

Revisions to Office Addition for: Building 500 1800 Herring Ave. Wilson, NC 27896

2018 APPENDIX B BUILDING CODE SUMMARY

SHEET INDEX

Name of Project: Revisions to Office Addition for Building 500
 Address: 1800 Herring Ave. Zip Code: 27896
 Owner or Authorized Agent: City of Wilson Phone # (252) 399-2220 E-Mail: _____
 Owned By: City / County Private State
 Code Enforcement Jurisdiction: City - Wilson County _____ State _____

CONTACT: Robert Bartlett

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Building	Bartlett Engineering & Surveying, PC	Robert S. Bartlett	20106	252-399-0704	rbartlett@bartletteng.com
Civil					
Electrical	Bartlett Engineering & Surveying, PC	Robert S. Bartlett	20106	252-399-0704	rbartlett@bartletteng.com
Fire Alarm					
Plumbing					
Mechanical	Bartlett Engineering & Surveying, PC	Robert S. Bartlett	20106	252-399-0704	rbartlett@bartletteng.com
Sprinkler-Standpipes					
Struct - Metal Bldg.					
Struct - Framing					
Structural - Fad.					
Other					

2018 NC BUILDING CODE: New Building Addition Renovation
 In Time Interval Completion
 Shall Core completion only - (Contact the local inspection jurisdiction for possible additional procedures and requirements.)
 Phased Construction - (Contact the local inspection jurisdiction for possible additional procedures and requirements.)

2018 NC EXISTING BUILDING CODE:
 Prescriptive Compliance: Repairs Alterations Additions Change of occupancy Historic
 Work Area Compliance: Alteration Level I Alteration Level II Alteration Level III Additions Repairs Historic Change of Use
 Performance Compliance: Repairs Alterations Additions Change of occupancy Historic

CONSTRUCTED (date) _____ CURRENT USE(S) (Ch. 3) _____ STORAGE / BUSINESS _____
 RENOVATED (date) _____ PROPOSED USE(S) (Ch. 3) _____ STORAGE / BUSINESS _____
RISK CATEGORY: (Table 164.4.5) Current: I II III IV
 Proposed: I II III IV

BASIC BUILDING DATA
 Construction Type: I-A I-B II-A II-B III-A III-B IV V-A V-B
 Sprinklers: NO Partial YES NFPA 1 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 possible additional procedures and requirements.)

GROSS BUILDING AREA : 7,285

FLOOR	EXISTING (SQ. FT.)	NEW (SQ. FT.)	SUB-TOTAL
5th Floor			
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	7,285		7,285
TOTAL:	7,285		7,285

ALLOWABLE AREA
 Primary Occupancy Classification(s): (check all that apply)
 Assembly (303) A-1 A-2 A-3 A-4 A-5
 Business (304) B-1 B-2 B-3 B-4 B-5
 Educational (305) E-1 E-2 E-3 E-4
 Factory (306) F-1 Moderate F-2 Low
 Hazardous (307) H-1 Detonate H-2 Degradate H-3 Combust H-4 Health H-5 HPM
 Institutional (308) I-1 I-2 I-3 I-4
 I-3 Condition: 1 2 3 4 5
 Mercantile (309) M-1 M-2 M-3 M-4
 Residential (310) R-1 R-2 R-3 R-4
 Storage (311) S-1 Moderate S-2 Low High-Piled
 Parking Garage Open Enclosed Repair Garage
 Utility and Misc. (312) _____

ACCESSORY OCCUPANCY CLASSIFICATION(S): _____
Incidental Uses (Table 309): _____
Special Uses (Chapter 4 - List Code Sections): _____
Special Provisions (Chapter 5 - List Code Sections): _____
 Mixed Occupancy: NO YES Separation: _____ Hour Exception: _____
 Non-Separated Mixed Occupancy (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.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1.0$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,2}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED
1	S-1 Primary Occupancy (Existing)	7,284	9,000		

¹ Frontage space 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) = _____ (R/P)
 d. W = Minimum width of public way = _____ (W)
 e. Percent of frontage increase $I_a = 100 [F/P - 0.25] \times W/30$ _____ (%)
² Unlimited area applicable under conditions of Sections (507)
³ Maximum Building Area = total number of stories in the building x D (maximum 3 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 unpermitted area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE ¹
Building Height in Feet (Table 504.3) ²	40'	<28'	
Building Height in Stories (Table 504.4) ³	1	1	

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 RESISTANCE RATINGS EXISTING BUILDING

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQUIRED	PROVIDED (W/ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural frame, including columns, girders, trusses							
Bearing walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing walls and partitions							
Exterior							
North							
East							
West							
South							
Interior							
Floor Construction including supporting beams and joists							
Floor Ceiling assembly							
Columns Supporting Floor							
Roof Construction including supporting beams and joists							
Roof Ceiling assembly							
Columns Supporting Roof							
Shafts Enclosures - Exit							
Shafts Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Transient Dwelling Unit Sleeping Unit Separation							
Incidental Use Separation							

¹Indicates section number permitting reduction.

PERCENTAGE OF WALL OPENING CALCULATIONS EXISTING BUILDING

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

LIFE SAFETY SYSTEM REQUIREMENTS
 Emergency Lighting: No Yes
 Exit Signs: No Yes
 Fire Alarm: No Yes Automatic Sprinkler System
 Smoke Detection Systems: No Yes Partial, HVAC UNITS >5.0 TONS
 Carbon Monoxide Detection: No Yes

LIFE SAFETY PLAN REQUIREMENTS
 Life Safety Plan Sheet #: LS-1
 Fire and/or smoke rated wall locations (Chapter 7)
 Assumed and real property line locations (if not on the site plan)
 Interior wall opening area with respect to distance to assumed property lines (705.8)
 Existing structures within 30' of the proposed building.
 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 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 (10109)
 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)

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
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA DESIGNATION	TOTAL # PARKING SPACES REQUIRED	# ACCESSIBLE SPACES PROVIDED	TOTAL # ACCESSIBLE SPACES PROVIDED
TOTAL			

PLUMBING FIXTURE REQUIREMENTS EXISTING BUILDING (TABLE 2902.1)

USE	WATER CLOSETS			URINALS	LAVATORIES			SERVICE SINK	DRINKING FOUNTAINS	
	MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
EXISTING										
NEW										
REQUIRED										

SPECIAL APPROVALS
 Special approval: (Local Jurisdiction, Department of Insurance, OIG, DPL, DEBS, ICC, etc., describe below)

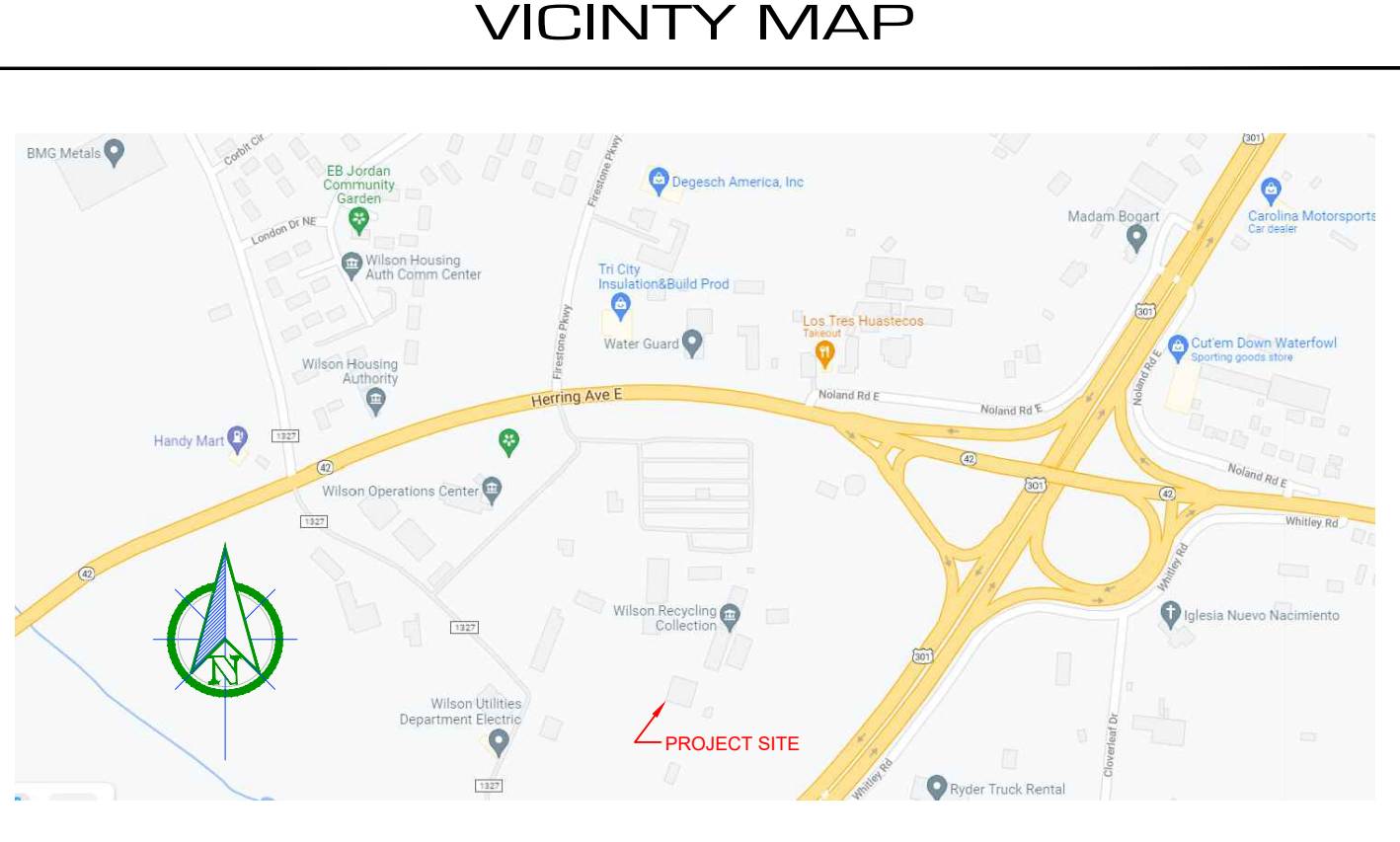
ENERGY SUMMARY EXISTING
ENERGY REQUIREMENTS:
 The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design. (The remainder of this section is not applicable)
 Existing building envelope complies with code: NO YES
 Exempt Building: NO YES (Provide code or statutory reference)
 Climate Zone: 3A 4A 5A
 Method of Compliance: Energy Code Prescriptive Performance ASHRAE 90.1 Prescriptive Performance
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 slab on grade _____
 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 _____

STRUCTURAL DESIGN EXISTING
DESIGN LOADS:
 Importance Factors: Wind (I_w) _____
 Snow (I_s) _____
 Seismic (I_e) _____
 Live Loads: Roof (live & snow) _____
 Collateral _____
 Mezzanine _____
 Floor _____
 Ground Snow Load: _____
 Wind Loads: Ultimate Wind Speed _____ Exposure Category _____ (ASCE-7)

SEISMIC 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 _____ S₁ _____ S₂ _____
 Site Classification (ASCE-7) A B C D E F
 Data source: Field Test Presumptive Historical Data
 Basic Structural System: (check one)
 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 _____

MECHANICAL SUMMARY SEE MECHANICAL SHEETS
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 _____
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
Equipment Schedules with Motors (mechanical systems)
 Motor horsepower _____
 Number of phases _____
 Minimum efficiency _____
 Motor type _____
 # of poles _____

ELECTRICAL SUMMARY SEE ELECTRICAL SHEETS
ELECTRICAL SYSTEM AND EQUIPMENT:
Method of Compliance: Energy Code Prescriptive Performance ASHRAE 90.1 Prescriptive Performance
Lighting Schedule (each fixture type):
 Lamp type required in fixture _____
 Number of lamps in fixture _____
 Ballast type used in fixture _____
 Number of ballasts in fixture _____
 Total wattage per fixture _____
 Total interior wattage specified -vs- allowed _____
 Total exterior wattage specified -vs- allowed _____
Additional Prescriptive Compliance
 C406.2 More Efficient HVAC Equipment Performance
 C406.3 Reduced Lighting Power Density
 C406.4 Enhanced Digital Lighting Controls
 C406.5 On-Site Renewable Energy
 C406.6 Dedicated Outdoor Air System
 C406.7 Reduced Energy Use in Service Water Heating



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City of Wilson Operations Center
Bldg. 500
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Rev: _____ Date: _____ Description: _____

CODE SUMMARY
 Title Sheet:
 Project: **City of Wilson Operations Center**
Bldg. 500
 1800 Herring Ave. Wilson, NC 27894
 Drawn by: M. Winstead
 Issue Date: 05-18-22
 Project Number: 22-110
 Sheet: **CS-1**

