2018 APPENDIX B: BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

Name of Project: OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

Address: 636 CORREGIDOR DRIVE Zip Code 27302

Proposed Use: OFFICES AND STORAGE

Owner or Authorized Agent: Chuck Smith, PW Director Phone #: (919) 563-3401 E-Mail: csmith@cityofmebane.com

Owned By: City of Mebane 106 Washington St. Mebane, NC 27302 ☒ City/County ☐ Private ☐ State

Code Enforcement Jurisdiction: ☒ City ☐ County ☐ State

LEAD DESIGN PROFESSIONAL: ALLEY, WILLIAMS, CARMEN & KING, INC.

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	Alley, Williams, Carmen & King, Inc.	Jorge Rodriguez	10611	(336) 226-5534	jrodriguez@awck.com
Civil	Alley, Williams, Carmen & King, Inc.	Trenton Novelli	059786	(336) 226-5534	tnovelli@awck.com
Electrical	Sole Source Engineering	Jimmy L. Peacock	027431	(336) 446-6911	jpeacock@triad.rr.com
Fire Alarm	N/A				
Plumbing	Black Mountain Engineering	Michael Sprague	15233	(336) 454-0887	msprague@blackmtn.net
Mechanical	Black Mountain Engineering	Michael Sprague	15233	(336) 454-0887	msprague@blackmtn.net
Sprinkler-Standpipe	N/A				
Structural	Mid-Carolina Structures, PLLC	Matthew C. Riddle	059775	(336) 373-0601	matt@midcarolinastructures.com
Retaining Walls > 5' High	N/A				
Landscape	N/A				

2018 EDITION OF NC CODE FOR: ☐ New Building ☐ Shell/Core ☐ 1st Time Interior Completions ☒ Addition ☐ Phased Construction-Shell Core

2018 NC EXISTING BUILDING CODE: (check all that apply) ☐ Prescriptive ☐ Alteration Level I ☐ Historic Property ☐ Repair ☒ Alteration Level II ☐ Change of Use ☐ Chapter 14 ☐ Alteration Level III

CONSTRUCTED (date): 2012 CURRENT USE(S) (Ch. 3): Group S-2, Low-hazard storage

RENOVATED (date)_____ PROPOSED USE(S) (Ch. 3): Business (offices) & Group S-2, Low-hazard storage

OCCUPANCY CATEGORY (Table 1604.5): Current: Risk Category IV Proposed: Risk Category IV

BASIC BUILDING DATA

Construction Type: (check all that apply) ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A ☐ I-B ☒ II-B ☐ III-B

Sprinklers: ☐ No ☐ Partial ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D ☐ V-B

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

Primary Fire District: ☐ No ☐ Yes Flood Hazard District: ☐ No ☐ Yes

Special Inspections Required: ☐ No ☐ Yes

GROSS BUILDING AREA TABLE

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
OFFICES	3,950.0 SQ. FT.	279.0 SQ. FT.	4,229.0 SQ. FT.
STORAGE	11,044.0 SQ. FT.	2,161.0 SQ. FT.	13,205.0 SQ. FT.
TOTAL BLDG. AREA:	14,994.0 SQ. FT. +	2,440.0 SQ. FT. =	**17,434.0 SQ. FT.**

ALLOWABLE AREA

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

Accessory Occupancy Classification(s): N / A

Incidental Uses (Table 509):

Special Uses (Chapter 4 - List Code Sections): ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421

Special Provisions (Chapter 5 - List Code Sections): ☐ 508.2 ☐ 508.3 ☐ 508.4

Mixed Occupancy: ☐ No ☒ Yes Separation: ___ Hr. Exception: 303.3.1

☒ Non-Separated Mixed Occupancy (508.3)

☐ Separated Use (508.4) - See floor 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.

Actual Area of Occupancy A / *Allowable Area of Occupancy A* + *Actual Area of Occupancy B* / *Allowable Area of Occupancy B* + ... < 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2/ AREA	(C) AREA FOR AUTOMATIC SPRINKLER SYSTEM	(D) ALLOWABLE AREA PER STORY (UNLIMITED)
N/A	N/A	N/A	N/A	N/A	N/A

1 Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 foo 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 (maximum 3 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

PERCENTAGE OF WALL OPENING CALCULATIONS

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

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type : II-B		Type II-B	
Building Height in Feet (Table 504.3)	Feet : 75	Feet = H + 20' = N/A	20 ft.	
Building Height in Stories (Table 504.4)	Stories: 3	Stories = 1 N/A	Stories: 1	

*Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4

PLUMBING FIXTURE REQUIREMENTS

Table 2902.1, NC State Building Code 2018

USE	WATERCLOSETS		URINALS	LAVATORIES		SINKS / TUBS	DRINKING FOUNTAINS		SERVICE SINK
	Male	Female		Male	Female		REGULAR	ACCESSIBLE	
EXISTING	3	1	2	4	1	2	1		
PROVIDED (UNISEX)	1		0	1		0	1	1	
REQUIRED	3	1	0	3	1	0	1	1	1

Total Occupancy of Building # 1 (per Chapter 29 of NC Building Code 2018) = 62 occupants (office, repair garage & warehouse)

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET) TABLE 602	RATING REQ'D	RATING PROVIDED (W/ REDUCTION)	DETAIL # & SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural frame including columns, girders, trusses							
Bearing walls	N / A						
Exterior	N / A						
North	N / A						
East	N / A						
West	N / A						
South	N / A						
Interior	N / A						
Nonbearing walls and partitions							
Exterior walls							
North	>30'	0					
East	>30'	0					
West	>30'	0					
South	>30'	0					
Interior walls and partitions	N / A	0					
Floor Construction Including supporting beams & joists	N / A	0					
Floor Ceiling Assembly	N / A	0					
Columns supporting Floors	N / A	0					
Roof Construction Including supporting beams & joists	N / A	0					
Roof Ceiling Assembly	N / A	0					
Columns supporting Roof	N / A	0					
Shaft Enclosures - Exit	N / A	0					
Shaft Enclosures - Other (Elevator)	N / A	0					
Corridor Separation	N / A	0					
Occupancy / Fire Barrier Separation	N / A	0					
Party/Fire Wall Separation	N / A	0					
Smoke Barrier Separation	N / A	0					
Smoke Partition	N / A	0					
Tenant / Dwelling Unit / Sleeping Unit Separation	N / A	0					
Incidental Use Separation	N / A	0					

* Indicate section number permitting reduction

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(a) AREA[1] PER OCCUPANT	(b) AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD	(c) EGRESS WIDTH PER OCCUPANT (SECT. 1005.3.2)		EXIT WIDTH (in) 1,2,3,4,5,6 REQUIRED WIDTH (SECTION 1005.2.3) (B ÷ D) X C		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
Bldg # 1 Offices (exist.)	3,950	100 g.s.f.	40		EXIST	ING			
Bldg # 1 Warehouse (exist.)	11,044	500 g.s.f.	22		EXIST	ING			
Bldg. # 2 (exist.)	2,400.0	500 g.s.f.	5		EXIST	ING			
Bldg. # 2 Addition (Sign Shop)	2,400.0	500 g.s.f.	5		.2"		1"		72"
Total	19,794.0		72	N/A		N/A		N/A	

1 See Table 1004.1.2 to determine whether net or gross area is applicable. See definition "Area, Gross" and "Area, Net" (Section 1002)
2 Minimum stairway width (Section 1005.3.1); min. corridor width (Section 1020.2); min. door width (Section 1010.1.1)
3 Minimum width of exit passageway (Section 1024.2)
4 See Section 1005.6 for egress convergence.
5 The loss of one means of egress shall not reduce the available capacity to less than 50 percent of the total required (Section 1005.5)
6 Assembly occupancies (Section 1029)

STRUCTURAL DESIGN

(Provide on sheet 1 or 2 of the structural sheets)

DESIGN LOADS:

Importance Factors: Wind (Iw) ___1.2___ Snow (Is) ___1.2___ Seismic (I_E) ___1.5___

Live Loads: Roof ___20___ psf Mezzanine ___125___ psf Floor ___100___ psf

Ground Snow Load: ___15___ psf

Wind Load: Basic Wind Speed ___112___ mph (ASCE-7) Exposure Category ___C___ Wind Base Shears (for MWFRS)Vy = _____ Vx = _____

SEISMIC DESIGN CATEGORY ☐ A ☒ B ☒ C ☐ D

Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ I ☒ II ☐ III ☒ IV
Spectral Response Acceleration Ss ___.127___ %g S1 ___.062___ %g
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 ___2,000___ psf
Pile size, type, and capacity _____

ACCESSIBLE PARKING

Section 1106, NC State Building Code 2018

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 9' ACCESS AISLE (96")	VAN SPACES WITH 8' ACCESS AISLE (132")		
Exist. Bldgs. # 1 & # 2	22	47	1	2		1
Addition to Building # 2	2					
TOTAL	24	47	0	1	1	1

Parking requirements based on City of Mebane, NC ; Unified Development Ordinance (Table 6-5-1. Off-Street Parking Requirements)
Existing offices: 3,950 s.f. / 300 s.f = approx. 14 spaces
Existing warehouse/shops: 11,044 s.f. / 2,000 s.f. = approx. 6 spaces
Existing Build # 2: 2,400 s.f. / 2,000 s.f. = approx. 2 spaces
Building # 2 Addition (sign shop) 2,400 s.f. / 2,000 s.f = approx. 2 spaces

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☒ Yes
Exit Signs: ☐ No ☒ Yes
Fire Alarm: ☐ No ☒ Yes
Smoke Detection Systems: ☐ No ☒ Yes ☐ Partial
Panic Hardware: ☒ No ☐ Yes

EXIT REQUIREMENTS
NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM NUMBER OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS (SECTION (1007.1.1)	
	REQUIRED	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
Bldg. # 2 Addition (Sign Shop) w/ no sprinkler system	2	2	300 ft.	60 ft.	> 35 ft.	51 ft.

1 Corridor dead ends (Section 1029.4)
2 Single exits (Table 1006.2.1), Spaces w/ one means of egress (Table 1015.1)
3 Common path of travel (Section 1014.3)

SPECIAL APPROVALS

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

_____

_____

ENERGY SUMMARY

ENERGY REQUIREMENTS:

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

THERMAL ENVELOPE

METHOD OF COMPLIANCE:
☒ Prescriptive ☐ ___% Glazed Wall Area
☐ Performance ☐ Energy Cost Budget

ROOF/CEILING ASSEMBLY (Building # 2 by PEMB manufacturer)

DESCRIPTION OF ASSEMBLY: Metal roof panels with insulation by PEMB manufacturer.
U-VALUE OF TOTAL ASSEMBLY : U-0.035 per Table C402.1.4, NC Energy Conservation Code 2018
R-VALUE OF INSULATION : R-19 + R-11 Liner System per Table C402.1.3, NC Energy Conservation Code 2024
SKYLIGHTS IN EACH ASSEMBLY: N/A
U-VALUE OF SKYLIGHT - N/A
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY - N/A

EXTERIOR WALL ASSEMBLY (Building # 2 by PEMBmanufacturer)

DESCRIPTION OF ASSEMBLY: Metal wall panels with insulation by PEMB manufacturer.
U-VALUE OF TOTAL ASSEMBLY: U-0.079 per Table C402.1.4, NC Energy Conservation Code 2018
R-VALUE OF INSULATION: Not less than (R-19 + R-6.5 ci) per Table C402.1.3, NC Energy Conservation Code 2018
OPENINGS (WINDOWS OR DOORS WITH GLAZING) : N/A
U-VALUE OF ASSEMBLY:
SHADING COEFFICIENT:
PROJECTION FACTOR: LOW e REQUIRED, IF APPLICABLE: ... DOOR R-VALUES ...

WALLS ADJACENT TO UNCONDITIONED SPACE (each assembly)

DESCRIPTION OF ASSEMBLY:
4" metal stud with batt insulation and 5/8" gypsum wall board on each side.

U-VALUE OF TOTAL ASSEMBLY: Not less than 19.
R-VALUE OF INSULATION: Not less than 19.
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY: ...
SHADING COEFFICIENT: ...
PROJECTION FACTOR: ...
LOW e REQUIRED, IF APPLICABLE:

DOOR R-VALUES.

WALLS BELOW GRADE (each assembly)
DESCRIPTION OF ASSEMBLY: N / A
U-VALUE OF TOTAL ASSEMBLY:
R-VALUE OF INSULATION:

FLOORS OVER UNCONDITIONED (each assembly)
DESCRIPTION OF ASSEMBLY: N / A
U-VALUE OF TOTAL ASSEMBLY:
R-VALUE OF INSULATION:

FLOORS SLAB ON GRADE (Building # 2 addition)
DESCRIPTION OF ASSEMBLY:
4" CONCRETE SLAB + 2" x 24" PERIMETER RIGID INSULATION
U-VALUE OF TOTAL ASSEMBLY:
R-VALUE OF INSULATION: 11.4
HORIZONTAL/VERTICAL REQUIREMENT SLAB HEATED

ELECTRICAL SUMMARY
See electrical drawings for energy compliance
Statements related to electrical systems and equipment.

MECHANICAL SUMMARY
See mechanical drawings for energy compliance
Statements related to mechanical systems, service

Designer statement:
To the best of my knowledge and belief, the design of this building complies with the thermal envelope requirements of the 2018 North Carolina State Building Code.

