2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Cape Fear Valley Medical Center - Harnett Health Rad Rm Replacement

Address: 215 Brightwater Drive, Lillington, North Carolina Zip Code 27546

Owner/Authorized Agent: Bruce Dantzler Phone # (910) 615 - 4393 E-Mail BDANT@capefearvalley.com

Owned By: ☐ City/County ☐ Private ☐ State

Code Enforcement Jurisdiction: ☐ City ☒ County Harnett ☐ State

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	CD Hair Architect, LLC	Chris Hair R.A.	15034	(561) 209-6050	chris@cdhairarchitect.com
Civil	N/A			( )	
Electrical	TYEC Engineers	Andy Youngross PE	048609	(561) 274.0200	andrew@tecfla.com
Fire Alarm	N/A			( )	
Plumbing	N/A			( )	
Mechanical	TYEC Engineers	Andy Youngross PE	048609	(561) 274.0200	andrew@tecfla.com
Sprinkler-Standpipe	N/A			( )	
Structural	N/A			( )	
Retaining Walls >5' High	N/A			( )	
Other	N/A			( )	

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

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
Reviewed for Code Compliance
11/27/2023
Harnett COUNTY NORTH CAROLINA

2018 NC BUILDING CODE: ☐ New Building ☐ Addition ☒ Renovation

☐ 1st Time Interior Completion

☐ Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

☐ Phased Construction - Shell/Core- Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 NC EXISTING BUILDING CODE: EXISTING: ☐ Prescriptive ☐ Repair ☐ Chapter 14

Alteration: ☐ Level I ☒ Level II ☐ Level III

☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) 2010 **CURRENT OCCUPANCY(S)** (Ch. 3): I-2, Condition 2

RENOVATED: (date) Several **PROPOSED OCCUPANCY(S)** (Ch. 3): I-2, Condition 2

RISK CATEGORY (Table 1604.5): **Current:** ☐ I ☐ II ☐ III ☒ IV

Proposed: ☐ I ☐ II ☐ III ☒ IV

BASIC BUILDING DATA

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A

(check all that apply) ☒ I-B ☐ II-B ☐ III-B ☐ V-B

Sprinklers: ☐ No ☐ Partial ☒ Yes ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Standpipes: ☐ No ☒ Yes Class ☐ I ☐ II ☐ III ☒ Wet ☐ Dry

Fire District: ☒ No ☐ Yes **Flood Hazard Area:** ☒ No ☐ Yes

Special Inspections Required: ☒ No ☐ Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	EXISTING TO REMAIN		
Basement			
TOTAL	AREA OF RENOVATION:	574 SF	

ALLOWABLE AREA

Primary Occupancy Classification(s):

Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 Condition ☐ 1 ☐ 2
☒ I-2 Condition ☐ 1 ☒ 2
☐ I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ I-4
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Accessory Occupancy Classification(s): NONE

Incidental Uses (Table 509): NONE

Special Uses (Chapter 4 – List Code Sections): 407

Special Provisions: (Chapter 5 – List Code Sections): NONE

Mixed Occupancy: ☒ No ☐ Yes Separation: _____ Hr. Exception: _____

☐ Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of 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 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.

$$\frac{\textit{Actual Area of Occupancy A}}{\textit{Allowable Area of Occupancy A}} + \frac{\textit{Actual Area of Occupancy B}}{\textit{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{\quad}{\quad} + \frac{\quad}{\quad} + \ldots\ldots = \quad \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
		EXISTING TO REMAIN			

[1] Frontage area increases from Section 506.3 are computed thus:

a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase $I_f = 100[F/P - 0.25] \times W/30$ = _____ (%)

[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE [1]
Building Height in Feet (Table 504.3) [2]		EXISTING TO REMAIN	
Building Height in Stories (Table 504.4) [3]			

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
[2] The maximum height of air traffic control towers must comply with Table 412.3.1.
[3] The maximum height of open parking garages must comply with Table 406.5.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
		REQ'D	PROVIDED (W/_____* REDUCTION)				
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions Exterior walls		EXISTING TO REMAIN					
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction Including supporting beams and joists							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/ Sleeping Unit Separation							
Incidental Use Separation							

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

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

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☒ Yes
Exit Signs: ☐ No ☒ Yes
Fire Alarm: ☐ No ☒ Yes
Smoke Detection Systems: ☐ No ☒ Yes ☐ Partial _____
Carbon Monoxide Detection: ☐ No ☒ Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: Sheet A010 EXISTING TO REMAIN

- ☒ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☐ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☐ Occupant loads for each area
- ☐ Exit access travel distances (1017)
- ☐ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☐ Dead end lengths (1020.4)
- ☐ Clear exit widths for each exit door
- ☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☐ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (202)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

N/A

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

ACCESSIBLE PARKING
(SECTION 1106)

EXISTING TO REMAIN

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

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

EXISTING TO REMAIN

USE		WATERCLOSETS			URINALS	LAVATORIES			SHOWERS /TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
SPACE	EXIST'G										
	NEW										
	REQ'D										

SPECIAL APPROVALS

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

DHSR Approval Required

ENERGY SUMMARY

EXISTING TO REMAIN

ENERGY REQUIREMENTS:

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

Existing building envelope complies with code: ☐ No ☐ Yes (The remainder of this section is not applicable)

Exempt Building: ☐ No ☐ Yes (Provide code or statutory reference): _____

Climate Zone: ☐ 3A ☐ 4A ☐ 5A

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive
(If "Other" specify source here)_____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (windows or doors with glazing)
U-Value of assembly: _____
Solar heat gain coefficient: _____
projection factor: _____
Door R-Values: _____

Walls below grade (each assembly)

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab heated: _____

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

DESIGN LOADS:

EXISTING TO REMAIN

Importance Factors: Snow (I_S) _____
Seismic (I_E) _____

Live Loads: Roof _____ psf
Mezzanine _____ psf
Floor _____ psf

Ground Snow Load: _____ psf

Wind Load: Ultimate Wind Speed _____ mph (ASCE-7)
Exposure Category _____

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☐ C ☐ D

Provide the following Seismic Design Parameters:

Risk Category (Table 1604.5) ☐ I ☐ II ☐ III ☐ IV

Spectral Response Acceleration S_S_____ %g S_1_____ %g

Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F

Data Source: ☐ Field Test ☐ Presumptive ☐ Historical Data

Basic structural system ☐ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum

Analysis Procedure: ☐ Simplified ☐ Equivalent Lateral Force ☐ Dynamic

Architectural, Mechanical, Components anchored? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☐

SOIL BEARING CAPACITIES:

Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity _____ psf
Pile size, type, and capacity _____

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

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone

winter dry bulb: _____
summer dry bulb: _____

Interior design conditions

winter dry bulb: _____
summer dry bulb: _____
relative humidity: _____

EXISTING TO REMAIN

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System

Unitary
- description of unit: _____
- heating efficiency: _____
- cooling efficiency: _____
- size category of unit: _____

Boiler
- Size category. If oversized, state reason.: _____

Chiller
- Size category. If oversized, state reason.: _____

List equipment efficiencies: _____

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

ELECTRICAL SUMMARY

EXISTING TO REMAIN

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive

Lighting schedule (each fixture type)

lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)

☐ C406.2 More Efficient HVAC Equipment Performance
☐ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Digital Lighting Controls
☐ C406.5 On-Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air System
☐ C406.7 Reduced Energy Use in Service Water Heating

an Interior Renovation for:

HARNETT HEALTH
RAD ROOM 1318

215 Brightwater Drive
Lillington, North Carolina

ARCHITECT

C.D. HAIR ARCHITECT L.L.C.
8401 LAKE WORTH ROAD, SUITE 119
LAKE WORTH, FLORIDA 33467
(561) 209.6050
chris@cdhairarchitect.com

MECHANICAL ELECTRICAL

THOMPSON YOUNGROSS ENGINEERING CONSULTANTS
902 CLINT MOORE ROAD, SUITE 142
BOCA RATON, FLORIDA 33487
(561) 274.0200
artur@tecfla.com (Artur Amarel)

GENERAL CONTRACTOR

BLAKE CONTRACTING
1994 REMOUNT ROAD
GASTONIA, NORTH CAROLINA 28054
(704) 868.9930
blake@blakegc.com (Blake Skarpalezos)

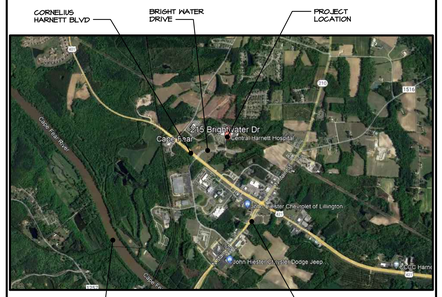
EQUIPMENT

SIEMENS

PROJECT SCOPE

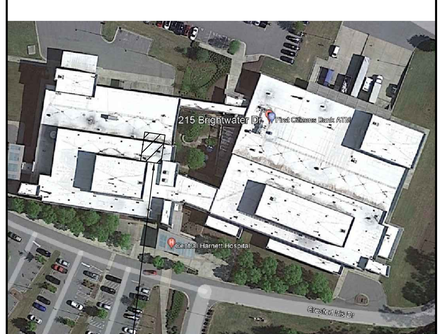
THE PROJECT INVOLVES AN EQUIPMENT CHANGE-OUT WITHIN AN EXISTING ROOM ON THE FIRST FLOOR WITHIN AN EXISTING IN-PATIENT, HOSPITAL. THE NEWLY RENOVATED SPACE WILL BE USED AS A RAD ROOM. (NO CHANGE TO THE EXISTING FUNCTION OF THE ROOM) ,NO NEW WALLS, DOORS OR OTHER LAYOUT CHANGES ARE IN THIS SCOPE OF THE RAD ROOM WORK. THE EXISTING FLOOR FINISHES SHALL BE REPLACED, THE EXISTING MILLWORK WILL REMAIN. THE EXISTING LIGHTING SHALL BE REPLACED. THE EXISTING HVAC SHALL REMAIN. THE BUILDING IS MULTI STORY AND ASSUMED TO BE TYPE I-B. THE SCOPE AREA IS PROTECTED BY A FULLY AUTOMATIC FIRE-SPRINKLER SYSTEM.

DHSR PROJECT NO.: HL-12893



VICINITY SKETCH
NOT TO SCALE

BUILDING KEY PLAN



PROJECT DATA

AREA CALCULATIONS:

SCOPE AREA WITHIN EXIST. HOSPITAL	574 SF

OCCUPANCY LOAD CALCULATIONS:

INSTITUTIONAL I-2	574 S.F. / 240 GROSS = 2.39 (3 PEOPLE)

PROJECT CODE TABULAR

MUNICIPALITY:	HARNETT COUNTY
GOVERNING CODES:	2018 NORTH CAROLINA STATE BUILDING CODE BASED ON IBC - 2015 INTERNATIONAL BUILDING CODE W, AMENDMENTS IEBC - 2015 INTERNATIONAL EXISTING BUILDING CODE , '15 INTERNATIONAL FUEL GAS CODE, '15 INTERNATIONAL MECHANICAL CODE, '15 INTERNATIONAL PLUMBING CODE, 2018 FGI GUIDELINES OUTPATIENT FACILITIES, ICC / ANSI-A117.1-2013 ADA STANDARDS, 2017 NCSEC, 2005 U.S. PUBLIC HEALTH CODE, NORTH CAROLINA ADMIN. CODE, DHSR RULES AND REGULATIONS
OCCUPANCY:	GROUP I-2 (INSTITUTIONAL)
REQUIRED SEPARATION:	*NO SEPARATION REQUIRED TO ADJACENT GROUP 'I' TENANTS
TYPE OF CONSTRUCTION:	TYPE I-B
CLASSIFICATION OF WORK:	ALTERATION - LEVEL 2

	REQUIRED	PROVIDED
MIN STAIR WIDTH:	44"	N/A
MAX COMMON PATH OF TRAVEL:	75'	36'-3"
MAX TRAVEL DISTANCE:	200'	105'-6"
MAX DEAD END:	20'	N/A
NO. OF EXITS:	2	2

* BUILDING IS PROVIDED WITH A FULLY AUTOMATIC SPRINKLER SYSTEM

LIFE SAFETY CODE

GOVERNING CODES:	2015 INTERNATIONAL FIRE CODE NCBC - FPC NFPA 101 LIFE SAFETY CODE - 2012 ED. NFPA 13 LIFE SAFETY CODE - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS 2013 ED.
OCCUPANCY:	(INSTITUTIONAL)

	REQUIRED	PROVIDED
MAX COMMON PATH OF TRAVEL:	75'	36'-3"
MAX TRAVEL DISTANCE:	200'	105'-6"
MAX DEAD END:	20'	N/A

* BUILDING IS PROVIDED WITH A FULLY AUTOMATIC SPRINKLER SYSTEM

REV	DATE

SHEET INDEX

C.D. HAIR ARCHITECT
8401 Lake Worth Road
Suite 119
Lake Worth, FL
15034

revision:

REGISTERED NORTH CAROLINA 15034 ARCHITECT 08.14.23 CHRISTOPHER D. HAIR

An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

FINAL SUBMITTAL for construction

job no. 23-016
principal: CHRIS HAIR CH
file name:
date: 08.10.23
title: TITLE SHEET

T
5 A

LIFE SAFETY PLAN

1/32" = 1'-0"

C.D. HAIR ARCHITECT
8401 Lake Worth Road
Suite 119
Lake Worth, FL
15034

revision:

An Interior Renovation for:

Harnett Health
RAD Room 1318 Renovation

215 Brightwater Drive
Lillington, North Carolina

FINAL SUBMITTAL for construction

job no.	23-016
principal:	CHRIS HAIR
	CH
file name:	
date:	08.10.23
title:	LIFE SAFETY PLAN

A010

5 A

FINISH SCHEDULE

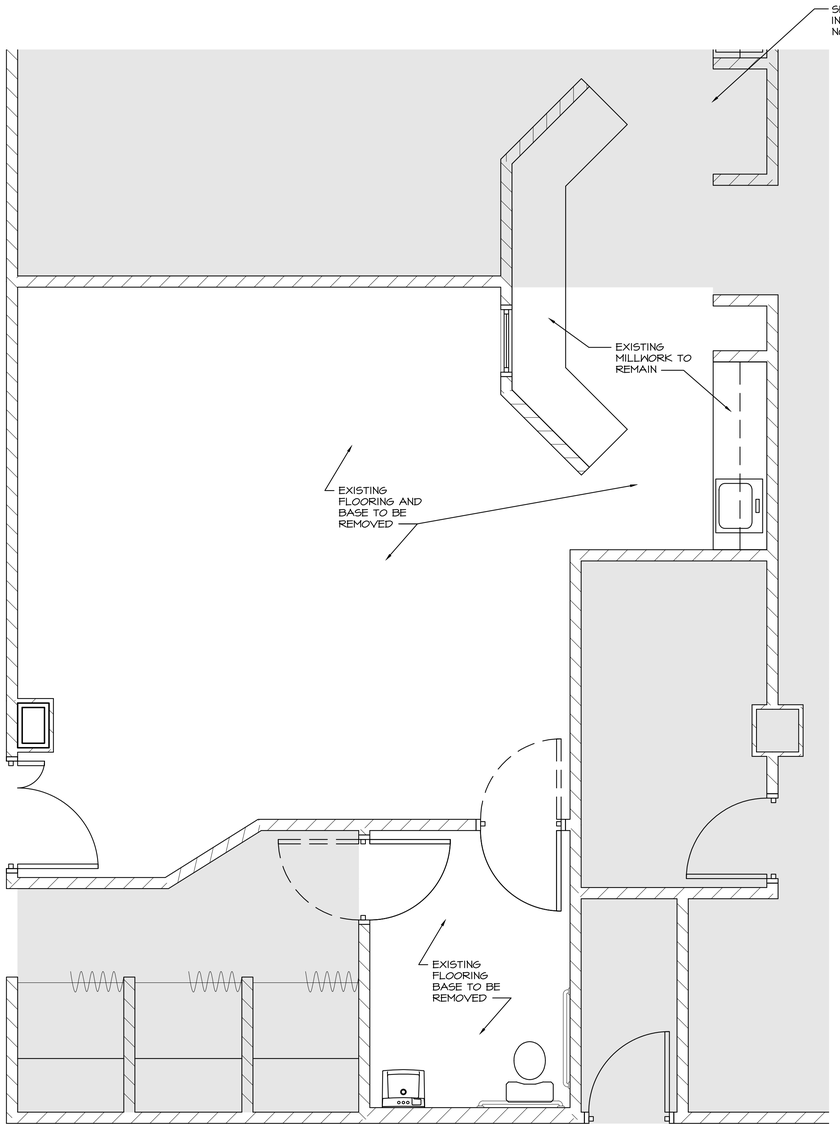
ROOM #	DESCR.	FLOOR	WALLS	BASE	CEILING	REMARKS
1318	EXAM ROOM	SV-1	PT-1	CB-1	AC-1	
1318A	CONTROL	SV-1	PT-1	CB-1	EX	
1322	RESTROOM	SV-1	PT-1	CB-1	EX	

ABBREV. UNO = UNLESS OTHERWISE NOTED, MS = MANUFACTURER STANDARD, EX = EXISTING, EXP = EXPOSED
NOTES ALL FINISHES TO BE VERIFIED BY OWNER PRIOR TO PURCHASE AND INSTALL.