WALL LEGEND	
SYMBOL	DESCRIPTION
	EXISTING BLOCK WALL
	PROPOSED BLOCK WALL TO MATCH EXISTING

ROOM FINISH SCHEDULE					FLOOR	BASE	WALLS	CEILING
1	EXISTING	A	4" RUBBER COVE	1	PAINTED BLOCK	A	2x2 LAY-IN CEILING	

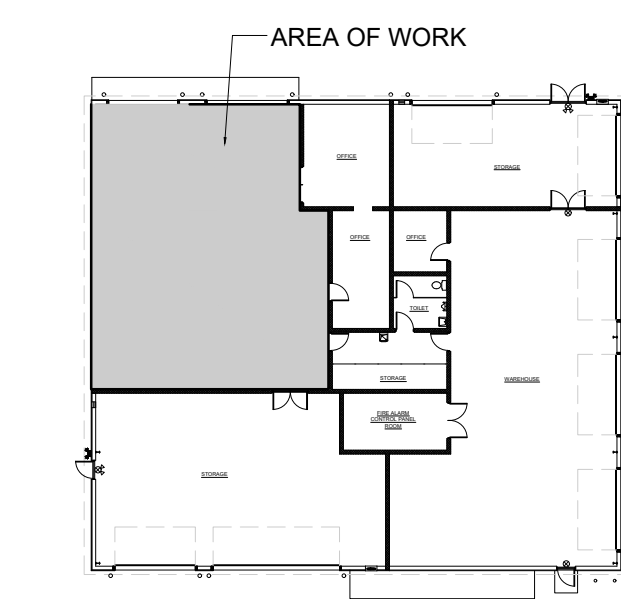
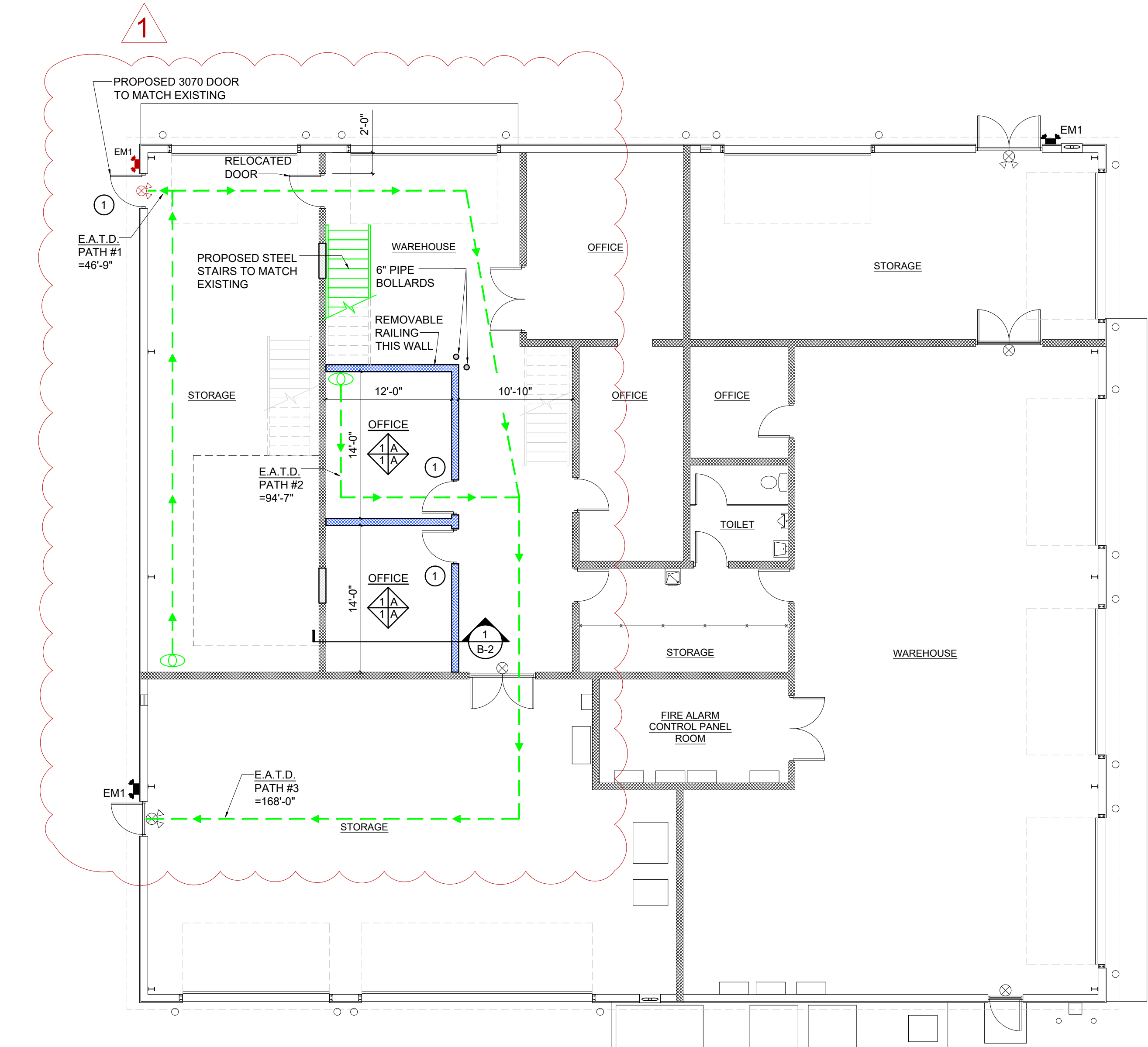
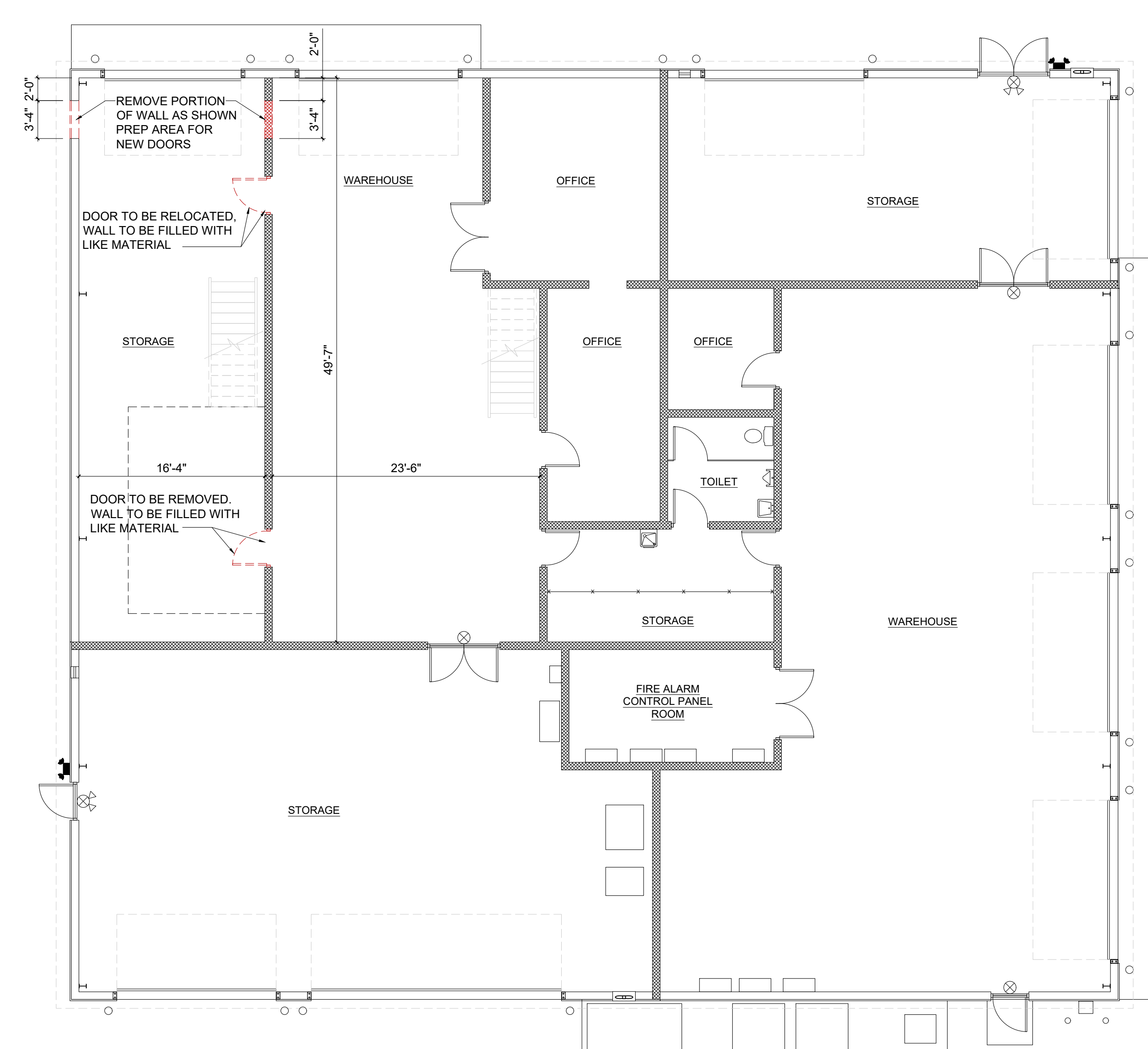
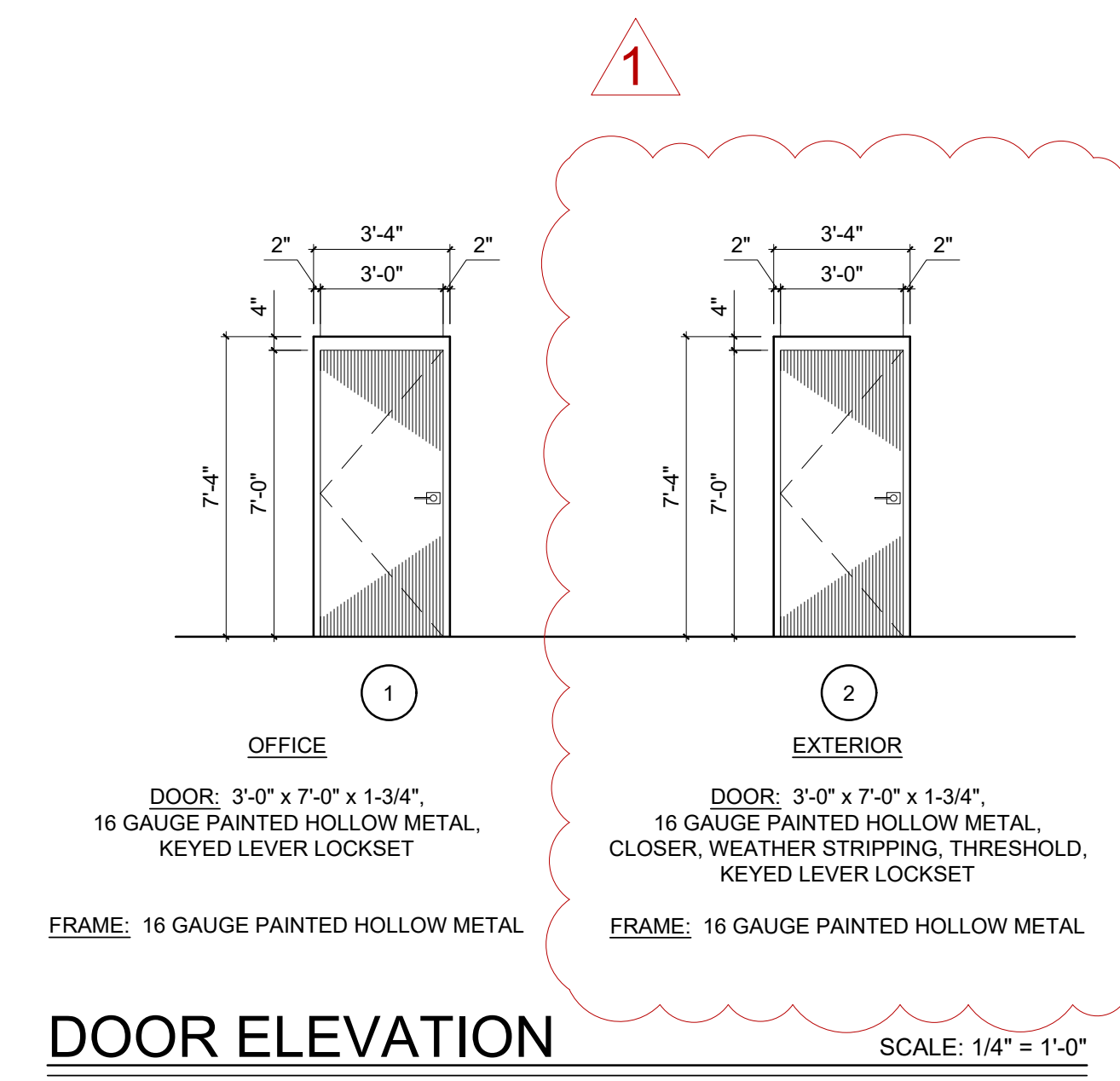
NOTES:
 1. ALL FINISHES TO BE AS SPECIFIED, UNLESS OTHERWISE NOTED.
 2. ALL COLORS OF PAINT, FINISHES, TILES, AND TILE DESIGNS TO BE SELECTED BY OWNER.