_____
JORGE RODRIGUEZ, AIA
ALLEY, WILLIAMS, CARMEN & KING, INC.

ABBREVIATIONS

A.C.	ABOVE CEILING	EL.	ELEVATION
A.C.T.	ACOUSTICAL CEILING TILE	EQ.	EQUAL
A.D.A.	AMERICAN WITH DISABILITIES ACT	EXIT.	EXTERIOR
A.F.F.	ABOVE FINISH FLOOR	F.D.	FLOOR DRAIN
ALUM.	ALUMINUM	F.E.	FIRE EXTINGUISHER
A.S.F.M.	AMERICAN SOCIETY OF TESTING AND MATERIALS	F.F.	FINISH FLOOR
		F.R.	FIRE RETARDANT
BLDG.	BUILDING	GA.	GAUGE
B.F.	BOTTOM OF FOOTING	GALV.	GALVANIZED
C.C.	CENTER TO CENTER	G.C.	GENERAL CONTRACTOR
C.I.	CAST IRON	G.W.B.	GYPSUM WALL BOARD
C.J.	CONTROL JOINT	H.M.	HOLLOW METAL
C.M.U.	CONCRETE MASONRY UNIT	H.W.	HOT WATER
C.O.	CLEANOUT	INSUL.	INSULATION
CONC.	CONCRETE	INT.	INTERIOR
CPT.	CARPET	LAM.	LAMINATED
DIA	DIAMETER	M.O.	MASONRY OPENING
DN.	DOWN	MTD.	MOUNTED
EA.	EACH	MTL.	METAL
E.F.	EXHAUST FAN	N.I.A.	NOT IN CONTRACT
E.J.	EXPANSION JOINT	N.T.S.	NOT TO SCALE
EL.	ELEVATION
PREFIN.	PREFINISHED
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
PTD.	PAINTED
P.V.C.	POLY VINYL CHLORIDE
Q.T.	QUARRY TILE
R.C.P.	REINFORCED CONCRETE PIPE
R.D.	ROOF DRAIN
S.S.	STAINLESS STEEL
T.O.C.	TOP OF CURB
T.O.M.	TOP OF MASONRY
T.O.J.	TOP OF JOIST
T.O.S.	TOP OF STEEL
TYP.	TYPICAL
U.L.	UNDERWRITERS LABORATORY
U.N.O.	UNLESS OTHERWISE NOTED
V.C.T.	VINYL COMPOSITION TILE
V.I.F.	VERIFY IN FIELD
V.P.	VENT PIPE
V.T.R.	VENT THROUGH ROOF
WD.	WOOD
W.W.F.	WELDED WIRE FABRIC

DRAWING NOTATIONS

04 / A2.1 — BUILDING ELEVATION
00 / A0.0 — WALL / BUILDING SECTION
00 / A0.0 — INTERIOR ELEVATION
09 / A7.1 — INTERIOR ELEVATION
00 / A0.0 — PLAN DETAIL / ENLARGED PLAN
SITE PAVING
W / X — INTERIOR H.M. FRAME W/ GLASS
WINDOW FRAME TYPE
FEC — FIRE EXTINGUISHER CABINET

SYMBOLS

BATT INSULATION
CONCRETE
CMU
EARTH
GYPSUM WALL BOARD
PLYWOOD
RIGID INSULATION
STEEL
STONE VENEER
GLASS
WOOD (BLOCKING)
POROUS FILL

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO

MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR DRIVE, MEBANE NORTH CAROLINA 27302

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	E5	STORAGE BLDG. # 2 ADDITION, LIGHTING / POWER PLANS & NOTES

CITY OF MEBANE 1881

ALLEY WILLIAMS CARMEN & KING, INC. REGISTERED ARCHITECTURAL ENGINEERING CORPORATION NO. 28 BURLINGTON NC

JORGE LUIS RODRIGUEZ SAM LICENSED ARCHITECT 6-24-2026 #10611 NORTH CAROLINA

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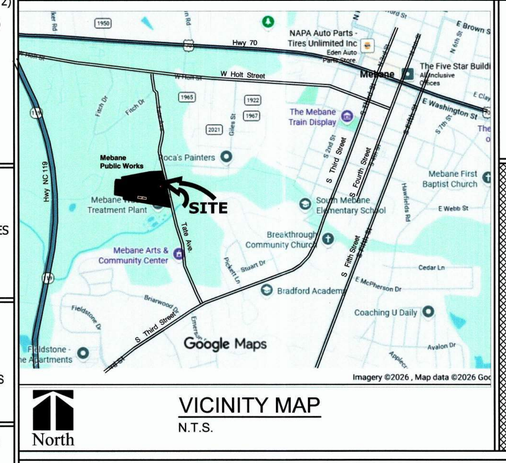
(336) 446-6911



North

VICINITY MAP
N.T.S.

PROJECT # 25063

SET # _____

June 24, 2026

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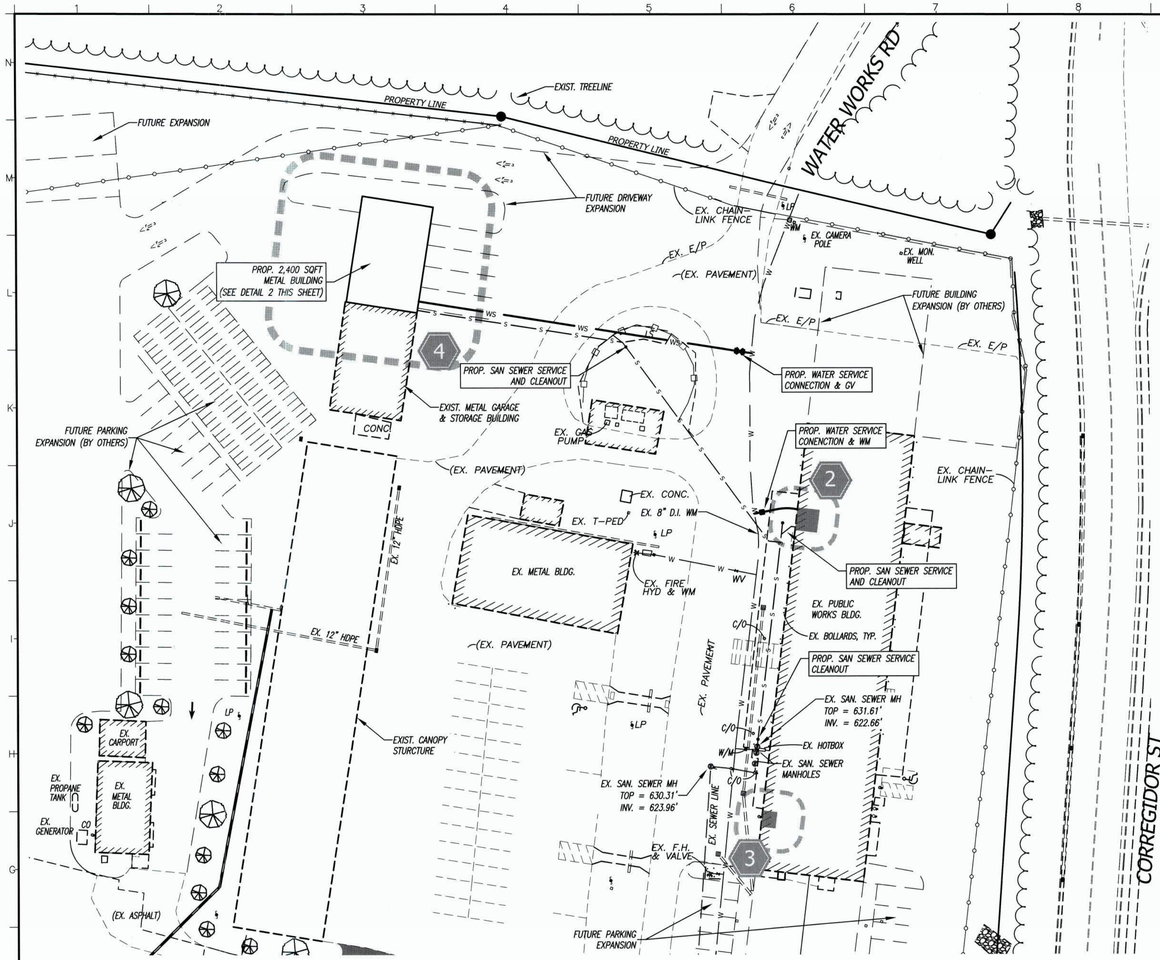

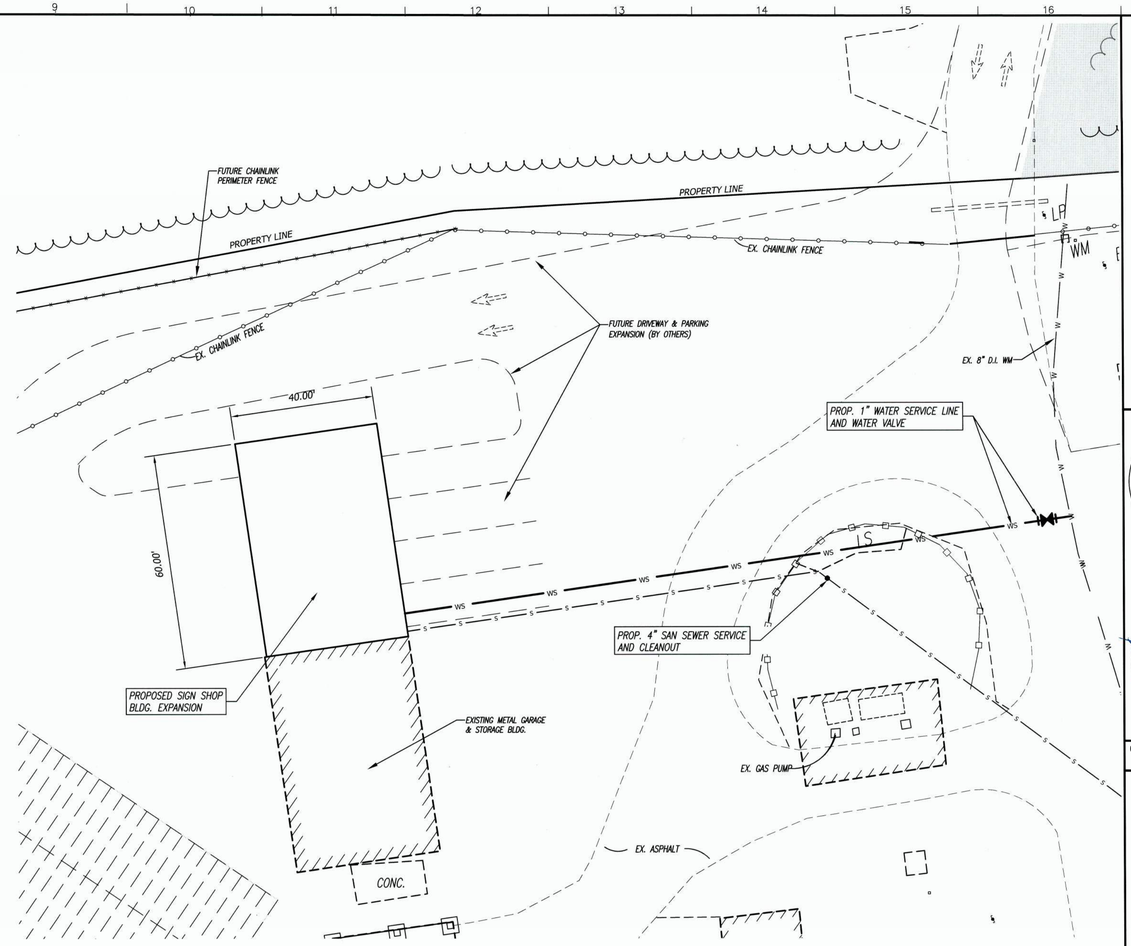

1 C1 SITE PLAN
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

2 C1 ENLARGED SITE PLAN
SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

2 CHIEF MECHANIC OFFICE AND MEZZANINE

3 RENOVATION FOR NEW LOBBY AND RECEPTION AREA

4 BUILDING ADDITION TO SIGN SHOP (2,400 SF HEATED)

PROPERTY DESCRIPTION

- ADDRESS: 636 CORREGIDOR ST., MEBANE
- PROPERTY AREA: 14.4 ACRES
- DEED REF: 0123 0319
- PARCEL ID: 180148
- GPIN: 9815513882
- OWNER: CITY OF MEBANE
  106 E. WASHINGTON ST.
  MEBANE, NC 27302
- COUNTY: ALAMANCE COUNTY, NC
- ZONING: _____
- WATERSHED ZONING
  OVERLAY DESIGNATION: JORDAN LAKE PH II COMMUNITY
- PROPOSED USE: OFFICE & SHOPS, GOVERNMENTAL

THIS PLAN DOES NOT PURPORT TO SHOW ALL EXISTING UTILITIES, LINES, APPURTENANCES, ETC., AND THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, PIPES, VALVES, ETC. AS SHOWN ARE IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER/ARCHITECT. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES, LINES, PIPES, ETC. BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, PIPES AND VALVES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/ARCHITECT OF ANY CONFLICTS WITH EXISTING AND PROPOSED FACILITIES TO DETERMINE IF AN ITEM WILL NEED TO BE RELOCATED.

