,0	656	6	66	75	2	22	25	50		POSITIVE
A4015D	REC BAY 09	78	8.0	624	6	62	75	2	21	25	50		POSITIVE
A4015E	REC BAY 08	89	8.0	712	6	71	75	2	24	25	50	-	POSITIVE
A4015F	ALCOVE	63	7.5	473	6	47	50	2	16	20	30		POSITIVE
A4024	TOILET	48	8.0	384	10	64	0			0	0	75	NEGATIVE
C4001	PACU	1,121	8.0	8,968	6	897	950	2	299	300	650	1 1	POSITIVE
C4001A	STAFF LOUNGE	102	8.0	816	4	54	100	2	27	100	0	160	NEGATIVE
C4001B	ANTE	38	8.0	304	10	51	65	2	10	65	0	80	NEGATIVE
C4001C	ISOLATION ROOM	144	8.0	1,152	12	230	260	2	38	260	0	320	NEGATIVE
C4001D	NURSE STATION	69	8.0	552	6	55	75	2	18	20	55	1	POSITIVE
C4001E	REC BAY 16	82	8.0	656	6	66	75	2	22	25	. 50		POSITIVE
C4001F	REC BAY 15	79	8.0	632	6	63	75	2	21	25	50	0.00	POSITIVE
C4001G	REC BAY 14	79	8.0	632	6	63	75	2	21	25	50		POSITIVE
C4001H	REC BAY 13	92	8.0	736	6	74	75	2	25	25	50	- (a)	POSITIVE
C4001J	REC BAY 07	94	8.0	752	6	75	75	2	25	25	50	7-7-	POSITIVE
C4001K	REC BAY 06	92	8.0	736	6	74	75	2	25	25	50	· · · · ·	POSITIVE
C4001L	REC BAY 05	92	8.0	736	6	74	75	2	25	25	50		POSITIVE
C4001M	REC BAY 04	92	8.0	736	6	74	75	2	25	25	50		POSITIVE
C4001N	REC BAY 03	88	8.0	704	6	70	75	2	23	25	50	+ 15	POSITIVE
C4001P	REC BAY 02	88	8.0	704	6	70	75	2	23	25	50	4 2 4	POSITIVE
C4001Q	REC BAY 01	94	8.0	752	6	75	75	2	25	25	50		POSITIVE
C4001R-V	NURSE STATION & ALCOVE	186	8.0	1,488	6	149	150	2	50	50	100		POSITIVE

3,192 3,400

	AIR CONTROL VALVE SCHEDULE											
						INLET	MAX. AIRFLOW	MIN. AIRFLOW	MIN. PD			
MARK	AREA SERVED	MANUFACTURER	MODEL	AIRFLOW TYPE	SYSTEM	SIZE (IN.)	(CFM)	CFM		VOLTAGE	NOTE	
ACV-70	ISOLATION & ANTE ROOMS	PHOENIX	THERIS HEVA110L-ALDHZ-PSL	CONSTANT VOLUME	EXHAUST	10Ø	400	400	0.3	24V	ALL	
NOTES:												

- BASIS OF DESIGN IS PHOENIX. APPROVED EQUALS ARE PRICE, CRITICAL ROOM CONTROL, TEK-AIR, AND WADDELL. AIR VALVE SHALL BE PRESSURE INDEPENDENT AND CAPABLE OF CONTROLLING AIRFLOW DURING POWER LOSS. FAIL TO LAST POSITION
- CONTROLLERS ARE NOT ACCEPTABLE UNLESS PRESSURE INDEPENDENCE IS MAINTAINED DURING POWER LOSS. . BLADE DAMPER AND BLADE DAMPER VENTURI AIR VALVES ARE NOT ACCEPTABLE.
- . PROVIDE OSHPD SEISMIC CERTIFICATION. PROVIDE BACNET MSTP PROTOCOL.

				INLET		PRIMA	ARY AIR	FLOW				Н	OT WA	TER HE	ATINO	G COIL			T
	ASSOCIATED	1		SIZE		MAX.	MIN.		HEAT	EAT	LAT			EWT			RUNOUT	VALVE	VOLTAG
MARK	AHU	MANUFACTURER	MODEL	(IN.)	TYPE	CFM	CFM	SPD	CFM	(°F)	(°F)	MBH	GPM	(°F)	(°F)	ROWS	SIZE (IN.)	ASSEMBLY	/ PHAS
TU 70-1	AHU-70	JCI/YORK	TSS-WC	6Ø	SINGLE DUCT	375	375	0.3	375	55	96.2	16.7	1.67	180	160	2	3/4Ø	2-WAY	24V
TU 70-2	AHU-70	JCI/YORK	TSS-WC	8Ø	SINGLE DUCT	600	600	0.3	600	55	93.6	25.0	2.50	180	160	2	3/4Ø	2-WAY	24V
TU 70-3	AHU-70	JCI/YORK	TSS-WC	8Ø	SINGLE DUCT	525	525	0.3	525	55	96.1	23.3	2.33	180	160	2	3/4Ø	2-WAY	24V
TU 70-4	AHU-70	JCI/YORK	TSS-WC	5Ø	SINGLE DUCT	150	150	0.3	150	55	96.4	6.7	0.67	180	160	2	3/4Ø	2-WAY	24V
TU 70-5	AHU-70	JCI/YORK	TSS-WC	6Ø	SINGLE DUCT	300	300	0.3	300	55	96.0	13.3	1.33	180	160	2	3/4Ø	2-WAY	24V
TU 70-6	AHU-70	JCI/YORK	TSS-WC	10Ø	SINGLE DUCT	600	600	0.3	600	55	93.6	25.0	2.50	180	160	2	3/4Ø	2-WAY	24V
TU 70-7	AHU-70	JCI/YORK	TSS-WC	6Ø	SINGLE DUCT	325	325	0.3	325	55	97.7	15.0	1.50	180	160	2	3/4Ø	2-WAY	24V
TU 70-8	AHU-70	JCI/YORK	TSS-WC	8Ø	SINGLE DUCT	425	425	0.3	425	55	91.4	16.7	1.67	180	160	2	3/4Ø	2-WAY	24V
TU 70-9	AHU-70	JCI/YORK	TSS-WC	5Ø	SINGLE DUCT	100	100	0.3	100	55	101.3	5.0	0.50	180	160	2	3/4Ø	2-WAY	24V
2. UNIT 3. PROV 4. PROV	SHALL BE SIZ IDE FACTORY IDE FACTORY	IS JCI/YORK. APF ED AT NOT MORE HANGER BRACKE FIBER-FREE FOIL MOUNTED MULTI	THAN 80° TS. FACED IN	% OF MA	NUFACTURER'S ON LINER.	S PUBLI				ΓΙΤUS									

PROVIDE FACTORY MOUNTED MULTI POINT AVERAGING AIRFLOW SENSOR.
PROVIDE FACTORY DDC CONTROLS CAPABLE OF TYING INTO THE EXISTING SIEMENS ECC.
PROVIDE FACTORY 2-ROW HEATING HOT WATER COIL MOUNTED ON UNIT DISCHARGE.
PROVIDE AND INSTALL CONTROL VALVE ASSEMBLIES INDICATED IN SCHEDULE WITH FLOW CONTROL, CONNECTION HARDWARE, AND STAINLESS FLEX HOSE
PROVIDE AUTOMATIC FLOW CONTROL DEVICES FOR THE GPM'S INDICATED IN SCHEDULE. HEATING COIL FLOW RATES INDICATED ABOVE ARE SCHEDULED TO
MATCH STANDARD AUTO FLOW LIMITER SETTINGS.

## 100% BID DOCUMENTS

VA FORM 08 - 6231

CONSULTANT 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

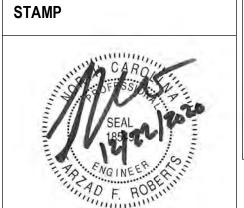
PERKINS— EASTMAN LAURENE, RICKHER 520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501 F. 704.362.4602

& SORRELL, P.C. 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 PHONE 704-522-0495 FAX 704-522-0499 EMAIL mail@lrspc.net WEB www.lrspc.net

ARCHITECT/ENGINEER OF RECORD

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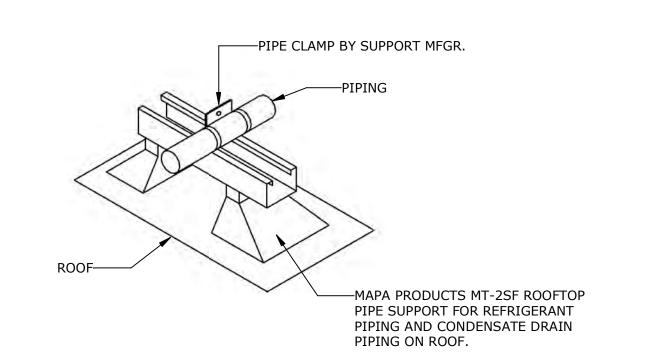
Office of Construction and Facilities Management

1,007 1,400 2,000 635

U.S. Department of Veterans Affairs

\* BASED ON VA HVAC DESIGN MANUAL (NOVEMBER 1, 2017)

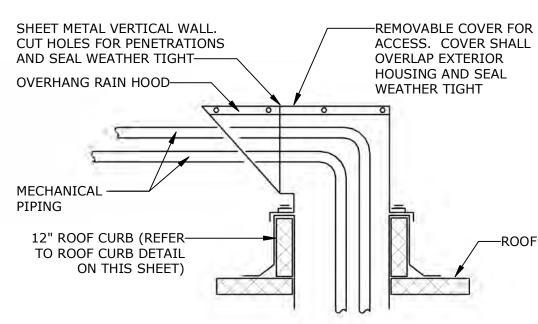
Drawing Title **Project Title Project Number** 558-17-150 VA DURHAM - PACU RENOVATION MECHANICAL - SCHEDULES & 100% BID DOCUMENTS **Building Number** CALCULATIONS **Drawing Number** Location **DURHAM VAMC** DURHAM, NC Andreka Watlington FULLY SPRINKLERED M-601 **Issue Date** Checked Drawn 12/22/2020 FFR **WEB** 45 of 78



1. VERIFY WEIGHT CAPACITY OF PIPE PIER AND PROVIDE MULTIPLE PIERS AND BRIDGING STRUT AS REQUIRED FOR LARGER PIPING. 2. PROVIDE STRUT FRAME WITH BRACING FOR PIPING ELEVATED ABOVE ROOF.

3. FINISH PIPING INSULATION WITH 2 COATS OF UV RESISTANT COATING AS

RECOMMENDED BY INSULATION MANUFACTURER. ROOF PIPE SUPPORT DETAIL



1. SIZE OF PIPE ROOF JACK SHALL MATCH EXISTING DUCT CHASE DIMENSIONS. 2. CONSTRUCTION SHALL BE 22 GAUGE GALVANIZED SHEET METAL. 3. SEAL ALL SEAMS WEATHER TIGHT WITH SILICONE SEALANT.

—STEEL FRAME

-MINIMUM 1 1/4" (32 MM)

WITH PROJECTING ROD

ISOLATION BUSHING

—DEFLECTION SCALE

-NEOPRENE SPRING CUP

WITH PROJECTING ROD

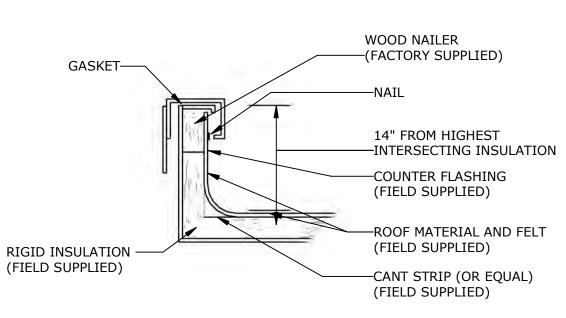
-SEISMIC UP STOP AND

HANGER SPECIFICATION 11

MASON INDUSTRIES

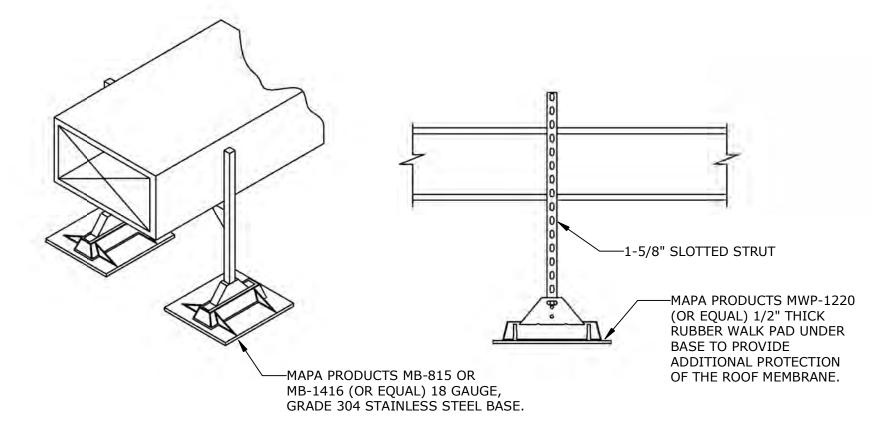
ISOLATION BUSHING

PIPE ROOF JACK DETAIL



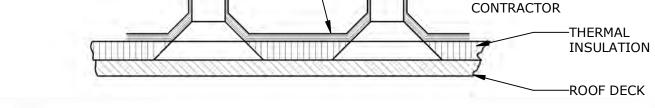
NOTE: LEAVE ROOF DECKING INTACT INSIDE THE ROOF CURB. CUT HOLES ONLY LARGE ENOUGH FOR THE SUPPLY AND RETURN DUCTWORK. AFTER THE DUCTWORK HAS BEEN INSTALLED, CAULKING MUST BE USED TO SEAL THE LINE OF CONTACT BETWEEN THE DECKING AND DUCT.

ROOF CURB DETAIL



1. ADJUST CLEVIS HEIGHTS AS REQUIRED. 2. DO NOT EXCEED MANUFACTURER'S RECOMMENDED LOAD CAPACITY. 3. DESIGN BASED ON MAPA PRODUCTS MASTER BASE ASSEMBLY PLATFORM (OR EQUAL)

ROOF DUCT SUPPORT DETAIL



ROOF MECHANICAL EQUIPMENT ON RAILS DETAIL

MECHANICAL

EQUIPMENT

FLASHING—

ROOFING-

FASTEN EQUIPMENT TO RAIL

—SHEET METAL COVER

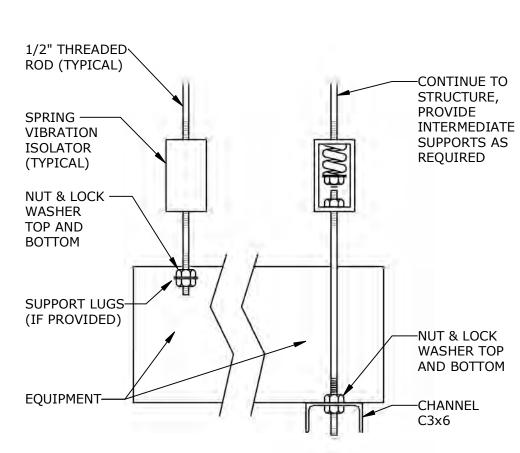
SUPPORTS

-EQUIPMENT MOUNTING

FLASHING BY ROOFING

(THYBAR TEMS-1 OR EQUAL)

WITH STAINLESS FASTENERS



SUSPENDED EQUIPMENT SUPPORT DETAIL
SCALE: N.T.S.

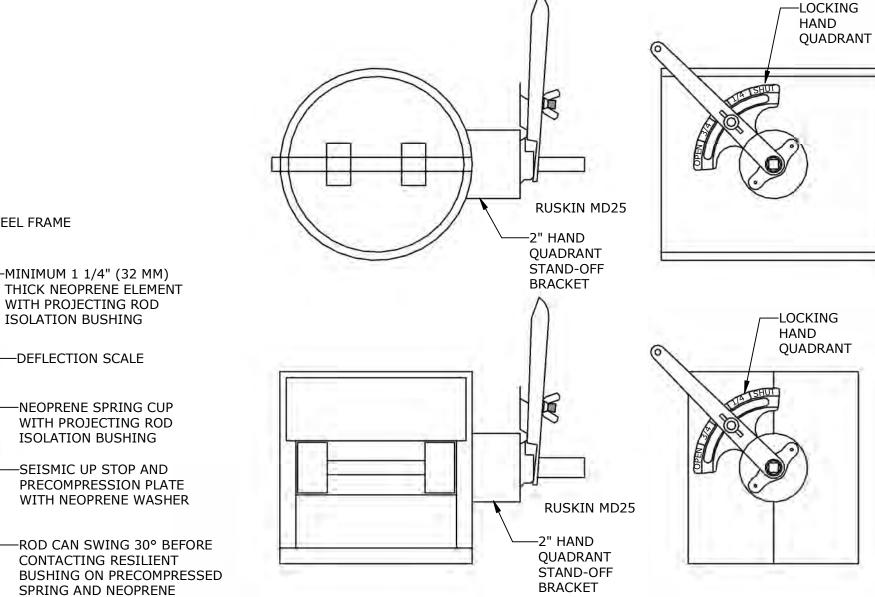
APPROVED EQUAL. MANUFACTURER SHALL PROVIDE CALCULATIONS INDICATING SPACING AND SIZE OF HANGERS. SEISMIC RESTRAINT DETAILS SHALL BE SEALED BY A STRUCTURAL ENGINEER REGISTERED IN NORTH CAROLINA AND SPECIALIZING IN SEISMIC DESIGN. INSTALLATION OF SEISMIC RESTRAINTS SHALL BE INSPECTED BY

1. SEISMIC RESTRAINTS SHALL BE BY

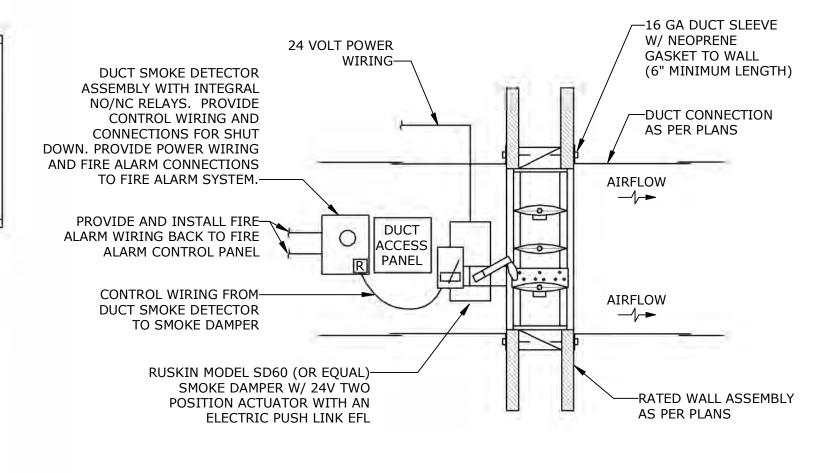
MASON INDUSTRIES INC. OR

THE MECHANICAL ENGINEER AND STRUCTURAL ENGINEER SPECIALIZING IN SEISMIC DESIGN (PRIOR TO INSTALLATION OF CEILING). STRUCTURAL ENGINEER SHALL PROVIDE CERTIFICATION THAT SEISMIC RESTRAINTS HAVE BEEN INSTALLED PROPERLY. CERTIFICATION SHALL BE PROVIDED TO THE ENGINEER, ARCHITECT, AND OWNER FOLLOWING INSPECTION AND ALSO SHALL BE INCLUDED IN MAINTENANCE MANUALS.

SEISMIC ISOLATION HANGER DETAIL



MANUAL VOLUME DAMPER SHALL BE RUSKIN MODEL MD25 (RECTANGULAR) - RUSKIN MODEL MDRS25 (ROUND) WITH 2" EXTENDED STAND OFF LOCKING HAND QUADRANT - OR EQUAL BY ANOTHER MANUFACTURER. INSULATION SHALL NOT COVER DAMPER LOCKING QUADRANT. MANUAL VOLUME DAMPER DETAIL

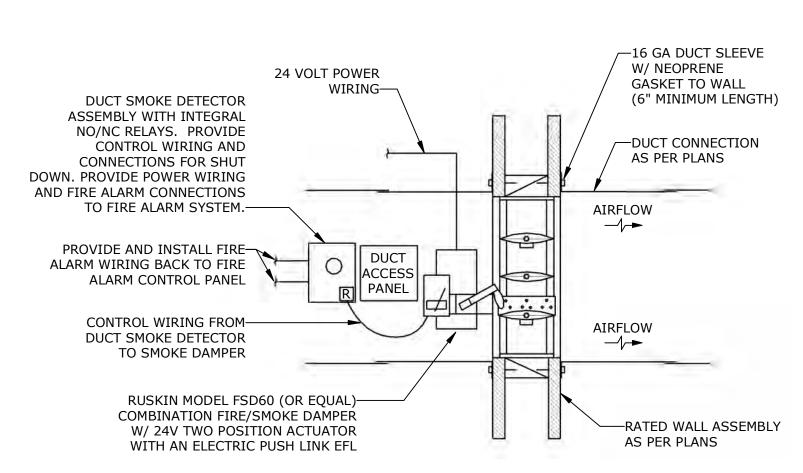


1. COORDINATE SAMPLING TUBE LENGTH AND DUCTWORK SHAPE. 2. PROVIDE CONTROL WIRING FROM DUCT SMOKE DETECTOR RELAYS LOCATED NEAR ALL ASSOCIATED SMOKE

DAMPERS AND HVAC EQUIPMENT TO FANS, DAMPER MOTORS, AND HVAC EQUIPMENT SHUTDOWN CONTROL INPUTS. PROVIDE/INSTALL ALL NECESSARY 24V CONTROL POWER, RELAYS, WIRING, AND CONDUIT. 4. PROVIDE AND INSTALL DUCT SMOKE DETECTOR REMOTE INDICATOR LIGHT/AUDIBLE DEVICE FLUSH IN CEILING OR

WALL, MOUNTED NEAR ASSOCIATED DUCT SMOKE DETECTOR. 5. REFER TO CONTROLS DRAWINGS FOR SHUTDOWN SEQUENCES.

6. PROVIDE DUCT MOUNTED ACCESS DOOR. VERTICAL SMOKE DAMPER DETAIL

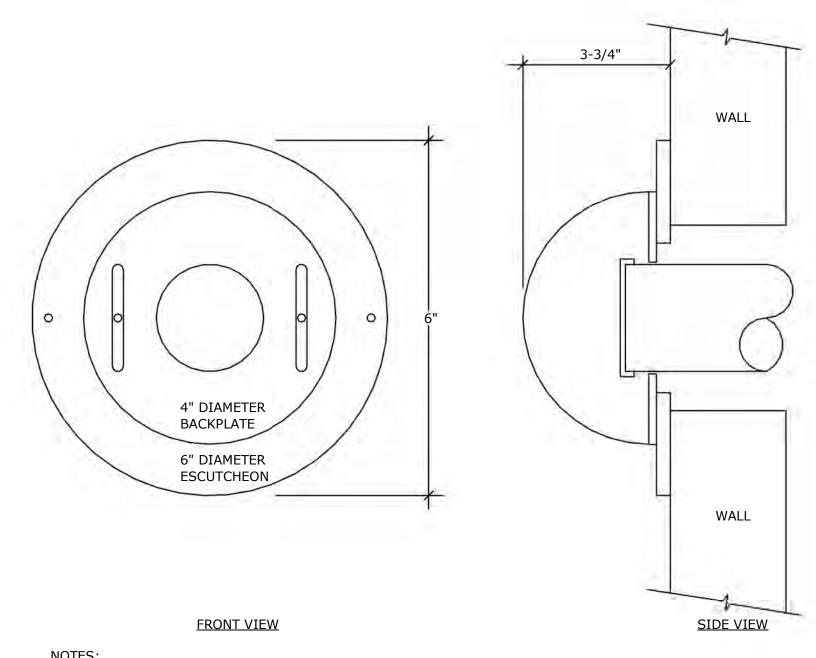


1. COORDINATE SAMPLING TUBE LENGTH AND DUCTWORK SHAPE. 2. PROVIDE CONTROL WIRING FROM DUCT SMOKE DETECTOR RELAYS LOCATED NEAR ALL ASSOCIATED SMOKE DAMPERS AND HVAC EQUIPMENT TO FANS, DAMPER MOTORS, AND HVAC EQUIPMENT SHUTDOWN CONTROL INPUTS.

PROVIDE/INSTALL ALL NECESSARY 24V CONTROL POWER, RELAYS, WIRING, AND CONDUIT. 4. PROVIDE AND INSTALL DUCT SMOKE DETECTOR REMOTE INDICATOR LIGHT/AUDIBLE DEVICE FLUSH IN CEILING OR

WALL, MOUNTED NEAR ASSOCIATED DUCT SMOKE DETECTOR. REFER TO CONTROLS DRAWINGS FOR SHUTDOWN SEQUENCES. 6. PROVIDE DUCT MOUNTED ACCESS DOOR.

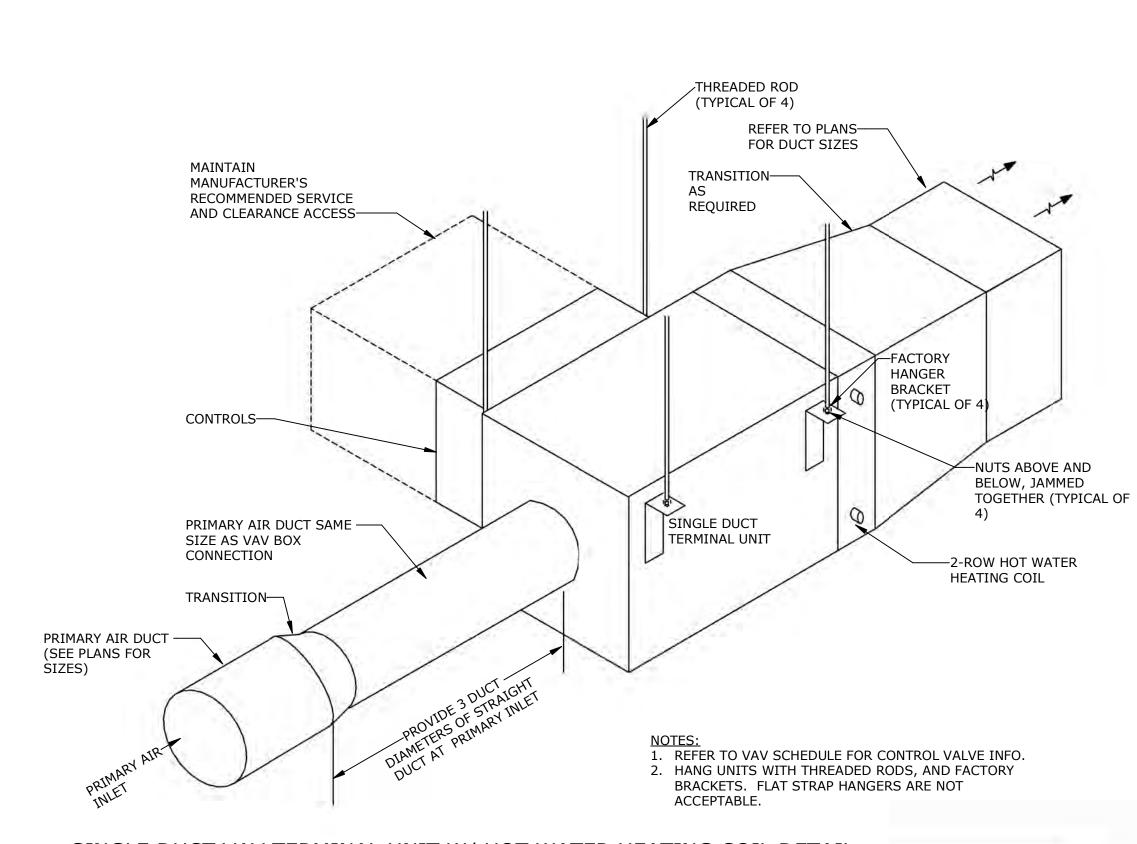
VERTICAL COMBINATION FIRE/SMOKE DAMPER DETAIL



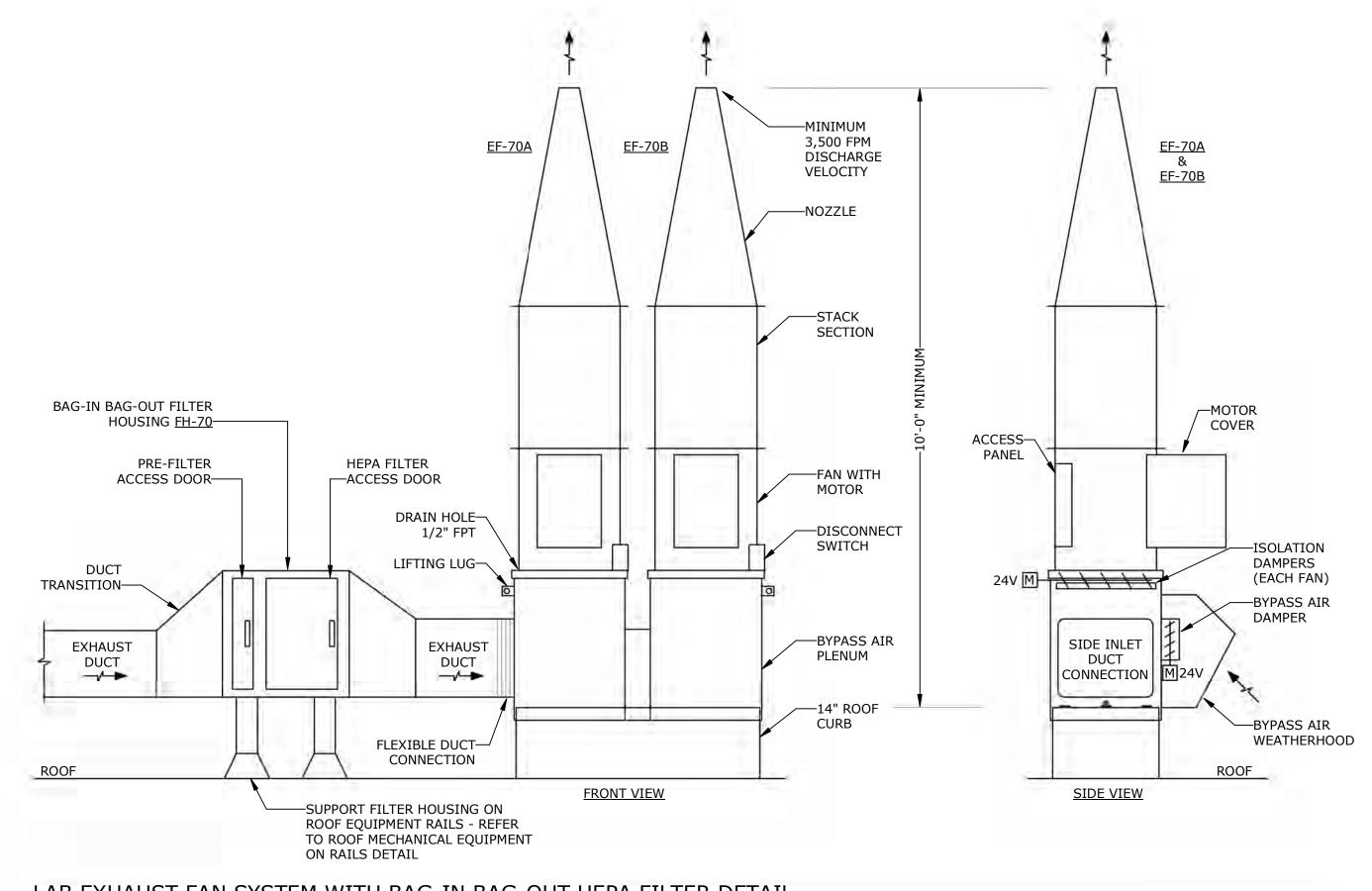
1. BASIS OF DESIGN IS AIRFLOW DIRECTION INCORPORATED (OR EQUAL) MODEL ADI-69-V-N (RED NEGATIVE PRESSURE INDICATOR). PROVIDE A NEGATIVE (RED) PRESSURE INDICATOR AS SHOWN ON THE ISOLATION

ROOM CHEMATIC, CONTROLS, AND BALANCING ON M-501. 2. UNIT IS INSTALLED THROUGH WALL - LOCATE WHERE NO MECHANICAL SERVICES, ELECTRICAL SERVICES, OR STUDS EXIST IN WALL. ALLOW 6" O.D. WALL CLEARANCE FOR MOUNTING OF 6" O.D. ESCUTCHEON PLATE. SIZE OF WALL-HOLE DEPENDS ON WALL. MOUNTING PER SIDE: (2) S.S. SCREWS & 1/4" PLASTIC ANCHORS SUPPLIED BY MANUFACTURER. DOME & TUBE MATERIAL SHALL BE CLEAR POLYCARBONATE

BALL-IN-THE-WALL VISUAL PRESSURE INDICATOR DETAIL SCALE: N.T.S.



SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER HEATING COIL DETAIL SCALE: N.T.S.



LAB EXHAUST FAN SYSTEM WITH BAG-IN BAG-OUT HEPA FILTER DETAIL SCALE: N.T.S.

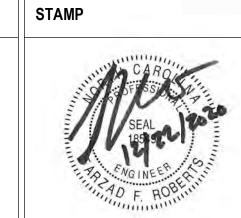
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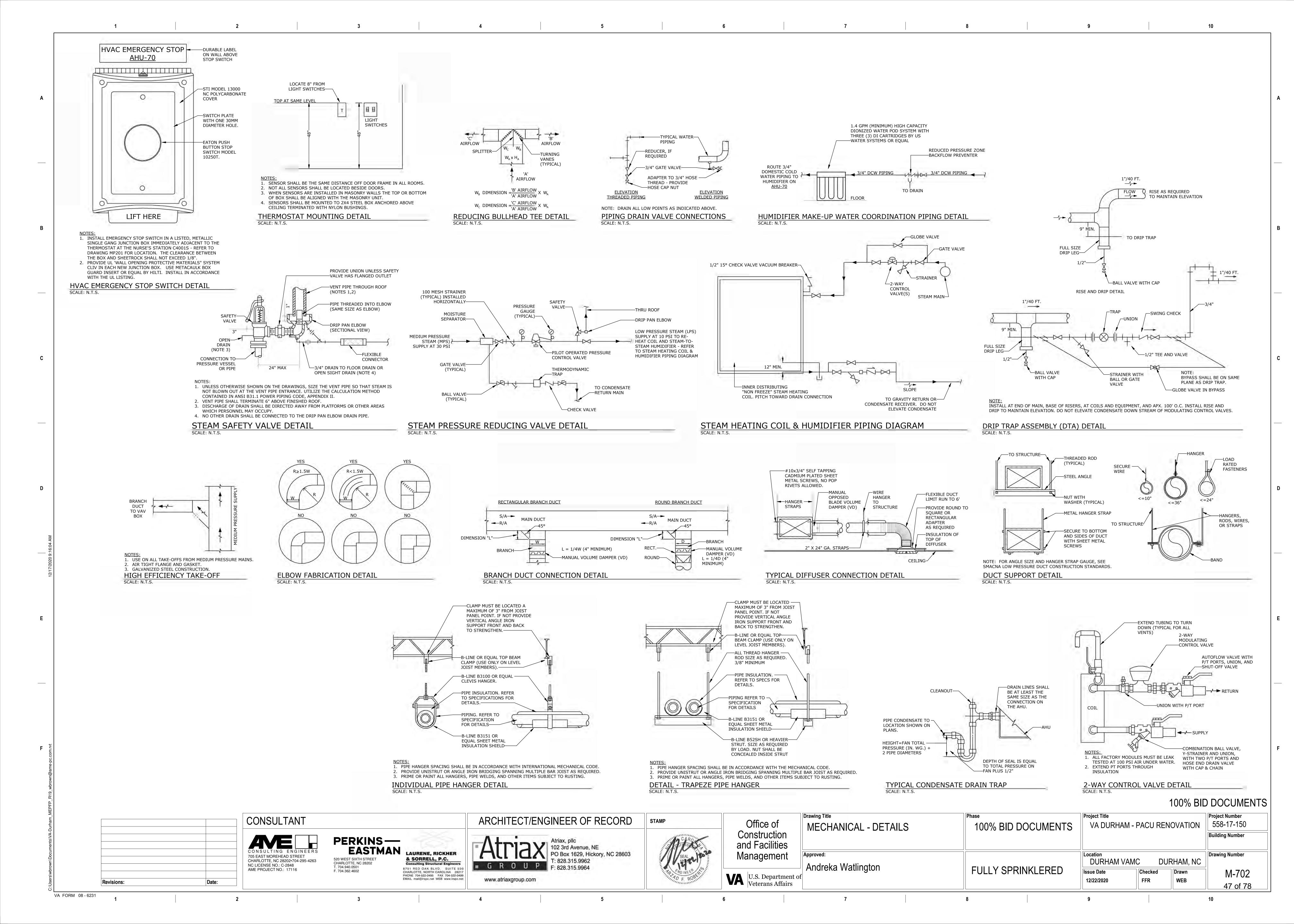
Office of Construction and Facilities Management

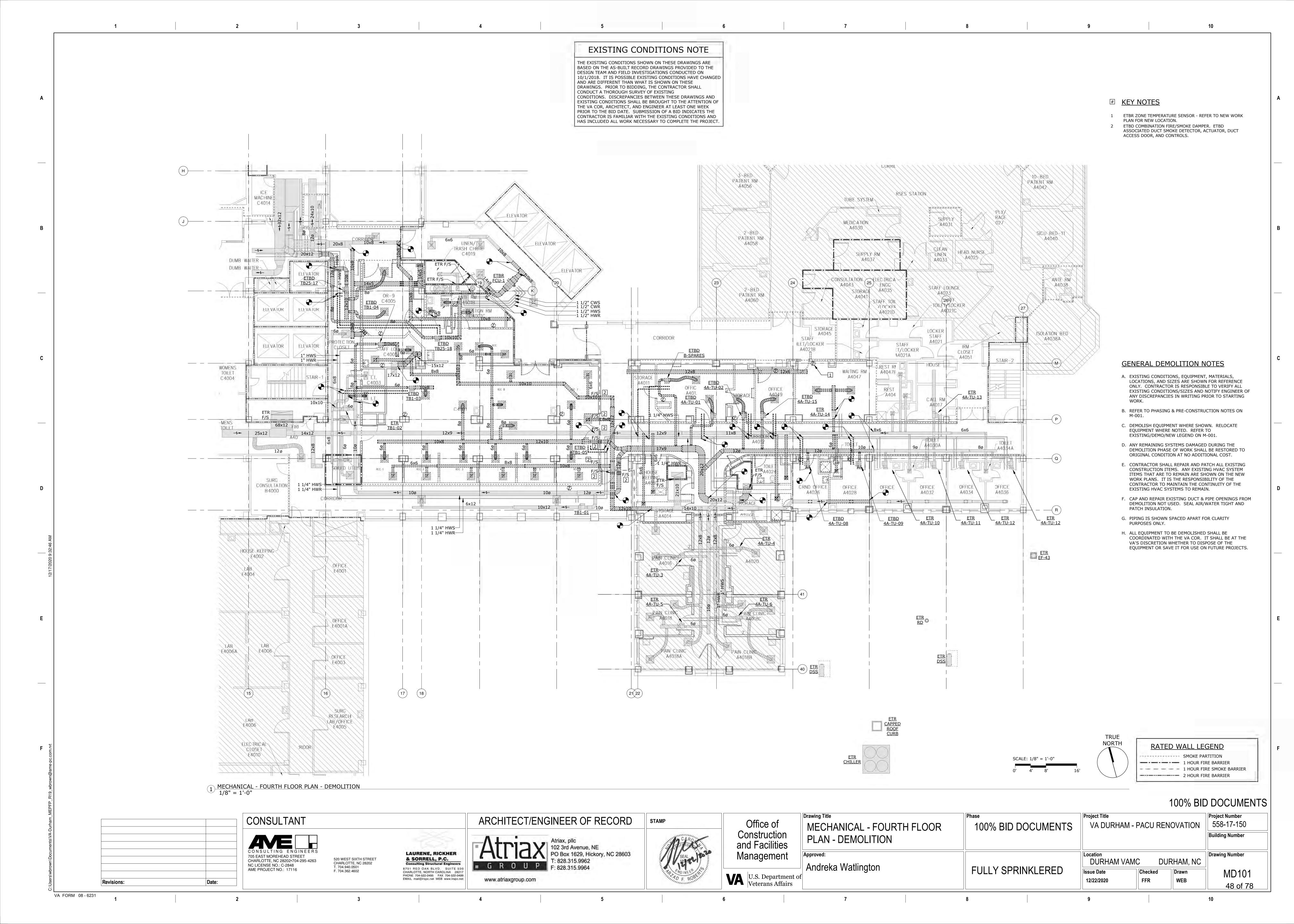
U.S. Department of Veterans Affairs

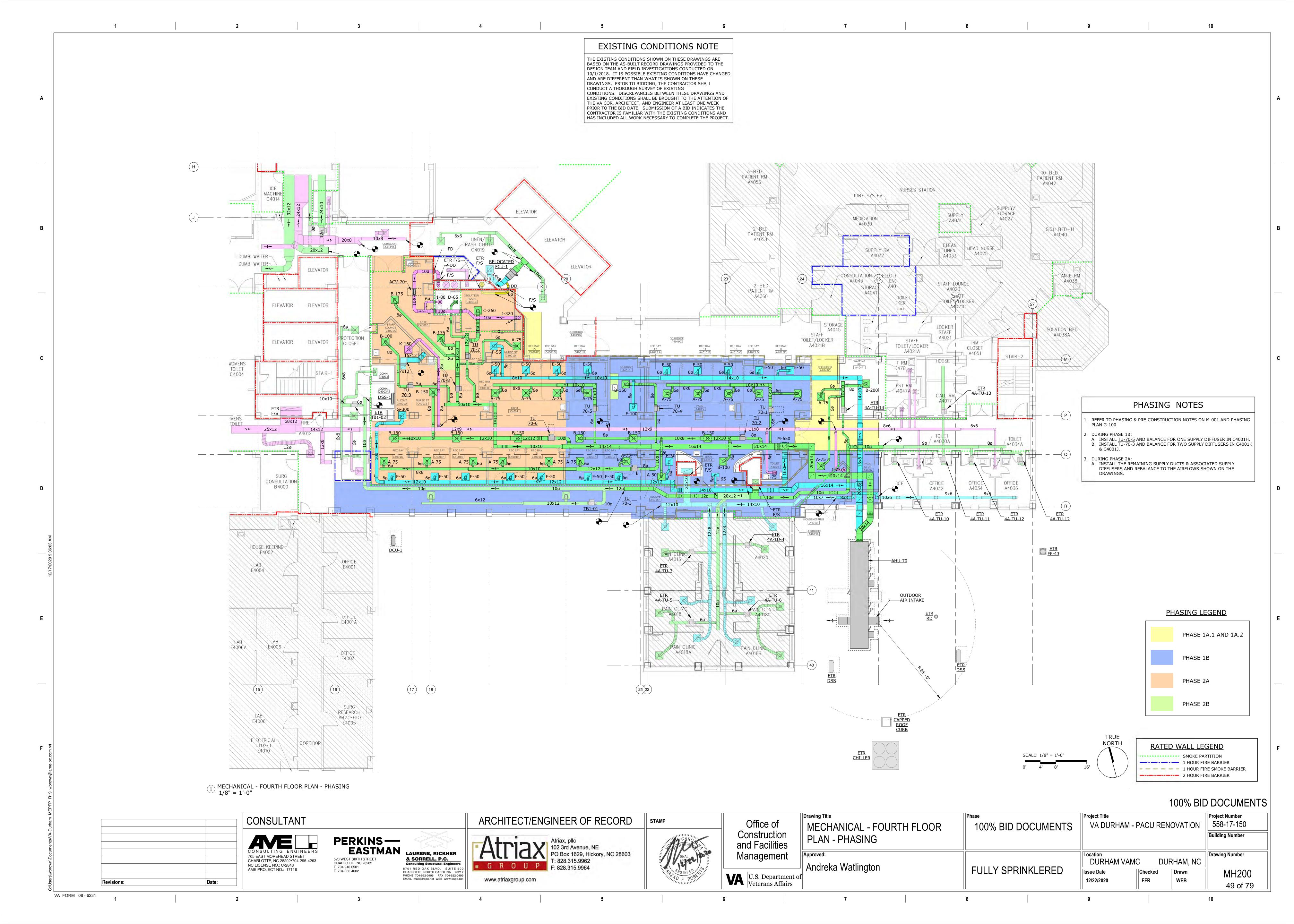
Drawing Title **Project Title** Project Number 558-17-150 VA DURHAM - PACU RENOVATION MECHANICAL - DETAILS 100% BID DOCUMENTS **Building Number** Drawing Number DURHAM, NC **DURHAM VAMC** Andreka Watlington FULLY SPRINKLERED M-701 **Issue Date** Checked Drawn FFR WEB 46 of 78

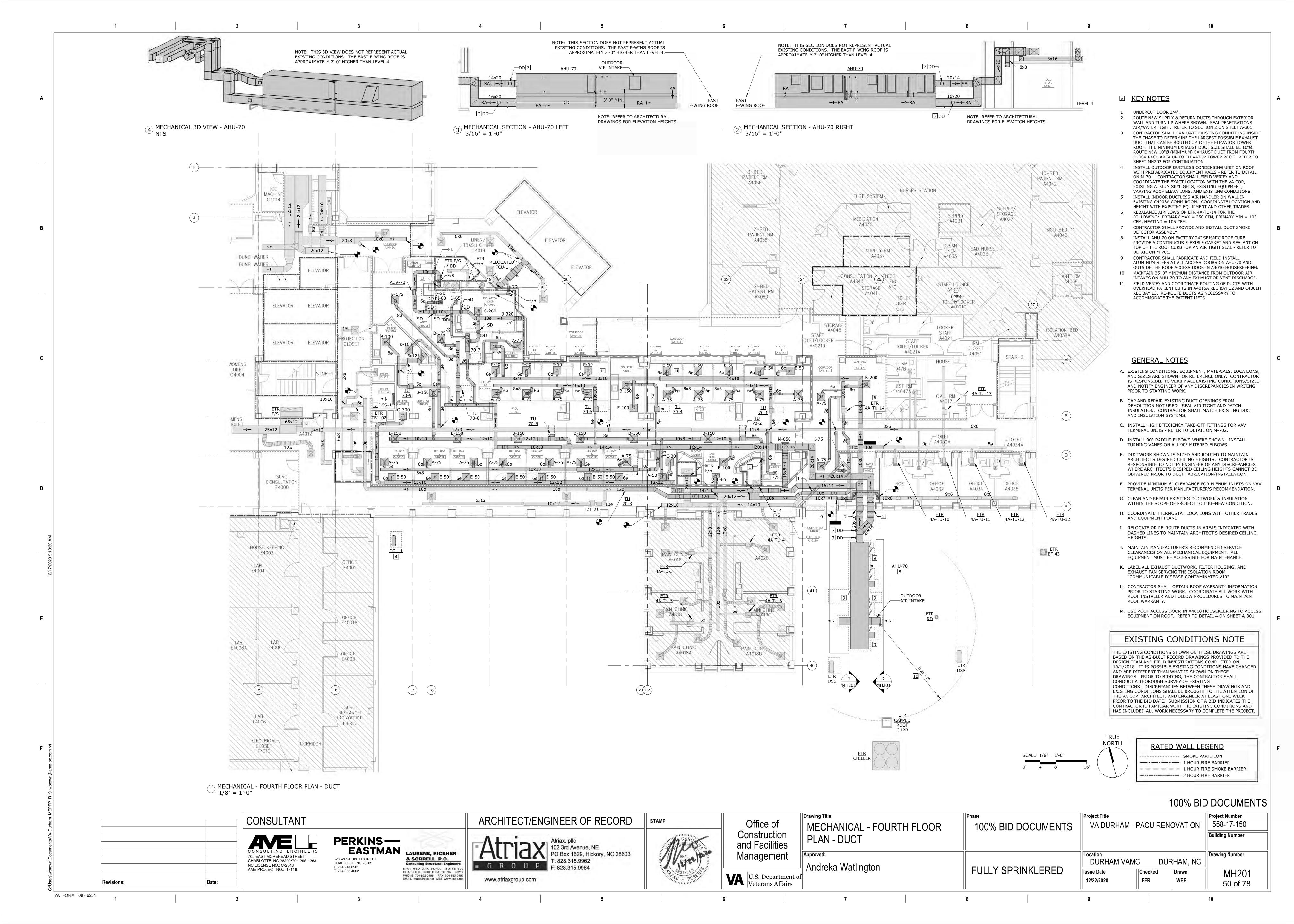
VA FORM 08 - 6231

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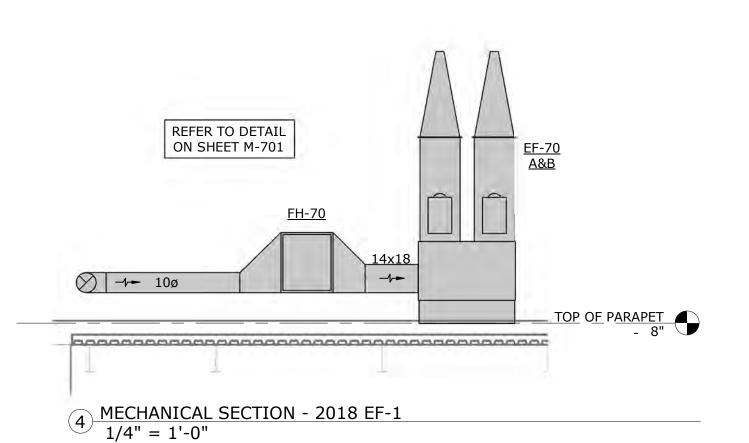


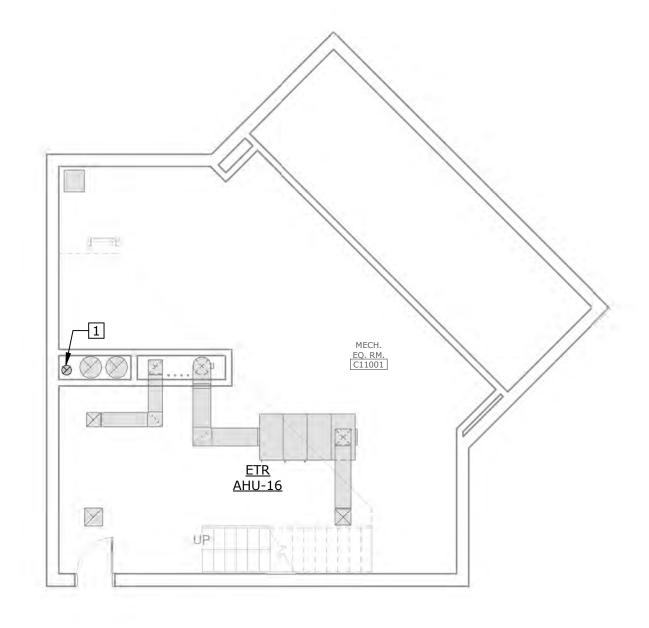


## **EXISTING CONDITIONS NOTE**

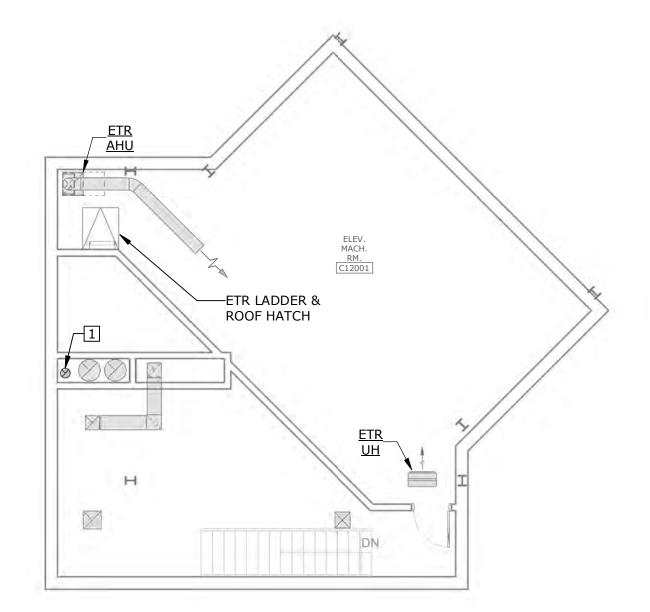
THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON 10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT.

5 MECHANICAL 3D VIEW - ELEVATOR TOWER ROOF NTS

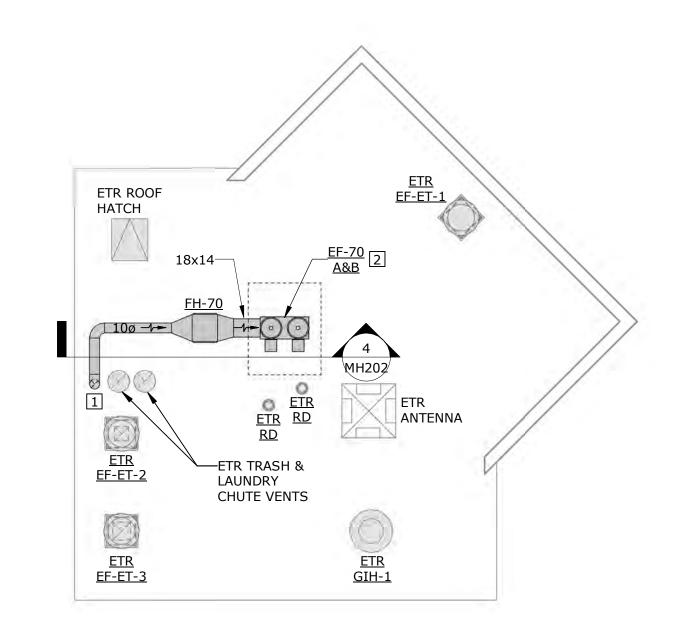




1 MECHANICAL - ELEVATOR TOWER PLAN - MECHANICAL EQUIPMENT ROOM 1/8" = 1'-0"



2 MECHANICAL - ELEVATOR TOWER PLAN - MACHINE ROOM 1/8" = 1'-0"



3 MECHANICAL - ELEVATOR TOWER PLAN - ROOF <sup>1</sup>/<sub>1</sub>/8" = 1'-0"

#### # KEY NOTES

- CONTRACTOR SHALL EVALUATE EXISTING CONDITIONS INSIDE THE CHASE TO DETERMINE THE LARGEST POSSIBLE EXHAUST DUCT THAT CAN BE ROUTED DOWN TO THE FOURTH FLOOR PACU AREA. THE MINIMUM EXHAUST DUCT SIZE SHALL BE 10"Ø. IT IS INTENDED TO ROUTE A LARGER EXHAUST RISER DUCT (IF POSSIBLE) FOR FUTURE ISOLATION EXHAUST FROM OTHER FLOORS. ROUTE NEW 10"Ø (MINIMUM) EXHAUST DUCT FROM EF-70 A&B DOWN CHASE TO FOURTH FLOOR PACU AREA - REFER TO SHEET MH201 FOR CONTINUATION.
- FIELD VERIFY AND COORDINATE EXACT LOCATION OF EF-70 A&B TO MAINTAIN A MINIMUM 25'-0" DISTANCE FROM THE EXHAUST STACK DISCHARGE TO THE OUTDOOR AIR INTAKE ON ETR GIH-1.

## **GENERAL NOTES**

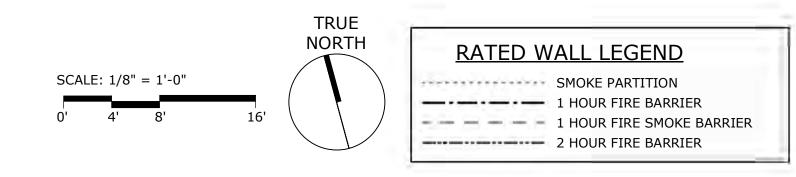
- A. EXISTING CONDITIONS, EQUIPMENT, MATERIALS, LOCATIONS, AND SIZES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONDITIONS/SIZES AND NOTIFY ENGINEER OF ANY DISCREPANCIES IN WRITING PRIOR TO STARTING
- B. CAP AND REPAIR EXISTING DUCT OPENINGS FROM DEMOLITION NOT USED. SEAL AIR TIGHT AND PATCH INSULATION. CONTRACTOR SHALL MATCH EXISTING DUCT AND INSULATION SYSTEMS.
- C. INSTALL 90° RADIUS ELBOWS WHERE SHOWN. INSTALL TURNING VANES ON ALL 90° MITERED ELBOWS.
- D. DUCTWORK SHOWN IS SIZED AND ROUTED TO MAINTAIN ARCHITECT'S DESIRED CEILING HEIGHTS. CONTRACTOR IS RESPONSIBLE TO NOTIFY ENGINEER OF ANY DISCREPANCIES WHERE ARCHITECT'S DESIRED CEILING HEIGHTS CANNOT BE OBTAINED PRIOR TO DUCT FABRICATION/INSTALLATION.
- E. PROVIDE MINIMUM 6" CLEARANCE FOR PLENUM INLETS ON VAV TERMINAL UNITS PER MANUFACTURER'S RECOMMENDATION.
- F. CLEAN AND REPAIR EXISTING DUCTWORK & INSULATION WITHIN THE SCOPE OF PROJECT TO LIKE-NEW CONDITION.
- G. RELOCATE OR RE-ROUTE DUCTS IN AREAS INDICATED WITH DASHED LINES TO MAINTAIN ARCHITECT'S DESIRED CEILING HEIGHTS.

INFORMATION PRIOR TO STARTING WORK. COORDINATE

ALL WORK WITH ROOF INSTALLER AND FOLLOW PROCEDURES TO MAINTAIN ROOF WARRANTY. I. MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES ON ALL MECHANICAL EQUIPMENT. ALL

H. CONTRACTOR SHALL OBTAIN ROOF WARRANTY

- EQUIPMENT MUST BE ACCESSIBLE FOR MAINTENANCE.
- J. INSTALL DUCTWORK ON ROOF SUPPORTS REFER TO DETAIL ON M-701.
- K. LABEL ALL EXHAUST DUCTWORK, FILTER HOUSING, AND EXHAUST FAN SERVING THE ISOLATION ROOM "COMMUNICABLE DISEASE CONTAMINATED AIR"



## 100% BID DOCUMENTS

VA FORM 08 - 6231

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PERKINS—
EASTMAN
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Consulting Structural Engineers

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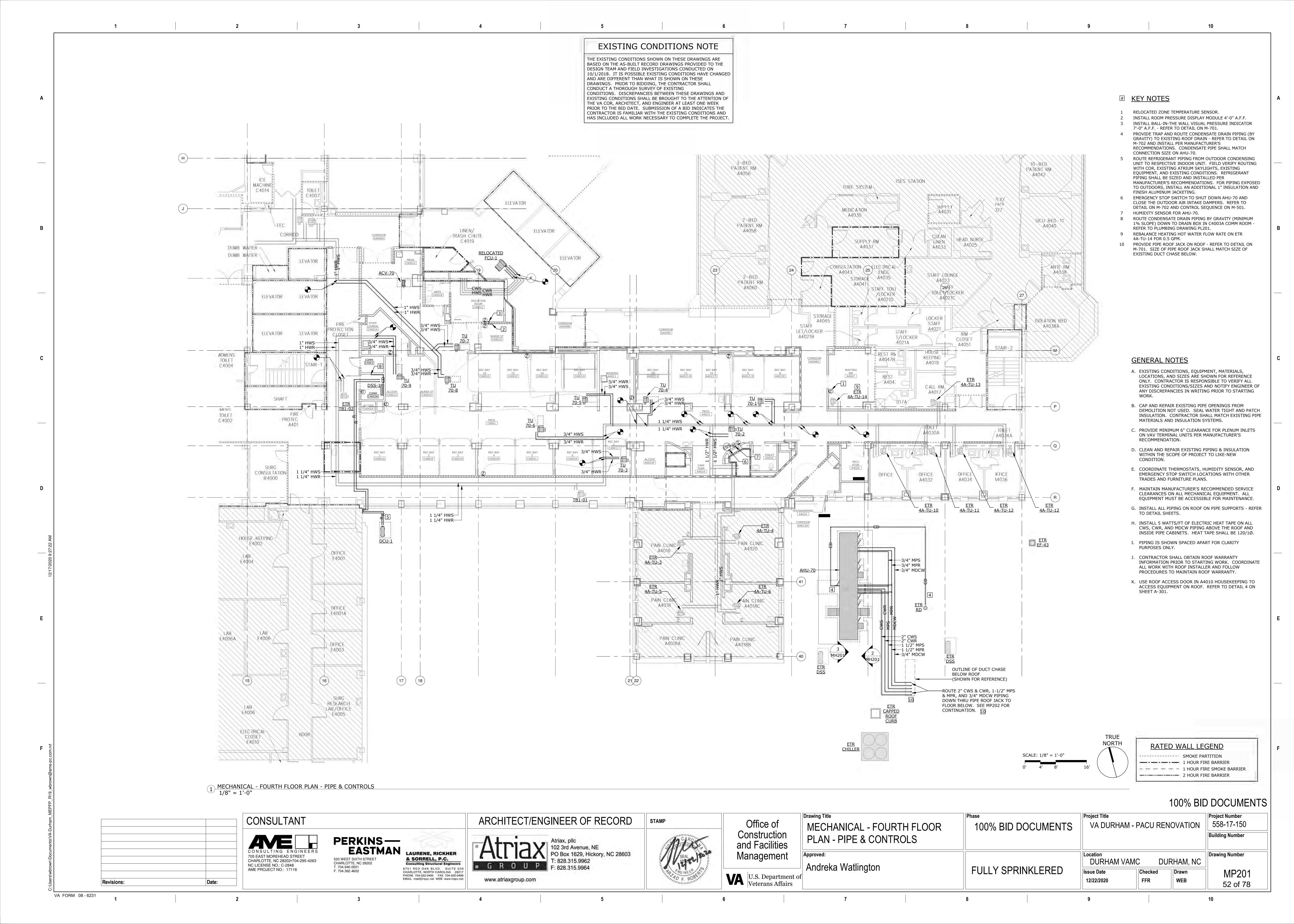


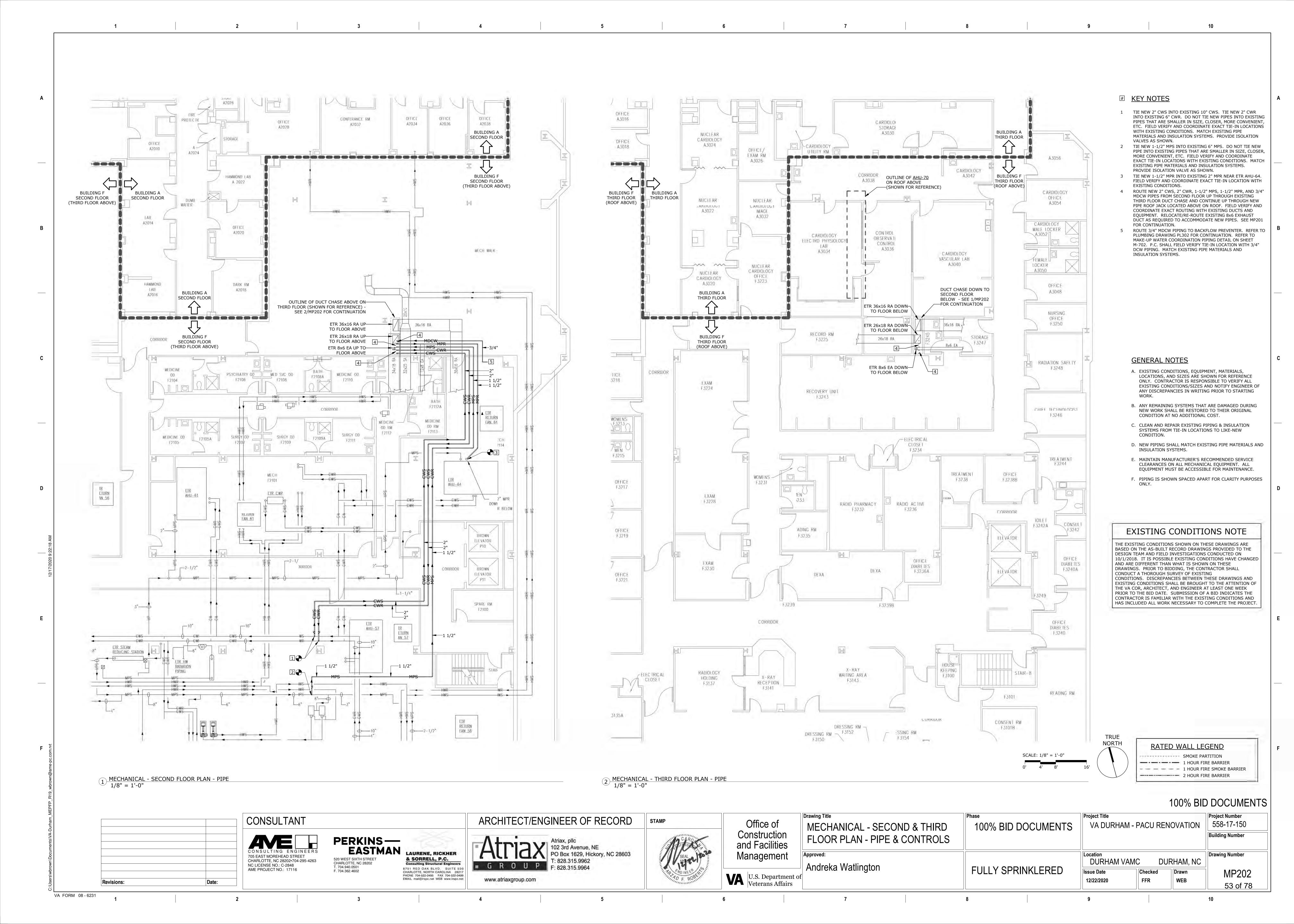
Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

PLAN - DUCT Andreka Watlington

Drawing Title Project Number Project Title 558-17-150 VA DURHAM - PACU RENOVATION MECHANICAL - ELEVATOR TOWER 100% BID DOCUMENTS **Building Number Drawing Number** Location **DURHAM VAMC** DURHAM, NC FULLY SPRINKLERED Checked MH202 Drawn FFR WEB 51 of 78





				PLU	JMBINC	FIXTUR	E SCHEDUI	_E		
			CONNECT	ION SIZES						
MARK	DESCRIPTION	WASTE	VENT	CW	HW	MANUFACTURER	MODEL	TRIM	MOUNTING	NOTES
P-1	CLINICAL SINK	3"	2"	1 1/4"	-	KOHLER	K-12867	SLOAN ROYAL 117	WALL	
P-3	WALL HUNG LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"	AMERICAN STANDARD	0355.012	T&S BRASS EC-3130-XP-F10	WALL	1,2,3
P-6	SINGLE BOWL, STAINLESS STEEL SINK	1-1/2"	1-1/2"	1/2"	1/2"	ELKAY	LRAD 2219	T&S BRASS EC-3107-7XF1THG	COUNTER	1,2,3
P-8	ICE MAKER DRAIN BOX			-	-	SIOUX CHIEF	OX BOX 696	-	WALL	4
P-9	24"X36" TERRAZZO	3"	2"	1/2"	1/2"	ACORN	TSH-3624	T&S BRASS B-0665-BSTR	FLOOR	5

**FAUCETS** 

CLEANOUTS

WATER SUPPLY BOX

BEACON MEDAES

- 1. FIXTURE TO BE ADA/ABA COMPLIANT. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND MOUNTING HEIGHTS OF FIXTURES. . PROVIDE WITH GRID DRAIN, CHROME TRAP WITH CLEANOUT AND CHROME SUPPLIES WITH 1/4 TURN STOPS.
- . PROVIDE WITH OFFSET TAILPIECE, GRID DRAIN, CHROME TRAP WITH CLEANOUT, CHROME SUPPLIES WITH 1/4 TURN STOPS AND TRU-BRO OR EQUAL
- INSULATION KIT ON WASTE AND SUPPLIES.
- . MOUNT BEHIND EQUIPMENT ABOVE COUNTER. SEE DETAIL 3, P-701. . PROVIDE EMERGENCY EYEWASH/DRENCH HOSE EQUAL TO GUARDIAN G5026. PROVIDE G6020 THERMOSTATIC MIXING VALVE.

