INTERNAL AFFAIRS & SOIU OFFICE SECURITY

2020 YONKERS ROAD RALEIGH NC 27604

ARCHITECT/ENGINEERS OF RECORD ARCHITECT SCOTT BOOTH (919) 716-3400 SCOTT.BOOTH@dac.nc.gov ELECTRICAL ENGINEER ESHMAEIL MOVAHED (919) 716-3400 ESHMAEIL.MOVAHEAD@dac.nc.gov MECHANICAL ENGINEER MATTHEW HARPER (919) 716-3400 MATTHEW.HARPER@dac.nc.gov

JOB ORDER #4388

DRAWING INDEX

COVER SHEET BUILDING DATA LIFE SAFETY PLAN FLOOR PLAN

LIFE SAFETY PLANS ENLARGED

FLOOR PLAN AREA "A"

ABBREVIATIONS, NOTES AND LEGENDS PARTIAL FLOOR PLAN AREA - B E702 SPECIFICATIONS

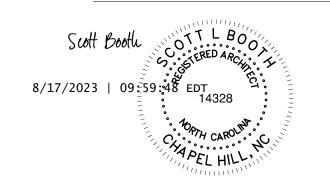
MECHANICAL LEGEND, ABBREVIATIONS & SYMBOLS

NEW FIRE PROTECTION PLAN

NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION

4216 MSC RALEIGH, N.C. 27699-4216

2020 YONKERS ROAD



08.16.23 CD SUBMITTAL

	NO DATE	REVISION
]	DRAWN BY:	MLB
	DESIGNED BY:	LSB
	CHECKED BY:	LSB
	CADD DWG NO:	JO4388-G001
	JOB ORDER NO:	4388
	PLOT DATE:	8.16.2023
1		



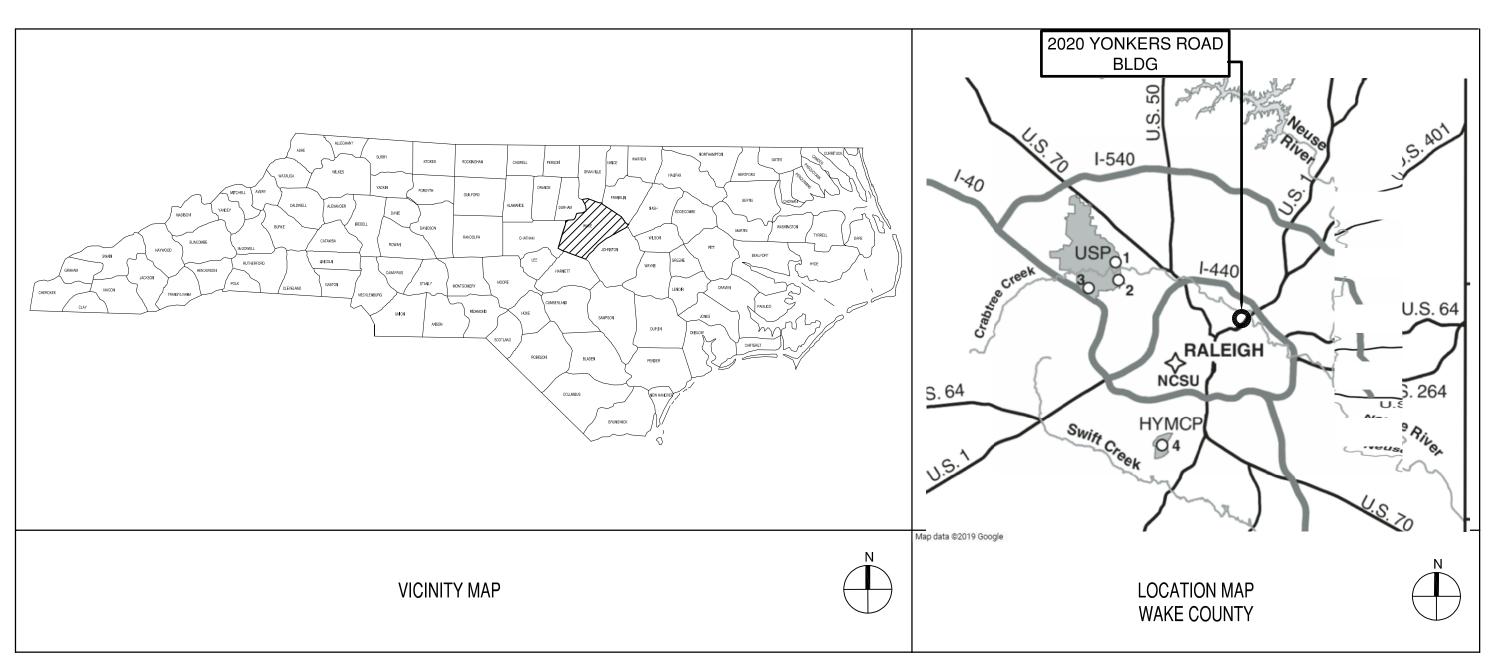
2020 YONKERS ROAD RALEIGH , NC

INTERNAL AFFAIRS & SOIU SECURITY

COVER SHEET

G001

SYMBOLS LEGEND ELEVATION SYMBOL SECTION SYMBOL NORTH ARROW ROOM NAME AND NUMBER ELEVATION MARKER KEYED NOTE MARKER REVISION MARKER WINDOW TYPE 1111A DOOR NUMBER PARTITION TYPE ROOM FINISH INDICATOR



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

Address: 2020 YONKERS	RD. RALEIGH NC		Zip Code 27699-421	6	
Owner/Authorized Age	ent: JOHN H. KERR Phone # 9	19-645-2766	· · · · · · · · · · · · · · · · · · ·	E-Mail JOHNKERR	@YORK PROPERTIES.COM
Owned By:	Ci	ty/County	Private		State
Code Enforcement Ju		ty	County_		State
		·——			
CONTACT:					
DESIGNER	FIRM	NAME	LICENSE#	TELEPHONE #	E-MAIL
Architectural	NC DAC CENTRAL ENGINEERING	L. SCOTT BOOTH	14328	919-716-3400	SCOTT.BOOTH@DAC.NC.GOV
Civil	•	<u> </u>		<u>.</u>	<u>.</u>
Electrical	NC DAC CENTRAL ENGINEERING	ESHMAEIL MOVAHEAD	33799	919-716-3400	ESHMAEIL.MOVAHEAD@DAC.NC.GOV
Fire Alarm	NC DAC CENTRAL ENGINEERING	MATTHEW HARPER	27744	919-716-3400	MATTHEW.HARPER@DAC.NC.GOV
Plumbing Mechanical	· · · · · · · · · · · · · · · · · · ·	<u> </u>	<u>.</u>	<u>.</u>	·
Sprinkler-Standpipe	•				-
Structural					
Retaining Walls >5' Hi	gh				·
Other	•	<u> </u>	<u> </u>	<u>.</u>	<u>:</u>
(check all that apply) CONSTRUCTEI RENOVATED:	D: (date) _1960 (date) _1997		Alter	ration Level III ration Level III (Ch. 3): BUSINESS) (Ch. 3): BUSINESS	Change of Use
	able 1604.5): Current:			Proposed:	
HISK CATEGORT (Ta	.ble 1004.5). Oditetit	<u> </u>		1 Toposea	
BASIC BUILDING DA	TA TYPE IV UNPROTECTED P	ER SBC / IIB PER NCIBC			
	TYPE IV UNPROTECTED P	ER SBC / IIB PER NCIBC	☐ III-A	⊠ IV	☐ V-A
Construction Type:			☐ III-A ☐ III-B	⊠ IV	□ V-A □ V-B
Construction Type: (check all that apply)	☐ I-A	☐ II-A	_		☐ V-B
Construction Type: (check all that apply) Sprinklers:	☐ I-A ☐ I-B	☐ II-A ☑ II-B	☐ III-B ☐ NFPA 13R		☐ V-B
Construction Type: (check all that apply) Sprinklers: Standpipes:	☐ I-A ☐ I-B ☐ No ☐ Partial ☑ No Class ☐ I	☐ II-A ☑ II-B ☑ NFPA 13 ☐ II ☐ III	☐ III-B ☐ NFPA 13R	☐ NFPA 13I	☐ V-B
Construction Type: (check all that apply) Sprinklers: Standpipes: Primary Fire District:	☐ I-A ☐ I-B ☐ No ☐ Partial ☑ No Class ☐ I ☐ No ☑ Yes	☐ II-A ☑ II-B ☑ NFPA 13 ☐ II ☐ III ☐ Flood H	☐ III-B ☐ NFPA 13R Wet ☐	☐ NFPA 13I	☐ V-B
Construction Type: (check all that apply) Sprinklers: Standpipes: Primary Fire District:	☐ I-A ☐ I-B ☐ No ☐ Partial ☐ No Class ☐ I ☐ No ☐ Yes Required: ☐ No	☐ II-A ☐ II-B ☐ NFPA 13 ☐ II ☐ III ☐ Yes	☐ III-B ☐ NFPA 13R Wet ☐ azard Area:	☐ NFPA 13I	☐ V-B
Construction Type: (check all that apply) Sprinklers: Standpipes: Primary Fire District: Special Inspections	☐ I-A ☐ I-B ☐ No ☐ Partial ☐ No Class ☐ I ☐ No ☐ Yes Required: ☐ No ☐ GR	☐ II-A ☐ II-B ☐ NFPA 13 ☐ II ☐ III ☐ Yes OSS BUILDING AREA	☐ III-B ☐ NFPA 13R Wet ☐ azard Area: TABLE	☐ NFPA 13I	V-B Ves
Construction Type: (check all that apply) Sprinklers: Standpipes: Primary Fire District: Special Inspections	☐ I-A ☐ I-B ☐ No ☐ Partial ☐ No Class ☐ I ☐ No ☐ Yes Required: ☐ No ☐ GR	☐ II-A ☐ II-B ☐ NFPA 13 ☐ II ☐ III S Flood H ☐ Yes OSS BUILDING AREA NEW (S	☐ III-B ☐ NFPA 13R Wet ☐ azard Area: TABLE	☐ NFPA 13I	☐ V-B
Construction Type: (check all that apply) Sprinklers: Standpipes: Primary Fire District: Special Inspections FLOOR 3rd Floor	☐ I-A ☐ I-B ☐ No ☐ Partial ☐ No Class ☐ I ☐ No ☐ Yes Required: ☐ No ☐ GR	☐ II-A ☐ II-B ☐ NFPA 13 ☐ II ☐ III ☐ Yes OSS BUILDING AREA	☐ III-B ☐ NFPA 13R Wet ☐ azard Area: TABLE	☐ NFPA 13I	V-B Ves
BASIC BUILDING DA Construction Type: (check all that apply) Sprinklers: Standpipes: Primary Fire District: Special Inspections FLOOR 3rd Floor 2nd Floor Mezzanine	☐ I-A ☐ I-B ☐ I-B ☐ No ☐ Partial ☐ No Class ☐ I ☐ No ☐ Yes Required: ☐ No ☐ GR	☐ II-A ☐ II-B ☐ NFPA 13 ☐ II ☐ III ☐ Yes OSS BUILDING AREA NEW (S	☐ III-B ☐ NFPA 13R Wet ☐ azard Area: TABLE	☐ NFPA 13I	V-B Yes

ALLOWABLE AREA											
rlmary Occupancy Classification(s):											
Assembly Business Educational	☐ A-1 ☑	☐ A-2	☐ A-3	☐ A-4	☐ A-5						
Factory Hazardous Institutional I-1 Conditi	F-1 Moderate H-1 Detonate I-1	☐ F-2 Low ☐ H-2 Deflaç ☐ I-2] 2	yrate H-3 Con	mbust H-4 Health	☐ H-5 HPM						
I-2 Condition I-3 Condition Mercantile	on 🔲 1 📗		□ 4 □ 5								
Residential Storage	R-1 S-1 Moderate Parking Garage	☐ R-2	R-3 S-2 Low Enclosed	☐ R-4 ☐ High-piled ☐ Repair Gara	ge						
Utility and Miscellar]			•						
Accessory Occupancy Cl	assification(s):										
Incidental Uses (Table 50	9):										

Utility and Miscellaneous		_ ,	
Accessory Occupancy Classification(s):			
Incidental Uses (Table 509):			
This separation is not exempt as	a Non-Separated Use (see excep	eptions).	
Special Uses (Chapter 4 – List Code Sec	tions):		
Special Provisions: (Chapter 5 – List Co	de Sections):		
Mixed Occupancy:	Separation:	Exception:	
Select one			
	. + Actual Area of Occupancy B A Allowable Area of Occupancy B	B <1	

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.24	(C) AREA FOR FRONTAGE INCREASE1,5	(D) ALLOWABLE AREA PER STORY OR UNLIMITED2,3

1 Frontage area increases from Section 506.2 are computed thus:

a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____(F)

b. Total Building Perimeter = _____(P)
c. Ratio (F/P) = _____(F/P)

d. W = Minimum width of public way = _____(W) 2 Unlimited area applicable under conditions of Section 507.

3 Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).

4 The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.

5 Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE					
Building Height in Feet (Table 504.3)	75'		TABLE 504.3					
Building Height in Stories (Table 504.4)	4 STORIES		TABLE 504.4					
1 Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.								

FIRE PROTECTION REQUIREMENTS

SEPARATION DISTANCE FED PONOVED NATE RATED PON PAMETALION PAMETAL						v		8
OBSTANCE FEET RATED PENETRATION RATE JOIN	BUILDING ELEMENT							SHEET#
Structural Frame, including columns, girders, trusses			REQ'D					FOR
Structural Frame, including columns, girders, trusses					SHEET#		PENETRATION	JOINTS
Including columns, girders, trusses	Structural Frame	(1 == 1)		,		NOOLINDET		CONTIO
Bearing Walls	·							
Exterior		N/A						
North	Bearing Walls	N/A						
East	Exterior	N/A		•			•	
West	North	N/A						
South	East	N/A		•		•	•	
Interior	West	N/A						
Nonbearing Walls and Partitions Exterior walls NA	South	N/A				•		
Partitions Exterior walls N/A	Interior	N/A						
North	Nonbearing Walls and Partitions							
East	Exterior walls	N/A	N/A					
West	North	N/A	N/A					
South	East	N/A	N/A					
Interior walls and partitions NA NIA NIA Interior walls and partitions Floor Construction Including supporting beams and joists NA Floor Ceiling Assembly Columns Supporting Floors Roof Construction, including supporting beams and joists Roof Ceiling Assembly Interior walls and partitions NA NA NA NA NA NA NA NA NA N	West	N/A	N/A					
Floor Construction Including supporting beams and joists N/A Floor Ceiling Assembly Columns Supporting Floors Roof Construction, including supporting beams and joists N/A Roof Ceiling Assembly 1 HR Columns Supporting Roof N/A Shaft Enclosures - Exit N/A Corridor Separation N/A Coccupancy/Fire Barrier Separation	South	N/A	N/A					
Including supporting beams and joists Floor Ceiling Assembly Columns Supporting Floors N/A Roof Construction, including supporting beams and joists N/A Roof Ceiling Assembly 1 HR Columns Supporting Roof N/A Shaft Enclosures - Exit N/A Corridor Separation N/A Occupancy/Fire Barrier Separation	Interior walls and partitions	N/A	N/A					
And joists	Floor Construction							
Floor Ceiling Assembly	Including supporting beams							
Columns Supporting Floors N/A .<	and joists		N/A					
Roof Construction, including supporting beams and joists Roof Ceiling Assembly 1 HR Columns Supporting Roof N/A Shaft Enclosures - Exit N/A Corridor Separation N/A Occupancy/Fire Barrier Separation	Floor Ceiling Assembly		N/A					
supporting beams and joists N/A Roof Ceiling Assembly 1 HR Columns Supporting Roof N/A Shaft Enclosures - Exit N/A Shaft Enclosures - Other N/A Corridor Separation N/A Occupancy/Fire Barrier Separation N/A	Columns Supporting Floors		N/A					
Roof Ceiling Assembly	Roof Construction, including supporting beams and joists		N/A					
Columns Supporting Roof N/A Shaft Enclosures - Exit N/A Shaft Enclosures - Other N/A Corridor Separation N/A Occupancy/Fire Barrier Separation N/A N/A Social Supporting Roof Social Supporting								
Shaft Enclosures - Exit N/A . <td></td> <td></td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td>			N/A					
Shaft Enclosures - Other Corridor Separation Occupancy/Fire Barrier Separation N/A		3						
N/A Corridor Separation N/A .	Shaft Enclosures - Other							
Occupancy/Fire Barrier Separation N/A · · · · · · · · · · · · · · · · · · ·		8	N/A					
	Corridor Separation		N/A			•		
I Party/Fire Wall Separation			N/A			•		
	Party/Fire Wall Separation		N/A					
	Smoke Barrier Separation							
Smoke Partition N/A			N/A					
Tenant/Dwelling Unit/ Sleeping Unit Separation	Tenant/Dwelling Unit/ Sleeping Unit Separation		N/A					
Incidental Use Separation N/A	Incidental Use Separation		N/A					

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

(FEET) FROM PROPERTY LINES	PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	(%)
<u> </u>			

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	∑ Yes [□ No	
Exit Signs:	Yes [No	
Fire Alarm:	Yes [No	
Smoke Detection Systems:	☐ Yes [☐ No	Partial
Carbon Monoxide Detection:	Yes [No	
Carbon Monoxide Detection.	□ 162 [

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: ALS 101, ALS 102

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

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

(SECTION 1107)

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING	TOTAL # OF PARKING	SPACES	# OF ACC	# OF ACCESSIBLE SPACES PROVIDED				
AREA	REQUIRED	PROVIDED REGULAR WITH VAN SPACES WITH				ACCESSIBLE		
			5' ACCESS AISLE	132" ACCESS	8' ACCESS	PROVIDED		
				AISLE	AISLE			
•	·					<u>.</u>		
TOTAL			Î.					

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

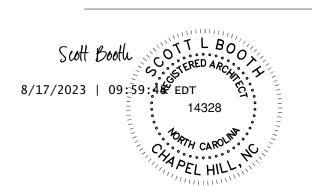
USE		W	ATERCLOSETS		URINALS		LAVATORIES		SHOWERS	DRINKING FOU	NTAINS
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX	/ TUBS	REGULAR	ACCESSIBLE
SPACE	EXIST'G										
	NEW										
	REQÎD					·			•		

SPECIAL APPROVALS Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below) 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: _ Provide code or statutory reference: Climate Zone: . Method of Compliance: _ (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-Varue of total assembly: .____ R√alue of insulation: ____ Description of assembly: U-Value of total assembly: _.____ R-Value of insulation: ____ Horizontal/vertical requirement: ____ slab heated:



NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION

2020 YONKERS ROAD 4216 MSC RALEIGH, N.C. 27699-4216 TEL (919) 733-2126 FAX (919) 716-3978



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2020 YONKERS **ROAD BUILDING**

2020 YONKERS ROAD RALEIGH , NC

INTERNAL AFFAIRS & SOIU SECURITY

BUILDING DATA

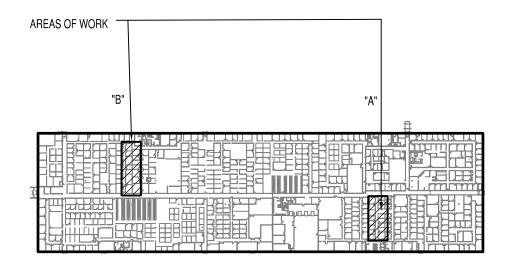
3

OVERALL LIFE SAFETY FLOOR PLAN

SCALE: 1/32"=1'-0"

0 8' 16' 32'