THE ENGINEER/ARCHITECT HAS MADE NO EXAMINATION TO DETERMINE WHETHER ANY HAZARDOUS OR TOXIC MATERIALS ARE PRESENT OR CONTAINED IN, UNDER, OR ON THE SUBJECT PROPERTY OR ITS WATERS, OR IF ANY HAZARDOUS OR TOXIC MATERIALS HAVE CONTAMINATED THIS OR OTHER PROPERTIES OR ITS WATERS IN ANY WAY WHATSOEVER. NO SUB-SURFACE EXAMINATION OF ANY TYPE HAS BEEN MADE BY THE ENGINEER/ARCHITECT, AND ACCORDINGLY, NO OPINION IS EXPRESSED OR INFERRED ON ALL SUCH MATTERS. FURTHER, NO OPINION IS RENDERED AS TO ANY VIOLATION OF ANY ENVIRONMENTAL LAWS OR REGULATIONS, EITHER FEDERAL, STATE, OR LOCAL RELATED TO THE INFORMATION SHOWN ON THIS PLAN AND THE ENGINEER/ARCHITECT IS IN NO WAY LIABLE FOR ANY VIOLATION OF SUCH ENVIRONMENTAL LAWS SHOULD SUCH EXIST.

GRADING AND STORM DRAINAGE NOTES :

1. ALL SITE MATERIALS ARE UNCLASSIFIED. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK EXCAVATION IF ENCOUNTERED. UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. ANY BORROW MATERIAL REQUIRED TO GRADE THE SITE WILL BE AT THE CONTRACTORS EXPENSE. ENVIRONMENTAL PERMITS AND FEES REQUIRED FOR BORROW OR WASTE SITES SHALL BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTORS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKEOUT AT CONTRACTORS EXPENSE.
3. CONTRACTOR SHALL EMPLOY THE SERVICES OF A GEOTECHNICAL ENGINEER AND TESTING LABORATORY TO PROVIDE GEOTECHNICAL SERVICES FOR THE PROJECT AT CONTRACTORS EXPENSE.
4. ALL ASPECTS OF THE EARTHWORK OPERATIONS ARE TO BE APPROVED BY THE GEOTECHNICAL ENGINEER.
5. HAZARDOUS MATERIALS SHALL BE DEFINED AS MATERIAL CONTAINING ASBESTOS, PCB OR PETROLEUM CONTAMINANTS, OR OTHER CONTAMINANTS IDENTIFIED BY THE E.P.A. OR OTHER FEDERAL OR STATE AGENCY AS POTENTIALLY LIFE-THREATENING AND REQUIRING SPECIAL HANDLING AND/OR DISPOSAL. IF THE PRESENCE OF ANY SUCH CONTAMINANTS IS SUSPECTED, THE ARCHITECT OR ENGINEER SHALL BE PROMPTLY TESTED. IF CONTAMINATED MATERIALS ARE IDENTIFIED, SUCH MATERIALS WILL BE REMOVED FROM THE SITE BY THE OWNER UNDER SEPARATE CONTRACT OR BY THE GENERAL CONTRACTOR AS AN APPROVED CHANGE TO HIS CONTRACT. ESTIMATED QUANTITIES, UNIT PRICES AND SCHEDULE FOR REMOVAL SHALL BE IDENTIFIED, VERIFIED AND APPROVED BY THE ARCHITECT/ENGINEER AND THE OWNER PRIOR TO SUCH REMOVAL.
6. FILL MATERIAL SHALL BE INORGANIC, FREE OF DEBRIS, SUITABLE FOR COMPACTION & APPROVED BY THE GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL HAVE A PLASTICITY INDEX LESS THAN 25.
7. FILL MATERIAL SHALL BE SPREAD IN SUCCESSIVE, UNIFORM LAYERS NOT EXCEEDING 8" IN LOOSE THICKNESS & COMPACTED TO A MINIMUM OF 98% OF THE MAXIMUM DENSITY.
8. DRAINAGE PIPE MAY BE EITHER RCP, CLASS III OR HDPE WITH SOIL TIGHT CONNECTIONS. ALL PIPE AND INSTALLATION SHALL BE IN ACCORDANCE w/ NCDOT STANDARD SPECIFICATIONS.
9. DRAINAGE STRUCTURES FOR CATCH BASINS AND DROP INLETS SHALL BE MASONRY AND CONSTRUCTED TO THE DIMENSIONS SHOWN ON THE PLANS. PRECAST STRUCTURES MAY BE USED PROVIDED SUBMITTALS ARE APPROVED AS "OR EQUAL".
10. CUT, FILL AND ROUGH GRADE AS REQUIRED TO BRING SITE TO PROPOSED SUBGRADE ELEVATIONS. MAKE GRADES, NOT OTHERWISE INDICATED, AT UNIFORM LEVELS OR SLOPES BETWEEN WHERE ELEVATIONS ARE GIVEN; HOWEVER, PROVIDE PROPER & POSITIVE DRAINAGE FROM ALL AREAS.
11. PROVIDE A 1/4" PER FOOT CROSS SLOPE FOR SIDEWALKS.
12. REGRADE AROUND EXISTING BUILDING TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
13. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE ORANGE COUNTY STANDARDS. IF ORANGE COUNTY SPECIFICATIONS DO NOT ADDRESS AN ITEM, COMPLY WITH NCDOT STANDARD SPECIFICATIONS AND REQUIREMENTS.
14. REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III AND CONFORM TO AASHTO M-170, TABLE III.
15. WHERE DESIGNATED ON THE PLANS, CONTRACTOR MAY USE RCP IN LIEU OF HDPE PIPE.
16. CONTRACTOR SHALL PROVIDE CPP FOR ROOF DRAIN LEADERS AND CONNECTIONS. CONTRACTOR SHALL PROVIDE ADAPTERS AND NECESSARY FITTINGS TO CONNECT LEADERS TO DOWNSPOUTS. MIN. PIPE SIZE SHALL BE 6" ø . MIN. PIPE SLOPE SHALL BE 1/4" PER FOOT.

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NORTH CAROLINA PROFESSIONAL SEAL 039766 ENGINEER TRENTON J. ROPELEWSKI
6/25/26

CONSULTANT JOB NO.

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

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REVISIONS

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SITE PLAN, UTILITY PLAN AND GRADING NOTES

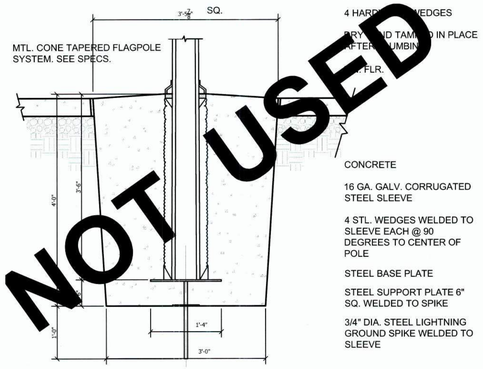
DATE June 24, 2026

DRAWN BY: JRS | CHECKED:

JOB NO. 25063

SHEET NO. C1 OF

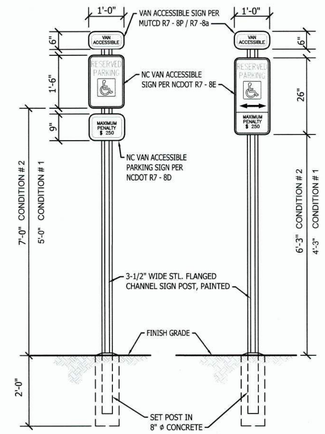
NOT USED



2 / C3 FLAGPOLE FOUNDATION DETAIL
SCALE: 3/4" = 1'-0"

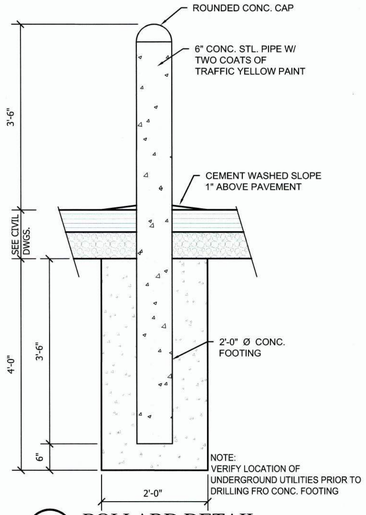
NOTES:

1. MAX. FLAGPOLE HEIGHT IS 24' PER SECTION 6.12.12, ORANGE COUNTY UNIFORM DEVELOPMENT CODE.
2. MAX. FLAG SIZE IS 24 SQ. FT. PER ORANGE COUNTY UNIFORM DEVELOPMENT CODE.

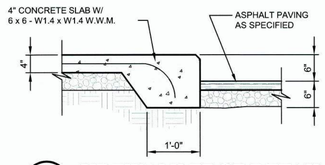


1 / C3 ACCESSIBLE PARKING SIGNS
SCALE: 1/2" = 1'-0"

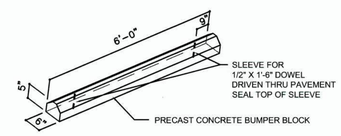
GENERAL NOTES:
REGARDLESS OF AGE, ALL ACCESSIBLE SPACES SHALL BE IDENTIFIED BY ABOVE GROUND SIGNS ONLY.
NEW SPACES SHALL NOT USE GROUND-PAINTED SYMBOLS.
ACCESSIBLE SPACES ARE REQUIRED TO BE STRIPED OFF ONLY; BLUE COLORING IS NOT NECESSARY NOR REQUIRED.
STRIPING IS WHITE ON DARK PAVEMENT; BLACK ON LIGHT PAVEMENT.
CONDITION # 1: PEDESTRIAN PATH DOES NOT PASS UNDER OR AROUND SIGN.
CONDITION # 2 : PEDESTRIAN PATH GOES BY, UNDER OR AROUND SIGN.



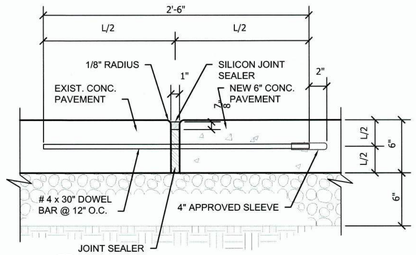
3 / C3 BOLLARD DETAIL
SCALE: 3/4" = 1'-0"



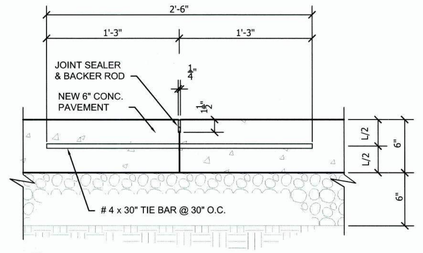
12 / LA1.2 SIDEWALK EDGE DETAIL
SCALE: 3/4" = 1'-0"



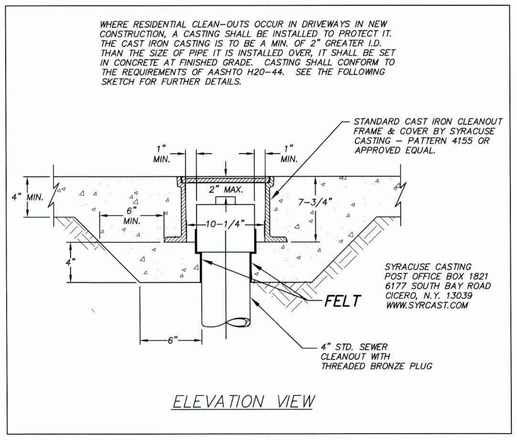
5 / C3 CONC. PARKING BUMPER
SCALE: 1/4" = 1'-0"



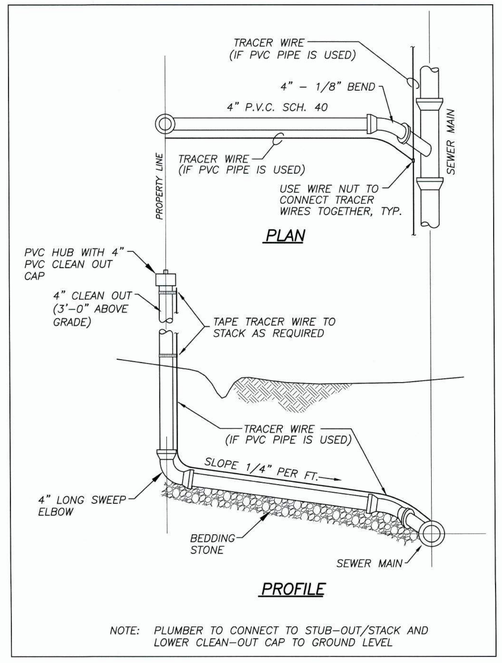
12 / C3 EXPANSION JOINT. DET
SCALE: 1 1/2" = 1'-0"
ROADWAY STANDARD DRAWING FROM NC DEPT. OF TRANSPORTATION, DIVISION OF HIGHWAYS



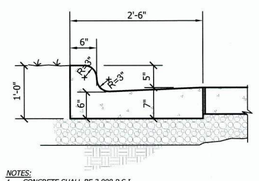
13 / C3 LONGITUDINAL CONST. JOINT. DET
SCALE: 1 1/2" = 1'-0"
ROADWAY STANDARD DRAWING FROM NC DEPT. OF TRANSPORTATION, DIVISION OF HIGHWAYS



ELEVATION VIEW

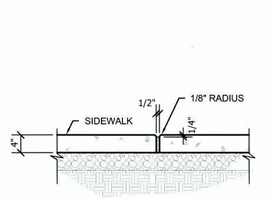


NOTE: PLUMBER TO CONNECT TO STUB-OUT/STACK AND LOWER CLEAN-OUT CAP TO GROUND LEVEL



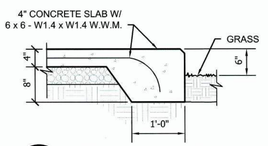
NOTES:
1. CONCRETE SHALL BE 3,000 P.S.I.
2. CONTRACTION JOINTS SHALL BE SPACED AT 10' INTERVALS. (A 15' SPACING WILL BE ALLOWED WHEN A MACHINE IS USED.)
3. FINISH ALL CONCRETE WITH CURING COMPOUND

8 / C3 CONCRETE CURB DETAIL
SCALE: 3/4" = 1'-0"

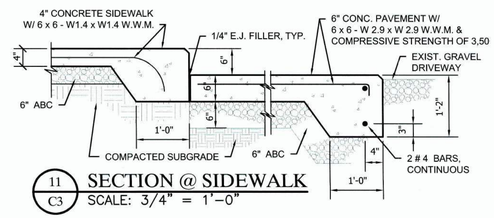


TRANSVERSE EXPANSION JOINT

9 / C3 SIDEWALK DETAIL
SCALE: 3/4" = 1'-0"



10 / C3 SECT. @ SIDEWALK
SCALE: 3/4" = 1'-0"



11 / C3 SECTION @ SIDEWALK
SCALE: 3/4" = 1'-0"

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CONSULTANT JOB NO.