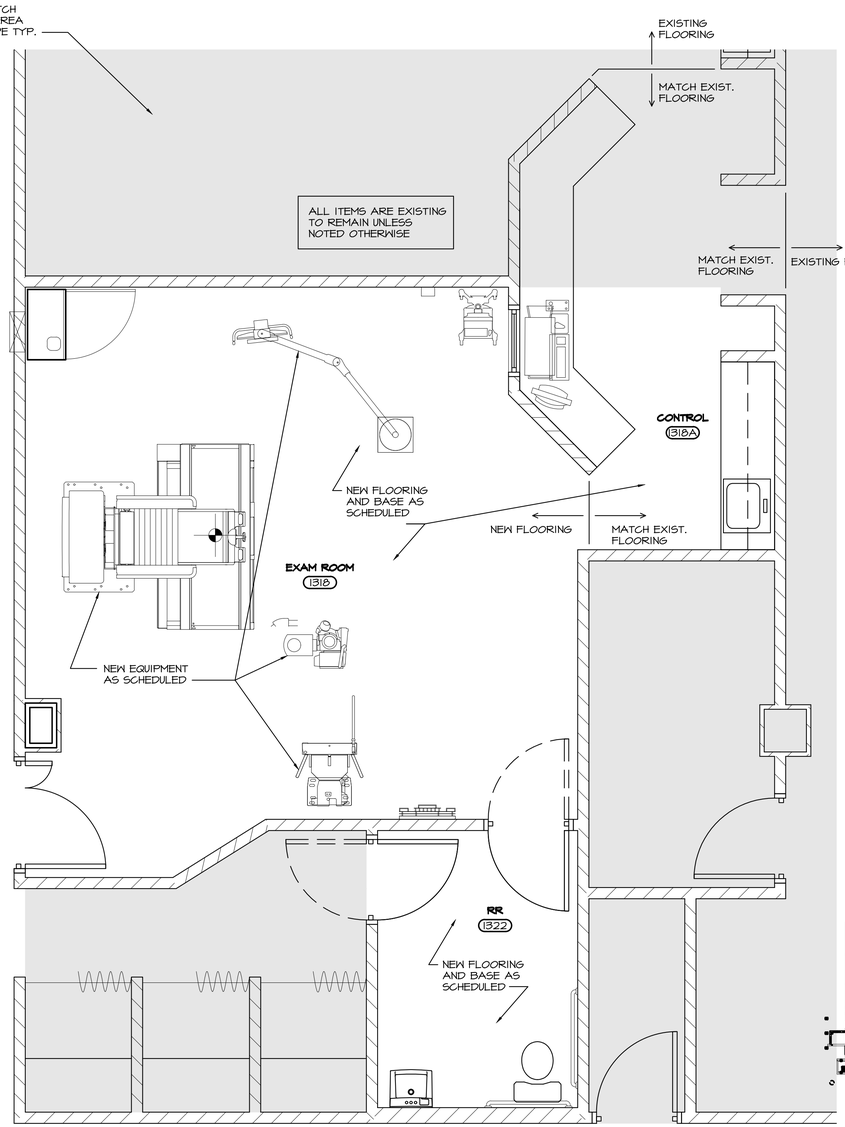
MANUFACTURER SPECIFICATIONS

DESCR.	MANUF.	MODEL	REMARKS
SHEET VINYL (SV-1)	ME	ME	MATCH EXISTING ADJACENT
COVE BASE (CB-1)	ME	ME	4" INTEGRAL FLASH COVE BASE
PAINT (PT-1)	ME	LATEX PAINT	MATCH EXISTING ADJACENT
PAINT (PT-2)	ME	LATEX PAINT	MATCH EXISTING ADJACENT

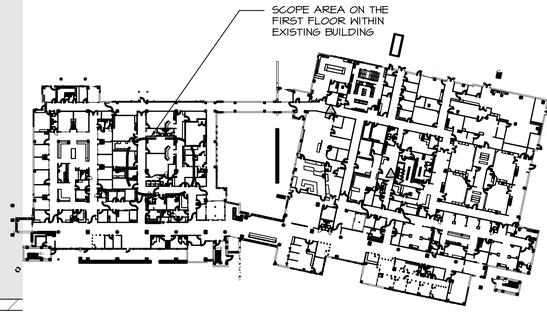
ABBREV. UNO = UNLESS OTHERWISE NOTED, MS = MANUFACTURER STANDARD, EX = EXISTING, EXP = EXPOSED, ME = MATCH EXISTING
NOTES ALL FINISHES TO BE VERIFIED BY OWNER PRIOR TO PURCHASE AND INSTALL.



DEMOLITION PLAN
3/8"=1'-0"



FIRST FLOOR PLAN
3/8"=1'-0"



OVERALL FIRST FLOOR PLAN
NTS

DEMOLITION NOTES:

1. ITEMS SCHEDULED TO BE DEMOLISHED SHALL BE REMOVED IN THEIR ENTIRETY, INCLUDING INSTALLATIONS ABOVE THE CEILING. EXISTING WALLS SHALL BE PATCHED WHERE ITEMS WERE REMOVED TO MATCH ADJACENT SURFACES.
2. DUST BARRIERS SHALL BE CONSTRUCTED AND MAINTAINED THROUGH THE COURSE OF CONSTRUCTION TO MINIMIZE THE SPREAD OF CONSTRUCTION DUST.
3. PROTECT EXISTING WALLS TO REMAIN. ALL EXISTING WALLS TO REMAIN TO BE FINISHED TO ACHIEVE 'AS NEW' APPEARANCE.
4. CONTRACTOR TO PROTECT OR REMOVE CEILING TILE AS REQUIRED IN AREAS WHERE EQUIPMENT IS BEING INSTALLED.
5. PATCH EXISTING CEILINGS AS REQUIRED DUE TO INSTALLATION OF OVERHEAD EQUIPMENT.
6. REMOVE EXISTING LIGHTING AS SCHEULED. EXISTING FIRE SPRINKLER HEADS TO BE LEFT INTACT.

SYMBOL LEGEND:

EXISTING WALL TO REMAIN

EXISTING WINDOW TO REMAIN

EXISTING DOOR TO REMAIN

PLAN NOTES:

1. CONTRACTORS TO VERIFY ALL FIELD CONDITIONS PRIOR TO COMMENCEMENT AND REPORT ANY DISCREPANCIES TO THE ARCHITECT
2. ALL PENETRATIONS, NEW AND EXISTING THROUGH RATED PARTITIONS MUST MEET UL APPROVED STANDARDS - SUBMIT SYSTEM TO ARCHITECT FOR APPROVAL. FIELD VERIFY PRIOR TO BID.
3. PROVIDE SOLID WOOD BACKING FOR ALL WALLS TO RECEIVE COUNTERS. CABINETS, DOOR STOPS, SINKS, TOILET ACCESSORIES, CHAIR RAILS, AND OTHER RELATED INSTALLATIONS. THE INSTALLATIONS SHALL BE INSPECTED BY THE ARCHITECT PRIOR TO COVERING WITH DRYWALL.
4. THE NOTE HOLD ON DIMENSION STRINGS INDICATE MINIMUM CLEAR FINISH DIMENSIONS.
5. PENETRATIONS THROUGH FIRE RATED PARTITIONS WILL BE FIRE CAULKED WITH THE UL SYSTEM NO. W-L-1044.

FINISH NOTES:

1. ALL FINISHES SHALL MEET THE REQUIREMENTS OF NCBC 2018 CHAPTER 8, TABLE 803.11:
   - VERTICAL EXITS AND EXIT PASSAGEWAYS - CLASS B
   - EXIT ACCESS CORRIDORS AND OTHER EXIT WAYS - CLASS C
   - ROOMS AND ENCLOSED SPACES - CLASS C
2. ALL FINISHES TO BE APPROVED BY TENANT PRIOR TO INSTALLATION.
3. PROVIDE APPROPRIATE HANDICAP ACCESSIBLE THRESHOLDS WHERE FLOOR CHANGES MATERIAL.
4. SEE FINISH SCHEDULE FOR PLASTIC LAMINATE COLORS.
5. ALL EXISTING DRYWALL WALLS WITHIN THE SCOPE AREA SHALL BE PAINTED W/ TWO COATS FLAT FINISH LATEX PAINT AS REQUIRED TO COVER. ALL WALLS SHALL THEN BE PAINTED WITH ONE COLOR, ONE COAT, SEE FINISH SCHEDULE FOR COLORS.
6. THE EXISTING DOORS SHALL BE REFINISHED TO MATCH THE EXISTING ADJACENT.
7. PROVIDE MINIMUM CLASS II FLOOR FINISH MATERIALS TO COMPLY WITH MINIMUM CRITICAL RADIANT FLUX IN EXIT PASSAGEWAYS AND CORRIDORS. ALL OTHER AREAS MUST COMPLY WITH THE DOC FF-1 'PILL-TEST' (CPSC 16 CFR, PART 1630)
8. PAINT NEW EXPOSED ELECTRICAL CABLE DUCTING AND CONDUIT, COLOR TO MATCH WALLS.
9. PAINT DOOR AND WINDOW FRAMES WITH TWO COATS SEMI GLOSS LATEX PAINT.

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revision:

FINAL SUBMITTAL for construction

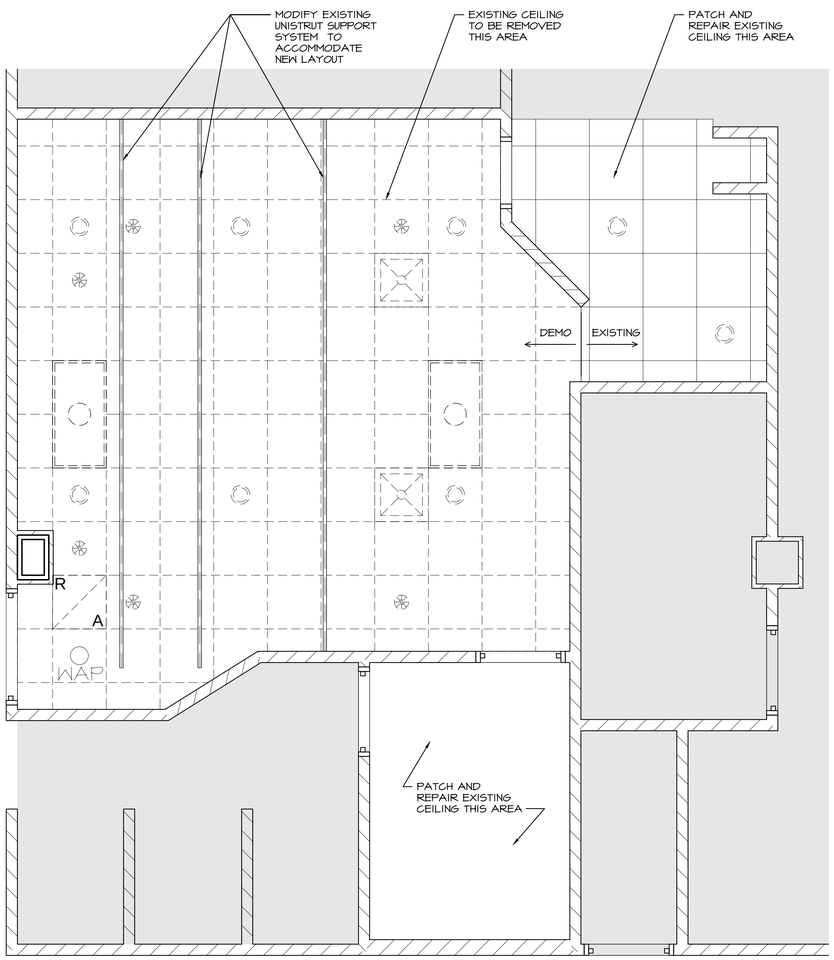
An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

job no. 23-016
principal: CHRIS HAIR
CH
file name:
date: 08.10.23
title: DEMO AND FLOOR PLAN

A210
5 A

CEILING DEMOLITION LEGEND:

- EXISTING LIGHT FIXTURE TO BE REMOVED
- EXISTING LIGHT FIXTURE TO BE SALVAGED FOR REINSTALLATION
- EXISTING SUPPLY REGISTER TO BE SALVAGED FOR REINSTALLATION
- EXISTING RETURN REGISTER TO BE SALVAGED FOR REINSTALLATION
- EXISTING ACOUSTICAL CEILING AND GRID TO BE REMOVED
- EXISTING CEILING AND INSTALLATIONS TO REMAIN
- EXISTING FIRE SPRINKLER HEAD TO BE SALVAGED FOR REINSTALLATION



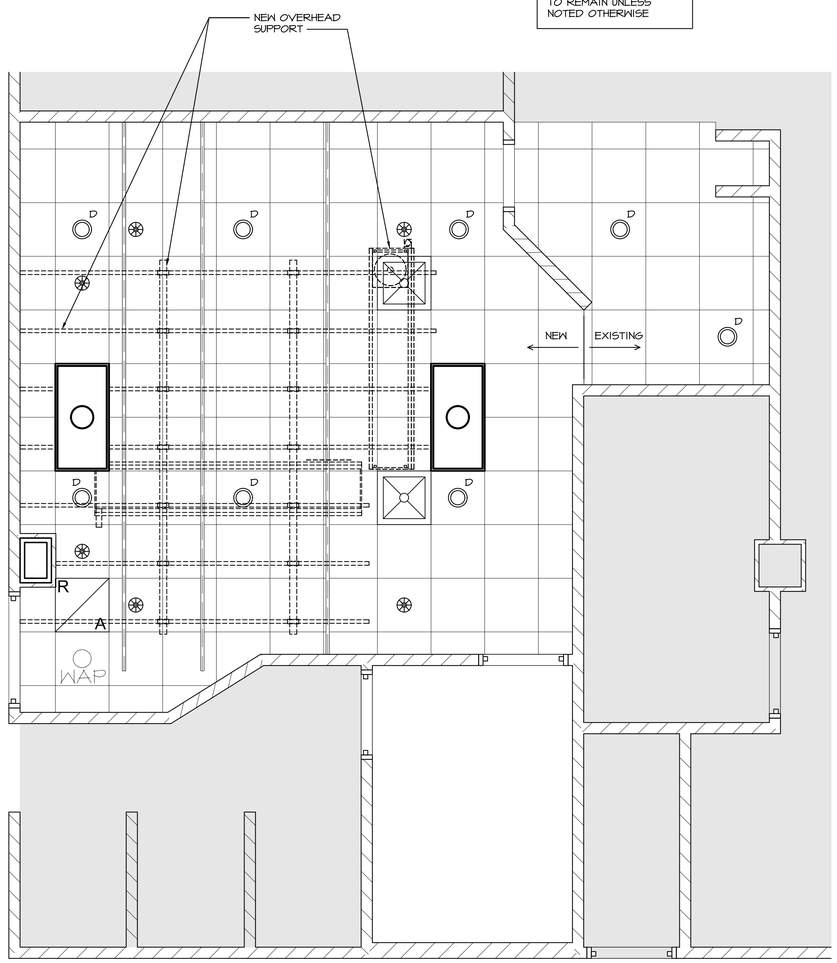
DEMOLITION CEILING PLAN
3/8"=1'-0"

CEILING LEGEND:

- EXISTING REINSTALLED 2' x 4' LED LIGHT FIXTURE
- NEW 6" RECESSED DIMMABLE LED CAN LIGHT FIXTURE
- EXISTING REINSTALLED SUPPLY REGISTER
- EXISTING REINSTALLED RETURN REGISTER
- EXISTING REINSTALLED FIRE SPRINKLER HEAD
- NEW 2 X 2 CEILING IN NEW GRID - PROVIDE TILE AS SPECIFIED

D = DIMMABLE

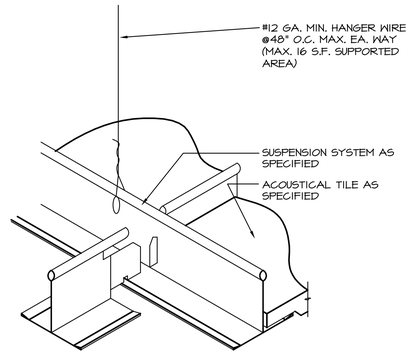
ALL ITEMS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE



REFLECTED CEILING PLAN
3/8"=1'-0"

CEILING NOTES:

1. ALL CEILING MOUNTED ITEMS, INCLUDING LIGHTS, AND HVAC REGISTERS, SHALL BE CENTERED IN THE TILE. ANY CONFLICTS SHALL BE REPORTED TO THE ARCHITECT UPON DISCOVERY. UNDER NO CIRCUMSTANCES SHALL ANY ITEM BE RELOCATED WITHOUT THE ARCHITECTS APPROVAL.
2. ALL RECTANGULAR ROOMS SHALL HAVE EQUAL BORDERS UNLESS NOTED OTHERWISE. SEE THE PLANS FOR DENOTED STARTING POINTS AND POINTS OF ALIGNMENT.
3. ALL CEILING HEIGHTS FOR SUSPENDED CEILINGS ARE INDICATED ON THE CEILING PLAN.
4. ALL NEW CEILING GRID SHALL BE ATTACHED TO THE ROOF / FLOOR JOISTS ABOVE AT 4'-0" O.C. (MAX) WITH ASTM A641, CLASS 1 ZINC COATED, SOFT TEMPER, PRE-STRECHED HANGER WIRE (12 GA) MINIMUM. ALL HANGER WIRE SHALL BE INSTALLED PLUMB AND STRAIGHT. GRID SUSPENSION SYSTEM TO MEET ASTM 635-636.



CEILING GRID DETAIL
3" = 1'-0"

1 / A410

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NORTH CAROLINA REGISTERED 24034 ARCHITECT 08.14.23 CHRISTOPHER D. HAIR

FINAL SUBMITTAL for construction

An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

job no. 23-016
principal: CHRIS HAIR CH
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A410
5 A

ICRA PLAN NOTES

1. THE GENERAL CONTRACTOR SHALL BECOME FAMILIAR WITH THE PROJECT SITE AND NOTIFY THE ARCHITECT IMMEDIATELY OF DISCREPANCIES.

PLAN KEYNOTES

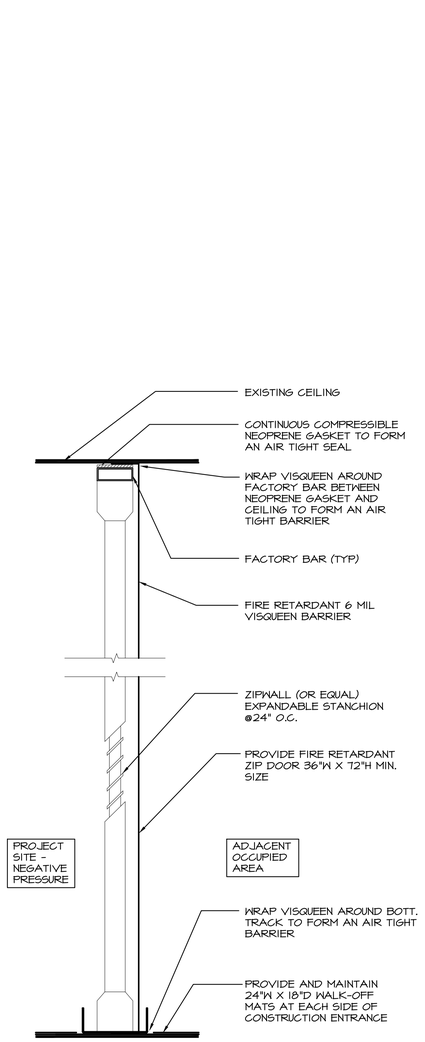
1. PRIOR TO CONSTRUCTION, SEAL OFF APPLICABLE SITE SUPPLY AND RETURN AIR DIFFUSERS AND GRILLES TO MINIMIZE DUST CONTAMINATION OF DUCTWORK AND SURROUNDING AREAS. PROVIDE NEGATIVE PRESSURE WITHIN THE PROJECT AREA RELATIVE TO THE AREAS SURROUNDING THE PROJECT AREA AS WELL AS HEPA AIR FILTRATION. PROVIDE MEANS OF MONITORING THE AIR PRESSURE FOR THE ENTIRE DURATION OF CONSTRUCTION.
2. SEAL EXISTING AREA WITH FIRE RETARDANT VISQUEEN ABOVE THE CEILING. TAPE PERIMETER SUCH THAT AN AIR TIGHT BARRIER IS ACHIEVED.
3. PROVIDE WALK-OFF MAT
4. PROVIDE TEMPORARY ZIPWALL CONTAINMENT BARRIER

ICRA CLASSIFICATION DATA

CONSTRUCTION TYPE: I-B
CONSTRUCTION CLASS: II
RISK CLASS: MEDIUM

CONSTRUCTION PROTOCOLS

DURING CONSTRUCTION	UPON COMPLETION
1. SEAL SITE SUPPLY AND RETURN AIR DIFFUSERS.	1. DO NOT REMOVE BARRIERS FROM WORK AREA UNTIL COMPLETED PROJECT IS INSPECTED BY THE OWNERS SAFETY DEPARTMENT AND INFECTION CONTROL DEPARTMENT AND THOROUGHLY CLEANED BY THE OWNERS ENVIRONMENTAL SERVICES DEPARTMENT.
2. INSTALL TEMPORARY ZIPWALL BARRIER AS SHOWN ON DETAIL 1, THIS SHEET.	2. REMOVE BARRIER MATERIALS CAREFULLY TO MINIMIZE SPREADING OF DIRT AND DEBRIS ASSOCIATED WITH CONSTRUCTION.
3. PROVIDE A TEMPORARY NEGATIVE AIR UNIT WITH HEPA FILTRATION TO PLACE PROJECT SITE AT NEGATIVE PRESSURE.	3. VACUUM WORK AREA WITH HEPA FILTERED VACUUMS.
4. PROVIDE SHOE COVERS AND TEMPORARY WALK OFF ADHESIVE MATS AT EXIT OF PROJECT AREA.	4. WET MOP AREA WITH DISINFECTANT.
5. CONTAIN CONSTRUCTION WASTE BEFORE TRANSPORT IN TIGHTLY COVERED CONTAINERS.	5. REMOVE ISOLATION OF HVAC SYSTEM IN AREAS WHERE WORK IS BEING PERFORMED.