2



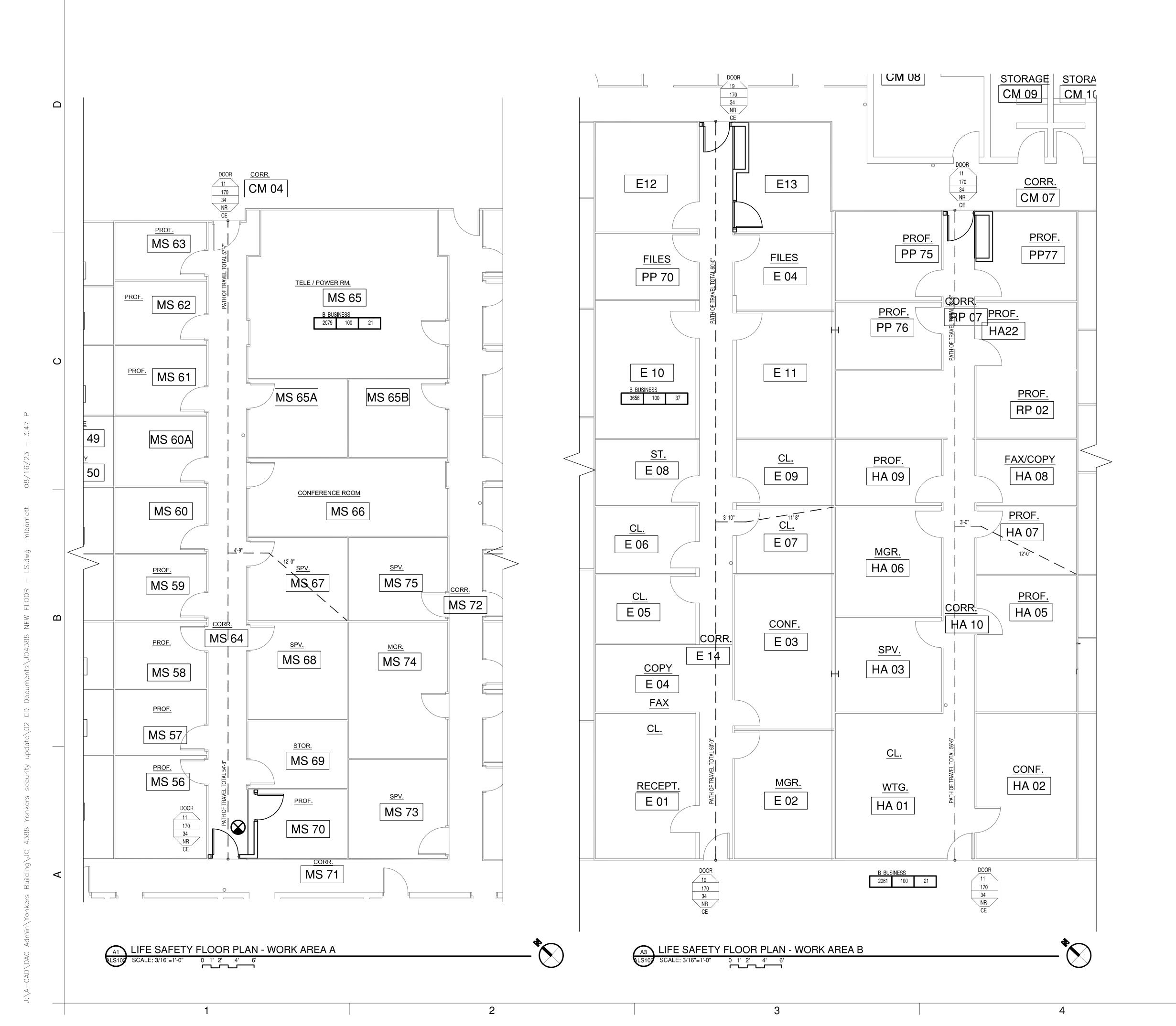
5



INTERNAL AFFAIRS & SOIU OFFICE SECURITY

LIFE SAFETY FLOOR PLAN OVERALL

ALS101



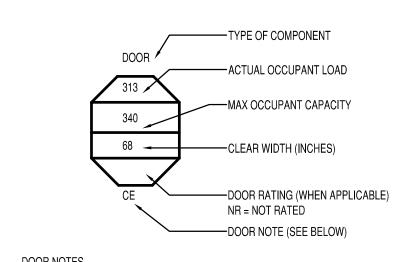


S-1 STORAGE ——OCCUPANCY GROUP -NUMBER OF OCCUPANTS

—OCCUPANT LOAD BASED ON MAXIMUM SQUARE FEET PER OCCUPANT PER TABLE 1004.1.1 —AREA OF ROOM OR FUNCTION (SF)

EGRESS COMPONENT

LIFE SAFETY LEGEND



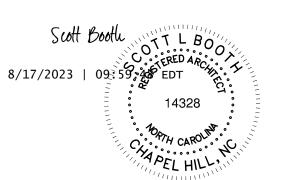
DOOR NOTES
PH: PANIC HARDWARE PH: PANIC HARDWARL
HO: HOLD OPEN DEVICE
AO: AUTOMATIC DOOR OPERATOR
DE: DELAYED EGRESS
OF CONTROLLED EGRESS
REFER TO NCBC T. 1005.1 REQUIRED EGRESS WIDTH PER OCCUPANT SERVED

EXIT LIGHT SEE ELECTRICAL DRAWINGS

AREAS OF WORK

NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION

2020 YONKERS ROAD 4216 MSC RALEIGH, N.C. 27699-4216 TEL (919) 733-2126 FAX (919) 716-3978



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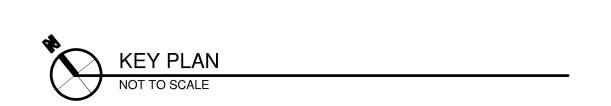
CHECKED BY: CADD DWG NO: JO4388-ALS102 JOB ORDER NO: 4388

2020 YONKERS ROAD BUILDING

PLOT DATE: 3.27.2023

2020 YONKERS ROAD RALEIGH , NC

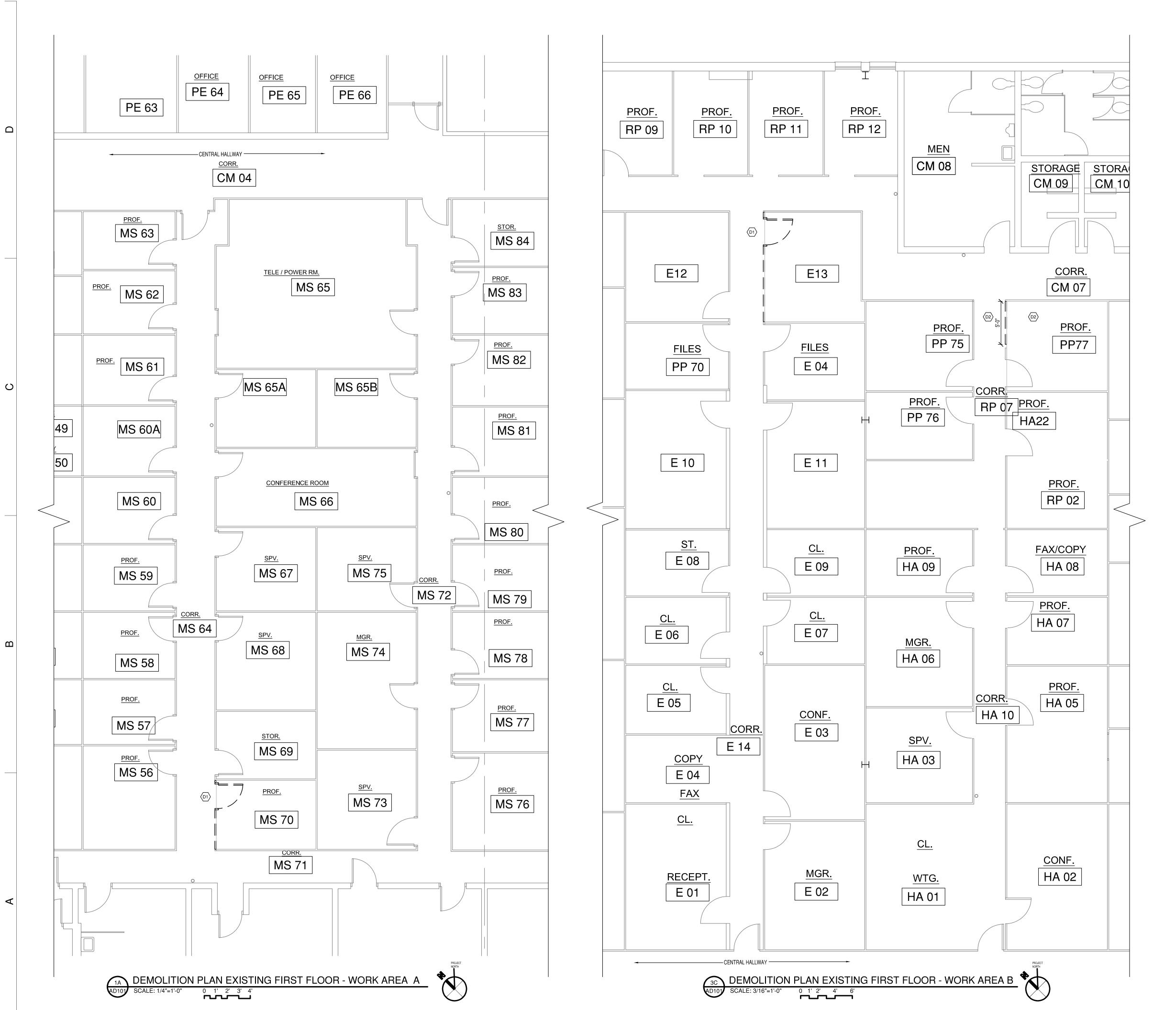
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5

LIFE SAFETY FLOOR PLAN ENLARGED

ALS102



3

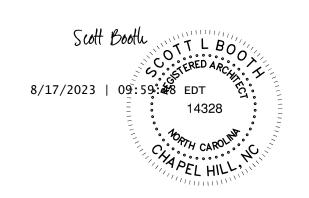
GENERAL NOTES

- 1. PATCH AND REPAIR ALL SURFACES AND UTILITIES THAT ARE DAMAGED, TYP.
- 2. PROVIDE ANY TEMPORARY SHORING FOR PORTIONS OF DEMOLISHED STRUCTURAL ELEMENTS
- 3. ITEMS NOTED TO BE REMOVED SHALL BE CAREFULLY DISMANTLED, AND TRANSPORTED TO OWNER'S SITE WAREHOUSE FACILITY.



NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION

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(XX)	SHEET KEYNOTES
D1	REMOVE PORTION OF EXISTING MTL PANEL WALL SYSTEM AND DOOR AS SHOWN. SEE B5/A101
D2	REMOVE PORTION OF EXISTING MTL PANEL WALL SYSTEM. SEE SECTION B5/A101

AREAS OF WORK

KEYPLAN 🔪

NO DATE	REVISION		
DRAWN BY:	MLB		
DESIGNED BY:	LSB		
CHECKED BY:	LSB		
CADD DWG NO:	JO4388-AD101		
JOB ORDER NO:	4388		
PLOT DATE:	3.27.2023		

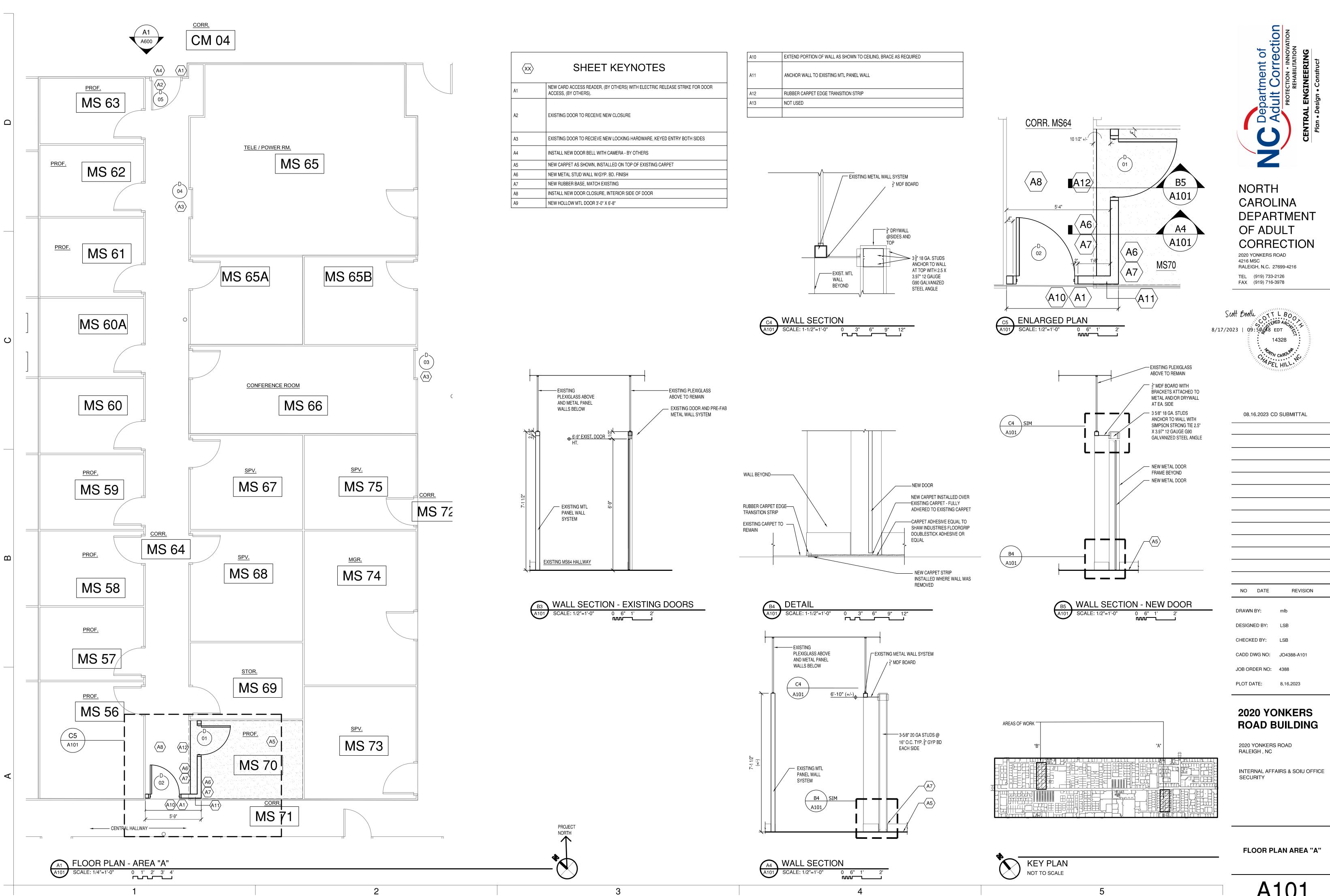
2020 YONKERS **ROAD BUILDING**

2020 YONKERS ROAD RALEIGH , NC

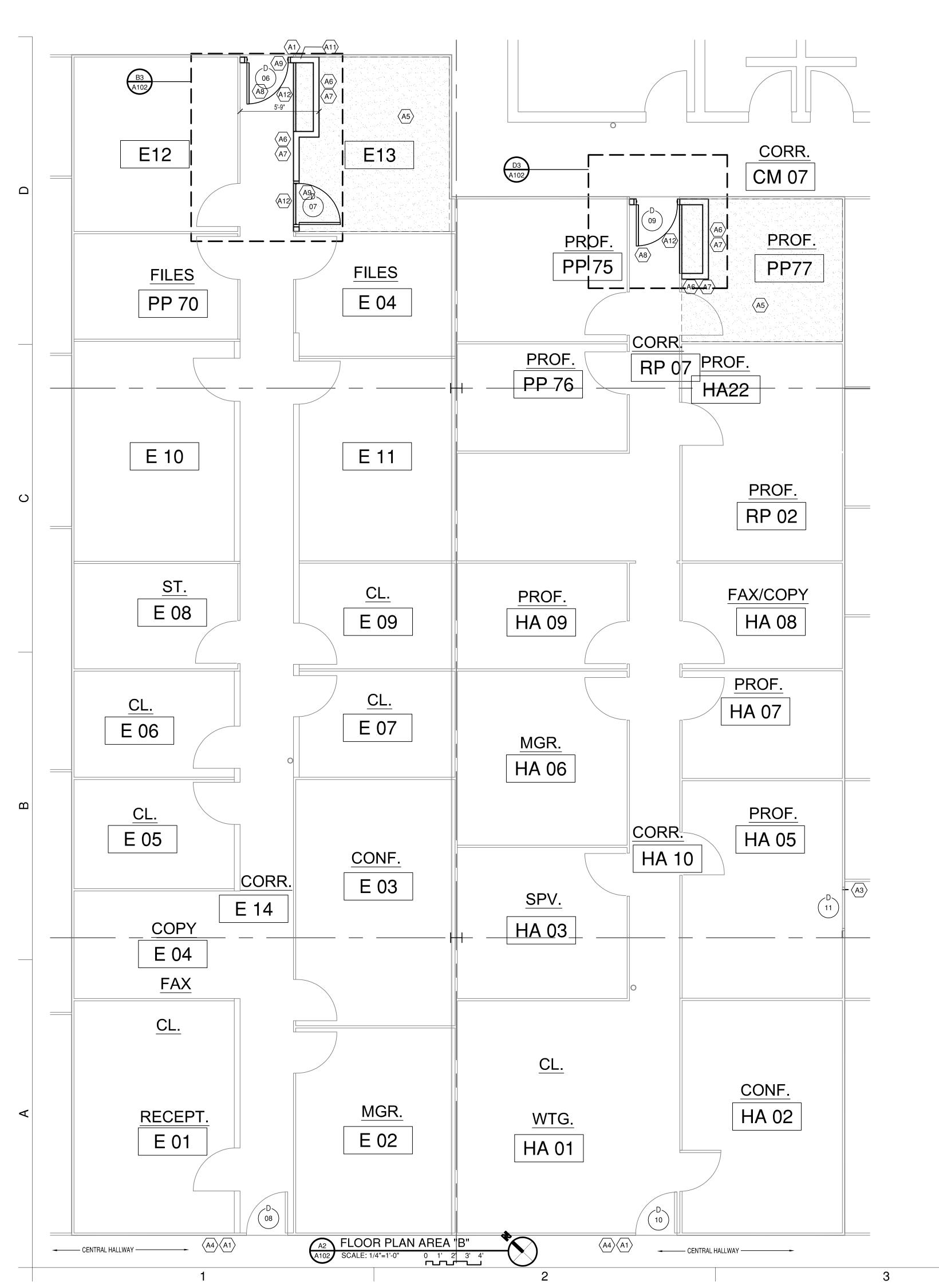
INTERNAL AFFAIRS & SOIU OFFICE SECURITY

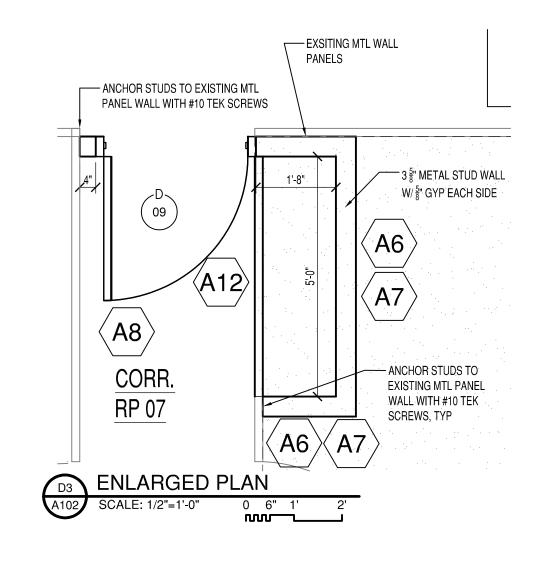
ARCHITECTURAL FIRST FLOOR DEMOLITION PLAN

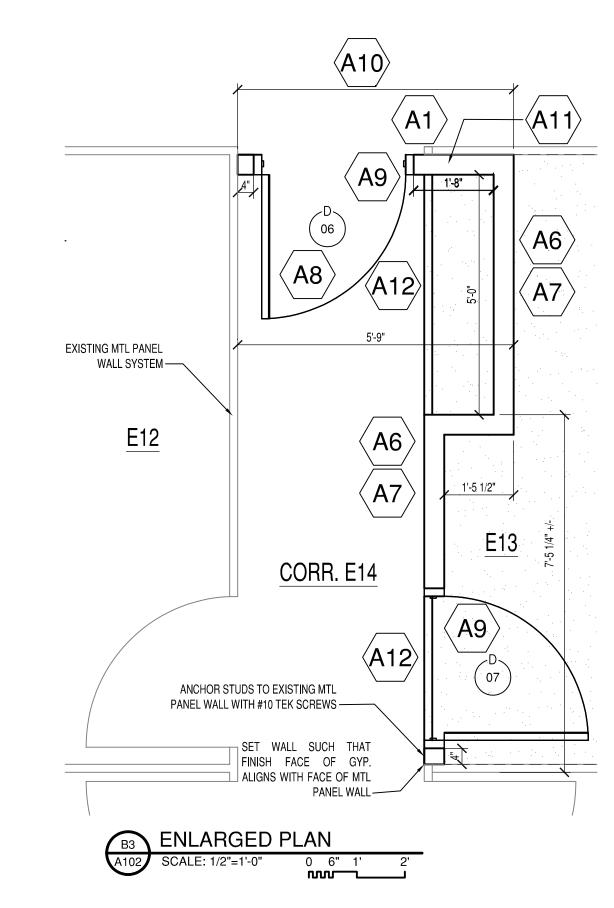
AD101



A101







$\langle xx \rangle$	SHEET KEYNOTES	
A1	INSTALL NEW CARD ACCESS READER WITH ELECTRIC RELEASE STRIKE FOR DOOR ACCESS	
A2	EXISTING DOOR TO RECEIVE NEW CLOSURE	
A3	EXISTING DOOR TO RECIEVE NEW LOCKING HARDWARE, KEYED ENTRY BOTH SIDES	
A4	INSTALL NEW DOOR BELL WITH CAMERA - BY OTHERS	
A5	NEW CARPET AS SHOWN, INSTALLED ON TOP OF EXISTING CARPET	
A6	NEW METAL STUD WALL W/GYP. BD. FINISH	
A7	NEW RUBBER BASE, MATCH EXISTING	
A8	INSTALL NEW DOOR CLOSURE, INTERIOR SIDE OF DOOR	
A9	NEW HOLLOW MTL DOOR 3'-0" X 6'-8"	
A10	EXTEND PORTION OF WALL AS SHOWN TO CEILING, BRACE AS REQUIRED	
A11	ANCHOR WALL TO EXISTING MTL PANEL WALL	
A12	RUBBER CARPET EDGE TRANSITION STRIP	
A13	NOT USED	

AREAS OF WORK

KEY PLAN

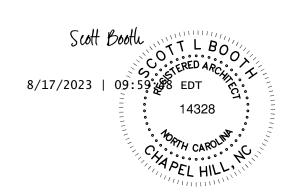
NOT TO SCALE

5



NORTH
CAROLINA
DEPARTMENT
OF ADULT
CORRECTION

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CHECKED BY: LSB

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PLOT DATE: 8.16.2023

2020 YONKERS ROAD BUILDING

2020 YONKERS ROAD RALEIGH , NC

INTERNAL AFFAIRS & SOIU OFFICE SECURITY

FLOOR PLAN AREA "B"

A102

NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION

2020 YONKERS ROAD 4216 MSC RALEIGH, N.C. 27699-4216

TEL (919) 733-2126 FAX (919) 716-3978

08.16.2023 CD SUBMITTAL

REVISION
mlb
LSB
LSB
JO4388-A102

2020 YONKERS ROAD BUILDING

2020 YONKERS ROAD RALEIGH , NC

JOB ORDER NO: 4388

PLOT DATE: 8.16.2023

INTERNAL AFFAIRS & SOIU OFFICE SECURITY

DOOR SCHEDULE

A600

| DOOR|SCHEDULE NUMBER | WIDTH | HEIGHT | THICKNESS | DTYPE | DOOR ELEV. | DOOR | DOOR FINISH | FRAME | FRAME | FRAME | HW SET | NOTES: MATERIAL MATERIAL FINISH ELEVATION 1 3'-0" 6'-8" 1 3/4" 36"x68" PT MTL Α METAL 2 3'-0" 6'-8" 1 3/4" 36"x68" METAL PT MTL PT Α 5 3 EXIST. EXIST. EXIST. EXIST. 3 EXIST. EXIST. EXIST. EXIST. EXIST. | EXIST. 4 EXIST. EXIST. EXIST. EXIST. EXIST. EXIST. 3 EXIST. EXIST. EXIST. EXIST. 5 EXIST. EXIST. EXIST. EXIST. EXIST. EXIST. 2 EXIST. EXIST. EXIST. EXIST. 6 3'-0" METAL MTL 6'-8" 1 3/4" 36"x68" 7 3'-0" 6'-8" 1 3/4" 36"x68" METAL PT MTL PT Α 4 8 EXIST. EXIST. EXIST. EXIST. 1 EXIST. EXIST. EXIST. EXIST. EXIST. EXIST. 9 3'-0" MTL 6'-8" 36"x68" METAL 10 EXIST. 1 11 EXIST. EXIST. EXIST. EXIST. EXIST. EXIST. EXIST. 3 EXIST. EXIST. EXIST.