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.
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REVISIONS

BOLLARD AND CONCRETE DETAILS

DATE June 24, 2026
DRAWN BY: JRS | CHECKED:
JOB NO. 25063

SHEET NO. C2 OF

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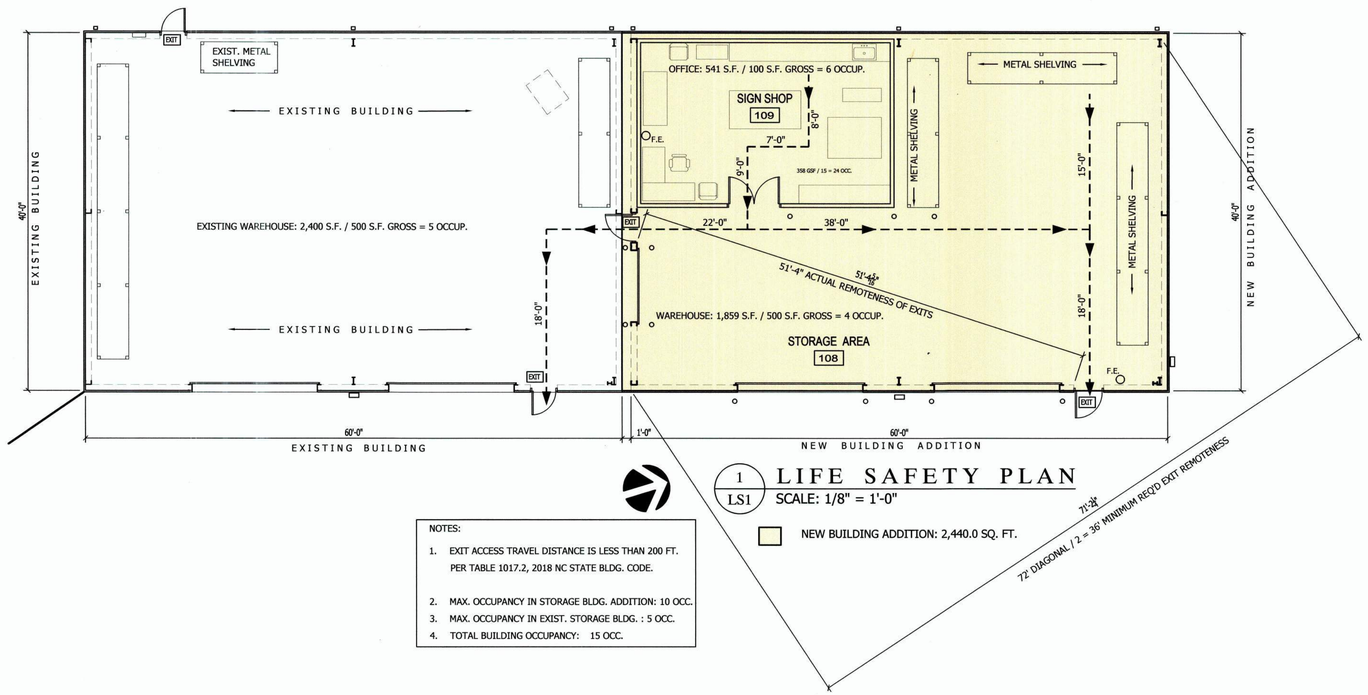

1 / LS1 LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0"

NEW BUILDING ADDITION: 2,440.0 SQ. FT.

NOTES:

1. EXIT ACCESS TRAVEL DISTANCE IS LESS THAN 200 FT. PER TABLE 1017.2, 2018 NC STATE BLDG. CODE.
2. MAX. OCCUPANCY IN STORAGE BLDG. ADDITION: 10 OCC.
3. MAX. OCCUPANCY IN EXIST. STORAGE BLDG. : 5 OCC.
4. TOTAL BUILDING OCCUPANCY: 15 OCC.

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JORGE LUIS RODRIGUEZ SAN
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6-24-2026
#10611
NORTH CAROLINA

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LIFE SAFETY PLAN

DATE June 24, 2026

DRAWN BY: JRS | CHECKED:

JOB NO. 25063

SHEET NO. LS1

OF

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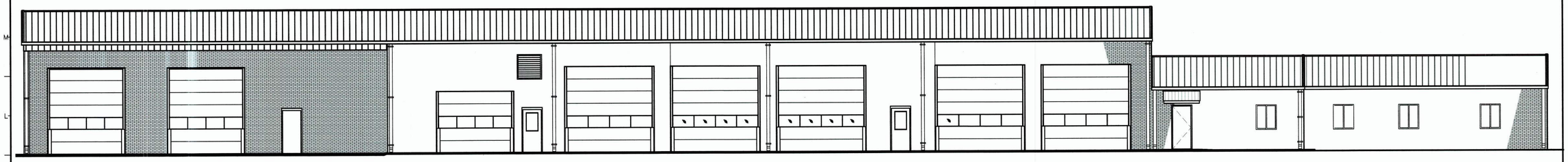
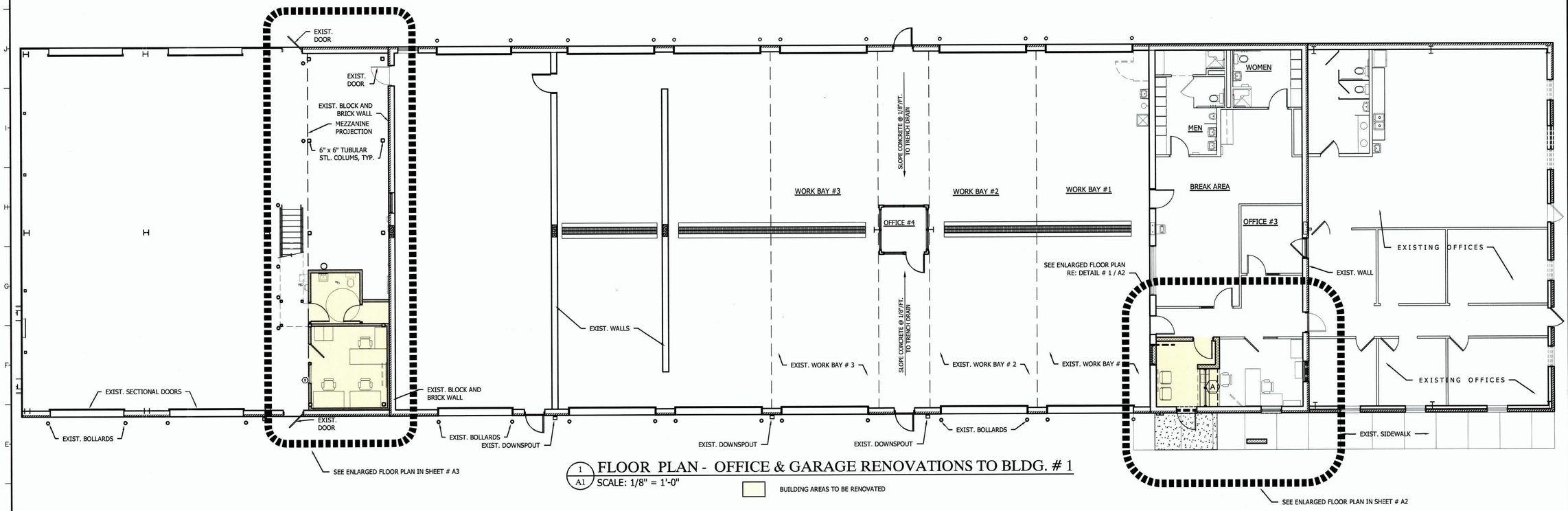


2 / A1 FRONT ELEVATION - OFFICE & GARAGE (BLDG. # 1)



1 / A1 FLOOR PLAN - OFFICE & GARAGE RENOVATIONS TO BLDG. # 1
SCALE: 1/8" = 1'-0"

BUILDING AREAS TO BE RENOVATED

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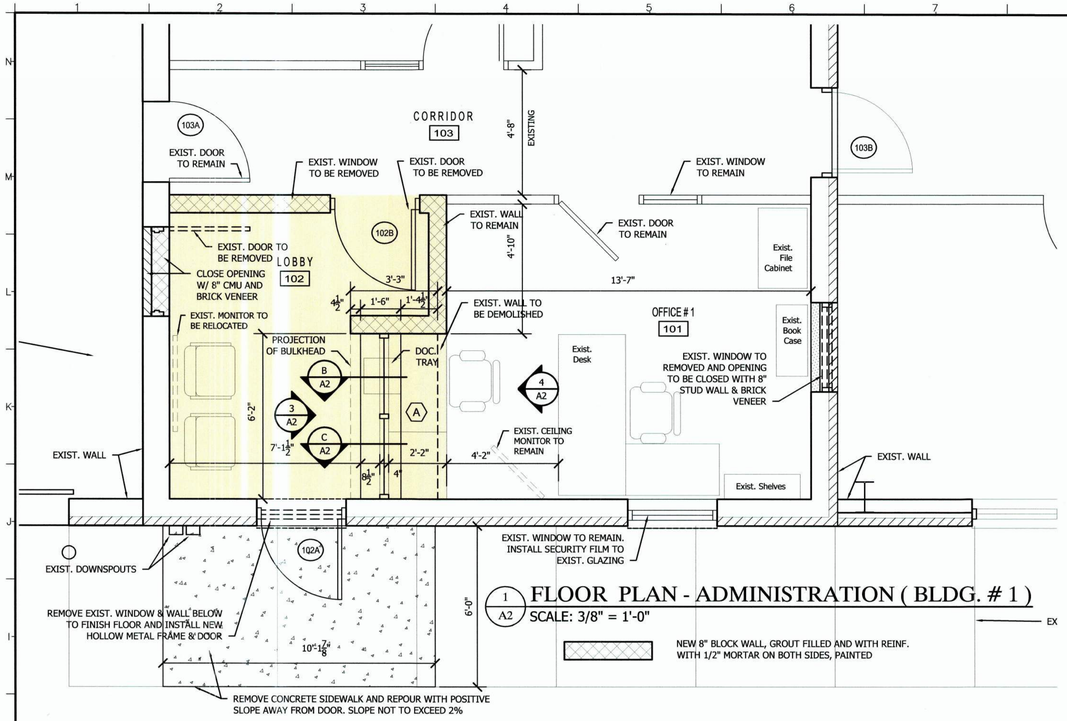
OVERALL FLOOR PLAN AND BUILDING ELEVATIONS

DATE June 24, 2026

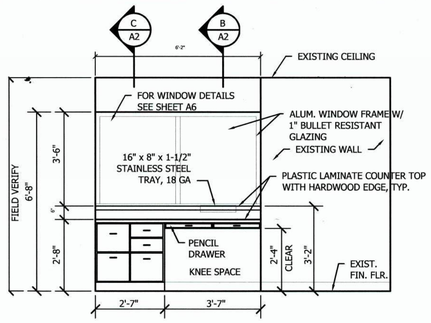
DRAWN BY:	CHECKED:
JRS	

JOB NO. 25063

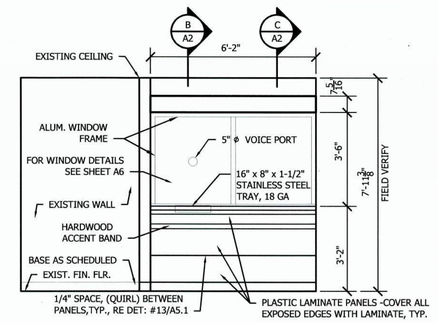
SHEET NO. A1 OF



1 / A2 FLOOR PLAN - ADMINISTRATION (BLDG. # 1)
SCALE: 3/8" = 1'-0"



4 / A2 ELEVATION @ RECEPTION
SCALE: 3/8" = 1'-0"



3 / A2 ELEVATION @ RECEPTION
SCALE: 3/8" = 1'-0"

FINISH SCHEDULE

NO	ROOM NAME	FLOOR						BASE				WALLS			CEILING					HGT	REMARKS
		12" x 12" HARD TILE	CARPET	12" x 12" CERAMIC TILE	VINYL COMPOSITION TILE	EPOXY FLOOR	EXIST. FINISH TO REMAIN	HARD TILE	4" RUBBER LOCK	4" CERAMIC COVE TILE	EPOXY	EXIST. FINISH TO REMAIN	WOOD BASE	NEW GWB, PAINTED	GWB, PAINTED	MOIST. RES. PAINTED	4" x 4" CERAMIC TILE	EXIST. FINISH TO REMAIN	2x2 LAY-IN CEILING-WATER RESISTANT	2x2 LAY-IN ACOUST. CEILING	GYP. BRD. CEIL., PAINTED	EXPOSED STRUCTURE	EXIST. CEILING TO REMAIN		
101	OFFICE # 1						•		•					•	•					•				EXISTING	REPLACE ANY DAMAGED VCT FLOOR TILES W/ NEW, SIMILAR TILES REPLACE ANY DAMAGED CEILING TILES W/ NEW , SIMILAR TILES
102	LOBBY				•				•					•	•					•	•			8'-0"	
103	CORRIDOR				•				•					•										EXISTING	REPLACE ANY DAMAGED VCT FLOOR TILES W/ NEW, SIMILAR TILES REPLACE ANY DAMAGED CEILING TILES W/ NEW , SIMILAR TILES
104	OFFICE				•				•					•	•					•				8'-4"	
105	TOILET ROOM		•					•						•						•				8'-0"	
106	STORAGE ROOM				•				•					•	•					•				8'-0"	
107	MEZZANINE						•																•		APPLY CONCRETE FLOOR HARDENER
108	STORAGE AREA				•				•														•		
109	SIGN SHOP				•				•					•	•							•		8'-0"	

GENERAL NOTES: PROVIDE CONCRETE FLOOR SEALER ON EXPOSED CONCRETE FLOORS.