TEMPORARY ZIPWALL CONTAINMENT BARRIER
3" = 1'-0"
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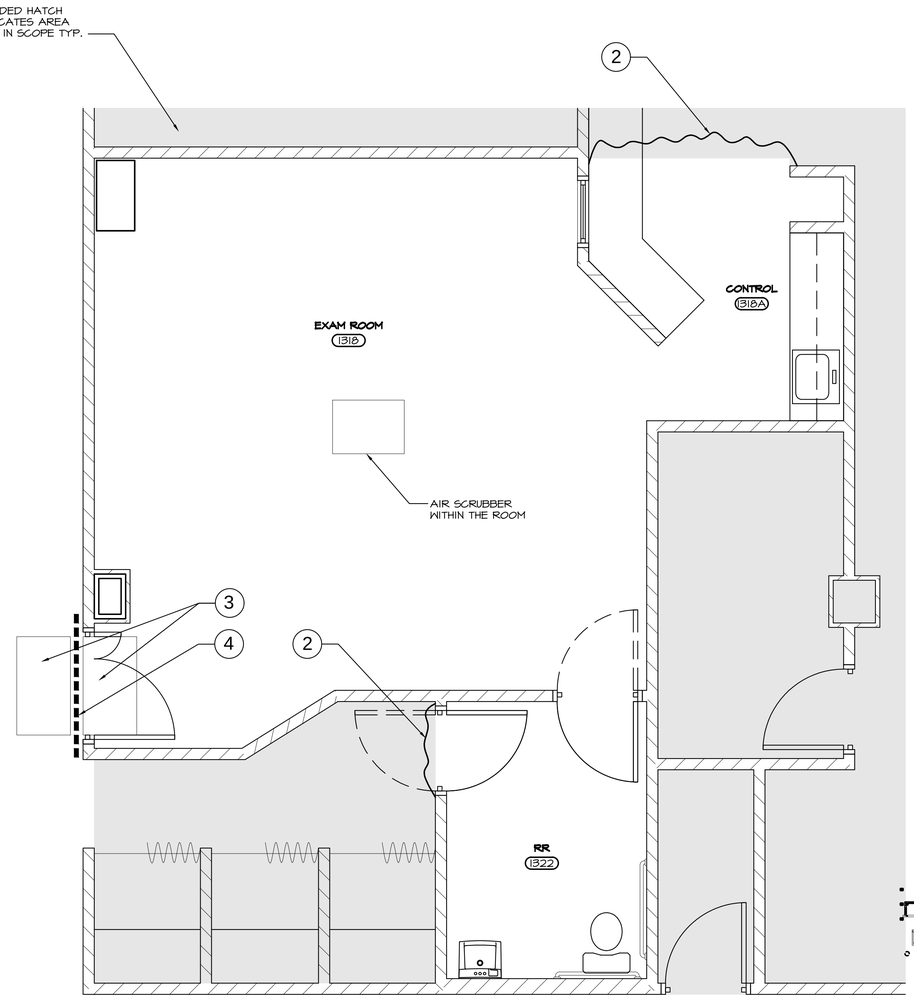
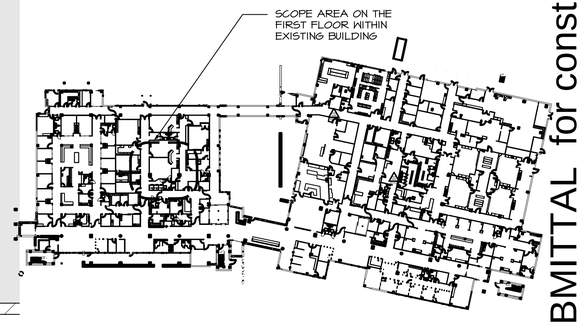
1 A910



ICRA COORDINATION PLAN
3/8"=1'-0"



OVERALL FIRST FLOOR PLAN
NTS

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REGISTERED NORTH CAROLINA 6434 ARCHITECT 08.14.23 CHRISTOPHER HAIR

An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

FINAL SUBMITTAL for construction

job no. 23-016
principal: CHRIS HAIR CH
file name:
date: 08.10.23
title: ICRA COORDINATION PLAN

A910
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ELECTRICAL NOTES

1. THE CONTRACTOR SHALL BE FULLY COGNIZANT OF THE LATEST EDITION OF THE 2018 NORTH CAROLINA STATE BUILDING CODE, 2017 NEC, 2015 NFPA101, 2013 NFPA72, AND ALL LOCAL CODES, ORDINANCES OF THE AUTHORITIES HAVING JURISDICTION AND PERFORM ALL WORK IN ACCORDANCE WITH THE INTENT AND REQUIREMENTS OF THESE CODES, ORDINANCES AND AUTHORITIES.
2. DO NOT SCALE DRAWINGS: VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF ALL WORK. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL LAYOUT OF ELECTRICAL SYSTEMS.
3. WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN TO "FURNISH AND INSTALL".
4. FINAL CONNECTIONS TO EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATABLE WITH EQUIPMENT ACTUALLY SUPPLIED.
5. PROVIDE WITH SHOP DRAWING SUBMITTAL, 1/4" SCALE LAYOUT DRAWINGS OF AREAS WITH ELECTRICAL SWITCHGEAR AND TRANSFORMERS. LAYOUT SHALL SHOW LOCATIONS OF AND SHALL BE COORDINATED WITH MECHANICAL EQUIPMENT AND MECHANICAL EQUIPMENT SHALL BE DRAWN TO SCALE.
6. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO APPROVE METHODS AND MATERIALS NOT REFLECTED HEREIN.
7. THE CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND SHALL PROVIDE LIGHTS, SWITCHES, RECEPTACLES, TELEPHONE OUTLETS, EQUIPMENT CONNECTIONS, ETC. AND ASSOCIATED CIRCUITING IN NEW AND REMODELED AREAS, EVEN IF SUCH AREAS ARE NOT SHOWN ON THE ELECTRICAL DRAWINGS. LAYOUTS, FIXTURE TYPES, QUANTITIES AND SPACING SHALL BE IN ACCORDANCE WITH SIMILAR AREAS ON THIS PROJECT. THE CONTRACTOR SHALL INCLUDE COSTS FOR THE ABOVE IN HIS BID. IN ADDITION, THE CONTRACTOR SHALL PROVIDE LAYOUT DRAWINGS FOR WORK IN SUCH AREAS AND SUBMIT FOR APPROVAL PRIOR TO ROUGH-IN.
8. THE CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL AND OTHER DRAWINGS PRIOR TO BID AND SHALL COORDINATE ALL TRADES TO PROVIDE A COMPLETE PRODUCT TO AVOID CONFLICTS BETWEEN TRADES, AND TO DETERMINE WHICH TRADE IS TO PERFORM THE NECESSARY WORK. COORDINATION BETWEEN TRADES SHALL INCLUDE LOW VOLTAGE WIRING.
9. PROVIDE SUBSTITUTIONS OF ELECTRICAL EQUIPMENT OR REQUEST FOR "OR EQUIVALENT" OR "APPROVED EQUIVALENT" LISTING SHALL BE SUBMITTED TO THE ARCHITECT NOT LESS THAN TEN (10) WORKING DAYS PRIOR TO BID. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
10. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER, CONSISTENT WITH THE HIGHEST LEVEL OF STANDARDS AND TO THE SATISFACTION OF THE ARCHITECT.
11. ALL EQUIPMENT AND MATERIALS PROVIDED SHALL BE NEW AND IN CONFORMANCE WITH APPLICABLE PROVISIONS OF NEMA, ANSI U.L., ETC AND SHALL BEAR AN APPROVED TESTING AGENCY LABEL WHERE APPLICABLE.
12. PROVIDE PERMITS AND INSPECTIONS AS REQUIRED.
13. GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
14. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN. MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION BY CONTRACTORS, WILL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
15. SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, THE CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO THE OWNER.
16. THE CONTRACTOR SHALL PROVIDE OPERATING MANUALS TO THE OWNER.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ELECTRICAL UTILITY COMPANY FURNISHED CONDUIT FOR THE PRIMARY CONDUCTORS FROM THE PRIMARY POINT OF CONNECTION TO THE PAD MOUNT TRANSFORMER, PROVIDING A CONCRETE PAD PER ELECTRICAL UTILITY CO. REQUIREMENTS, AND TO COORDINATE WITH ALL REQUIREMENTS FOR CONDUIT ENTRY AND CABLE TERMINATIONS IN THE UTILITY TRANSFORMER. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ ENGINEER PRIOR TO COMMENCEMENT OF WORK.
18. PROVIDE EXPANSION FITTINGS IN CONDUIT RUNS CROSSING STRUCTURAL EXPANSION JOINTS.
19. WIRE SHALL BE COPPER, 75 DEGREES C RATED FOR GENERAL USE, FOR HID FIXTURES AND WIRING WITHIN 3 INCHES OF FLUORESCENT BALLAST WIRE SHALL BE COPPER, MINIMUM 90 DEGREES C RATED. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30 DEGREES C AMBIENT. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS. THE CONTRACTOR SHALL INCREASE THE SIZE OF THE CONDUCTOR TO MEET VOLTAGE DROP REQUIREMENTS WHERE FIELD CONDITIONS INCREASE THE CONDUIT RUN LENGTH SUCH THAT THE VOLTAGE DROP IS EFFECTED.
20. ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A #12 PULL WIRE OR EQUIVALENT AND SHALL BE IDENTIFIED AT ALL JUNCTION, PULL AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAG SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATION AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.
21. PRESENT SHOP DRAWING SUBMITTAL DATA AT ONE TIME, SUBMITTAL SHALL BE SUBMITTED IN PDF FORM WITH CONTRACTOR APPROVAL PRIOR TO SUBMITTAL. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE, BUT NOT BE LIMITED TO: LIGHTING FIXTURES, SWITCHGEAR, PANELBOARDS, WIRING DEVICES, SAFETY SWITCHES, FUSES, MOTOR STARTERS, LAMPS, CONDUIT, CONDUIT FITTINGS AND TRANSFORMERS.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
23. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIAL, EQUIPMENT OR INSTALLATION METHODS.
24. SYSTEMS SHALL BE COMPLETE, OPERABLE AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC., SHALL BE CONNECTED AND OPERABLE.
25. RECEPTACLES WHICH ARE SHOWN WALL MOUNTED ON THE ELECTRICAL DRAWINGS ON WALLS WHICH, ON THE ARCHITECTURAL DRAWINGS AND ELEVATIONS ARE SHOWN AS GLASS OR PARTITIONS, SHALL BE FLUSH FLOOR DUPLEX RECEPTACLES MOUNTED ADJACENT TO BASE OR WALLS.
26. BOXES FOR TELEPHONE, T.V., COMPUTER, WIRING DEVICES, ETC., SHALL BE MINIMUM 4" SQUARE. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECTURAL AND INTERIOR DRAWINGS FOR ALL ROUGH-IN LOCATIONS FOR APPLIANCES. IF NO LOCATION IS INDICATED, THE CONTACTOR SHALL NOTIFIY THE ARCHITECT IN WRITING FOR CLEARIFICATION.
27. GROUNDING OF RECEPTACLES AND FIXED ELECTRICAL EQUIPMENT IN PATIENT CARE AREAS TO COMPLY WITH NEC 517. 13 (A) & (B) AND NEC 517.31
28. ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L. OR OTHER RECOGNIZED TESTING FACILITIES
29. THE LIGHTING HAS BEEN DESIGNED IN ACCORDANCE OF THE STATE OF NORTH CAROLINA STATE BUILDING CODE, ENERGY EFFICIENCY CODE, CHAPTER 13 (2018 EDITION).
30. VOLTAGE DROP CALCULATIONS ON ALL FEEDERS AND BRANCH CIRCUITS HAVE BEEN PERFORMED WITH A MAXIMUM OF 5 PERCENT VOLTAGE DROP TOTAL. THE CONTRACTOR IS RESPONSIBLE TO BE FAMILIAR WITH CHAPTER 13 AND SHALL UPSIZE THE CONDUCTORS FOR FEEDER AND BRANCH CIRCUITS BASED ON THE ACTUAL ROUTING IN THE FIELD.
31. THE CONTRACTOR SHALL HAVE A QUALIFIED PERSON COMMISSION ALL LIGHTING CONTROL SYSTEMS PRIOR TO OBTAINING THE C.O. THE PERSON SHALL TRAIN THE OWNER ON THE OPERATION OF THE LIGHTING CONTROLS.
32. ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS. RACEWAYS IN SLAB-ON-GRADE OR BELOW GRADE SHALL BE SCHEDULE 40 PVC. TRANSITIONS FROM BELOW TO ABOVE GRADE SHALL BE WITH RIGID STEEL ELBOWS WITH P.V.C. JACKET OR APPROVED EQUIVALENT PROTECTION. MET FITTINGS SHALL BE MALLEABLE IRON OR STEEL. CONNECTORS SHALL BE INSULATED THROAT TYPE.
33. NON-METRECTIC AND FLEXIBLE CONDUITS SHALL HAVE A CODE SIZED COPPER GROUNDING CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED.
34. FIRE ALARM, SOUND, TELEPHONE, COMPUTER, AND SIMILAR SYSTEMS CONDUITS LARGER THAN 1" SHALL HAVE LONG RADIUS SWEEPS (12 TIMES THE DIAMETER).
35. THE CONTRACTOR SHALL PROVIDE GFCI PROTECTION FOR PERSONNEL AS PER 2017 NEC 210.8(B).
36. FINAL CONNECTIONS TO MOTORS, TRANSFORMERS AND OTHER VIBRATING EQUIPMENT SHALL BE WITH SEAL TITE FLEX AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
37. WHERE PANELS ARE INSTALLED FLUSH WITH WALLS, EMPTY CONDUITS SHALL BE EXTENDED FROM THE PANEL TO AN ACCESSIBLE SPACE ABOVE OR BELOW. A MINIMUM OF ONE 3/4"C. SHALL BE INSTALLED FOR EVERY THREE SINGLE POLE SPARE CIRCUIT BREAKERS OR SPACES, OR FRACTION THEREOF, BUT NOT LESS THAN TWO CONDUITS. FLUSH MOUNTED PANEL SHALL BE INSTALLED IN 6" WALLS. COORDINATE WITH GENERAL CONTRACTOR.
38. WIRE TERMINATION PROVISIONS FOR PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, AND ALL OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SUITABLE FOR 75 DEGREE C.
39. ELECTRICAL CONTRACTOR SHALL PROVIDE CONTROLS, INTERLOCKS, ACCESSORIES, ETC., IN MOTOR CONTROL STARTERS AS REQUIRED BY THE TEMPERATURE CONTROL CONTRACTOR. STARTERS SHALL CONTAIN 120V CONTROL TRANSFORMER, PILOT LIGHT, AND PUSH BUTTONS OR SELECTOR SWITCH AS REQUIRED, IN ADDITION TO OTHER ITEMS (AUXILIARY CONTACTS, DOOR SWITCHES, RELAYS, ETC.) REQUIRED. SUBMIT ELEMENTARY CONTROL DIAGRAMS FOR APPROVAL. SUBMITTALS SHALL INCLUDE INDICATION OF PRIOR REVIEW AND ACCEPTANCE BY TEMPERATURE CONTROL CONTRACTOR. REFER TO DIV. 15 DRAWINGS AND TEMPERATURE CONTROL DIAGRAMS FOR ADDITIONAL CONDUIT, WIRE, RELAYS, TRANSFORMERS, CONNECTIONS, ETC. REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
40. RECEPTACLE AND TELEPHONE OUTLETS AT COUNTER SHALL BE MOUNTED WITH THEIR LONG AXIS HORIZONTAL AT +42" UNLESS NOTED.
41. PANEL DIRECTORIES SHALL BE REMOVABLE. SUBMIT PROPOSED SCHEDULE OF DIRECTORIES TO OWNER FOR APPROVAL. ROOM NAMES AND NUMBERS SHALL BE AS DIRECTED BY OWNER. DIRECTORIES SHALL BE TYPED AND INSTALLED UNDER CLEAR PLASTIC COVERS.
42. DISCONNECT SWITCHES SHALL BE GENERAL DUTY TYPE. FUSIBLE SWITCHES SHALL ACCEPT CLASS "R" FUSES ONLY AND REJECT ALL OTHERS.
43. PROVIDE DYMO-TAPE TAG INSIDE COVER OF EACH FUSIBLE SWITCH, INDICATING SIZE AND TYPE OF FUSES PROVIDED.
44. DEVICES SHALL BE AS FOLLOWS: (OR OTHERWISE AS NOTED)
    A. RECEPTACLES – HUBBELL #5362 SERIES
    B. SWITCHES – HUBBELL #1221 SERIES
    C. DIMMERS – LUTRON "NOVA" SERIES.
    D. THE COLOR OF THE DEVICES AND COVER PLATES SHALL BE AS DIRECTED BY ARCHITECT. IN DAMP OR WET LOCATIONS COVER PLATES SHALL BE STAINLESS STEEL. IN DRY LOCATIONS COVER PLATES SHALL BE SMOOTH HIGH ABUSE NYLON OR EQUIVALENT. PROVIDE COVER PLATES FOR SWITCHES, RECEPTACLES, TELEPHONE, TELEVISION, COMPUTER, AND J-BOX OUTLETS AS REQUIRED.
45. THE CONTRACTOR SHALL COORDINATE WITH THE TELEPHONE UTILITY FOR PROVIDING THE REQUIRED CONDUIT SIZE AND NUMBER TO THE TENANT SPACE. THE CONTRACTOR SHALL PROVIDE ALL CONDUITS WITH PULL CORDS AND SHALL INSTALL FROM THE LOCAL TELEPHONE BOARD TO THE MAIN POINT OF SERVICE
46. FIRE ALARM SYSTEM. CONTRACTOR SHALL PROVIDE DEVICES, CONDUIT, WIRES AND CABLE AS DIRECTED BY EQUIPMENT AND WORKMANSHIP SHALL MEET PREVAILING CODES. THE SYSTEM SHALL BE COMPLETE AND OPERABLE IN EVERY RESPECT. SUBMIT SINGLE LINE OF SYSTEM WITH SHOP DRAWINGS. THIS SINGLE LINE DIAGRAM SHALL SHOW DEVICES, CONDUIT, WIRE AND CABLE SIZES, EQUIPMENT TO BE USED AND SHALL BE STAMPED AND SIGNED BY LOCAL FIRE DEPARTMENT. SYSTEM CALIBRATION AND TESTING SHALL BE BY FACTORY CERTIFIED TECHNICIAN.
47. SEE DIVISION 22 & 23 DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT. PROVIDE SERVICE TO AND CONNECT EQUIPMENT AS REQUIRED.
48. SPLICES IN EXTERIOR PULL BOXES AN MANHOLES SHALL BE MADE WATER PROOF USING "SCOTCHCAST" SPLICE KIT OR APPROVED EQUIVALENT. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCT SEAL" OR APPROVED EQUIVALENT
49. CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE AND FUSES SHALL BE BUSSMANN OR LITTLEFUSE.
50. PROVIDE APPROVED FIRE STOPPING MATERIALS AT ALL PENETRATIONS THROUGH FIRE RATED FLOORS AND WALLS TO PREVENT THE PASSAGE OF SMOKE, FIRE TOXIC GAS OR WATER THROUGH THE PENETRATION EITHER BEFORE, DURING OR AFTER A FIRE, AS REQUIRED BY ARTICLE 300, OF THE NEC.
51. PROVIDE TWO (2) SETS OF THREE (3) SPARE FUSES FOR EACH SIZE AND TYPE PROVIDED ON THIS PROJECT. INSTALL FUSES IN A HINGED DOOR, SHEET METAL STORAGE CABINET EQUIPPED WITH CLIPS OR CUBICLES, EACH MARKED WITH THE SIZE AND TYPE FUSE STORED THEREIN. PROVIDE NAMEPLATE "SPARE FUSES". INSTALL IN LOCATIONS AS DIRECTED BY OWNER.
52. PULL BOXES, CABINETS, ETC., MOUNTED ON THE EXTERIOR AT GRADE LEVEL, SHALL BE WEATHER PROOF TYPE WITH HINGED LOCKABLE COVERS SECURED WITH TAMPER-PROOF SCREWS.
53. FLUSH FLOOR RECEPTACLE OUTLETS SHALL BE HUBBELL #B-2529 WITH BRASS COVER #S-3725. PROVIDE CARPET OR TILE FLANGE TO MATCH FLOOR FINISH.
54. FLUSH FLOOR TELEPHONE OUTLETS SHALL BE HUBBELL #B-2529 WITH BRASS COVER #S-2725. PROVIDE CARPET OR TILE FLANGE TO MATCH FLOOR FINISH.
55. RECESSED LIGHT FIXTURES INSTALLED IN GYP. BOARD OR PLASTER CEILINGS SHALL HAVE PLASTER FRAMES INSTALLED PRIOR TO CEILING MATERIAL.
56. RECESSED FIXTURES INSTALLED INDOORS SHALL BE THERMALLY PROTECTED.
57. FIXTURES RECESSED IN "T-BAR" U.L. FIRE RATED CEILING ASSEMBLIES SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING SYSTEM, WITH TWO #12 HANGER WIRES UP TO STRUCTURE. SECURE HANGER WIRES TO CORNERS OF FIXTURE. CLIP FIXTURE TO GRID ON TWO SIDES WITH FACTORY-FURNISHED CLIPS. FINAL CONNECTION TO FIXTURE SHALL BE MADE WITH FLEXIBLE U.L. APPROVED ASSEMBLY.
58. CONDUITS PENETRATING THRU ROOF SHALL HAVE FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.
59. PROVIDE A GREEN GROUND CONDUCTOR AND METAL RACEWAY IN ALL BRANCH CIRCUITS FEEDING OUTLETS IN MEDICAL EXAM ROOMS & PATIENT CARE ROOMS AS PER 2017 NEC 517.13. PROVIDE EMT METAL RACEWAY OR HEALTH CARE RATED MC CABLE AS PER 2017 NEC 517.13.
60. AN ISOLATED GROUND RECEPTACLE SHALL NOT BE INSTALLED WITHIN A PATIENT CARE VICINITY AS PER 2017 NEC 517.16
61. AUTOMATIC LIGHTING CONTROL DEVICES SHALL COMPLY WITH NFPA 101: 7.8.1.2.2 (1) THROUGH (7).
62. THE CONTRACTOR SHALL LABEL ALL ELECTRICAL CONTROL DEVICES (OCCUPANCY/VACANCY SENSORS) WITH THE CORRECT CIRCUIT. ACCORDING TO CIRCUIT PANEL DESIGN FOR MAINTENANCE AS REQUIRED BY NEC 408.4.
63. ADDITIONAL NOTES FOR NEW PANELBOARDS:
    A. PROVIDE LIGHTING AND RECEPTACLE PANELS AS INDICATED ON THE PLANS AND AS SPECIFIED HEREIN. ALL PANELS SHALL BE DEAD FRONT, CIRCUIT BREAKER TYPE, AND SHALL BEAR THE U.L. LABEL AS WELL AS MEET ALL APPLICABLE NEMA REQUIREMENTS.
    B. UNLESS OTHERWISE NOTED, TOP OF PANELS SHALL BE MOUNTED 6'-0" A.F.F.
    C. ALL PANELS SHALL HAVE TYPEWRITTEN CIRCUIT DIRECTORIES MOUNTED INSIDE OF DOOR.
    D. PANELS SHALL BE SUITABLE FOR THE SERVICE RATING AND THE A.I.C. RATING INDICATED ON THE PANEL SCHEDULES.
    E. ALL BREAKERS SHALL BE FULL SPACE, INDIVIDUAL FRAME TYPE, BOLT-ON E. TYPE. NO "PIGGY-BACK" OR TANDEM BREAKERS WILL BE PERMITTED
    F. CONTRACTOR SHALL PROVIDE ON ALL FLUSH (RECESSED) MOUNTED PANELS TWO (2), SPARE 2" CONDUITS STUBBED INTO THE CEILING SPACE.
    G. ALL CURRENT CARRYING BUS BARS SHALL BE COPPER.