1. PT COLOR FOR DOORS AND FRAMES TO MATCH PT

DOOR HARDWARE SET GUIDELINES

SET 1 - EXISTING INTERIOR DOOR WITH FRAME 1 CARD READER (BY OTHERS) WALL MOUNTED WIRED TO

ELECTRONIC RELEASE STRIKE 1 ELECTRIC STRIKE (BY OTHERS)

SET 2 - EXISTING INTERIOR DOOR WITH FRAME

1 CARD READER (BY OTHERS) WALL MOUNTED WIRED TO

ELECTRONIC RELEASE STRIKE 1 ELECTRIC STRIKE (BY OTHERS)

1 DOOR CLOSURE MOUNTED ON INTERIOR SIDE OF DOOR, AS APPROVED BY OWNER

SET 3 - EXISTING INTERIOR DOOR WITH FRAME

1 CYLINDER LOCKED/UNLOCKED FROM BOTH SIDES WITH KEY. 1 DOOR CLOSURE.

SET 4 - NEW HOLLOW METAL INTERIOR DOOR. 3'-0" X 6'-8" X 1-3/4" X HM

1 HM FRAME

3 PR. HINGES 1 CYLINDER LOCKED/UNLOCKED - KEYED FROM EXTERIOR, THUMB TURN FROM INTERIOR OFFICE

SET 5 - NEW HOLLOW METAL INTERIOR DOOR.

3'-0" X 6'-8" X 1-3/4" X HM 1 HM FRAME

DOOR WITH ELECTRIC STRIKE SHALL HAVE MODIFIED FRAME TO

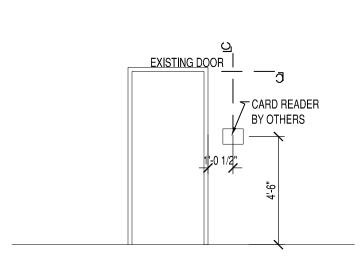
1 ELECTRIC STRIKE (BY OTHERS)

3 PR. HINGES

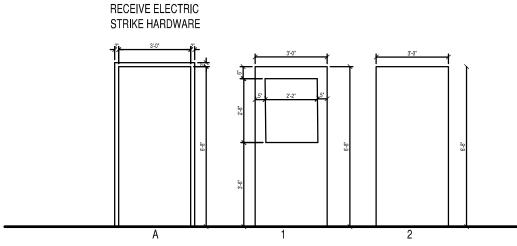
1 CARD READER (BY OTHERS) WALL MOUNTED WIRED TO ELECTRONIC RELEASE STRIKE

1 CYLINDER LOCKED/UNLOCKED-KEYED FROM EXTERIOR, THUMB TURN FROM INTERIOR

1 DOOR CLOSURE MOUNTED ON THE INTERIOR SIDE OF DOOR, AS APPROVED BY OWNER







A1 DOOR ELEVATIONS

A600 SCALE: 1/4"=1'-0" 0 1' 2'

COLOR OF EXISTING DOORS AND FRAMES IN AREA.

KEY PLAN NOT TO SCALE

AREAS OF WORK

5

2

3-WAY WALL SWITCH

4-WAY WALL SWITCH

CEILING

SAFETY SWITCH,

CIRCUIT BREAKER

STARTER OR

MAXIMUM CODE

6'-7" HIGHEST

SWITCH OR

FINISHED

BREAKER

ALLOWED HEIGHT

FIRE ALARM SYMBOLS LEGEND

SMOKE DETECTOR

ACCESS CONTROL SYMBOLS LEGEND

DOOR POSITION SWITCH

ELECTRIC STRIKE

CARD READER REX REQUEST TO EXIT

ELECTRICAL DRAWING PRESENTATION

LIGHT LINEWEIGHT INDICATES EXISTING UON

ON DEMOLITION PLANS, HEAVY DASHED LINEWEIGHT INDICATES EXISTING TO BE REMOVED UON

HEAVY SOLID LINEWEIGHT INDICATES NEW TO BE PROVIDED UON DRAWING NOTE

INDICATES FIXTURE TYPE - INDICATES SWITCHING DESIGNATION

- INDICATES FAULT CURRENT AVAILABLE AT THE EQUIPMENT 42,000A

- INDICATES CIRCUIT

INDICATES DISTRIBUTION EQUIPMENT FAULT CURRENT RATING

HEAT DETECTOR, 135° UON

DUCT TYPE SMOKE DETECTOR SUBSCRIPT INDICATES THE FOLLOWING: S SUPPLY DUCT

RETURN DUCT REMOTE ALARM INDICATOR LIGHT WITH KEYED

TEST SWITCH

REMOTE ALARM INDICATOR LIGHT

FIRE ALARM AUDIO/VISUAL UNIT, SUBSCRIPT INDICATES CANDELA RATING

FIRE ALARM VISUAL ONLY UNIT, SUBSCRIPT INDICATES CANDELA RATING

FIRE ALARM MANUAL PULL STATION

FIRE ALARM CONTROL UNIT (PANEL)

FAA FIRE ALARM ANNUNCIATOR PANEL

FAD FIRE ALARM DOCUMENTS STORAGE CABINET

FS FLOW SWITCH

TS TAMPER SWITCH DH DOOR HOLDER

EVENT PRINTER PRINTER

WG DEVICE WITH THIS SUBSCRIPT INDICATES WIRE GUARD

COMMUNICATIONS SYMBOLS LEGEND

PAGING SPEAKER, MOUNTING HEIGHTS AS PER PLANS

VOICE/DATA OUTLET, SUBSCRIPT INDICATES CONFIGURATION

FIRE ALARM GENERAL NOTES:

GENERAL ELECTRICAL NOTES:

LONGER THAN 125 FEET SHALL BE # 10 AWG MINIMUM.

WITH 75° LUGS MINIMUM, UNLESS NOTED OTHERWISE.

G. PROVIDE AN NEC SIZED GROUND WIRE IN ALL POWER CIRCUITS.

I. POWER PHASE CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

SUCH LISTING EXISTS.

MANUFACTURER.

SIZE SHALL BE 3/4 INCH.

FOR THAT PURPOSE.

PHASE A

PHASE B

PHASE C

NEUTRAL

CONDUIT

120/240 VOLT

1 PHASE SYSTEMS

BLACK

RED

WHITE

A. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND LISTED FOR THE APPLICATION BY

A TESTING AGENCY APPROVED BY THE AUTHORITY HAVING JURISDICTION, WHERE

B. ALL 20 AMPERE, 120 VOLT CIRCUITS LONGER THAN 50 FEET AND 277 VOLT CIRCUITS

D. CONDUCTORS SHALL BE MINIMALLY SIZED PER THE 75 DEGREE CELSIUS TABLES IN

C. ALL PANELBOARDS, AND ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE PROVIDED

THE NEC. ADJUST TO THE HIGHER RATING WHERE RECOMMENDED BY EQUIPMENT

E. ALL CONDUCTORS SHALL BE INSTALLED IN APPROVED RACEWAYS. MINIMUM CONDUIT

F. SIZE ALL CONDUITS AND RACEWAYS PER THE THHN/THWN INSULATION TABLES IN THE

NEC. RESIZE CONDUITS WHERE THICKER CONDUCTOR INSULATION IS USED.

H. ALL ITEMS USED AS SERVICE ENTRACE EQUIPMENT SHALL BE LISTED AND LABELED

208/120 VOLT

3 PHASE SYSTEM

BLACK

RED

BLUE

INSTALL DETECTABLE WARNING TAPE 6" BELOW GRADE FOR ALL UNDERGROUND

WHITE

480/277 VOLT

3 PHASE SYSTEM

BROWN

ORANGE

YELLOW

GREY

- A. ALL CONDUIT SHALL BE MINIMUM 3/4", INCLUDING FLEXIBLE CONDUIT.
- B. SEE PLANS FOR QUANTITY AND LOCATION OF DEVICES AND EQUIPMENT.
- C. CIRCUITRY SHALL BE CONDUCTOR SIZE, QUANTITY, AND TYPE AS RECOMMENDED BY PARTICULAR MANUFACTURER FOR SPECIFIC USE AS INITIATION, NOTIFICATION, RELAY, OR SIGNALING LINE CIRCUIT CONDUCTORS.
- D. SIGNALING LINE CIRCUITS (SLC) SHALL BE NFPA 72, CLASS A, STYLE 6 WIRING. THE OUTGOING AND THE RETURN CIRCUIT CONDUCTORS SHALL NOT BE RUN IN THE SAME
- SMOKE AND HEAT DETECTORS SHALL BE LOCATED A MINIMUM OF 36" FROM HVAC SUPPLY, RETURN AND EXHAUST AIR DIFFUSERS, GRILLES AND OUTLETS. COORDINATE EXACT LOCATIONS WITH THE MECHANICAL CONTRACTOR AND EXISTING FIELD CONDITIONS.
- F. LABEL ALL DUCT MOUNT SMOKE DETECTOR REMOTE ALARM INDICATING LIGHTS. LABEL SHALL INCLUDE THE ASSIGNED SMOKE DETECTOR ADDRESS, THE ROOM NUMBER IN WHICH THE DUCT MOUNT SMOKE DETECTOR IS LOCATED AND VICINITY IN ROOM. LABELS IN AREAS WITH HIGH CEILING SHALL HAVE A LARGER FONT TO BE READABLE FROM THE FINISHED FLOOR HEIGHT.

COMMUNICATION GENERAL NOTES:

- A. CONTRACTOR SHALL INSTALL CONDUITS AND BACK BOXES FOR ALL COMMUNICATION
- B. 3/4" CONDUIT FROM EACH DEVICE IS REQUIRED AS HOME RUN BACK TO TELEPHONE BOARD FOR ADMINSTRATION AREA DEVICES.
- C. 3/4" CONDUIT FROM EACH DEVICE IS REQUIRED TO BE HOME RUN BACK TO COMMUNICATION J-BOX IN MECHANICAL ROOM FOR DORM AREA DEVICES.
- D. CONTRACTOR SHALL PURCHASE AND INSTALL THE TELEPHONE BACKBOARD.
- E. SINGLE GANG BACK BOX IS REQUIRED FOR EACH V/D OUTLET.
- F. MOUNT SPEAKERS 10'-12' AFF (EACH FLOOR) OR ON THE CEILING.
- G. WIRES WILL BE PROVIDED AND INSTALLED BY OTHERS.
- H. FACE PLATES, ACTUAL DEVICES AND TEMINATION WILL BE BY OTHERS.

ABBREVIATIONS

AMPERE ADJUSTABLE SPEED DRIVE AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AIC AMPERES INTERRUPTING CAPACITY ALUMINUM ARCH **ARCHITECT** ATS **AUTOMATIC TRANSFER SWITCH** AWG AMERICAN WIRE GUAGE BFC BELOW FINISHED CEILING **BELOW FINISHED GRADE** BFG BLDG BUILDING CELSIUS CONDUIT CIRCUIT BREAKER CKT CIRCUIT CT **CURRENT TRANSFORMER** COPPER DIRECT CURRENT DEG DEGREES DISCONNECT

DISC DN DOWN DRAWING **ELECTRICAL CONTRACTOR** ELECTRIC/ELECTRICAL EMT ELECTRICAL METALLIC TUBING ENG **ENGINEER** EXISTING TO BE RELOCATED ETR EXISTING TO REMAIN

EX, (E), EXIST EXISTING **FAHRENHEIGHT** FACU FIRE ALARM CONTROL UNIT (PANEL) FIXT FIXTURE

FLA **FULL LOAD AMPS** FLR FLOOR **FLUOR FLUORESCENT**

GC GENERAL CONTRACTOR GROUNDING ELECTRODE CONDUCTOR GEC GRS GALVANIZED RIGID STEEL HOA HAND-OFF-AUTOMATIC HANDHOLE HIGH INTENSITY DISCHARGE HORSEPOWER

GROUND

HIGH POWER FACTOR HOUR HTR HEATER HERTZ

G,GND

INTERMEDIATE METAL CONDUIT INCAND INCANDESCENT JUNCTION BOX (KILO) THOUSAND KCMIL THOUSAND CIRCULAR MILS

ΚV KILOVOLT(S) KILOVOLT AMPHERE(S) KVA KILOWATT(S) KILOWATT HOUR(S) LED LIGHT EMITTING DIODE LT(S) LIGHT(S)

LTG LIGHTING MC MECHANICAL CONTRACTOR MECH MECHANICAL

MFG MANUFACTURED MANHOLE MISCELLANEOUS MOUNTED MANUAL TRANSFER SWITCH

NON APPLICABLE NORMALLY CLOSED NEC NATIONAL ELECTRICAL CODE NIGHT LIGHT NORMALLY OPEN

NTS NOT TO SCALE OC ON CENTER POLE PH, Ø PHASE

PNL PANELBOARD PVC POLYVINYL CHLORIDE RECEPT(S) RECEPTACLE(S)

SERVICE ENTRANCE SQUARE FEET SWITCH

SWBD **SWITCHBOARD** SWGR **SWITCHGEAR** TBD TO BE DETERMINED UL

UNDERWRITERS LABORATORIES UNLESS OTHERWISE NOTED UON UNINTERRUPTABLE POWER SUPPLY VOLTS

VOLT AMPHERE(S) WATTS, WIRE WEATHERPROOF XFMR TRANSFORMER



NORTH **CAROLINA DEPARTMENT OF ADULT CORRECTION**

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CADD DWG NO: JO4388-E001 JOB ORDER NO: 4388 PLOT DATE: 5/18/2023

2020 YONKERS ROAD

RALEIGH, NC

2020 YONKERS

ROAD BUILDING

INTERNAL AFFAIRS & SOIU SECURITY

ABBREVIATIONS, NOTES AND LEGEND

E001

E001 SCALE: NONE

TYPICAL EQUIPMENT AND WIRING DEVICE MOUNTING HEIGHTS

SUPPLY OR RETURN

DIFFUSER

FOR CEILING HEIGHTS

LESS THAN 86", THE VISUAL LENS MOUNTING

HEIGHT SHALL BE WITHIN

- ABOVE COUNTER

HORIZONTALLY)

3'-8" MAX.

RECEPTACLE

(MOLINT

6" OF THE CEILING

VISUAL AND

DEVICES

96" MAX

80" (ADA)

REF. 96" MAX (IBC)

(NFPA)

VISUAL ONLY

3' -0" MIN -

CEILING

SMOKE /

TO EXIT DOOR

5'-0" MAX

LESS 3"

MANUAL

— STATION[∟]

LIGHT

48" MAX (ADA) 42" MIN / 54" MAX (NFPA)

SWITCH 💾

PULL

MOUNTED

DETECTOR —

WIDTH —

EXIT SIGN

PREFERRED

LOCATION IS

ABOVE THE DOOR,

ALTERNATE

LOCATION AS

RECEPTACLE

FINISHED

WALL

NOTE: MEASUREMENTS SHOWN

ARE TO THE CLOSEST EDGE OF

THE DETECTOR.

EXIT

ACCEPTED HERE-

NEVER HERE -

SMOKE / HEAT

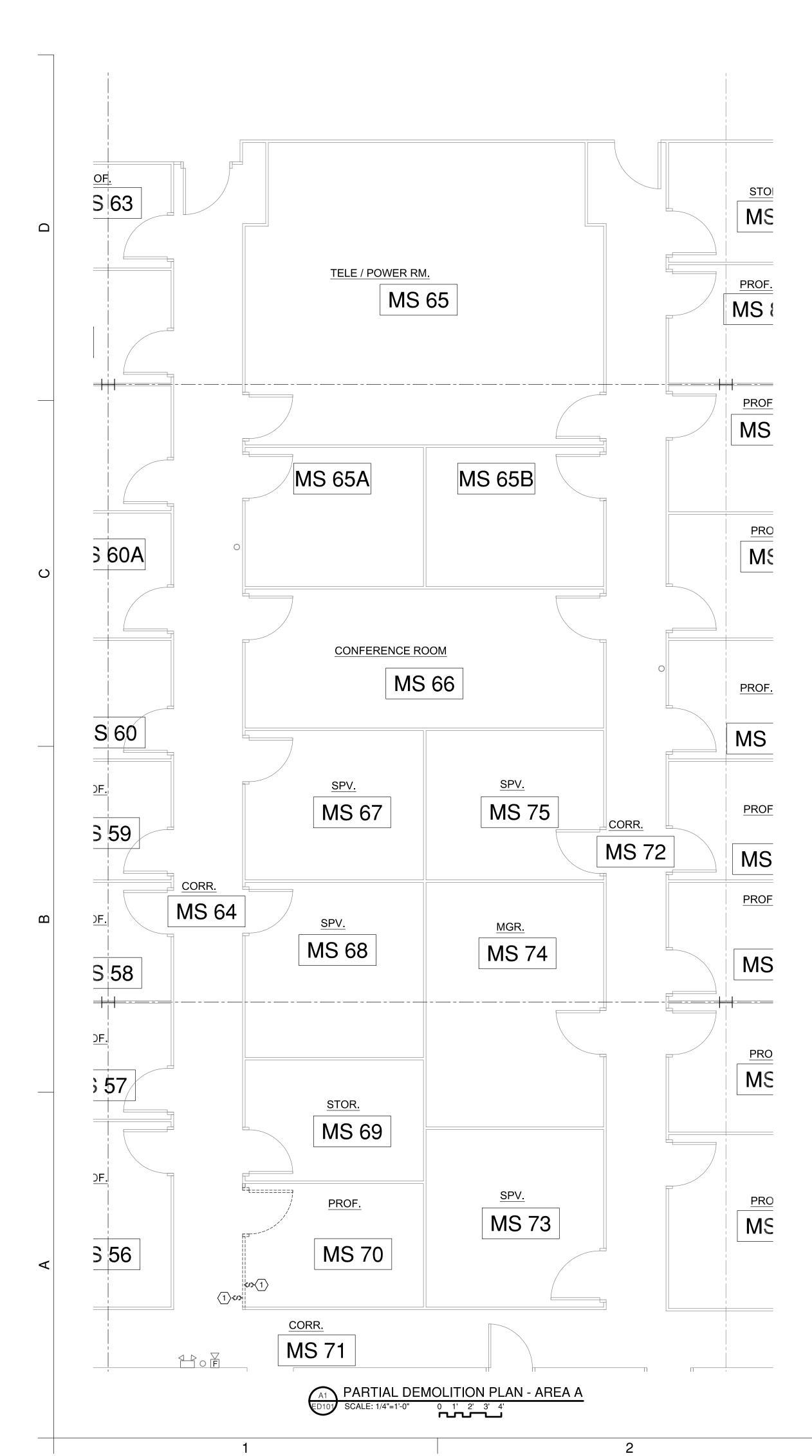
DETECTOR

→ MAGNETIC

DOOR

HOLDER

WALL MOUNTED



REMOVE ELECTRICAL DEVICE, ASSOCIATED SURFACE MOUNTED BOX AND SURFACE MOUNTED RACEWAY. RETAIN CIRCUIT FOR EXTENSION TO NEW LOCATION.