PARTITION SCHEDULE

EXTERIOR WALL, (THICKNESS AS SHOW) - METAL PANELS BY PRE-ENGINEERED METAL BUILDING MANUFACTURER

TYP. INTERIOR WALL, (THICKNESS AS SHOWN) - 3-5/8" OR 6" MTL. STUDS AT 16" O.C. W/ 5/8" GYPSUM BOARD ON EACH SIDE - PROVIDE SOUND BATTING IN WALLS, TYP.

TYP. INTERIOR WALL, (THICKNESS AS SHOWN) : 8" BLOCK WALL W/ REINFORCED AND PAINTED ON EACH SIDE -

1 - HR. FIRE RATED WALLS PER UL # U-419

GENERAL NOTES:
1. ALL WALL OPENINGS AND DOOR OPENINGS WILL REQUIRE A LINTEL - SEE STRUCTURAL DRAWINGS.

2. ALL WALLS IN TOILET ROOMS SHALL EXTEND TO THE ROOF DECK AND SHALL BE REINFORCED FOR INSTALLATION OF GRAB BARS.

DRAWING NOTATIONS

OFFICE 107 — ROOM NAME / NUMBER - SEE SHT. A2.0 FOR FINISH SCHEDULE

101 — DOOR NUMBER - SEE SHT. A2.1 FOR DOOR SCHEDULE

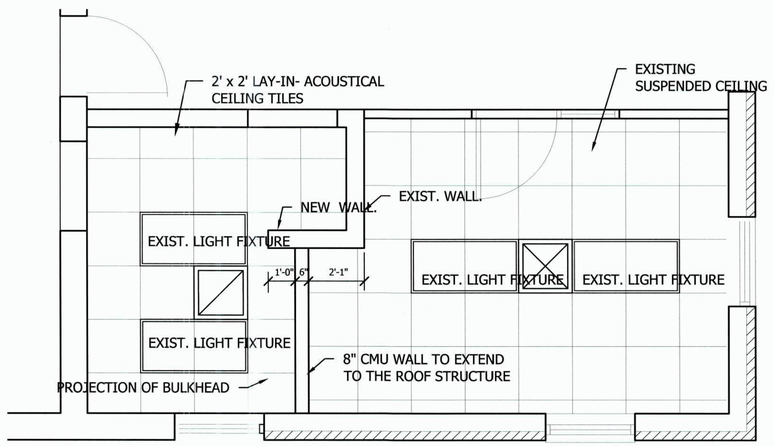
A — WINDOW LETTER

B / A1.1 — DETAIL NUMBER / SHEET NUMBER

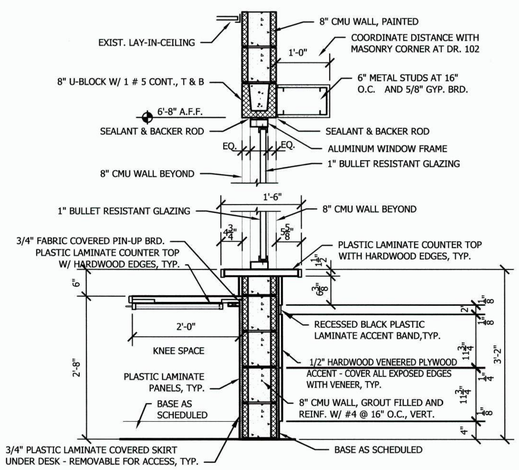
F.E.C. — CABINET & FIRE EXTINGUISHERS SHALL BE TYPE ABC 5 LBS. & DISTRIBUTED AS SHOWN ON DRAWINGS AS RECOMMENDED BY NFPA 10, TABLES 6-2.3B AND 6-2.3C.

F.E. — FIRE EXTINGUISHER ABC 5 LBS., MULTI PURPOSE CHEMICAL, UL RATED W/ WALL HANGER

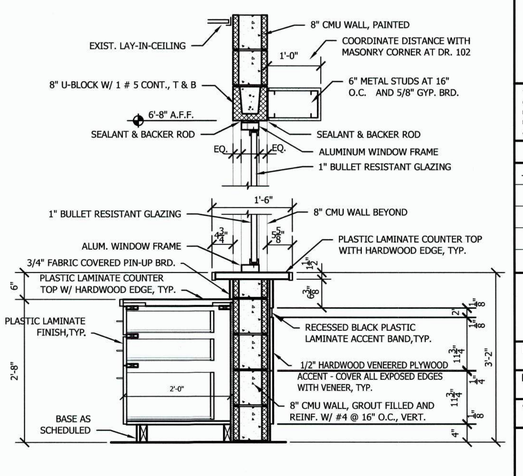
THE MAX. MOUNTING HEIGHT OF FIRE EXTINGUISHERS SHALL BE 5 FT. (TOP OF UNIT TO FINISH FLOOR).



2 / A2 CEILING PLAN - ADMINISTRATION (BLDG. # 1)
SCALE: 3/8" = 1'-0"



B / A2 SECTION @ RECEPTION COUNTER
SCALE: 3/4" = 1'-0"



C / A2 SECTION @ RECEPTION COUNTER
SCALE: 3/4" = 1'-0"

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BURLINGTON NC

JORGE LUIS RODRIGUEZ SAN
LICENSED ARCHITECT
6-24-2026
#10611
NORTH CAROLINA

CONSULTANT JOB NO.

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

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REVISIONS

FOUNDATION PLAN & DETAILS

DATE June 24, 2026

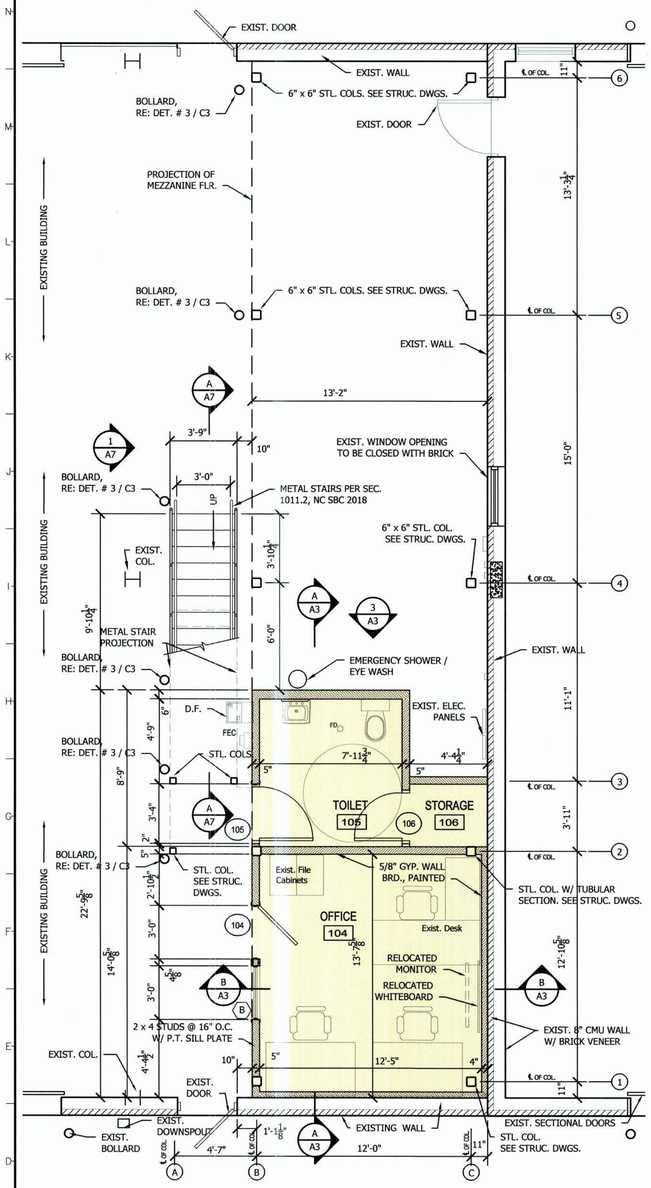
DRAWN BY: JRS | CHECKED:

JOB NO. 25063

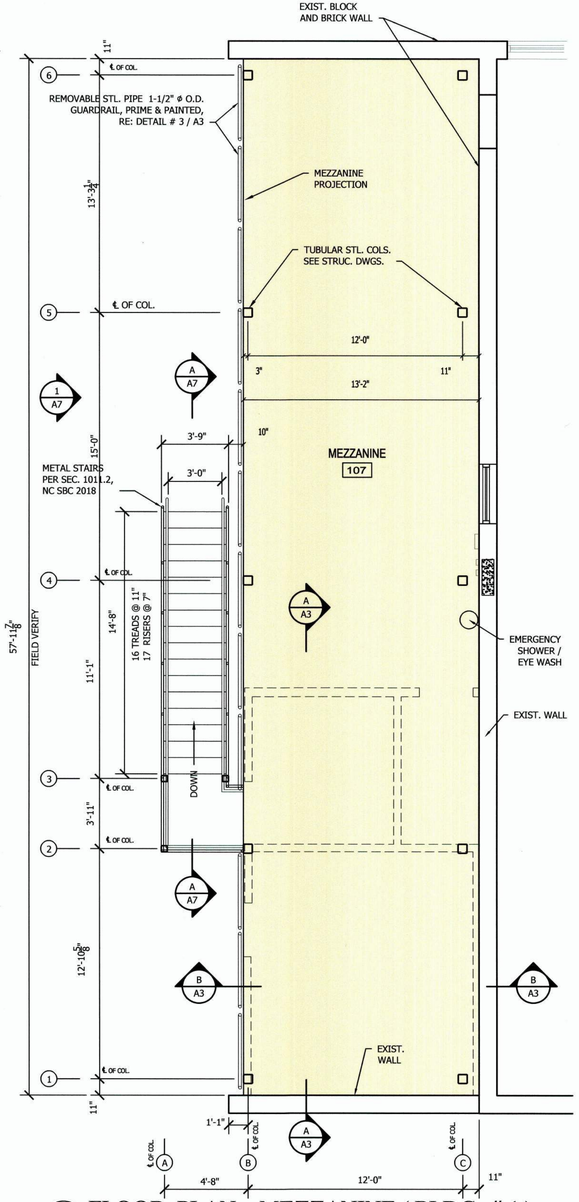
SHEET NO. A2

OF

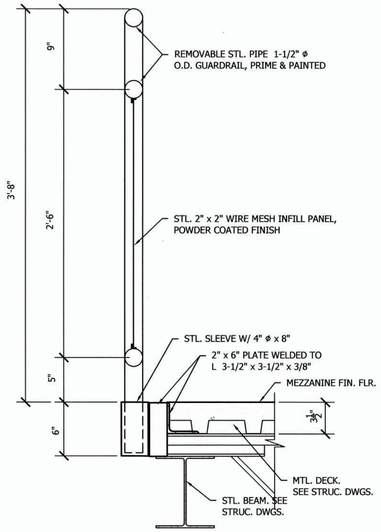
R:\2025\25063_Mebane PW_Shop Addition\Final Dwgs\25063_MPW_A1_A2_A3_A4_A5_A6_Rev 07.dwg, 6/29/2026 1:21:35 PM, Canon TM-355 (temporary).pc3



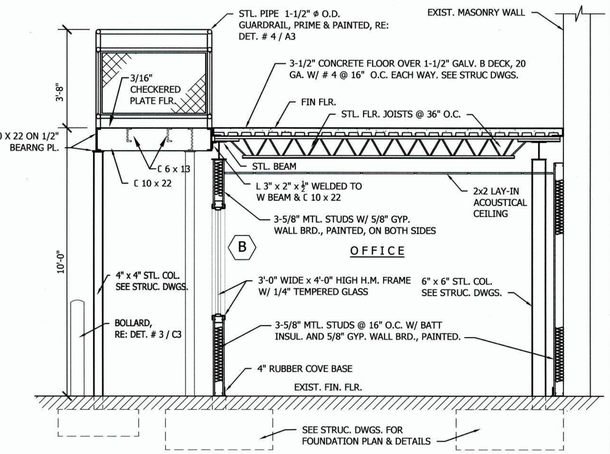
1 / A3 FLOOR PLAN - OFFICE (BLDG. # 1)
SCALE: 1/4" = 1'-0" OFFICE AREA: 279.1 SQ. FT.