ACCEP <sup>-</sup>	TABLE MANUFACTURERS	
SPECIFIED PRODUCT	ACCEPTED MANUFACTURERS	
CLINICAL SINK, LAVATORY STAINLESS STEEL SINKS CARRIERS	AMERICAN STANDARD, KOHLER, TOTO ELKAY, JUST JOSAM, SMITH, WADE, ZURN	

CHICAGO, KOHLER, T&S BRASS

GUY GRAY, SIOUX CHIEF

JOSAM, SMITH, WADE, ZURN, MIFAB

	MEDICAL GAS EQUIPMENT								
EQUIPMENT	MFG. & MODEL	REMARKS							
MEDICAL GAS OR VACUUM WALL OUTLETS	HIL-ROM CONTOUR COMPATIBLE	REFER TO ARCHITECTURAL ELEVATIONS ON SHEET A-301 AND A-401 FOR MOUNTING HEIGHTS AND HEADWALL INFORMATION. ALL MEDICAL GAS VACUUM CONNECTIONS ARE TO BE DISS STYLE. COORDINATE INSTALLATION OF MEDICAL GAS PIPING TO HEADWALL ASSEMBLY							
VACUUM SLIDE ASSEMBLY	HIL-ROM	REFER TO ARCHITECTURAL ELEVATIONS ON SHEET A-301 AND A-401 FOR MOUNTING HEIGHTS							
MEDICAL GAS ZONE VALVES AND BOX	HIL-ROM WITH SENSOR PROVISION	MOUNTING HEIGHT AT 5'-6" TO TOP OF BOX. PROVIDE VALVES WITH GAUGES.							
ACCEPTED EQUALS - ALLIED-CHEMETRON	CONTRACTOR SHALL BE R	ESPONSIBLE FOR PROVIDING THE MODEL WHICH MOST CLOSELY							

VENDOR FOR INSTALLATION AT VA MEDICAL CENTER.

RESEMBLES AND PERFORMS EQUAL TO THE SPECIFIED PRODUCT AND IS AN APPROVED

	CONNECTION	ON MATRIX		
ROOM #	OXYGEN	VACUUM	MEDICAL AIR	
REC BAY 1	•		1.540	
REC BAY 2	, <b>W</b> 1	C.	I Eg <b>å</b> a	
REC BAY 3	7.	10	•	
REC BAY 4		•	=_14/	
REC BAY 5	1.9	•	•	
REC BAY 6		•		
REC BAY 7	i (∳rmi			
REC BAY 8	1 al 90		•	
REC BAY 9			-	
REC BAY 10	L V • E			
REC BAY 11	H KADI	•	-,-,-	
REC BAY 12	D∳π İ		1000	
REC BAY 13	10,000		110	
REC BAY 14	T.			
REC BAY 15			1.6	
REC BAY 16	1.1		- 1,60	

#### SEISMIC AND WIND REQUIREMENTS FOR PLUMBING SYSTEMS

- A. PER 2015 INTERNATIONAL BUILDING CODE, MECHANICAL EQUIPMENT AND COMPONENTS, INCLUDING THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED FOR SEISMIC FORCES IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7-10.
- EXTERIOR EQUIPMENT (INCLUDING ROOF CURBS AND ROOF RAILS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH CHAPTERS 26 THROUGH 29 OF ASCE 7-10. WHERE DESIGN FOR SEISMIC AND WIND LOADS IS REQUIRED, THE MORE DEMANDING FORCE MUST BE USED. REFERENCE THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN CATEGORY, WIND SPEED,

INFORMATION FOR IBC-2015 / ASCE 7-10

- USE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH COMPONENT.
- FOR ALL COMPONENTS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL.
- G. WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC ENGINEER. DO NOT POUR ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF APPROVED SEISMIC SUBMITTAL.
- H. SEISMIC RESTRAINTS FOR DUCTWORK, PIPING AND CONDUIT MUST BE SHOWN ON SEISMIC SUBMITTAL LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS.

#### SEISMIC DESIGN CATEGORY C RISK CATEGORY IV

		COMPONENT IMPORT	ANCE FACTOR (lp)
		1.5	_
COMPONEN	Γ IDENTIFICATION	SEISMIC RESTRAINT REQUIREMENT	ASCE 7-10 REFERENCE
ROOF	MOUNTED	RESTRAIN ALL	13.1.4.5
FLOOR	MOUNTED	RESTRAIN ALL	13.1.4.5
WALL	MOUNTED	RESTRAIN ALL	13.1.4.5
COMPONE	NT SUPPORTS	RESTRAIN ALL	13.6.5
SUSPENDED EQUIPMENT	INLINE W/ PIPE	RESTRAIN IF >75 LBS PROVIDE FLEX. CONN. (SEE NOTE 1)	13.6.7
	NOT INLINE W/ PIPE	RESTRAIN ALL	13.1.4.5
	DUCTILE PIPING L, CU, ETC.)	RESTRAIN IF>2" (SEE NOTE 2)	13.6.8.3.3.a
	ON DUCTILE PIPING LASTIC, CERAMIC)	RESTRAIN ALL (SEE NOTE 2)	13.6.8.3.3
SUSPENDED P	IPE ON TRAPEZE	RESTRAIN IF ANY PIPE ON TRAPEZE >2" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE >10 LBS/FT (SEE NOTE 2)	13.6.8.3.1
COMPONEN	T CERTIFICATION	REQUIRED (SEE NOTE 4)	13.2.2

. FLEXIBLE CONNECTIONS REQUIRED FOR PIPE CONNECTIONS ONLY. 2. RESTRAINT IS NOT REQUIRED IF THE PIPING IS SUPPORTED BY HANGERS WHERE EACH HANGER IS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE PIPE OR DUCT TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON A TRAPEZE, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12 INCHES OR LESS. WHERE ROD HANGERS ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS, EYES NUTS OR OTHER DEVICES TO PREVENT BENDING IN

- THE ROD. 3. ALL PIPING, REGARDLESS OF SIZE, DESIGNED TO CARRY TOXIC, HIGHLY TOXIC, OR EXPLOSIVE GASES MUST BE
- 4. COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT THE TIME OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD.

PLUMBING NEV	V/EXISTING LEGEND
DESIGNATION	DESCRIPTION
	NEW WORK
	EXISTING TO REMAIN (ETR)
111111	EXISTING TO BE DEMOLISHED (ETBD)
•	BEGINNING OR END OF NEW WORK OR CONNECT TO EXISTING (CTE)

DESIGNATION	DESCRIPTION
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	SANITARY WASTE PIPE
	SANITARY VENT
MA	MEDICAL AIR
VAC -	MEDICAL VACUUM
02	MEDICAL OXYGEN
N	NITROGEN
N2O -	NITROUS OXIDE
CO2 -	CARBON DIOXIDE
0-	PIPE TURN UP (UP)
C-	PIPE TURN DOWN (DN)
	PIPE DROP OFF BOTTOM OF MAIN PIPE

F	PLUMBING SYMBOL LEGEND		ALL PLUMBING AND PLUMBING MATERIALS SHALL MEET THE REQUIREMED OF THE STATE AND LOCAL PLUMBING CODES. SLOPES AND INVERT ELEVATIONS OF ALL INTERIOR PIPING SHALL BE
N	DESCRIPTION	1	ESTABLISHED BEFORE ANY PIPING IS INSTALLED, IN ORDER THAT PROP SLOPES WILL BE MAINTAINED. ALL PIPING SHALL BE RUN TO AVOID
			CONFLICTS WITH OTHER TRADES.
	HORIZONTAL CLEANOUT (HCO)	3.	COORDINATE WITH ARCHITECTURAL WORKING DRAWINGS BEFORE
_		,	ROUGHING-IN PLUMBING FIXTURES.
	FULL PORT BALL VALVE (BV)	4.	MAKE PROPER HOT AND COLD WATER, WASTE, AND VENT ETC., PIPING CONNECTIONS TO ALL FIXTURES AND EQUIPMENT EVEN THOUGH ALL

## **EXISTING CONDITIONS NOTE**

DESIGNATION

THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON 10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE

CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND

HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT.

#### PLUMBING GENERAL NOTES

UNDERWRITERS LABORATORIES

PLUMBING ABBREVIATIONS

CAST IRON

CARBON DIOXIDE

EXISTING TO REMAIN

GENERAL CONTRACTOR

EXISTING TO BE DEMOLISHED

COLD WATER

FINISH FLOOR

HOT WATER

INVERT ELEVATION

COPPER

DEGREE

FEET

HOUR

INCH

LAVATORY

MAXIMUM MEDICAL AIR

MINIMUM

ON CENTER

SQUARE FEET

MEDICAL VACUUM IBC INTERNATIONAL BUILDING CODE

SANITARY

TYPICAL

NITROUS OXIDE

MEDICAL OXYGEN

PLUMBING CONTRACTOR

POUNDS PER SQUARE INCH

NATIONAL SANITATION FOUNDATION

REDUCED PRESSURE ZONE BACKFLOW DEVICE

CU

DEG

HR

HW I.E.

LAV

MAX

MIN

N20

02

PSI

ARCHITECTURAL BARRIERS ACT

AMERICANS WITH DISABILITIES ACT

AMERICAN SOCIETY OF CIVIL ENGINEERS

AMERICAN SOCIETY FOR TESTING & MATERIALS

- LL PLUMBING AND PLUMBING MATERIALS SHALL MEET THE REQUIREMENTS F THE STATE AND LOCAL PLUMBING CODES. LOPES AND INVERT ELEVATIONS OF ALL INTERIOR PIPING SHALL BE STABLISHED BEFORE ANY PIPING IS INSTALLED, IN ORDER THAT PROPER
- CONFLICTS WITH OTHER TRADES. COORDINATE WITH ARCHITECTURAL WORKING DRAWINGS BEFORE
- OUGHING-IN PLUMBING FIXTURES. IAKE PROPER HOT AND COLD WATER, WASTE, AND VENT ETC., PIPING CONNECTIONS TO ALL FIXTURES AND EQUIPMENT EVEN THOUGH ALL BRANCHES, FITTINGS AND CONNECTIONS MAY NOT BE SHOWN.
- COORDINATE LOCATION OF ALL EQUIPMENT, FIXTURES AND PIPING WITH STRUCTURAL AND ALL OTHER TRADES. PIPING RUN ABOVE CEILING SHALL BE RUN AS HIGH AS POSSIBLE.
- ALL OPENINGS IN CEILINGS AND PLENUM WALLS FOR PLUMBING PIPES SHALL BE SEALED AIR TIGHT. ALL SANITARY SEWER AND VENT PIPING SHALL BE CAST IRON NO-HUB WITH
- HEAVY DUTY STAINLESS STEEL CLAMPS.
- 8. THE USE OF DOUBLE "WYE" SANITARY FITTINGS IS PROHIBITED. USE SINGLE "WYE" FITTINGS.
- 9. HORIZONTAL CLEANOUTS SHALL NOT BE INSTALLED ON SANITARY SEWERS. USE FLOOR OR WALL CLEANOUTS ONLY.
- 10. ALL HOT AND COLD WATER PIPING INDICATED TO RUN ABOVE FINISHED CEILINGS OR IN EXTERIOR WALLS SHALL BE INSTALLED ON THE
- CONDITIONED SPACE SIDE OF THE BUILDING INSULATION. 11. SLOPES AND INVERT ELEVATIONS OF EXISTING SEWERS, ETC., SHALL BE ESTABLISHED AND VERIFIED BY PLUMBING CONTRACTOR BEFORE ANY PIPING IS INSTALLED IN ORDER THAT PROPER SLOPES WILL BE MAINTAINED
- AND NECESSARY INVERT ELEVATIONS OBTAINED. 12. IT IS THE INTENTION OF THESE DRAWINGS TO COVER ALL WORK AND MATERIAL FOR A COMPLETE FIRST CLASS INSTALLATION. ANY EQUIPMENT, PLUMBING FIXTURE, TRIM HARDWARE AND/OR DEVICES USUALLY UTILIZED IN THE CLASS OF WORK, THOUGH NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT WHICH MAY BE NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK (AS DETERMINED BY THE ARCHITECT) SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF HIS TOTAL WORK.
- 13. VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT, PIPING, FIXTURES, ETC.
- 14. SEAL AROUND ALL WALL PENETRATIONS AIR TIGHT AT FIRE RATED WALLS
- AND FILL ANY VOIDS WITH APPROVED FIRESTOPPING. 15. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S
- RECOMMENDATIONS AND ALL APPLICABLE LISTING REQUIREMENTS TO PROVIDE MAINTENANCE ACCESS. 16. CONTRACTOR SHALL REPAIR EXISTING INSULATION THAT IS DAMAGED AS A RESULT OF NEW WORK.
- 17. PIPING SHOWN ON THESE DRAWINGS TO BE USED FOR PIPE SIZES AND GENERAL PIPE ROUTING. ACTUAL ROUTING OF PIPING MAY VARY DEPENDING ON FIELD CONDITIONS. PRIOR TO SUBMITTING A BID THE CONTRACTOR SHALL VISIT THE SITE AND OBSERVE THE ACTUAL CONDITIONS THAT AFFECT HIS WORK. THE COST OF ANY ADDITIONAL PIPE, FITTINGS, OFFSETS, ETC. SHALL BE INCLUDED IN HIS PRICE. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR FAILURE TO DO SO. 18. ALL PIPING, FITTINGS, VALVES, ETC. USED IN DOMESTIC WATER SYSTEMS
- SHALL BE NSF 61 CERTIFIED. 19. CONTRACTOR IS CAUTIONED THAT THE TENANT SPACES BELOW ON THE THIRD FLOOR ARE OCCUPIED. CONTRACTOR MUST COORDINATE WITH THE OWNER FOR DEMOLITION OF EXISTING AND INSTALLATION OF NEW BELOW FLOOR SANITARY SEWERS. THIS WORK MUST BE PERFORMED AFTER NORMAL BUSINESS HOURS.
- 20. CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND REINSTALL THE THIRD FLOOR CEILINGS AS REQUIRED FOR DEMOLITION AND TO INSTALL NEW WORK. THIS SHALL BE DONE AT THE END OF EACH WORK DAY. ANY CEILING TILES THAT ARE DAMAGED SHALL BE REPLACED BY THIS CONTRACTOR AT NO EXPENSE TO THE OWNER. CONTRACTOR SHALL VACUUM CLEAN AREAS OF WORK ON SECOND FLOOR AT END OF EACH
- 21. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING OF EXISTING FLOOR AS REQUIRED TO PERFORM HIS WORK. FLOOR SHALL BE PATCHED TO MATCH EXISTING FLOOR. SEAL ALL PIPE PENETRATIONS WITH APPROVED FIRE CAULKING. COORDINATE CORE DRILLING WITH THE
- 22. CONTRACTOR SHALL NOTIFY BUILDING ENGINEERING OF INTERRUPTION OF DOMESTIC COLD AND HOT WATER, MEDICAL GAS PIPING, AND DWV

SYSTEMS MINIMUM 24 HOURS PRIOR TO COMMENCING WORK.

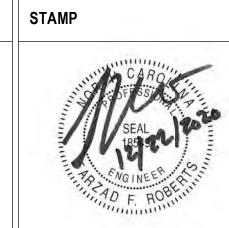
VA FORM 08 - 6231

CONSULTANT 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

PERKINS— EASTMAN LAURENE, RICKHER 520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501 F. 704.362.4602

& SORRELL, P.C. 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 PHONE 704-522-0495 FAX 704-522-0499 EMAIL mail@lrspc.net WEB www.lrspc.net

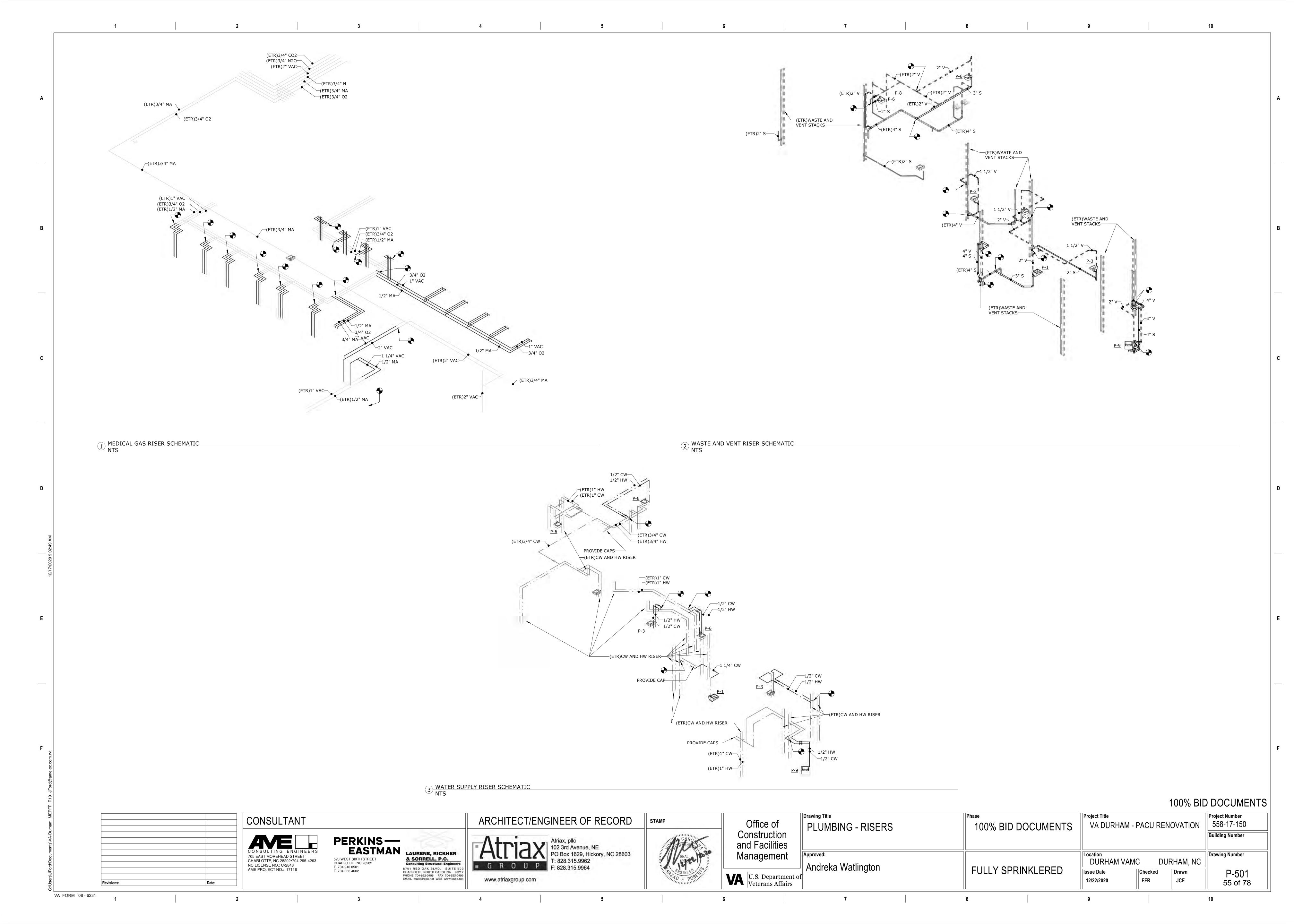
ARCHITECT/ENGINEER OF RECORD PO Box 1629, Hickory, NC 28603 www.atriaxgroup.com



Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

100% BID DOCUMENTS Drawing Title **Project Title Project Number** 558-17-150 VA DURHAM - PACU RENOVATION PLUMBING - GENERAL NOTES, 100% BID DOCUMENTS **Building Number** SCHEDULES AND LEGENDS **Drawing Number** Location **DURHAM VAMC** DURHAM, NC Andreka Watlington **FULLY SPRINKLERED Issue Date** Checked Drawn P-001 FFR JCF 54 of 78



CONSULTANT CONSULTING ENGINEERS 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

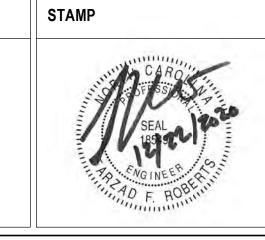
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PERKINS—
EASTMAN
LAURENE, RICKHER
& SORRELL, P.C.
Consulting Structural Engineers

9701 RED OAK BLVD. SUITE 50°
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ARCHITECT/ENGINEER OF RECORD 102 3rd Avenue, NE PO Box 1629, Hickory, NC 28603 www.atriaxgroup.com



Office of Construction and Facilities Management U.S. Department of Veterans Affairs

Drawing Title PLUMBING - DETAILS Approved: Andreka Watlington

Project Title VA DURHAM - PACU RENOVATION 100% BID DOCUMENTS Location DURHAM, NC **DURHAM VAMC** FULLY SPRINKLERED Checked Issue Date Drawn 12/22/2020 FFR JCF

100% BID DOCUMENTS Project Number

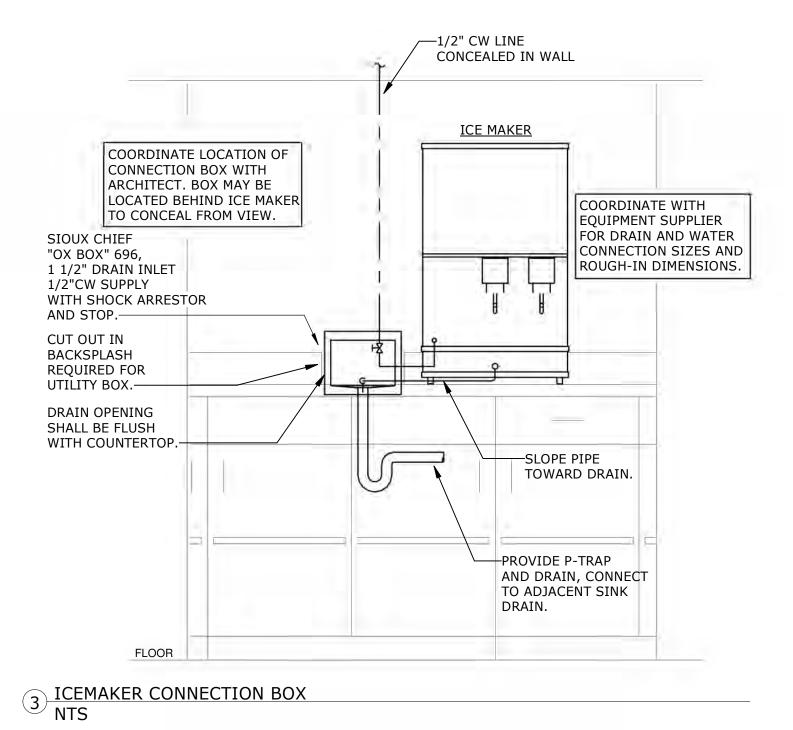
558-17-150

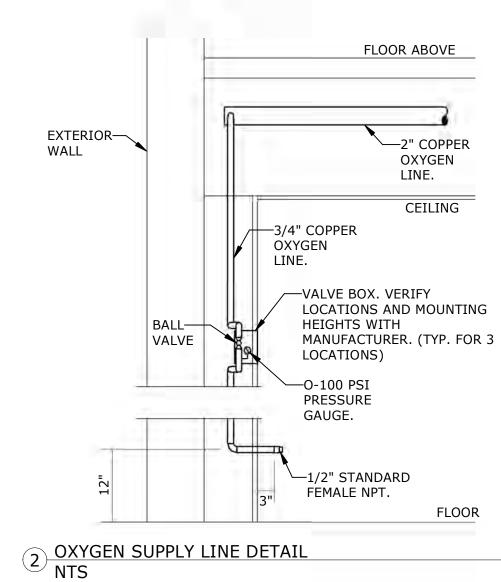
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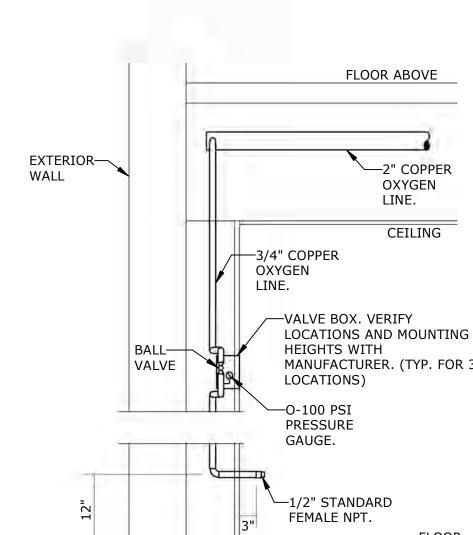
Drawing Number

P-701

56 of 78









MOP HANGER.

-SERVICE FAUCET WITH VACUUM

—EMERGENCY EYEWASH

DRENCH HOSE. MOUNT

-APPLY SILICONE SEALANT

AROUND TOP AND SIDES

OF SINK AND AT WALLS.

SCHEDULE SHEET P-001.

SEE P-9 ON FIXTURE

BREAKER.

AT 42"AFF

—HOSE BRACKET.

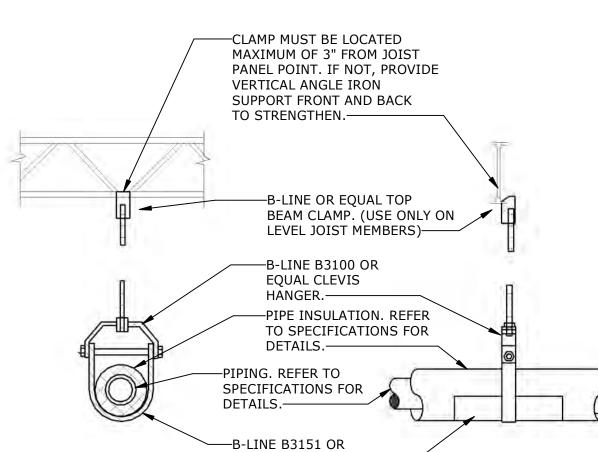
—MOP BASIN

3

4 MOP BASIN AND ACCESSORIES DETAIL NTS

FINISHED FLOOR

\_\_\_\_\_30" HOSE.