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2020 YONKERS ROAD BUILDING

2020 YONKERS ROAD RALEIGH , NC

PLOT DATE:

INTERNAL AFFAIRS & SOIU SECURITY

PARTIAL DEMOLITION PLAN AREA - A

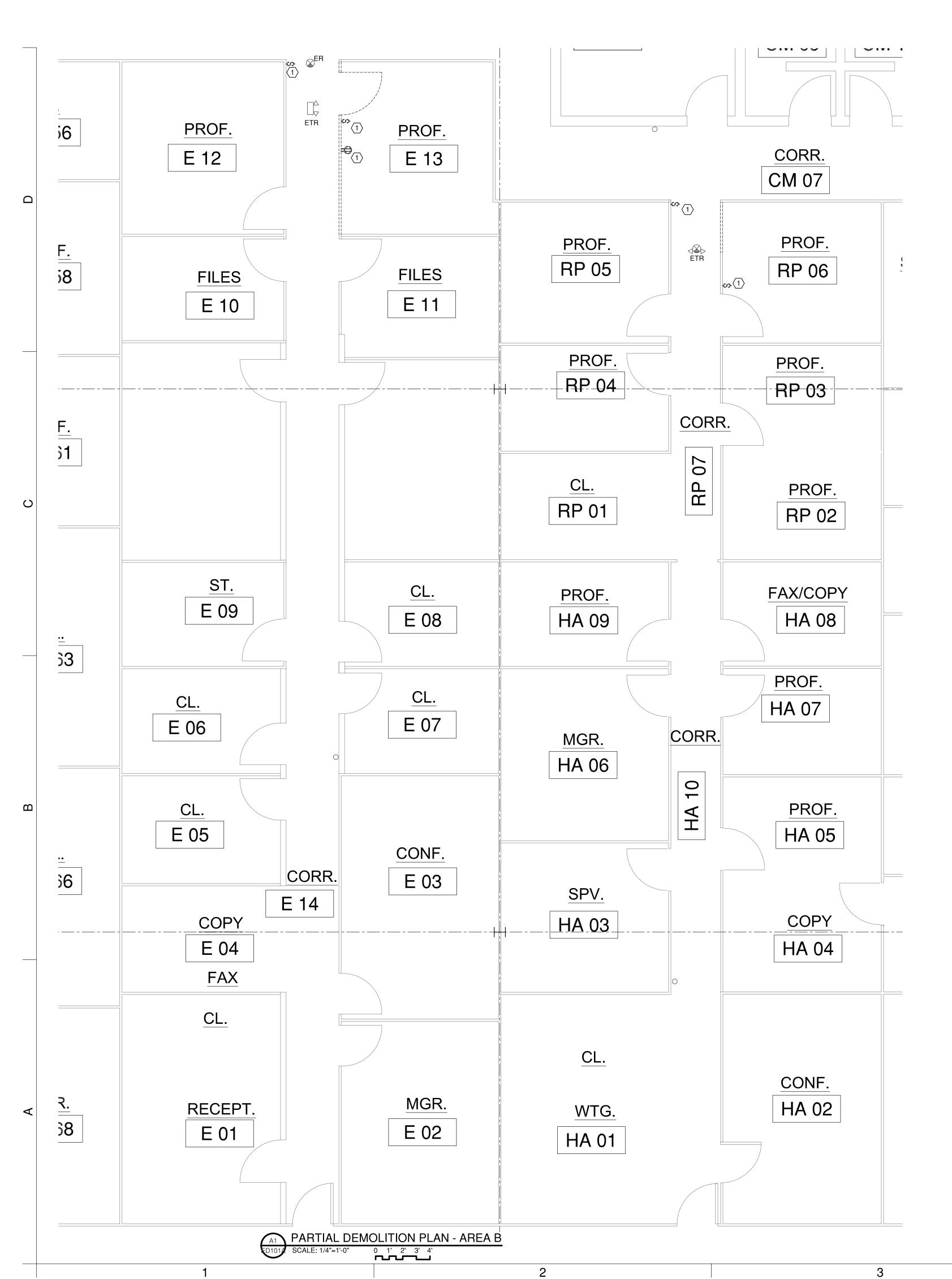
KEY PLAN

NOT TO SCALE

3

AREAS OF WORK

ED101



AREAS OF WORK

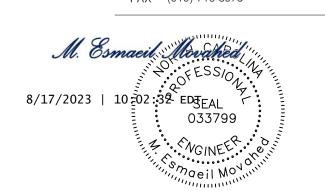
KEY PLAN

1. REMOVE ELECTRICAL DEVICE, ASSOCIATED SURFACE MOUNTED BOX AND SURFACE MOUNTED RACEWAY. RETAIN CIRCUIT FOR EXTENSION TO NEW



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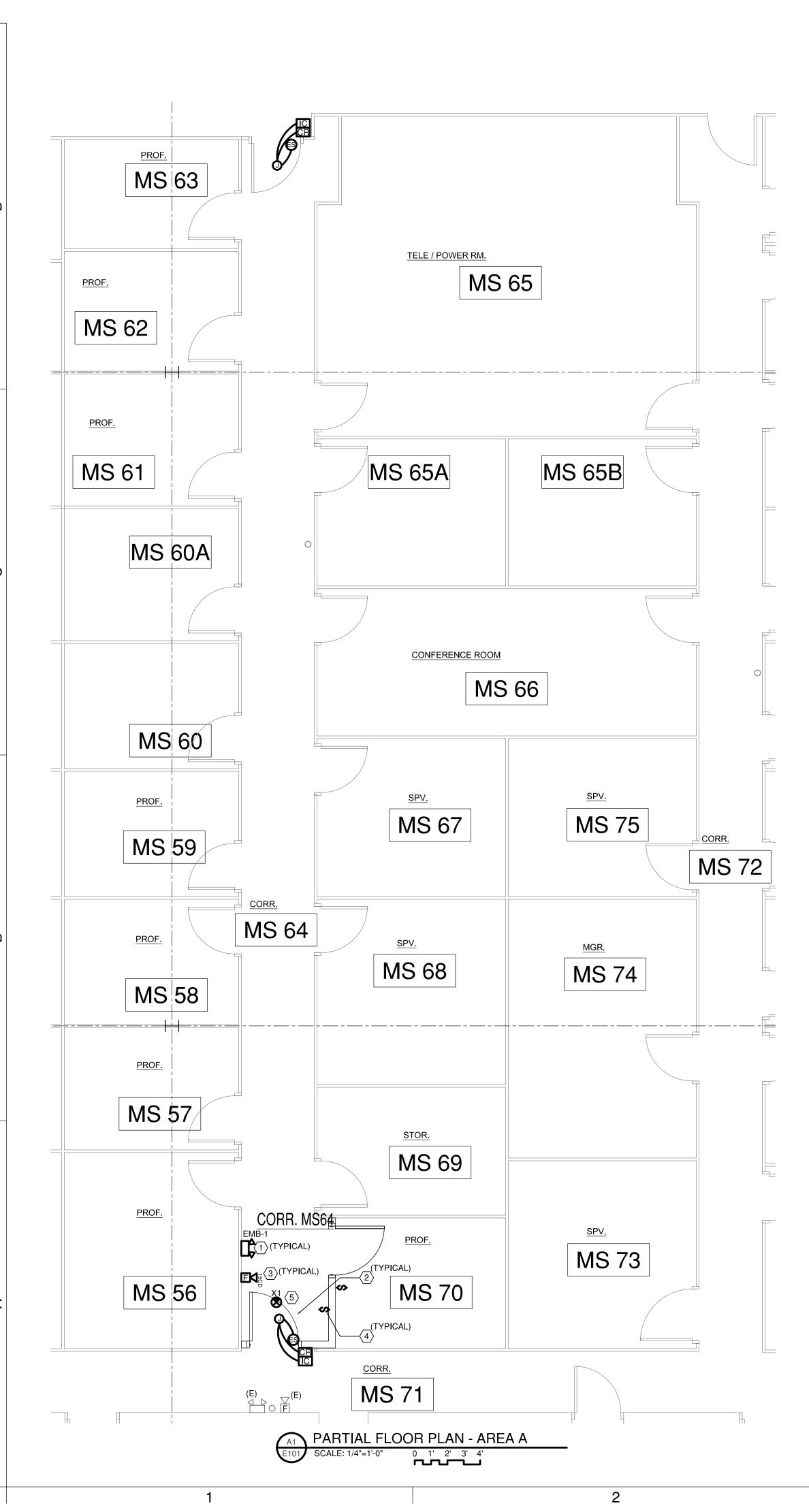
2020 YONKERS **ROAD BUILDING**

2020 YONKERS ROAD RALEIGH , NC

INTERNAL AFFAIRS & SOIU SECURITY

PARTIAL DEMOLITION PLAN AREA - B

ED101A



	LIGHTING FIXTURE SCHEDULE								
LED DATA									
TYPE MOUNTING		MANUFACTURER CATALOGE SERIES	DESCRIPTION		COLOR TEMP	CRI	VOLT	WATTS	
	EMB-1 SURFACE	LITHONIA	ELM4L-UVOLT	WALL AND CEILING MOUNT, THERMOPLASTIC HOUSING , IMPACT AND SCRATCH					
EMB-1		MOUNT PHILIPS EQUAL	EQUAL	RESISTANCE AND CORROSION PROOF, LED LAMP, 32 TO 122 DEGREE F, NICAD	640			120/277	6.6
IVIOON	HUBBELL	EQUAL	MAINTENANCE FREE 90 MIN. BATTERY						
	X1 SURFACE	LITHONIA EXRG-EL-M6-120/277-1W	SINGLE FACE EXIT WITH RED LETTERS, LOW PROFILE WALL/CEILING MOUNT.						
X1		MOUNT PHILIPS EQUAL	EQUAL	MAINTENANCE FREE 90 MIN. BATTERY				120/277	1
IVICOIVI		HUBBELL	EQUAL						

- 1. CIRCUIT EMERGENCY BATTERY UNIT TO AREA NORMAL LUMINAIRE CIRCUIT AHEAD OF ALL CONTROLS WITH 2#12,1#12EG.,3/4"C.
- EXISTING. EXTEND WIRE/CONDUIT TO NEW LOCATION WITH
- 5. CIRCUIT EXIT SIGN TO AREA NORMAL LUMINAIRE CIRCUIT AHEAD OF ALL

2. REFER TO "TYPICAL SECURE DOOR RACEWAY DETAIL" FOR ADDITIONAL REQUIREMENTS.

3. FIRE ALARM SYSTEM DEVICE SHALL BE SAME MAKE/CHARACTERISTICS AS EXISTING SYSTEM. PROVIDE ALL HARDWARE, PROGRAMMING AND TESTING REQUIRED TO ACCOMMODATE ADDITIONAL DEVICES.

4. FIELD VERIFY AND MATCH THE SAME DEVICE CHARACTERISTICS AS 2#12,1#12G.,3/4"C.

CONTROLS WITH 2#12,1#12EG.,3/4"C

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DEPARTMENT

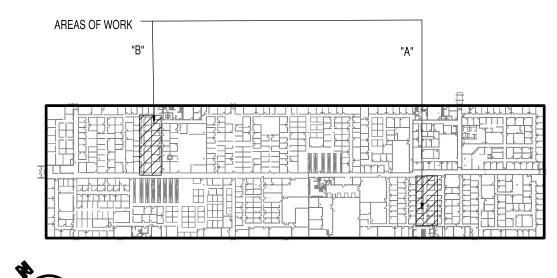
CORRECTION

8/17/2023 | 10:02:32 PEDT SEAL

08.16.23 CD SUBMITTAL

1/2"C TO ACCOMMODATE INTERCOM AND ACCESS CONTROL WIRING. STUB FOR CONTINUATION AS DIRECTED BY BUILDING OWNER (WIRING PROVIDED BY OTHERS) — ABOVE ACCESSIBLE CEILING ON SECURE SIDE WITHIN 3'-0" OF 1/2"C ---ACCESSIBLE CEILING SPACE 4" SINGLE GANG BOX TO ACCOMMODATE —1/2"C SURFACE RACEWAY TRANSITION AND ROUTE IN FRAME TO ACCOMMODATE CARD READER (CR), KEYED SIDE — 4" SINGLE GANG BOX TO ACCOMMODATE INTERCOM ELECTRIC STRIKE (IC), KEYED SIDE-FLOOR LEVEL





KEY PLAN NOT TO SCALE

NO DATE DRAWN BY: DESIGNED BY: WWS CHECKED BY: CADD DWG NO: JO4388-E101 JOB ORDER NO: 4388 PLOT DATE: 5/18/2023 **2020 YONKERS**

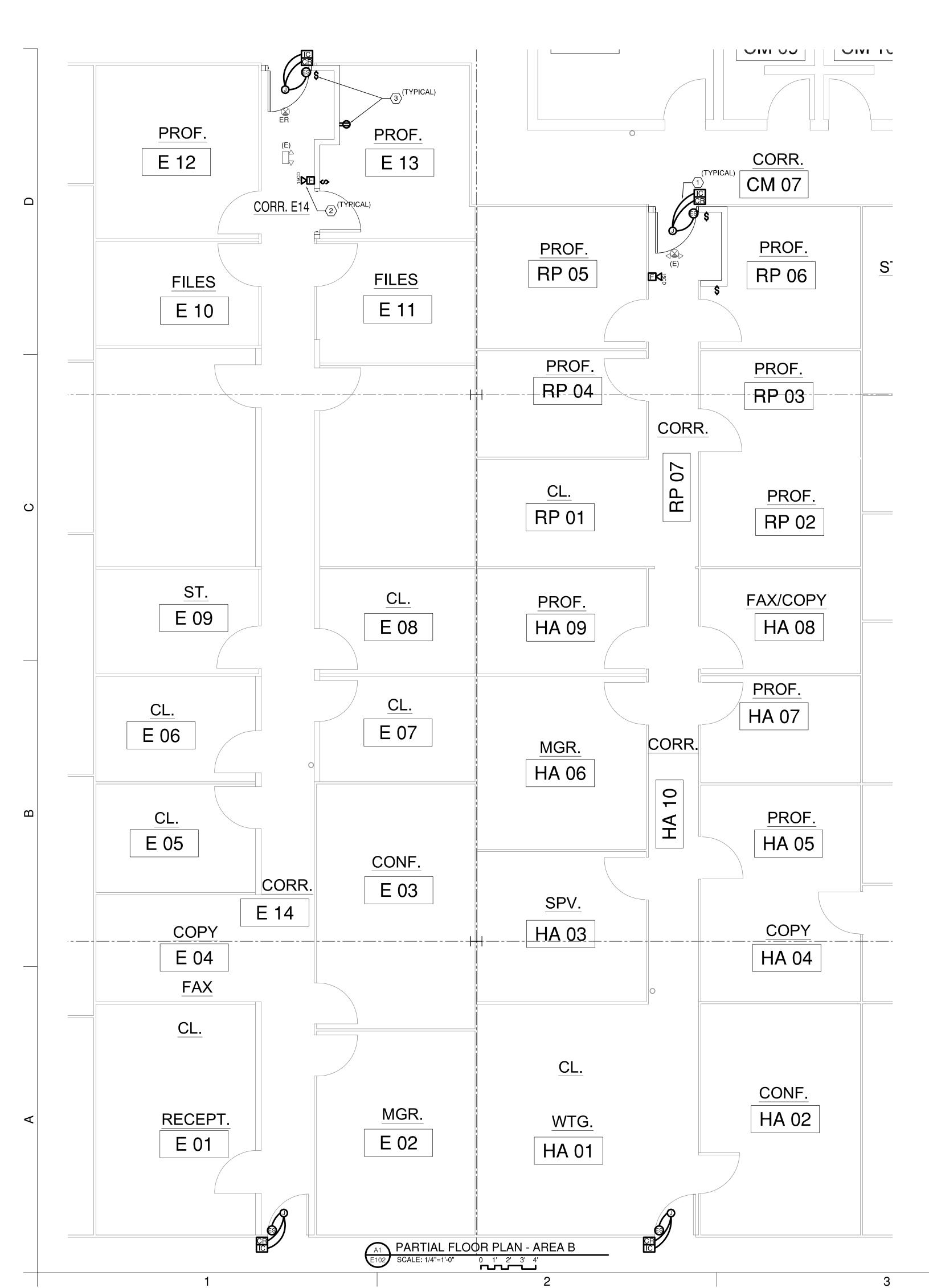
ROAD BUILDING

2020 YONKERS ROAD RALEIGH , NC

INTERNAL AFFAIRS & SOIU SECURITY

PARTIAL FLOOR PLAN AREA - A, SCHEDULE

E101



AREAS OF WORK

KEY PLAN

5

- REFER TO "TYPICAL SECURE DOOR RACEWAY DETAIL" FOR ADDITIONAL REQUIREMENTS.
- 2. FIRE ALARM SYSTEM DEVICE SHALL BE SAME MAKE/CHARACTERISTICS AS EXISTING SYSTEM. PROVIDE ALL HARDWARE, PROGRAMMING AND TESTING REQUIRED TO ACCOMMODATE ADDITIONAL DEVICES.
- 3. FIELD VERIFY AND MATCH THE SAME DEVICE CHARACTERISTICS AS EXISTING. EXTEND WIRE/CONDUIT TO NEW LOCATION WITH 2#12,1#12G.,3/4"C.



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2020 YONKERS ROAD RALEIGH , NC

INTERNAL AFFAIRS & SOIU SECURITY

PARTIAL FLOOR PLAN AREA - B

E102

SECTION 260000 GENERAL PROVISIONS

PART 1 GENERAL

THIS CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO INSTALL AND SET INTO OPERATION THE ELECTRICAL EQUIPMENT AS SHOWN ON THE ENGINEERING DRAWINGS AND AS CONTAINED HEREIN.

1.2 QUALITY ASSURANCE

A. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE NORTH CAROLINA STATE BUILDING CODE AND NATIONAL ELECTRIC CODE NFPA 70.

B. WHEREVER THE WORDS "APPROVED", APPROVAL", AND "APPROVED EQUAL" APPEAR, IT IS INTENDED THAT ITEMS OTHER THAN THE MODEL NUMBERS SPECIFIED SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

C. "PROVIDE" AS USED HEREIN SHALL MEAN THAT THE CONTRACTOR RESPONSIBLE SHALL FURNISH AND INSTALL SAID ITEM OR EQUIPMENT. "FURNISH" AS USED HEREIN SHALL MEAN THAT THE CONTRACTOR RESPONSIBLE SHALL ACQUIRE AND MAKE AVAILABLE SAID ITEM OR EQUIPMENT AND THAT INSTALLATION SHALL BE BY OTHERS. "INSTALL" AS USED HEREIN SHALL MEAN THAT THE CONTRACTOR RESPONSIBLE SHALL MAKE INSTALLATION OF ITEMS OR EQUIPMENT FURNISHED BY OTHERS.

D. ALL MATERIAL AND EQUIPMENT THAT THE CONTRACTOR PROPOSES TO SUBSTITUTE IN LIEU OF THOSE SPECIFIED SHALL BE SUBMITTED TO THE ENGINEER TEN (10) DAYS PRIOR TO THE BID DATE FOR EVALUATION. THE SUBMITTAL SHALL INCLUDE A FULL DESCRIPTION OF THE MATERIAL OR EQUIPMENT AND ALL PERTINENT ENGINEERING DATA REQUIRED TO SUBSTANTIATE THE EQUALITY OF THE PROPOSED ITEM TO THAT SPECIFIED. ITEMS THAT ARE SUBMITTED FOR APPROVAL AFTER THIS DATE WILL NOT BE ACCEPTED. SUBSTITUTE MATERIAL AND EQUIPMENT WILL NOT BE DEEMED TO BE APPROVED UNTIL NOTIFICATION IS GIVEN IN A WRITTEN ADDENDUM PRIOR TO THE BID DATE.

E. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND EQUIPMENT SHALL BE NEMA TYPE 1 INDOOR, AND NEMA TYPE 3R OUTDOORS.

1.3 SUBMITTALS

A. WITHIN TWENTY (20) DAYS AFTER NOTIFICATION OF THE AWARD OF THE CONTRACT AND WRITTEN NOTICE TO BEGIN WORK, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE ARCHITECT/ENGINEER A DETAILED LIST OF EQUIPMENT AND MATERIALS, WHICH HE PROPOSES TO USE. ITEMS REQUIRING SUBMITTAL DATA FOR APPROVAL WILL BE NOTED AT THIS TIME. SIX (6) SETS OF SUBMITTAL DATA SHALL BE PROVIDED FOR APPROVAL B. EACH SUBMITTAL SHALL BEAR THE APPROVAL OF THE CONTRACTOR INDICATING THAT HE HAS REVIEWED THE DATA AND FOUND IT TO MEET THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AS WELL AS SPACE LIMITATIONS AND OTHER PROJECT CONDITIONS, BEFORE SUBMITTAL TO THE ENGINEER FOR REVIEW. THE SUBMITTALS SHALL BE CLEARLY IDENTIFIED SHOWING PROJECT NAME, MANUFACTURER'S CATALOG NUMBER AND ALL NECESSARY PERFORMANCE AND FABRICATION DATA. ALL REQUIREMENTS, PARAMETERS, INFORMATION, DETAILS AND OTHER INFORMATION NOTED ABOUT SUBMITTED EQUIPMENT IN THE SPECIFICATIONS AND ON THE DRAWINGS SHALL BE SPECIFICALLY ADDRESSED IN THE SUBMITTAL. SUBMITTALS THAT DO NOT CONTAIN THIS INFORMATION WILL BE RETURNED TO THE CONTRACTOR FOR RE-SUBMITTAL. THE SAME DETAILED SUBMITTAL DATA SHALL BE PROVIDED

WHEN ITEMS ARE TO BE CONSIDERED AS SUBSTITUTION FOR SPECIFIED ITEMS. ACCEPTANCE FOR APPROVAL SHALL BE IN WRITING FROM THE ENGINEER. C. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A DUPLICATE SET OF FINAL

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

ELECTRICAL INSPECTION CERTIFICATES PRIOR TO FINAL PAYMENT.