ELECTRICAL SYMBOL LIST

S	WALL SWITCH – 1 POLE – 125V – 20 AMP. MOUNT 46" A.F.F. 42" A.F.F. @ COUNTERTOPS OR AS NOTED. QUIET TYPE.
S_3	WALL SWITCH – 3 WAY – 125V – 20 AMP, MOUNT 46" A.F.F. OR AS NOTED
S_D	DIMMER SWITCH – 125V – 1000W – 20 AMP, MOUNT 46" A.F.F. OR AS NOTED
S_M	MOTOR RATED "SNAP" SWITCH – 125V – 20 AMP, MOUNT AS NOTED
VS	LINE VOLTAGE OCCUPANCY SENSOR SWITCH – 120V-800W-6.7 AMP, MOUNT 46" A.F.F. OR AS NOTED. DUAL TECHNOLOGY
VS	LINE VOLTAGE OCCUPANCY SENSOR SWITCH – 125V-800W-6 AMP, CEILING MOUNT OR AS NOTED. DUAL TECHNOLOGY
VS	LINE VOLTAGE OCCUPANCY SENSOR SWITCH – 125V-800W-6 AMP, CEILING MOUNT FOR CORRIDOR OR AS NOTED. DUAL TECHNOLOGY
	HOSPITAL GRADE DUPLEX RECEPTACLE – 125V – 20 AMP – NEMA 5-20R, MOUNT 15" A.F.F. (STANDARD), 42" A.F.F. @ COUNTERTOPS OR AS NOTED
	HOSPITAL GRADE QUAD RECEPTACLE – 125V – 20 AMP – NEMA 5-20R, MOUNT 15" A.F.F. (STANDARD), 42" A.F.F. @ COUNTERTOPS OR AS NOTED
GFI	DUPLEX RECEPTACLE ON GROUND FAULT INTERRUPTER CIRCUIT. 125V – 20 AMP – NEMA 5-20R
J	JUNCTION BOX MOUNTED ABOVE CEILING.
J	JUNCTION BOX RECESS OR MOUNTED IN WALL.
TV	TELEVISION OUTLET MOUNT 15" A.F.F. OR AS NOTED, PROVIDE CONDUIT IN WALL STUBBED UP 6" INTO CEILING CAVITY. COORDINATE EXACT SIZE OF J-BOX AND CONDUIT WITH CABLING CONTRACTOR.
	ETHERNET OUTLET. MOUNT 15" A.F.F. OR AS NOTED. PROVIDE CONDUIT IN WALL STUBBED UP 6" INTO CEILING CAVITY. COORDINATE EXACT SIZE OF J-BOX AND CONDUIT WITH CABLING CONTRACTOR.
(F)	EXHAUST FAN – FRACTIONAL HORSEPOWER.
(2)	MOTOR – NUMBER DENOTES HORSEPOWER.
	PANELBOARD
3P 30 NF	NON-FUSED DISCONNECT SWITCH.
3P 30 20 F	FUSED DISCONNECT SWITCH OR CIRCUIT BREAKER ENCLOSURE.
	PUSH BUTTON

W.P.	WEATHERPROOF
I.G.	ISOLATED GROUND
N.L.	NIGHT LIGHT
EM.	EMERGENCY
E OR EX	EXISTING
N.	NEW
	EMERGENCY POWER OFF (EPO) BUTTON
	X-RAY "IN USE" LIGHT
	X-RAY "IN USE" LIGHTING CONTROL PANEL
DS	DOOR SAFETY SWITCH
	RECESSED LED DOWNLIGHT, SEE LUMINAIRE LIST.
	2' x 4' LED LAY-IN TROFFER, SEE LUMINAIRE LIST.
	EMERGENCY BATTERY PACK WITH LAMPS, SEE LUMINAIRE LIST.
	EXISTING 2' x 4' LAY-IN TROFFER.
	ELECTRICAL CONDUIT CONCEALED IN WALLS OR IN CONCRETE
	ELECTRICAL CONDUIT UNDERGROUND
	ELECTRICAL CONTROL WIRING
#12	ELECTRICAL WIRE HOME-RUN, 1ST HASH MARK REPRESENTS THE HOT, SECOND HASH MARK WITH A DOT REPRESENTS THE NEUTRAL, ARC WIRE MARK REPESENTS THE GROUND
#12	ELECTRICAL MULTI-WIRE HOME-RUN, HASH MARKS WITHOUT DOT REPRESENTS THE NUMBER OF HOT'S, HASH MARK WITH A DOT REPRESENTS THE NEUTRAL, ARC WIRE MARK REPRESENTS THE GROUND, NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS
#12	ELECTRICAL WIRE HOME-RUN, HASH MARKS WITHOUT DOT REPRESENTS THE NUMBER OF HOT'S, ARC WIRE MARK REPRESENTS THE GROUND

LIGHTING FIXTURE SCHEDULE

TYPE	NOTE	MANUF	PART #	WATTAGE	LUMENS	VOLTAGE
A	6" ROUND LED DOWNLIGHT	LITHONIA	LDN6 35/25 L06AR LD MVOLT EZ10 TRW	27	2500	120/277
EM	LED EMERGENCY LIGHT W/90 MIN EM BATTERY	LITHONIA	ELM2L	5		120/277

ELECTRICAL DRAWING LIST

DRAWING NUMBER	DRAWING NAME
E0.1	ELECTRICAL NOTES, LEGEND AND SCHEDULES
E1.1	FIRST FLOOR ELECTRICAL PLAN
E2.1	FIRST FLOOR LIGHTING PLAN
E3.1	SIEMENS REFERENCE DESIGN PLANS
E3.2	SIEMENS REFERENCE DESIGN PLANS

NORTH CAROLINA PROFESSIONAL SEAL 048609 ENGINEER ANDREW J YOUNGROSS

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NOTE

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FINAL SUBMITTAL for construction

An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

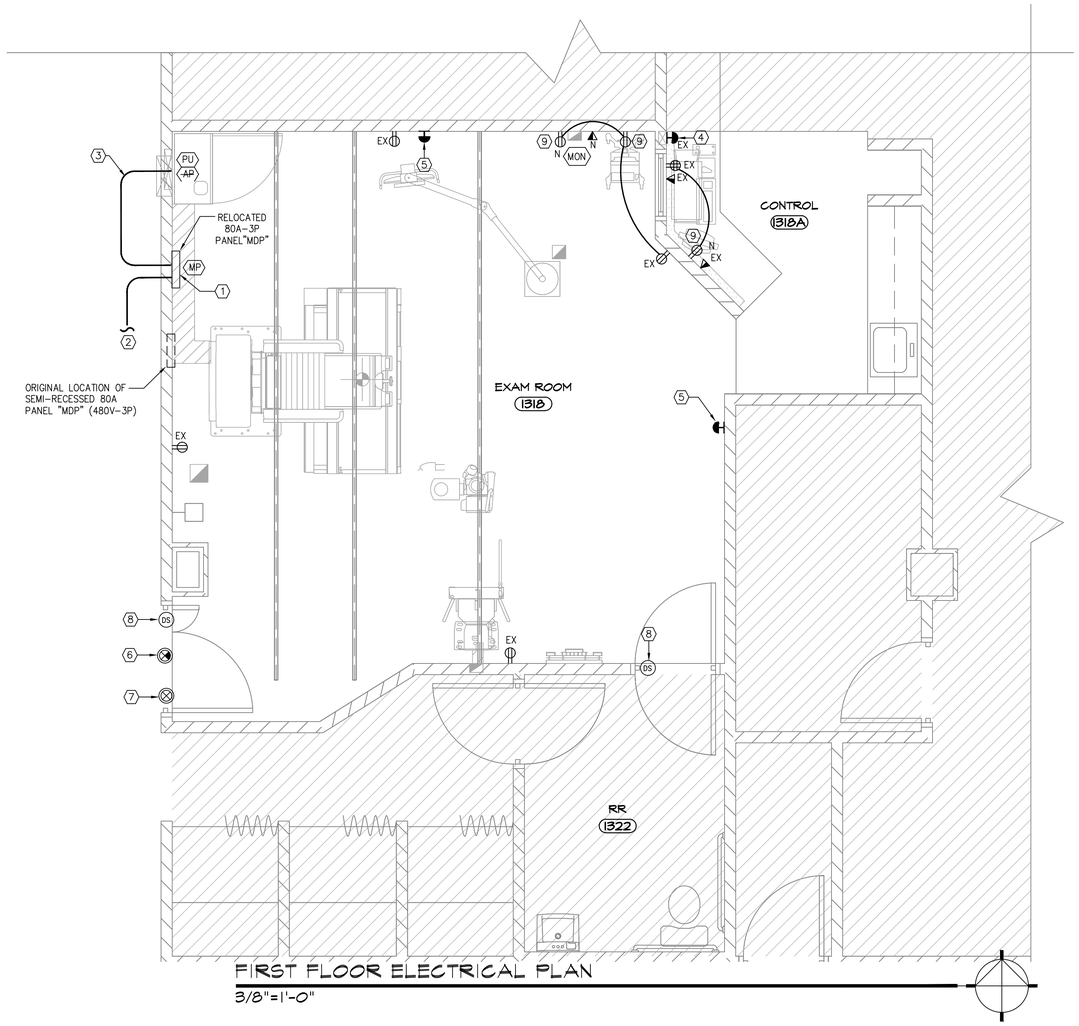
job no. 23-016/23077
principal: AJY/AA
designer: RR
file name:
date: 08.10.23
title: ELECTRICAL NOTES, LEGEND, AND SCHEDULES

E0.1

5 E

08/10/2023

DRAWINGS FROM SIEMENS INCLUDED ON SHEETS E3.1 AND E3.2 ARE INCLUDED IN THE SCOPE OF WORK. CONTRACTOR SHALL PROVIDE ALL CONDUIT AND WIRING AS NECESSARY.



FIRST FLOOR ELECTRICAL PLAN

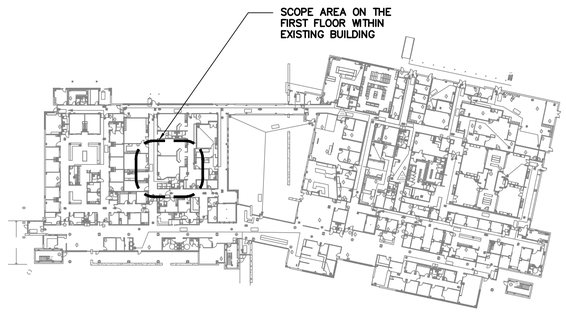
3/8"=1'-0"

NOTES

* SEE SIEMENS ELECTRICAL DRAWINGS ON SHEETS E3.1, AND E3.2 FOR WORK SCOPE REQUIRED.
* PROVIDE LABOR AND MATERIALS TO INSTALL NEW OVERHEAD AND IN FLOOR RACEWAY TO ACCOMODATE NEW RAD EQUIPMENT TOO ADAPT TO EXISTING RACEWAY..
* PROVIDE POST TESTING OF ROOM FOR GROUND IMPEDANCE.

PLAN KEY NOTES

1	RELOCATED SEMI -RECESSED MAIN DISTRIBUTION PANEL "MDP". PANEL "MDP" HAS 100A CIRCUIT BREAKER (WITH 80A PLUG) AND 150A LOW PEAK FUSES IN SERIES (480V-3P). SEE SHEETS E3.1 (SIEMENS), E3.2 (SIEMENS) AND E4.1 (ELECTRICAL RISER) FOR ADDITIONAL INFORMATION. NOTE: PANEL "MDP" REQUIRES 48" DEEP X 30" WIDE CLEARANCE IN FRONT OF THE PANEL. VERIFY WITH SIEMENS REPRESENTATIVE IF THE LOCATION SHOWN IS ACCEPTABLE PRIOR TO COMMENCEMENT OF WORK – AN ALTERNATE LOCATION MAY BE REQUIRED.
2	PROVIDE 20" X 20" SPLICE BOX ABOVE THE CEILING IN THE AREA OF ORIGINAL PANEL "MDP". INTERCEPT THE EXISTING CONDUIT/ CONDUCTORS FEEDING PANEL "MDP" & EXTEND TO RELOCATED PANEL "MDP" (3#2 CU & 1#2 CU GRD IN 1-1/4" CONDUIT) USE POLARIS TAPS. NOTE: SIEMENS DESIGN DRAWINGS REQUIRE THE GROUND CONDUCTOR TO BE THE SAME SIZE AS THE PHASE CONDUCTORS. FIELD VERIFY ALL CONDUCTORS ARE #2 CU – IF THE GROUND IS NOT #2 CU A NEW GROUND CONDUCTOR WILL NEED TO BE INSTALLED.
3	FURNISH AND INSTALL NEW 3#2 CU & 1#2 CU GRD CONDUCTORS IN 1-1/4 CONDUIT FROM RELOCATED 80A PANEL "MDP" TO SIEMENS GENERATOR CABINET.
4	EXISTING EMERGENCY POWER OFF (EPO) SWITCH TO REMAIN.
5	FURNISH AND INSTALL NEW EMERGENCY POWER OFF (EPO) SWITCH – TIE INTO EXISTING EPO SWITCH. SEE SIEMENS DESIGN DRAWINGS ON SHEETS E3.1, E3.2 FOR ADDITIONAL INFORMATION. PROVIDE CONDUIT/CONDUCTORS AS NECESSARY.
6	EXISTING X-RAY ROOM "IN USE" LIGHT TO REMAIN.
7	REWORK EXISTING X-RAY LIGHT CONTROL PANEL AND CONNECT TO EXISTING X-RAY ROOM "IN-USE" LIGHT AND NEW SIEMENS SYSTEM. SEE SIEMENS DESIGN DRAWINGS ON SHEETS E3.1, E3.2 FOR ADDITIONAL INFORMATION. PROVIDE CONDUIT/CONDUCTORS & RELAYS AS NECESSARY.
8	FURNISH AND INSTALL DOOR INTERLOCK SWITCH, IF NOT EXISTING AT PRESENT. SEE SIEMENS DESIGN DRAWINGS ON SHEETS E3.1, E3.2 FOR ADDITIONAL INFORMATION. PROVIDE CONDUIT/ CONDUCTORS AS NECESSARY AND TIE INTO SIEMENS SYSTEM.
9	FURNISH AND INSTALL 20A,120V, HOSPITAL GRADE DUPLEX WITH RED FACEPLATE. PROVIDE CONDUIT/CONDUCTORS AND CONNECT TO RECEPTACLE SHOWN.