NOTES:

1. PIPE HANGER SPACING SHALL BE IN ACCORDANCE WITH 2015 INTERNATIONAL

PLUMBING CODE. 2. PROVIDE UNISTRUT OR ANGLE IRON BRIDGING SPANNING MULTIPLE BAR

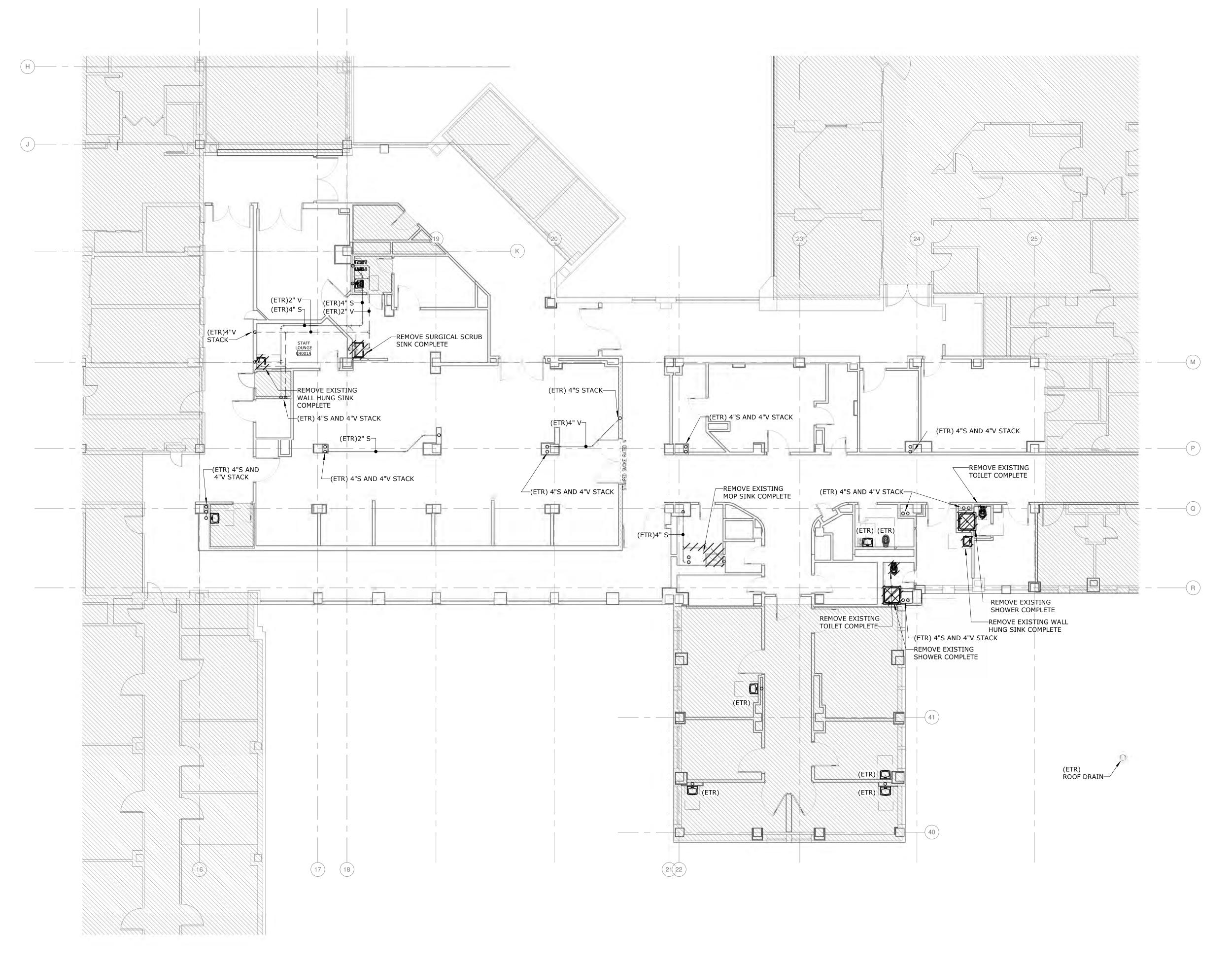
JOISTS AS REQUIRED. 3. PRIME OR PAINT ALL HANGERS, PIPE WELDS, AND OTHER ITEMS SUBJECT

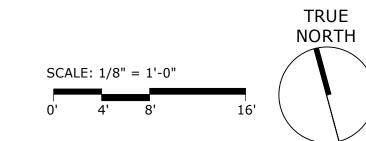
TO RUSTING. 1 INDIVIDUAL PIPE HANGER METAL FRAMING DETAIL NTS

**EQUAL SHEET METAL** INSULATION SHIELD.—



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 $1 \frac{\text{PLUMBING - FOURTH FLOOR PLAN - WASTE AND VENT - DEMOLITION}}{1/8" = 1'-0"}$ 

## 100% BID DOCUMENTS

CONSUL	TANT		ARCHITECT/ENGINEER OF RECORD	STAMP	Office of	PLUMBING - FOURTH FLOOR PLAN -	Phase 100% BID DOCUMENTS	Project Title  VA DURHAM - PACU RENOVATION	Project Number 558-17-15
	PERKINS—		Atriax, pllc 102 3rd Avenue, NE	CARO	Construction and Facilities	WASTE AND VENT - DEMOLITION	10070 BIB BOOGIVIETTO		Building Number
C O N S U L T I N G 705 EAST MOREH! CHARLOTTE, NC 2 NC LICENSE NO.: ( AME PROJECT NO	ENGINEERS  EASTMAN  EAD STREET 8202•704-295-4263 C-2848 :: 17116  EASTMAN  520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501 F. 704.362.4602  EASTMAN  6870 CHARLOTTE, NC 28202 T. 704.940.0501 F. 704.362.4602	AURENE, RICKHER SORRELL, P.C. Consulting Structural Engineers	PO Box 1629, Hickory, NC 28603 T: 828.315.9962 F: 828.315.9964	CARO SEAL 185 97	Management	Andreka Watlington		Location DURHAM VAMC DURHAM, NC	_
sions:  AME PROJECT NO Date:	PHO	ARLOTTE, NORTH CAROLINA 28217 ONE 704-522-0495 FAX 704-522-0499 AIL mail@lrspc.net WEB www.lrspc.net	www.atriaxgroup.com	TO F ROBERTAL	U.S. Department of Veterans Affairs	f	FULLY SPRINKLERED	Issue Date Checked Drawn 12/22/2020 FFR JCF	PD 57 c

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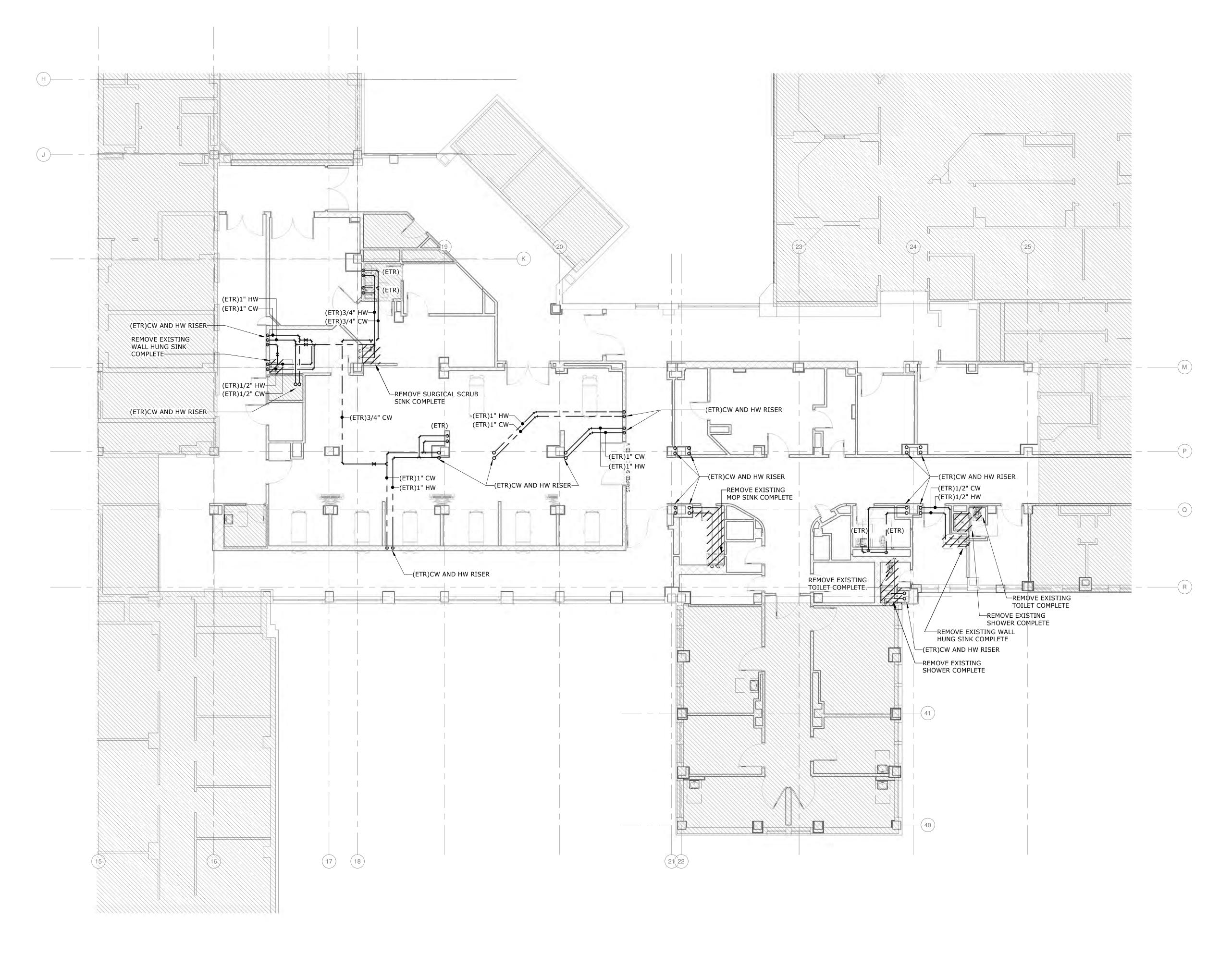
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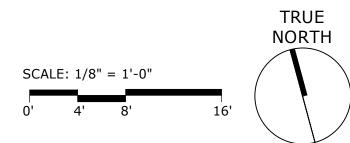
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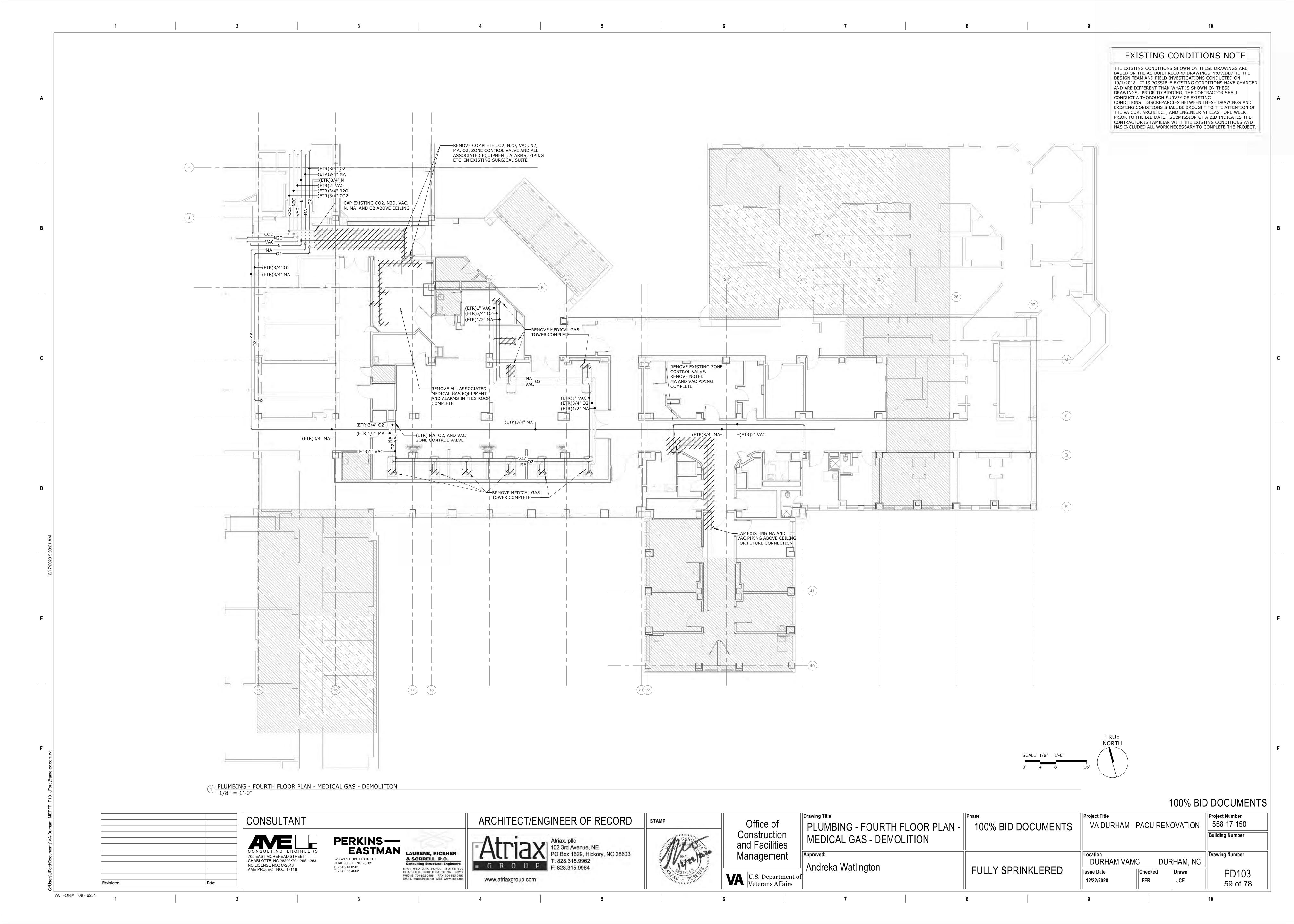


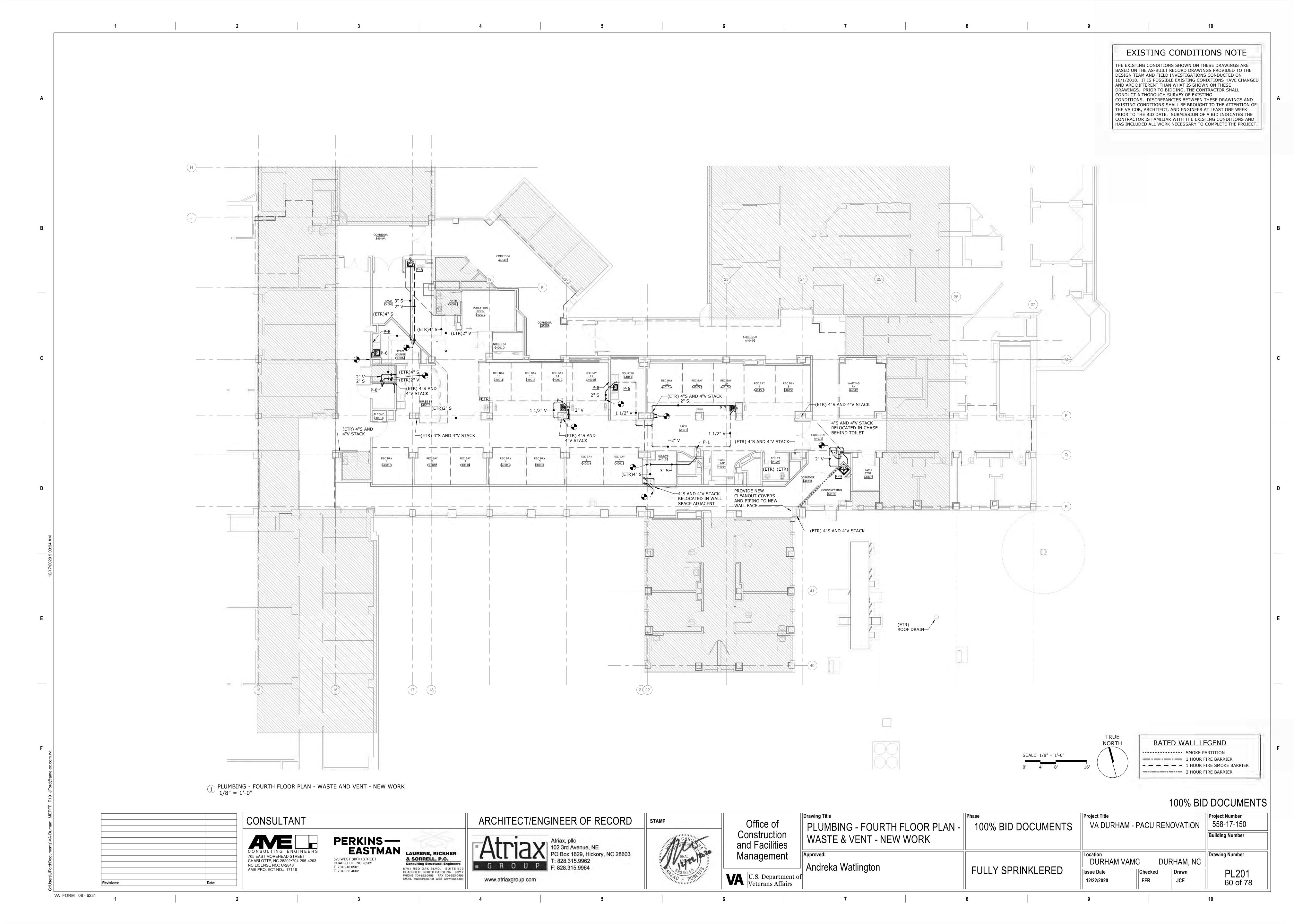
1 PLUMBING - FOURTH FLOOR PLAN - WATER SUPPLY - DEMOLITION 1/8" = 1'-0"

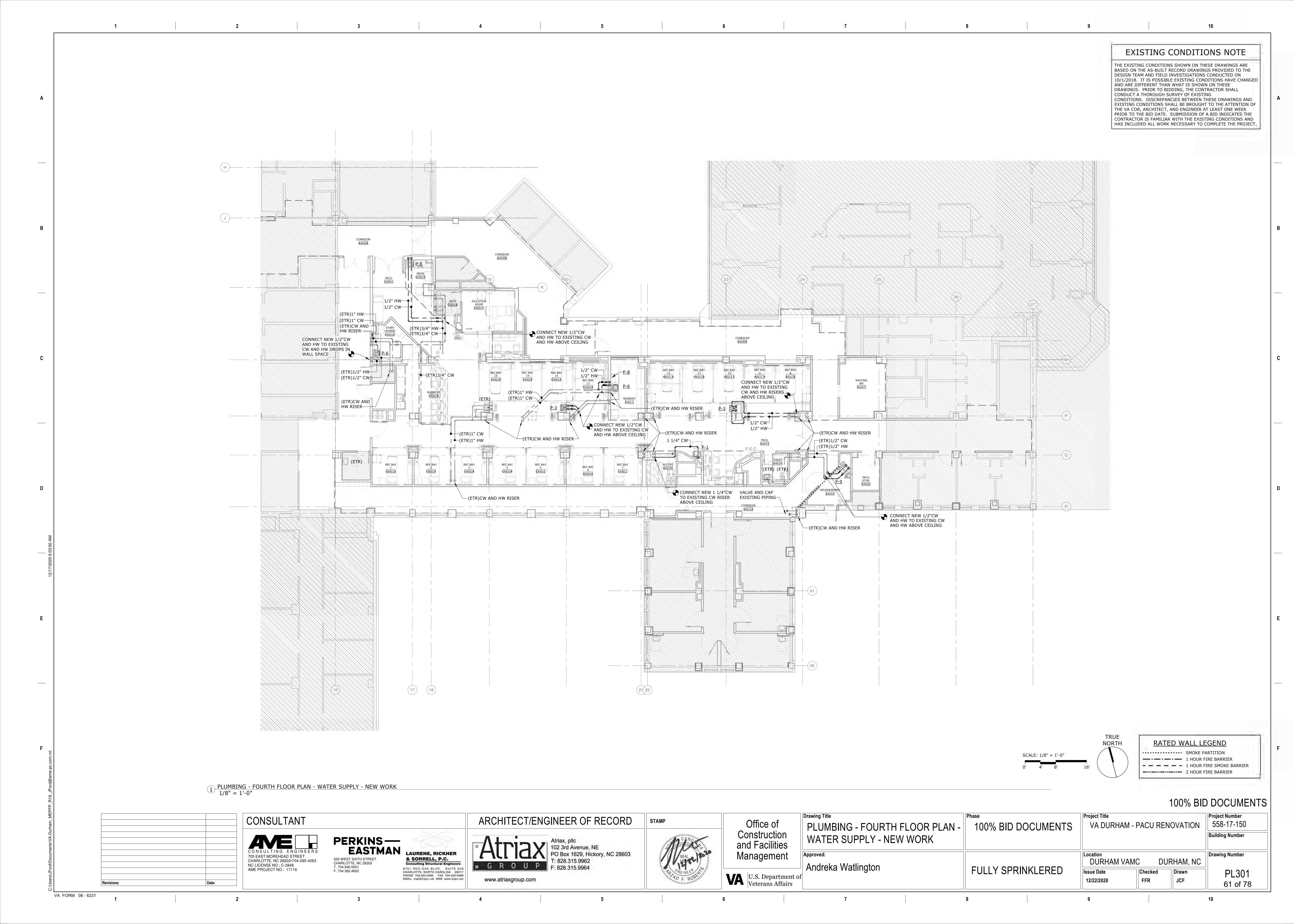
## 100% BID DOCUMENTS

	CONSULTANT		AF	RCHITECT/ENGINEER OF RECORD	STAMP	Office of	PLUMBING - FOURTH FLOOR PLAN -	Phase 100% BID DOCUMENTS	Project Title  VA DURHAM - PACU RENOVATION  OF THE PROJECT TITLE OF THE	Project Number N 558-17-150
	AVEL	PERKINS—		Atriax, pllc	CARO	Construction and Facilities	WATER SUPPLY - DEMOLITION	10070 BIB BOOOMENTO		Building Number
	CONSULTING ENGINEERS 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116	EASTMAN  520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501 F. 704.362.4602  LAURENE, & SORREL Consulting Str		PO Box 1629, Hickory, NC 28603 T: 828.315.9962	CARO SEAL 185	Management	Approved:		Location DURHAM VAMC DURHAM, N	Drawing Numbe
Pavisions:	AME PROJECT NO.: 17116	F. 704.362.4602 8701 RED OAK PHONE 704-522-049 EMAIL mail@lrspc.r	BLVD. SUITE 500 TH CAROLINA 28217 95 FAX 704-522-0499 net WEB www.lrspc.net	F: 828.315.9964 www.atriaxgroup.com	FNO INFER	U.S. Department of Veterans Affairs	Andreka Watlington	FULLY SPRINKLERED	Issue Date Checked Drawn 12/22/2020 FFR JCF	PD1 58 of

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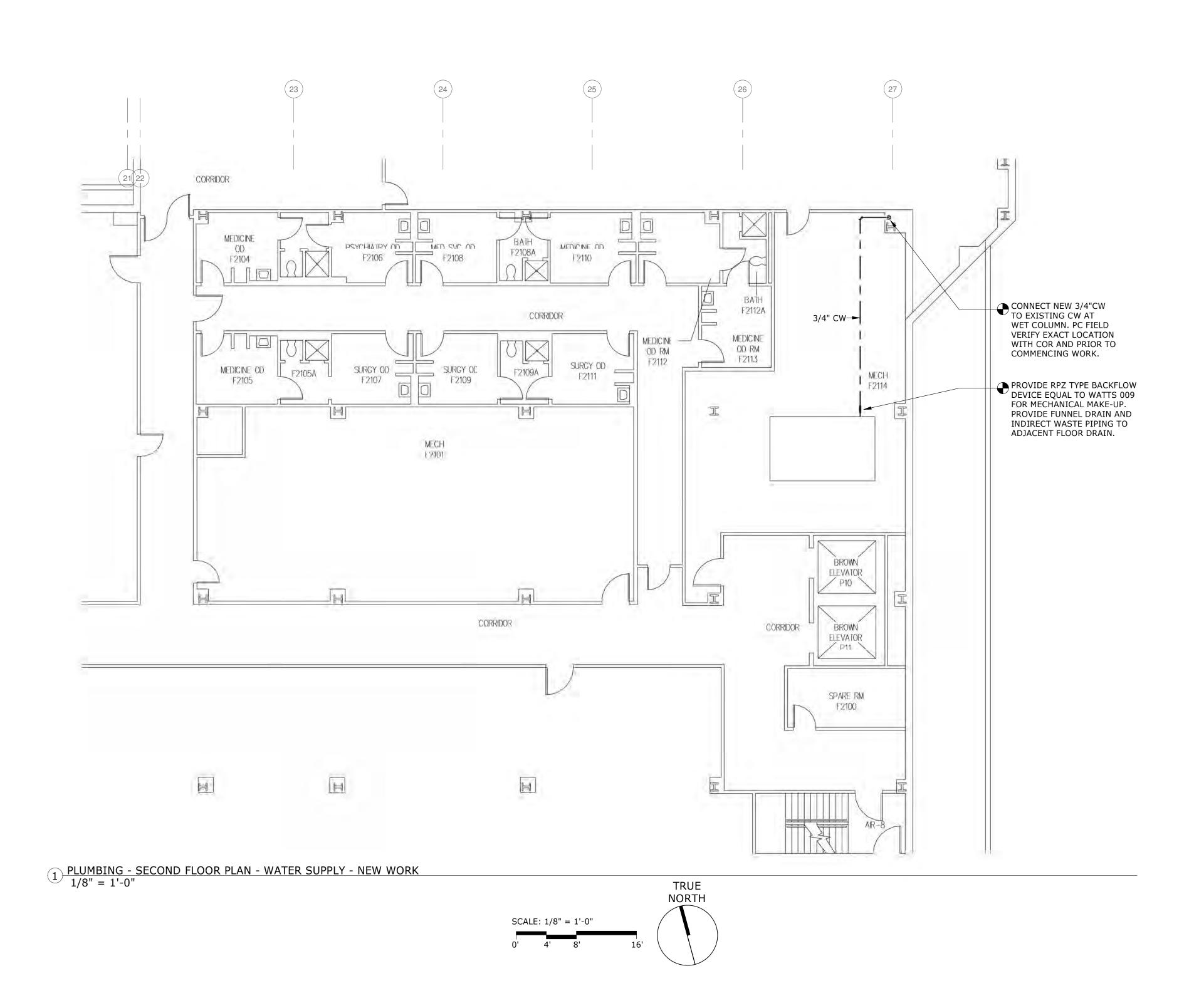






## EXISTING CONDITIONS NOTE

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## 100% BID DOCUMENTS

Project Number

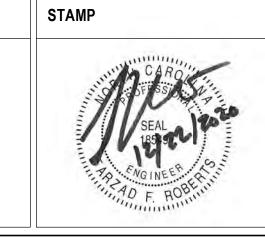
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CONSULTANT CONSULTING ENGINEERS
705 EAST MOREHEAD STREET
CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

PERKINS—
EASTMAN
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& SORRELL, P.C.
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9701 RED OAK BLVD. SUITE 50°
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EAX 70° 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 PHONE 704-522-0495 FAX 704-522-0499 EMAIL mail@irspc.net WEB www.irspc.net

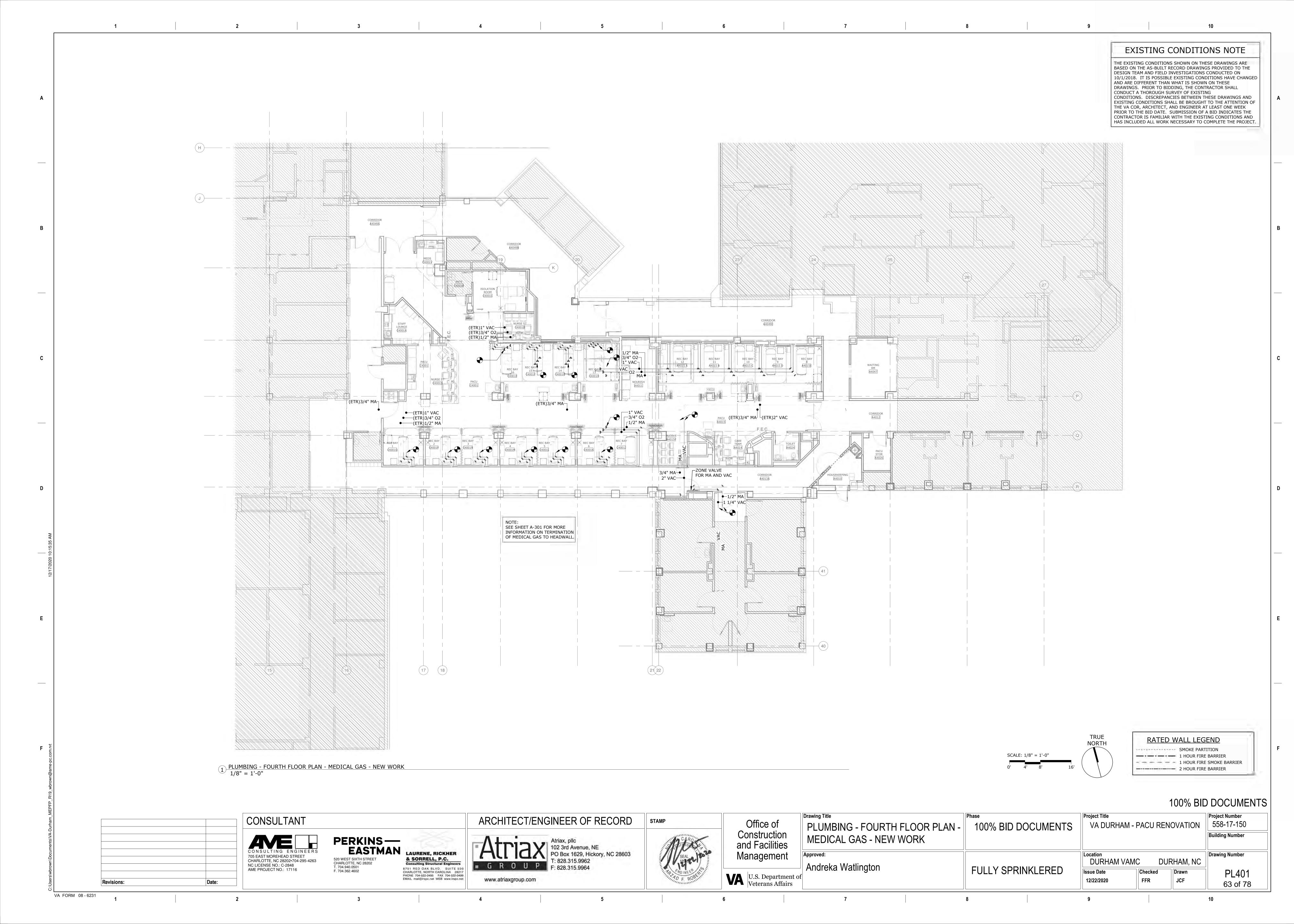
ARCHITECT/ENGINEER OF RECORD Atriax, pllc 102 3rd Avenue, NE PO Box 1629, Hickory, NC 28603 www.atriaxgroup.com



Office of Construction and Facilities Management U.S. Department of Veterans Affairs

Drawing Title Project Title PLUMBING - SECOND FLOOR PLAN - 100% BID DOCUMENTS WATER SUPPLY - NEW WORK Location Andreka Watlington FULLY SPRINKLERED

558-17-150 VA DURHAM - PACU RENOVATION **Building Number** Drawing Number **DURHAM VAMC** DURHAM, NC Checked PL302 Drawn FFR JCF 62 of 78