A. ALL MATERIAL AND EQUIPMENT SHALL BE DELIVERED AND UNLOADED BY THE CONTRACTOR WITHIN THE PROJECT SITE AS NOTED HEREIN OR AS DIRECTED BY THE OWNER.

B. THE CONTRACTOR SHALL PROTECT ALL MATERIAL AND EQUIPMENT FROM BREAKAGE, THEFT OR WEATHER DAMAGE. NO MATERIAL OR EQUIPMENT SHALL BE STORED ON THE GROUND. ANY BROKEN, DAMAGED OR WEATHER DAMAGED MATERIAL OR EQUIPMENT SHALL BE REMOVED FROM THE PROJECT SITE AND REPLACED AT THE CONTRACTOR'S EXPENSE BEFORE INSTALLATION.

THE MATERIAL AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE CONTRACTOR UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.

1.5 WORKING CONDITIONS AND COORDINATION

A. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING TO A TERMINATION POINT CONSISTING OF A JUNCTION BOX, TROUGH OR GUTTER, STARTER OR SAFETY SWITCH. THE ELECTRICAL CONTRACTOR SHALL ALSO FURNISH JUNCTION BOXES, TROUGHS AND GUTTERS. FINAL CONNECTIONS OF THE RACEWAYS AND WIRE FROM THOSE TERMINATION POINTS TO THE EQUIPMENT, EXCEPT FOR FOOD SERVICE EQUIPMENT, SHALL BE BY THE CONTRACTOR FURNISHING THE EQUIPMENT.

B. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF CONDUITS, JUNCTION BOXES AND BACK BOXES REQUIRED FOR COMMUNICATION, FIRE ALARM AND SECURITY DEVICES. COORDINATION WITH THOSE TRADES IS REQUIRED FOR PROPER CONDUIT INSTALLATION.

C. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES. CUTTING OF NEW WORK DUE TO THIS CONTRACTOR'S NEGLIGENCE AND SUBSEQUENT PATCHING SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND SHALL BE AT THIS CONTRACTOR'S EXPENSE WITH NO EXTRA COST TO THE OWNER.

1.6 GUARANTEE

A. WHERE EXTENDED WARRANTIES OR GUARANTEES ARE AVAILABLE FROM THE MANUFACTURER, THE CONTRACTOR SHALL PREPARE THE NECESSARY CONTRACT DOCUMENTS TO VALIDATE THESE WARRANTIES AS REQUIRED BY THE MANUFACTURER AND PRESENT THEM TO THE OWNER.

1.7 REGULATORY REQUIREMENTS

A. CONFORM TO REQUIREMENTS OF ANSI/NFPA 70.

FURNISH PRODUCTS LISTED AND CLASSIFIED BY THIRD PARTY AGENCIES ACCREDITED BY THE NCBCC TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN, WHERE SUCH LISTING EXISTS. PART 2 PRODUCTS

2.1 MATERIALS

MATERIALS AND EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE, OF THE HIGHEST GRADE AND QUALITY AND FREE FROM DEFECTS OR OTHER IMPERFECTIONS. MATERIALS AND EQUIPMENT FOUND DEFECTIVE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

PART 3 EXECUTION

3.1 INSPECTION

IF ANY PART OF THIS CONTRACTOR'S WORK IS DEPENDENT FOR IT'S PROPER EXECUTION OR FOR ITS SUBSEQUENT EFFICIENCY OR APPEARANCE ON THE CHARACTER OR CONDITIONS OF CONTIGUOUS WORK NOT EXECUTED BY HIM, THE CONTRACTOR SHALL EXAMINE AND MEASURE SUCH CONTIGUOUS WORK AND REPORT TO THE ARCHITECT/ENGINEER IN WRITING ANY IMPERFECTION THEREIN, OR CONDITIONS THAT RENDER IT UNSUITABLE FOR THE RECEPTION OF THIS WORK. SHOULD THE CONTRACTOR PROCEED WITHOUT MAKING SUCH WRITTEN REPORT, HE SHALL BE HELD TO HAVE ACCEPTED SUCH WORK AND THE EXISTING CONDITIONS AND HE SHALL BE RESPONSIBLE FOR ANY DEFECTS IN THIS WORK CONSEQUENT THEREON AND B. WILL NOT BE RELIEVED OF THE OBLIGATION OF ANY GUARANTEE BECAUSE OF ANY SUCH IMPERFECTION OR CONDITION.

3.2 INSTALLATION

A. ALL WORK SHALL BE PERFORMED IN A MANNER INDICATING PROFICIENCY IN THE TRADE. 2.5 ELECTRICAL METALLIC TUBING (EMT)

B. ALL CONDUIT, PIPES, DUCTS, ETC., SHALL BE EITHER PARALLEL TO BUILDING WALLS OR PLUMB WHERE INSTALLED IN A VERTICAL POSITION AND SHALL BE CONCEALED WHEN LOCATED B. IN ARCHITECTURALLY FINISHED AREAS.

C. ANY CUTTING OR PATCHING REQUIRED FOR INSTALLATION OF THIS CONTRACTOR'S WORK SHALL BE KEPT TO A MINIMUM. THE ARCHITECT/ENGINEER SHALL REQUIRE WRITTEN APPROVAL IF CUTTING OF PRIMARY STRUCTURE IS INVOLVED.

D. ALL PATCHING SHALL BE DONE IN SUCH A MANNER AS TO RESTORE THE AREAS OR SURFACES TO MATCH EXISTING FINISHES.

E. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SLEEVES OR OPENINGS THROUGH POURED MASONRY FLOORS OR WALLS ABOVE GRADE REQUIRED FOR PASSAGE OF ALL CONDUITS, PIPES OR DUCT INSTALLED BY HIM. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL INSERTS AND HANGERS REQUIRED TO SUPPORT EQUIPMENT.

F. GROUNDING:

ALL GROUNDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC AND PER THE PROJECT DRAWINGS.

2. A GROUNDING CONDUCTOR SIZED PER THE LATEST EDITION OF THE NEC SHALL BE INSTALLED IN ALL RACEWAYS CONTAINING POWER CONDUCTORS.

G. EXISTING FACILITIES: CONTRACTOR SHALL PERFORM WORK IN THE AREA UNDER INSTALLATION IN SUCH A MANNER THAT THERE IS NO INTERRUPTION TO ELECTRICAL POWER TO REMAINING FACILITY.

ALL SUPPORT STEEL, ANGLES, CHANNELS, PIPES OR STRUCTURAL STEEL STANDS AND ANCHORING DEVICES THAT MAY BE REQUIRED TO RIGIDLY SUPPORT OR THIS CONTRACTOR SHALL PROVIDE ANCHOR MATERIAL AND EQUIPMENT.

3.5 ADJUST AND CLEAN

A. ALL EQUIPMENT AND INSTALLED MATERIALS SHALL BE THOROUGHLY CLEAN AND FREE OF B. ARRANGE SUPPORTS TO PREVENT MISALIGNMENT DURING WIRING INSTALLATION. ALL DIRT, OIL, GRIT, GREASE, ETC.

B. FACTORY PAINTED EQUIPMENT SHALL NOT BE REPAIRED UNLESS DAMAGED AREAS EXIST. THE MANUFACTURER SHALL TOUCH UP THESE AREAS WITH A MATERIAL SUITABLE FOR THE INTENDED SERVICE SO THAT THE FINISH IS EQUAL TO THAT PROVIDED. IN NO EVENT SHALL NAMEPLATES BE PAINTED.

END OF SECTION

SECTION 260533 CONDUITS

PART 1 - GENERAL

1.1 SECTION INCLUDES

METAL CONDUIT FLEXIBLE METAL CONDUIT LIQUID TIGHT FLEXIBLE METAL CONDUIT

ELECTRICAL METALLIC TUBING FITTINGS AND CONDUIT BODIES

1.2 REFERENCES

A. ANSI C80.1 RIGID STEEL CONDUIT. ZINC COATED

ANSI C80.3 ELECTRICAL METALLIC TUBING, ZINC COATED ANSI/NEMA FB 1 FITTINGS, CAST METAL BOXES, AND CONDUIT BODIES FOR CONDUIT AND CABLE ASSEMBLIES

ANSI/NFPA 70 NATIONAL ELECTRICAL CODE NECA "STANDARD OF INSTALLATION"

1.3 DESIGN REQUIREMENTS

A. CONDUIT SIZE: ANSI/NFPA 70

1.4 SUBMITTALS

A. SUBMIT UNDER PROVISIONS OF SECTION 260000

PRODUCT DATA: PROVIDE FOR METALLIC CONDUIT, FLEXIBLE METAL CONDUIT, LIQUID TIGHT FLEXIBLE METAL CONDUIT, METALLIC TUBING, NONMETALLIC CONDUIT, FITTINGS AND CONDUIT BODIES.

1.5 PROJECT RECORD DOCUMENTS

A. SUBMIT UNDER PROVISIONS OF SECTION 260000.

ACCURATELY RECORD ACTUAL ROUTING OF CONDUITS LARGER THAN 11/2" INCH.

1.6 REGULATORY REQUIREMENTS

A. CONFORM TO REQUIREMENTS OF ANSI/NFPA 70.

B. FURNISH PRODUCTS LISTED AND CLASSIFIED BY THIRD PARTY AGENCIES ACCREDITED BY THE NCBCC TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT AS SUITABLE FOR THE PURPOSE SPECIFIED AND SHOWN, WHERE SUCH LISTING EXISTS.

1.7 DELIVERY, STORAGE, AND HANDLING

GRADE. PROVIDE APPROPRIATE COVERING.

ACCEPT CONDUIT ON SITE. INSPECT FOR DAMAGE. PROTECT CONDUIT FROM CORROSION AND ENTRANCE OF DEBRIS BY STORING ABOVE

1.8 PROJECT CONDITIONS

VERIFY THAT FIELD MEASUREMENTS ARE AS SHOWN ON DRAWINGS. VERIFY ROUTING AND TERMINATION LOCATIONS OF CONDUIT PRIOR TO ROUGH IN. CONDUIT ROUTING IS SHOWN ON DRAWINGS IN APPROXIMATE LOCATIONS UNLESS

PART 2 - PRODUCTS 2.1 CONDUIT REQUIREMENTS

MINIMUM SIZE: 3/4" TRADE SIZE UNLESS OTHERWISE NOTED.

DIMENSIONED. ROUTE AS REQUIRED COMPLETING WIRING SYSTEM.

2.2 METAL CONDUIT

RIGID STEEL CONDUIT: ANSI C80.1 INTERMEDIATE METAL CONDUIT (IMC): RIGID STEEL.

FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; THREADED, STEEL OR MALLEABLE IRON 1.3 SUBMITTALS TYPE FITTINGS.

2.3 LIQUID TIGHT FLEXIBLE METAL CONDUIT

FITTINGS: ANSI/NEMA FB 1.

A. DESCRIPTION: INTERLOCKED STEEL CONSTRUCTION WITH PVC JACKET WITH INTEGRAL COPPER GROUNDING CONDUCTOR.

SIZES: 1/2" AND LARGER ARE ACCEPTABLE FOR MOTOR, APPLIANCE AND FIXTURE CONNECTIONS PROVIDED A GREEN GROUNDING CONDUCTOR IS INSTALLED. THE GROUNDING CONDUCTOR AND THE FLEXIBLE CONDUIT SIZE SHALL MEET NEC

DESCRIPTION: ANSI C80.3; GALVANIZED TUBING. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; ALL STEEL, HEXAGONAL COMPRESSION, INSULATED THROAT TYPE. POT METAL, SETSCREW OR INDENTER TYPE FITTINGS SHALL

NOT BE USED. PROVIDE RAIN TIGHT FITTINGS IN DAMP LOCATIONS. EMT MAY BE UTILIZED AS PERMITTED BY THE NEC, WITH THE FOLLOWING RESTRICTIONS. 1.6 PROJECT CONDITIONS EMT CONDUIT, COUPLINGS, ELBOWS AND FITTINGS SHALL NOT BE INSTALLED: ANY LOCATION OUTDOORS, IN DIRECT CONTACT WITH EARTH, OR UNDERGROUND

(IN/BELOW SLAB- ON GRADE OR IN EARTH) INDOORS IN WET OR DAMP LOCATIONS, OR IN CONCRETE, CINDERBLOCKS OR BRICKS. WHERE EXPOSED TO SEVERE CORROSIVE INFLUENCE AND/OR SEVERE PHYSICAL

4) ENCASED IN CONCRETE. FOR TRANSITION BETWEEN EMT AND RIGID CONDUITS, USE JB.

EMT CONDUIT PROVIDED BELOW ROOF DECK SHALL BE INSTALLED 1-1/2 INCHES AWAY FROM THE DECK TO ALLOW FOR SCREWS NOT TO PENETRATE THE EMT CONDUIT DURING 1.7 COORDINATION

3.1 CONDUIT USES

A. OUTDOOR LOCATIONS, ABOVE GRADE: USE RIGID STEEL OR INTERMEDIATE METAL

WET AND DAMP LOCATIONS: USE RIGID STEEL OR INTERMEDIATE METAL CONDUIT. DRY LOCATIONS:

CONCEALED: USE RIGID STEEL OR INTERMEDIATE METAL CONDUIT, OR ELECTRICAL

2. EXPOSED BELOW 8' 0" AFF OR TO SEVERE PHYSICAL DAMAGE: USE RIGID STEEL OR INTERMEDIATE METAL CONDUIT.

3. EXPOSED ABOVE 8' 0" AFF AND NOT EXPOSED TO SEVERE PHYSICAL DAMAGE: USE RIGID STEEL OR INTERMEDIATE METAL CONDUIT, OR ELECTRICAL METALLIC TUBING.

3.2 INSTALLATION

INSTALL CONDUIT IN ACCORDANCE WITH NECA "STANDARD OF INSTALLATION." SUPPORT CONDUIT USING COATED STEEL OR MALLEABLE IRON STRAPS, LAY IN

ADJUSTABLE HANGERS, CLEVIS ANGERS, AND SPLIT HANGERS. GROUP RELATED CONDUITS; SUPPORT USING CONDUIT RACK. CONSTRUCT RACK USING STEEL CHANNEL; PROVIDE SPACE ON EACH FOR 25 PERCENT ADDITIONAL CONDUITS. FASTEN CONDUIT SUPPORTS TO BUILDING STRUCTURE AND SURFACES UNDER

PROVISIONS OF SECTION 260529. DO NOT SUPPORT CONDUIT WITH WIRE OR PERFORATED PIPE STRAPS. REMOVE

TEMPORARY SUPPORTS. DO NOT ATTACH CONDUIT TO CEILING SUPPORT WIRES. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND PRESENT NEAT APPEARANCE.

ROUTE EXPOSED AND CONCEALED CONDUIT PARALLEL AND PERPENDICULAR TO BEAMS, WALLS AND FLOORS ROUTE CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND

PERPENDICULAR TO WALLS. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT TO POINT.

LOCATIONS AND TO CAST BOXES.

MAINTAIN ADEQUATE CLEARANCE BETWEEN CONDUIT AND PIPING. MAINTAIN 12-INCH CLEARANCE BETWEEN CONDUIT AND SURFACES WITH TEMPERATURES EXCEEDING 104 DEGREES F.

CUT CONDUIT SQUARE USING SAW OR PIPE CUTTER; DEBURR CUT ENDS. BRING CONDUIT TO SHOULDER OF FITTINGS; FASTEN SECURELY. USE CONDUIT HUBS TO FASTEN CONDUIT TO SHEET METAL BOXES IN DAMP AND WET

P. INSTALL NO MORE THAN EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN BOXES. USE CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION, AS AROUND BEAMS. AVOID MOISTURE TRAPS; PROVIDE JUNCTION BOX WITH DRAIN FITTING AT LOW POINTS IN

PROVIDE SUITABLE FITTINGS TO ACCOMMODATE EXPANSION AND DEFLECTION WHERE CONDUIT CROSSES SEISMIC, CONTROL AND EXPANSION JOINTS.

PROVIDE SUITABLE PULL STRING, MINIMUM 200 POUND BREAKING STRENGTH, IN EACH EMPTY CONDUIT EXCEPT SLEEVES AND NIPPLES.

USE SUITABLE CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND

EQUIPMENT GROUNDING CONDUCTOR: PROVIDE A SEPARATE, GREEN INSULATED CONDUCTOR WITHIN EACH RACEWAY, SIZED PER NEC TABLE 250 122. TERMINATE EACH END ON SUITABLE LUG, BUS, OR BUSHING.

WHERE CONDUITS ARE TERMINATED IN CONCENTRIC, ECCENTRIC OR OVERSIZE KNOCKOUTS, TERMINATE CONDUIT WITH A BONDING BUSHING AND A GREEN OR BARE GROUNDING JUMPER, SIZED PER NEC TABLE 250 122, TO THE GROUND BAR.

W. IDENTIFY CONDUIT UNDER PROVISIONS OF SECTION 260553.

WHERE RACEWAYS PASS THROUGH A "BELOW GRADE" WALL FROM A CONDITIONED INTERIOR BUILDING SPACE, SAID RACEWAYS SHALL BE SEALED UTILIZING FITTINGS SIMILAR AND EQUAL TO OZ/GEDNEY TYPE "FSK" THROUGH WALL FITTING WITH "FSKA" MEMBRANE CLAMP ADAPTER, IF REQUIRED.

TERMINATE IMC OR RIGID CONDUIT WITH A DOUBLE LOCKNUT/BUSHING SET OR IN A

WHERE CONCENTRIC. ECCENTRIC OR OVERSIZE KNOCKOUTS ARE ENCOUNTERED WHILE TERMINATING CONDUIT OF ANY TYPE, A BONDING BUSHING SHALL BE INSTALLED. AA. LIMIT THE USE OF "LBS" TO LOCATIONS ONLY ABSOLUTELY NECESSARY. WHERE "LBS" ARE

USED, INSTALL MOGUL UNITS ABOVE 2 INCH LBS. AB. SUPPORTS FOR CONDUIT SYSTEMS SHALL CONFORM TO CHAPTER 1206 OF THE NORTH CAROLINA STATE MECHANICAL CODE, 2018 EDITION, ESPECIALLY WITH REFERENCE TO

PARAGRAPH 1206.10. WHERE SUCH PROVISIONS, SUCH AS FOR MAXIMUM CONDUIT SPACING, CONFLICT WITH THOSE REFERENCED IN NATIONAL ELECTRICAL CODE, THEN THE NEC PROVISIONS SHALL TAKE PRECEDENCE. AC. WHEN EMT CONDUITS ARE INSTALLED, FOLLOW THE MANUFACTURER'S INSTALLATION

METHODS. ALL CUT ENDS SHALL BE REAMED OR OTHERWISE FINISHED TO REMOVE ROUGH EDGES. USE COMPRESSION COUPLINGS OR FACTORY INSTALLED THREADED INTEGRAL COUPLINGS FOLLOWING NEC 358.100. SET SCREW, POT METAL, OR INDENTED TYPE COUPLINGS ARE PROHIBITED.

INSTALL CONDUIT TO PRESERVE FIRE RESISTANCE RATING OF PARTITIONS AND OTHER

END OF SECTION

BUILDING WIRE AND CABLE PART 1 - GENERAL

SECTION 260519

1.1 SECTION INCLUDES BUILDING WIRE AND CABLE

3.3 INTERFACE WITH OTHER PRODUCTS

WIRING CONNECTORS AND CONNECTIONS

1.2 REFERENCES

ANSI/NFPA 70 NATIONAL ELECTRICAL CODE

SUBMIT UNDER PROVISIONS OF SECTION 260000 MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE APPLICATION CONDITIONS AND LIMITATIONS OF USE STIPULATED BY PRODUCT TESTING AGENCY SPECIFIED UNDER REGULATORY REQUIREMENTS.

1.4 QUALIFICATIONS

1.5 REGULATORY REQUIREMENTS

MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.

A. CONFORM TO REQUIREMENTS OF ANSI/NFPA 70. B. FURNISH PRODUCTS LISTED AND CLASSIFIED BY THIRD PARTY AGENCIES ACCREDITED BY THE NCBCC TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT, AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN, WHERE SUCH LISTING EXISTS.

VERIFY THAT FIELD MEASUREMENTS ARE AS SHOWN ON DRAWINGS.

B. CONDUCTORS SHALL BE COPPER. WIRE ROUTING SHOWN ON DRAWINGS IS APPROXIMATE UNLESS DIMENSIONED. ROUTE

WIRE AS REQUIRED IN MEETING PROJECT CONDITIONS. WHERE WIRE ROUTING IS NOT SHOWN, AND DESTINATION ONLY IS INDICATED, DETERMINE D. EXACT ROUTING AND LENGTHS REQUIRED.

COORDINATE WORK UNDER PROVISIONS OF SECTION 260000.

PART 2 - PRODUCTS 2.1 BUILDING WIRE

A. DESCRIPTION: SINGLE CONDUCTOR INSULATED WIRE.

D. COLOR CODING: REFER TO GENERAL NOTE ON DRAWING E001

INSULATION VOLTAGE RATING: 600 VOLTS.