OVERALL FIRST FLOOR PLAN

NTS

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file name:
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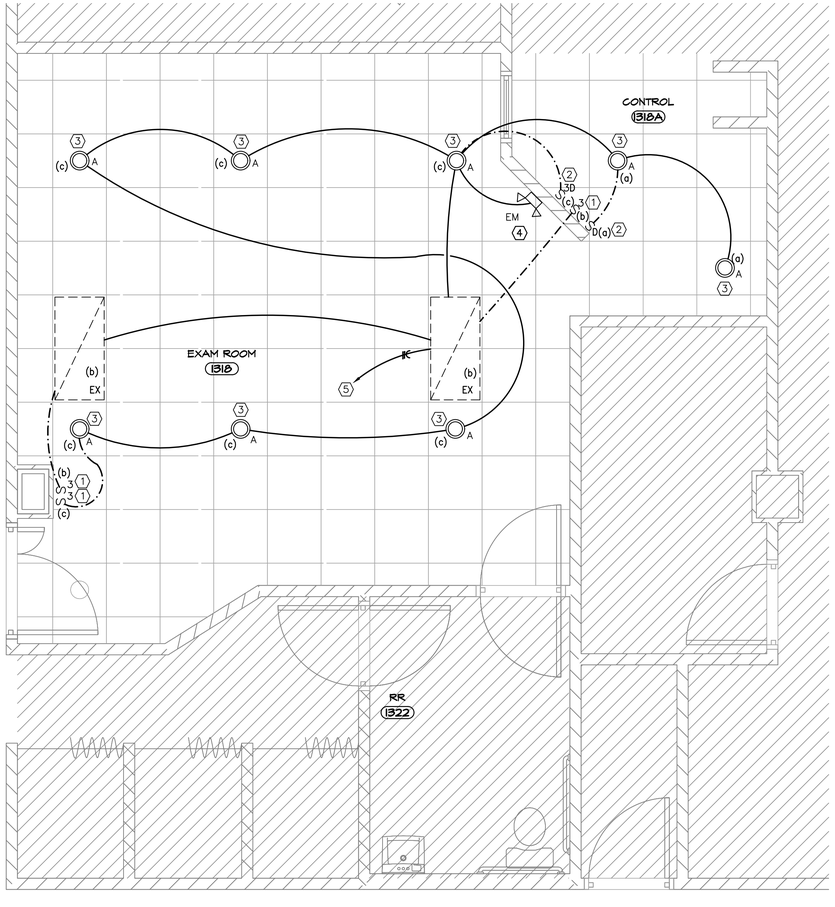
title:
FIRST FLOOR ELECTRICAL PLAN

E1.1

5 E

08/10/2023



FIRST FLOOR LIGHTING PLAN

3/8"=1'-0"

PLAN KEY NOTES

1	FURNISH AND INSTALL NEW LIGHT SWITCH (ON/OFF). 1-WAY OR 3-WAY AS NOTED.
2	FURNISH AND INSTALL NEW 0-10V LED DIMMABLE LIGHT SWITCH. 1-WAY OR 3-WAY AS NOTED.
3	PROVIDE NEW LED DOWN LIGHT. CONNECT TO SWITCHES AS SHOWN. PROVIDE CONDUIT/ CONDUCTORS AS NECESSARY.
4	PROVIDE NEW EMERGENCY LIGHT. CONNECT TO THE EXISTING LIGHTING CIRCUIT SERVING THIS ROOM - CONNECT ON THE SUPPLY SIDE OF ANY LOCAL SWITCH CONTROLS.PROVIDE CONDUIT/ CONDUCTORS AS REQUIRED.
5	CONNECT LIGHTS IN THE EXAM ROOM TO THE EXISTING LIGHTING CIRCUIT SERVING THIS ROOM. PROVIDE CONDUIT/ CONDUCTORS AS NECCESSARY.

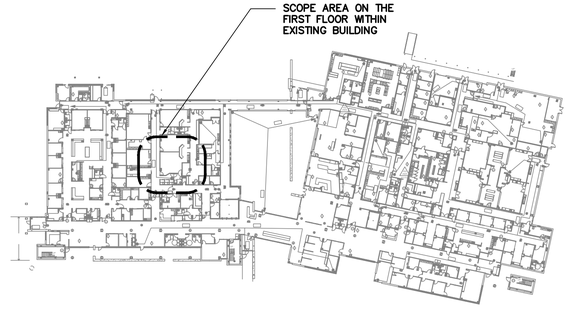
GENERAL NOTES

REMOVE ANY UNUSED LIGHT SWITCHES.

LIGHTING LEGEND

A (b) — A – LIGHT TYPE "A"; (b) – LIGHT SWICHING ZONE "(b)"

S_D (c) — S_D – DIMMER SWICTH; (c) – LIGHT SWICHING ZONE "(c)"



OVERALL FIRST FLOOR PLAN

NTS

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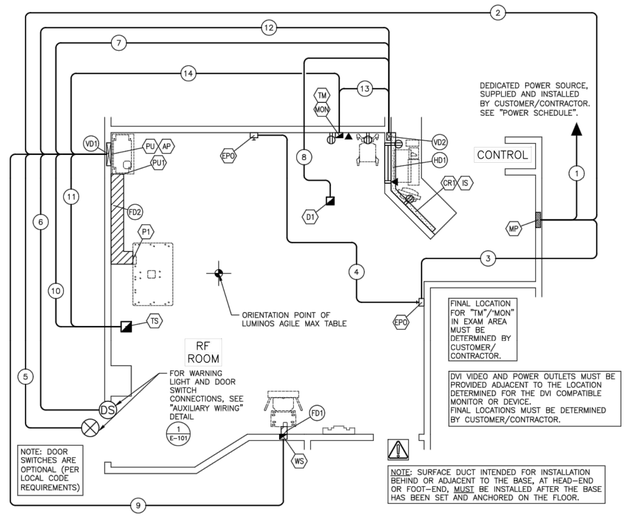
title: FIRST FLOOR LIGHTING PLAN

E2.1

5 E



ELECTRICAL RACEWAY PLAN

SCALE: 1/4" = 1'-0"

CONTRACTOR SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
PANEL	1	MP	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE.
MP	2,VD1	PU	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE
MP	3	EPO	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE
EPO	4	EPO	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE.
PU	VD1,5	WL	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE AUXILIARY WIRING DTL.
PU	VD1,6	DS	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE AUXILIARY WIRING DTL.

CABLE SEPARATION

THIS ELECTRICAL RACEWAY PLAN DEPICTED IN THIS DRAWING IS PLANNED ACCORDING TO SIEMENS SYSTEM REQUIREMENTS AND UL CERTIFICATION OF THIS SYSTEM. ADDITIONAL SEPARATION OF THE SYSTEM CABLE SETS INTO SEPARATE OR PARTITIONED RACEWAYS UNLESS OTHERWISE NOTED IS NOT NECESSARY TO ENSURE SEPARATION OF CIRCUITS. INTERCONNECTING CABLE SETS ARE TESTED AS PART OF THE SYSTEM, AND ARE NOT CONSIDERED PREMISE WIRING.

THE CUSTOMER ASSUMES ALL RESPONSIBILITY AND LIABILITY FOR ANY ADDITIONAL SEPARATION REQUIREMENTS INCLUDING, BUT NOT LIMITED TO: DETERMINING THE NEED FOR ADDITIONAL SEPARATION AND DETERMINING ANY ADDITIONAL ITEMS NEEDED OTHER THAN THOSE IDENTIFIED ON THIS PLAN.

CABLE PROTECTION

CABLES ARE NOT PLENUM RATED. ALL CABLES MUST BE ROUTED IN CABLE DUCTS OR CABLE CONDUITS.

CONDUIT LENGTH CALCULATIONS

FOR SITE SPECIFIC INSTANCES WHERE CABLES ARE BEING ROUTED IN A COMBINATION OF CONDUIT AND DUCTS, THE MAXIMUM LENGTH FOR THOSE CONDUITS, AS LISTED ON THE ELECTRICAL LEGEND, HAS BEEN CALCULATED BASED UPON THE DUCT LAYOUT SHOWN AND THE FOLLOWING ASSUMED VALUES:

1) VERTICAL DUCTS – 10'–0"
2) FLOOR PENETRATIONS THROUGH CONCRETE SLAB – 3"–0"

IF THE ACTUAL SITE SPECIFIC CONDITIONS EXCEED THESE ASSUMED VALUES AND/OR THE DUCT LOCATIONS ARE ALTERED, IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO RECALCULATE THE MAXIMUM LENGTH OF THE CONDUITS EFFECTED.

REV 0

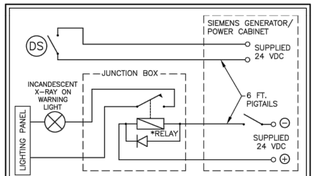
CONTRACTOR SUPPLIED ITEMS

ALL ITEMS, INCLUDING BUT NOT LIMITED TO CONDUITS, DUCTS, CIRCUIT BREAKERS, EMERGENCY OFF BUTTONS, DOOR SWITCHES, AND WARNING LIGHTS, SHOWN IN THESE PLANS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/ELECTRICAL CONTRACTOR, UNLESS OTHERWISE SPECIFIED.

SYMBOLS

ALL MAY NOT APPLY

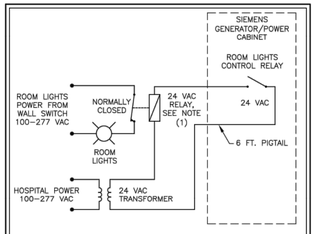
	MAIN PANEL OR ENCLOSURE BY CUSTOMER/CONTRACTOR
	OPENING IN RACEWAY OR TRENCHDUCT
	PULLBOX IN (FLOOR/WALL/CEILING)
	OPENING IN ACCESS FLOORING
	WARNING LIGHT (X–RAY ON)
DS	DOOR SAFETY SWITCH
	(EPO) EMERGENCY POWER OFF BUTTON
	TRENCHDUCT
	CEILING DUCT
	UNDER FLOOR DUCT
	SURFACE DUCT
	VERTICAL DUCT
	ETHERNET CONNECTION TO CUSTOMER'S INFORMATION SYSTEMS NETWORK (VERIFY WITH SMS PROJECT MANAGER).
	110 VOLT, 20 AMP, HOSPITAL GRADE DUPLEX OUTLET UNLESS OTHERWISE STATED.
	110 VOLT, 20 AMP, HOSPITAL GRADE QUAD OUTLET
L6–30R	SPECIAL PURPOSE RECEPTACLE



*NORMALLY OPEN RELAY WITH A 24 VOLT, DC COIL (NOT TO EXCEED 5 WATTS) AND A STEERING DIODE WIRED OVER THE RELAY COIL, SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. SIEMENS TO PROVIDE CONTROL SIGNAL TO RELAY. CONTRACTOR SUPPLIED AND INSTALLED JUNCTION BOX.

WARNING LIGHT AND DOOR SWITCH SCHEMATIC

1 AUXILIARY WIRING — SCALE: NONE — REV. 0



NOTES:
1) NORMALLY CLOSED RELAY WITH A 24 VOLT, AC COIL (NOT TO EXCEED 5 WATTS), SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. SIEMENS ONLY PROVIDES CONTROL SIGNAL TO RELAY.

2) ALL ITEMS SHOWN ARE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR, WITH THE EXCEPTION OF THE SIEMENS GENERATOR/POWER CABINET.

ROOM LIGHTS SCHEMATIC

2 ROOM LIGHTING WIRING — SCALE: NONE

CABLE LENGTH LIMITATIONS

THE CONDUITS ARE SHOWN SCHEMATICALLY IN THIS PLAN AND MUST BE RUN IN THE SHORTEST POSSIBLE DISTANCE BETWEEN TERMINATION POINTS. ANY VARIATION IN THE ROUTING OF DUCTS COULD RESULT IN CABLE LENGTH LIMITATIONS BEING EXCEEDED. THEREFORE, ANY CHANGES MUST BE APPROVED BY THE SIEMENS PROJECT MANAGER.

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'–6"

ELECTRICAL LEGEND

SYM	SIZE	DESCRIPTION	REMARKS
		SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR	
CR/IS	–––	OPENING IN FACE OF "HD1". EXACT LOCATION MUST BE DETERMINED AT TIME OF EQUIPMENT INSTALLATION.	FOR CONTROL EQUIPMENT
WL	6"x6"x6"	PULL BOX MOUNTED FLUSH WITH FINISHED CEILING, WITH REMOVABLE COVER.	FOR DCS CEILING MONITOR
EPO	–––	EMERGENCY POWER OFF BUTTON WITH PROTECTIVE COVER, MOUNTED 5'–0" ABOVE THE FINISHED FLOOR.	SEE POWER SCHEDULE
MP	–––	MAIN PANEL WITH MAIN BREAKER. EXACT LOCATION DETERMINED BY CUSTOMER/CONTRACTOR.	SEE POWER SCHEDULE
MON/TM	4 11/16" SQUARE x 3 1/4" DEEP	PULL BOX MOUNTED FLUSH WITH FINISHED WALL, CENTERLINE 18" ABOVE THE FINISHED FLOOR, WITH TIMS WALL BOX AND COVER PLATE SURFACE MOUNTED FOR DVI, TRIGGER AND NETWORK CONNECTIONS. (MAX. DISTANCE FROM CART – 25 FT.)	FOR TIMS MOBILE CART
P1	–––	OPENING IN END OF "FD2" ALONG TABLE BASE	FOR TABLE
PU/AP	18"x4"	OPENING IN FACE OF "VD1" AT THE FLOOR LINE TO ACCOMMODATE CONDUIT TRANSITIONS, ADD A 12" x 12" JUNCTION BOX ATTACHED TO VERTICAL DUCT IN THE CEILING.	FOR GENERATOR W/ ACCESS POINT
P1	–––	OPENING IN SIDE OF "FD2" ALONG LEFT SIDE OF GENERATOR BASE.	FOR GENERATOR
TS	8"x8"x8"	PULL BOX MOUNTED FLUSH WITH FINISHED CEILING, WITH REMOVABLE COVER.	FOR CEILING TUBE STAND
WS	6"x6"x4"	PULL BOX MOUNTED FLUSH WITH FINISHED WALL AT THE FLOOR LINE AND FITTED WITH REMOVABLE COVER.	FOR WALL STAND
(19)	4 3/4"x1 3/4"	FLOOR DUCT (6" LONG WIREMOLD 4000 OR EQUIVALENT) SURFACE MOUNTED ON FLOOR FROM PULL BOX "WS" TO REAR OF WALL STAND BASE, TO PROVIDE COVER FOR CABLES.	FOR WALL STAND
(18)	10"x3 1/2"	FLOOR DUCT SURFACE MOUNTED ON THE FLOOR FROM "PU1" TO ALONG REAR OF TABLE BASE, AS SHOWN. THIS DUCT MUST BE DIVIDED INTO THREE SECTIONS: ONE 4" AND TWO 3" SECTIONS TO PROVIDE FOR SEPARATION OF CABLES.	FOR TABLE
(17)	6"x3 1/2"	HORIZONTAL DUCT SURFACE MOUNTED ON WALL JUST BELOW THE CONTROL COUNTER AND CONNECTED TO "VD2".	FOR CONTROL EQUIPMENT
(16)	18"x3 1/2"	VERTICAL DUCT MOUNTED FLUSH WITH FINISHED WALL FROM ABOVE FINISHED CEILING TO END AT THE FLOOR LINE. THIS DUCT MUST BE DIVIDED INTO THREE EQUAL SECTIONS, TO PROVIDE FOR SEPARATION OF POWER CABLES.	FOR GENERATOR
(15)	6"x3 1/2"	VERTICAL DUCT MOUNTED FLUSH WITH FINISHED WALL FROM ABOVE FINISHED CEILING TO END AT THE FLOOR LINE.	FOR CONTROL EQUIPMENT
	–	NOTES: 1. WARNING LIGHTS AND DOOR SWITCHES ARE THE RESPONSIBILITY OF THE CUSTOMER/CONTRACTOR. SEE "AUXILIARY WIRING" DETAIL. 2. TO TURN ROOM LIGHTS OFF FROM THE SIEMENS EQUIPMENT, SEE "ROOM LIGHTING WIRING" DETAIL.	
1	AS REQUIRED	CONDUIT FROM POWER SOURCE TO MAIN PANEL (MP).	SIZED BY ELEC. CONTRACTOR
2	–––	CONDUIT FROM "MP" TO "VD1" (PU). (POWER TO "PU")	SIZED BY ELEC. CONTRACTOR
3	–––	CONDUIT FROM "MP" TO "EPO".	SIZED BY ELEC. CONTRACTOR
4	AS REQUIRED	CONDUIT FROM "EPO" TO "EPO".	SIZED BY ELEC. CONTRACTOR
5	AS REQUIRED	CONDUIT FROM "VD1" (PU) VIA RELAY CIRCUITRY TO WARNING LIGHT.	SIZED BY ELEC. CONTRACTOR
6	AS REQUIRED	CONDUIT FROM "VD1" (PU) TO DOOR SWITCH.	SIZED BY ELEC. CONTRACTOR
7	2 1/2" DIA.	CONDUIT FROM "VD2" (CR1) TO "VD1" (PU).	MAX. CONDUIT LENGTH 32 FT.
8	2 1/2" DIA.	CONDUIT FROM "VD2" (IS) TO "D1".	MAX. CONDUIT LENGTH 42 FT.
9	3" DIA.	CONDUIT FROM "VD1" (PU) TO "WS". (EXTENDED CABLE SET)	MAX. CONDUIT LENGTH 39.5 FT.
10	(2) 2 1/2" DIA.	CONDUITS FROM "VD1" (PU) TO "TS". [USE CONDUIT BENDS PER NEC E346.10]	MAX. CONDUIT LENGTH 19 FT.
11	2" DIA.	CONDUITS FROM "VD1" (PU) TO "TS". [USE CONDUIT BENDS PER NEC E346.10]	MAX. CONDUIT LENGTH 19 FT.
12	(2) 2 1/2" DIA.	CONDUITS FROM "VD2" (IS) TO "VD1" (PU).	MAX. CONDUIT LENGTH 32 FT.
13	2" DIA.	CONDUIT FROM "VD2" (IS) TO "MON".	MAX. CONDUIT LENGTH 105 FT.
14	1" DIA.	CONDUIT FROM "TM" TO "VD1" (PU).	MAX. CONDUIT LENGTH 87 FT.