LEGEND	
SYMBOL	DESCRIPTION
	EXISTING ABC TYPE FIRE EXTINGUISHER
	ROUTE OF EXIT ACCESS TRAVEL DISTANCE
	EXISTING COMBINATION EXIT AND EMERGENCY LIGHT
	PROPOSED COMBINATION EXIT AND EMERGENCY LIGHT
	EXISTING EMERGENCY EXIT LIGHT
	EXISTING REMOTE EMERGENCY EGRESS LIGHT POWERED BY INTERIOR EMERGENCY LIGHT BATTERY PACK, SUITABLE FOR WET/DAMP LOCATION
	PROPOSED REMOTE EMERGENCY EGRESS LIGHT POWERED BY INTERIOR EMERGENCY LIGHT BATTERY PACK, SUITABLE FOR WET/DAMP LOCATION

GENERAL NOTES	
INTERIOR FINISHES:	
FLOOR:	EXISTING COLOR: EXISTING
BASE:	ROPPE 700 SERIES OR EQUAL COLOR: SELECTION BY OWNER
WALLS:	CMU BLOCK WALLS TO MATCH EXISTING MORTAR TO MATCH BLOCK COLOR 1 COAT SEALER w/ BLOCK FILLER 2 COATS LATEX, EGGSHELL FINISH PAINT - BENJAMIN MOORE OR EQUAL COLOR: SELECTION BY OWNER
CEILING:	ARMSTRONG ACOUSTICAL LAY-IN TILE WITH 15/16" GRID SYSTEM COLOR: WHITE
OFFICE DOORS:	HOLLOW METAL DOORS & FRAMES, PRIMED & PAINTED "BENJAMIN MOORE" SEMI-GLOSS COLOR: SELECTION BY OWNER

DOOR HARDWARE & NOTES	
ALL HARDWARE TO HAVE "BRUSHED NICKLE" FINISH	
LOCKSET:	"YALE" 4800LN, GRADE 2 LOCKSET OR EQUAL
DOOR HINGE:	BALL BEARING HINGES WITH 32D FINISH OR EQUAL
NOTE: MANUFACTURER SHALL SUPPLY MASTER KEY TO FIT ALL DOORS. VERIFY KEYING SCHEMES WITH OWNER.	

LIFE SAFETY NOTES	
PRIMARY OCCUPANCY FOR BLDG. 500 IS S-1	
TWO PROPOSED OFFICES = B OCCUPANCY @ 320 SQ. FT.	
OCCUPANT LOAD IS EXISTING	
MAXIMUM EXIT ACCESS TRAVEL DISTANCE FOR S-1 CLASSIFICATION IS 200FT (WITHOUT SPRINKLER SYSTEM) PER 2018 NCBC TABLE 1017.2	



KEY PLAN N.T.S.

EXISTING CONDITIONS / DEMOLITION PLAN SCALE: 1/8" = 1'-0"
TOTAL = 7,284 SQ. FT. / AREA OF WORK = 1,916 SQ. FT.

LIFE SAFETY / PROPOSED FLOOR PLAN SCALE: 1/8" = 1'-0"
TOTAL = 7,284 SQ. FT. / AREA OF WORK = 1,916 SQ. FT.

Owner: City of Wilson Operations Center Bldg. 500 1800 Herring Ave. Wilson, NC 27894

BARTLETT ENGINEERING & SURVEYING, P.C.
 1525 16th Street, North Wilson, NC 27894
 License # C-1551

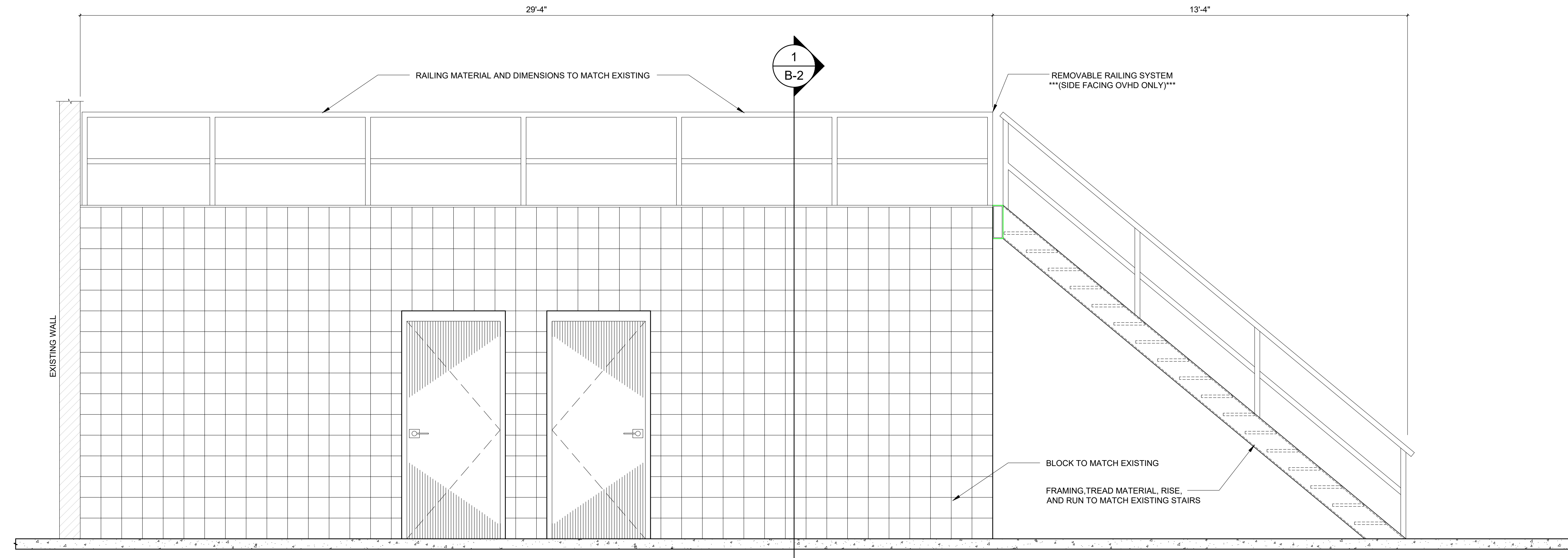
Professional Engineer Seal: ROBERT S. BARTLETT, ENGINEER, No. 31343, State of North Carolina, expires 12/31/2024

Rev:	Description:
5-10-22	REVISED PER CUSTOMER

Title Sheet: EXISTING CONDITIONS / LIFE SAFETY / REVISED FLOOR PLAN

Project: City of Wilson Operations Center Bldg. 500 1800 Herring Ave. Wilson, NC 27894

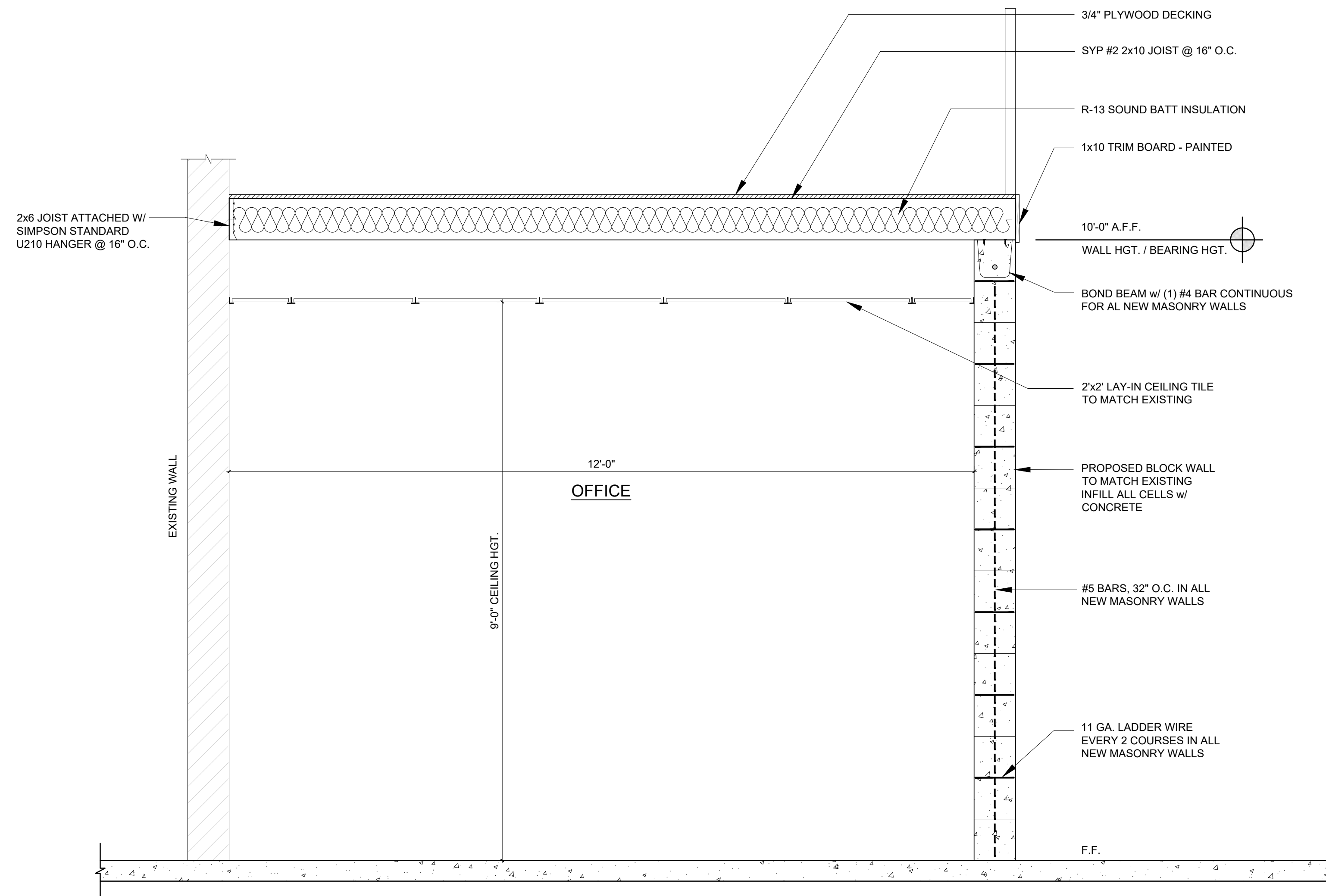
Drawn by: M. Winstead
 Issue Date: 05-18-22
 Project Number: 22-110
 Sheet: B-1



ELEVATION

SECTION @ PROPOSED OFFICES

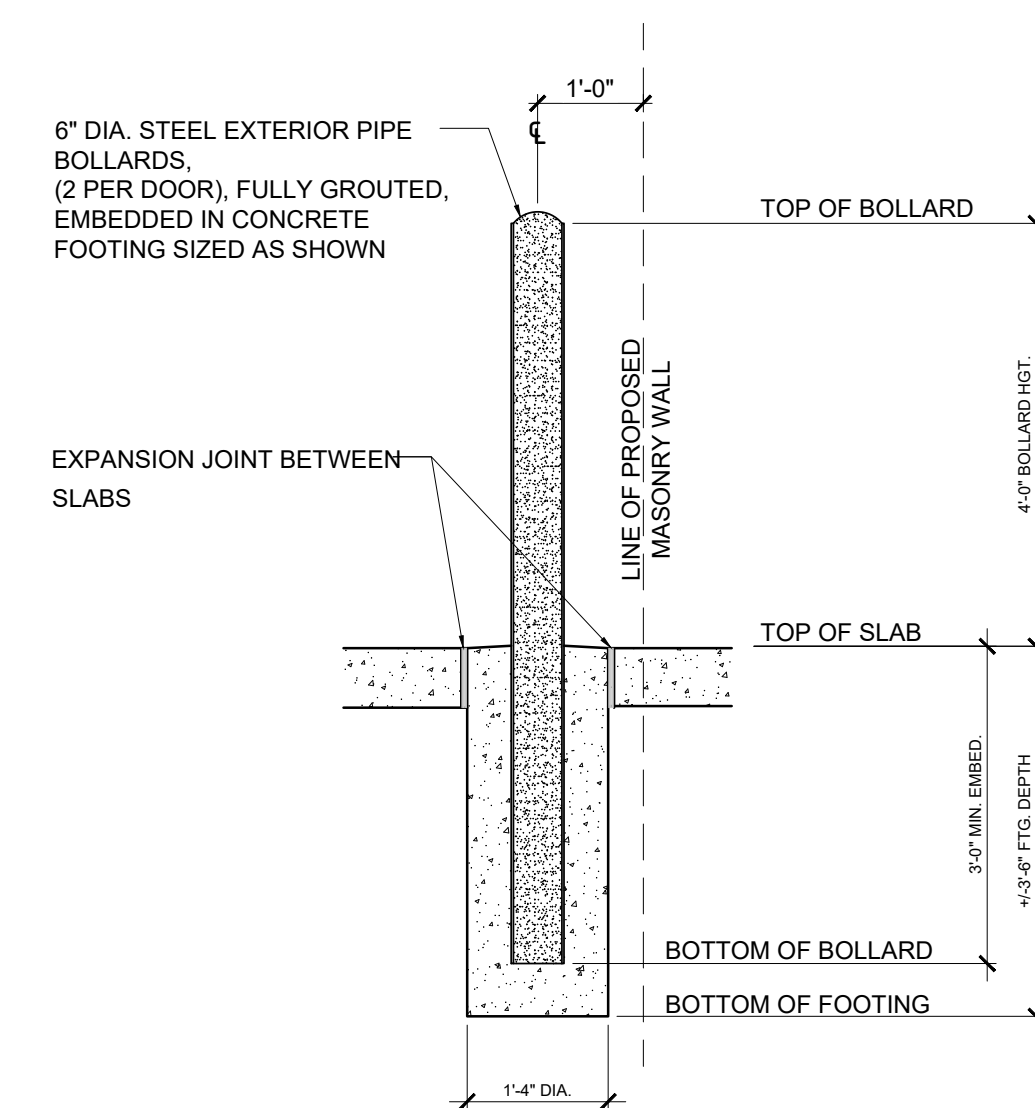
SCALE: 1/2" = 1'-0"