	SYMBO	L LEGEND	(NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED ON PLANS)
TYPE	DESCRIPTION	TYPE	DESCRIPTION
0	LIGHTING FIXTURE. REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	FACP	FIRE ALARM CONTROL PANEL, SURFACE MOUNTED AT 60" AFF TO TOP OF CABINET, UON.
	LIGHTING FIXTURE ON EMERGENCY POWER. REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	NAC	FIRE ALARM NOTIFICATION APPLIANCE POWER EXTENDER PANEL. SURFACE MOUNTED AT 60" AFF TO TOP OF CABINET, UON.
	LIGHTING FIXTURE. REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	F	FIRE ALARM MANUAL PULL STATION, SEMI-FLUSH MOUNTED 46" AFF, UON.
	SURFACE OR WALL MOUNTED LIGHTING FIXTURE ON EMERGENCY POWER. REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	F	FIRE ALARM AUDIO/VISUAL (CHIME/STROBE) APPLIANCE, WALL MOUNTED AT 80" AFF, OR 6" BELOW FINISHED CEILING, WHICHEVER IS LOWER, UON. SUBSCRIPT INDICATES CANDELA VALUE. 'CLG' INDICATES CEILING MOUNTED.
O	DOWNLIGHT FIXTURE. REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	F	FIRE ALARM VISUAL (STROBE) APPLIANCE, WALL MOUNTED AT 80" AFF, OR 6" BELOW FINISHED CEILING, WHICHEVER IS LOWER, UON. SUBSCRIPT INDICATES CANDELA VALUE. 'CLG' INDICATES CEILING MOUNTED.
<b>⊗ ⋄</b>	EXIT LIGHTING FIXTURE ON EMERGENCY POWER. ARROW, WHEN INDICATED, INDICATES DIRECTION. PROVIDE FACES AS INDICATED ON DRAWINGS. REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	⟨SD⟩	FIRE ALARM SYSTEM CEILING MOUNTED SMOKE DETECTOR.
Φ	DUPLEX CONVENIENCE RECEPTACLE 20A, 120V, MOUNT 18" AFF, UON. SUBSCRIPT 'GFI' INDICATES GROUND FAULT INTERRUPTING TYPE. SUBSCRIPT 'U' INDICATES INTEGRAL USB PORT. SUBSCRIPT 'WP' INDICATES WEATHERPROOF WHILE IN-USE.	<b>⟨FR</b> ⟩	FIRE ALARM SYSTEM ADDRESSABLE SHUTDOWN CONTROL RELAY, OR MONITORING MODULE AS REQUIRED.
P	DUPLEX CONVENIENCE RECEPTACLE, 20A, 120V, MOUNT 46" AFF, UON. (OR 6" ABOVE COUNTER AS APPLICABLE). SUBSCRIPT 'GFI' INDICATES GROUND FAULT INTERRUPTING TYPE.	<b>⊕</b>	FIRE ALARM SYSTEM DOOR HOLD OPEN DEVICE.
₽ <sup>TV</sup>	DUPLEX RECEPTACLE FOR TV, 20A, 120V, COORDINATE MOUNTING HEIGHT WITH TV BRACKET AND OWNER/ARCHITECT PRIOR TO ROUGH-IN.	<b>(D)</b>	FIRE ALARM SYSTEM DUCT SMOKE DETECTOR ASSEMBLY WITH WIRING PER MANUFACTURERS RECOMMENDATIONS. PROVIDE SMOKE DETECTOR, HOUSING, SAMPLING TUBE, SHUTDOWN RELAY, AND REMOTE LABELED KEY TEST SWITCH WITH INDICATOR LIGHT. PROVIDE ACCESS PANELS WHERE
#	QUADRUPLEX CONVENIENCE RECEPTACLE, 20A, 120V, MOUNT 18" AFF, UON. SUBSCRIPT 'U' INDICATES INTEGRAL USB PORT.		UNITS ARE LOCATED ABOVE INACCESSIBLE CEILINGS. REFER TO DAMPER DETAIL ON SHEET F601 FOR ADDITIONAL INFORMATION. SUBCRIPT 'FS' INDICATES FIRE/SMOKE DAMPER. SUBSCRIPT 'SD' INDICATES SMOKE DAMPER.
<del>•</del>	QUADRUPLEX CONVENIENCE RECEPTACLE, 20A, 120V, MOUNT 46" AFF, UON. (OR 6" ABOVE COUNTER AS APPLICABLE). SUBSCRIPT 'GFI' INDICATES GROUND FAULT INTERRUPTING TYPE.	XXX	480/277 VOLT, SURFACE MOUNTED PANELBOARD DESIGNATION AS NOTED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION. SCHEDULES FOR ADDITIONAL INFORMATION.
⊕ <sup>EWC</sup>	DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTING TYPE, FOR ELECTRIC WATER COOLER 20A, 120V, COORDINATE MOUNTING HEIGHT WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.	XXX	208/120 VOLT, SURFACE MOUNTED PANELBOARD 208/120 VOLT, RECESSED MOUNTED PANELBOARD  DESIGNATION AS NOTED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
\$	SPECIAL PURPOSE RECEPTACLE. CONFIRM EXACT NEMA CONFIGURATION AND REQUIREMENTS WITH EQUIPMENT BEING INSTALLED. COORDINATE BREAKER SIZE, WIRE SIZE AND NUMBER WITH CORD AND PLUG OF EQUIPMENT. MOUNT 18" AFF, UON.	ТТВ	TELECOMMUNICATIONS TERMINATION BACKBOARD - 3/4" THICK X 8' HIGH X LENGTH PER PLANS, UON. BACKBOARD SHALL BE FIRE RATED AND PAINTED WITH WHITE FIRE RETARDANT PAINT ON BOTH SIDES & ALL EDGES. CONTRACTOR SHALL NOT PAINT OVER ANY FIRE RETARDANT STAMPING ON THE PLYWOOD.
	EQUIPMENT CONNECTION, AS NOTED. REFER TO EQUIPMENT CONNECTION SCHEDULE.	TGB	TELECOMMUNICATIONS STYLE COPPER GROUND BAR WITH STAND-OFF INSULATORS. PROVIDE TELECOMMUNICATIONS BONDING CONDUCTOR SIZED IN ACCORDANCE WITH ANSI/TIA-607-C BACK TO SERVICE GROUND.
Ĵ	JUNCTION BOX, PROVIDE STANDARD 4" SQUARE BY 1-1/2" DEEP BOX, UON. COORDINATE MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.	\$	SWITCH, 20A, 120/277V, MOUNT 46" AFF, UON. NO SUBSCRIPT - DENOTES SINGLE POLE SWITCH. SUBSCRIPT '3' - DENOTES THREE-WAY SWITCH. SUBSCRIPT 'D' - DENOTES DIMMER SWITCH. COMPATIBLE WITH ASSOCIATED LIGHT FIXTURE.
ÓS)	LIGHTING CONTROL SYSTEM, LOCAL DUAL TECHNOLOGY OCCUPANCY SENSOR, CEILING MOUNTED. PROVIDE POWER PACK AND WIRING AS REQUIRED. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.		SUBSCRIPT '3D' - DENOTES THREE-WAY DIMMER SWITCH. COMPATIBLE WITH ASSOCIATED LIGHT FIXTURE.
<b>6</b> \$	LIGHTING CONTROL SYSTEM, LOCAL DUAL TECHNOLOGY OCCUPANCY SENSOR, WALL MOUNTED AT 46" AFF WITH INTEGRAL ON/OFF PUSH-BUTTON. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	1LA-3 (FOR EXAMPLE)	BRANCH CIRCUIT OR FEEDER WIRING RUN IN CONDUIT AND CIRCUIT HOMERUN TO PANELBOARD INDICATED. SINGLE PHASE CIRCUIT SHALL CONTAIN 1 #12 PHASE CONDUCTOR, 1 #12 NEUTRAL CONDUCTOR AND 1 #12 GROUNDING CONDUCTOR IN 3/4" CONDUIT, MINIMUM. CONDUCTORS LARGER THAN #12 AND CONDUIT LARGER THAN 3/4" SHALL BE AS INDICATED. WHERE "MULTIPLE PHASED" ELECTRICAL LOADS ARE REQUIRED, PROVIDE ADDITIONAL PHASE AND NEUTRAL
T	PAD MOUNTED TRANSFORMER. REFER TO RISER DIAGRAM FOR ADDITIONAL INFORMATION.		CONDUCTORS AS INDICATED. MULTIPLE SINGLE PHASE CONDUCTORS MAY BE GROUPED TOGETHER IN A COMMON CONDUIT AS ALLOWED AND IN ACCORDANCE WITH THE NEC. CONTRACTOR SHALL PROVIDE ADDITIONAL "SWITCH LEG" CONDUCTORS, AS REQUIRED TO ACHIEVE FIXTURE CONTROL INDICATED ON PLANS. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH SINGLE POLE CIRCUIT BREAKER. GROUNDING CONDUCTORS SHALL BE SHARED IN ACCORDANCE WITH AND AS ALLOWED BY
•	TELEPHONE OR DATA OUTLET MOUNTED 18" AFF, UON. CAT6 CABLES. CONDUIT STUB-OUT ABOVE ACCESSIBLE CEILING BY E.C., UON. SUBSCRIPT # INDICATES QUANTITY OF CABLES. SUBSCRIPT "D" DENOTES DATA OUTLET. SUBSCRIPT "V" DENOTES VOICE OUTLET.		THE NEC. WHEN SHOWN DASHED, IT SHALL DENOTE WIRING UNDERGROUND OR ABOVE TILE CEILING OF FLOOR BELOW. CONDUITS SHOWN ARE DIAGRAMMATIC ONLY AND DO NOT REPRESENT ACTUAL CONDUIT ROUTING UNLESS SPECIFICALLY NOTED. CONTRACTOR TO DETERMINE CONDUIT ROUTING IN THE FIELD.
•	TELEPHONE OR DATA OUTLET MOUNTED 46" AFF, UON. CAT6 CABLES. CONDUIT STUB-OUT ABOVE ACCESSIBLE CEILING BUY E.C., UON. SUBSCRIPT # INDICATES QUANTITY OF CABLES. SUBSCRIPT "D" DENOTES DATA OUTLET. SUBSCRIPT "V" DENOTES VOICE OUTLET.		FLOOR MOUNTED DATA RACK TO BE USED FOR TERMINATING TELECOMMUNICATIONS CABLING. SHADED SIDE INDICATES FRONT OF RACK. SEE TYPICAL DATA AND VOICE RACK DETAIL FOR ADDITIONAL INFORMATION.
TV	TELEVISION SYSTEM CATV OUTLET 4-11/16" BOX, COORDINATE MOUNTING HEIGHT WITH ADJACENT ASSOCIATED RECEPTACLE WITH CONTRACTING OFFICER. PROVIDE (2)1" CONDUIT STUB-UP ABOVE ACCESSIBLE CEILING. SEE RISER DIAGRAM AND FACEPLATE DETAILS FOR ADDITIONAL INFORMATION. SUBSCRIPT '1D' DENOTES DATA DROP IN SAME BOX AS SHOWN ON FLOOR PLANS.	КР	CARD READER PLUS KEYPAD, PROVIDE APPROPRIATE SIZED BOX, MOUNT 46" AFF WITH 3/4" CONDUIT STUBBED-OUT 6" ABOVE ACCESSIBLE CEILING. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER. EQUIPMENT AND WIRING BY OTHERS.
PP	PROVISIONS FOR PUSH PLATE. PROVIDE SINGLE GANG BOX MOUNTED 46" AFF. PROVIDE CONDUIT AND CONTROL WIRE UP TO DOOR CONTROLLER. COORDINATE EXACT FINAL CONNECTIONS AND REQUIREMENTS WITH EQUIPMENT MANUFACTURERS INSTALLATION DRAWINGS AND RECOMMENDATIONS. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.	МТ	MEDICAL EQUIPMENT TRACKING DEVICE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER.
DR	DOOR RELEASE ROUGH-IN. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER. EQUIPMENT AND WIRING BY OTHERS.	М	MONITOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER.
РВ	PANIC BUTTON ROUGH-IN MOUNTED UNDERCOUNTER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER. EQUIPMENT AND WIRING BY OTHERS.		CCTV CAMERA ROUGH-IN. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER. EQUIPMENT AND WIRING BY OTHERS.
ES	ELECTRIC STRIKE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER. EQUIPMENT AND WIRING BY OTHERS.	RE	DOOR REQUEST TO EXIT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER/SECURITY CONTRACTOR.
S	SPEAKER	'X'	NURSE CALL DEVICE. COORDINATE EXACT LOCATION AND MOUNTING WITH OWNER/ARCHITECT. PROVIDE APPROPRIATE SIZED JUNCTION BOX AND CONDUIT AND WIRE BACK TO NURSE CALL FRONT END PANEL.  SUBSCRIPT 'NM' INDICATES MASTER.
'X' N	NURSE CALL DOME LIGHT. PROVIDE APPROPRIATE SIZED JUNCTION BOX, CONDUIT AND WIRE BACK TO NURSE CALL FRONT END PANEL. SUBSCRIPT 'ZL' INDICATES ZONE LIGHT.	N	SUBSCRIPT 'PS' INDICATES CORD PUSHBUTTON PATIENT STATION WITH CODE BLUE. SUBSCRIPT 'CB' INDICATES CODE BLUE. SUBSCRIPT 'DS' INDICATES DUTY STATION. SUBSCRIPT 'SS' INDICATES STAFF STATION. SUBSCRIPT 'TS' TOILET PULL CORD.

#### SEISMIC AND WIND REQUIREMENTS FOR ELECTRICAL SYSTEMS

INFORMATION FOR NCSBC 2018/IBC-2015/ASCE 7-05 ALL ROOF CURBS/ROOF RAILS INCLUDING THEIR ATTACHMENT TO THE EQUIPMENT AND STRUCTURE MUST BE EVALUATED FOR WIND LOADING. WHERE SEISMIC RESTRAINT IS REQUIRED, THE MORE DEMANDING FORCE OF WIND AND SEISMIC MUST BE USED. SEE SEISMIC INFORMATION CONTAINED IN THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC

INFORMATION ON SEISMIC DESIGN CATEGORY. SEE EQUIPMENT SCHEDULES AND DETAILS FOR SPECIFIC COMPONENT IMPORTANCE FACTOR

ENGINEER. DO NOT POUR ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF THE SEISMIC

USE APPLICABLE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH MECHANICAL COMPONENT.

. FOR ALL COMPONENTS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL. WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC

SEISMIC RESTRAINTS FOR CONDUIT, CABLE TRAY AND BUS DUCT MUST BE SHOWN ON LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS

SEISMIC DESIGN CATEGORIES C

	02101110	, , , , , , , , , , , , , , , , , , , ,	20014200	
		COMPONE	NT IMPORTANCE FACTO	R (Ip)
		1.0	1.5	
COMPONENT IDENTIFICATION	SEISMIC RESTRAINT REQUIREMENT	ASCE 7-05 REFERENCE	SEISMIC RESTRAINT REQUIREMENT	ASCE 7-05 REFERENCE
ROOF MOUNTED	NOT REQUIRED	13.1.4.3	RESTRAIN ALL	13.1.4.3
FLOOR MOUNTED	NOT REQUIRED	13.1.4.3	RESTRAIN ALL	13.1.4.3
WALL MOUNTED	NOT REQUIRED	13.1.4.3	RESTRAIN ALL	13.1.4.3
COMPONENT SUPPORTS	NOT REQUIRED	13.1.4.3	RESTRAIN ALL	13.6.5
SUSPENDED EQUIPMENT	NOT REQUIRED	13.1.4.3	RESTRAIN ALL	13.1.4.3
SINGLE CONDUIT	NOT REQUIRED	13.1.4.3	>2" (SEE NOTES 1 & 2)	13.6.8.2b
CABLE TRAY/ BUS DUCT TRAPEZED CONDUIT	NOT REQUIRED	13.1.4.3	RESTRAIN IF ANY CONDUIT ON TRAPEZE >2" RESTRAIN IF TOTAL WEIGHT OF CONDUIT ON TRAPEZE > 10 LBS/FT (SEE NOTE 2)	TC-8-CH13-48-R8 13.6.8.3.1
COMPONENT CERTIFICATION	NOT REQUIRED	13.2.2	REQUIRED	13.2.2
PENDANT, LAY-IN & CAN LIGHTS	REQUIRED	SEE NOTE 4	REQUIRED	SEE NOTE 4

#### **GENERAL NOTES:**

AND CALCULATIONS.

A. ALL NON-STEEL CONDUIT (I.E. - PVC) MUST BE RESTRAINED. . RESTRAINT IS NOT REQUIRED IF SUSPENDED 12 IN. OR LESS FROM THE STRUCTURE AND THE HANGERS ARE DETAILED TO AVOID SIGNIFICANT BENDING OF THE HANGERS AND THEIR

ATTACHMENTS AND PROVISIONS ARE MADE FOR CONDUIT TO ACCOMMODATE EXPECTED COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURERS AT TIME

OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD. . THE RESTRAINT OF PENDANT, LAY-IN & RECESSED DOWN LIGHTS IS GOVERNED BY "CISCA-04 FOR SEISMIC ZONES" (CEILINGS AND INTERIOR SYSTEMS CONSTRUCTION ASSOCIATION).

	ELECTRICAL ENERGY CODE SUMMARY
ſ	(STATE ENERGY CODE, LATEST EDITION ADOPTED)
	ELECTRICAL SYSTEM AND EQUIPMENT:

METHOD OF COMPLIANCE: STATE ENERGY CODE: (X) PRESCRIPTIVE () PERFORMANCE LUMINAIRE SCHEDULE:

LAMP TYPE REQUIRED IN LUMINAIRE NUMBER OF LAMPS IN LUMINAIRE BALLAST TYPE USED IN THE LUMINAIRE NUMBER OF BALLASTS IN LUMINAIRE TOTAL WATTAGE PER LUMINAIRE

SEE LUMINAIRE SCHEDULE SEE LUMINAIRE SCHEDULE SEE LUMINAIRE SCHEDULE SEE LUMINAIRE SCHEDULE SEE LUMINAIRE SCHEDULE

TOTAL INTERIOR WATTAGE ALLOWED VS. SPECIFIED 2400 VS 4000 EXTERIOR LIGHTING ZONE TOTAL EXTERIOR WATTAGE ALLOWED VS. SPECIFIED N/A EXTERIOR LUMINAIRES > 100 WATTS MUST HAVE A MINIMUM EFFICACY OF 60 LUMENS/WATT

PROJECT TOTAL SQUARE FOOTAGE: 4200 S.F.

STATE ENERGY CODE ADDITIONAL PRESCRIPTIVE COMPLIANCE SUMMARY:

MUST COMPLY WITH ONE OF THE FOLLOWING SECTIONS:

( ) C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE

X) C406.3 REDUCED LIGHTING POWER DENSITY ) C406.4 ENHANCED DIGITAL LIGHITNG CONTROLS

) C406.5 ON-SITE RENEWABLE ENERGY ) C406.6 DEDICATED OUTDOOR AIR SYSTEM ) C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

CALCULATION ABOVE INCLUDES REDUCED LIGHTING POWER DENSITY

## COORDINATION DRAWINGS

A MEETING SHALL BE ARRANGED BY THE CONTRACTOR AND TAKE PLACE PRIOR TO STARTING THE COORDINATION DRAWINGS. THIS MEETING SHALL INCLUDE AT A MINIMUM THE VA COR, CONTRACTOR, AND KEY SUBCONTRACTORS TO CONFIRM THE REQUIREMENTS OF THE COORDINATION DRAWINGS PRIOR TO THEM BEING SUBMITTED.

THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES SO THAT THE FOLLOWING LISTS OF ITEMS CAN BE INDICATED ON A COMMON SET OF PLANS. FLOOR PLANS AND SECTIONS ARE TO BE DRAWN TO SCALE IN ALL CONGESTED AREAS SUCH AS A4012 CORRIDOR, A4013A CORRIDOR, DUCT CHASES PLAN EAST AND WEST OF EAST & WEST OF A4014 CARE TEAM ROOM A4026 PACU STORAGE, A4010 HOUSEKEEPING, C4001 PACU, DUCT CHASES PLAN NORTH OF C4001B ANTE AND C4001C ISOLATION ROOM, ETC. THESE SHALL BE SUBMITTED COLLECTIVELY FROM ALL DISCIPLINES INTO ONE OVERALL DOCUMENT FOR REVIEW BY THE ENGINEER ON AN AS NEEDED BASIS OR WHERE SPECIFICALLY DIRECTED WITHIN THE CONTRACT DOCUMENTS. THESE COORDINATION DRAWINGS SHALL BE SUBMITTED FOR REVIEW PRIOR TO ANY OTHER INDIVIDUAL PRODUCT DATA OR FABRICATION DRAWINGS. SHOW THE FOLLOWING AT A MINIMUM:

- CEILING FLOOR
- ROOF OR FLOOR DECKING ABOVE STRUCTURAL ELEMENTS LIGHT FIXTURES
- LARGE ELECTRICAL/TELECOM CONDUITS/PULL BOXES HVAC DUCTWORK HVAC EQUIPMENT ABOVE CEILING, INDICATING SERVICE
- CLEARANCES
- HVAC PIPING PLUMBING PIPING SPRINKLER PIPING
- MOUNTING RACKS AND SUPPORT ASSEMBLIES FOR ASSOCIATED PIPING/DUCTWORK
- 3. IT IS IMPORTANT TO NOTE THAT DUCTWORK/PIPING/CABLE TRAY ETC. CANNOT BE FABRICATED UNTIL COORDINATION DRAWINGS HAVE BEEN COMPILED, SUBMITTED, AND APPROVED. ANY MATERIAL PROCUREMENT OR INSTALLATION WORK COMMENCED PRIOR TO APPROVAL IS TAKEN AT THE RISK OF THE CONTRACTOR

TYPE	DESCRIPTION
Α	AMPERE
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CURRENT
AMP	AMPERE
ARA	AREA OF RESCUE ASSISTANCE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BET	BUILDING ENTRANCE TERMINAL
BFC	BELOW FINISHED CEILING
С	CONDUIT
ССТ	CIRCUIT
CCT BRKR	CIRCUIT BREAKER
CLG	CEILING
CR	CARD READER
СТ	CURRENT TRANSFORMER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ETBD	EXISTING TO BE DEMOLISHED
ETR	EXISTING TO REMAIN
ETBR	EXISTING TO BE RELOCATED
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FLUOR	FLUORESCENT
FPN	FUSE/TRIP PER NAMEPLATE
FVNR	FULL VOLTAGE NON-REVERSING
G OR GND	GROUND
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GF OR GFI	GROUND FAULT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND OFF AUTO
IG	ISOLATED GROUND
INTERCOM	INTERCOMMUNICATION
J-BOX	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATTS

T)/DE	DECORIDETION
TYPE	DESCRIPTION
LV	LOW VOLTAGE
MCA	MINIMUM CIRCUIT AMPACITY
MC	MECHANICAL CONTRACTOR
МСВ	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTION DETECTOR
MIC	MICROPHONE
MLO	MAIN LUG ONLY
МОСР	MAXIMUM OVERCURRENT PROTECTIO
MSB	MAIN SWITCH BOARD
N OR NEUT	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OL	OVERLOAD
Р	POLE
PA	PUBLIC ADDRESS
РВ	PUSHBUTTON SWITCH
PC	PLUMBING CONTRACTOR
PNL	PANELBOARD
Ø OR PH	PHASE
R	RELOCATED DEVICE
REF	REFRIGERATOR
RTU	ROOFTOP UNIT
RVNR	REDUCED VOLTAGE NON-REVERSING
SOG	SLAB ON GRADE
SPD	SURGE PROTECTION DEVICE
SPKR	SPEAKER
SWBD	SWITCHBOARD
TC	TIME CLOCK
TS	TIME SWITCH
ТТВ	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE
W	WATTS OR WIRE
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER
Z	IMPEDANCE

#### GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE LATEST NATIONAL ELECTRICAL CODE, STATE CODE, & LOCAL AUTHORITY THE CONTRACTOR SHALL VISIT THE PREMISES AND THOROUGHLY FAMILIARIZE THEMSELF WITH ALL DETAILS OF THE WORK AND WORKING CONDITIONS. VERIFY ALL FIELD CONDITIONS INCLUDING LOCATION OF UTILITY LINES, STRUCTURES, AND ADVISE THE ENGINEER OF ANY DISCREPANCY THAT MAY PREVENT OR
- HINDER THE SPECIFIED WORK FROM BEING COMPLETED. THE CONTRACTOR SHALL STUDY THE STRUCTURE AND FINISH CONDITIONS AFFECTING THEIR WORK AND SHALL COORDINATE WORK ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE ALL ACCESSORIES, HANGERS, AND ANCHORS AS NECESSARY TO MEET SUCH CONDITIONS WITHOUT ANY ADDITIONAL COST TO THE
- OWNER. PRIOR TO ACCOMPLISHING ANY WORK IN ANY AREA, ALL WORK SHALL BE PLANNED AND COORDINATED WITH OTHER TRADES AND THE OWNER. ALL CONDUITS SHALL BE INSTALLED CONCEALED, UON. THE
- CONDUIT ROUTING SHALL BE COORDINATED WITH DUCT WORK AND OTHER OBSTACLES SO AS TO PROVIDE THE MOST EFFICIENT AND AESTHETICALLY PLEASING INSTALLATION. PROPERLY SUPPORT ALL WORK AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. STUDY ALL DRAWINGS, MANUFACTURER'S INSTRUCTIONS, UL LISTINGS, AND CATALOG DATA TO DETERMINE HOW EQUIPMENT ACCESSORIES AND RELATED ITEMS ARE TO BE SUPPORTED, MOUNTED, OR SUSPENDED. PROVIDE ALL
- BOLTS, INSERTS, BRACKETS, SPACERS, STRUCTURAL SUPPORTS, AND ACCESSORIES FOR PROPER SUPPORT OF EQUIPMENT FURNISHED UNDER THIS CONTRACT. PROVIDE GREEN EQUIPMENT GROUNDING CONDUCTOR WITH ALL FEEDER AND BRANCH CIRCUITS. MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE, OR EQUIPMENT UNLESS NOTED OTHERWISE. RECEPTACLE AND DATA/TELEPHONE OUTLET SHOWN ADJACENT ON DRAWING SHALL BE
- MOUNTED 6" APART ON CENTER HORIZONTALLY. CONTRACTOR SHALL NOT INSTALL J-BOXES, OUTLETS, DEVICES, ETC. BACK TO BACK FOR NEW OR RENOVATION WORK. . COORDINATE ALL DEVICES AND OUTLETS ABOVE, OR BELOW WITH CASEWORK INSTALLATION AND THE
- ARCHITECT IN ORDER TO POSITION AT THE PROPER LOCATION AND HEIGHT. 9. THE CONTRACTOR SHALL USE THE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS. DO NOT SCALE THESE
- 10. COORDINATE MOUNTING HEIGHT AND LOCATION OF ALL WALL MOUNTED EQUIPMENT WITH ARCHITECTURAL 11. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THE ELECTRICAL INSTALLATION SHALL BE FULLY COORDINATED WITH ALL OTHER TRADES PRIOR TO ROUGH-IN BETWEEN THE ELECTRICAL WIRING AND DEVICES AND ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL AND FIRE PROTECTION WORK.

12. RECEPTACLES LOCATED WITHIN 6'-0" OF A WATER SOURCE SHALL BE GFI TYPE.

## **EXISTING CONDITIONS NOTE**

THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON 10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT.

VA FORM 08 - 6231

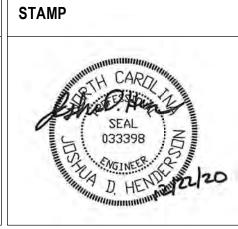
CONSULTANT 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

PERKINS— EASTMAN 520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501 F. 704.362.4602

LAURENE, RICKHER & SORRELL, P.C. 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 PHONE 704-522-0495 FAX 704-522-0499 EMAIL mail@irspc.net WEB www.irspc.net

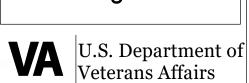
www.atriaxgroup.com

ARCHITECT/ENGINEER OF RECORD

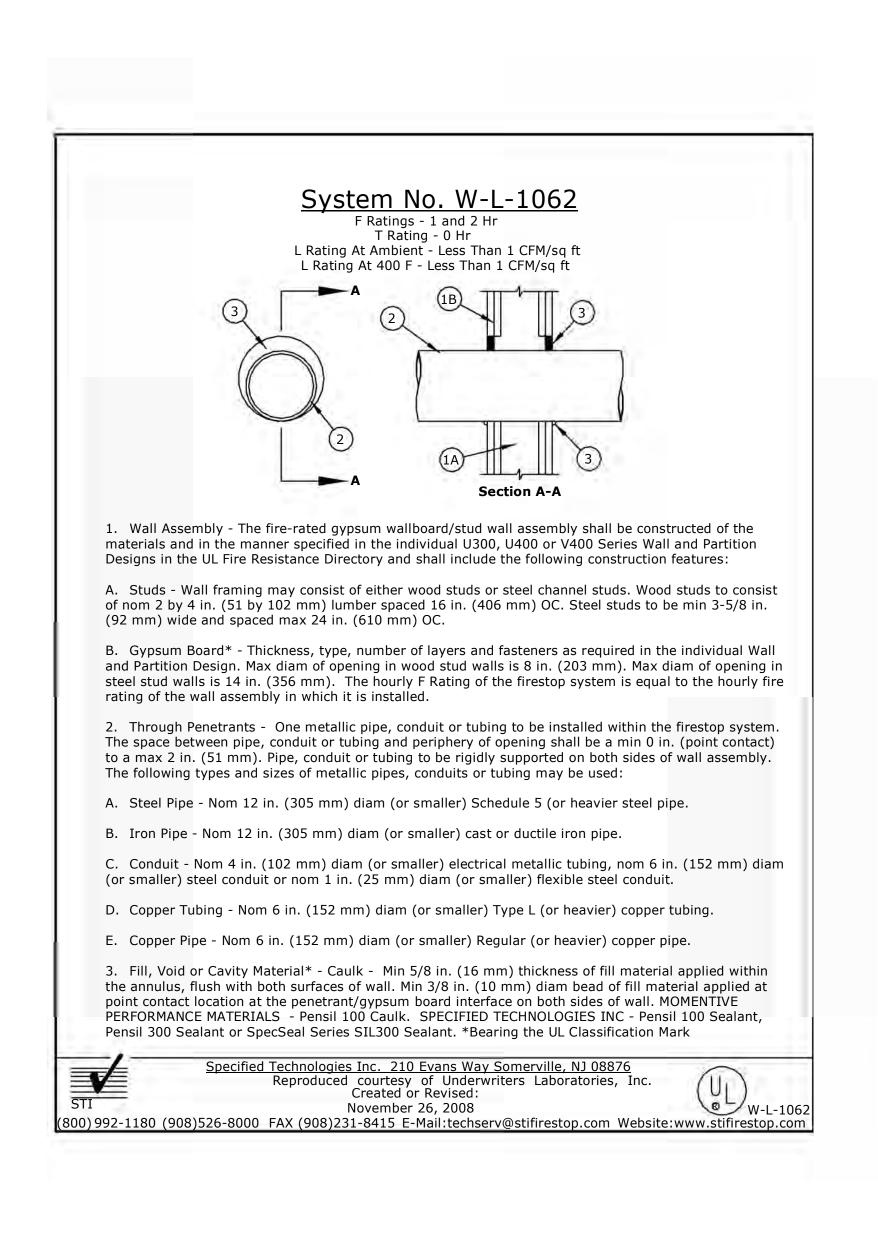


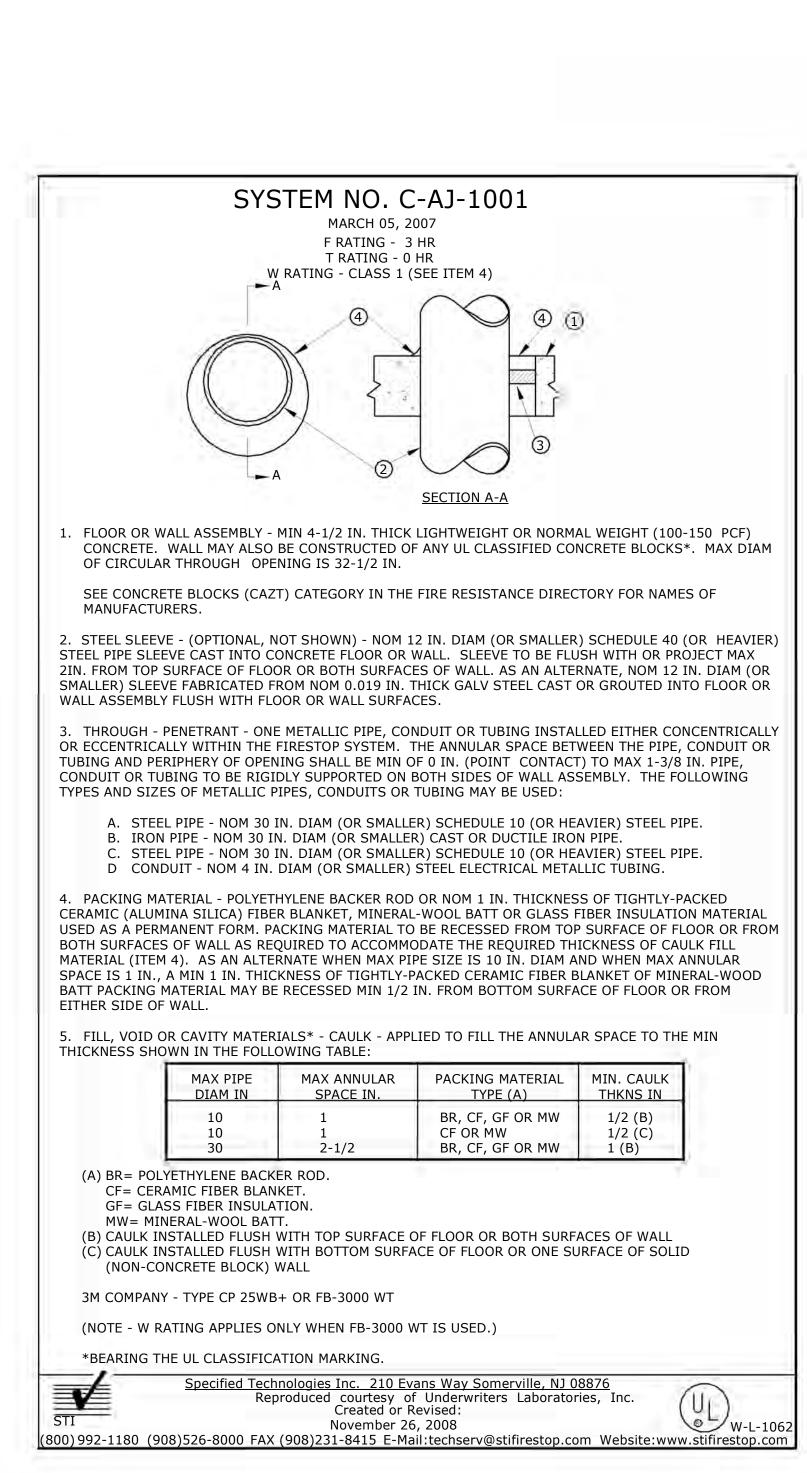
Office of Construction and Facilities Management