SIEMENS SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
P1	FD2	PU1	W100 UNIT/GENERATOR, X–RAY TUBE (INCLUDES 30V, 300V, 600V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 22.5 FT.
P1	FD2	PU1	W400, W140 UNIT/GENERATOR, POWER SUPPLY AND XCS (INCLUDES 30V, 300V, 600V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 22.5 FT.
CR1	HD1,VD2,7,VD1	PU	W310, CONTROL ROOM MODULE (300 V CABLE)	MAXIMUM LENGTH 59 FT.
IS	LOOSE	CR1	IMAGING SYSTEM FLAT DISPLAY AND KEYBOARD	MAXIMUM LENGTH 11 FT.
IS	HD1,VD2,8	D1	W200 FOR 1–DISPLAY, W300 FOR 2–DISPLAYS, (INCLUDES 30V, 300V AND 600V CABLES)	MAXIMUM LENGTH 59 FT.
PU	VD1,9	WS	W150F, W150P, W150X BUNDLES – (INCLUDES 300V, 125V AND DATA CABLES) – EXTENDED CABLE SET	MAXIMUM LENGTH 52.5 FT.
PU	VD1,10,11	TS	W110, HIGH TENSION CABLES (INCLUDES 30V, 300V, 600V AND ETHERNET CABLES) [USE CONDUIT BENDS PER NEC E346.10]	MAXIMUM LENGTH 32 FT.
IS	HD1,VD2,12,VD1	PU	W500 FL–C/GENERATOR, RADIATION DISPLAY (INCLUDES 30V, 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 59 FT.
IS	HD1,VD2,12,VD1	PU	W600 ((INCLUDES 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 59 FT.
IS	HD1,VD2,13	MON	DVI VIDEO CABLE	MAXIMUM LENGTH 118 FT.
TM	14,VD1	PU	TIMS BNC COAX TRIGGER CABLE (INSTALLED BY MIV)	MAXIMUM LENGTH 100 FT.

ELECTRICAL NOTES

1) COMPLIANCE: ELECTRICAL WORK SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA–70), O.S.H.A. REGULATIONS, AS WELL AS APPLICABLE REGULATIONS OF CITY, COUNTY, STATE AND FEDERAL AGENCIES. PROVIDE MATERIALS AND EQUIPMENT THAT COMPLY WITH ANSI, IEEE AND NEMA STANDARDS AND ARE U.L. LISTED AND LABELED. THE CUSTOMER'S/CONTRACTOR'S WORK AND ALL EQUIPMENT INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED/ENFORCED BY THE AUTHORITY HAVING JURISDICTION.
2) QUALITY ASSURANCE: THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD TO INSURE THAT THE NEW WORK WILL FIT INTO THE EXISTING STRUCTURE AS SHOWN ON THE DRAWINGS. SHOULD ANY CONDITIONS EXIST OR BE DISCOVERED THAT PREVENT THE INSTALLATION OF WORK AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION OF EQUIPMENT, OR THE PERFORMANCE OF ANY WORK THAT MAY BE AFFECTED. DO NOT ALTER DRAWINGS, DIMENSIONS, OR SPECIFICATIONS IN ANY WAY WITHOUT CONTACTING AND RECEIVING WRITTEN CONFIRMATION FROM SIEMENS PROJECT MANAGER. ALL DIMENSIONS ARE FROM FINISHED SURFACES. CONDUIT AND PULL BOXES TO BE INSTALLED BY THE CUSTOMER/CONTRACTOR WITH LOCATIONS BEING FIELD VERIFIED BY THE SIEMENS PROJECT MANAGER.
3) POWER SUPPLY SOURCE: POWER SUPPLIES FOR SIEMENS HEALTHCARE EQUIPMENT SHALL BE FROM A MEDICAL IMAGING PANEL OR BUILDING SERVICE EQUIPMENT THAT IS A GROUNDED 3 OR 4–WIRE "WYE" SOURCE PER THE SPECIFIC EQUIPMENT OPERATION REQUIREMENTS. A DEDICATED CIRCUIT SHALL BE PROVIDED THAT IS KEPT ENTIRELY FREE AND INDEPENDENT OF ALL OTHER BUILDING WIRING. NO ELEVATORS, GENERATORS, PUMPS, HVAC OR SIMILAR EQUIPMENT SHALL BE CONNECTED TO THE SAME CIRCUIT OR MEDICAL IMAGING PANEL THAT SERVES THE SIEMENS HEALTHCARE EQUIPMENT. IF THE POWER SUPPLY SOURCE DOES NOT MEET THE SPECIFIC SIEMENS EQUIPMENT POWER REQUIREMENTS, THE CONTRACTOR SHALL PROVIDE THE NECESSARY EQUIPMENT REQUIRED TO ESTABLISH THE POWER SUPPLY IN ACCORDANCE WITH THE REQUIRED POWER SUPPLY PARAMETERS OF THE SIEMENS EQUIPMENT. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE CUSTOMER AND/OR UTILITY COMPANY FIELD REPRESENTATIVE.
4) WORK FURNISHED BY CUSTOMER/CONTRACTOR: WORK NOT PROVIDED BY SIEMENS HEALTHCARE BUT SHOWN ON DRAWINGS TO BE FURNISHED AND INSTALLED BY CUSTOMER/CONTRACTOR INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING, UNLESS NOTED OTHERWISE: ELECTRICAL RACEWAYS AND DUCTS, WIRING TROUGHS, PULL BOXES, CONDUITS, CIRCUIT BREAKERS, ACCESS PANELS, EMERGENCY OFF BUTTONS, DOOR SWITCHES, WARNING LIGHTS, WIRING, WIRING DEVICES, CONNECTORS, LIGHTING EQUIPMENT AND GROUNDING.
5) RACEWAY AND CONDUIT NOTES: ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT ENFORCED EDITION OF THE NATIONAL ELECTRICAL CODE.
CONDUIT BODIES SHALL NOT BE USED. WHERE A CONDUIT ENTERS A BOX, FITTING, OR OTHER ENCLOSURE, AN INSULATED THROAT CONNECTOR SHALL BE PROVIDED TO PROTECT THE WIRE FROM ABRASION. ALL CONNECTORS FOR EMT SHALL BE COMPRESSION OR DOUBLE SET SCREW TYPE.
KEEP RACEWAYS AT LEAST 6 INCHES AWAY FROM PARALLEL RUNS OF FLUES OR STEAM AND HOT WATER PIPES. INSTALL RACEWAY RUNS ABOVE WATER AND STEAM PIPES PROVIDED THAT CABLE RUN DISTANCES ARE MAINTAINED. USE TEMPORARY CLOSURES TO PREVENT FOREIGN MATTER FROM ENTERING RACEWAY.
CONDUIT RUNS ARE SHOWN SCHEMATICALLY. INSTALL CONDUIT WITH A MINIMUM OF BENDS IN THE SHORTEST PRACTICAL DISTANCE CONSIDERING THE BUILDING CONSTRUCTION AND OBSTRUCTIONS, EXCEPT AS OTHERWISE INDICATED. THE CONTRACTOR SHALL MAKE CERTAIN THAT ANY CONDUIT/RACEWAY RUNS CONTAINING SIEMENS HEALTHCARE CABLES DO NOT EXCEED THE SPECIFIED MAXIMUM DISTANCES AS SHOWN ON THE ELECTRICAL DETAILS. LISTED CONDUIT SIZES FOR SIEMENS–SUPPLIED CABLES MUST BE MAINTAINED IN ORDER TO ENABLE THE TOTAL CABLE BUNDLE INCLUDING CONNECTORS TO BE PULLED THROUGH WITHOUT DAMAGE.
PROVIDE ENCLOSED METAL WIRE DUCT RACEWAY SYSTEM WHERE SHOWN ON DRAWINGS WITH DIVIDERS TO SEPARATE THE DUCT INTO TWO OR THREE SEPARATE COMPARTMENTS AS SHOWN ON THE SIEMENS PLANS (FOR POWER AND SIEMENS HEALTHCARE CABLING). DIVIDERS AND CROSSOVER PIECES TO BE PROVIDED AS NECESSARY. THE CABLE TO CABLE AS WELL AS THE CIRCUIT TO CIRCUIT SEPARATION REQUIREMENT WAS EVALUATED DURING THE UL SYSTEM CERTIFICATION OF THE EQUIPMENT. ADDITIONAL SEPARATION OF THE SYSTEM CABLE ASSEMBLIES INTO SEPARATE OR PARTITIONED RACEWAYS, UNLESS OTHERWISE NOTED, IS NOT NECESSARY TO INSURE SEPARATION OF CIRCUITS.
PROVIDE WIRE DUCT/RACEWAY WITH ACCESSIBLE REMOVABLE COVERS. LOCATIONS OF BUILDING MATERIAL OPENINGS (I.E. ACCESS PANELS) TO BE CUT IN FIELD ARE TO BE COORDINATED WITH THE DRAWING REQUIRMENTS AND BUILDING STRUCTURE. THOSE THAT ARE NOT INDICATED OR INTERFER WITH BUILDING ELEMENTS SHALL BE COORDINATED WITH SIEMENS PROJECT MANAGER. ELECTRICAL PULL BOXES AND RACEWAY COVERS SHALL BE INSTALLED IN A MANNER TO ALLOW ACCESSIBILITY FOR INSTALLATION AND MAINTENANCE. CONTRACTORS MUST PROVIDE PULL STRINGS FOR ALL CONDUIT AND WIRE DUCT/RACEWAY. IN–FLOOR TRENCH DUCT AND FLUSH FLOOR BOXES SHALL BE PROVIDED WITH FULLY GASKETED REMOVABLE COVERS.
WHEN JUNCTION BOXES AND WIRE DUCT/RACEWAY ARE MOUNTED HIGHER THAN 18 FEET ABOVE FINISHED FLOOR, THE ELECTRICAL CONTRACTOR SHALL PROVIDE TWO ELECTRICIANS TO HELP THE SIEMENS INSTALLERS PULL SIEMENS SUPPLIED CABLES AT CUSTOMER'S EXPENSE. WHEN JUNCTION BOXES AND WIRE DUCT/RACEWAY ARE MOUNTED ABOVE A HARD CEILING (I.E. SHEET ROCK), A 24" x 24" ACCESS PANEL IS REQUIRED AT EACH JUNCTION BOX AND WITHIN 2 FEET OF EACH RACEWAY TRANSITION (SUCH AS A 90 DEGREE ELBOW OR TEE) IN DUCT/RACEWAY. THERE MUST BE FREE AND CLEAR ACCESS TO JUNCTION BOXES AND WIRE DUCT/RACEWAY. WHEN ACCESS PANELS ARE LOCATED MORE THAN 3 FEET FROM JUNCTION BOXES AND WIRE DUCT/RACEWAY THE ELECTRICAL CONTRACTOR SHALL PROVIDE TWO ELECTRICIANS TO HELP SIEMENS INSTALLERS PULL SIEMENS SUPPLIED CABLES AT CUSTOMER'S EXPENSE.
6) WIRING: ALL WIRING INSTALLED SHALL BE 600 VOLT CLASS, STRANDED TYPE THHN/THWN–2, SINGLE CONDUCTOR ANNEALED COPPER FOR A MAXIMUM OPERATING TEMPERATURE OF 90° C (194° F), SIZED AS INDICATED, INSTALLED IN METAL RACEWAYS. THE CUSTOMER/CONTRACTOR SHALL LEAVE A MINIMUM 10 FEET OF WIRE TAILS AT ALL OUTLET POINTS WITH WIRE IDENTIFICATION TAGGED AT BOTH ENDS FOR FINAL CONNECTION BY THE CUSTOMER/ELECTRICAL CONTRACTOR.
7) SHORT CIRCUIT REQUIREMENTS: ALL CIRCUIT BREAKERS SUPPLIED FOR THE SIEMENS EQUIPMENT REQUIREMENTS SHALL BE RATED HIGHER THAN THE SHORT CIRCUIT AVAILABLE AT THE TERMINALS OF THE ELECTRICAL EQUIPMENT AS DETERMINED BY THE ENGINEER OF RECORD, BUT NOT LESS THAN 35,000A RMS SYMMETRICAL AT 480V, 3–PHASE, 60 HERTZ. THE CONTRACTOR SHALL OBTAIN THE CORRECT SHORT CIRCUIT CURRENT RATING OF ALL THE NEW EQUIPMENT FOR INSTALLATION FROM THE ENGINEER OF RECORD.

LUMINOS AGILE REV 20

SYM	DATE	DESCRIPTION
1	06/22/23	23119529A DATED 05/17/23 APPROVED BY CUSTOMER FOR FINALS

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SIEMENS

CENTRAL HARNETT HEALTH HOSPITAL
215 BRIGHTWATER DRIVE, LILLINGTON, NC 27546
RF ROOM – LUMINOS AGILE MAX

PROJECT #: 2311952
SHEET: E-101
SHEET 5 OF 66
DRAWN BY: T. SALVINI
SCALE: AS NOTED
REF. #: 30277332
DATE: 06/22/23

ATTENTION:
– THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.
– THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.
– IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION DOCUMENTS FOR REFERENCE.
– ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.
– THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X–RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

NORTH CAROLINA PROFESSIONAL SEAL 048609 ENGINEER ANDREW J. YOUNGROSS

Digitally signed by Andrew J Youngross
DN: CN=Andrew J Youngross, dnQualifier=A01410D000001894B2D3F230002A6F1, O=Thompson Youngross Engineering, C=US
Location: FL#51758
Reason: I am the author of this document.
Date: 2023.08.10 17:15:04-04'00'

This item has been electronically signed and sealed by Andrew J. Youngross using a Digital Signature and Date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

NOTE

THESE DRAWINGS ARE PREPARED PER ESTABLISHED INDUSTRY STANDARDS AND REPRESENT THE ENGINEERS DESIGN CONCEPT. THEY ARE NOT INTENDED TO PROVIDE EVERY DETAIL OR CONDITION REQUIRED TO CONSTRUCT THE BUILDING. THE CONTRACTOR THROUGH SUBMITTALS AND OTHER COORDINATION EFFORTS IS FULLY RESPONSIBLE FOR PROVIDING A COMPLETE AND OPERATIONAL BUILDING WHETHER INDICATED ON THE PLANS OR NOT.

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HVAC
PLUMBING
ELECTRICAL

REFERENCE DOCUMENT – NOT FOR CONSTRUCTION

FINAL SUBMITTAL for construction

C.D. HAIR ARCHITECT
8461 Lake Worth Road
Suite 169
Lake Worth, FL
AR96135

revision:

NORTH CAROLINA PROFESSIONAL SEAL 048609 ENGINEER ANDREW J. YOUNGROSS

An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

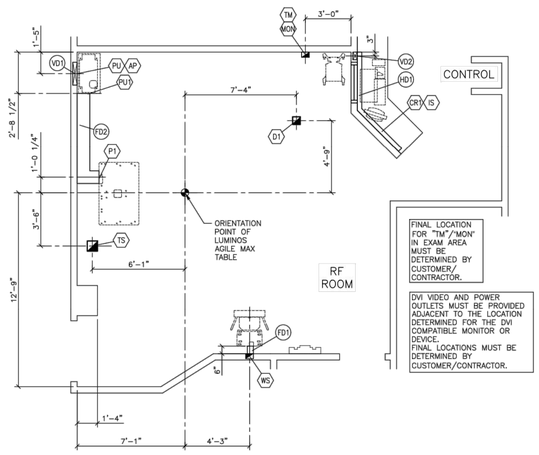
job no. 23–016/23077
principal: AJY/AA
designer: RR
file name:
date: 08.10.23
title:
SIEMENS REFERENCE DESIGN PLANS

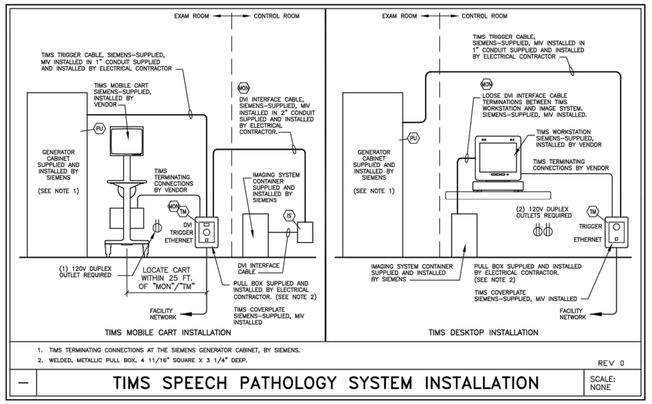
E3.1
5 E

08/10/2023

ELECTRICAL DIMENSION PLAN

SCALE: 1/4" = 1'-0"

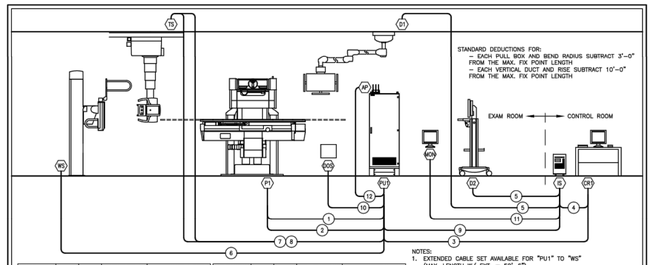




1. TIMS TERMINATING CONNECTIONS AT THE SIEMENS GENERATOR CABINET, BY SIEMENS.
2. WELDED, METALLIC PULL BOX, 4 11/16" SQUARE X 3 1/4" DEEP.

REV 0

– TIMS SPEECH PATHOLOGY SYSTEM INSTALLATION — SCALE: NONE



CONDUIT NUMBER	FROM	TO	CONDUIT SIZE	MAX. FIX POINT DISTANCE
1	P1	PU1	2– 2 1/2"	22'–6"
2	P1	PU1	2– 2 1/2"	22'–6"
3	CR1	PU1	2 1/2"	59'–0"
4	IS	CR1	2 1/2"	11'–0"
5	IS	D1	2 1/2"	59'–0"
	IS	D2	2 1/2"	32'–0" (5)
6	PU1	WS	3"	36'–0" (1,6)

CONDUIT NUMBER	FROM	TO	CONDUIT SIZE	MAX. FIX POINT DISTANCE
7	PU1	TS	2– 2 1/2"	32'–0"
8	PU1	TS	2"	32'–0"
9	IS	PU1	2– 2 1/2"	59'–0"
10 (2)	PU1	DOS	1 1/2"	36'–0"
11	IS	MON	2"	118'–0"
12 (3)	AP	PU1	1 1/2"	(4)

( ) – REFER TO NOTES

NOTES:
1. EXTENDED CABLE SET AVAILABLE FOR "PU1" TO "WS" (MAX. LENGTH W/ EXT. = 92'–6").
2. THIS CONDUIT IS ELIMINATED FOR ALL MAX SYSTEMS.
3. THIS CONDUIT IS ADDED FOR ALL MAX SYSTEMS WITH WI–D.
4. MAXIMUM FIX POINT DISTANCE "AP" TO "PU1"/"IS":
   19'–6" FOR GENERATOR MOUNTED INSTALLATIONS VIA "PU1"
   82'–0" FOR WALL MOUNTED INSTALLATIONS VIA "IS".
5. ACTUAL FIX POINT DISTANCE IS 52'–0". 20'–0" RESERVED FOR CART MOBILITY IN THE EXAM ROOM.
6. CONDUIT SIZED FOR SPLICED CABLE PROVIDED WITH 5M (16 FT.) CABLE EXTENSION, AND/OR W150E CABLES FOR STATIC DETECTOR.