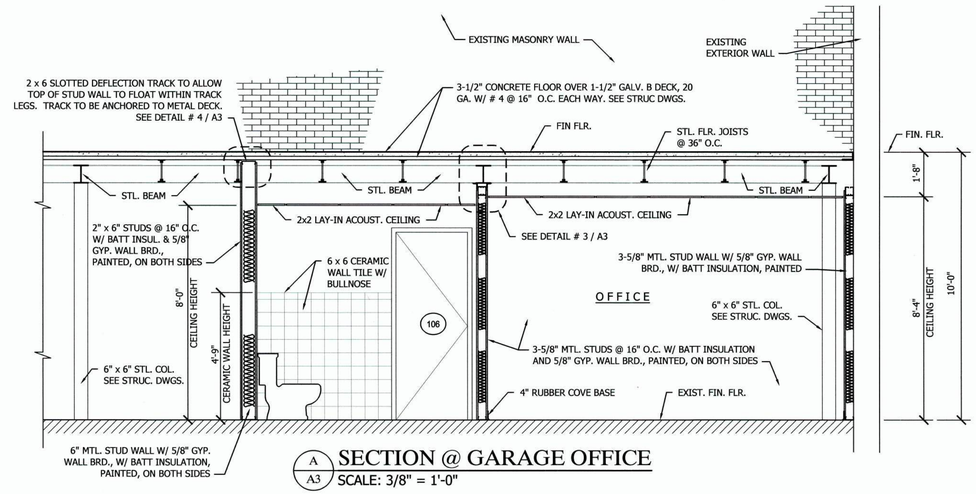
2 / A3 FLOOR PLAN - MEZZANINE (BLDG. # 1)
SCALE: 1/4" = 1'-0" MEZZANINE FLOOR AREA: 763.6 SQ. FT.



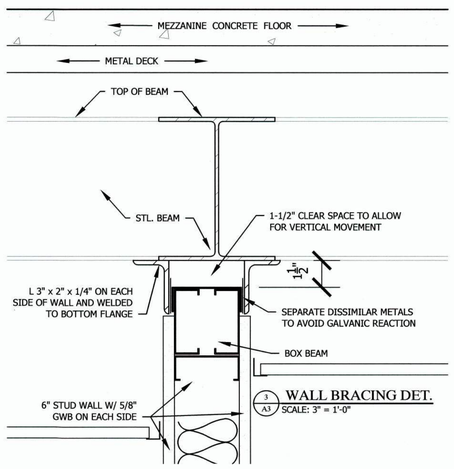
3 / A3 GUARDRAIL DETAIL
SCALE: 1 1/2" = 1'-0"



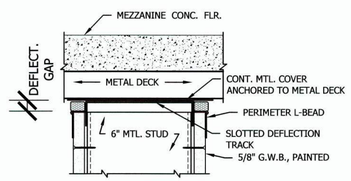
B / A3 SECTION @ OFFICE
SCALE: 3/8" = 1'-0"



A / A3 SECTION @ GARAGE OFFICE
SCALE: 3/8" = 1'-0"



3 / A3 WALL BRACING DET.
SCALE: 3" = 1'-0"



4 / A3 WALL BRACING DET.
SCALE: 3" = 1'-0"

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MEZZANINE FLOOR PLAN SECTIONS & DETAILS

DATE June 24, 2026

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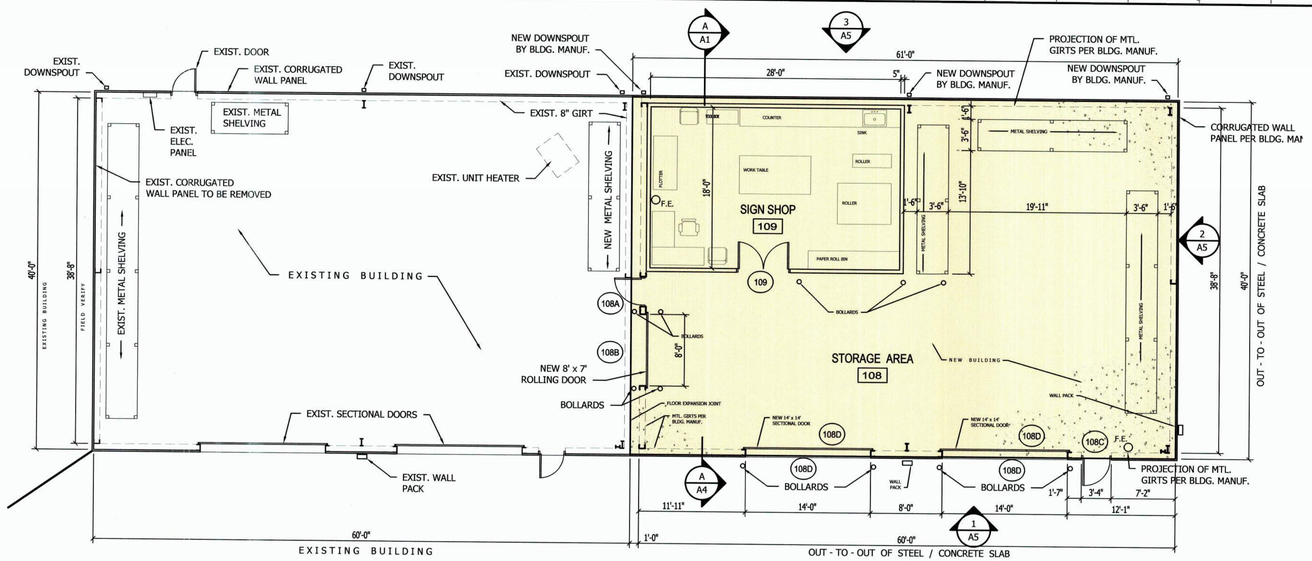
JOB NO. 25063

SHEET NO. A3

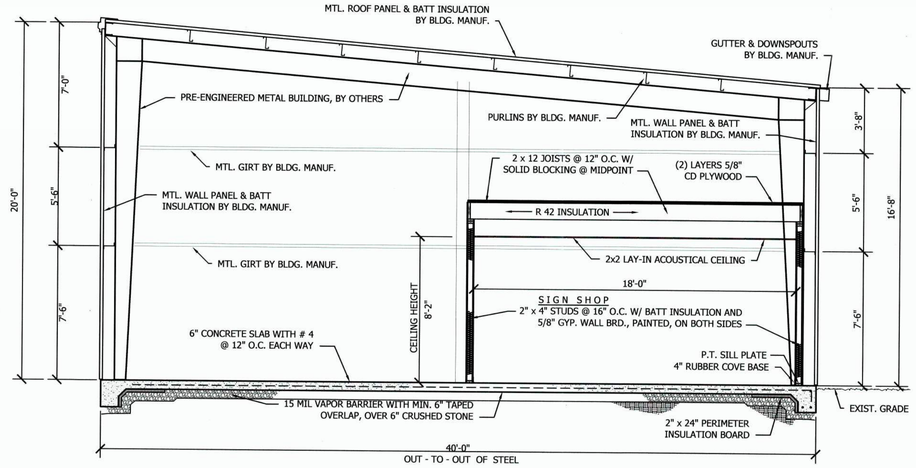
OF

R:\2025\25063_Mebane PW_Shop Addition\Final Dwgs\25063_MPW_A1_A2_A3_A4_A5_A6_Rev 07.dwg, 6/30/2026 12:10:30 PM, Canon TM-355 (temporary).pc3



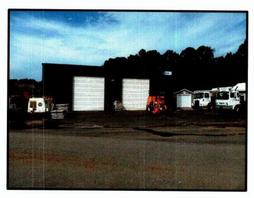
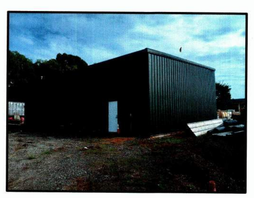
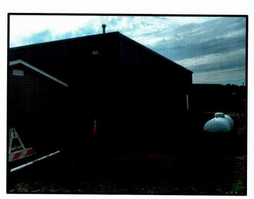
1/A4 SIGN SHOP (BLDG. # 2) - FLOOR PLAN
SCALE: 1/8" = 1'-0"

NEW BUILDING ADDITION: 2,440.0 SQ. FT.



NOTE:
ALL WOOD USED ON OFFICE ROOF / CEILING STRUCTURE SHALL BE FIRE-RETARDANT-TREATED WOOD.

A/A4 SECTION A - A (BLDG. # 2)
SCALE: 1/4" = 1'-0"

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FLOOR PLAN & SECTION OF STORAGE BLDG. # 2

DATE June 24, 2026

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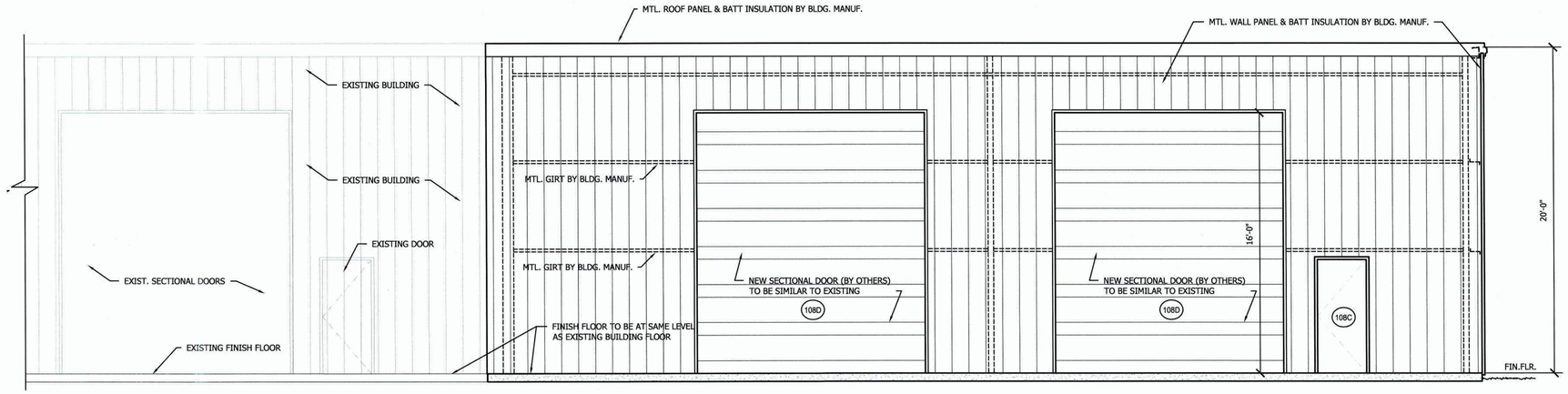
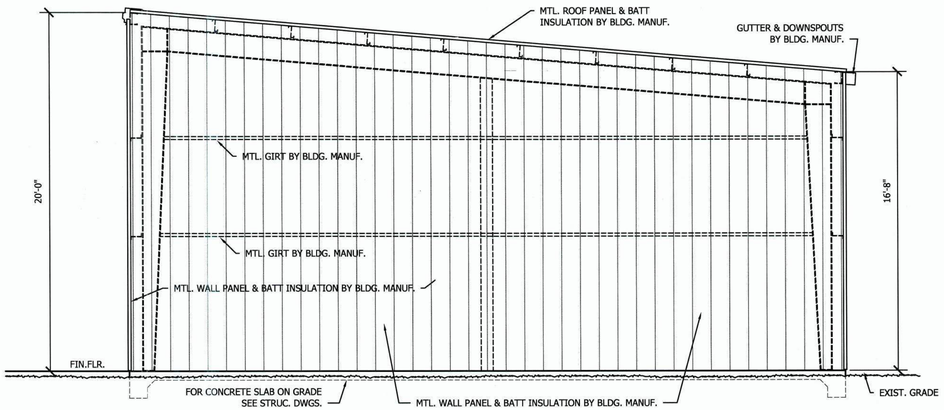
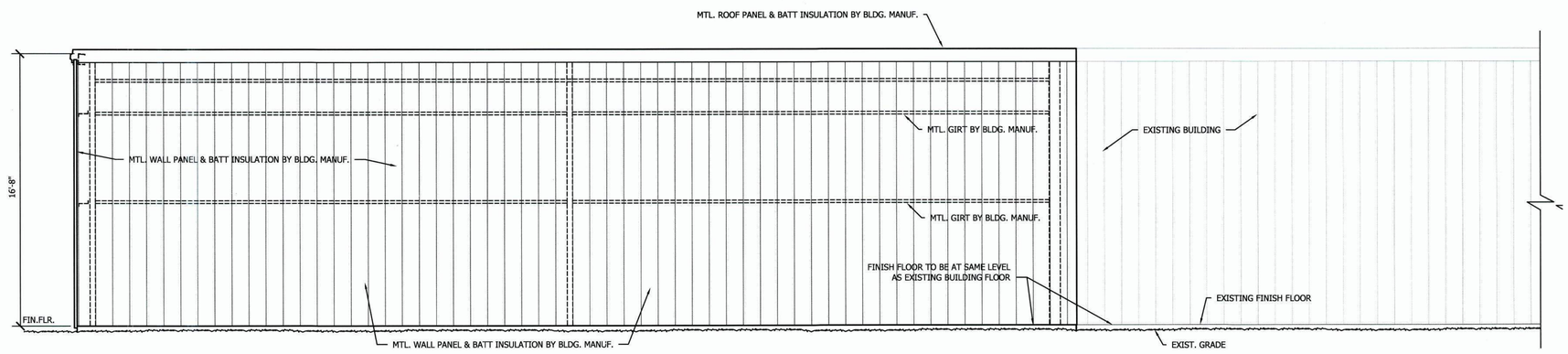