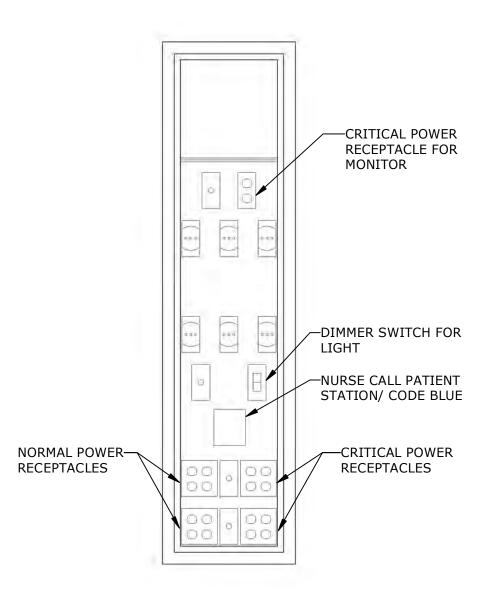




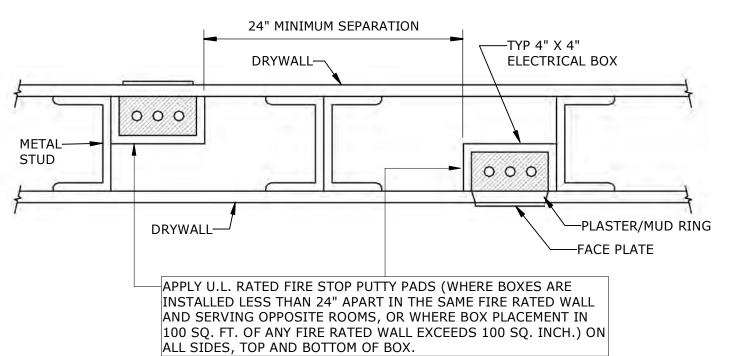
AND MAY HAVE TO BE MODIFIED/MOVED AT THEIR COST.		100% BI	D DOCUMENT
ELECTRICAL - GENERAL NOTES AND LEGENDS	100% BID DOCUMENTS	Project Title VA DURHAM - PACU RENOVATION	Project Number 558-17-150  Building Number
Andreka Watlington	FULLY SPRINKLERED	Location DURHAM VAMC DURHAM, NC  Issue Date 12/22/2020 Checked SBT GMT	Drawing Number E-001 64 of 78







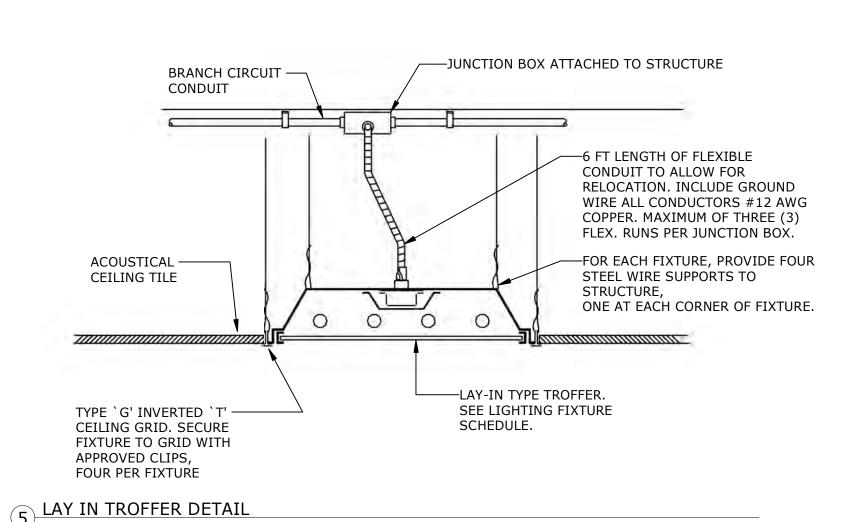
## 8 HEADWALL DETAIL NTS



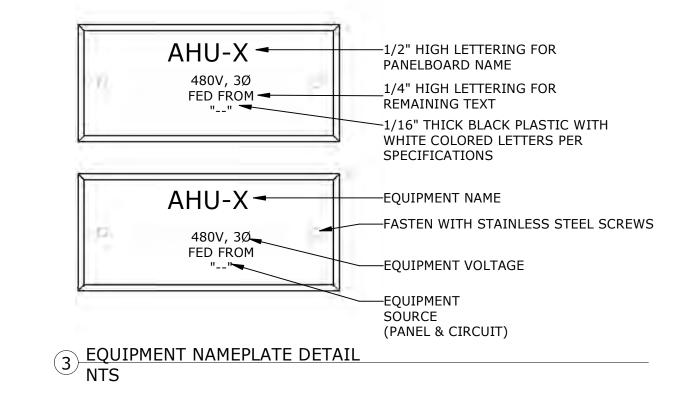
BACK TO BACK ELECTRICAL BOX MOUNTING DETAIL FOR RATED WALLS

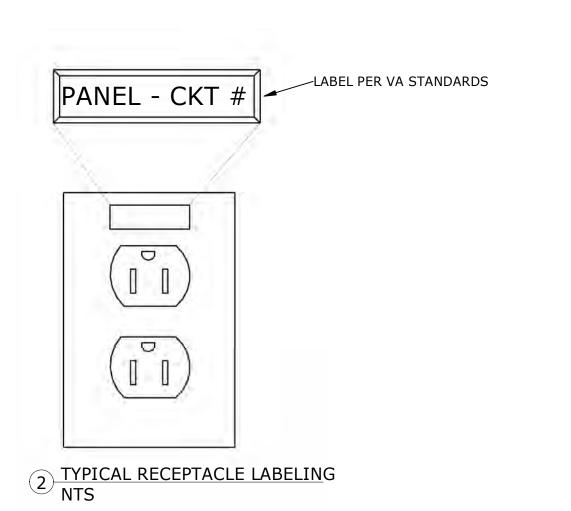
20-AMP E	BRANCH CIRCUI	T VOLTAGE	DROP TABLE
CIRCUIT LENGTH	MIN. WIRE SIZE @ 120V	CIRCUIT LENGTH	MIN. WIRE SIZE @ 277V
0'-55'	#12	0'-130'	#12
56'-90'	#10	131'-215'	#10
91'-140'	#8	216'-325'	#8
141'-225'	#6	326'-525'	#6
NOTE: INCREASE	GROUNDING CONDUCTO	R SIZE IN ACCO	RDANCE WITH NEC 250.122

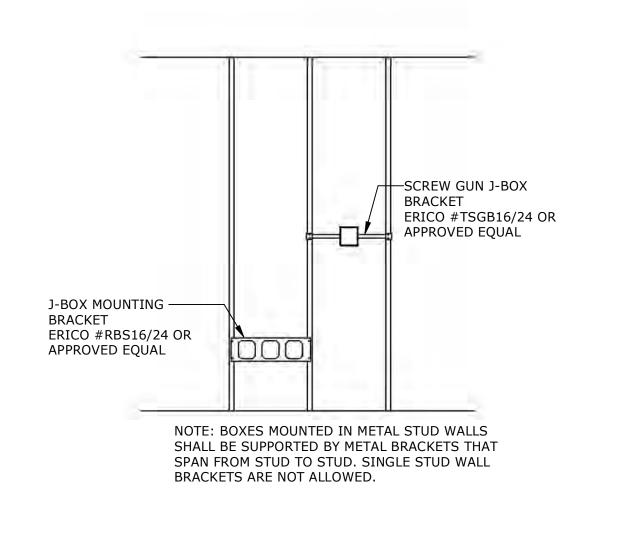
6 20-AMP BRANCH CIRCUIT VOLTAGE DROP TABLE



—1/2" HIGH LETTERING FOR PANELBOARD NAME PANEL "XXXX" —1/4" HIGH LETTERING FOR REMAINING TEXT 120/208V, 3Ø, 4W —FASTEN WITH STAINLESS STEEL SCREWS FED FROM PANEL "XXXX" -1/16" THICK BLACK OR RED PLASTIC VIA T-XXX WITH WHITE COLORED LETTERS PER SPECIFICATIONS TYPICAL 120/208V PANELBOARD PANELBOARD NAMEPLATE DETAIL







J-BOX MOUNTING DETAIL

## 100% BID DOCUMENTS

VA FORM 08 - 6231

CONSULTANT

705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

PERKINS—
EASTMAN
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ARCHITECT/ENGINEER OF RECORD

www.atriaxgroup.com

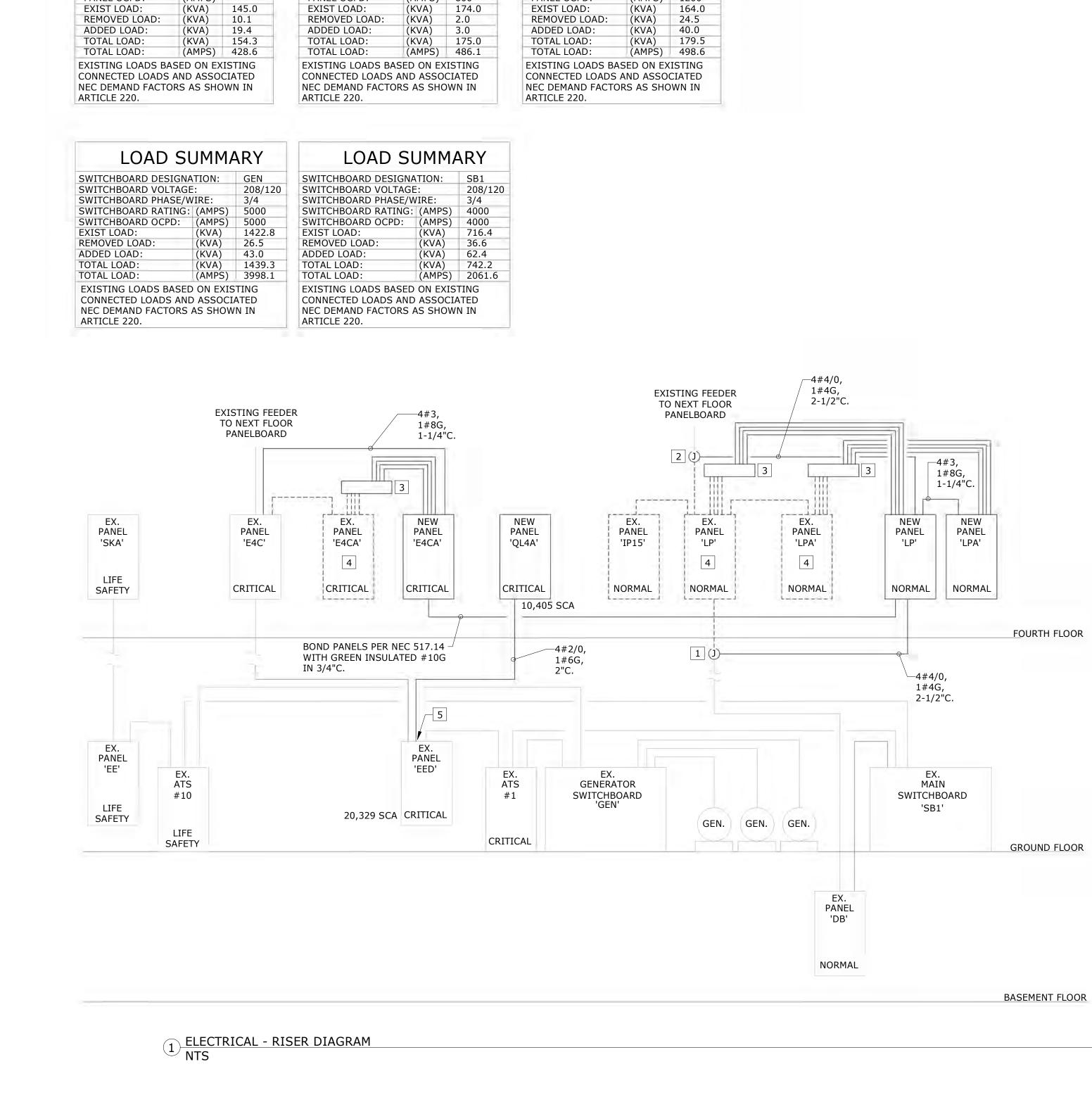
PO Box 1629, Hickory, NC 28603



Construction and Facilities

Office of Management U.S. Department of Veterans Affairs

Drawing Title **Project Title** Project Number 558-17-150 VA DURHAM - PACU RENOVATION ELECTRICAL - DETAILS 100% BID DOCUMENTS **Building Number** Approved: **Drawing Number** Location **DURHAM VAMC** DURHAM, NC Andreka Watlington **FULLY SPRINKLERED Issue Date** Checked Drawn E-501 12/22/2020 SBT GMT 65 of 78



PANEL DESIGNATION:

PANEL VOLTAGE:

PANEL RATING:

PANEL OCPD:

PANEL PHASE/WIRE:

**EXISTING CONDITIONS NOTE** 

THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON 10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT.

## KEYED NOTES

- 1. INTERCEPT EXISTING FEEDER ABOVE THIRD FLOOR CEILING AND PROVIDE NEW FEEDER FOR NEW PANEL 'LP'. SIZE JUNCTION BOX PER NEC AND PROVIDE ALL REQUIRED TERMINATIONS. IT'S THE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE AND FIELD VERIFY EXACT LOCATION WITH OWNER AND EXISTING CONDITIONS TO AVOID EXISTING DUCTWORK, PIPING, ETC. PRIOR TO WORK.
- 2. INTERCEPT EXISTING FEEDER ABOVE FOURTH FLOOR CEILING AND PROVIDE NEW FEEDER FROM PANEL 'LP' TO SERVE EXISTING PANEL ON FLOOR ABOVE. SIZE JUNCTION BOX PER NEC AND PROVIDE ALL REQUIRED TERMINATIONS. IT'S THE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE AND FIELD VERIFY EXACT LOCATION WITH OWNER AND EXISTING CONDITIONS TO AVOID EXISTING DUCTWORK, PIPING, ETC. PRIOR TO WORK. 3. PROVIDE NEW WIREWAY(S) TO RE-SERVE EXISTNG BRANCH CIRCUITS FROM OLD
- PANEL LOCATION TO NEW PANEL LOCATION. SIZE WIREWAY(S) PER NEC AND PROVIDE ALL REQUIRED TERMINATIONS. IT'S THE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE AND FIELD VERIFY EXACT LOCATION WITH OWNER AND EXISTING CONDITIONS TO AVOID EXISTING DUCTWORK, PIPING, ETC. PRIOR TO WORK. 4. THE CONTRACTOR SHALL TRACE OUT ALL CIRCUITS FOR EXISTING PANELS BEING
- RELOCATED. ANY CIRCUITS THAT REMAIN SHALL BE REFED FROM NEW PANELS. 5. PROVIDE NEW 150A 3P BREAKER IN EXISTING SPACE. MATCH TYPE AND RATINGS OF PANEL.

## SEQUENCE NOTES

PANEL 'LP AND 'LPA':

- A. INSTALL NEW PANEL 'LP' AND 'LPA'.
- B. INSTALL NEW JUNCTION BOXES PER KEYED NOTES 1 & 2. MAKE CONNECTIONS. C. INSTALL NEW WIREWAYS PER KEYED NOTE 3. EXTEND EXISTING BRANCH CIRCUITS THAT ARE TO REMAIN OVER TO NEW PANELS. MOVE CIRCUITS OVER ONE CIRCUIT AT
- D. ONCE ALL BRANCH CIRCUITS HAVE BEEN MOVED OVER TO NEW PANELS, REMOVE EXISTING PANELS AND ASSOCIATED CONDUITS AND WIRES IN IT'S ENTIRETY. TURN OVER PANELS TO VA.

### PANEL 'E4CA':

- A. INSTALL NEW PANEL 'E4CA'. B. SERVE NEW PANEL FROM EXISTING SPARE 100A 3P CIRCUIT BREAKER IN PANEL 'E4C' C. INSTALL NEW WIREWAY PER KEYED NOTE 3. EXTEND EXISTING BRANCH CIRCUITS THAT ARE TO REMAIN OVER TO NEW PANEL. MOVE CIRCUITS OVER ONE CIRCUIT AT
- D. ONCE ALL BRANCH CIRCUITS HAVE BEEN MOVED OVER TO NEW PANEL, REMOVE EXISTING PANEL AND ASSOCIATED CONDUITS AND WIRES IN IT'S ENTIRETY. TURN OVER PANELS TO VA.

ALL SHUT DOWNS SHALL BE COORDINATED WITH THE COR AND THE CONTRACTOR SHALL GIVE A 3 WEEK NOTICE IN WRITING. ALL WORK DURING THE SHUT DOWNS SHALL OCCUR AFTER HOURS.

		CONSULTANT			ARCHITECT/E	ENGINEER OF RECORD	STAMP	Office of	Drawing Title  ELECTRICAL - RISER DIAGRAM	Phase 100% BID DOCUMENTS	Project Title VA DURHAN	100% E M - PACU RENOVATION	Project Number 558-17-150
		CONSULTING ENGINEERS 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116		LAURENE, RICKHER & SORRELL, P.C.	וטו וטה	Atriax, pllc 102 3rd Avenue, NE PO Box 1629, Hickory, NC 28603 T: 828.315.9962	SEAL 033398	Construction and Facilities Management	Approved:	10070 DID DOOGIVILITIO	Location DURHAM V		Building Number  Drawing Number
Revisions:	Date:	NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116	520 WEST SIXTH STREET CHARLOTTE, NC 28202 T. 704.940.0501 F. 704.362.4602	8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 PHONE 704-522-0499 FAX 704-522-0499 EMAIL mail@lrspc.net WEB www.lrspc.net	www.atriaxgroup.com	F: 828.315.9964	D. HEND 22/20	U.S. Department of Veterans Affairs	Andreka Watlington	FULLY SPRINKLERED	Issue Date 12/22/2020	Checked SBT GMT	E-601 66 of 78
1		2	3		4	5		6	7	8	9		10

LOAD SUMMARY

PANEL DESIGNATION:

PANEL VOLTAGE:

PANEL RATING:

PANEL OCPD:

PANEL PHASE/WIRE:

LOAD SUMMARY

PANEL DESIGNATION:

PANEL PHASE/WIRE:

PANEL VOLTAGE:

PANEL RATING:

PANEL OCPD:

ELECTRICAL - EQUIPMENT CONNECTION SCHEDULE LOAD INFORMATION MOTOR CONTROLLER INFORMATION CONNECTION EQUIP POWER FURNISHED INSTALLED TRIP/FUSE DISCONNECT NEMA DESIGNATION DESCRIPTION VOLTS PHASE HP KVA FLA MCA MOCP REQ'D RATING **ENCLOSURE** TYPE NOTE #: 0.2 kVA 2 A 2.5 AHU-70 (CONTROLS) AIR HANDLING UNIT DISCONNECT SWITCH QL4A 13 AIR HANDLING UNIT 120 V 0.2 kVA 2 A 2.5 DISCONNECT SWITCH AHU-70 (LIGHTS) QL4A 12 3 3.2 kVA 9 A 10.6 208 V EQUIP. MANUF. AHU-70 (RETURN) AIR HANDLING UNIT EQUIP. MANUF. QL4A 2,4,6 AHU-70 (SUPPLY) AIR HANDLING UNIT 208 V 5 5 kVA 14 A 17.1 YES QL4A 1,3,5 EQUIP. MANUF. EQUIP. MANUF. DCU-1/DSS-1 DUCTLESS SPLIT SYSTEM 1.8 kVA 9 A 11 FUSED DISCONNECT FPN 3R/1 QL4A 8,10 EF-70 (CONTROLS) 0.2 kVA 2 A 2.5 DISCONNECT SWITCH QL4A 15 EF-70 A&B EXHAUST FAN 1.5 2.4 kVA 7 A 8.6 20 YES EQUIP. MANUF. EQUIP. MANUF. QL4A 7,9,11 1,9

#### **EQUIPMENT CONNECTION SCHEDULE NOTES:**

- FPN: DENOTES FUSED/TRIP PER EQUIPMENT NAMEPLATE.
- COORDINATE EXACT LOCATION AND FINAL CONNECTION REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
   COORDINATE EXACT LOCATION AND FINAL CONNECTION REQUIREMENTS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
- HARD WIRE DIRECTLY TO UNIT.
   WIRE TO DISCONNECT/STARTER AND THEN TO UNIT.
- 5. WIRE TO DISCONNECT AND THEN TO CONTROLS.
- 6. WIRE FIRST TO OUTDOOR UNIT, THEN CONTINUE SAME CIRCUIT TO INDOOR UNIT DISCONNECT THEN TO INDOOR UNIT.
  7. PROVIDE NEMA 3R FOR DCU'S AND NEMA 1 FOR DSS'S.
- 8. WIRE TO DISCONNECT AND THEN TO LIGHT SWITCH.
  9. DUPLEX EXHAUST FAN. ONLY ONE EXHAUST FAN SHALL RUN AT A TIME. WIRE TO EACH VFD AND THEN TO EACH FAN.

				ELECTRICAL -	LUMINAIRE S	CHEDULE	
TYPE DESCRIPTION	MANUFACTURER: "MODEL" SERIES	# & TYPE BALLAST(S)	# & TYPE LAMP(S)	WATTAGE	VOLTS	MOUNTING	REMARKS
D1 6" OPEN LED DOWNLIGHT, DIMMABLE	PRESCOLITE: 'LF6LED' OMEGA: 'OM6LED' SERIES GOTHAM: 'EVO' SERIES	N/A	1500 LUMEN MIN.	14 W	UNIV.	RECESSED CEILING	SELF FLANGED LOW IRIDESCENT ALUMINUM REFLECTOR, BAR HANGERS, PRE WIRED J-BOX.
R2 2'x4' RECESSED ARCHITECTURAL LUMINAIRE	EATON: '24CZ' SERIES LITHONIA: '2VTL' SERIES LUMAX: 'LDCLED' SERIES	N/A	4800 LUMEN MIN.	40 W	UNIV.	RECESSED CEILING	20 GAUGE STEEL HOUSING, WHITE FINISH. CURVED FROSTED VIRGIN ACRYLIC LENS. DIFFUSE CENTER SHIELD.
R3 2'x4' RECESSED ARCHITECTURAL LUMINAIRE, DIMMABLE	EATON: '24CZ' SERIES LITHONIA: '2VTL' SERIES LUMAX: 'LDCLED' SERIES	N/A	5500 LUMEN MIN.	45 W	UNIV.	RECESSED CEILING	20 GAUGE STEEL HOUSING, WHITE FINISH. CURVED FROSTED VIRGIN ACRYLIC LENS. DIFFUSE CENTER SHIELD.
R4 2'x4' RECESSED ARCHITECTURAL LUMINAIRE, DIMMABLE	EATON: '24CZ' SERIES LITHONIA: '2VTL' SERIES LUMAX: 'LDCLED' SERIES	N/A	4800 LUMEN MIN.	40 W	UNIV.	RECESSED CEILING	20 GAUGE STEEL HOUSING, WHITE FINISH. CURVED FROSTED VIRGIN ACRYLIC LENS. DIFFUSE CENTER SHIELD.
R6 2'x4' RECESSED ARCHITECTURAL LUMINAIRE, DIMMABLE	EATON: '24CZ' SERIES LITHONIA: '2VTL' SERIES LUMAX: 'LDCLED' SERIES	N/A	6500 LUMEN MIN.	57 W	UNIV.	RECESSED CEILING	20 GAUGE STEEL HOUSING, WHITE FINISH. CURVED FROSTED VIRGIN ACRYLIC LENS. DIFFUSE CENTER SHIELD.
X1 THERMOPLASTIC LED EXIT SIGN	EATON: 'LPX' SERIES LITHONIA: 'LQM' SERIES LIGHTALARMS: 'GRANDE' SERIES	N/A	LED	5 W	UNIV.	WALL/CEILING/END/ PER PLANS	6" RED LETTERS, WHITE HOUSING, CHEVRONS AND FACES PER PLANS, AC ONLY, VOLTAGE DISCONNECT, 5 YEAR WARRANTY

#### LUMINAIRE SCHEDULE NOTES:

- 1. LIGHTING FIXTURES MANUFACTURER SHALL BE PROVIDED AS SPECIFIED, UNLESS PRE-APPROVED DURING BIDDING BY THE ARCHITECT/ENGINEER. DISTRIBUTOR SHALL BREAK OUT FIXTURE PRICING FROM VARIOUS
- LIGHTING AGENCIES AS REQUIRED TO MAINTAIN SPECIFIED PACKAGE.

  2. VERIFY TRIM REQUIREMENTS AND FINAL FIXTURE PLACEMENT WITH ARCHITECTURAL REFLECTED CEILING
- 3. VERIFY VOLTAGE REQUIREMENTS WITH RESPECT TO FLOOR PLAN CIRCUITING AND PANEL SCHEDULES.
  4. VERIFY ALL MOUNTING HEIGHTS ON WALL WITH ARCHITECT PRIOR TO INSTALLATION.
- 5. LAMP COLOR SHALL BE 4000.6. INSTALL FIXTURE PER MANUFACTURER'S RECOMMENDATIONS.

## 100% BID DOCUMENTS

Project Title

Location

Issue Date

**DURHAM VAMC** 

VA DURHAM - PACU RENOVATION

Checked

SBT

DURHAM, NC

Drawn

GMT

Project Number

**Building Number** 

**Drawing Number** 

E-602

67 of 78

558-17-150

Drawing Title CONSULTANT ARCHITECT/ENGINEER OF RECORD STAMP Office of ELECTRICAL - SCHEDULES 100% BID DOCUMENTS PERKINS—
EASTMAN
LAURENE, RICKHER
& SORRELL, P.C.
Consulting Structural Engineers

9701 RED OAK BLVD. SUITE 50°
NORTH CAROLINA
EAX 70° Construction and Facilities PO Box 1629, Hickory, NC 28603 Management Approved: 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 SEAL 033398 Andreka Watlington NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116 8701 RED OAK BLVD. SUITE 500 CHARLOTTE, NORTH CAROLINA 28217 PHONE 704-522-0495 FAX 704-522-0499 EMAIL mail@irspc.net WEB www.irspc.net FULLY SPRINKLERED U.S. Department of Veterans Affairs www.atriaxgroup.com

12/17/202

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VA FORM 08 - 6231

	Loc Supply I Mou Enclo S.E.	4049A					Pha W	olts: ases: ires: FTL: SFL:	3 4 NO	08 Wy	re				A.I.C. Rating: EX. Fault Current: EX. Mains Type: MCB Mains Rating: 60 A MCB Rating: 60 A			
СКТ	Circuit Description	Conduit & Wire S	Size T	「rip	Pole	S	,	Δ.	E	В		C		Poles	Trip	Conduit & Wire Size	Circuit Description	СКТ
1	EX. LTS			20	1		0.5	0.5						1	20		EX. MED GAS PNL	2
3	EX. LTS			20	1				0.5	0.5				1	20		EX. REC	4
5	EX. LTS			20	1						0.5	0.5		1	20		EX. REF.	6
7	SPARE			20	1		0	1						1	20		AUTO. DOORS	8
9	EX. LTS			20	1				1.4	0.4	0.5			1	20		EX. LTS	10
11	EX. LTS EXISTING			20	1		0.5	0.5			0.5	0		1	20		SPARE	12 14
13 15	EXISTING			20 20	1		0.5	0.5	0.5	0.4				1	20		EX. REC LTS - A4049A	14
17	NAC			20 20	1				0.5	0.4	1	0.12		1	20		LTS - A4049A LTS - A4049A	18
19	EXISTING			20 20	1		0.5	0.4				0.12		1	20		LTS - A4049A	20
21	SPACE						0.0	0.4	0	1			•••	•				22
23	SPACE										0	1		2	20		EX. LASER	24
25																		26
27																		28
29																		30
31																		32
33																		34
35																		36
37																		38
39 41																		40 42
41				To	tal Lo	od.	2	.9	4.	7	2	62						42
Legend							A =		IANCE	E 0:	= OTH	ER (				SFL = SUBFEED LUGS RWISE NOTED.	FTL = FEED THRU	LUGS
oad Class	sification		Conn	nect	ed Lo	ad		Dema	nd Fac	ctor	Es	timate	d D	Deman	d	Panel	Totals	
GHTING			0	.92	kVA			12	5.00%			1.15	k۱	/A				
ther				1 k'	VA			10	0.00%	,		1 k	(VA	4		Total Conn. Load:	12.22 kVA	
CEPTAC	CLE(S)			1 k'	VA			10	0.00%	,		1 k	۲V۶	4		Total Est. Demand:	12.45 kVA	
																Total Conn.:	34 A	
																Total Est. Demand:		
			1															

EXISTING   20   1   0.8   0.8     1   20   EXISTING   2   2   2   1     0.8   0.8     1   20   EXISTING   2   2   2   2   2   2   2   2   2		Supply Mou Encl	cation: CORRIDOR From: EED unting: RECESSED osure: NEMA 1 Label NO		I	Pha W	olts: ases: /ires: FTL: SFL:	3 4 NO	08 Wy	e			A.I.C. Rating: EX. Fault Current: EX. Mains Type: MCB Mains Rating: 150 A MCB Rating: 150 A					
3	СКТ	Description	Conduit & Wire Size		Poles	1		E	3		2		Poles			Description	СКТ	
SENSTING   20   1					1	8.0	8.0	0.0	0.0				1				2	
Total Load:   File					1			0.8	0.8	0.0		$\overline{}$						
9					1	0.8	0.8			0.8	U							
11					1 1	0.0	0.0	0.8	0.8									
13					1			0.0	0.0	0.8	0.8	1					12	
15					1	0.8	0.8			3.0	3.0						14	
17					1			0.8	0.8								16	
19					1					0.8	0.8	1					18	
23	19				1	0.8	0.8						1				20	
25					1			0.8	0.8				1				22	
27					1					8.0	8.0		1				24	
29					1	0.8	0.8										26	
31   EXISTING   20   1     0.8								0.8	0.8			ļ					28	
STATE   STAT					1					0.8	0.8							
35   37   37   38   39   39   30   30   30   30   30   30					1	0.8	0.8	0.0	0.0									
20   2     0.25   11.4   0.25   12   3   100   REFER TO RISER   E4CA   40   41   42   41   42   42   42   43   44   44   44   44		EXISTING		20	1			0.8	0.8	0.05			1	20		EXISTING		
STING   20   2	35 27	EXISTING		20	2	0.25	11 /			0.25		Н						
Total Load:   21.25   22.7   18.64						0.25	11.4	0.25	12			LI	3	100	REFER TO RISER	EΛCΔ		
Total Load:   21.25   22.7   18.64   ALL LOADS SHOWN ABOVE IN   Legend:   L = LIGHTING   R = RECEPTACLE   M = MOTOR   E = EQUIPMENT   A = APPLIANCE   O = OTHER   (C) = CONDUIT   SFL = SUBFEED LUGS   FTL = FEED THRU LUGS   ALL CONDUIT AND WIRE TO BE 3/4"C. WITH (2)#12, (1)#12GND, UNLESS OTHERWISE NOTED.     Ad Classification   Connected Load   Demand Factor   Estimated Demand   Panel Totals     HTING   1.29 kVA   125.00%   1.62 kVA     Ver   1 kVA   100.00%   1 kVA   Total Conn. Load:   62.59 kVA     PLIANCE   6 kVA   75.00%   4.5 kVA   Total Est. Demand:   53.19 kVA     CEPTACLE(S)   26.46 kVA   68.90%   18.23 kVA   Total Conn.:   174 A		EXISTING		20	2			0.23	12	0.25	10	ا	3	100	TIELETT TO THOSE IT	L+OA	42	
ALL LOADS SHOWN ABOVE IN  Legend:  L = LIGHTING R= RECEPTACLE M = MOTOR E = EQUIPMENT A = APPLIANCE O = OTHER (C) = CONDUIT SFL = SUBFEED LUGS FTL = FEED THRU LUGS ALL CONDUIT AND WIRE TO BE 3/4"C. WITH (2)#12, (1)#12GND, UNLESS OTHERWISE NOTED.  Ad Classification Connected Load Demand Factor Estimated Demand Panel Totals  HTING 1.29 kVA 125.00% 1.62 kVA  Ver 1 kVA 100.00% 1 kVA Total Conn. Load: 62.59 kVA  PLIANCE 6 kVA 75.00% 4.5 kVA Total Est. Demand: 53.19 kVA  CEPTACLE(S) 26.46 kVA 68.90% 18.23 kVA Total Conn.: 174 A				To	tal Load:	21	25	22	7			+						
Legend:         Legend:         Legend:         Legend:         Legend:         Legend:         Legend:         Legend:         Legend:         Connected Load         Demand Factor         Connected Load         Demand Factor         Estimated Demand         Panel Totals           HTING         1.29 kVA         125.00%         1.62 kVA         1.62 kV					tai Loud.													
ver         1 kVA         100.00%         1 kVA         Total Conn. Load:         62.59 kVA           PLIANCE         6 kVA         75.00%         4.5 kVA         Total Est. Demand:         53.19 kVA           CEPTACLE(S)         26.46 kVA         68.90%         18.23 kVA         Total Conn.:         174 A	L = LIG	GHTING R= RECE	ALL CONDUIT	AND W	/IRE TO E ed Load	BE 3/4"	C. WI <b>Dema</b>	ITH (2)	#12, ( ctor	(1)#12	GND, <b>timat</b>	ÙŃ ed I	ILESS <b>Dema</b> r	OTHER	RWISE NOTED.		J LUGS	
PLIANCE         6 kVA         75.00%         4.5 kVA         Total Est. Demand:         53.19 kVA           CEPTACLE(S)         26.46 kVA         68.90%         18.23 kVA         Total Conn.:         174 A	HTING																	
CEPTACLE(S) 26.46 kVA 68.90% 18.23 kVA <b>Total Conn.:</b> 174 A	wer			1 k	VA		10	0.00%			1	kV	A		Total Conn. Load:	62.59 kVA		
	PLIANCE	<b>E</b>		6 k	VA		75	5.00%			4.	5 k\	/A		Total Est. Demand:	53.19 kVA	<u></u>	
	CEPTAC	CLE(S)		26.46	kVA		68	3.90%			18.	23 k	ΚVA		Total Conn.:	174 A		
															Total Est. Demand:	148 A		
tes:																		