1 SECTION
B-2

SECTION @ PROPOSED OFFICES

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



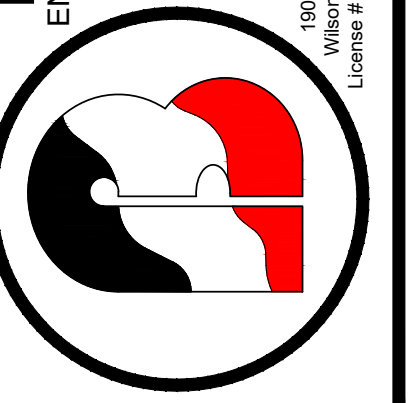
PIPE BOLLARD DETAIL

TYPICAL PIPE BOLLARDS

SCALE: 3/4" = 1'-0"

City of Wilson Operations Center
Bldg. 500
1800 Herring Ave. Wilson, NC 27894

BARTLETT
ENGINEERING & SURVEYING, PC



Rev.	Date	Description
1	5-10-22	REVISED PER CUSTOMER

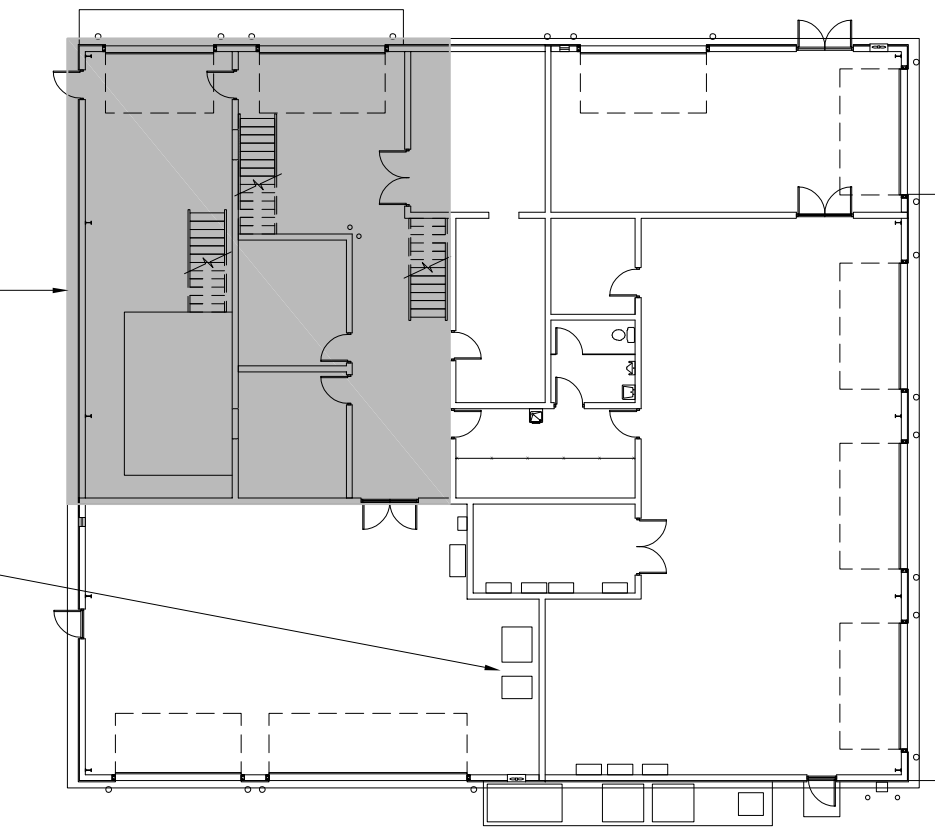
City of Wilson Operations Center
Bldg. 500
1800 Herring Ave. Wilson, NC 27894

Drawn by: M. Winstead
Issue Date: 05-18-22
Project Number: 22-110
Sheet: **B-2**

MECHANICAL SYMBOL LEGEND		
SINGLE LINE	DOUBLE LINE	DESCRIPTION
		TAKE OFF TO SUPPLY AIR REGISTER
		BRANCH TAKEOFF FROM MAIN TRUNK DUCT
		END CAP
		DUCT INSULATED WITH 2" EXTERNAL INSULATION. SEE GENERAL MECHANICAL NOTES
		(1) CUSHION HEAD @ BRANCH OR DIFFUSER RUNOUT (2) CUSHION HEAD IS EQUAL TO 1/2 WIDTH OF THE BRANCH DUCT OR DIFFUSER RUNOUT
		MANUAL VOLUME CONTROL DAMPER W/ QUADRANT LOCKING DEVICE
		O.A. DUCT WITH MANUAL DAMPER FROM RETURN AIR TRUNK DUCT
		AIR HANDLER (COOLING ONLY) WITH FLEXIBLE CONNECTION AT SUPPLY & RETURN DUCT. PROVIDE WITH DRAIN PAN & VIBRATION ISOLATORS AS REQUIRED.
		OUTDOOR UNIT ON ROOF
		7-DAY PROGRAMMABLE THERMOSTAT WITH AUTO-CHANGEOVER

MECHANICAL SUMMARY	
MECHANICAL SYSTEMS SERVICE SYSTEMS AND EQUIPMENT:	
Thermal Zone	IV
Winter dry bulb	16 deg. F
Summer dry bulb	92 deg. F
Interior Design Conditions	
Winter dry bulb	68 deg. F
Summer dry bulb	75 deg. F
Relative humidity	50 %
Building Heating Load	N/A - EXISTING TO REMAIN
Building Cooling Load	6.5 TONS (AREA OR WORK ONLY)
Mechanical Spacing Conditioning System	
Unitary	(1) MULTI-ZONE DUCTLESS HEAT PUMP (2) SPLIT SYSTEM AIR CONDITIONERS
Description of unit	N/A - EXISTING TO REMAIN
Heating efficiency	14 SEER MIN.
Cooling efficiency	N/A - EXISTING TO REMAIN
Size category of unit	>85,000 BTU/HR.
Boller	
Size category, if oversized, state reason	N/A
Chiller	
Size category, if oversized, state reason	N/A
List Equipment Efficiencies	
Equipment Schedules with Motors (mechanical systems)	N/A
Motor horsepower	N/A
Number of phases	
Minimum efficiency	
Motor type	
# of poles	

OUTSIDE AIR SUMMARY	
Office	
4 PEOPLE x 5 CFM / PERSON =	20 CFM
380 SF x 0.06 CFM / SF =	23 CFM
Warehouse	
1,540 SF x 0.06 CFM / SF =	93 CFM
TOTAL OUTSIDE AIR REQUIRED=	136 CFM
TOTAL OUTSIDE AIR PROVIDED=	200 CFM



REMOVE AND REPLACE EXISTING OUTDOOR UNITS & MATCHING AIR HANDLERS WITH NEW EQUIVALENT SPLIT SYSTEMS. RECONNECT TO EXISTING DUCTWORK AS REQUIRED. OUTDOOR UNITS SHALL BE MOUNTED ON ROOF ABOVE MATCHING AIR HANDLER. VERIFY EXACT LOCATION & CONDITIONS AT SITE PRIOR TO CONSTRUCTION.

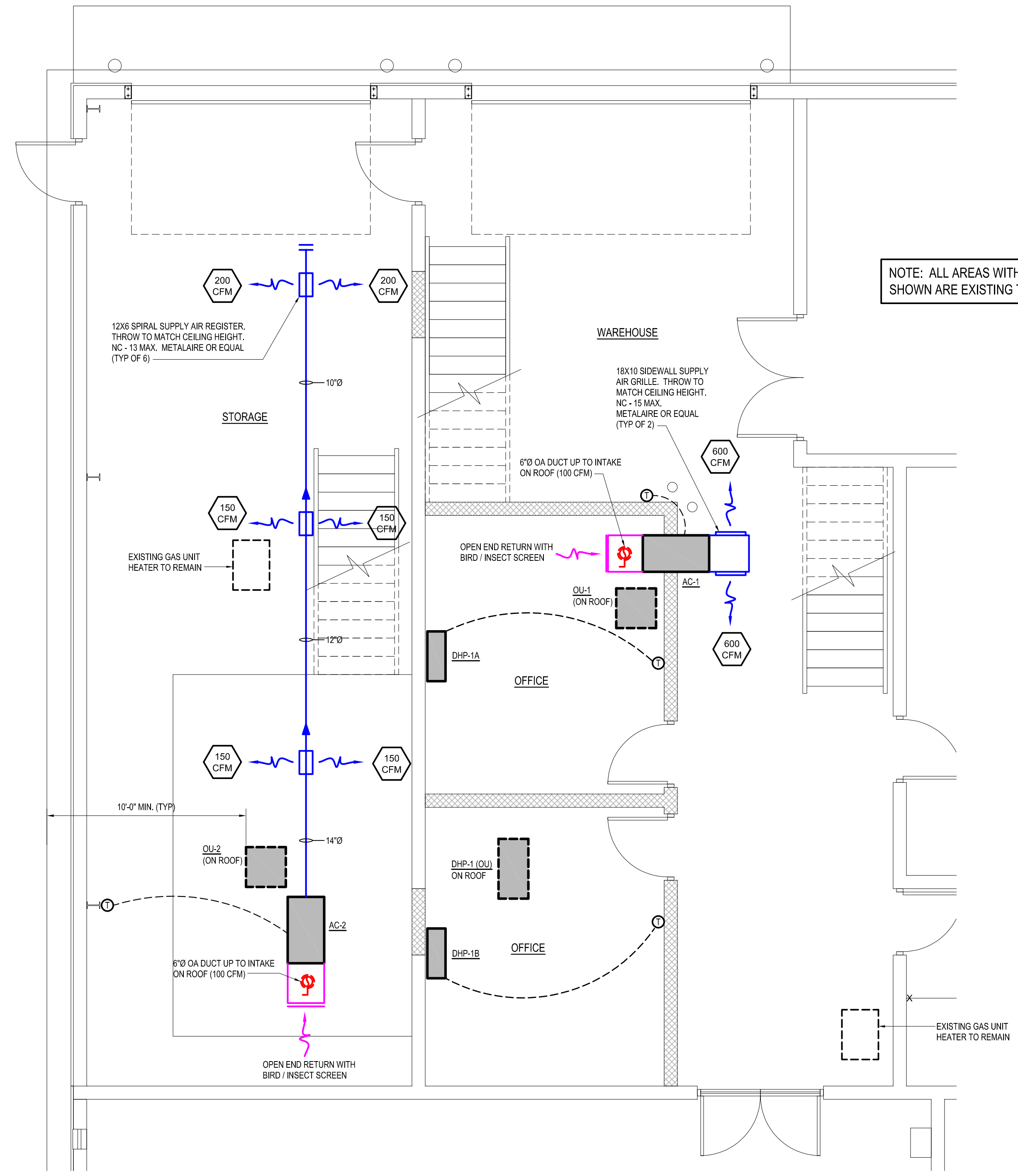
KEY PLAN NTS

EQUIPMENT SCHEDULE DUCTLESS HEAT PUMP SCHEDULE

DHP-1	TRANE (OR EQUAL) - MULTI-ZONE INDOOR UNIT 1A - NTXWP09 (NOM 3/4 TONS) INDOOR UNIT 1B - NTXWP09 (NOM 3/4 TONS) OUTDOOR UNIT - NTXMSPB18 (NOM 1.5 TONS) COOL CAP. - 17,200 BTU/HR. MAX HEAT CAP. - 20,300 BTU/HR. MAX 240V 1Ø MCA 16 MOCP 25 21 SEER
NOTES: 1. PROVIDE & INSTALL 1" CONDENSATE LINE FROM INDOOR UNIT TO 2" CONDENSATE MAIN AND TERMINATE ON TO EXTERIOR CONCRETE SPLASH BLOCK 2. VERIFY & MAINTAIN MIN. CLEARANCES. MAXIMUM LENGTHS AND HEIGHT DISTANCES WITH MANUFACTURER PRIOR TO CONSTRUCTION. INSTALL PER MANUFACTURER'S INSTRUCTIONS. 3. PROVIDE AND INSTALL ROUGH-IN BOX FOR WALL MOUNTED DUCTLESS HEAT PUMP. ROUGH-IN BOX SHALL BE FIRE RATED AS REQUIRED. VERIFY EXISTING WALL CONDITIONS AT SITE PRIOR TO CONSTRUCTION 4. BOTTOM OF WALL MOUNTED INDOOR UNIT TO BE 8 FT. ± 5. PROVIDE & INSTALL WIRED THERMOSTATS FOR DUCTLESS HEAT PUMP. 6. VERIFY ALL MODEL NUMBERS WITH TRANE FOR MULTI-ZONE COMPATIBILITY PRIOR TO PURCHASE. 7. PROVIDE & INSTALL CONDENSATE PUMP AS REQUIRED. VERIFY EXISTING CONDITIONS AT SITE PRIOR TO CONSTRUCTION.	

EQUIPMENT SCHEDULE SPLIT SYSTEM AIR CONDITIONER

AC-1	AC-2
1,200 CFM TOTAL 100 CFM O.A. 36,000 BTU/HR. COOLING 208V 1Ø MCA 3 MOCP 15	1,000 CFM TOTAL 100 CFM O.A. 30,000 BTU/HR. COOLING 208V 1Ø MCA 2 MOCP 15
OU-1	OU-2
NOM. 3 TONS 208V 1Ø MCA 19 MOCP 30 14 SEER MIN.	NOM. 2.5 TONS 208V 1Ø MCA 17 MOCP 25 14 SEER MIN.
NOTES: 1. PROVIDE COOLING COIL FOR RATED CAPACITY, MAX 0.5 EXT. SP DROP, AND SCHEDULED AIR FLOW. COIL SHALL HAVE ASHRAE FULLY DRAINABLE CONDENSATE PAN AND AUTO SHUT-OFF TO PREVENT CONDENSATE OVERFLOW. 2. ALL EQUIPMENT TO BE TRANE OR EQUAL.	