INSULATION: ANSI/NFPA 70; TYPE XHHW OR THWN/THHN INSULATION FOR FEEDERS AND

PART 3 - EXECUTION

3.1 EXAMINATION

VERIFY THAT INTERIOR OF BUILDING HAS BEEN PROTECTED FROM WEATHER. B. VERIFY THAT MECHANICAL WORK LIKELY TO DAMAGE WIRE HAS BEEN COMPLETED.

3.2 PREPARATION

3.3 WIRING METHODS

COMPLETELY AND THOROUGHLY SWAB RACEWAY BEFORE INSTALLING WIRE.

ALL WIRING SHALL BE IN CONDUIT. INSTALL A CODE GAUGE GREEN INSULATED GROUNDING CONDUCTOR IN ALL RACEWAYS. INDIVIDUAL FULL NEUTRAL WIRE SHALL BE PROVIDED FOR EACH CIRCUIT.

3.4 INSTALLATION

INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. USE SOLID CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS #10 AWG AND SMALLER.

USE STRANDED CONDUCTORS #8 AWG AND LARGER. USE STRANDED CONDUCTORS FOR CONTROL CIRCUITS USE CONDUCTORS NOT SMALLER THAN 12 AWG FOR POWER CIRCUITS. E. USE CONDUCTORS NOT SMALLER THAN 14 AWG FOR CONTROL CIRCUITS.

USE 10 AWG CONDUCTORS FOR 20 AMPERE, 120-VOLT BRANCH CIRCUITS LONGER THAN 50 PULL ALL CONDUCTORS INTO RACEWAY AT SAME TIME. USE SUITABLE WIRE PULLING LUBRICANT FOR BUILDING WIRE 4 AWG AND LARGER.

NEATLY TRAIN AND LACE WIRING INSIDE BOXES, EQUIPMENT, AND PANELBOARDS.

CLEAN CONDUCTOR SURFACES BEFORE INSTALLING LUGS AND CONNECTORS. MAKE SPLICES, TAPS, AND TERMINATIONS TO CARRY FULL AMPACITY OF CONDUCTORS WITH NO PERCEPTIBLE TEMPERATURE RISE. JOINTS IN SOLID CONDUCTORS SHALL BE MADE USING IDEAL "WIRENUTS, 3M COMPANY "SCOTCHLOCKS", OR OTHER APPROVED INSULATED SPRING, WITH PLASTIC CAP, TWIST ON

CONNECTOR. JOINTS IN STRANDED CONDUCTORS SHALL BE MADE USING APPROVED MECHANICAL CONNECTORS AND GUM RUBBER OR FRICTION TAPE WITH AN OUTER COVERING OF TWO LAYERS OF PLASTIC TAPE EQUAL TO SCOTCH "33+". SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED IN PLACE OF MECHANICAL CONNECTORS AND TAPE.

"STA KON" OR OTHER PERMANENT TYPE CRIMP CONNECTORS SHALL NOT BE USED FOR

BRANCH CIRCUIT CONNECTIONS. 3.5 INTERFACE WITH OTHER PRODUCTS

IDENTIFY WIRE UNDER PROVISIONS OF SECTION 260553. IDENTIFY EACH CONDUCTOR WITH ITS CIRCUIT NUMBER OR OTHER DESIGNATION

3.6 FIELD QUALITY CONTROL

INDICATED ON DRAWINGS.

INSPECT WIRE FOR PHYSICAL DAMAGE AND PROPER CONNECTION. MEASURE TIGHTNESS OF BOLTED CONNECTIONS AND COMPARE TORQUE MEASUREMENTS WITH MANUFACTURER'S RECOMMENDED VALUES.

END OF SECTION

BOXES

SECTION 260533

PART 1 GENERAL

1.1 SECTION INCLUDES

WALL AND CEILING OUTLET BOXES. PULL AND JUNCTION BOXES.

1.2 REFERENCES

NECA STANDARD OF INSTALLATION. NEMA FB 1 FITTINGS AND SUPPORTS FOR CONDUIT AND CABLE ASSEMBLIES. NEMA OS 1 SHEET STEEL OUTLET BOXES, DEVICE BOXES, COVERS, AND BOX SUPPORTS. NEMA 250 ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM).

RECORD ACTUAL LOCATIONS AND MOUNTING HEIGHTS OF OUTLET, PULL, AND JUNCTION

PROVIDE PRODUCTS LISTED AND CLASSIFIED BY THIRD PARTY AGENCIES ACCREDITED BY

THE NCBCC TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT, AS SUITABLE FOR THE

NFPA 70 NATIONAL ELECTRICAL CODE. UL 514A METALLIC OUTLET BOXES STANDARD FOR FIRE TESTS OF BUILDING CONSTRUCTION AND

1.3 SUBMITTALS FOR CLOSEOUT

CONFORM TO REQUIREMENTS OF NFPA 70.

BOXES ON PROJECT RECORD DOCUMENTS. 1.4 REGULATORY REQUIREMENTS

G. UL 263

MATERIALS

2.1 OUTLET BOXES

1. EQUIPMENT SUPPORTING BOXES: RATED FOR WEIGHT OF EQUIPMENT SUPPORTED;

INCLUDE 1/2" MALE FIXTURE STUDS WHERE REQUIRED. CAST BOXES: NEMA FS, TYPE FD, CAST FERALLOY. PROVIDE GASKETED COVER BY BOX

MANUFACTURER. PROVIDE THREADED HUBS.

B. WALL PLATES FOR FINISHED AREAS: AS SPECIFIED IN SECTION 262726.

2.2 PULL AND JUNCTION BOXES

 A. SHEET METAL BOXES: NEMA OS 1, GALVANIZED STEEL. B. SURFACE MOUNTED CAST METAL BOX: NEMA 250, TYPE 4 OR 6; FLAT FLANGED, SURFACE MOUNTED JUNCTION BOX:

MATERIAL: GALVANIZED CAST IRON OR CAST ALUMINUM. COVER: FURNISH WITH GROUND FLANGE, NEOPRENE GASKET, AND STAINLESS STEEL COVER SCREWS.

PART 3 EXECUTION

A. VERIFY LOCATIONS OF FLOOR BOXES AND OUTLETS PRIOR TO ROUGH IN.

3.2 INSTALLATION

INSTALL BOXES IN ACCORDANCE WITH NECA "STANDARD OF INSTALLATION." B. INSTALL IN LOCATIONS AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS WIRE PULLING, EQUIPMENT CONNECTIONS AND COMPLIANCE WITH REGULATORY

REQUIREMENTS SET WALL MOUNTED BOXES AT ELEVATIONS TO ACCOMMODATE MOUNTING HEIGHTS AS INDICATED OR AS SPECIFIED IN SECTION FOR OUTLET DEVICE. ELECTRICAL BOXES ARE SHOWN ON DRAWINGS IN APPROXIMATE LOCATIONS UNLESS

DIMENSIONED. ADJUST BOX LOCATION UP TO 10 FEET IF REQUIRED TO ACCOMMODATE INTENDED PURPOSE. ORIENT BOXES TO ACCOMMODATE WIRING DEVICES ORIENTED AS SPECIFIED IN SECTION

MAINTAIN HEADROOM AND PRESENT NEAT MECHANICAL APPEARANCE INSTALL PULL BOXES AND JUNCTION BOXES ABOVE ACCESSIBLE CEILINGS AND IN UNFINISHED AREAS ONLY. H. INACCESSIBLE CEILING AREAS: INSTALL OUTLET AND JUNCTION BOXES NO MORE THAN 6 INCHES FROM CEILING ACCESS PANEL OR FROM REMOVABLE RECESSED LUMINAIRE. INSTALL BOXES TO PRESERVE FIRE RESISTANCE RATING OF PARTITIONS AND OTHER

RATED ASSEMBLY, THE SPACING LIMITATIONS FOR THE BOXES AND THE INSTALLATION COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF OUTLETS MOUNTED ABOVE COUNTERS, BENCHES, AND BACKSPLASHES.

K. ALIGN ADJACENT WALL MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES. 8/17/2023 | USE FLUSH MOUNTING OUTLET BOX IN FINISHED AREAS.

ELEMENTS AND SHALL CONFORM TO ANSI/UL 263 REQUIREMENTS INCLUSIVE OF THE

DO NOT INSTALL FLUSH MOUNTING BOX BACK TO BACK IN WALLS; PROVIDE MINIMUM 24 INCHES SEPARATION. N. SECURE FLUSH MOUNTING BOX TO INTERIOR WALL AND PARTITION STUDS. ACCURATELY POSITION TO ALLOW FOR SURFACE FINISH THICKNESS.

O. INSTALL FLUSH MOUNTING BOX WITHOUT DAMAGING WALL INSULATION OR REDUCING ITS

EFFECTIVENESS. DO NOT FASTEN BOXES TO CEILING SUPPORT WIRES. Q. SUPPORT BOXES INDEPENDENTLY OF CONDUIT.

MOUNTED CAST METAL BOX IN OTHER LOCATIONS.

R. USE CAST OUTLET BOX IN EXTERIOR LOCATIONS EXPOSED TO THE WEATHER AND WET LOCATIONS S. LARGE PULL BOXES: USE HINGED ENCLOSURE IN INTERIOR DRY LOCATIONS, SURFACE

3.3 ADJUSTING

INSTALL KNOCKOUT CLOSURES IN UNUSED BOX OPENINGS.

ADJUST FLUSH MOUNTING OUTLETS TO MAKE FRONT FLUSH WITH FINISHED WALL

A. CLEAN INTERIOR OF BOXES TO REMOVE DUST, DEBRIS, AND OTHER MATERIAL. CLEAN EXPOSED SURFACES AND RESTORE FINISH.

END OF SECTION **SECTION 260526**

GROUNDING AND BONDING PART 1 GENERAL

1.1 SECTION INCLUDES

A. EQUIPMENT GROUNDING CONDUCTORS. BONDING.

1.2 REFERENCES

A. ANSI/NFPA 70 NATIONAL ELECTRICAL CODE.

A. SUBMIT UNDER PROVISIONS OF SECTION 260000.

1.3 SUBMITTALS

1.4 QUALIFICATIONS

A. MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.

1.5 REGULATORY REQUIREMENTS

A. CONFORM TO REQUIREMENTS OF ANSI/NFPA 70. B. FURNISH PRODUCTS LISTED AND CLASSIFIED BY THIRD PARTY AGENCIES ACCREDITED BY THE NCBCC TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT, AS SUITABLE FOR

PURPOSE SPECIFIED AND SHOWN, WHERE SUCH LISTING EXISTS. PART 2 PRODUCTS

2.1 CONNECTORS

MECHANICAL CONNECTORS THE MECHANICAL CONNECTOR BODIES SHALL BE MANUFACTURED FROM HIGH STRENGTH, HIGH CONDUCTIVITY CAST COPPER ALLOY MATERIAL. BOLTS, NUTS, WASHERS AND LOCKWASHERS

SHALL BE MADE OF SILICON BRONZE AND SUPPLIED AS A PART OF THE CONNECTOR BODY AND

SHALL BE OF THE TWO BOLT TYPE. THE CONNECTORS SHALL MEET OR EXCEED UL 467 AND BE CLEARLY MARKED WITH THE

SYSTEM, AS RECOMMENDED BY THE MANUFACTURER OF THE CONNECTORS.

CATALOG NUMBER, CONDUCTOR SIZE AND MANUFACTURER.

COMPRESSION CONNECTORS THE COMPRESSION CONNECTORS SHALL BE MANUFACTURED FROM PURE WROUGHT COPPER. THE CONDUCTIVITY OF THIS MATERIAL SHALL BE NO LESS THAN 99% BY IACS STANDARDS.

THE CONNECTORS SHALL BE CLEARLY MARKED WITH THE MANUFACTURER, CATALOG NUMBER. CONDUCTOR SIZE AND THE REQUIRED COMPRESSION TOOL SETTINGS.

EACH CONNECTOR SHALL BE FACTORY FILLED WITH AN OXIDE-INHIBITING COMPOUND.

THE INSTALLATION OF THE CONNECTORS SHALL BE MADE WITH A COMPRESSION, TOOL AND DIE

MATERIAL: STRANDED COPPER (ALUMINUM NOT PERMITTED). OR SOLID COPPER FOR #10 AWG AND SMALLER GROUND WIRES. GROUNDING ELECTRODE CONDUCTOR: SIZE AS SHOWN ON DRAWINGS, SPECIFICATIONS OR AS REQUIRED BY NFPA 70 WHICHEVER IS LARGER.

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08.16.23 CD SUBMITTAL

NO DATE REVISION DRAWN BY: DESIGNED BY: WWS CHECKED BY: WWS

2020 YONKERS ROAD BUILDING

5/18/2023

CADD DWG NO: JO4388-E701

JOB ORDER NO: 4388

PLOT DATE:

2020 YONKERS ROAD RALEIGH, NC

INTERNAL AFFAIRS & SOIU

SECURITY

SPECIFICATIONS

PURPOSE SPECIFIED AND INDICATED, WHERE SUCH LISTING EXISTS. PART 2 PRODUCTS

SHEET METAL OUTLET BOXES: NEMA OS 1, GALVANIZED STEEL

PART 3 EXECUTION 3.1 INSTALLATION A. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 3.3 FIELD QUALITY CONTROL INSPECT GROUNDING AND BONDING SYSTEM CONDUCTORS AND CONNECTIONS FOR TIGHTNESS AND PROPER INSTALLATION. END OF SECTION **SECTION 260553** ELECTRICAL IDENTIFICATION PART 1 GENERAL 1.1 SECTION INCLUDES A. NAMEPLATES AND LABELS. B. WIRE AND CABLE MARKERS. C. CONDUIT MARKERS. 1.2 REFERENCES 1. ANSI/NFPA 70 NATIONAL ELECTRICAL CODE 2017 EDITION. 1.3 SUBMITTALS A. SUBMIT UNDER PROVISIONS OF SECTION 260000. PRODUCT DATA: PROVIDE CATALOG DATA FOR NAMEPLATES, LABELS, AND MARKERS. MANUFACTURER'S INSTRUCTIONS: INDICATE APPLICATION CONDITIONS AND LIMITATIONS OF USE STIPULATED BY PRODUCT TESTING AGENCY SPECIFIED UNDER REGULATORY REQUIREMENTS. INCLUDE INSTRUCTIONS FOR STORAGE, HANDLING, PROTECTION, EXAMINATION, PREPARATION AND INSTALLATION OF PRODUCT. 1.4 REGULATORY REQUIREMENTS A. CONFORM TO REQUIREMENTS OF ANSI/NFPA 70. THE NCBCC TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT, AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN, WHERE SUCH LISTING EXISTS PART 2 PRODUCTS 2.1 NAMEPLATES AND LABELS NAMEPLATES: ENGRAVED THREE LAYER LAMINATED PLASTIC, WITH WHITE LETTERS ON A BACKGROUND COLORED AS FOLLOWS: 208 OR 240 VOLT SYSTEM: BLUE. 2. 480 VOLT SYSTEM: BLACK. B. LOCATIONS: EACH SAFETY SWITCH, PANELBOARD, TRANSFORMER, SWITCHBOARD, MOTOR CONTROL CENTER AND OTHER ELECTRICAL EQUIPMENT SUPPLIED FOR THE PROJECT. INFORMATION ON THE NAMEPLATE SHALL INCLUDE; EQUIPMENT CONTROLLED AND/OR SERVED, PHASE AND VOLTAGE. C. LETTER SIZE: MINIMUM OF 1/2 INCH. LABELS: EMBOSSED ADHESIVE TAPE, WITH 3/16 INCH WHITE LETTERS ON BLACK BACKGROUND. USE ONLY FOR IDENTIFICATION OF INDIVIDUAL WALL SWITCHES AND E. LABEL INFORMATION: EQUIPMENT CONTROLLED AND/OR SERVED, VOLTAGE, PHASE, ETC. NAMEPLATES SHALL BE SECURELY ATTACHED TO EQUIPMENT WITH SELF TAPPING STAINLESS STEEL SCREWS; IF THE SCREW SHARP END IS PROTECTED; OTHERWISE RIVETS SHALL BE USED. 2.2 WIRE MARKERS JUNCTION BOXES AND EACH LOAD CONNECTION. C. LEGEND: DRAWINGS. 2.3 CONDUIT MARKERS B. COLOR:

A. DESCRIPTION: CLOTH, TAPE, SPLIT SLEEVE, OR TUBING TYPE WIRE MARKERS. B. LOCATIONS: EACH CONDUCTOR AT PANELBOARD GUTTERS, PULL BOXES, OUTLET AND

POWER AND LIGHTING CIRCUITS: BRANCH CIRCUIT OR FEEDER NUMBER INDICATED ON

LOCATION: FURNISH MARKERS FOR EACH CONDUIT LONGER THAN 20 FEET.

208 OR 240 VOLT SYSTEM: BLUE. 480 VOLT SYSTEM:

C. AS AN ALTERNATIVE TO THE ABOVE REQUIREMENTS, CONDUIT IN UNFINISHED AREAS MAY BE MARKED WITH SPRAY PAINT.

PART 3 EXECUTION 3.1 INSTALLATION

INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

PROVIDE BONDING TO MEET REGULATORY REQUIREMENTS.

PART 3 EXECUTION 3.1 PREPARATION

A. DEGREASE AND CLEAN SURFACES TO RECEIVE NAMEPLATES AND LABELS.

3.2 APPLICATION

A. INSTALL NAMEPLATES AND LABELS PARALLEL TO EQUIPMENT LINES.

B. SECURE NAMEPLATE TO EQUIPMENT FRONT USING SELF TAPPING STAINLESS STEEL

ALL JUNCTION AND PULL BOXES IN CONDUIT RUNS SHALL HAVE THEIR COVERS AND

EXTERIOR SURFACES PAINTED TO MATCH THE COLORS IN SECTIONS ABOVE.

▼ E. ALL EMPTY CONDUITS, AND CONDUITS WITH CONDUCTORS, FOR FUTURE USE SHALL BE

C. PAINT COLORED BAND ON EACH CONDUIT LONGER THAN 20 FEET, 20 FEET ON CENTER.

IDENTIFIED FOR USE AND SHALL INDICATE ON EACH END WHERE THEY TERMINATE. IDENTIFICATION SHALL BE BY TAGS WITH STRING OR WIRE ATTACHED TO THE CONDUIT OR OUTLET.

END OF SECTION

WIRING DEVICES SECTION 262726 _ WIRING DEVICES PART 1 _ GENERAL

1.1 SECTION INCLUDES

A. RECEPTACLES.

B. DEVICE PLATES AND DECORATIVE BOX COVERS.

1.2 RELATED SECTIONS A. SECTION 260533 _ BOXES.

1.3 REFERENCES

A. NEMA WD 1 _ GENERAL PURPOSE WIRING DEVICES.

B. NEMA WD 6 _ WIRING DEVICE CONFIGURATIONS.

1.4 SUBMITTALS

A. SUBMIT UNDER PROVISIONS OF SECTION 01340.

PRODUCT DATA: PROVIDE MANUFACTURER'S CATALOG INFORMATION SHOWING DIMENSIONS, COLORS, AND CONFIGURATIONS.

C. MANUFACTURER'S INSTRUCTIONS:

1. INDICATE APPLICATION CONDITIONS AND LIMITATIONS OF USE STIPULATED BY A. PRODUCT TESTING AGENCY SPECIFIED UNDER REGULATORY REQUIREMENTS. 2. INCLUDE INSTRUCTIONS FOR STORAGE, HANDLING, PROTECTION, EXAMINATION, PREPARATION, OPERATION AND INSTALLATION OF PRODUCT.

1.5 QUALIFICATIONS

MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.

1.6 REGULATORY REQUIREMENTS

A. CONFORM TO REQUIREMENTS OF ANSI/NFPA 70.

B. FURNISH PRODUCTS LISTED AND CLASSIFIED BY THIRD PARTY AGENCIES ACCREDITED BY A. ADJUST DEVICES AND WALL PLATES TO BE FLUSH AND LEVEL. THE NCBCC TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT, AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN, WHERE SUCH LISTING EXISTS.

B. FURNISH PRODUCTS LISTED AND CLASSIFIED BY THIRD PARTY AGENCIES ACCREDITED BY 1.7 EXTRA MATERIALS

A. PROVIDE TWO OF EACH STYLE, SIZE, AND FINISH WALL PLATE.

PART 2 PRODUCTS

2.1 RECEPTACLES

A. DESCRIPTION: NEMA WD 1; HEAVY_DUTY, SPECIFICATION GRADE RECEPTACLE

B. DEVICE BODY: VERIFY COLOR WITH THE ARCHITECT BEFORE ORDERING.

C. DUPLEX RECEPTACLES SHALL BE OF THE GROUNDING TYPE, ARRANGED FOR BACK AND SIDE WIRING, WITH SEPARATE SINGLE OR DOUBLE GROUNDING TERMINALS. RECEPTACLES SHALL BE STRAIGHT BLADE, RATED 20A., 125 VOLT AND THE FACE CONFIGURATION SHALL CONFORM TO THE NEMA STANDARD NO. WD-1, NEMA WD-6, DSCC W-C-596G & UL-498, AND SHALL BE

"APPROVED" THIRD-PARTY LISTED. SELF-GROUNDING OR AUTOMATIC TYPE GROUNDING RECEPTACLES ARE NOT ACCEPTABLE IN LIEU OF RECEPTACLES WITH SEPARATE GROUNDING SCREW DIRECT, GREEN INSULATED CONDUCTOR CONNECTION TO THE EQUIPMENT G. NFPA 90A - INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS

RECEPTACLES SHALL BE INDUSTRIAL SPECIFICATION GRADE OR HEAVY DUTY GRADE, VERTICALLY. RECEPTACLES MOUNTED OVER COUNTERS, BACK-SPLASHES, ETC., SHALL MOUNTED HORIZONTALLY.