1 / A5 EAST (FRONT) ELEVATION
SCALE: 1/4" = 1'-0"

NOTE:
NEW BUILDING COLOR SHALL MATCH THE COLOR OF THE EXISTING BUILDING



2 / A5 NORTH (LATERAL) ELEVATION
SCALE: 1/4" = 1'-0"



3 / A5 WEST (REAR) ELEVATION
SCALE: 1/4" = 1'-0"

NOTE:
NEW BUILDING COLOR SHALL MATCH THE COLOR OF THE EXISTING BUILDING

NOTES:

1. PRE-ENGINEERED METAL BUILDING (PEMB), WILL BE BY OTHERS.
2. THE NEW PEMB SHALL COMPLY WITH 2018 NC STATE BUILDING CODE.
3. THE NEW PEMB SHALL BE EQUAL IN EXTERIOR DIMENSIONS, WALL PANELS, ROOF SLOPE AS THE EXISTING BUILDING (BLDG. # 2).
4. THE NEW PEMB SHALL HAVE SAME FINISH AND PAINT COLOR AS THE EXISTING BUILDING.
5. ONCE THE NEW PEMB IS PURCHASED BY THE CITY OF MEBANE, THE ENGINEER OF RECORD SHALL REVIEW THE DESIGN LOADS AND MAKE THE NECESSARY ADJUSTMENTS TO THE BUILDING FOUNDATIONS.
6. THE NEW PEMB SHALL NOT HAVE A METAL SIDING ON THE SIDE THAT ABUTS THE EXISTING BUILDING.
7. THE 1'-0" SPACE (ROOF AND WALL PANELS) BETWEEN BOTH NEW AND EXISTING BUILDINGS WILL BE COVERED AND CONNECTED PER THE METAL BUILDING MANUFACTURER INSTRUCTIONS.
8. THE SPACE BETWEEN THE NEW PEMB AND EXISTING BUILDING SHALL BE STRUCTURALLY CONNECTED WITH METAL GIRTS PER THE METAL BUILDING MANUFACTURER SO THAT NO DIFFERENTIAL LATERAL MOVEMENTS ARE ALLOWED.
9. THE NEW PEMB SHALL HAVE ROOF AND WALL INSULATION THAT COMPLIES WITH THE 2018 NC ENERGY CONSERVATION CODE.

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BUILDING ELEVATIONS OF STORAGE BLDG. # 2

DATE June 24, 2026

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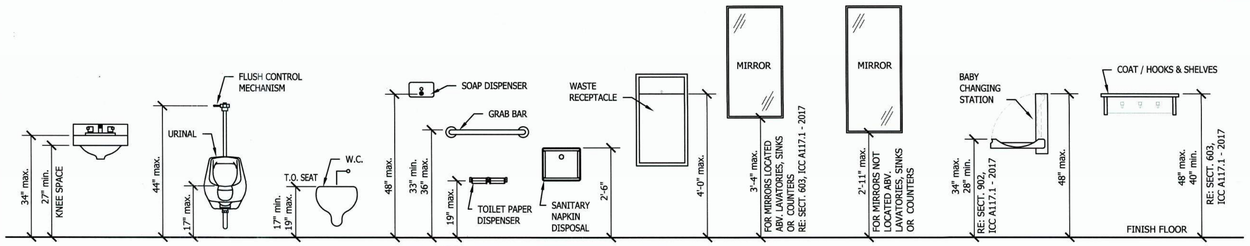
SHEET NO. A5 OF

R:\2025\25063_Mebane PW_Shop Addition\Final Dwgs\25063_MPW_A1_A2_A3_A4_A5_A6_Rev 07.dwg, 6/29/2026 1:25:45 PM, KIP 7170K.pc3

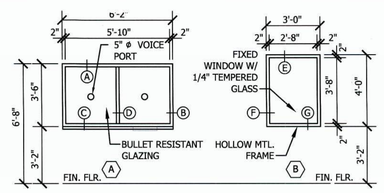


1 A6 **TOILET ACCESSORY ELEVATIONS**
SCALE: 1/2" = 1'-0"

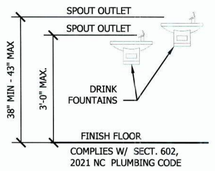
TOILET ACCESSORY SCHEDULE

NO.	ITEM	MFG.	CAT. NO.	MOUNTING HEIGHT ABOVE FIN. FLOOR
A	STAINLESS STEEL FRAMED MIRROR	ASI	24360-2436	SEE MOUNTING ELEV.
B	PAPER TOWEL DISPENSER/RECEPTACLE	ASI	0467-2	SEE MOUNTING ELEV.
C	SOAP DISPENSER	ASI	0345	SEE MOUNTING ELEV.
D1	GRAB BAR, 1-1/2" ø x 36"	ASI	SERIES 3800	SEE DET. # 4 / A3
D2	GRAB BAR, 1-1/2" ø x 42"	ASI	0345	SEE DET. # 4 / A3
D3	GRAB BAR - 1-1/2" ø x 18" (VERTICAL)	ASI	0345	SEE DET. # 4 / A3
E	TOILET TISSUE DISPENSER	ASI	0264-1A	SEE DET. # 4 / A3
F	SANITARY NAPKIN DISPOSAL	ASI	20470	SEE DET. # 2 / A3
G	CLOTHES/TOWEL HOOK	ASI	7311-20B	
H				

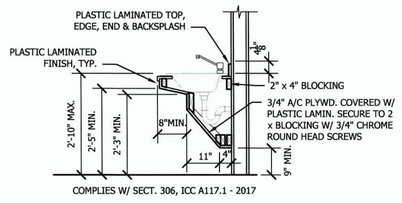
NOTES :
1. INSTALL SOAP DISPENSER OVER SINK TO PREVENT SOAP LEAKING ON FLOOR.
2. PROVIDE BLOCKING IN WALLS AT GRAB BARS, IN ORDER FOR GRAB BARS TO SUPPORT 250 LBS.
3. GRAB BARS SHALL HAVE A 1-1/2" MIN. CLEARANCE FROM THE WALL SURFACE.



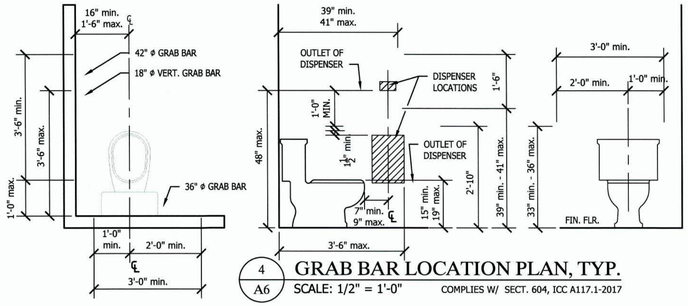
5 A6 **WINDOW ELEVATIONS**
SCALE: 1/4" = 1'-0"



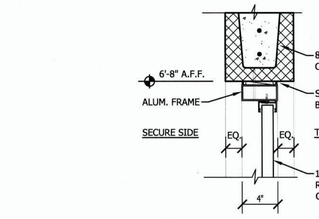
2 A6 **WATER COOLER DET.**
SCALE: 1/2" = 1'-0"



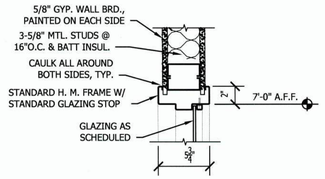
3 A6 **LAV. & COUNTER SECTION**
SCALE: 1/2" = 1'-0"



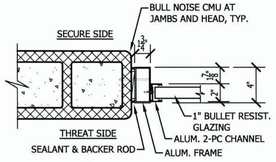
4 A6 **GRAB BAR LOCATION PLAN, TYP.**
SCALE: 1/2" = 1'-0" COMPLIES W/ SECT. 604, ICC A117.1-2017



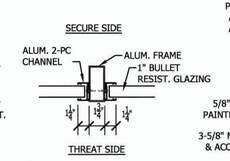
A A6 **HEAD DETAIL**
SCALE: 1-1/2" = 1'-0"



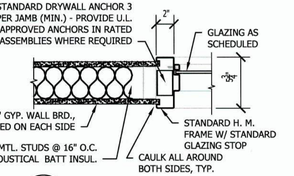
E A6 **HEAD DETAIL**
SCALE: 1-1/2" = 1'-0"



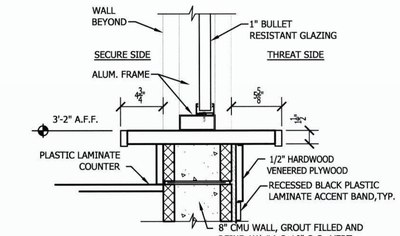
B A6 **JAMB DET.**
SCALE: 1-1/2" = 1'-0"



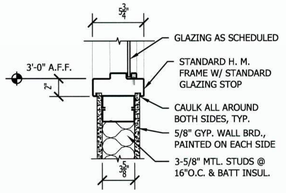
D A6 **MULLION DET.**
SCALE: 1-1/2" = 1'-0"



F A6 **JAMB DETAIL**
SCALE: 1-1/2" = 1'-0"

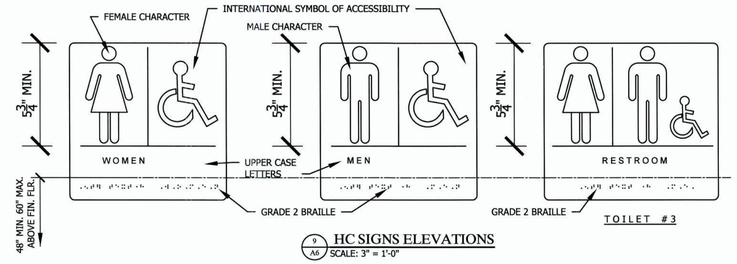


C A6 **SILL DETAIL**
SCALE: 1-1/2" = 1'-0"



G A6 **SILL DETAIL**
SCALE: 1-1/2" = 1'-0"

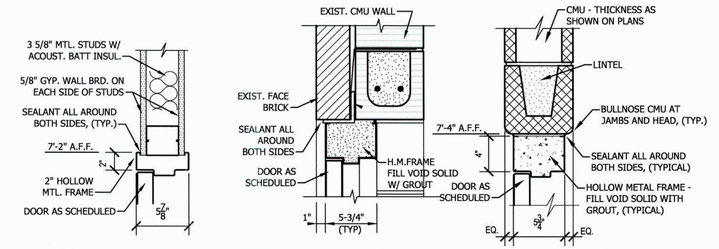
6 A6 **WINDOW DETAILS**
SCALE: 1-1/2" = 1'-0"



9 A6 **HC SIGNS ELEVATIONS**
SCALE: 3" = 1'-0"

DOOR SCHEDULE

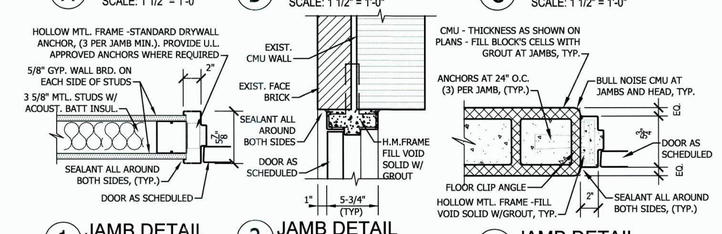
DOOR NO	DOOR SIZE #	W	H	T	DOOR / FRAME TYPE	DOOR ELEV	FRAME DETAILS (SEE SHT. A6) HEAD	JAMB	HARDWARE GROUP	REMARKS
102A	1	3-0	7-0	1-3/4	HM./HM.	1	B / 2		1	PROVIDE 4" x 24" GLASS, PROVIDE ALUM. THRESHOLD & ACCESS CONTROL DEVICE BULLET RESIST. DOOR & FRAME, LEVEL 3.
102B	1	3-0	7-0	1-3/4	HM./HM.	2	C / 3		1	ACCESS CONTROL DEVICE & BULLET RESIST. DOOR & FRAME, LEVEL 3.
103	EXISTING WITHOUT CHANGES									
104	1	3-0	7-0	1-3/4	HM./HM.	2	A / 1		5	
105	1	3-0	7-0	1-3/4	HM./HM.	2	A / 1		3	
106	1	2-8	7-0	1-3/4	WD./HM.	4	A / 1		4	
107	NOT USED									
108A	1	3-0	7-0	1-3/4	HM./HM.	2	SEE DETAILS FROM BLDG. MANUF.		2	
108B	1	8-0	7-0		STEEL	5	SEE DETAILS FROM BLDG. MANUF.		AUTOMATIC	STL. ROLLING DOOR EQUIV. TO CLOPAY, TRUCYCLE GRILLE MODEL CHCESG10 W/ MOTOR
108C	1	3-0	7-0	1-3/4	HM./HM.	2	SEE DETAILS FROM BLDG. MANUF.		1	PROVIDE ALUM. THRESHOLD & ACCESS CONTROL DEVICE
108D	2	14-0	16-0		STEEL	6	SEE DETAILS FROM BLDG. MANUF.		AUTOMATIC	INSULATED SECTIONAL DOOR EQUIV. TO CLOPAY, MODEL 3200 W/ MOTOR
109	2	3-0	7-0	1-3/4	HM./HM.	3	A / 1		6	