NOTE: ALL AREAS WITH NO WORK SHOWN ARE EXISTING TO REMAIN

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

GENERAL MECHANICAL NOTES:

- ALL WORK SHALL BE IN COMPLIANCE WITH LOCAL, STATE, AND NATIONAL CODES.
- DUCTWORK LAYOUTS ARE SCHEMATIC. ALL RISES, DROPS, OFFSETS, AND TRANSITIONS REQUIRED BUT NOT SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. DUCTWORK SHALL BE GALVANIZED STEEL AND SHALL BE IN CONSTRUCTION IN COMPLIANCE WITH SMACNA STANDARDS FOR LOW VELOCITY DUCTWORK.
- ALL HARD ROUND DUCTWORK SHALL BE GALVANIZED STEEL AS OR APPROVED EQUAL. LOCK FORMING SHALL MEET ASTM A-527 STANDARDS. DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. FLEXIBLE RUN OUTS SHALL NOT EXCEED 10'-0" AND SHALL NOT BE USED TO FORM ELBOWS. CONNECTIONS FROM RECTANGULAR TO ROUND DUCT SHALL BE MADE WITH MANUFACTURED 45 DEG. LATERAL TAPS.
- SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED WITH FIBERGLASS INSULATION WITH A MINIMUM THERMAL RESISTANCE OF R-8 AND AN ATTACHED VAPOR BARRIER. DIFFUSERS SHALL BE INSULATED WITH FIBERGLASS INSULATION WITH VAPOR BARRIER. ALL JOINTS SHALL BE TAPED TO PROVIDE A CONTINUOUS VAPOR BARRIER.
- DUCT SIZES SHOWN ARE NET DIMENSIONS. DUCT SIZES SHOULD BE INCREASED TO ALLOW FOR LINING WHEN USED. DUCT LINER SHALL BE INSTALLED FROM THE A.H.U. RETURN TO THE FIRST 90 DEG. ELBOW OR IF NO ELBOW, FROM UNIT RETURN TO 10'-0" DOWNSTREAM. ACOUSTICAL LINER SHALL BE 1" THICK X 1/2LB. DENSITY. ALL DUCTWORK SHALL BE SEALED AIR TIGHT WITH SEALING COMPOUND.
- MECHANICAL CONTRACTOR TO PROVIDE AN AIR BALANCE REPORT UPON COMPLETION OF WORK TO OWNER AND LOCAL BUILDING INSPECTOR.
- ALL ROUND EXPOSED DUCTWORK TO BE ALUMINUM, DOUBLE WALL INSULATED, PAINTED PER OWNER'S DIRECTION.

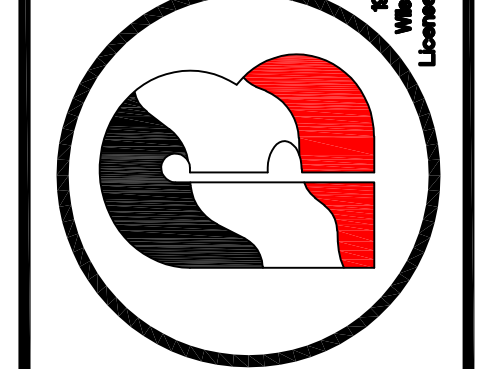
GENERAL HVAC DEMO NOTE:

REMOVE ALL EXISTING UNUSED HVAC EQUIPMENT, DUCTWORK, GRILLES, ETC. AS REQUIRED. DISPOSE OF ALL MATERIALS PROPERLY.

Prepared for:

City of Wilson Operations Center
Bldgs 500, 1500 & 2800
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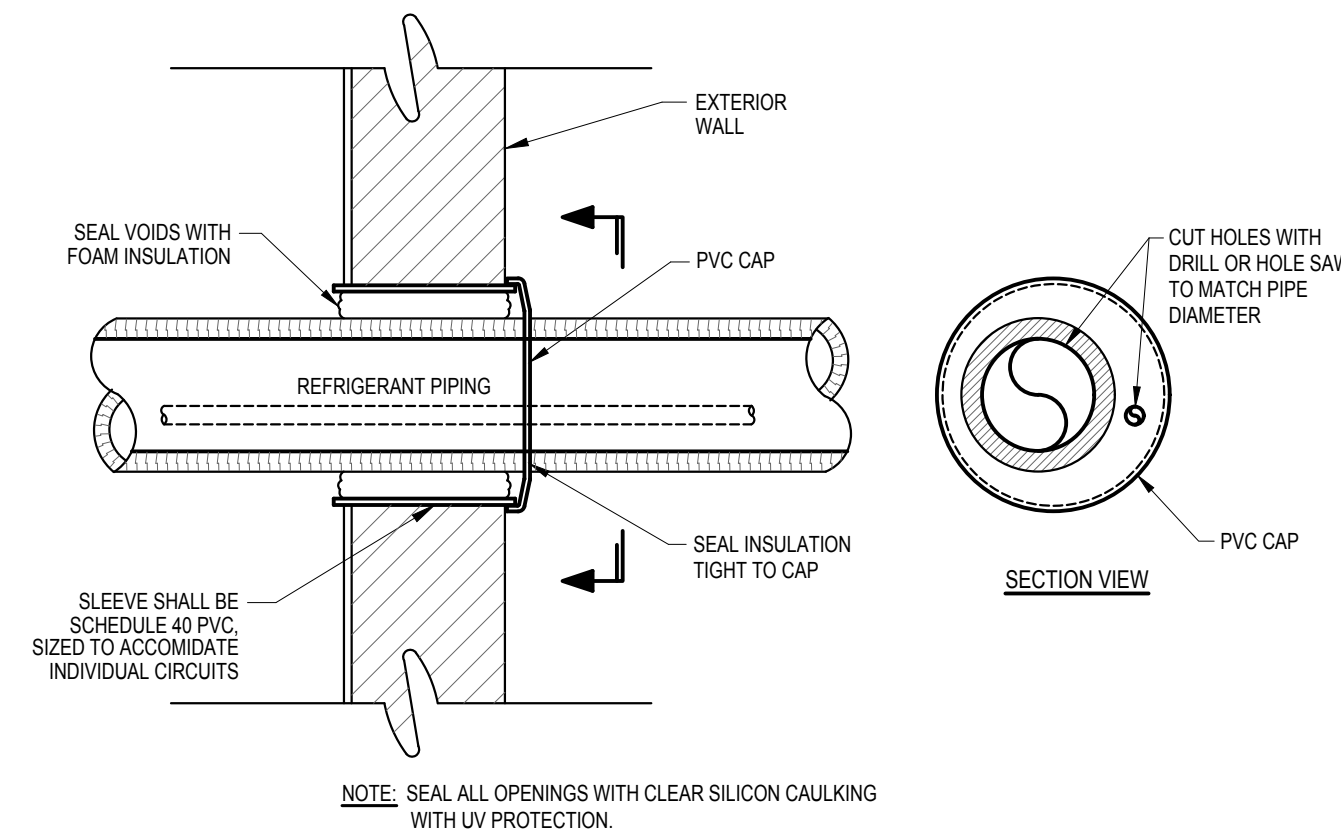


Rev.	Date:	Description:

MECHANICAL PLAN

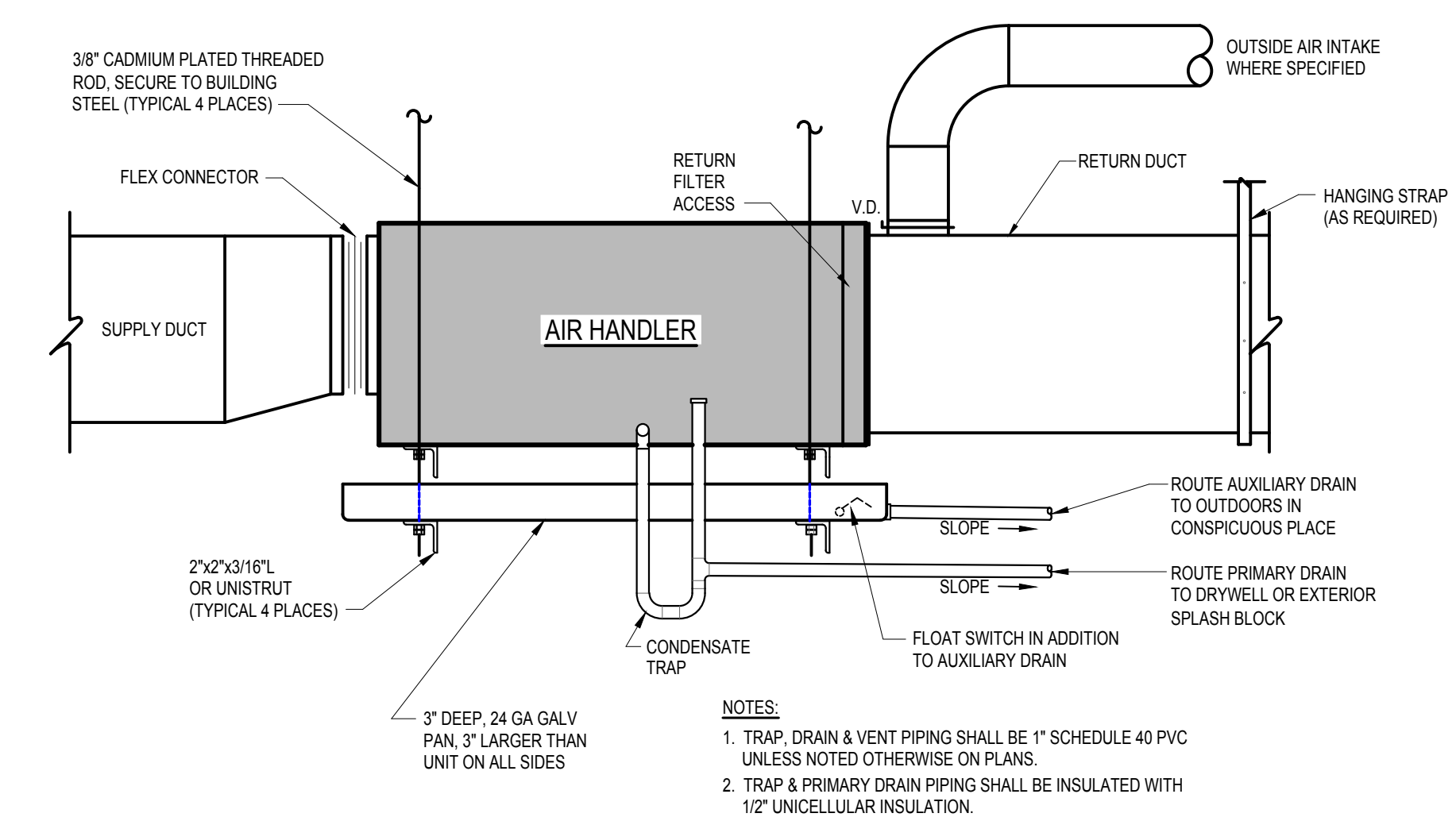
Project:
City of Wilson Operations Center
Bldg. 500
1800 Herring Ave. Wilson, NC 27694

Title Sheet	Drawn by: JLT
	Issue Date: 05-20-22
	Project Number: 21-179
	Sheet: M-1