CONDUIT NUMBERS SHOWN IN THIS ILLUSTRATION APPLY ONLY TO THE LEGEND SHOWN. THERE IS NO CORRELATION TO THE CONDUIT NUMBERS SHOWN ON ANY FINAL DRAWING FOR A SPECIFIC SITE PLAN.

– LUMINOS AGILE CONNECTION DIAGRAM — SCALE: NONE

GROUNDING NOTES

EQUIPMENT GROUNDING CONDUCTOR TO COMPLY WITH THE FOLLOWING:

1) SIZE GROUNDING WIRE TO SIEMENS EQUIPMENT PER POWER SCHEDULE REQUIREMENTS.
2) DERIVED FROM THE ELECTRICAL SERVICE, TRANSFORMER OR MAIN DISTRIBUTION PANEL FEEDING THE SIEMENS EQUIPMENT.
3) RUN IN THE SAME CONDUIT, TROUGH OR RACEWAY AS THE PHASE CONDUCTORS.
4) CONTINUOUS, WITH NO BREAKS OR USE OF CONDUIT, CHASSIS OR EARTH AS THE SOLE GROUNDING PATH.
5) BONDED TO CHASSIS AND/OR CONDUIT IN ACCORDANCE WITH THE NEC REQUIREMENTS.
6) MINIMIZE CONNECTIONS OR TERMINALS TO ENSURE CONTINUITY OVER THE LIFE OF THE INSTALLATION.
7) AS A NORM, THERE SHOULD NOT BE ANY CURRENT PRESENCE ON THE GROUND CONDUCTOR, BUT IT IS ACCEPTABLE TO HAVE ≤500mA DURING OPERATION OF THE IMAGING EQUIPMENT.

POWER QUALITY

POOR POWER WILL ALTER EQUIPMENT PERFORMANCE

IT IS IN THE CUSTOMER'S INTEREST THAT THE ELECTRICAL CONTRACTOR BE RESPONSIBLE FOR TESTING AND VERIFYING THAT THE EQUIPMENT POWER SUPPLY COMPLIES WITH THE SIEMENS SPECIFICATIONS.

POLYDOROS F80 80kW

X–RAY GENERATOR POWER REQUIREMENTS

INCOMING POWER:	480 VOLTS, 3 PHASE, 60Hz
CIRCUIT BREAKER:	80 AMPS.
GENERATOR OUTPUT:	80 kW
ALLOWABLE IMPEDANCE:	≤ 0.16 Ω
MAXIMUM MOMENTARY LOAD:	126 kVA
LINE VOLTAGE VARIATION:	± 10% MAX.
PHASE IMBALANCE:	± 2%
FREQUENCY VARIATION:	± 1 Hz

NOTE:
ALL INCOMING POWER SUPPLIES, FOR THE SIEMENS EQUIPMENT, ARE TO BE DEDICATED (BACK TO SOURCE) ISOLATED AND INSULATED FROM ANY OTHER EQUIPMENT, SUCH AS, ELEVATORS, GENERATORS, HVAC SYSTEMS, ETC.

A NEUTRAL CONDUCTOR, IF PRESENT, IS NOT USED FOR THE LINE VOLTAGE CONNECTION TO THE SIEMENS EQUIPMENT. IF THE NEUTRAL CONDUCTOR IS PROVIDED, IT SHOULD NOT BE ELECTRICALLY CONNECTED AT ANY POINT IN THE POWER DISTRIBUTION TO THE SIEMENS EQUIPMENT UNLESS SPECIFICALLY REQUIRED. UNINTENTIONAL NEUTRAL TO GROUND BONDS MAY VIOLATE LOCAL AND NATIONAL ELECTRICAL CODES, AS WELL AS CREATE GROUNDING PROBLEMS.

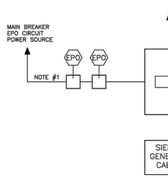
IF AN ON–SITE TRANSFORMER IS REQUIRED TO OBTAIN XP MODALITY OPERATING VOLTAGE, IT MUST BE OF SUFFICIENT CAPACITY AND CHARACTERISTICS TO MAINTAIN SUPPLY VOLTAGE AND IMPEDANCE REQUIREMENTS (TRANSFORMER & CONDUCTORS).

ATTENTION:
SIEMENS MEDICAL SYSTEMS, INC. RECOMMENDS THAT THE INCOMING POWER LINES BE ANALYZED WITH RESPECT TO TRANSIENT SURGES AND IMPULSES, SAGS, AND OVERVOLTAGES.

REV 2

POWER SCHEDULE

ALL CONDUITS AND WIRES SIZES MUST BE DETERMINED BY THE ELECTRICAL ENGINEER OF RECORD PER N.E.C AND TO MAINTAIN SIEMENS IMPEDANCE REQUIREMENTS.



ITEM	QTY	DESCRIPTION				
MP	1	MAIN PANEL WITH CIRCUIT BREAKER FLUSH OR SURFACE MOUNTED.				
A	1	BREAKER MUST HAVE TRIPPING DEVICE SO WHEN ANY EPO IS PRESSED THE BREAKER TRIPS.				
		BREAKER AMPS: SEE POWER REQUIREMENTS				
		VOLTS	PHASES	NEUTRAL	GROUND	TOTAL WIRES
		480Y	3	0	1	4 (NOTE 1)
		1) ALL WIRES MUST BE SAME SIZE. NOTE: UNLESS OTHERWISE NOTED, ALL BREAKERS WILL BE 80% RATED				
EPO	VARIES	NOTE 1 – EPO CIRCUIT #1 MAIN CIRCUIT BREAKER EMERGENCY POWER OFF BUTTON WITH PROTECTIVE COVER THAT PREVENTS ACCIDENTAL ACTIVATION. THE EPO MUST BE OF FAIL–SAFE DESIGN. ALL EPO'S TO HAVE MECHANICAL LATCHING MECHANISM. EPO MUST BE RESET BEFORE MAIN BREAKER CAN RESUME OPERATION. CONTACTS AND WIRING CONFIGURATION TO BE DESIGNED BY ELECTRICAL ENGINEER OF RECORD. THE EPOs MUST BE INSTALLED BY A QUALIFIED ELECTRICAL CONTRACTOR ACCORDING TO NATIONAL ELECTRICAL CODE, STATE AND LOCAL REGULATIONS. MEASURES SHOULD BE TAKEN TO DESIGN THE CIRCUIT IN SUCH A WAY THAT IT WILL ALWAYS WORK WHEN THE MEDICAL EQUIPMENT IS POWERED. THE CUSTOMER IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION OF THE EPOs AND THEIR ASSOCIATED CIRCUITS AND MUST MAKE THE FINAL DETERMINATION CONSIDERING ALL SITE CONDITIONS AND REGULATORY FACTORS.				
		ALL ITEMS LISTED IN THIS SCHEDULE SHALL BE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR.				

REV 1

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'–6"

LUMINOS AGILE REV 20

ATTENTION:
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– THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X–RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED R… PHYSICIST TO SPECIFY RADIATION PROTECTION.

SYM	DATE	DESCRIPTION
1	06/22/23	2311952RA DATED 05/17/23 APPROVED BY CUSTOMER FOR FINALS

…CK–

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SIEMENS

CENTRAL HARNETT HEALTH HOSPITAL
215 BRIGHTWATER DRIVE, LILLINGTON, NC 27546
RF ROOM – LUMINOS AGILE MAX

PROJECT #: 2311952
SHEET: E-102
SHEET 6 OF 66
DRAWN BY: T. SALVINI
SCALE: AS NOTED
REF. #: 30277332
DATE: 06/22/23

NOTE

THESE DRAWINGS ARE PREPARED PER ESTABLISHED INDUSTRY STANDARDS AND REPRESENT THE ENGINEERS DESIGN CONCEPT. THEY ARE NOT INTENDED TO PROVIDE EVERY DETAIL OR CONDITION REQUIRED TO CONSTRUCT THE BUILDING. THE CONTRACTOR THROUGH SUBMITTALS AND OTHER COORDINATION EFFORTS IS FULLY RESPONSIBLE FOR PROVIDING A COMPLETE AND OPERATIONAL BUILDING WHETHER INDICATED ON THE PLANS OR NOT.

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FAX: 561–274–0222
E–MAIL: andrew@tecfla.com
HVAC
PLUMBING
ELECTRICAL

REFERENCE DOCUMENT – NOT FOR CONSTRUCTION

FINAL SUBMITTAL for construction

C.D. HAIR ARCHITECT
8481 Lake Worth Road
Suite 159
Lake Worth, FL
AR96135

revision:

An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

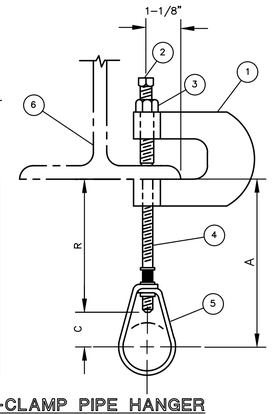
job no. 23–016/23077
principal: AJY/AA
designer: RR
file name:
date: 08.10.23
title: SIEMENS REFERENCE DESIGN PLANS

E3.2

5 E

Components:

1. C–Clamp
2. Set Screw
3. Lock Nut
4. Hanger Rod
5. Adjustable Hanger Ring
6. Steel Beam or Bar Joist

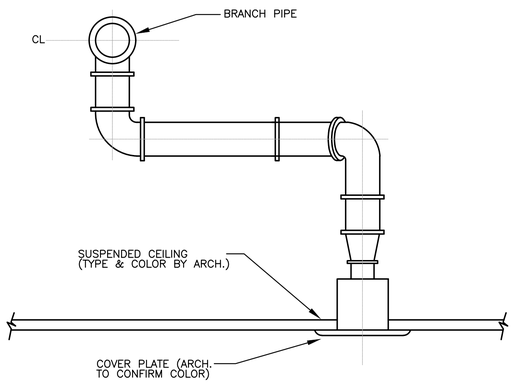


DESIGN DATA FOR C–CLAMP HANGER

Nominal Pipe Size	Minimum A Dimension inches	Hanger Takeout inches	Rod Diameter inches
1/2	3 1/2	–1 1/4	3/8
3/4	3 1/2	–1 1/4	3/8
1	3 1/2	–1 1/4	3/8
1 1/4	3 3/4	–1 1/2	3/8
1 1/2	4	–1 1/2	3/8
2	4 1/4	–1 3/4	3/8
2 1/2	5	–2 1/4	3/8
3	5 1/2	–2 1/2	3/8
4	6	–3	3/8

STANDARD C-CLAMP PIPE HANGER

NOT TO SCALE



TYPICAL SPRINKLER INSTALLATION

NOT TO SCALE

NOTE

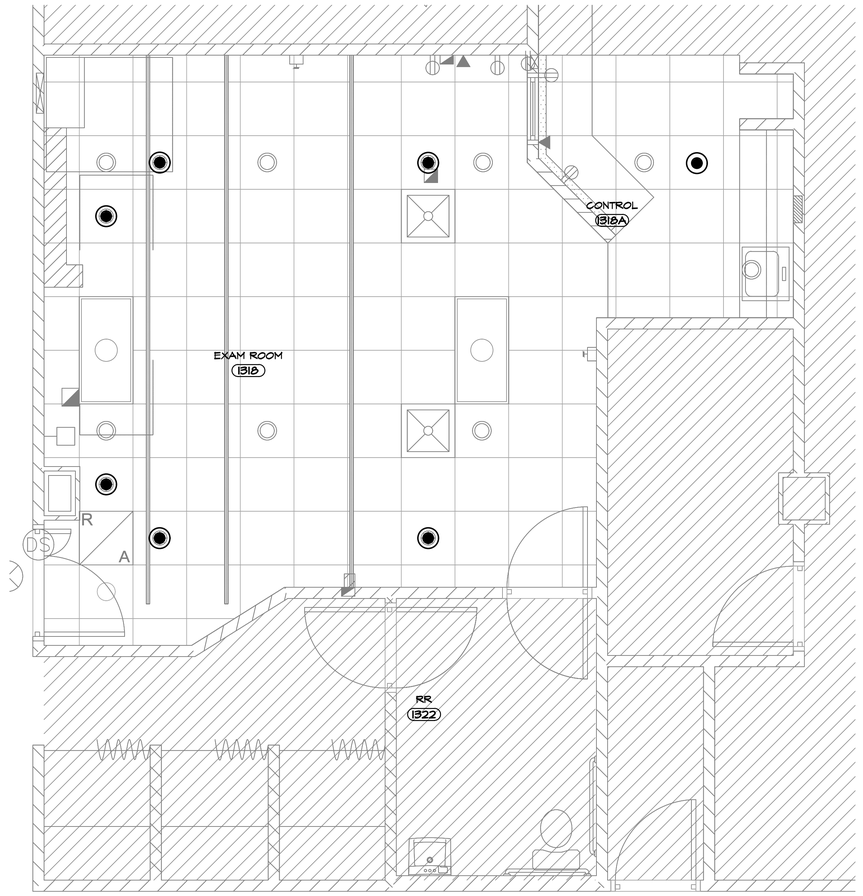
THESE DRAWINGS ARE INTENDED TO PROVIDE THE GENERAL REQUIREMENTS AND DESIGN CRITERIA FOR THE PROJECT. FIRE SPRINKLER CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING CURRENT FIRE FLOWS FROM LOCAL AUTHORITIES AND PREPARE COMPLETE DESIGN AND INSTALLATION DRAWINGS AND CALCULATIONS AS NECESSARY FOR FULL COMPLIANCE WITH ALL LAWS AND REGULATIONS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ANYTHING DEEMED TO BE REQUIRED BY THE AUTHORITY HAVING JURISDICTION AFTER AWARD OF BID.

FIRE PROTECTION NOTES

1. SUBMISSION OF PROPOSAL DIRECTLY OR INDIRECTLY IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE UNDER WHICH HE WILL BE OBLIGATED TO OPERATE SHOULD HE BE AWARDED THE WORK UNDER THIS CONTRACT. NO EXTRA CHARGE WILL BE ALLOWED FOR FAILURE OF ANY BIDDER TO EXAMINE THE SITE PRIOR TO BID.
2. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS IN THE FIELD, AND SHALL ADVISE THE ARCHITECT/ENGINEER AND THE OWNER OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK.
3. ALL WORK SHALL CONFORM TO ALL STATE AND LOCAL CODES, RULES AND REGULATIONS AND ORDINANCES INCLUDING BUT NOT LIMITED TO NORTH CAROLINA STATE FIRE PREVENTION CODE 2018. NFPA 1 (2018), NFPA 101 (2018), NFPA 13 (2016), NFPA 20 (2016), NFPA 24 (2016), NFPA 25 (2017).
4. CONTRACTOR SHALL SECURE AND PAY ALL FEES AND PERMITS PERTAINING TO THE CONTRACT.
5. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. THE CONTRACTOR SHALL PROVIDE ALL HANGERS AND SUPPORTS REQUIRED FOR A COMPLETE INSTALLATION.
6. RESTORATION OF EXISTING SYSTEMS, DEVICES, FINISHES, ETC. DAMAGED OR ALTERED BY NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY THE OWNER, ARCHITECT AND/OR ENGINEER.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR WORKMEN'S IDENTIFICATION AND BADGING, SAFETY AND FIRE PROTECTION, CONTRACTOR'S LIABILITY INSURANCE, BARRICADES, WARNING SIGNS, TRASH REMOVAL, CUTTING AND PATCHING.
8. CONTRACTOR SHALL SCHEDULE ALL SHUTDOWNS THAT AFFECT UTILITIES AND PORTIONS OF THE BUILDING THAT MUST REMAIN IN OPERATION WITH THE OWNER.
9. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER AND ALL OTHER CONTRACTORS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RIGGING, HANDLING AND PROTECTION OF MATERIALS.
11. CONTRACTOR SHALL PROVIDE LABOR TO RECEIVE, UNLOAD, STORE, PROTECT AND TRANSFER TO POINT OF INSTALLATION, OWNER FURNISHED ITEMS.
12. WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, THE SLEEVES SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS UL LISTED AND ACCEPTED BY THE BUILDING DEPARTMENT AND FIRE DEPARTMENT AS BEING SUITABLE FOR THIS SERVICE SUCH AS DOW CORNING CORP., SILICONE ELASTOMER, DOW CORNING 3–6548 SILICONE RTV FOAM, OR APPROVED EQUAL. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER TO MAINTAIN THE FIRE RATING OF THE PENETRATED WALL OR FLOOR.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING AS IT RELATES TO HIS WORK.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BEAM PENETRATIONS AS IT RELATES TO HIS WORK. CONTRACTOR SHALL SUBMIT SIZE AND LOCATION TO THE STRUCTURAL ENGINEER FOR REVIEW AND DETAIL.
15. CONTRACTOR TO PROVIDE HYDRAULIC CALCULATIONS, SYSTEM LINE SIZING, PUMP SIZING, AND SHOP DRAWINGS TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
16. CONTRACTOR SHALL SUBMIT (1) SET OF INSTALLATION SHOP DRAWINGS AND EQUIPMENT CUT SHEETS IN ELECTRONIC FORMAT TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING ANY WORK.
17. UPON COMPLETION OF CONSTRUCTION CONTRACTOR SHALL SUPPLY THE ENGINEER WITH (1) COMPLETE SET OF MYLAR AS–BUILT DOCUMENTS AND (3)COMPLETE COPIES OF OPERATIONS AND MAINTENANCE MANUALS. MYLARS SHALL BE OBTAINED AT CONTRACTOR'S EXPENSE.
18. ALL EXPOSED FIRE SPRINKLER PIPING TO BE PAINTED RED.
19. ALL FIRE SPRINKLERS TO BE INSTALLED CENTERED IN TILE.
20. ACCEPTANCE AND HYDROSTATIC TESTS SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 25 OF NFPA 13.
21. DO NOT SCALE DRAWINGS FOR EXACT DIMENSIONS. VERIFY ALL CONDITIONS AT THE JOB SITE AND COORDINATE WITH ALL TRADES PRIOR TO COMMENCEMENT. THE SPRINKLER DRAWINGS ARE INTENDED TO BE DIAGRAMMATIC.
22. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THE SPRINKLER CONTRACTOR'S EXPENSE.