	Supply Fron Mountin	n: CORRIDOR A40 n: DB g: RECESSED e: NEMA 1	49A				Ph	Volts: ases: Vires: FTL: SFL:	3 4 YES	08 Wye					AIC Rating: 25 Fault Current: - Mains Type: M Mains Rating: 15 MCB Rating: 15	CB 50 A		
СКТ	Circuit Description	Conduit & Wire Size	Trip	Poles			4		В		2		Poles	Trip	Conduit & Wire Size		Circuit Description	СКТ
	EXISTING CIRCUIT	00	20	1	1		1.00	-			_		1	20	<u> </u>		STING CIRCUIT	2
	EXISTING CIRCUIT		20	1			1100	1.00	1.00				1	20			STING CIRCUIT	4
	EXISTING CIRCUIT		20	1	ļ				1100	1.00	1.00		1	20			STING CIRCUIT	6
	EXISTING CIRCUIT		20	1	1	1.00	1.00						1	20			TING CIRCUIT	8
	EXISTING CIRCUIT		20	1	İ			1.00	1.00				1	20			STING CIRCUIT	10
	EXISTING CIRCUIT		20	1	ļ					1.00	1.00		1	20			STING CIRCUIT	12
	EXISTING CIRCUIT		20	1	ļ	1.00	1.00						1	20			STING CIRCUIT	14
	EXISTING CIRCUIT		20	1	ļ			1.00	1.00				1	20			STING CIRCUIT	16
	EXISTING CIRCUIT		20	1						1.00	1.00		1	20			STING CIRCUIT	18
	EXISTING CIRCUIT		20	1	ļ	1.00	1.00						1	20			STING CIRCUIT	20
21	EXISTING CIRCUIT		20	1				1.00	1.00				1	20		EXIS	STING CIRCUIT	22
23	EXISTING CIRCUIT		20	1						1.00	1.00		1	20		EXIS	TING CIRCUIT	24
25	EXISTING CIRCUIT		20	1		1.00	1.00						1	20		EXIS	TING CIRCUIT	26
27	EXISTING CIRCUIT		20	1				1.00	1.00				1	20		EXIS	TING CIRCUIT	28
29	EXISTING CIRCUIT		20	1						1.00	1.00		1	20		EXIS	STING CIRCUIT	30
31	EXISTING CIRCUIT		20	1		1.00	1.00						1	20		EXIS	TING CIRCUIT	32
	EXISTING CIRCUIT		20	1				1.00	1.00				1	20			TING CIRCUIT	34
	EXISTING CIRCUIT		20	1						1.00	0.00					SPA	CE	36
37	SPACE					0.00	9.72											38
	SPACE							0.00	8.82			-'	3	100	SEE RISER	LPA		40
41	SPACE			tal Lo						0.00	7.12							42
	LIGHTING R= RECEPTA		IIT AND	WIRE	TO	T A =	= APPL 4"C. W	IANCE	Ε Ο = )#12, (	1)#12G	R (C	ŃL	ESS O		SFL = SUBFEED LU		FTL = FEED THRU L	.UGS
	assification		Conne		oac	i		nd Fa		Esti			emand		F	Panel	Totals	
GHTIN				8 kVA				25.00%			1 k\							
CEPT	ACLE(S)		56.	16 kVA			58	8.90%			33.08	k۷	Ά		Total Conn. L	oad:	60.66 kVA	
PLIAN	NCE		3.	7 kVA			7!	5.00%			2.78	kV	4		Total Est. Dem	and:	36.85 kVA	
															Total Co			
															Total Est. Dem			
															Total Est. Dell	iana.	1027	

	Panel:	LPA																
	Supply From	: NURSE ST C4001 : LP : RECESSED	D				Ph	Volts: ases: Vires:	3	08 Wye	)				AIC Rating: 22 Fault Current: - Mains Type: M			
	Enclosure							FTL:							Mains Rating: 10			
	S.E. Labe	I NO						SFL:	NO						MCB Rating: -			
СКТ	Circuit Description	Conduit & Wire Size	Trip	Pole	9		A		3		C		Pole	s Trip	Conduit & Wire	Ciu	cuit Description	СКТ
	REC - C4001D	O.L.O	20	1	<u></u>		0.98	1					1	20	, OILO		WALL - BAY 16	2
	HEADWALL - BAY 15		20	1			0.00		0.98				1	20			WALL - BAY 14	4
	LTS - A4015		20	1	T					0.80	0.98		1	20			WALL - BAY 13	6
	HEADWALL - BAY 12		20	1	T	. 0.98	0.98					ļ	1	20			WALL - BAY 11	8
	HEADWALL - BAY 10		20	1	Ī.,			0.98	0.98				1	20			WALL - BAY 9	10
11	HEADWALL - BAY 8		20	1						0.98	0.54		1	20		REC -	RM A4014	12
13	REC - RM A4015		20	1		. 1.28	0.98						1	20		HEAD\	WALL - BAY 7	14
15	HEADWALL - BAY 6		20	1	ļ.,			0.98	0.98				1	20		HEAD\	WALL - BAY 5	16
	HEADWALL - BAY 4		20	1						0.98	0.98		1	20			WALL - BAY 3	18
	HEADWALL - BAY 2		20	1		. 0.98	0.98						1	20			WALL - BAY 1	20
	REC - RM C4001A		20	1				0.54	1.00				1	20			EE - RM C4001A	22
	MICRO - RM C4001A		20	1	<u></u>					1.00	0.50		1	20			F - RM C4001A	24
	HEADWALL - C4001C		20	1	<u></u>	. 1.34	0.50						1	20			RM C4001H	26
	LIFT - RM A4015A		20	1		-		0.50	0.90				1	20			RM A4015	28
	SPARE		20	1			0.00			0.00	0.36		1	20		REC -		30
	SPARE		20	1			0.00		0.00				1	20		SPARE		32
	SPARE		20	1		-		0.00	0.00	0.00	0.00		1	20		SPARE		34
	SPARE		20	1		0.00	0.00			0.00	0.00		1	20		SPARE		36
	SPARE SPARE		20	1	<u> </u>	0.00	0.00	0.00	0.00				1	20		SPARE SPARE		38
	SPARE	<del></del>	20	1		-		0.00	0.00	0.00	0.00		1	20		SPARE		40 42
41	SPANE	<del></del>				. 0	⊥ 72	0	L 82	1	12			20		SFARE	=	42
			10	tal Lo	oaa			S SHOV										
Lege	nd:					/\	-0/100	01101	*14710	O V L 11	11071							
	LIGHTING R= RECEPTAC														SFL = SUBFEED LUC RWISE NOTED.	3S F	TL = FEED THRU LI	JGS
Load Cla	assification	(	Conne	cted	Loa	d	Dema	and Fac	ctor	Esti	imated	d b	emar	ıd	Р	anel To	otals	
LIGHTIN			0.	8 kVA			12	25.00%			1 k	VA						
RECEPT	ACLE(S)		21.	16 kV	A		7:	3.63%			15.58	3 k\	/A		Total Conn. L	oad: 2	5.66 kVA	
APPLIAN	. ,			7 kVA				5.00%			2.78				Total Est. Dem			
7.1.1.2.7.1					•		•	0.0070					•		Total Co			
															Total Est. Dem	and: 5	4 A	
Notes:																		
110163.																		

		Supply From:	RECESSED NEMA 1	ID.	T		I	Ph V	Volts: ases: Vires: FTL: SFL:	3 4 NO	08 Wye					AIC Rating: 2 Fault Current: - Mains Type: N Mains Rating: 1 MCB Rating: -	<b>MLO</b>	
	СКТ	Circuit Description	Conduit & Wire Size	Trip	Poles	,		4	E	3		3	F	Poles	Trip	Conduit & Wire Size	Circuit Description	СКТ
r	1	HEADWALL - RM C4001C		20	1	ļ	1.48	0.72						1	20		REC - RM C4001D	2
T		LTS - RM 4001D		20	1				1.29	1.26				1	20		REC - RM A4015	4
T	5	REC - RM C4001		20	1					_	1.26	0.98		1	20		HEADWALL - BAY 15	6
		HEADWALL - BAY 16		20	1	ļ	0.98	0.98				_		1	20		HEADWALL - BAY 13	8
	9	HEADWALL - BAY 14		20	1	Ī			0.98	0.50				1	20		UC REF - RM A4011	10
T	11	OMNICELL - RM A4011		20	1	Ī					0.50	0.98		1	20		HEADWALL - BAY 12	12
	13	WARMING- RM A4011		20	1		1.00	0.98						1	20		HEADWALL - BAY 10	14
	15	HEADWALL- BAY 11		20	1				0.98	0.98				1	20		HEADWALL - BAY 8	16
ľ	17	HEADWALL - BAY 9		20	1						0.98	0.98		1	20		HEADWALL - BAY 7	18
	19	REC - RM A4014		20	1		0.90	0.98						1	20		HEADWALL - BAY 5	20
		HEADWALL - BAY 6		20	1				0.98	0.98				1	20		HEADWALL - BAY 3	22
r		HEADWALL - BAY 4		20	1	Ī					0.98	0.98		1	20		HEADWALL - BAY 1	24
r		HEADWALL - BAY 2		20	1	Ī	0.98	0.72						1	20		REC - RM C4001S	26
r		REC - RM C4001		20	1				1.60	1.00				1	20		COPIER - RM C4001V	28
F		REC - RM C4001S		20	1	Ť					1.08	0.72		1	20		REC- RM C4001	30
f		OMNICELL - RM C4001V		20	1	Ť	1.00	0.18						1	20		ICE - RM A4011	32
F		REC - RM A4015		20	1	1			0.36	0.86				1	20		REC - RM A4026	34
F		OMNICELL - RM C4001V		20	1				0.00	0.00	0.50	0.00		1	20		SPARE	36
F		U.C REF RM C4001V		20	1	1	0.50	0.00			0.00	0.00		1	20		SPARE	38
H		REC - RM C4001		20	1	+	0.00	0.00	1.08	0.00				1	20		SPARE	40
H		WARMER - RM C4001V		20	1	†**			1.00	0.00	1.00	0.00		1	20		SPARE	42
H					tal Lo	a4.	11	.4	12.	85	10			•			0.7.1.12	
				10	nai Lo	au.					OVE IN							
		LIGHTING R= RECEPTACI	ALL CONDU	IT AND	WIRE	TO	BE 3/4	4"C. W	ITH (2)	#12, (	1)#120	ND, Ù	ŃLE	SS OT		VISE NOTED.	IGS FTL = FEED THRU	LUGS
		assification		Conne			t		nd Fac		Esti	mated				ı	Panel Totals	
	HTIN				29 kVA				5.00%			1.62						
RE	CEPT	ACLE(S)		26.	46 kVA			68	3.90%			18.23	kVA	١		Total Conn. I	Load: 35.19 kVA	
PI	PLIAN	ICE		6	kVA			7	5.00%			4.5 k	ΧVA			Total Est. Den	nand: 25.79 kVA	
																Total C	<b>Conn.:</b> 98 A	
															+	Total Est. Den		

1. GFCI BREAKER

	Supply From:	: RECESSED : NEMA 1	9B				Pha W	/olts: ases: /ires: FTL: SFL:	4 NO	08 Wye					AIC Rating: 25 Fault Current: S Mains Type: M Mains Rating: 15 MCB Rating: 15	EE RI ICB 50 A	SER	
CKT	Circuit Description	Conduit & Wire Size	Trip	Poles		Å	4	E	3		<b>)</b>		Poles	Trip	Conduit & Wire Size		Circuit Description	СКТ
3	AHU-70 (SUPPLY)	3#8,1#10G,3/4"C.	35	3	M	1.67	1.07	1.67	1.07	1.07	4.07	M 	3	20	3#10,1#10G,3/4"C.	AHU	-70 (RETURN)	2
5 7 9	EF-70	3#12,#12G,3/4"C.	20	3	M	0.80	0.90	0.80	0.90	1.67	1.07		2	20		DCU	-1/DSS-1	6 8 10
11	LI -70	3#12,#12G,5/4 O.	20	3				0.00	0.90	0.80	0.20		1	20		AHU	-70 (LIGHTS)	12
	AHU-70 (CONTROLS)		20	1		0.20	0.00						1	20		SPA		14
	EF-70 (CONTROLS)	·	20	1				0.20	0.00				1	20		SPA		16
	SPACE									0.00	0.00		1	20		SPA		18
	SPACE					0.00	0.00									SPA		20
	SPACE							0.00	0.00							SPA		22
	SPACE									0.00	0.00					SPA		24
	SPACE					0.00	0.00									SPA		26
	SPACE							0.00	0.00							SPA		28
	SPACE									0.00	0.00					SPA		30
	SPACE					0.00	0.00									SPA		32
	SPACE							0.00	0.00							SPA		34
	SPACE									0.00	0.00					SPA		36
	SPACE					0.00	0.00									SPA		38
	SPACE							0.00	0.00							SPA		40
41	SPACE										0.00					SPA	CE	42
.ege L =	nd: LIGHTING R= RECEPTAC	ALL CONDU	E = E0 T AND	WIRE	EN1	- A = BE 3/4	OADS APPL	SHOV IANCE ITH (2)	= O = )#12, (*	OTHE	R (C	ŃL	ESS O	THER\	WISE NOTED.		FTL = FEED THRU L	UGS
d Cl	assification		Conne	cted Lo	oad		Dema	nd Fac	ctor	Esti	mated	De	emand		F	Panel	Totals	
or			5.6	6 kVA			10	0.00%			5.6 k	VA						
or La	rgest		5	kVA			12	5.00%			6.25 l	٠V٨	4		Total Conn. L	oad:	13 kVA	
er	-		2.4	4 kVA				0.00%			2.4 k				Total Est. Dem			
															Total C			
															Total Est. Dem			
															Total Est. Dell	iaiiu.	40 A	

## EXISTING CONDITIONS NOTE

THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON 10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT.

100% BID DOCUMENTS

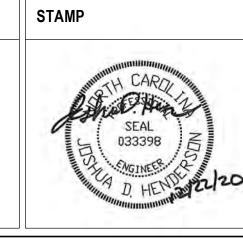
VA FORM 08-6231

CONSULTANT CONSULTING ENGINEERS
705 EAST MOREHEAD STREET
CHARLOTTE, NC 28202•704-295-4263
NC LICENSE NO.: C-2848
AME PROJECT NO.: 17116

PERKINS—EASTMAN
SIXTH STREET
C 28202

LAURENE, RICKHER
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8701 RED OAK BLVD. SUITE 500
CHARLOTTE, NORTH CAROLINA 28217
PHONE 704-522-0495 FAX 704-522-0499
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ARCHITECT/ENGINEER OF RECORD Atriax, pllc 102 3rd Avenue, NE PO Box 1629, Hickory, NC 28603 www.atriaxgroup.com



Office of Construction and Facilities Management U.S. Department of Veterans Affairs

Project Title Project Number Drawing Title 558-17-150 VA DURHAM - PACU RENOVATION ELECTRICAL - PANEL SCHEDULES 100% BID DOCUMENTS **Building Number** Approved: Drawing Number Location **DURHAM VAMC** DURHAM, NC Andreka Watlington FULLY SPRINKLERED Issue Date Checked E-603 Drawn GMT SBT 68 of 78



#### **EXISTING CONDITIONS NOTE**

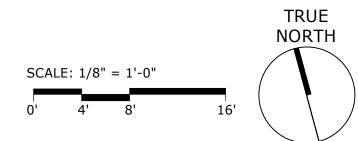
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#### **ELECTRICAL - DEMOLITION NOTES**

- A IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE EXISTING EQUIPMENT AS REQUIRED TO ACCOMPLISH THE NEW WORK AS SHOWN OR REASONABLY IMPLIED. THE CONTRACTOR SHALL REFER TO THE NEW ARCHITECTURAL, PLUMBING, FIRE PROTECTION, MECHANICAL, ELECTRICAL, ETC. PLANS FOR WORK SHOWN TO DETERMINE THE EXTENT OF DEMOLITION REQUIRED.
- B WHEN REMOVING ELECTRICAL EQUIPMENT AND SYSTEMS, ALL PRECAUTIONS SHALL BE TAKEN TO PREVENT STRUCTURAL DAMAGE TO THE BUILDING. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ANY STRUCTURAL SUPPORTS REQUIRED, TEMPORARY OR
- C THE CONTRACTOR SHALL EXERCISE CARE SO THAT ONLY THAT CONSTRUCTION INDICATED OR REASONABLY IMPLIED TO BE REMOVED SHALL BE DEMOLISHED. THE EXISTING CONSTRUCTION TO REMAIN SHALL BE LEFT INTACT AND UNDAMAGED. THE CONTRACTOR SHALL PROTECT ALL ADJACENT SURFACES AND MATERIALS AS REQUIRED
- TO PREVENT DAMAGE. D THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL DEMOLITION AND CONSTRUCTION DEBRIS GENERATED. TAKE CARE TO PREVENT EXCESSIVE LOADING OF
- FLOOR ASSEMBLIES. E THE CONTRACTOR SHALL COORDINATE/SCHEDULE ALL POWER INTERRUPTIONS WITH THE OWNER AND POWER COMPANY IN WRITING.
- F WHEN EXISTING ELEMENTS OF ELECTRICAL EQUIPMENT AND SYSTEMS ARE REMOVED, ALL REMAINING OPENINGS IN THE SLAB/WALL SHALL BE FILLED IN BY THE CONTRACTOR TO MATCH ADJACENT.
- G REMOVE ALL MISCELLANEOUS ELECTRICAL FIXTURES AND EQUIPMENT RETAINING ITEMS TO BE IDENTIFIED FOR SALVAGE AND STORAGE AT THE DIRECTION OF THE OWNER.
- H THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS DURING DEMOLITION AND CONSTRUCTION TO MAINTAIN THE INTEGRITY AND OPERATION OF EXISTING LIFE SAFETY AND EMERGENCY EGRESS EQUIPMENT.
- I THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS DURING DEMOLITION AND CONSTRUCTION TO MAINTAIN ACCESS TO ALL MEANS OF EGRESS CORRIDORS, DOORWAYS, AND STAIRS.
- J THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS DURING DEMOLITION AND CONSTRUCTION TO PERMIT EFFECTED AREAS TO CONTINUE TO FUNCTION TO THE GREATEST EXTENT POSSIBLE.
- K THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL FLUORESCENT AND HID LAMPS. THE CONTRACTOR SHALL PROVIDE VERIFICATION OF PROPER LAMP DISPOSAL UPON OWNER REQUEST
- THE CONTRACTOR SHALL PROPERLY HANDLE AND DISPOSE OF ALL PCB CONTAINING EQUIPMENT SUCH AS BALLASTS, TRANSFORMERS, AND POTTING COMPOUNDS THROUGH PROPER AUTHORITIES.
- M THE CONTRACTOR SHALL REMOVE ALL ELECTRICAL DEVICES, FIXTURES, WIRING, AND ROUGH-IN IN WALLS, FLOORS OR CEILINGS TO BE DEMOLISHED. THE CONTRACTOR SHALL REMOVE EXISTING ELECTRICAL DEVICES, LIGHTING FIXTURES, SYSTEMS DEVICE, ASSOCIATED WIRING, AND CONDUIT BACK TO SOURCE OR NEAREST DEVICE TO REMAIN, UNLESS OTHERWISE NOTED. IF EXISTING CIRCUIT HAS DOWNSTREAM DEVICES TO
- REMAIN, CONTRACTOR SHALL REFEED THESE ITEMS ACCORDINGLY THROUGH ALTERNATE N THE ELECTRICAL CONTRACTOR SHALL DETERMINE THE EXTENT TO WHICH EXISTING CONDUIT AND THE WIRING WILL HAVE TO BE RE-ROUTED, RELOCATED, OR RECONNECTED, AND THE AMOUNT OF ADDITIONAL WORK WHICH MAY BE REQUIRED DUE TO THE PHYSICAL LOCATION OF THE CONDUIT AND WIRING SHALL BE PERFORMED UNDER
- THIS CONTRACT WITHOUT ADDITIONAL CHARGES TO THE OWNER. O PRIOR TO ANY DEACTIVATION AND RELOCATION OF DEMOLITION WORK, ARRANGE A CONFERENCE WITH ARCHITECT AND THE OWNER'S REPRESENTATIVE IN THE FIELD TO INSPECT EACH OF THE ITEMS TO BE DEACTIVATED, REMOVED OR RELOCATED. CARE SHALL BE TAKEN TO PROTECT ALL EQUIPMENT DESIGNATED TO BE RELOCATED AND
- REUSED OR TO REMAIN OPERATIONAL AND BE INTEGRATED WITH THE NEW SYSTEMS. P CONTRACTOR SHALL INSPECT AND IDENTIFY ANY CONDUIT AND/OR CONDUCTORS THAT MAY BE EMBEDDED IN WALLS TO BE DEMOLISHED OR LOCATED IN THE DEMOLITION AREA AND RELOCATE THESE TO NEW LOCATIONS PRIOR TO THE START OF DEMOLITION. BID PRICE SHALL INCLUDE CONDUIT AND CONDUCTORS AND LABOR FOR ANY THAT MUST BE
- REMOVED OR RELOCATED. Q NO WORK IN HATCHED AREAS. E.C. TO MAINTAIN ALL CIRCUITS IN THIS AREA DURING CONSTRUCTION.
- R ALL WORK SHOWN LIGHT AND SOLID IS EXISTING TO REMAIN. ALL WORK SHOW BOLD AND/OR DASHED IS EXISTING TO BE DEMOLISHED.
- S DEVICES/EQUIPMENT NOTED AS ETBR ON THE DEMOLITION PLAN(S) SHALL BE REMOVED AND RELOCATED TO THE NEW LOCATION AS INDICATED ON THE NEW LIGHTING/POWER/SYSTEMS PLAN(S). DEVICES/EQUIPMENT NOTED AS ETBR ON THE NEW LIGHTING/POWER/SYSTEMS PLAN(S) INDICATES THE NEW LOCATION FOR THE RELOCATED EXISTING DEVICE/EQUIPMENT.
- T REFER TO ARCHITECTURAL PLANS FOR PHASING.
- U FIRE ALARM NOTIFICATION APPLIANCES SHALL BE IDENTIFIED PER SMOKE ZONES SHOWN ON PLANS. ANY DEVICES MOVED FROM ONE ZONE TO THE OTHER SHALL BE REVISED TO INDICATE NEW SMOKE ZONE.
- V ALL EXISTING NURSE CALL DEVICES SHALL BE REMOVED AND RELOCATED.

### # ELECTRICAL - KEYED NOTES - DEMOLITION

- 1 EXISTING PANEL SHALL BE REPLACED WITH NEW. THE CONTRACTOR SHALL TRACE OUT ALL CIRCUITS FOR EXISTING PANEL AND ANY CIRCUITS THAT REMAIN SHALL BE REFED FROM NEW PANELS.REFER TO SHEET EP101, E-601 AND E-603 FOR ADDITIONAL INFORMATION.
- 2 NURSE CALL DEVICE TO BE REMOVED AND RELOCATED. TYPICAL OF 10. 3 NURSE CALL DUTY STATION DEVICE TO BE REMOVED AND RELOCATED. TYPICAL OF 5.
- 4 NURSE CALL CONSOLE TO BE REMOVED AND RELOCATED IN (2) PHASES.



100% BID DOCUMENTS

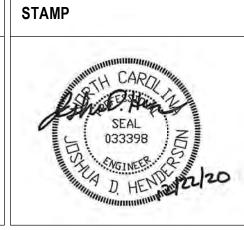
VA FORM 08 - 6231

CONSULTANT 705 EAST MOREHEAD STREET CHARLOTTE, NC 28202•704-295-4263 NC LICENSE NO.: C-2848 AME PROJECT NO.: 17116

PERKINS—
EASTMAN
LAURENE, RICKHER
& SORRELL, P.C.
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ARCHITECT/ENGINEER OF RECORD PO Box 1629, Hickory, NC 28603 www.atriaxgroup.com



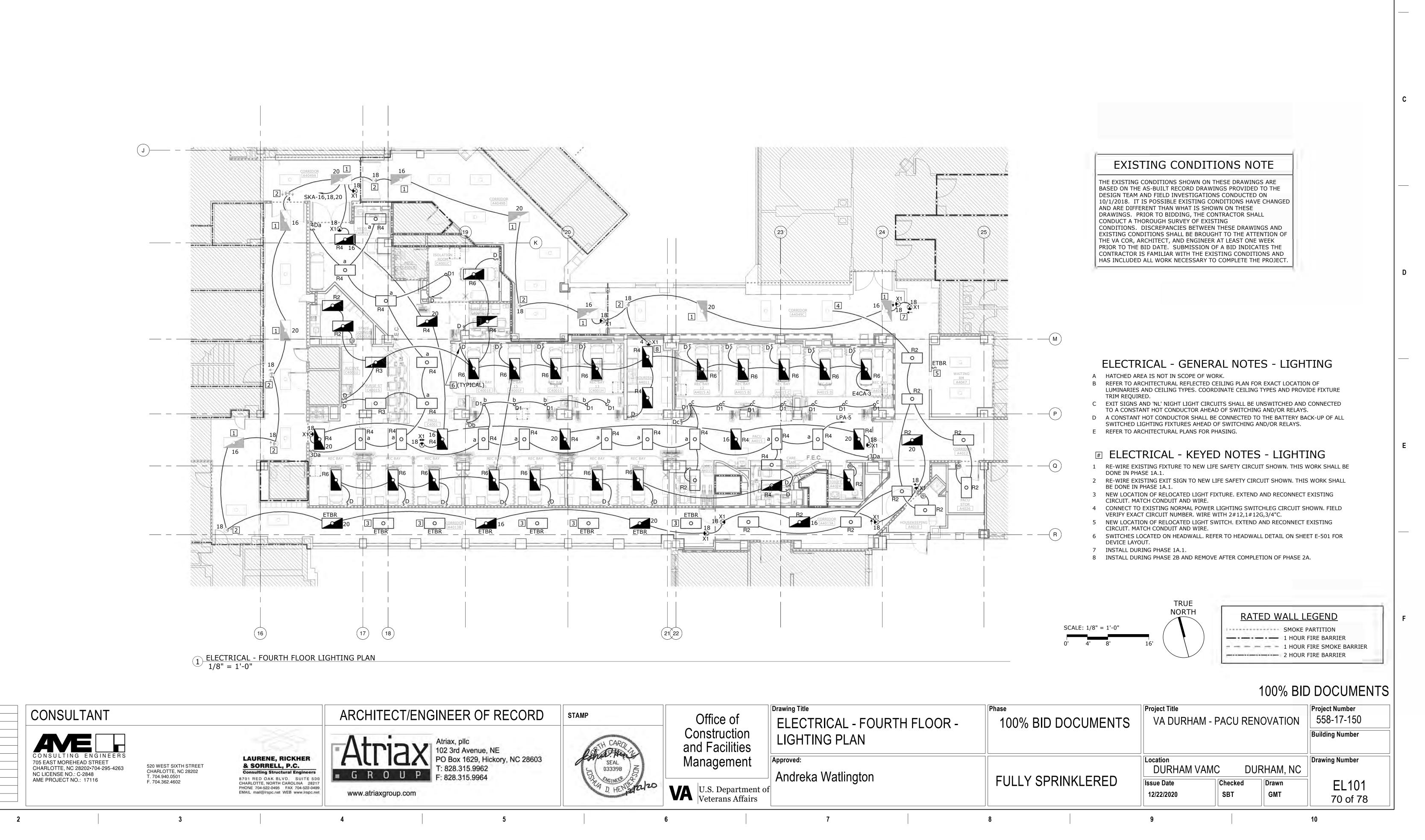
Office of Construction and Facilities Management U.S. Department of Veterans Affairs