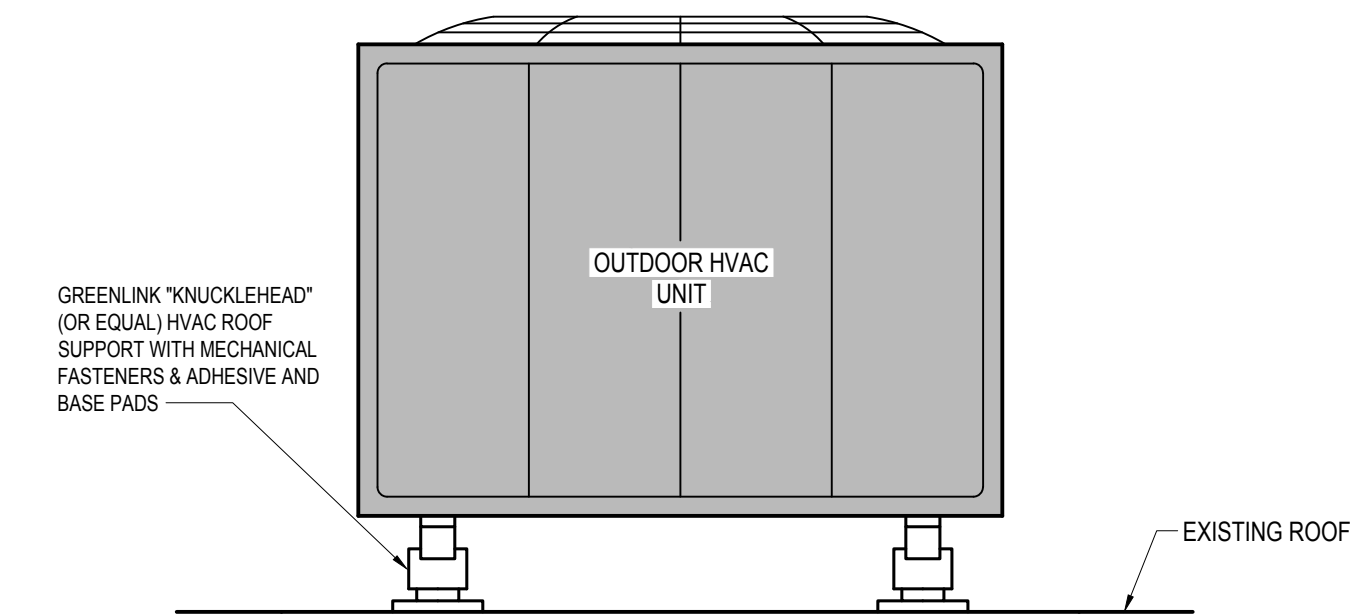


DETAIL-REFRIGERANT PIPE PENETRATION EXTERIOR WALL
NOT TO SCALE

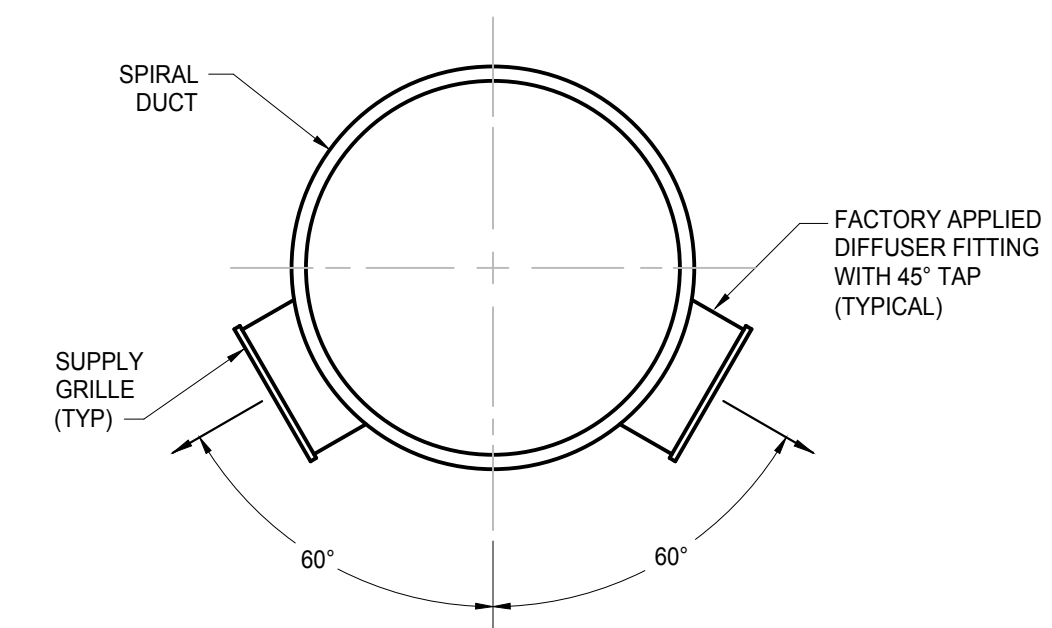
NOTE: PENETRATION THRU ROOF SIMILAR



DETAIL-AIR HANDLER
NOT TO SCALE



DETAIL-OUTDOOR UNIT
NOT TO SCALE

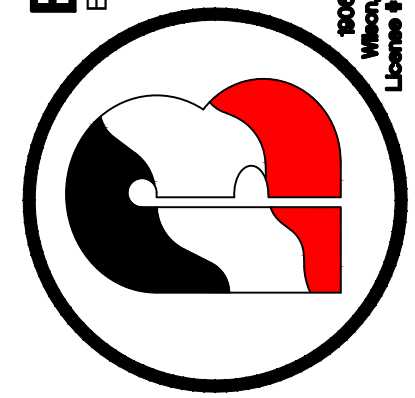


DETAIL - SIDEWALL SUPPLY AIR GRILLE
NTS

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Rev.	Date:	Description:

Title Sheet: **MECHANICAL DETAILS**

Project: **City of Wilson Operations Center Bldg. 500**
 1800 Herring Ave. Wilson, NC 27694

Drawn by: **JLT**
 Issue Date: **05-20-22**
 Project Number: **21-179**
 Sheet:

ELECTRICAL LEGEND			
MARK	DESCRIPTION	MARK	DESCRIPTION
	"LED" LIGHT FIXTURE		FUSED DISCONNECT SWITCH
	EXTERIOR "LED" LIGHT FIXTURE		COMBO EXIT/EM. LIGHT
	SINGLE POLE LIGHT SWITCH		BATTERY OPERATED EMERG. LT. (2-HEAD, WALL MTD.)
	PASSIVE DUAL TECHNOLOGY OCCUPANCY WALL SENSOR SWITCH		SWITCHED BRANCH CIRCUIT
	DUPLEX RECEPTACLE		UNSWITCHED BRANCH CIRCUIT
	"GFCI" DUPLEX RECEPTACLE		HOMERUN
	"GFCI" DUPLEX RECEPTACLE IN WEATHER-PROOF COVER		VOICE/DATA 1" CONDUIT TO ADV. CEILING

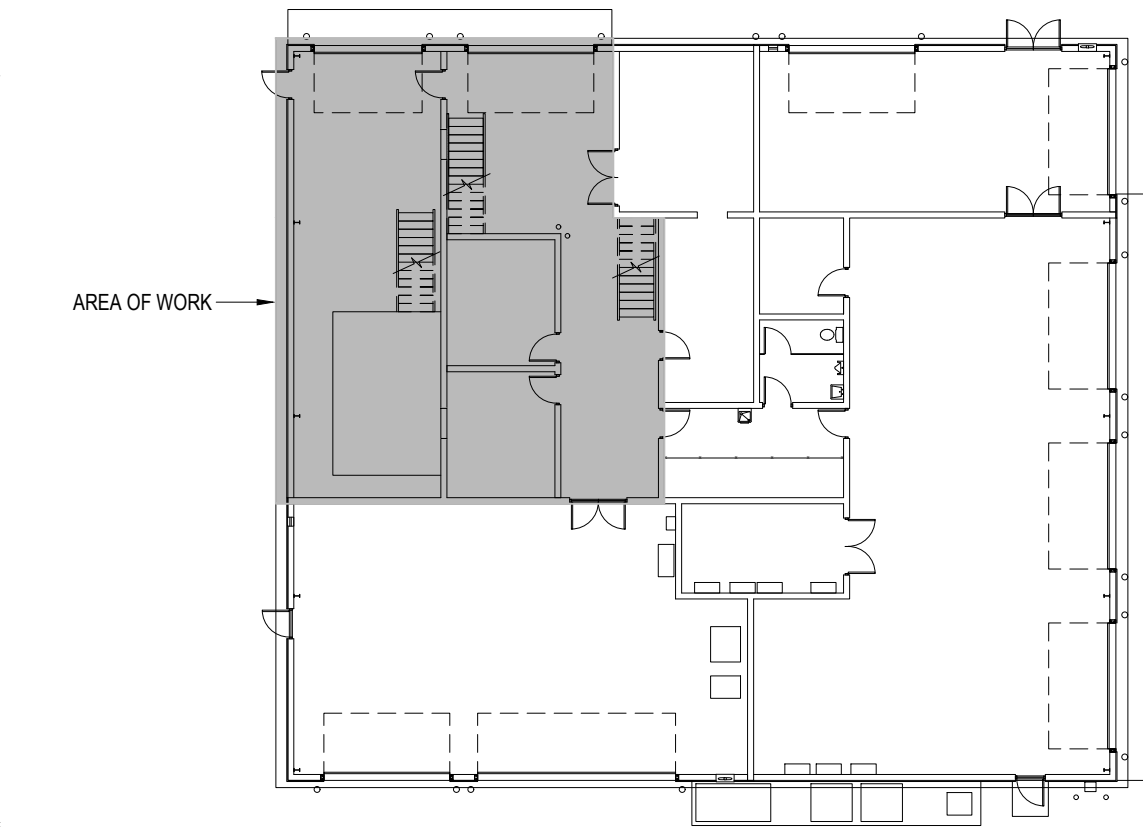
GENERAL ELECTRICAL NOTES:

- WORK SHALL COMPLY WITH NATIONAL ELECTRICAL CODE (NEC) STATE BUILDING CODE, AND ALL REQUIREMENTS OF THE LOCAL INSPECTOR. ALL WORK SHALL BE BY LICENSED ELECTRICAL CONTRACTOR.
- ALL BRANCH CIRCUITS SHALL BE E.M.T., RIGID CONDUIT OR MC CABLE AS PERMITTED OR REQUIRED. RIGID CONDUIT SHALL BE USED FOR CIRCUITS UNDER SLAB ON GRADE, OR WHERE APPROVED SCHEDULE 80 PVC MAY BE USED. EXPOSED CONDUIT SHALL BE PAINTED PER OWNER'S DIRECTION.
- ALL NEW CONDUCTORS SHALL BE COPPER.
- ALL EQUIPMENT LOADS SHALL BE VERIFIED BEFORE EQUIPMENT AND/OR CIRCUIT INSTALLATION. VERIFY LOCATION OF NEW RECEPTACLES WITH OWNER PRIOR TO INSTALLATION.
- PROVIDE GREEN GROUNDING CONDUCTOR CONTINUOUS FROM DEVICE TO PANEL GROUND BAR.
- EMT FITTINGS SHALL BE HEXAGONAL ALL STEEL, COMPRESSION TYPE.
- NEW RECEPTACLES AND SWITCHES SHALL BE COMMERCIAL GRADE BRYANT, SIERRA, LEVITON BRAND EXCEPT AS SPECIFIED.
- NEW WALL OUTLET BOXES SHALL BE STEEL CITY OR RACO WITH PLATES.
- ALL CIRCUITS SHALL BE TESTED WITH 500 VOLT TESTER PRIOR TO ENERGIZING.
- ELECTRICAL CONTRACTOR SHALL CONNECT TO TERMINALS OF MECHANICAL EQUIPMENT AND EQUIPMENT SUPPLIED BY OWNER.
- MOUNTING HEIGHTS FOR NEW SWITCHES & RECEPTACLES TO BE ADA COMPLIANT PER ANSI A117.1
- FIRE STOP ALL PENETRATIONS THRU RATED WALLS. VERIFY EXISTING CONDITIONS AT SITE PRIOR TO CONSTRUCTION.

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT:

- Method of Compliance:
- Prescriptive (Energy Code)
 - Performance (Energy Code)
 - Prescriptive (ASHRAE 90.1)
 - Performance (ASHRAE 90.1)
- Lighting Schedule
- | | |
|---|------------|
| Lamp type required in fixture | THIS SHEET |
| Number of lamps in fixture | |
| Ballast type used in fixture | |
| Number of ballasts in fixture | |
| Total wattage per fixture | |
| Total interior wattage specified -vs- allowed | |
| Total exterior wattage specified -vs- allowed | |
- Additional Prescriptive Compliance
- 506.2.1 More Efficient Mechanical Equipment
 - 506.2.2 Reduced Lighting Power Density
 - 506.2.3 Energy Recovery Ventilation Systems
 - 506.2.4 Higher Efficiency Service Water Heating
 - 506.2.5 On-Site Supply of Renewable Energy
 - 506.2.6 Automatic Daylighting Control Systems



KEY PLAN
NTS

LIGHT FIXTURE SCHEDULE						
SYMBOL	MANUFACTURER	DESCRIPTION	LAMPS			MOUNTING
			NO.	WATTS	TYPE	
	EELP OR EQUAL	VersaLED 2x4 LED LIGHTING PANEL WITH ACRYLIC LENS. 120V 4,682 LUMENS, 4,000K COLOR TEMP.	-	50	LED'S	LAY-IN
	LITHONIA OR EQUAL	LED EXIT/EMERGENCY COMBO LIGHT WITH BATTERY BACKUP. 120V DUAL REMOTE READY	-	-	LED'S	CEILING/WALL
	LITHONIA OR EQUAL	REMOTE DUAL HEAD POWERED FROM EMERGENCY LIGHT BATTERY PACK WET/DAMP LOCATION. 120V	-	-	LED'S	WALL
	LITHONIA OR EQUAL	ARCHITECTURAL "LED" WALL SCONCE 4,000K COLOR TEMP. SUITABLE FOR WET/DAMP LOCATION. 120V	-	15	LED'S	WALL

NOTES:

NOTE (1) - FIXTURES SHALL HAVE DISCONNECTING MEANS MEETING THE REQUIREMENTS OF NEC ARTICLE 410.130(D).