GENERAL NOTES - OFFICES

1. FIRE SPRINKLER SPACING TO BE:
   LIGHT HAZARD: OFFICE AREA
   DENSITY: 0.1GPM/SF @ 15'X15' MAX
2. ALL FIRE SPRINKLER DEVICES TO BE UL AND/OR FM APPROVED.
3. SPRINKLER PIPING SHALL BE STEEL PIPE (ASTM 53, 120, OR 135) WITH 150 PSI MALLEABLE IRON FITTINGS WITH THREADED CONNECTIONS OR TYPE "L" HARD DRAWN COPPER TUBING WITH COPPER OR BRASS FITTINGS AND 125 PSI SOLDER JOINTS ("NO–LEAD SOLDER").
   A. SCH. 40, ALLIED XL OR AMERICAN BLT FOR 1" THRU 2"
   B. SCH. 10 FOR 2–1/2" AND LARGER
   C. SCH. 80 IF 1/2" OR 3/4" NIPPLE IS USED.
   NOTE: NIPPLE CANNOT EXCEED 4" IN LENGTH AND SUPPLY ONLY ONE HEAD PER NFPA 13.
4. FITTINGS
   A. BLACK CIS CLASS 125 FOR 1" THRU 2".
   B. GROOVED TYPE FOR 2–1/2" AND LARGER.
5. HANGERS TO BE IN ACCORDANCE WITH NFPA 13 AND LOCAL AUTHORITIES. SPRINKLER PIPING IS NOT TO BE SUPPORTED FROM ANY MECHANICAL OR ELECTRICAL DEVICES.
   MAXIMUM DISTANCE BETWEEN PIPE SUPPORTS:
   * 12'–0" FOR 1 1/4" DIAMETER PIPE AND SMALLER
   * 15'–0" FOR 1 1/2" DIAMETER PIPE AND LARGER



FIRST FLOOR FIRE PROTECTION PLAN

3/8"=1'-0"

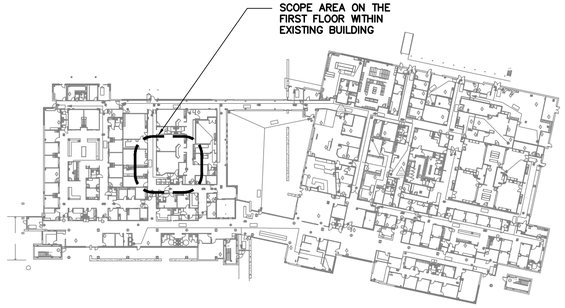
SCOPE OF WORK

REMOVE AND REPLACE SEMI–RECESSED PENDANT SPRINKLER HEAD WITH CONCEALED PENDANT HEAD TO ACCOMMODATE NEW CEILING GRID LAYOUT.

SPRINKLER HEAD SCHEDULE

SPRINKLER TYPE	SYMBOL	TEMPERATURE RATING (°F.)	NOMINAL ORIFICE SIZE	MANUFACTURER & MODEL	MAXIMUM SPACING	FLOW/PRESS GPM / PSI
CONCEALED QR–PEN	◉	165	1/2" K=5.6	RELIABLE G5–56 LIGHT HAZARD, COMMERCIAL AREAS	15'X15'	5.6 / 7.0

NOTE: THE FIRE PROTECTION CONTRACTOR SHALL CONFIRM SPACING, LOCATION AND COVERAGE FOR ALL FIRE SPRINKLERS. COORDINATE WITH ALL TRADES.



OVERALL FIRST FLOOR PLAN

NTS

NORTH CAROLINA PROFESSIONAL SEAL 048609 ENGINEER ANDREW J YOUNGROSS

This item has been electronically signed and sealed by Andrew J. Youngross using a Digital Signature and Date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Digitally signed by Andrew J Youngross
DN: CN=Andrew J Youngross, dnQualifier=A01410D000001894B2D3F230002A6F1, O=Thompson Youngross Engineering, C=US
Location: FL#51758
Reason: I am the author of this document.
Date: 2023.08.10 17:15:06-04'00'

NOTE

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ANDREW J YOUNGROSS, P.E.
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PLUMBING
ELECTRICAL

C.D. HAIR ARCHITECT
8481 Lake Worth Road
Suite 159
Lake Worth, FL
AR96135

revision:

NORTH CAROLINA PROFESSIONAL SEAL 048609 ENGINEER ANDREW J YOUNGROSS

FINAL SUBMITTAL for construction

An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

job no. 23–016/23077
principal: AJY/AA
designer: RR
file name:
date: 08.10.23
title:

FP1.1

1 FP

GENERAL HVAC NOTES

1. ALL WORK SHALL COMPLY WITH THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE, MECHANICAL, ENERGY CONSERVATION, ACCESSIBILITY CODES, AND ALL LOCAL CODE AMENDMENTS.
2. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT, IN ORDER TO PROVIDE A FULLY INTEGRATED MECHANICAL AND CONTROLS SYSTEMS WITH THE EXISTING ONES. ANY DISCREPANCY BETWEEN EXISTING CONDITIONS AND PLANS, OR ADDITIONAL CLARIFICATION REQUIRED SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER PRIOR TO FINAL BIDDING AND WORK. SUBMISSION OF THE CONTRACTORS PROPOSAL SHALL BE CONSTRUED AS INDICATING SUCH KNOWLEDGE. ANY CHANGES RESULTING FROM CONFLICTS IN THE FIELD, WHICH WERE NOT BROUGHT TO THE ENGINEERS ATTENTION, ARE TO BE MADE BY THIS CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK. MECHANICAL PLANS ARE GENERAL, DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL, FIRE SPRINKLER, STRUCTURAL AND INTERIOR DESIGNER PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. PROVIDE OFFSETS AND DEVIATIONS FROM WORK SHOWN ON THE DRAWINGS AS MAY BE NECESSARY TO FIT ACTUAL SPACE CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIVALENT SIZED DUCT. CONTACT ENGINEER IF DUCT AREA WILL NOT FIT.
4. CONTRACTOR SHALL PROVIDE A COMPLETE MECHANICAL SYSTEM(S) AS DETAILED ON THE DRAWINGS AND SPECIFICATIONS. WORK CONSISTS OF PROVIDING ALL MATERIALS, EQUIPMENT, APPURTENANCES, ETC. REQUIRED FOR A COMPLETE SYSTEM(S). INCLUDE ANY INCIDENTAL APPARATUS, APPLIANCES, MATERIALS, LABOR, PERMITS, SERVICES, ETC. NECESSARY TO MAKE WORK COMPLETE AND READY FOR OPERATION. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR COMPLETE, FINISHED WORK, TESTED, AND READY FOR OPERATION.
5. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING CONFLICTS IN THE DRAWINGS AND SPECIFICATIONS PRIOR TO BIDDING AND REPORTING CONFLICTS TO THE ENGINEER BEFORE BIDDING. ANY CHANGES RESULTING FROM CONFLICTS IN THE FIELD, WHICH WERE NOT BROUGHT TO THE ENGINEERS ATTENTION, ARE TO BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. CONTRACTOR SHALL GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
7. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS. CONTRACTOR SHALL OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO COMMENCEMENT OF WORK OR ORDERING EQUIPMENT. CONTRACTOR SHALL BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
8. CONTRACTOR SHALL PROVIDE RECORD DRAWINGS TO THE BUILDING OWNER AND ARCHITECT. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTING, ETC.
9. CONTRACTOR SHALL PROVIDE INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
10. ALL MATERIAL SHALL BE NEW OF U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS. ALL EQUIPMENT SHALL BE UL OR ETL LISTED. ALL INSTALLATIONS SHALL COMPLY WITH ICC 2018, CH. 3, GENERAL REGULATIONS. BUILDINGS LOCATED WITHIN 3,000 FT FROM THE OCEAN SHALL UTILIZE NON-FERROUS MATERIALS FOR ALL OUTDOOR EXPOSED SUPPORTS, STANDS, FASTENERS, ETC.
11. COORDINATE EXACT LOCATION OF ALL DIFFUSERS AND RETURNS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
11. CONTRACTOR SHALL PROVIDE A WRITTEN REPORT OF THE EXISTING SUPPLY AND RETURN STATIC PRESSURES, TEMPERATURES, AND AIR FLOWS, AND BALANCE THE CFMS OF THE NEW DIFFUSERS TO THE EXISTING AIR FLOW.
12. CONTRACTOR SHALL INCLUDE COSTS NECESSARY (PART OF BID) TO MAKE ONE CHANGE IN EACH UNITS SHEAVE, BUSHINGS AND BELTS, BALANCING DAMPERS REQUIRED AND ANY OTHER DEVICES REQUIRED FOR THE CORRECT BALANCE OF THE SYSTEM AS REQUIRED BY THE TAB FIRM.
13. GENERAL CONTRACTOR SHALL VERIFY THAT THE AIR CONDITIONED SPACE IS SEALED WITH AN APPROVED AIR BARRIER IN ACCORDANCE WITH IECC-2018, SEC 402.5.1. MECHANICAL CONTRACTOR SHALL NOTIFY GENERAL CONTRACTOR, ARCHITECT AND ENGINEER IN WRITING OF ANY DISCREPANCIES PRIOR TO INSTALLATION OF ANY EQUIPMENT.
14. FURNISH AND INSTALL PIPE IDENTIFICATION MARKERS ON ALL PIPES AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. MARKERS SHALL BE A MINIMUM OF 1-1/2" X 8" AND IDENTIFIED IN ACCORDANCE WITH THE BACKGROUND AND LETTER COLORS ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). PIPING SHALL BE IDENTIFIED AS FOLLOWS: CHILLED WATER RETURN, CHILLED WATER SUPPLY, CONDENSATE, HOT WATER RETURN, HOT WATER SUPPLY, CONDENSER WATER RETURN, CONDENSER WATER SUPPLY, REFRIGERANT LIQUID, REFRIGERANT SUCTION, AND DIRECTIONAL ARROWS. ALL IDENTIFICATIONS MUST BE VISIBLE AT EQUIPMENT.

GENERAL INSTALLATION NOTE

1. IT SHALL BE UNDER THE GENERAL CONTRACTOR'S RESPONSABILTY TO INVESTIGATE EXISTING CONDITIONS AND MODIFY EXISTING PIPE ROUTING OF PLUMBING, FIRE PROTECTION AND ELECTRICAL IN ORDER TO PROPERLY ALLOW SPACE FOR DUCTWORK ROUTING.

A/C OPERATION DURING CONSTRUCTION

THE USE OF NEW OR EXISTING AIR HANDLING UNITS DURING CONSTRUCTION IS PROHIBITED UNLESS APPROVED BY THE OWNER AND THE PROCEDURE SHOWN BELOW ARE FOLLOWED:

1. THE CONTRACTOR SHALL PROTECT THE INTERIOR OF ALL DUCTWORK AND AIR HANDLING UNITS FROM THE ACCUMULATION OF DIRT AND DUST USUALLY ASSOCIATED WITH THE FINISHING STAGES OF THE CONSTRUCTION WORK.
2. DUCTWORK STORED ON SITE AWAITING INSTALLATION SHALL BE CAREFULLY EXAMINED AND THOROUGHLY CLEANED BEFORE PLACEMENT IN ITS FINAL LOCATION. THE ENDS OF DUCTWORK SHALL BE CLOSED DURING CONSTRUCTION.
3. THE AIR HANDLING UNITS MAY BE ALLOWED TO OPERATE DURING FINISHING STAGES OF THE GENERAL WORK PROVIDED THAT THE PRE-FILTERS ARE IN PLACE AND THE ENDS OF ALL RETURN AIR INLETS ARE COVERED WITH ROLL-UP FILTER MATERIAL.
4. WHEN THE SPACE IS TURNED OVER TO THE OWNER, THE CONTRACTOR SHALL REMOVE ALL FILTERS USED DURING CONSTRUCTION AND REPLACE THEM WITH NEW FILTERS.
5. USE OF NEW AHU'S DURING CONSTRUCTION IS NOT ALLOWED.

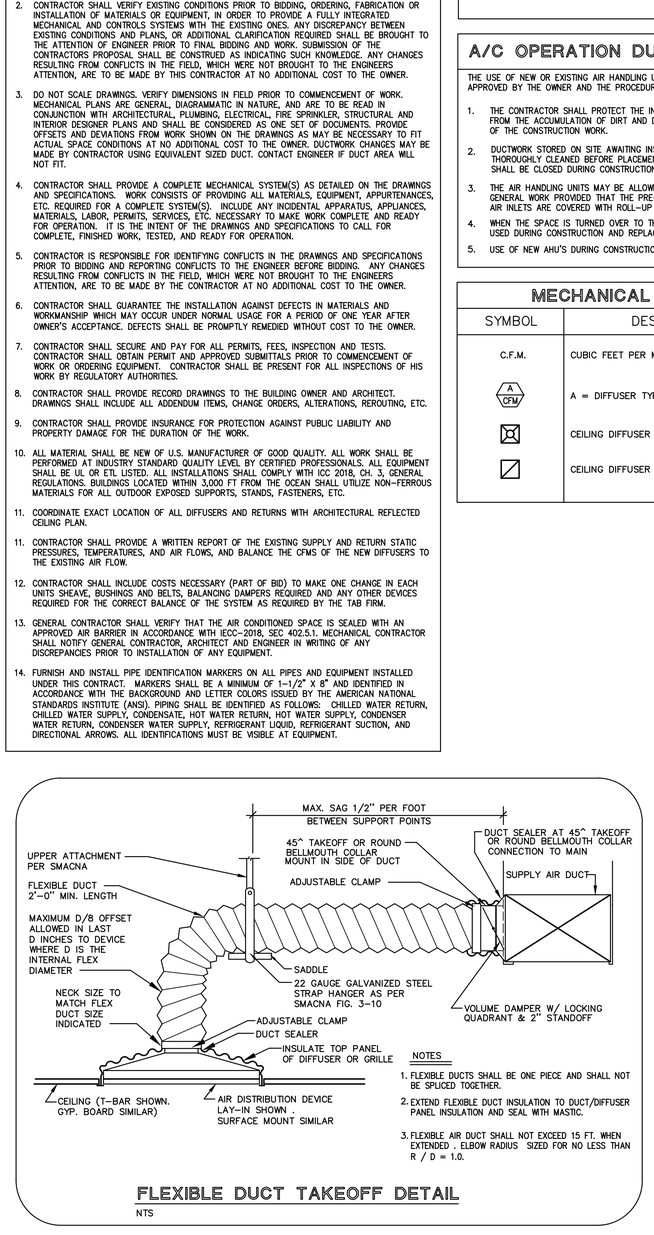
AIR DISTRIBUTION SCHEDULE

TYPE	MFG	MODEL	PATTERN	DAMPER	MOUNTING	NECK	MODULE	MAX N.C.	MAX CFM	NOTES
A	TITUS	TMS-AA	4-WAY	O.B.D.	LAY-IN	SEE NOTE 2	24x24	30	–	1,2
R	TITUS	350 FL	RETURN	O.B.D.	LAY-IN	SEE NOTE 2	24x24	30	–	1,2

NOTES
1) COORDINATE EXACT LOCATION IN THE FIELD.
2) MATCH NECK SIZE WITH EXISTING FLEXIBLE DUCT SIZE. VERIFY IN THE FIELD.

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
C.F.M.	CUBIC FEET PER MINUTE
A / CFM	A = DIFFUSER TYPE, CFM = DIFFUSER AIR FLOW
	CEILING DIFFUSER – SUPPLY AIR
	CEILING DIFFUSER – RETURN AIR



NOTES
1. FLEXIBLE DUCTS SHALL BE ONE PIECE AND SHALL NOT BE SPLICED TOGETHER.
2. EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL INSULATION AND SEAL WITH MASTIC.
3. FLEXIBLE AIR DUCT SHALL NOT EXCEED 15 FT. WHEN EXTENDED . ELBOW RADIUS SIZED FOR NO LESS THAN R / D = 1.0.

FLEXIBLE DUCT TAKEOFF DETAIL
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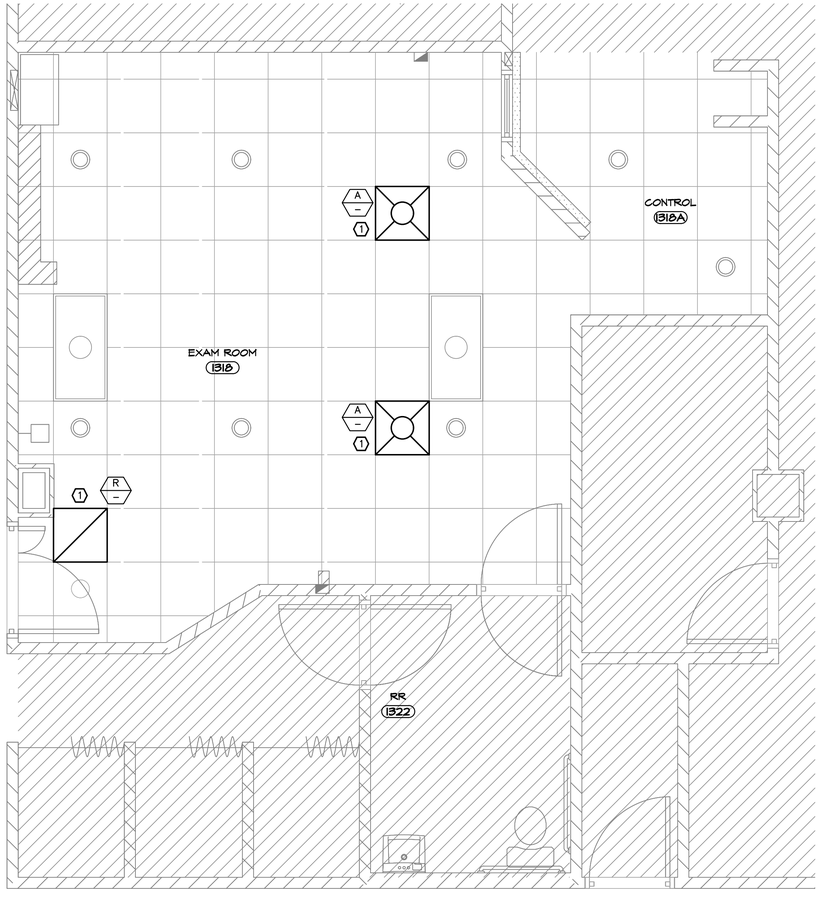
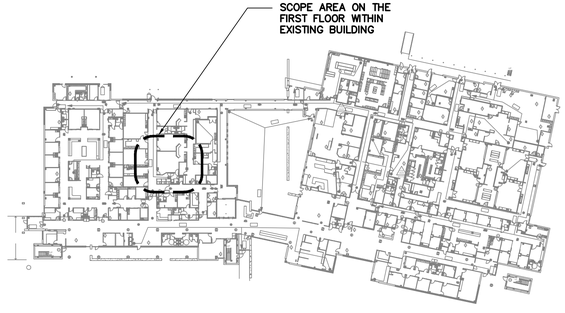


FIRST FLOOR MECHANICAL PLAN
3/8"=1'-0"

PLAN KEY NOTES

1	CONTRACTOR TO REMOVE EXISTING SUPPLY AND RETURN DIFFUSERS IN SCOPE OF WORK SPACE. CONTRACTOR TO INSTALL NEW SUPPLY AND RETURN DIFFUSERS IN EXISTING LOCATIONS AS PER SCHEDULE ON M1.1. CONNECT EXISTING FLEX DUCTWORK TO NEW DIFFUSERS. VERIFY EXISTING LOCATION IN THE FIELD.



OVERALL FIRST FLOOR PLAN
NTS

NORTH CAROLINA PROFESSIONAL SEAL 048609 ENGINEER ANDREW J YOUNGROSS

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Digitally signed by Andrew J Youngross
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revision:

NORTH CAROLINA PROFESSIONAL SEAL 048609 ENGINEER ANDREW J YOUNGROSS

An Interior Renovation for:
Harnett Health
RAD Room 1318 Renovation
215 Brightwater Drive
Lillington, North Carolina

FINAL SUBMITTAL for construction

job no. 23-016/23077
principal: AJY/AA
designer: RR
file name:
date: 08.10.23
title:

M1.1

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