SPECIAL WIRING DEVICES SHALL BE SHOWN ON THE DRAWINGS WITH COMPLETE DESCRIPTION THEREOF.

F. GFCI RECEPTACLES SHALL BE RATED MINIMUM 20 AMP (NEMA 5-20R CONFIGURATION).

G. GFCI RECEPTACLES SHALL BE PROVIDED WHERE INSTALLED TO SERVE COUNTERTOP AND

ARE LOCATED WITHIN 6 FEET OF A SINK.

GROUNDING SYSTEM.

2.2 WALL SWITCHES A. MANUFACTURERS:

HUBBELL

2. EAGLE.

3. LEVITON. 4. SUBSTITUTIONS: UNDER PROVISIONS OF SECTION 260000.

DESCRIPTION: NEMA WD 1, HEAVY DUTY, AC ONLY GENERAL USE SNAP SWITCH,

SINGLE-POLE, THREE-WAY OR FOUR-WAY AS INDICATED ON THE DRAWINGS.

DEVICE BODY: VERIFY COLOR WITH THE ARCHITECT BEFORE ORDERING.

D. VOLTAGE RATING: 120/277 VOLTS, AC.

E. CURRENT RATING: 20 AMPERES.

F. SHALL HAVE QUIET OPERATING MECHANISMS WITHOUT THE USE OF MERCURY SWITCHES.

G. LIGHTED HANDLE SWITCHES SHALL HAVE NEON LIGHTS OF THE CORRECT VOLTAGE AS INDICATED ON THE DRAWINGS.

H. GROUNDING: SWITCHES SHALL CONTAIN ONE OR TWO SEPARATE GREEN, HEX HEAD GROUNDING SCREW(S). SWITCHES WITHOUT FACTORY INSTALLED GROUNDING SCREWS

ARE NOT ACCEPTABLE LIGHTED HANDLE SWITCHES SHALL HAVE NEON LIGHTS OF THE CORRECT VOLTAGE AS INDICATED ON THE DRAWINGS.

GROUNDING: SWITCHES SHALL CONTAIN ONE OR TWO SEPARATE GREEN, HEX HEAD GROUNDING SCREW(S). SWITCHES WITHOUT FACTORY INSTALLED GROUNDING SCREWS ARE NOT ACCEPTABLE.

2.3 WALL PLATES

A. DECORATIVE COVER PLATE: SMOOTH STAINLESS STEEL, TYPE "302" WITH STAINLESS STEEL, SLOTTED HEAD, OVAL HEAD SCREWS.

B. WEATHERPROOF COVER PLATE: GASKETED CAST METAL OR POLYCARBONATE WITH HINGED GASKETED COVER. RECEPTACLE COVER PLATES SHALL BE OF THE TYPE THAT CAN BE COMPLETELY CLOSED WITH A PLUG AND CORD INSERTED.

PROVIDE A QUANTITY OF 2% OF EACH TYPE OF INSTALLED COVER PLATES TO THE

PART 3 _ EXECUTION

3.1 EXAMINATION

A. VERIFY CONDITIONS

B. VERIFY OUTLET BOXES ARE INSTALLED AT PROPER HEIGHT.

VERIFY WALL OPENINGS ARE NEATLY CUT AND WILL BE COMPLETELY COVERED BY WALL

PLATES. PROVIDE LARGER PLATES AS NECESSARY TO COVER OVERSIZE HOLES.

D. VERIFY FLOOR BOXES ARE ADJUSTED PROPERLY.

VERIFY BRANCH CIRCUIT WIRING INSTALLATION IS COMPLETED, TESTED, AND READY FOR CONNECTION TO WIRING DEVICES

3.2 PREPARATION

A. PROVIDE EXTENSION RINGS AS NECESSARY TO BRING OUTLET BOXES FLUSH WITH FINISHED SURFACE.

B. CLEAN DEBRIS FROM OUTLET BOXES.

3.3 INSTALLATION

A. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. INSTALL DEVICES PLUMB AND LEVEL.

C. INSTALL RECEPTACLES WITH GROUNDING POLE ON TOP.

D. CONNECT WIRING DEVICE GROUNDING TERMINAL TO BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR.

E. INSTALL DECORATIVE PLATES ON RECEPTACLE OUTLETS IN FINISHED AREAS.

F. CONNECT WIRING DEVICES BY WRAPPING CONDUCTOR AROUND SCREW TERMINAL.

INSTALL GALVANIZED STEEL PLATES ON OUTLET BOXES AND JUNCTION BOXES IN UNFINISHED AREAS, ABOVE ACCESSIBLE CEILINGS, AND ON SURFACE MOUNTED OUTLETS.

3.4 INTERFACE WITH OTHER PRODUCTS

INSTALL CONVENIENCE RECEPTACLE 16 INCHES TO BOTTOM OF BOX ABOVE FINISHED

3.5 FIELD QUALITY CONTROL

A. INSPECT EACH WIRING DEVICE FOR DEFECTS.

B. VERIFY THAT EACH RECEPTACLE DEVICE IS ENERGIZED

TEST EACH RECEPTACLE DEVICE FOR PROPER POLARITY.

D. TEST EACH GFCI RECEPTACLE DEVICE FOR PROPER OPERATION.

3.6 ADJUSTING

END OF SECTION

SECTION 284621- FIRE ALARM SYSTEMS PART 1 GENERAL

1.1 REFERENCES:

THE LATEST EDITIONS OF THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION.

A. NFPA 70 _ NATIONAL ELECTRICAL CODE

B. NFPA 72 - NATIONAL FIRE ALARM CODE

C. NC DOA SCO - FIRE ALARM GUIDELINES AND POLICIES

ANSI S3.41 - AMERICAN NATIONAL STANDARDS INSTITUTE AUDIBLE EMERGENCY EVACUATION

D ASME A17.1 - AMERICAN SOCIETY OF MECHANICAL ENGINEERS ELEVATORS, ESCALATORS, AND MOVING WALKS HANDBOOK

FM APPROVAL - FACTORY MUTUAL APPROVAL GUIDE

I. US DEPARTMENT OF JUSTICE - AMERICANS WITH DISABILITIES ACT (ADA)

H NFPA 101 - LIFE SAFETY CODE

J. UNDERWRITERS LABORATORIES, INC. (UL);

1- UL 38 - MANUALLY ACTUATED SIGNALING BOXES FOR USE WITH FIRE PROTECTIVE SIGNALING SYSTEMS

2 - UL 268 - SMOKE DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS

3 - UL 521 - HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS 4 - UL 864 - CONTROL UNITS FOR FIRE PROTECTIVE SIGNALING SYSTEMS

5 - UL 910 - TEST FOR FLAME PROPAGATION AND SMOKE DENSITY VALUES FOR ELECTRICAL

AND OPTICAL FIBER CABLES USED IN SPACES TRANSPORTING ENVIRONMENTAL AIR

K. UL LISTING FOR FIRE PROTECTION EQUIPMENT

1.2 SUBMITTALS:

A. CALCULATIONS: PROVIDE CALCULATIONS FOR EACH SYSTEM SHOWING BATTERY IS SUFFICIENT TO PERFORM THE FUNCTIONS REQUIRED BY NFPA 72, BATTERY CAPACITIES SHALL BE CALCULATED USING THE PEAK CURRENT VALUE FOR ALL DEVICES. THE VOLTAGE DROP AT EOL MUST NOT EXCEED 14% OF THE EXPECTED BATTERY VOLTAGE. AFTER THE REQUIRED STANDBY TIME PLUS ALARM TIME. (TYPICALLY, FOR A 24 VOLT SYSTEM. THIS LIMITS THE VOLTAGE DROP FROM THE BATTERY TO THE EOL TO 3 VOLTS). DETERMINE "WORST CASE" VOLTAGE AT FAR END OF EACH NAC, BY SUBTRACTING ITS CALCULATED V-DROP FROM THE EXPECTED BATTERY VOLTAGE. THE RESULT MUST BE NO LESS THAN THE MINIMUM LISTED OPERATING VOLTAGE FOR THE ALARM NOTIFICATION APPLIANCES USED. ALL OF THESE CALCULATIONS MUST BE PLACED ON A DEDICATED SHEET OF AS-BUILT DRAWINGS, FOR FUTURE REFERENCE BY FIRE ALARM SERVICE TECHNICIANS

MANUFACTURER'S CATALOG DATA: SUBMIT DATA SHEETS ON ALL COMPONENTS, BLOCK DIAGRAMS OF THEIR INTER-RELATIONSHIPS, BATTERY SIZING CALCULATIONS, POWER REQUIREMENTS, AND SPECIFIC OPERATIONAL STATEMENTS AS THEY RELATE TO THE PROJECT SPECIFICATIONS. ALSO, SCHEMATIC DIAGRAMS OF ALL HARDWARE INCLUDING SPECIFIC COMPONENTS AND A SYSTEM OPERATION DESCRIPTION.

DRAWINGS: ON COMPLETION OF THE INSTALLATION, SUBMIT RECORD DRAWINGS PRIOR TO FINAL ACCEPTANCE OF THE SYSTEM. THE RECORD DRAWINGS SHALL INDICATE THE LOCATIONS OF ALL DEVICES, CABINETS, END OF LINE RESISTORS, ISOLATION MODULES, AND ALL OTHER FIELD INSTALLED EQUIPMENT.

REPORTS: SUBMIT THE FOLLOWING REPORTS.

1 - CERTIFICATION: WRITTEN CONFORMANCE TO THE OWNER'S REQUIREMENTS AND FINAL SYSTEM CERTIFICATION. PROVIDE CERTIFICATION THAT THE MANUFACTURER WILL ENTER INTO AN AGREEMENT ALLOWING THE OWNER DIRECT ACCESS TO THE MANUFACTURER'S NATIONAL SERVICE AND ENGINEERING SUPPORT AND PROVIDE PROOF OF THE AGREEMENT PRIOR TO FINAL ACCEPTANCE.

MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE APPLICATION CONDITIONS AND LIMITATIONS OF USE STIPULATED BY PRODUCT TESTING AGENCY. INCLUDE INSTRUCTIONS FOR STORAGE, HANDLING, PROTECTION, EXAMINATION, PREPARATION, INSTALLATION, AND STARTING OF PRODUCTS.

1.3 PROJECT RECORD DOCUMENTS

1.5 QUALIFICATIONS:

A. RECORD ACTUAL LOCATIONS OF INITIATING DEVICES, SIGNALING APPLIANCES, AND END_OF_LINE DEVICES.

1.4 QUALITY ASSURANCE: FINAL CONNECTIONS SHALL BE MADE OR SUPERVISED UNDER THE DIRECT SUPERVISION OF A QUALIFIED TECHNICAL REPRESENTATIVE OF THE MANUFACTURER.

A. INSTALLER: COMPANY SPECIALIZING IN INSTALLING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM FIVE YEARS DOCUMENTED EXPERIENCE.

1.6 REGULATORY REQUIREMENTS

A. CONFORM TO REQUIREMENTS OF THE LATEST EDITIONS OF THE NORTH CAROLINA STATE BUILDING CODE, NFPA 70, NFPA 72, NFPA 101, OWNER AND ALL APPLICABLE REQUIRED GOVERNMENT 3.2 OBTAIN ALL PERMITS REQUIRED. PAY ALL APPLICABLE FEES. IN ADDITION, COORDINATE AND

B. FURNISH PRODUCTS LISTED AND CLASSIFIED BY THIRD PARTY AGENCIES ACCREDITED BY THE NCBCC TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT AS SUITABLE FOR PURPOSE 3.2 WIRING REQUIREMENTS - NOTIFICATION APPLIANCE CIRCUITS SHALL BE INSTALLED USING # 14 SPECIFIED AND INDICATED, WHERE SUCH LISTING EXISTS.

PART 2 PRODUCTS

2.1 EQUIPMENT

A. ALL VISIBLE BACK BOXES OR SURFACE MOUNTED BOXES FOR FIRE ALARM DEVICE MOUNTING INCLUDING, BUT NOT LIMITED TO A/V UNITS, ISOLATION MODULES, AND MANUAL PULL STATIONS, SHALL BE SUITABLE FOR SURFACE MOUNTING AND SHALL BE MANUFACTURED BY THE MANUFACTURER OF THE DEVICE (I.E. WHEELOCK SSB BACKBOX). FOUR-INCH OR SIMILAR ELECTRICAL JUNCTION BOXES SHALL NOT BE ALLOWED. BOXES WITH VISIBLE KNOCKOUTS SHALL NOT BE ALLOWED TO BE SURFACED MOUNTED IN PUBLIC AREAS.

B. DEVICES SHALL BE LOCATED AS INDICATED ON THE PLANS. ADDRESSABLE DEVICES SHALL BE INSTALLED IN CONDITIONED SPACES OR IN AREAS THAT WILL NOT EXCEED THEIR RATED OPERATING TEMPERATURE.

2.4 NOTIFICATION APPLIANCES:

A. NOTIFICATION APPLIANCES, BOTH AUDIBLE AND VISIBLE, SHALL BE SUITABLE FOR SEMI FLUSH OF FLUSH MOUNTING IN FINISHED AREAS AND SURFACE MOUNTING IN UNFINISHED AREAS. THESE DEVICES SHALL BE MOUNTED 80 INCHES ABOVE FINISHED FLOOR OR 6 INCHES BELOW CEILING,

B. AUDIBLE NOTIFICATION APPLIANCES SHALL PROVIDE A MINIMUM 80 DB LEVEL AT 10 FEET.

C. NOTIFICATION APPLIANCE CIRCUITS SHALL MEET ALL REQUIREMENTS OF SECTION 3-7, NFPA 72.

D. ALARM NOTIFICATION APPLIANCE CIRCUITS SHALL MATCH EXISTING SYSTEM, AND THE LOAD CONNECTED TO EACH CIRCUIT SHALL NOT EXCEED 80% OF RATED MODULE CAPACITY.

E. STROBE LIGHTS SHALL FLASH IN SYNCHRONIZATION. F. THE LOCATION OF ALL END OF LINE DEVICES SHALL BE LABELED ON THE DEVICE, WITH NAC PANEL NUMBER

AND NAC CIRCUIT NUMBER, AND RECORDED ON THE "AS-BUILT" DRAWINGS.

2.5 FIRE ALARM CONTROL UNIT (PANEL):

A. THE FIRE ALARM CONTROL UNIT IS EXISTING AND SHALL BE EXPANDED AS REQUIRED TO ACCOMMODATE ADDITIONAL DEVICES. PROVIDE ALL HARDWARE AND PROGRAMMING REQUIRED.

PART 3 - EXECUTION

3.1 CONNECTING TO EXISTING EQUIPMENT: VERIFY THAT EXISTING FIRE-ALARM SYSTEM IS OPERATIONAL BEFORE MAKING CHANGES OR CONNECTIONS.

NOTIFY BUILDING OWNER TO FILE AN APPLICATION FOR ALTERATION PRIOR TO COMMENCEMENT

AWG, STRANDED COPPER, TYPE THHN/THWN CONDUCTORS. AIR HANDLER SHUTDOWN, AND DOOR CONTROL SHALL BE WIRED WITH # 14 AWG, STRANDED COPPER, TYPE THHN/THWN CONDUCTORS. ADDRESSABLE SIGNALING CIRCUITS SHALL BE WIRED PER THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND REQUIREMENTS. SPLICES SHALL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER AND OWNER. ALL WIRING SHALL BE INSTALLED IN CONDUIT. ALL JUNCTION BOXES SHALL BE PAINTED RED EXCEPT THOSE INSTALLED IN FINISHED AREAS SHALL BE PERMITTED TO BE PAINTED TO MATCH THE APPROPRIATE FINISH COLOR. COLOR CODING SHALL MATCH EXISTING SYSTEM.

3.3 SYSTEM TESTING AND CERTIFICATION

AFTER COMPLETION OF THE INSTALLATION, THE CONTRACTOR, TOGETHER WITH THE MANUFACTURER'S AUTHORIZED FACTORY TRAINED REPRESENTATIVE, SHALL PERFORM A 100% TEST THAT SHALL CONFIRM THE OPERATION OF EVERY NEW ALARM INITIATING DEVICE, EVERY NEW NOTIFICATION APPLIANCE DEVICE AND ALL ASSOCIATED CONTROL FUNCTIONS, INCLUDING MECHANICAL SMOKE CONTROL SYSTEMS, SMOKE DAMPERS AND DOORS AND ANY OTHER SYSTEMS INTERLOCKED WITH THE FIRE ALARM SYSTEM. ALL SUPERVISED CIRCUITS SHALL BE TESTED FOR PROPER OPERATION. TEST SHALL BE PERFORMED ON 100% OF THE NEW DEVICES AND 10% OF THE EXISTING UP TO 50 DEVICES.

CONTRACTOR SHALL PROVIDE A NEW NFPA 72 RECORD OF COMPLETION INCLUDING ALL DEVICES CONNECTED TO THE SYSTEM

ALL AUDIBLE TESTING SHALL BE DONE DURING OFF BUSINESS HOURS OR ON WEEKENDS.

3.4 DOCUMENTATION

THE CONTRACTOR SHALL SUBMIT THE FOLLOWING DOCUMENTATION TO THE ENGINEER PRIOR TO

3.3.1 - WRITTEN VERIFICATION THAT THE 100 % SYSTEM TEST WAS PERFORMED.

3.3.2 - THE MEASURED SENSITIVITY OF EACH SMOKE DETECTOR.

3.3.3 - THE COMPLETED NFPA 72 " RECORD OF COMPLETION FORM ". 3.3.4 - DRAWINGS AND NECESSARY DOCUMENTATION SHOWING DEVICE NUMBERS AND

3.3.5 - ELECTRONIC ARCHIVE: COMPLETE CONFIGURATION DATA (SITE-SPECIFIC PROGRAMMING) FOR THE SYSTEM MUST BE STORED ON ELECTRONIC MEDIA AND ARCHIVED BY THE FIRE ALARM SYSTE MANUFACTURER OR AUTHORIZED DISTRIBUTOR. A USB DRIVE DISKETTE OR CD COPY OF THIS 8/17/2023 DATA SHALL BE SUBMITTED TO THE ENGINEER FOR TRANSMISSION TO THE OWNER ON THE DAY THE SYSTEM IS COMMISSIONED. AN ADDITIONAL COPY OF THIS SITE-SPECIFIC DATA BASE SHALL BE INCLUDED IN THE DOCUMENTATION CABINET.

3.3.6 - MAINTEANCE: THE MANUFACTURER, OR AUTHORIZED DISTRIBUTOR, MUST MAINTAIN SOFTWARE VERSION RECORDS ON THE SYSTEM INSTALLED. THE SYSTEM SOFTWARE SHALL BE UPGRADED FREE OF ANY CHARGE IF A NEW VERSION IS RELEASED DURING THE WARRANTY PERIOD. FOR NEW VERSION TO CORRECT OPERATING PROBLEMS, FREE UPGRADE SHALL APPLY DURING THE ENTIRE LIFE OF THE SYSTEM.

3.3.7 - TESTING:

a) ALL AUDIO VISUAL DEVICE TESTING SHALL BE SCHEDULED WITH THE OWNER.

3.5 ACCEPTANCE INSPECTION

AFTER COMPLETING THE 100 % TEST AND SUBMITTING THE DOCUMENTATION LISTED IN SECTION 3.3, THE CONTRACTOR SHALL SCHEDULE ACCEPTANCE INSPECTION WITH THE ENGINEER, AND THE FACILITY. AFTER TESTING AND ALL PUNCH LIST ITEMS HAVE BEEN CORRECTED, ADDITIONAL INSPECTION AND TESTING WITH THE STATE CONSTRUCTION OFFICE SHALL BE PROVIDED AS FOLLOWS: THE FIRE ALARM SYSTEM WILL BE INSPECTED, WITH PORTIONS OF IT FUNCTIONALLY TESTED. THIS WILL INCLUDE THE USE OF APPROPRIATE MEANS TO SIMULATE SMOKE FOR TESTING DETECTORS, AS WELL AS FUNCTIONALLY TESTING THE SYSTEM INTERFACE WITH BUILDING CONTROLS, FIRE EXTINGUISHING SYSTEMS AND ANY OFF-PREMISES SUPERVISING STATION. OPERATION OF ANY SMOKE REMOVAL SYSTEM WILL BE CHECKED AS INSTRUCTED BY THE AHJ. THIS STATISTICAL (SAMPLING) INSPECTION IS INTENDED TO ASSURE THAT THE CONTRACTOR HAS PROPERLY INSTALLED HE SYSTEM AND PERFORMED THE 100% OPERATIONAL TEST AS REQUIRED BY NFPA 72. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TWO-WAY RADIOS, LADDERS, AND ANY OTHER MATERIALS NEEDED FOR TESTING THE SYSTEM, INCLUDING A SUITABLE SMOKE SOURCE. THE FIRE ALARM CONTRACTOR'S TECHNICIAN THAT PROGRAMMED THE SYSTEM, SHALL BE PRESENT ON THE DAY OF THE SCO INSPECTION(S).

a) THE TEST WILL BE CONDUCTED ENTIRELY BY THE CONTRACTOR. A COPY OF THE FINAL

DATABASE SOFTWARE MUST BE PRESENTED TO THE OWNER BEFORE THIS TEST. THE SOFTWARE SHALL BE LOADED FROM THESE DISKS INTO THE SYSTEM IN THE PRESENCE OF THE OWNER. THE REVIEW WILL THEN BE CONDUCTED USING THIS SOFTWARE. ANY DEFICIENCIES SHALL BE RECORDED AND CORRECTED. AFTER THE ITEMS HAVE BEEN CORRECTED. THE SYSTEM SHALL BE

IN THE EVENT OF MALFUNCTIONS OR EXCESSIVE NUISANCE ALARMS, THE CONTRACTOR MUST

TAKE PROMPT CORRECTIVE ACTION. THE OWNER MAY REQUIRE A REPEAT OF THE

CONTRACTOR'S 100% SYSTEM TEST, OR OTHER INSPECTIONS TEST REPORT: UPON SUCCESSFUL COMPLETION OF THE INSPECTION AND AFTER THE CORRECTION OF ALL DEFICIENCIES, THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE

SHALL ISSUE A TEST REPORT TO THE ENGINEER AND OWNER, DETAILING AND CERTIFYING THE

SYSTEM ACCEPTANCE: AFTER SUCCESSFUL COMPLETION OF THE FINAL INSPECTION AND RECOMMENDATION OF THE ENGINEER, THE SYSTEM WILL BE ACCEPTED BY THE OWNER. AT THIS TIME THE WARRANTY PERIOD BEGINS

VERIFY SOUND LEVELS MEET NFPA 72 REQUIREMENTS INCLUDING 15DB ALARM SIGNAL LEVELS

ABOVE AVERAGE AMBIENT. PROVIDE TESTING WITH TYPE 2 SOUND METER.