Drawing Title ELECTRICAL - FOURTH FLOOR -**DEMOLITION PLAN** Andreka Watlington

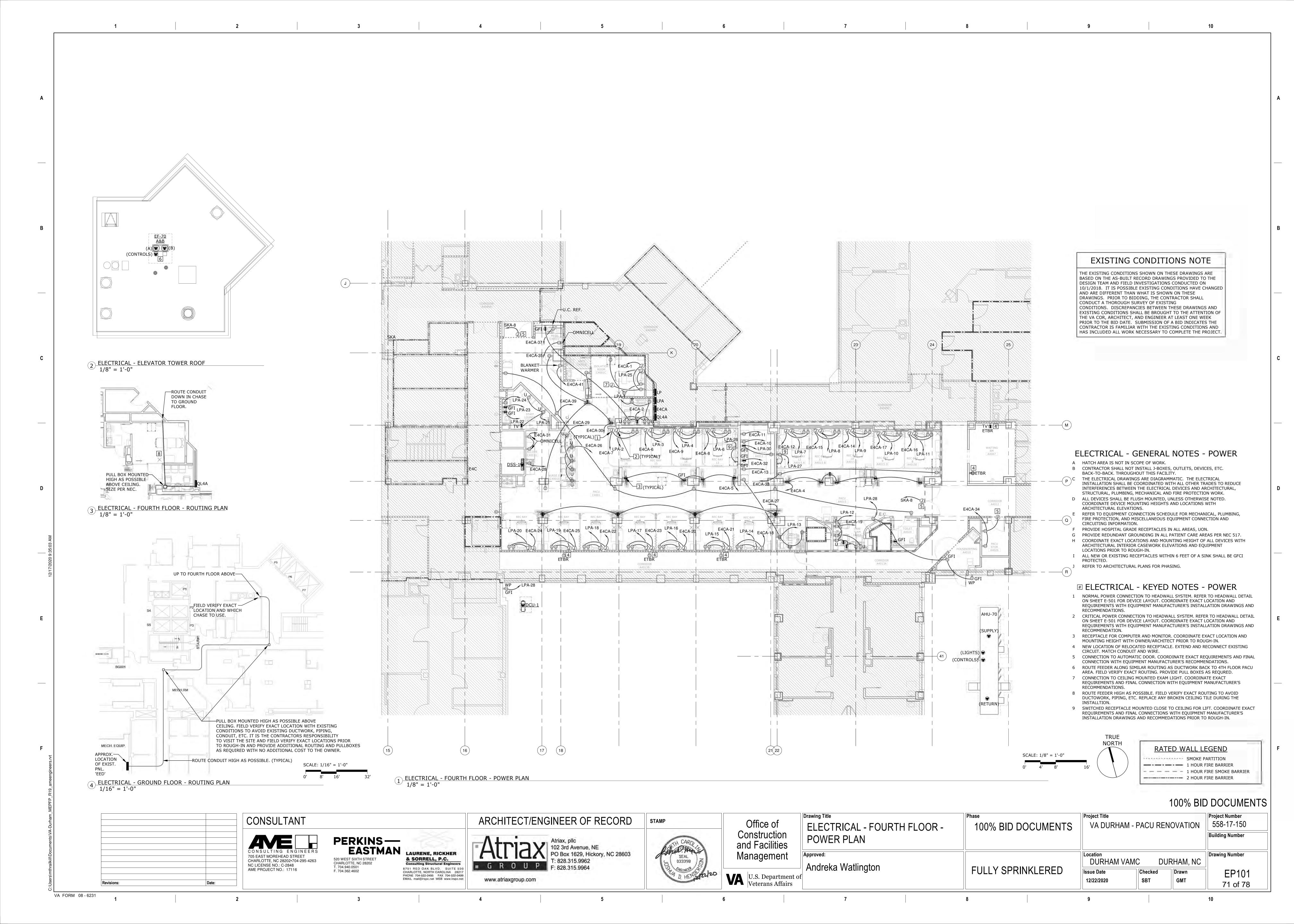
100% BID DOCUMENTS

Project Title Project Number 558-17-150 VA DURHAM - PACU RENOVATION **Building Number** Drawing Number Location **DURHAM VAMC** DURHAM, NC **FULLY SPRINKLERED** Checked **Issue Date** Drawn

ED101 SBT GMT 69 of 78

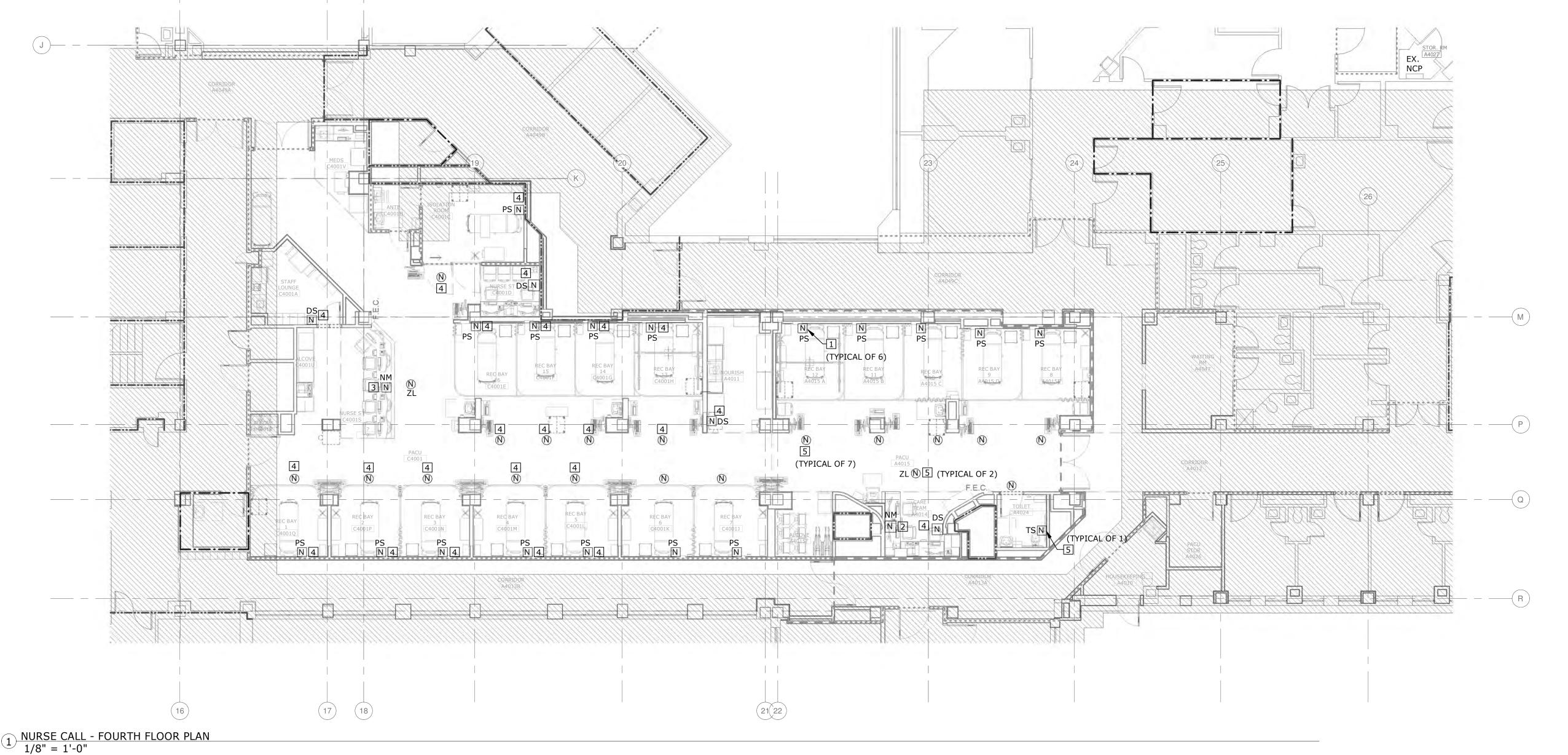


VA FORM 08-6231



### EXISTING CONDITIONS NOTE

THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON 10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT.

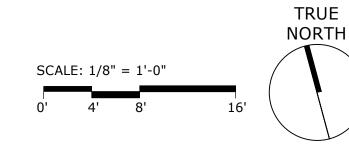


#### **GENERAL NOTES**

- A CONTRACTOR SHALL NOT INSTALL J-BOXES, OUTLETS, DEVICES, ETC. BACK TO BACK THROUGHOUT THIS FACILITY.
- B THE DRAWINGS ARE DIAGRAMMATIC. THE TELECOMMUNICATIONS INSTALLATION SHALL BE COORDINATED WITH ALL OTHER TRADES TO REDUCE INTERFERENCES BETWEEN ALL ELECTRICAL DEVICES AND ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL AND FIRE PROTECTION.
- C ALL DEVICES SHALL BE FLUSH MOUNTED, UNLESS OTHERWISE NOTED. COORDINATE
- DEVICE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH-IN. D ALL WIRING LOCATED IN RETURN AIR PLENUMS SHALL BE ROUTED IN CONDUIT OR SHALL
- BE PLENUM RATED CABLE. COORDINATE REQUIREMENTS WITH HVAC CONTRACTOR. COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHT OF ALL DEVICES WITH ARCHITECTURAL INTERIOR CASEWORK ELEVATIONS AND EQUIPMENT LAYOUTS PRIOR TO
- ROUGH-IN. F REFER TO ARCHITECTURAL PLANS FOR PHASING.
- G REFER TO SHEET F-601 FOR SYMBOL LEGEND AND DAMPER DETAIL. H FIRE ALARM NOTIFICATION APPLIANCES SHALL BE IDENTIFIED PER SMOKE ZONES SHOWN ON PLANS. ANY DEVICES MOVED FROM ONE ZONE TO THE OTHER SHALL BE REVISED TO INDICATE NEW SMOKE ZONE.
- I EXISTING RESPONDER 5 NURSE CALL DEVICES SHALL BE REMOVED AND RELOCATED. CONTRACTOR SHALL INSTALL NEW RESPONDER V NURSE CALL DEVICES AND UPDATE THE PROGRAMMING OF THE NURSE CALL SYSTEM.

### # ELECTRICAL - KEYED NOTES - SYSTEMS

- 1 NURSE CALL SINGLE PATIENT STATION DEVICE FURNISHED AND INSTALLED BY CONTRACTOR AND LOCATED IN HEADWALL. REFER TO HEADWALL DETAIL ON SHEET E-501 FOR DEVICE LOCATION.
- 2 RELOCATE EXISTING RESPONDER V NURSE CALL CONSOLE TO THIS TEMPORARY LOCATION DURING PHASE 1B. RELOCATE TO PERMANENT LOCATION AFTER PHASE 2A IS COMPLETE. THIS NURSE CALL DEVICE IS PROVIDED AS PART OF ANOTHER CONTRACT. CONTRACTOR SHALL FURNISH AND INSTALL BOXES, CONDUITS AND WIRE BACK TO EXISTING HEADEND EQUIPMENT PANEL LOCATED IN STORAGE RM A4027. CONTRACTOR SHALL ALSO RE-INSTALL DEVICES.
- NURSE CALL CONSOLE PERMANENT LOCATION.
- 4 THIS NURSE CALL DEVICE IS INSTALLED UNDER ANOTHER CONTRACT. CONTRACTOR SHALL RELOCATE THIS DEVICE AND REINSTALL AT NEW LOCATION SHOWN ON THIS PLAN. CONTRACTOR SHALL PROVIDE ALL BOXES, CONDUITS, WIRE, ETC FOR A FULLY FUNCTIONAL SYSTEM AND CONNECT TO THE EXISTING HEAD-END EQUIPMENT PANEL LOCATED IN STORAGE RM A4027.
- 5 NURSE CALL DEVICE FURNISHED AND INSTALLED BY CONTRACTOR. CONTRACTOR SHALL FURNISH AND INSTALL ALL BOXES, CONDUITS, WIRE, POWER SUPPLIES, ETC. FOR A FULLY FUNCTIONAL SYSTEM. NURSE CALL DEVICES SHALL TIE INTO THE EXISTING HEAD-END EQUIPMENT PANEL LOCATED IN STORAGE RM A4027.



# RATED WALL LEGEND

SMOKE PARTITION — · — · — 1 HOUR FIRE BARRIER - - - - 1 HOUR FIRE SMOKE BARRIER ---- 2 HOUR FIRE BARRIER

## 100% BID DOCUMENTS

Project Number

558-17-150



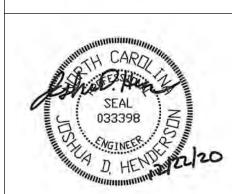
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Office of Construction and Facilities Management U.S. Department of Veterans Affairs

Drawing Title ELECTRICAL - FOURTH FLOOR -NURSE CALL PLAN Andreka Watlington

Project Title VA DURHAM - PACU RENOVATION 100% BID DOCUMENTS FULLY SPRINKLERED

**Building Number** Drawing Number Location **DURHAM VAMC** DURHAM, NC Issue Date Checked Drawn EY101 SBT GMT 72 of 78

	SYMBO	OL LEGEND	(NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED ON PLANS)
TYPE	DESCRIPTION	TYPE	DESCRIPTION
	STEEL TUBULAR CABLE RUNWAY. SEE FLOOR PLANS FOR SIZES AND LENGTHS. BLACK EPOXY POWDER COAT FINISH. PROVIDE ALL REQUIRED HARDWARE, CORNER PIECES, ETC. FOR A COMPLETE INSTALLATION. COORDINATE MOUNTING HEIGHT WITH RACKS/CABINETS IN THE FIELD.	ТТВ	TELECOMMUNICATIONS TERMINATION BACKBOARD BY T.C. PROVIDE - 3/4" THICK X 8' HIGH X LENGTH PER PLANS, UON. BACKBOARD SHALL BE VOID-FREE, A-C GRADE FIRE RATED PLYWOOD WITH 'A' SIDE FACING OUT.
HIHE	CABLE TRAY, LADDER TYPE, SIZE AND LENGTH PER PLANS. PROVIDE ALL REQUIRED HARDWARE, CORNER PIECES, HANGERS ETC. FOR A COMPLETE INSTALLATION. INSTALL PER MANUFACTURERS RECOMMENDATIONS. FIELD VERIFY EXACT LOCATION WITH OWNER. PROVIDE CLOSE COORDINATION WITH OTHER DISCIPLINES. LADDER TRAY IN IT ROOM BY T.C.	SBB	SECONDARY BONDING BUSBAR, TELECOMMUNICATIONS STYLE COPPER GROUND BAR BY E.C. PROVIDE WITH STAND-OFF INSULATORS.
•	TELEPHONE OR DATA OUTLET MOUNTED 18" AFF, UON. CAT6 CABLES. CONDUIT STUB-OUT ABOVE ACCESSIBLE CEILING BY E.C., UON. SUBSCRIPT # INDICATES QUANTITY OF CABLES. SUBSCRIPT "D" DENOTES DATA OUTLET. SUBSCRIPT "V" DENOTES VOICE OUTLET.	CR	PROXIMITY CARD READER, SEE DOOR DETAILS FOR ROUGH-IN REQUIREMENTS.
•	TELEPHONE OR DATA OUTLET MOUNTED 46" AFF, UON. CAT6 CABLES. CONDUIT STUB-OUT ABOVE ACCESSIBLE CEILING BY E.C., UON. SUBSCRIPT # INDICATES QUANTITY OF CABLES. SUBSCRIPT "D" DENOTES DATA OUTLET. SUBSCRIPT "V" DENOTES VOICE OUTLET. SUBSCRIPT 'WAP' DENOTES WIRELESS ACCESS POINT ROUGH-IN MOUNTED IN CEILING.	МТ	WIRELESS MEDICAL EQUIPMENT ASSET TRACKING DEVICE, CEILING MOUNTED. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER.
WAP	WIRELESS ACCESS POINT ROUGH-IN MOUNTED IN CEILING. SUBSCRIPT # INDICATES QUANTITY OF CABLES. SUBSCRIPT "D" DENOTES DATA OUTLET.	▼	OUTLET FOR PIECES EQUIPMENT. 1" CONDUIT AND CAT6 CABLE SHALL BE INSTALLED BETWEEN THE HEADWALL AND THE PIECES EQUIPMENT, UON. BOTH ENDS OF CAT6 CABLE SHALL BE TERMINATED WITH RJ-45 JACK.
0 0	JUNCTION BOX, PROVIDE STANDARD 4" SQUARE BY 1-1/2" DEEP BOX, UON. COORDINATE MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN. J-BOX AND CONDUIT ROUGH-IN BY E.C.	<u></u>	TELEVISION SYSTEM CATV OUTLET ROUGH-IN. COORDINATE MOUNTING HEIGHT AND LOCATION ALONG WITH ADJACENT ASSOCIATED RECEPTACLE WITH ARCHITECT PRIOR TO ROUGH-IN. PROVIDE WITH 3/4" CONDUIT STUB-OUT ABOVE ACCESSIBLE CEILING.
PP	PROVISIONS FOR PUSH PLATE. PROVIDE SINGLE GANG BOX MOUNTED 46" AFF. PROVIDE CONDUIT AND CONTROL WIRE UP TO DOOR CONTROLLER. COORDINATE EXACT FINAL CONNECTIONS AND REQUIREMENTS WITH EQUIPMENT MANUFACTURERS INSTALLATION DRAWINGS AND RECOMMENDATIONS. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.	RE	DOOR REQUEST TO EXIT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER/SECURITY CONTRACTOR.
ML	MAGNETIC LOCKS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH VA, DOOR VENDOR AND G.C. PRIOR TO ROUGH-IN.	UNSECURE—	ACCESS CONTROL DOOR DETAIL CALL-OUT.
	FLOOR MOUNTED DATA RACK TO BE USED FOR TERMINATING TELECOMMUNICATIONS CABLING. SHADED SIDE INDICATES FRONT OF RACK. SEE TYPICAL DATA AND VOICE RACK DETAIL FOR ADDITIONAL INFORMATION.		

#### TELECOMMUNICATIONS - GENERAL NOTES

- 1. ALL TELECOMMUNICATIONS WORK SHALL CONFORM TO THE LATEST EDITION BICSI TDMM DESIGN MANUAL AND THE LATEST ANSI/TIA STANDARDS, NATIONAL ELECTRICAL CODE, & IBC REQUIREMENTS AND VA STANDARDS.
- . REFER TO TELECOMMUNICATIONS RISER DIAGRAM FOR ADDITIONAL INFORMATION. 3. ELECTRICAL CONTRACTOR SHALL INSTALL TELECOM CONDUITS AS STRAIGHT AS POSSIBLE AND PARALLEL TO
- WALLS AND STRUCTURE. ELECTRICAL CONTRACTOR SHALL PROVIDE BONDING AND GROUNDING FOR TELECOMMUNICATIONS EQUIPMENT AS PER NFPA 70 (NEC), BICSI TDMM DESIGN MANUAL AND ANSI/TIA-607-D COMMERCIAL BUILDING
- GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.
- 5. SINGLE BENDS IN CONDUIT SHALL BE NO GREATER THAN 90 DEGREES.
- 6. ALL HORIZONTAL COPPER, FIBER AND COAXIAL CABLE INSTALLATIONS SHALL CONFORM TO THE LATEST TIA-568 STANDARDS.
- '. ALL LABELING SHALL COMPLY WITH LATEST TIA-606 STANDARD AND VA STANDARDS. 8. CONDUIT RUNS BETWEEN (2) PULL POINTS OR JUNCTION BOXES SHALL NOT HAVE AN AGGREGATE OF BENDS GREATER THAN 180 DEGREES.

9. ALL CONDUIT RUNS SHALL BE BONDED OR GROUNDED ON ONE OR BOTH ENDS BY E.C.

- 10. ALL TELECOMMUNICATIONS CONDUITS SHALL NOT BE INSTALLED ADJACENT TO ANY HEAT SOURCE SUCH AS; BOILERS, HEATERS (ELECTRIC OR GAS), HOT WATER LINES, STEAM LINES ETC.
- 11. E.C. SHALL PROVIDE ALL EMPTY TELECOM CONDUITS WITH A PULL CORD THAT HAS A MINIMUM TEST RATING 12. ALL TELECOM CONDUIT ENDS SHALL BE REAMED AND FIT WITH AN INSULATED BUSHING BY E.C.
- 13. ALL FLOOR SLEEVES AND CONDUIT PENETRATIONS BY E.C. THROUGH THE FLOOR SHALL PROTRUDE A MINIMUM 4" ABOVE THE FINISHED FLOOR.
- 14. THE CONTRACTOR MUST GIVE THE VA ELECTRONICS SHOP 48 HOURS NOTICE BEFORE DEMOLITION OR REMOVAL OF ANY ACCESS CONTROL DEVICES.

#### COORDINATION DRAWINGS

- . A MEETING SHALL BE ARRANGED BY THE CONTRACTOR AND TAKE PLACE PRIOR TO STARTING THE COORDINATION DRAWINGS. THIS MEETING SHALL INCLUDE AT A MINIMUM THE VA COR, CONTRACTOR, AND KEY SUBCONTRACTORS TO CONFIRM THE REQUIREMENTS OF THE COORDINATION DRAWINGS PRIOR TO THEM BEING SUBMITTED.
- 2. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES SO THAT THE FOLLOWING LISTS OF ITEMS CAN BE INDICATED ON A COMMON SET OF PLANS. FLOOR PLANS AND SECTIONS ARE TO BE DRAWN TO SCALE IN ALL CONGESTED AREAS SUCH AS A4012 CORRIDOR, A4013A CORRIDOR, DUCT CHASES PLAN EAST AND WEST OF EAST & WEST OF A4014 CARE TEAM ROOM A4026 PACU STORAGE, A4010 HOUSEKEEPING, C4001 PACU, DUCT CHASES PLAN NORTH OF C4001B ANTE AND C4001C ISOLATION ROOM, ETC. THESE SHALL BE SUBMITTED COLLECTIVELY FROM ALL DISCIPLINES INTO ONE OVERALL DOCUMENT FOR REVIEW BY THE ENGINEER ON AN AS NEEDED BASIS OR WHERE SPECIFICALLY
- DIRECTED WITHIN THE CONTRACT DOCUMENTS. THESE COORDINATION DRAWINGS SHALL BE SUBMITTED FOR REVIEW PRIOR TO ANY OTHER INDIVIDUAL PRODUCT DATA OR FABRICATION DRAWINGS. SHOW THE FOLLOWING AT A MINIMUM: CEILING
- ROOF OR FLOOR DECKING ABOVE
- STRUCTURAL ELEMENTS LIGHT FIXTURES
- LARGE ELECTRICAL/TELECOM CONDUITS/PULL BOXES/CABLE
- HVAC DUCTWORK HVAC EQUIPMENT ABOVE CEILING, INDICATING SERVICE CLEARANCES
- HVAC PIPING PLUMBING PIPING

FLOOR

 SPRINKLER PIPING MOUNTING RACKS AND SUPPORT ASSEMBLIES FOR ASSOCIATED PIPING/DUCTWORK

AND MAY HAVE TO BE MODIFIED/MOVED AT THEIR COST.

3. IT IS IMPORTANT TO NOTE THAT DUCTWORK/PIPING/CABLE TRAY, ETC. CANNOT BE FABRICATED UNTIL COORDINATION DRAWINGS HAVE BEEN COMPILED, SUBMITTED, AND APPROVED. ANY MATERIAL PROCUREMENT OR INSTALLATION WORK COMMENCED PRIOR TO APPROVAL IS TAKEN AT THE RISK OF THE CONTRACTOR

TYPE	DESCRIPTION
Α	AMPERE
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CURRENT
AMP	AMPERE
ARA	AREA OF RESCUE ASSISTANCE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BET	BUILDING ENTRANCE TERMINAL
BFC	BELOW FINISHED CEILING
С	CONDUIT
CCT	CIRCUIT
CCT BRKR	CIRCUIT BREAKER
CLG	CEILING
CR	CARD READER
СТ	CURRENT TRANSFORMER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ETBD	EXISTING TO BE DEMOLISHED
ETR	EXISTING TO REMAIN
ETBR	EXISTING TO BE RELOCATED
EWC	ELECTRIC WATER COOLER
EX	EXISTING
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FLUOR	FLUORESCENT
FPN	FUSE/TRIP PER NAMEPLATE
FVNR	FULL VOLTAGE NON-REVERSING
G OR GND	GROUND
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GF OR GFI	GROUND FAULT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND OFF AUTO
IG	ISOLATED GROUND
INTERCOM	INTERCOMMUNICATION
J-BOX	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATTS

TYPE	DESCRIPTION
LV	LOW VOLTAGE
MCA	MINIMUM CIRCUIT AMPACITY
MC MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTION DETECTOR
MIC	MICROPHONE
MLO	MAIN LUG ONLY
МОСР	MAXIMUM OVERCURRENT PROTECTION
MSB	MAIN SWITCH BOARD
N OR NEUT	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OL	OVERLOAD
Р	POLE
PA	PUBLIC ADDRESS
РВ	PUSHBUTTON SWITCH
PC	PLUMBING CONTRACTOR
PNL	PANELBOARD
Ø OR PH	PHASE
R	RELOCATED DEVICE
REF	REFRIGERATOR
RTU	ROOFTOP UNIT
RVNR	REDUCED VOLTAGE NON-REVERSING
SOG	SLAB ON GRADE
SPD	SURGE PROTECTION DEVICE
SPKR	SPEAKER
SWBD	SWITCHBOARD
TC	TIME CLOCK
TS	TIME SWITCH
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE
W	WATTS OR WIRE
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER
Z	IMPEDANCE

## EXISTING CONDITIONS NOTE

THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE AS-BUILT RECORD DRAWINGS PROVIDED TO THE DESIGN TEAM AND FIELD INVESTIGATIONS CONDUCTED ON 10/1/2018. IT IS POSSIBLE EXISTING CONDITIONS HAVE CHANGED AND ARE DIFFERENT THAN WHAT IS SHOWN ON THESE DRAWINGS. PRIOR TO BIDDING, THE CONTRACTOR SHALL CONDUCT A THOROUGH SURVEY OF EXISTING CONDITIONS. DISCREPANCIES BETWEEN THESE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR, ARCHITECT, AND ENGINEER AT LEAST ONE WEEK PRIOR TO THE BID DATE. SUBMISSION OF A BID INDICATES THE CONTRACTOR IS FAMILIAR WITH THE EXISTING CONDITIONS AND HAS INCLUDED ALL WORK NECESSARY TO COMPLETE THE PROJECT.

VA FORM 08 - 6231

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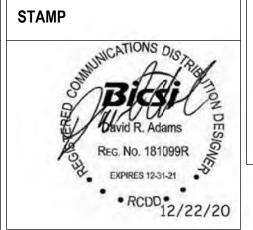
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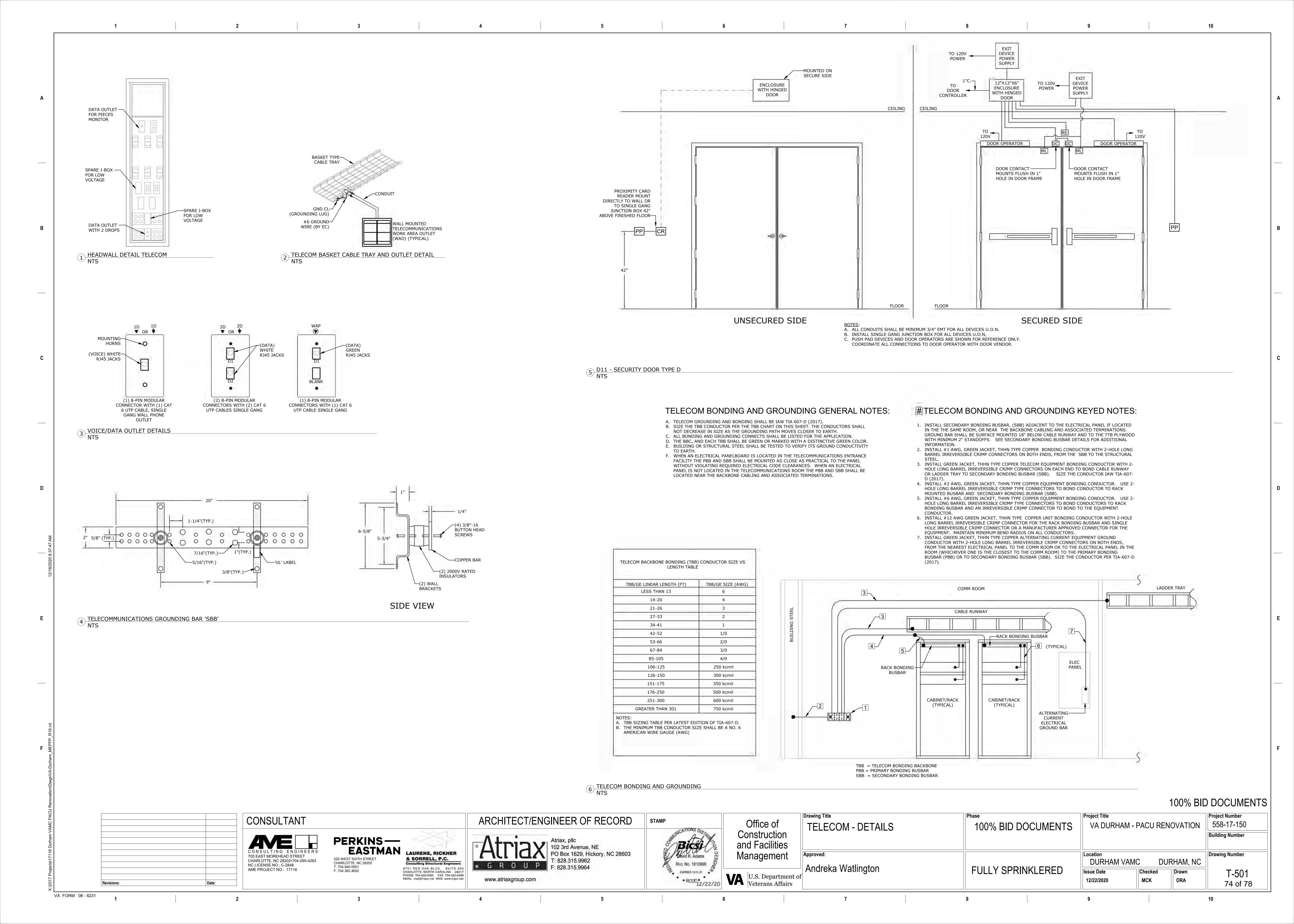
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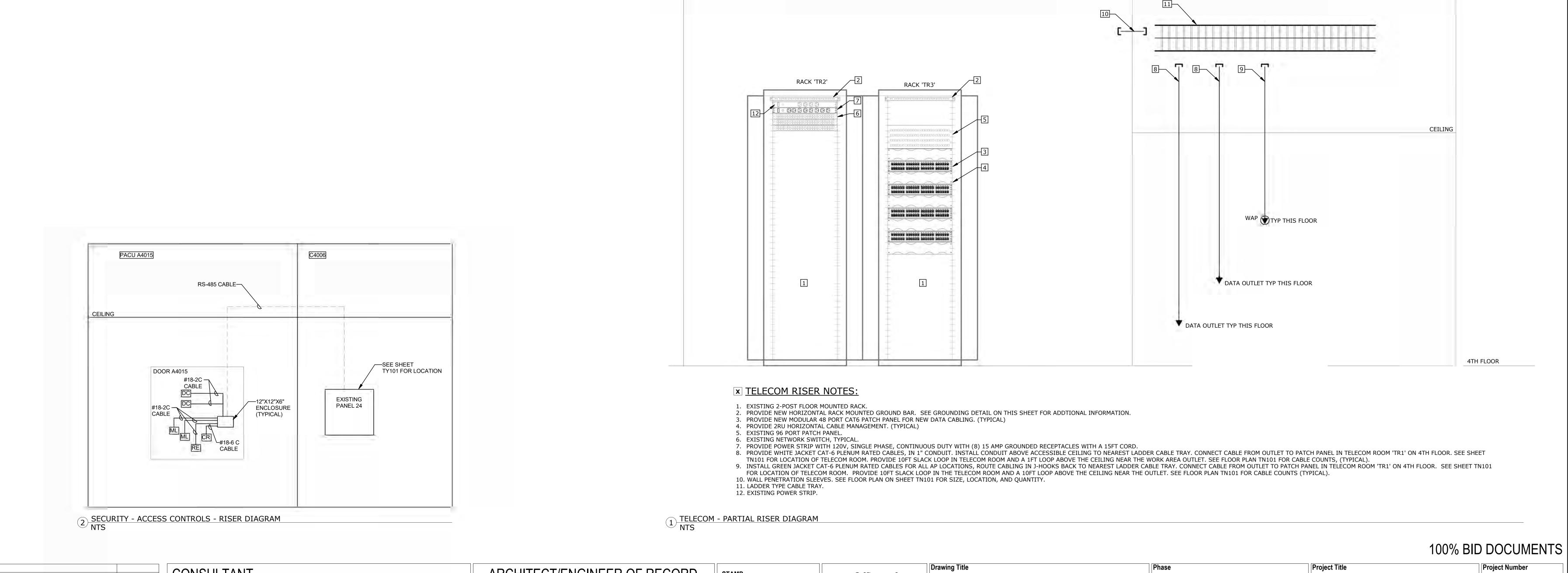
U.S. Department of Veterans Affairs

LEGENDS, AND DETAILS Approved: Andreka Watlington

Drawing Title

100% BID DOCUMENTS Project Title Project Number 558-17-150 VA DURHAM - PACU RENOVATION TELECOM - GENERAL NOTES, 100% BID DOCUMENTS **Building Number Drawing Number** Location **DURHAM VAMC** DURHAM, NC FULLY SPRINKLERED Checked T-001 Drawn 12/22/2020 MCK DRA 73 of 78





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REG. No. 181099R

EXPIRES 12-31-21

RCDD 12/22/20

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TELECOM - RISER DIAGRAMS

Andreka Watlington

558-17-150

**Building Number** 

Drawing Number

T-601

75 of 78

VA DURHAM - PACU RENOVATION

Checked

MCK

DURHAM, NC

Drawn

DRA

Location

12/22/2020

**DURHAM VAMC** 

100% BID DOCUMENTS

FULLY SPRINKLERED

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