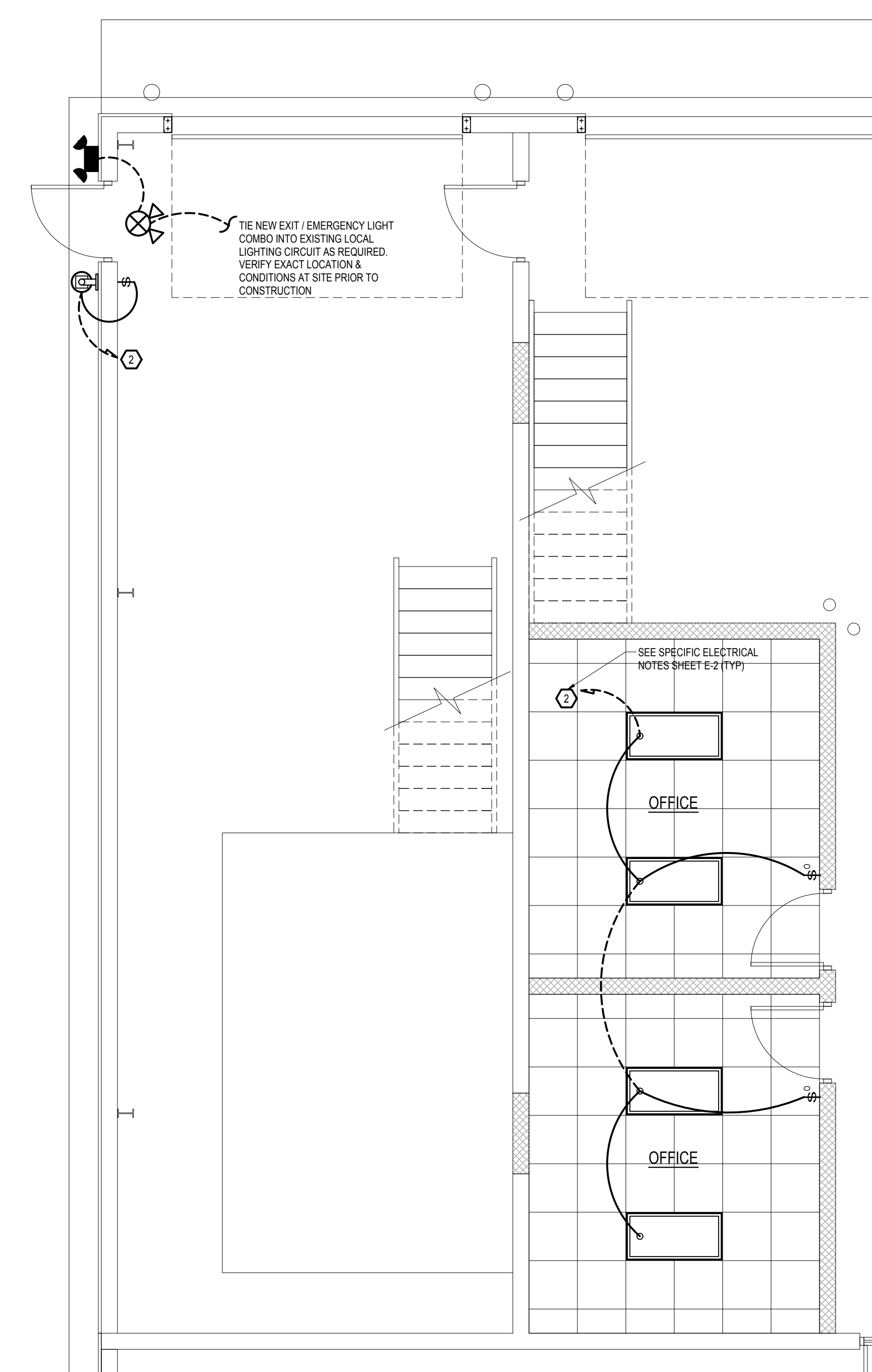
NOTE (2) - COORDINATE ALL FIXTURE REQUIREMENTS, COLOR TEMP, CRI (COLOR RENDERING INDEX), ETC. WITH OWNER PRIOR TO INSTALLATION.

NOTE (3) - SHIFT LOCATIONS OF FIXTURES IN MECHANICAL AREAS IF/AS REQUIRED TO BEST LIGHT SPACES & AVOID CONFLICTS WITH DUCTS, PIPING, ETC.

NOTE (4) - PROVIDE CHANNEL SUPPORTS WITH HANGER RODS, ETC. WHERE NECESSARY TO SUSPEND FIXTURES BENEATH DUCTWORK, PIPING, ETC.

LIGHTING DATA FOR N.C. ENERGY CODE (AREA OF WORK ONLY)

AREA USE	SQ. FT.	WATTS PER SQ.FT. ALLOWED	TOTAL WATTS ALLOWED	TOTAL WATTS USED	TOTAL WATTS LEFT OVER
OFFICE	345	0.89	307.05	200	107.05



NOTE: ALL AREAS WITH NO WORK SHOWN ARE EXISTING TO REMAIN

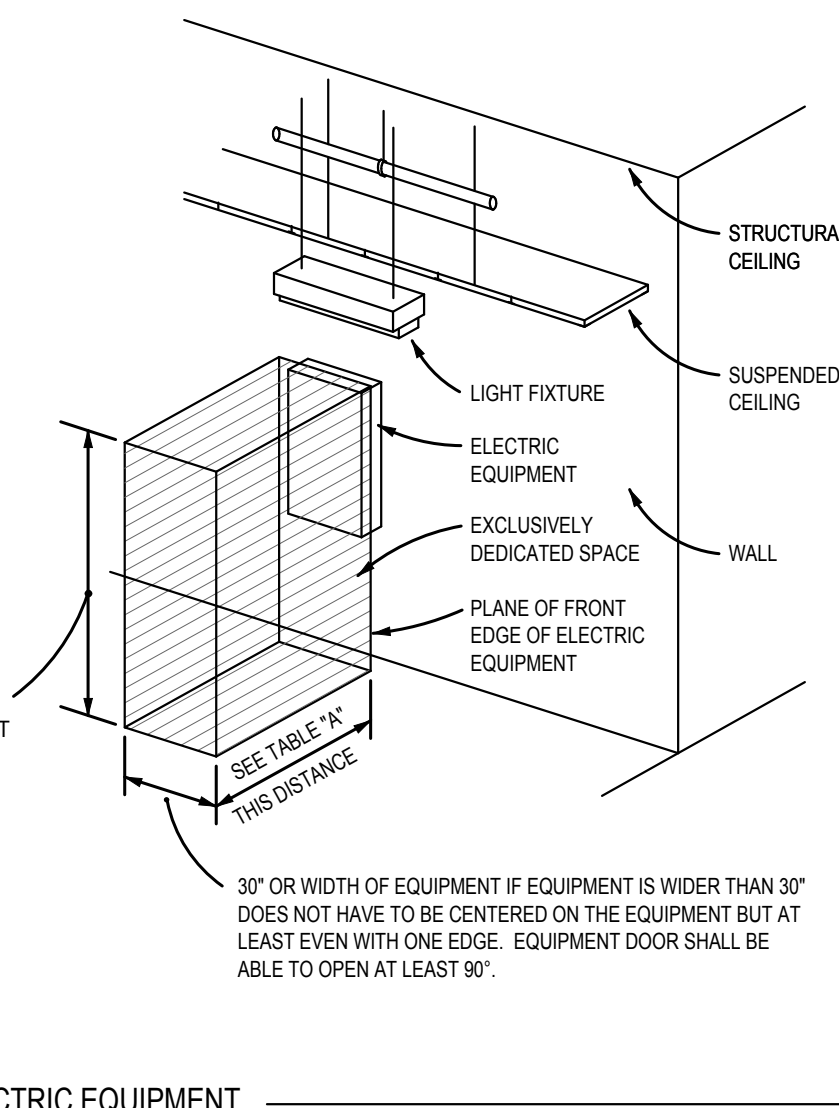
GENERAL DEMO NOTE:
REMOVE ALL EXISTING UNUSED ELECTRICAL DEVICES, FIXTURES, BOXES, SWITCHES, WIRING, DISCONNECTS, CONDUIT, ETC. AS REQUIRED. DISPOSE OF ALL MATERIALS PROPERLY.

VOLTAGE TO GROUND (NOMINAL)	CONDITION 1 (MINIMUM CLEAR DISTANCE)	2	3
0-150	3'	3'	3'
151-600	3'	3 1/2'	4'

WHERE THE "CONDITIONS" ARE AS FOLLOWS:

- EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUSBARS OPERATING AT NOT OVER 300 VOLTS SHALL NOT BE CONSIDERED LIVE PARTS.
- EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.
- EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

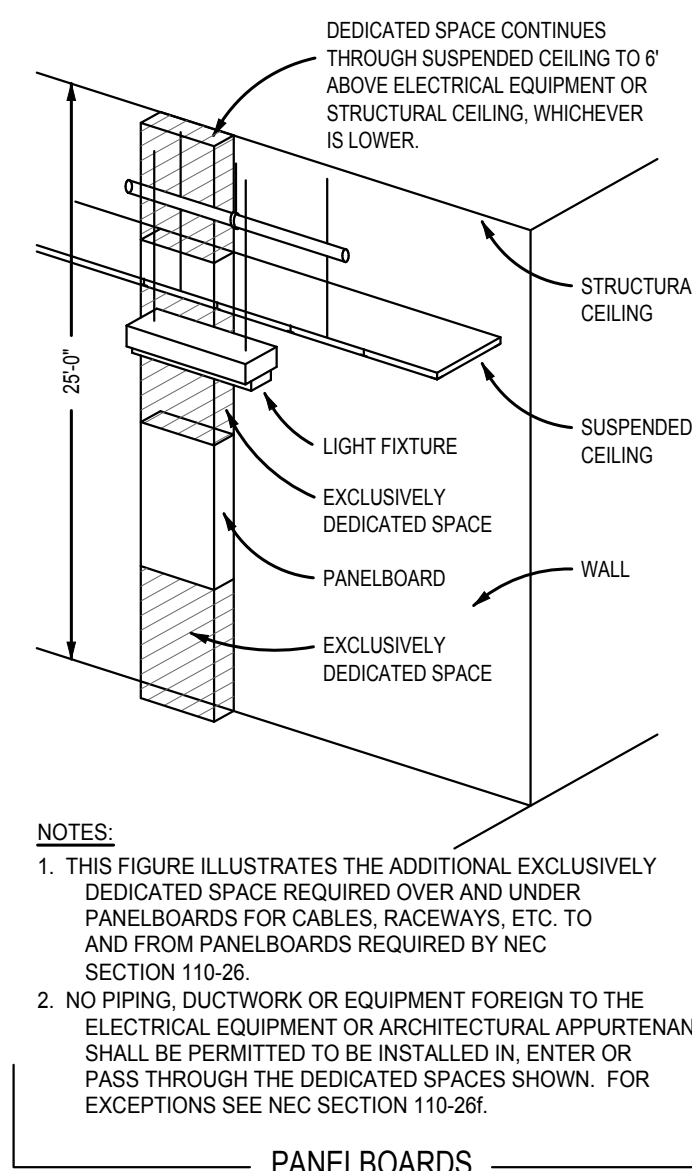
6 1/2" MINIMUM OR HEIGHT OF EQUIPMENT



NOTES:

- THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF ELECTRICAL EQUIPMENT REQUIRED BY NEC SECTION 110-26.
- THIS INCLUDES BUT IS NOT LIMITED TO PANELBOARDS, SAFETY SWITCHES, MOTOR STARTERS, JUNCTION BOXES AND OTHER ELECTRICAL EQUIPMENT.

DEDICATED WORKING SPACE REQUIREMENTS
NO SCALE



NOTES:

- THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED OVER AND UNDER PANELBOARDS FOR CABLES, RACEWAYS, ETC. TO AND FROM PANELBOARDS REQUIRED BY NEC SECTION 110-26.
- NO PIPING, DUCTWORK OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH THE DEDICATED SPACES SHOWN. FOR EXCEPTIONS SEE NEC SECTION 110-26f.

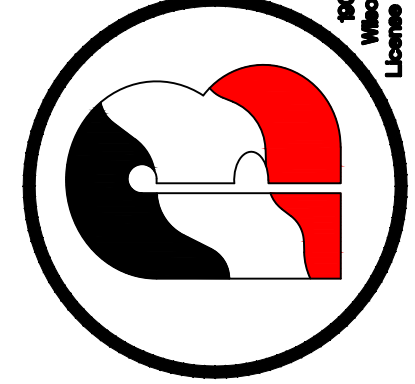
PANELBOARDS

ELECTRICAL - LIGHTING PLAN
SCALE: 1/4" = 1'-0"

Prepared for:

City of Wilson Operations Center
Bldgs 500, 1500 & 2800
1800 Herring Ave. Wilson, NC 27694

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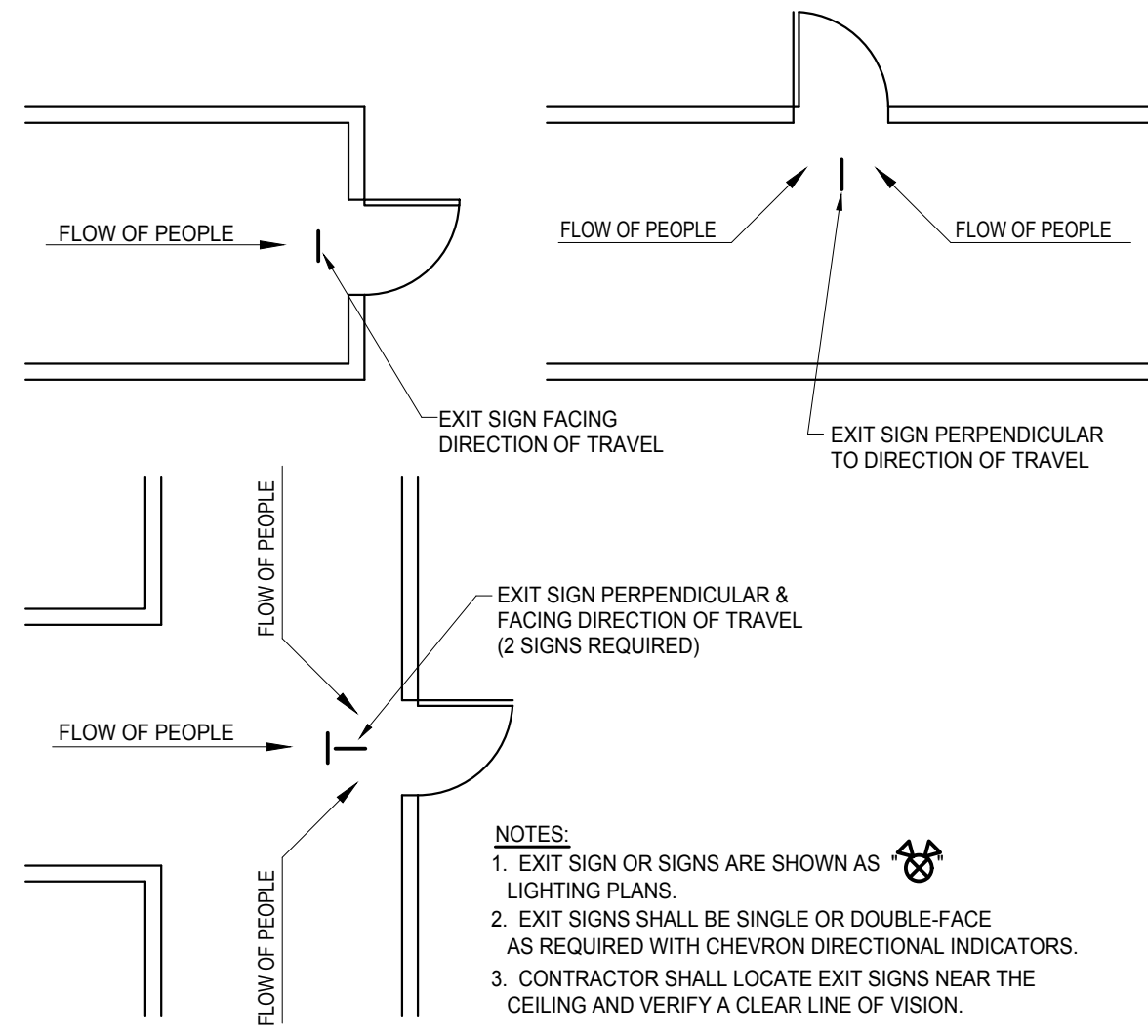
Rev: _____ Date: _____ Description: _____