PROVIDE COPIES OF BATTERY AND VOLTAGE DROP CALCULATIONS AT FINAL INSPECTION

3.6 DOCUMENTATION A. THE CONTRACTOR SHALL SUBMIT THE FOLLOWING DOCUMENTATION TO THE ENGINEER:

2. TECHNICAL LITERATURE ON ALL MAJOR SYSTEM COMPONENTS, INCLUDING ALARM INDICATING

DEVICES, NOTIFICATION APPLIANCES, POWER SUPPLIES, ISOLATION MODULES, BATTERIES,

CONTROL PANELS, ANNUNCIATORS AND DIGITAL ALARM COMMUNICATOR TRANSMITTERS. 3. COMPLETE DOCUMENTATION FOR ALL SOFTWARE NECESSARY FOR SYSTEM OPERATION,

COMPLETED AS BUILT DRAWINGS ON AUTOCAD AND PDF ELECTRONIC FORMAT.

END OF SECTION

ADJUSTMENTS AND SETUP

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CAROLINA DEPARTMENT OF ADULT CORRECTION

2020 YONKERS ROAD 4216 MSC RALEIGH, N.C. 27699-4216 TEL (919) 733-2126 FAX (919) 716-3978

10:02932 EDT SEAL 033799

08.16.23 CD SUBMITTAL

NO DATE REVISION DRAWN BY: DESIGNED BY: WS CHECKED BY: WWS CADD DWG NO: JO4388-E702

2020 YONKERS ROAD BUILDING

5/18/2023

2020 YONKERS ROAD RALEIGH, NC

JOB ORDER NO: 4388

PLOT DATE:

INTERNAL AFFAIRS & SOIU SECURITY

SPECIFICATIONS

LEGEND - PIPING AND VALVES						
—A—	COMPRESSED AIR		RELIEF VALVE			
—c—	CHEMICAL FEED	<u>¥</u>	MANUAL VENT			
—CD—	CONDENSATE DRAIN	<u></u>	BALANCING COCK			
—CDR—	CONDENSER WATER RETURN		VALVE ASSEMBLY BY OWNER			
—CDS—	CONDENSER WATER SUPPLY	FM	FLOW METER			
—CE—	CLEAN ELECTROLYTE	FS	FLOW SENSOR			
- CHWR-	CHILLED WATER RETURN	F	FLOW SWITCH			
- CHWS-	CHILLED WATER SUPPLY		CIRCUIT SETTER / SHUT OFF VALVE			
- CTWR-	COOLING TOWER WATER RETURN	A	STRAINER WITH BLOW DOWN			
- CTWS-	COOLING TOWER WATER SUPPLY	Į.	THERMOMETER			
—cw—	COLD WATER	Ú	THERMOWELL			
—D—	DRAIN	T	PETE'S PLUG			
— DE —	DIRTY ELECTROLYTE	⊗	GAUGE COCK			
— G —	PROPANE GAS	į į				
— HPC —	HIGH PRESSURE CONDENSATE	—	TEMPERATURE SENSOR WITH THERMOWELL			
— HPS —	HIGH PRESSURE STEAM	Ø				
— HRR —	HEAT RECOVERY RETURN	 	PRESSURE GAUGE WITH SHUT-OFF COCK			
— HRS —	HEAT RECOVERY SUPPLY	T	STEAM TRAP			
— нw —	HOT WATER	+0	ELBOW UP			
— HWR—	HOT WATER RETURN	K+	ELBOW DOWN			
— HWS—	HOT WATER SUPPLY	+3+	TEE OUTLET DOWN			
— LPC —	LOW PRESSURE CONDENSATE	+0+	TEE OUTLET UP			
— LPS —	LOW PRESSURE STEAM	-3	PIPE CAP			
— MU —	MAKE-UP WATER		UNION			
— PW —	PROCESS WASTE		DIRECTION OF FLOW			
— PWD —	PROCESS WASTE DISCHARGE	>_	DIRECTION OF SLOPE			
- [BALL VALVE	\triangleright	CONCENTRIC REDUCER			
— }—	BUTTERFLY VALVE		ECCENTRIC REDUCER			
—X—	GATE VALVE	~	AIR VENT			
→ ><	GLOBE VALVE		PIPE ANCHOR			
1	CHECK VALVE		PIPE GUIDE			
- ⊽ -	PLUG VALVE	BFP BFP	BACK FLOW PREVENTER			
− ⋈−	TRIPLE DUTY VALVE	PSD	PUMP SUCTION DIFFUSER			
	PRESSURE REDUCING VALVE		PUMP			
- 	THREE WAY CONTROL VALVE		FLEXIBLE CONNECTION			
XeXo·XoX•	TWO WAY CONTROL VALVE					
	MOTORIZED VALVE					

	LEGEND - DUCTWORK AND ACCESSORIES
20X12	SUPPLY DUCT OR GRILLE - 1ST NUMBER IS TOP SIDE, DIMENSIONS ARE INSIDE CLEAR DISTANCE
20X12	RETURN DUCT OR GRILLE - 1ST NUMBER IS TOP SIDE, DIMENSIONS ARE INSIDE CLEAR DISTANCE
20X12	DUCT SIZE - 1ST NUMBER IS VISIBLE SIDE
	EXHAUST DUCT OR GRILLE
ارد	DUCT ELBOW WITH TURNING VANES
	DUCT TURNING UP
	DUCT TURNING DOWN
<u></u>	DUCT CHANGE IN ELEVATION
	DIRECTION OF AIR FLOW
FD —	FIRE DAMPER (VERTICAL POSTION)
FD 🗞	FIRE DAMPER (HORIZONTAL POSITION)
M	MOTOR OPERATED DAMPER
	BACKDRAFT DAMPER
	MANUAL (BALANCING) DAMPER
SD -	SMOKE DAMPER
	PARALLEL BLADE DAMPER
1	OPPOSED BLADE DAMPER
DD	DUCT MOUNTED SMOKE DETECTOR
	SUPPLY, RETURN, OR EXHAUST GRILLE OR REGISTER
20x20	RECTANGULAR DUCT, INSIDE CLEAR DIMENSIONS
20x20	FLAT OVAL DUCT (WxH)
20Ø	ROUND DUCT (IN.)
T	THERMOSTAT
Θ	HUMIDISTAT
S _™	TEMPERATURE SENSOR
S _H	HUMIDITY SENSOR
FSD	COMBINATION FIRE / SMOKE DAMPER (VERTICAL POSITION)
FSD DP	COMBINATION FIRE / SMOKE DAMPER (HORIZONTAL POSITION) MAGNEHELIC DIFFERENTIAL PRESSURE GAUGE
_ √ →	RETURN AIR FLOW
\longrightarrow	SUPPLY AIR FLOW
47	DISCONNECT SWITCH (BY MECHANICAL CONTRACTOR)
	COMBINATION STARTER/DISCONNECT SWITCH (BY MECHANICAL CONTRACTOR)
DDC	DIRECT DIGITAL CONTROL PANEL
VFD	VARIABLE FREQUENCY DRIVE
1/////	BACKDRAFT DAMPER
	DEMOLISH TO INDICATED LOCATION
•	CONNECT TO EXISTING

	LEGEND - CON	NTROL SYME	BOLS		
	DIRECT CONNECTION OR MECHANICAL LINK TO INSTRUMENT	ELECTRIC REHEAT COIL			
—AO	ANALOG OUTPUT	AMS	AIR MEASURING STATION		
— Al	ANALOG INPUT	YYY	HUMIDIFIER		
DO	DIGITAL OUTPUT		PRESSURE DIFFERENTIAL SWITCH		
— DI	DIGITAL INPUT		PNEUMATIC ACTUATOR WITH DAMPER		
F	INTERFACE TO FIRE ALARM SYSTEM	M/\/\	MOTOR OPERATED DAMPER		
-^-	INSTRUMENT AIR SUPPLY				
" " "	PNEUMATIC SIGNAL LINE		FAN		
	VENT TO ATMOSPHERE		COMBINATION STARTER		
	DDG CONTROLLED	0	CONDUCTIVITY SENSOR		
	DDC CONTROLLER	c/	COIL (COOLING COIL SHOWN)		
□	AVERAGING TEMPERATURE SENSOR				
Τ—	TEMPERATURE SENSOR	N.O.			
H—	HUMIDITY SENSOR	- 	PNEUMATIC TEMPERATURE CONTROL VALVE		
Р	PRESSURE SENSOR	CT	CURRENT TRANSFORMER / SENSING RELAY		
FZ-~~	FREEZESTAT	FAR	FIRE ALARM RELAY		

	ABBRE	VIATIONS	
AD	ACCESS DOOR	HP	HORSEPOWER
AFF	ABOVE FINISHED FLOOR	HRP	HEAT RECOVERY PUMP
AHU	AIR HANDLING UNIT	HRR	HEAT RECOVERY RETURN
APD	AIR PRESSURE DROP	HRS	HEAT RECOVERY SUPPLY
AS	AIR SEPARATOR	HWC	HOT WATER COIL
АТМ	ATMOSPHERE	HWP	HOT WATER PUMP
В	BOILER	HWR	HOT WATER RETURN
BFW	BOILER FEED WATER	HWS	HOT WATER SUPPLY
BOD	BOTTOM OF DUCT	HX	HEAT EXCHANGER
ВОР	BOTTOM OF PIPE	KW	KILOWATT
CDWP	CONDENSER WATER PUMP	LAT	LEAVING AIR TEMPERATURE
CDWR	CONDENSER WATER RETURN	LRA	LOCKED ROTOR AMPS
CDWS	CONDENSER WATER SUPPLY	LWT	LEAVING WATER TEMPERATURE
CFM	CUBIC FEET PER MINUTE	мсс	MOTOR CONTROL CENTER
СН	CHILLER	MOD	MOTOR OPERATED DAMPER
CHWP	CHILLED WATER PUMP	N/A	NOT APPLICABLE
CHWR	CHILLED WATER RETURN	NC	NORMALLY CLOSED
CHWS	CHILLED WATER SUPPLY	NIC	NOT IN CONTRACT
CI	CAST IRON	NO	NORMALLY OPEN
СО	CLEANOUT	NOT TO SCALE	NOT TO SCALE
СР	CONDENSATE PUMP	OA	OUTSIDE AIR
CPT	COMPRESSION TANK	ос	ON CENTER
СТ	COOLING TOWER	OBD	OPPOSED BLADE DAMPER
CTWP	COOLING TOWER WATER PUMP	Р	PUMP
CWC	COLD WATER COIL	PD	PRESSURE DROP
DB	DRY BULB	RA	RETURN AIR
DDC	DIRECT DIGITAL CONTROL	RH	RELATIVE HUMIDITY
DI	DUCTILE IRON	SA	SUPPLY AIR
DN	DOWN	SAF	SUPPLY AIR FAN
DTA	DRIP TRAP ASSEMBLY	SEA	SMOKE EXHAUST AIR
EA	EXHAUST AIR	SEF	SMOKE EXHAUST FAN
EAT	ENTERING AIR TEMPERATURE	SP	STATIC PRESSURE
EF	EXHAUST FAN	SPF	SMOKE PRESSURIZATION FAN
ELEV	ELEVATION	SD	SMOKE DAMPER
EOM	END OF MAIN	SS	STAINLESS STEEL 316L
ESP	EXTERNAL STATIC PRESSURE	TDH	TOTAL DYNAMIC HEAD
EWT	ENTERING WATER TEMPERATURE	TRANS	TRANSFER DUCT
FD	FLOOR DRAIN	TSP	TOTAL STATIC PRESSURE
FLA	FULL LOAD AMPS	TYP	TYPICAL
FCU	FAN COIL UNIT	UH	UNIT HEATER
FT	FEET OF HEAD	VSA	VENTILATION SUPPLY AIR
FOP	FUEL OIL PUMP	VSD	VARIABLE FREQUENCY DRIVE
FOT	FUEL OIL TANK	VTR	VENT THRU ROOF
GALV	GALVANIZED	WB	WET BULB
GC	GENERAL CONTRACTOR	WG	WATER GAUGE
GPM	GALLONS PER MINUTE	WPD	WATER PRESSURE DROP
НОА	HAND-OFF-AUTOMATIC		

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

winter dry bulb: ____summer dry bulb: ____

summer dry bulb: _.____ relative humidity: _.____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System

List equipment efficiencies:

description of unit:
heating efficiency:
cooling efficiency:
size category of unit:

Size category. If oversized, state reason.:

Size category. If oversized, state reason.: ______

Thermal Zone

Interior design conditions winter dry bulb: _.___

Unitary



NORTH

Plan • Design • Construct

CAROLINA
DEPARTMENT
OF
PUBLIC SAFETY

2020 YONKERS ROAD 4216 MSC RALEIGH, N.C. 27699-4216

TEL (919) 716-3400 FAX (919) 716-3978

Matt Garanini H CAROLANIA (17/2023 | 10:15 10:ESISION SEAL 27744

08.16.2023 CD SUBMITTAL

NO DATE	REVISION
DRAWN BY:	MLB
DESIGNED BY:	МН
CHECKED BY:	МН
CADD DWG NO:	JO4388-M001
JOB ORDER NO:	4388
PLOT DATE:	3.27.2023

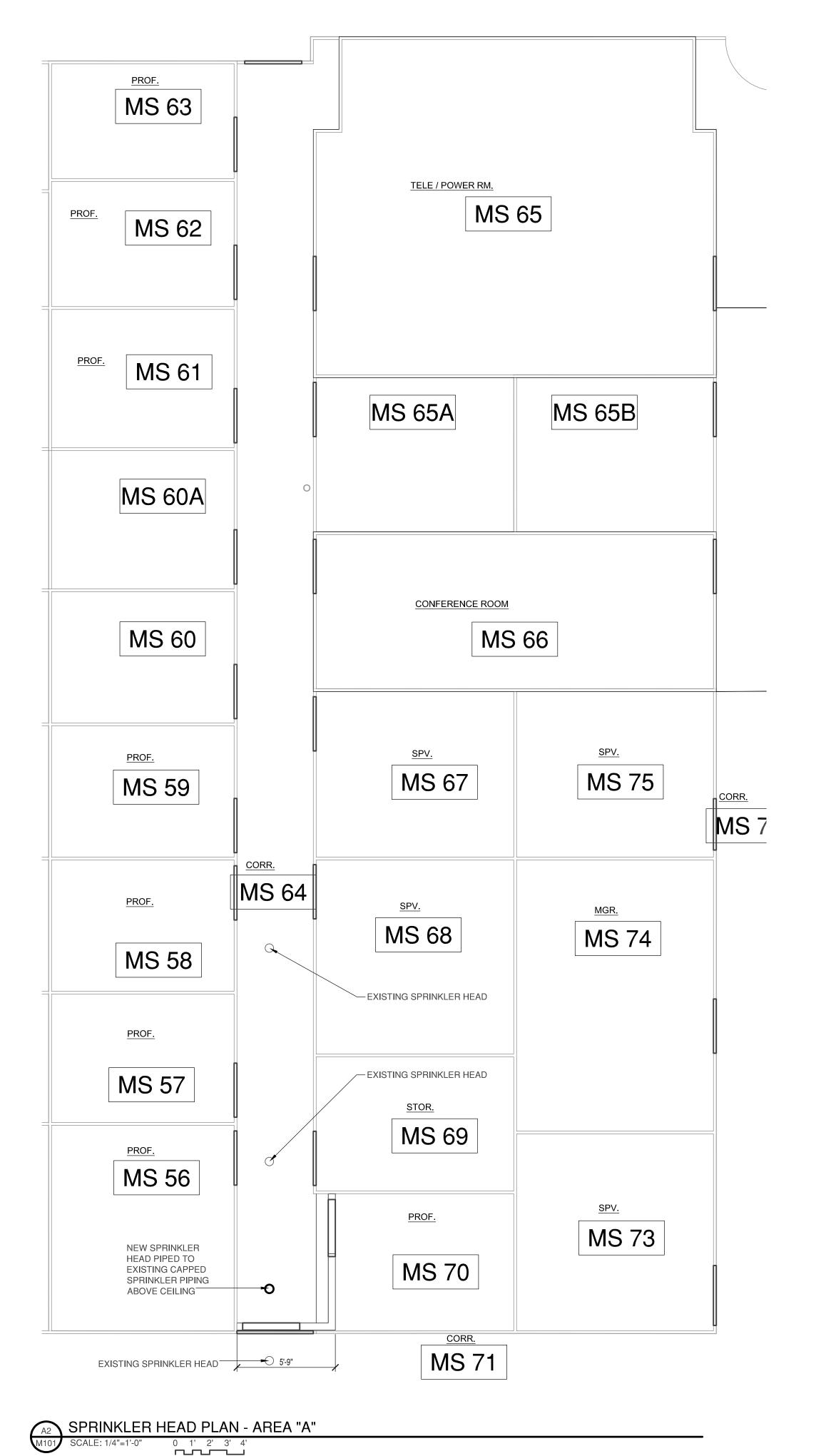
2020 YONKERS ROAD BUILDING

2020 YONKERS ROAD RALEIGH , NC

INTERNAL AFFAIRS & SOIU OFFICE SECURITY

MECHANICAL LEGEND, ABBREVIATIONS & SYMBOLS

M001



0 1' 2' 3' 4'

GENERAL NOTES:

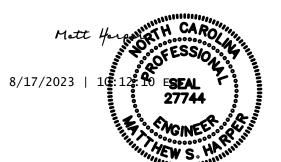
- 1. ALL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA13, THE CITY OF RALEIGH, AND THE NORTH CAROLINA STATE BUILDING CODE.
- 2. ALL WORK SHALL BE PERFORMED BY A CONTRACTOR WITH A NORTH CAROLINA FIRE SPRINKLER INSTALLATION CONTRACTOR LICENSE.
- 3. ALL LABOR AND MATERIALS REQUIRED SHALL BE FOR ONE COMPLETE WORKING SYSTEM WHICH MEETS ALL REQUIREMENTS OF NFPA13, THE CITY OF RALEIGH, AND THE STATE OF NORTH
- CAROLINA BUILDING CODE.
- SPRINKLERS ARE SPACED LIGHT HAZARD NOT TO EXCEED 225 SQ. FT.
 ALL PIPE 1-1/2" AND SMALLER TO BE BLACK STEEL SCH 40 WITH THREADED ENDS JOINED BY
- CAST IRON SCREW FITTINGS. 6. FLUSH, TEST, AND INSPECT SPRINKLER PIPING SYSTEM IN ACCORDANCE WITH NFPA13.



NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION

2020 YONKERS ROAD 4216 MSC RALEIGH, N.C. 27699-4216

TEL (919) 733-2126 FAX (919) 716-3978



08.16.2023 CD SUBMITTAL

NO DATE	REVISION					
DRAWN BY:	MLB					
DESIGNED BY:	MH					
CHECKED BY:	МН					
CADD DWG NO:	JO4388-M101					
JOB ORDER NO:	4388					
PLOT DATE:	8.16.2023					

2020 YONKERS ROAD BUILDING

2020 YONKERS ROAD RALEIGH , NC

INTERNAL AFFAIRS & SOIU OFFICE SECURITY

NEW FIRE PROTECTION PLAN

FP101

	SPRINKLER SUMMARY												
SYMBOL	TYPE	FINISH	TEMP	ORIF	K	NPT	MANUFACTURER	MODEL#	ESCUTCHEON	QTY	SIN#	NOTE	
•	PENDENT (NEW)	CHROME	165	1/2	5.6	1/2	RELIABLE	G	НВ	1	R1015	MATCH EXISTING, NO SUBSTITUTES	
0	PENDENT (EXISTING)				5.6	1/2	RELIABLE	G					

AREAS OF WORK

KEY PLAN

NOT TO SCALE