Title Sheet: ELECTRICAL - LIGHTING PLAN

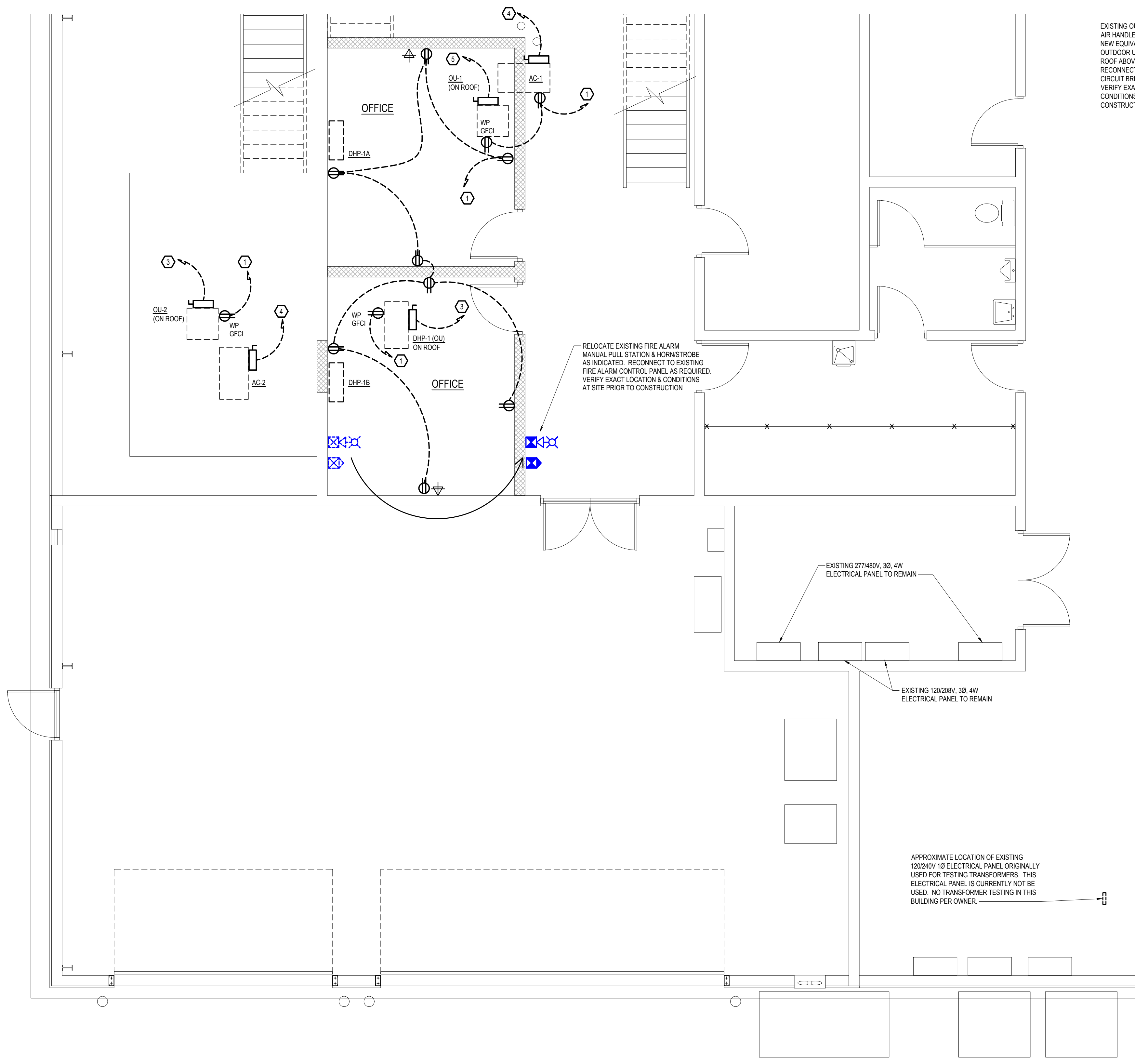
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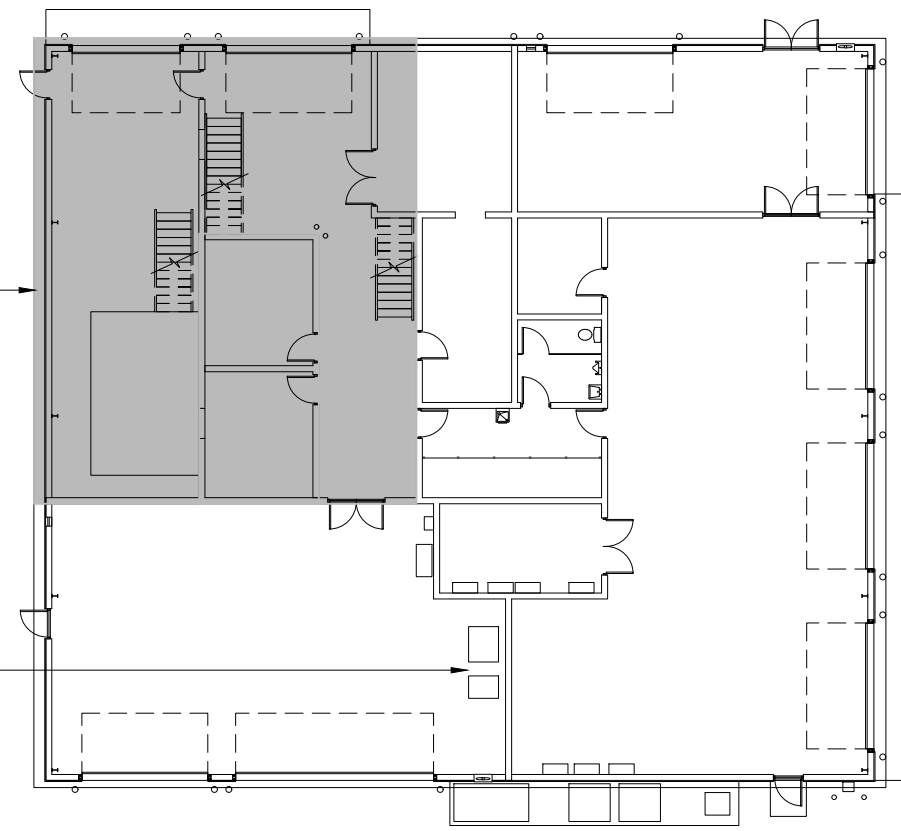
ELECTRICAL LOAD SUMMARY		
EXISTING BUILDING		
LIGHTS	7.88 KW X 125	9.80 KW
RECEPTACLES		7.20 KW
WATER HEATER		4.50 KW
HVAC (GAS HEAT / ELECT. COOL)		26.40 KW
EQUIPMENT (ESTIMATED)		50.00 KW
MISC.		5.00 KW
TOTAL		10270 KW
PROPOSED		
LIGHTS	170 KW X 125	2.18 KW
RECEPTACLES		2.16 KW
HVAC		8.53 KW
TOTAL		12.82 KW
$10270 \text{ KW} + 12.82 \text{ KW} = 11552 \text{ KW}$ $11552 \text{ KW} @ 480\text{V } 3\phi = 1391 \text{ AMPS}$ EXISTING 400 AMP ELECTRICAL SERVICE TO REMAIN		



LOCATIONS OF EXIT SIGNS
NO SCALE



EXISTING OUTDOOR UNITS & MATCHING AIR HANDLERS TO BE REPLACED WITH NEW EQUIVALENT SPLIT SYSTEMS. NEW OUTDOOR UNITS SHALL BE MOUNTED ON ROOF ABOVE MATCHING AIR HANDLER. RECONNECT TO EXISTING BRANCH CIRCUIT BREAKERS AS REQUIRED. VERIFY EXACT LOCATION & CONDITIONS AT SITE PRIOR TO CONSTRUCTION.



KEY PLAN
NTS

SPECIFIC ELECTRICAL NOTES

- THE NEW POWER BRANCH CIRCUIT INTO EXISTING LOCAL POWER BRANCH CIRCUIT WHERE POSSIBLE (8 RECEPT. PER CIRCUIT MAX.). PROVIDE AND INSTALL NEW 20 AMP 1 POLE BRANCH CIRCUIT BREAKER IN EXISTING 120/208V ELECTRICAL PANEL AS REQUIRED. VERIFY EXACT LOCATION & CONDITIONS AT SITE PRIOR TO CONSTRUCTION.
- THE NEW LIGHTING CIRCUIT INTO EXISTING LOCAL LIGHTING CIRCUIT WHERE POSSIBLE. PROVIDE AND INSTALL NEW 20 AMP 1 POLE BRANCH CIRCUIT BREAKER IN EXISTING 120/208V ELECTRICAL PANEL AS REQUIRED. VERIFY EXACT LOCATION & CONDITIONS AT SITE PRIOR TO CONSTRUCTION (SHEET E-1).
- THE NEW DEDICATED POWER BRANCH CIRCUIT INTO NEW 25 AMP 2 POLE BRANCH CIRCUIT BREAKER IN EXISTING 120/208V ELECTRICAL PANEL AS REQUIRED. VERIFY EXACT LOCATION & CONDITIONS AT SITE PRIOR TO CONSTRUCTION.
- THE NEW DEDICATED POWER BRANCH CIRCUIT INTO NEW 15 AMP 2 POLE BRANCH CIRCUIT BREAKER IN EXISTING 120/208V ELECTRICAL PANEL AS REQUIRED. VERIFY EXACT LOCATION & CONDITIONS AT SITE PRIOR TO CONSTRUCTION.
- THE NEW DEDICATED POWER BRANCH CIRCUIT INTO NEW 30 AMP 2 POLE BRANCH CIRCUIT BREAKER IN EXISTING 120/208V ELECTRICAL PANEL AS REQUIRED. VERIFY EXACT LOCATION & CONDITIONS AT SITE PRIOR TO CONSTRUCTION.

- NOTES:
- E.C. TO VERIFY LOADS ON EXISTING ELECTRICAL PANELS DO NOT EXCEED PANEL RATINGS.
 - E.C. TO PROVIDE AND INSTALL TYPED PANEL DIRECTORY INSIDE PANEL DOOR FOR ALL EXISTING ELECTRICAL PANELS.
 - E.C. TO VERIFY EXISTING CONDITIONS AT SITE PRIOR TO CONSTRUCTION.

NOTE: ALL AREAS WITH NO WORK SHOWN ARE EXISTING TO REMAIN

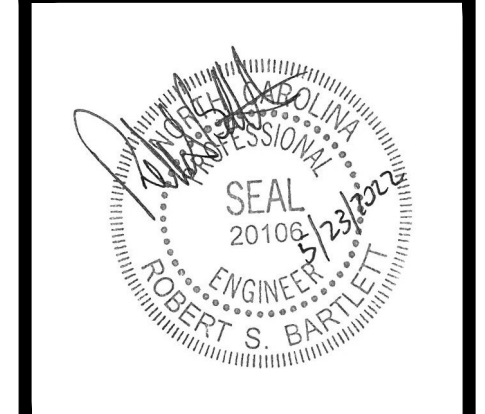
ELECTRICAL - POWER PLAN & FIRE ALARM PLAN
SCALE: 1/4" = 1'-0"

GENERAL DEMO NOTE:
REMOVE ALL EXISTING UNUSED ELECTRICAL DEVICES, FIXTURES, BOXES, SWITCHES, WIRING, DISCONNECTS, CONDUIT, ETC. AS REQUIRED. DISPOSE OF ALL MATERIALS PROPERLY.

Prepared for:
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Title Sheet:
ELECTRICAL - POWER PLAN & FIRE ALARM PLAN

Project:
City of Wilson Operations Center
Bldg. 500
1800 Herring Ave. Wilson, NC 27694

Drawn by: JLT
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