A HEAD DETAIL
SCALE: 1 1/2" = 1'-0"

B HEAD DETAIL
SCALE: 1 1/2" = 1'-0"

C HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



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

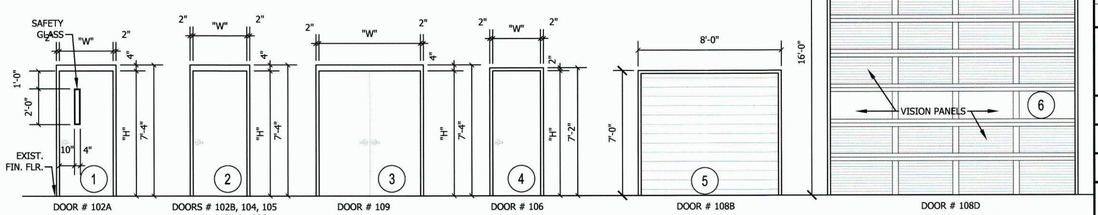
2 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"

3 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"

8 A6 **DOOR DETAILS**
SCALE: 1-1/2" = 1'-0"

DOOR HARDWARE SCHEDULE

HARDWARE GROUP	
1	1 ½ Pairs Hinges; Electronic Mortise Lock (CO-100 Schlage or equivalent) ; Cylinder; Closer; Silencers; Threshold; Kick Plate; Weatherstripping (perimeter seal)
2	1 ½ Pairs Hinges; Mortise Lock; Closer; Cylinder; Wall Stop; Silencers
3	1 ½ Pairs Hinges; Closer; Privacy Lock; Wall Stop; Silencers
4	1 ½ Pairs Hinges; Mortise Lock; Cylinder; Closer; Wall Stop; Silencers
5	1 ½ Pairs Hinges; Mortise Lock; Cylinder; Closer; Wall Stop; Silencers
6	3 Pairs Hinges; 2 Flush bolts; 1 Lockset; Cylinder; Closer; Wall Stop; Silencers
7	1 ½ Pairs Hinges; 2 Flush bolts; 1 Lockset; 1 Lock Protector; Threshold; Closer; Weatherstripping (perimeter seal); 1 Gasketing
8	Top hung bi-fold door hardware, commercial grade by Johnson Hardware 200 fs series or equivalent



7 A6 **DOOR ELEVATIONS**
SCALE: 1/4" = 1'-0"

alley, williams, carmen & king, inc.
ENGINEERS & ARCHITECTS
p.o. box 1179
740 chapel hill road
burlington, n.c. 27215
336/226-5534

ALLEY WILLIAMS CARMEN & KING, INC
REGISTERED ARCHITECTURAL ENGINEERING CORPORATION NO. 28
BURLINGTON, NC

JORGE LUIS RODRIGUEZ SAN
LICENSED ARCHITECT
6-24-2026
#10611
NORTH CAROLINA

CONSULTANT JOB NO.

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

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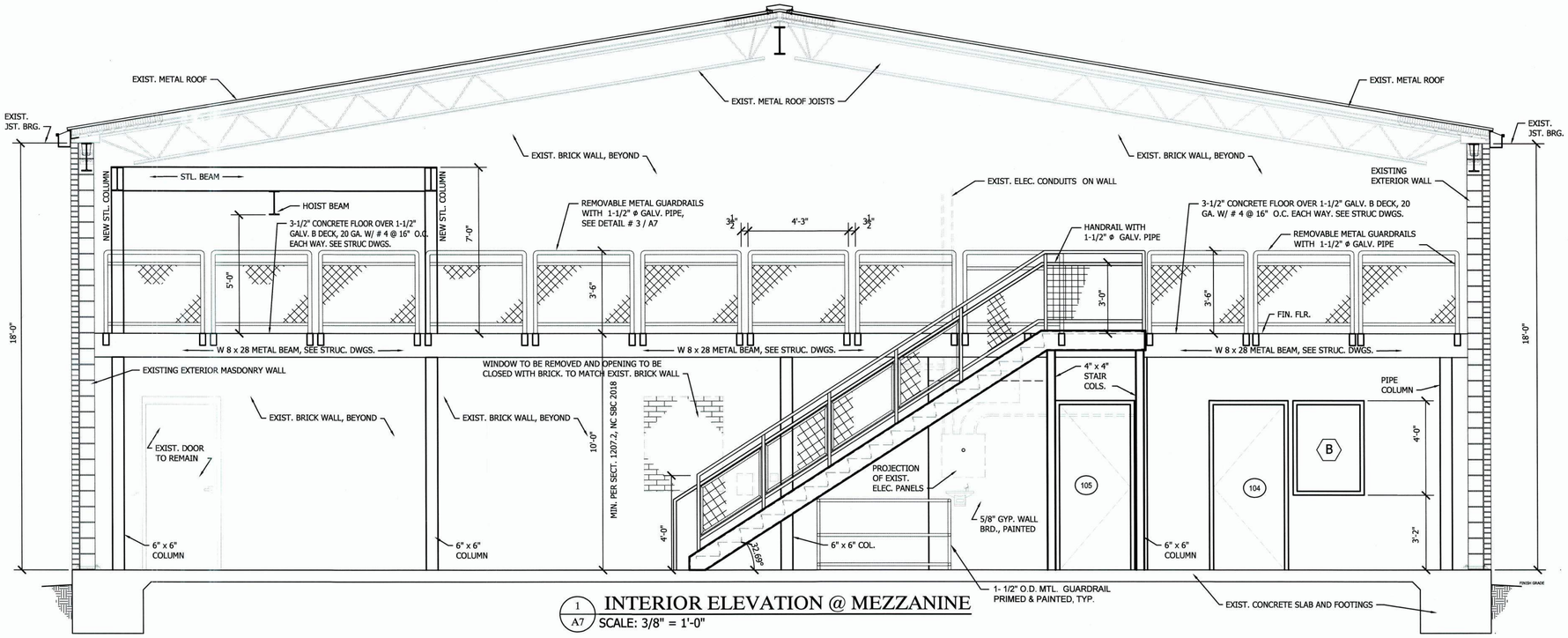
REVISIONS

DOOR & WINDOW ELEVATIONS AND DETAILS

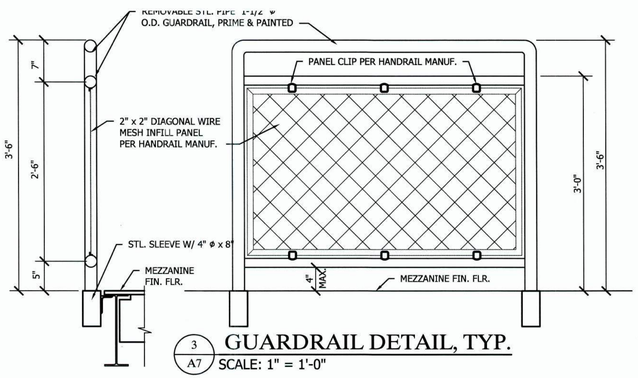
DATE June 24, 2026
DRAWN BY: JRS
CHECKED:
JOB NO. 25063

SHEET NO. A6 OF

R:\2025\25063_Mebane PW_Shop Addition\Final Dwgs\25063_MPW_A1_A2_A3_A4_A5_A6_Rev 07.dwg, 6/29/2026 1:26:22 PM, KIP 7170K.pc3

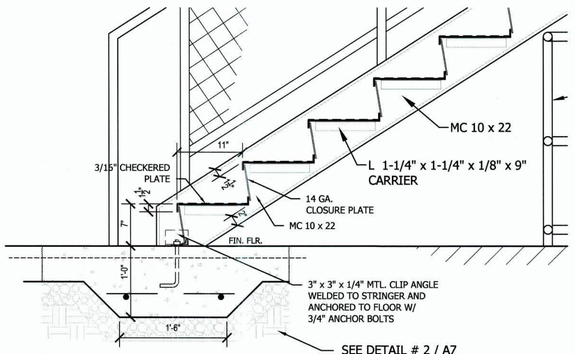


1 / A7 **INTERIOR ELEVATION @ MEZZANINE**
SCALE: 3/8" = 1'-0"

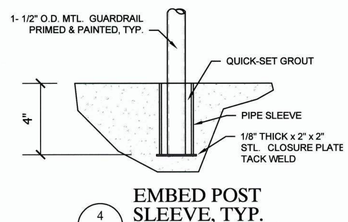


3 / A7 **GUARDRAIL DETAIL, TYP.**
SCALE: 1" = 1'-0"

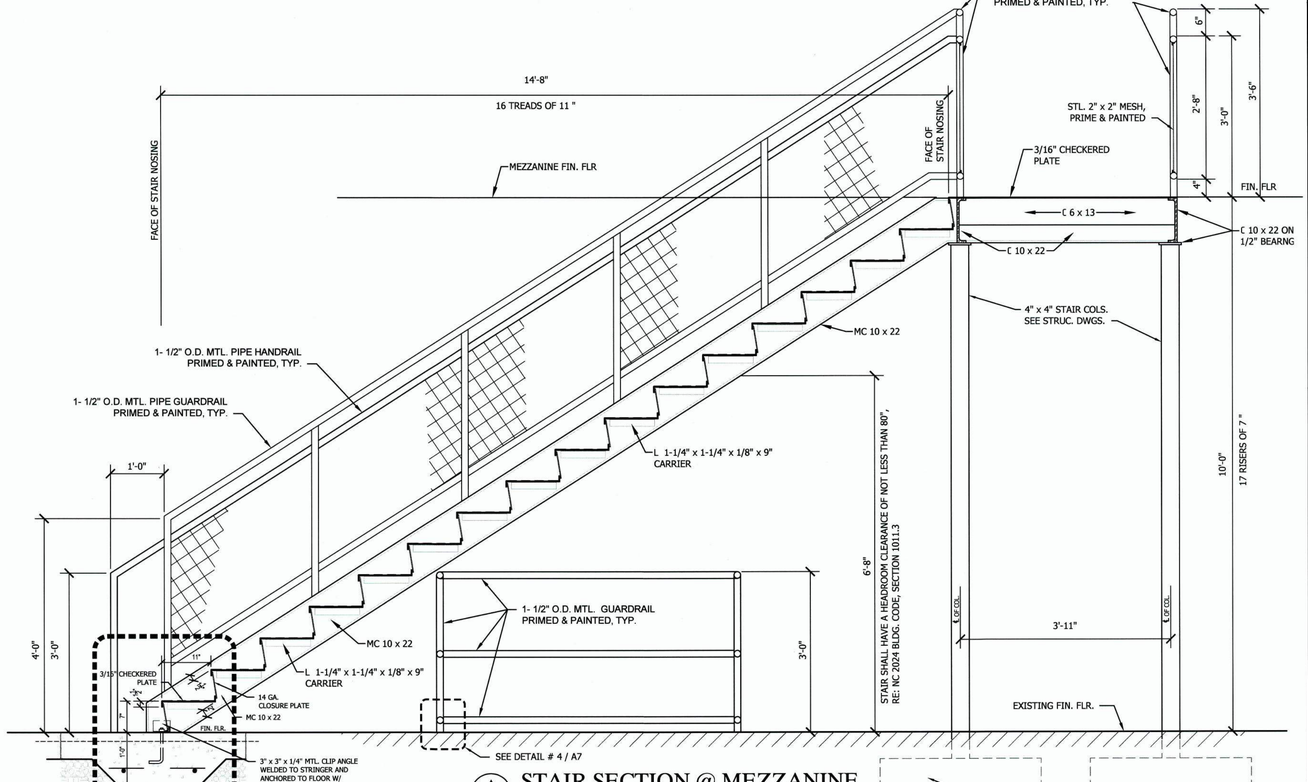
BASIS OF DESIGN: HOLLANENDER METAL RAILINGS



2 / A7 **STAIR RISER DETAIL**
SCALE: 1" = 1'-0"



4 / A7 **EMBED POST SLEEVE, TYP.**
SCALE: 3" = 1'-0"



A / A7 **STAIR SECTION @ MEZZANINE**
SCALE: 3/4" = 1'-0"

STAIR RISER DETAIL.

alley, williams, carmen & king, inc.
ENGINEERS & ARCHITECTS
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740 chapel hill road
burlington, n.c. 27215
336/226-5534

ALLEY WILLIAMS CARMEN & KING, INC
REGISTERED ARCHITECTURAL ENGINEERING CORPORATION NO. 28
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JOSE LUIS RODRIGUEZ SOTO
LICENSED ARCHITECT
6-24-2026
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REVISIONS

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INTERIOR ELEVATION, STAIR SECTION & DETAILS

DATE June 24, 2026

DRAWN BY: JRS | CHECKED:

JOB NO. 25063

SHEET NO. A7

OF

GENERAL CONDITIONS

"The General Conditions of the Contract for the Construction of Buildings", AIA Document A-201, 2007 edition, of the American Institute of Architects, latest Edition, are hereby (except as hereafter deleted or amended) made a part of this Specification, and each Division hereunder, to the same extent as if bound herein. The following modifications of these AIA General Conditions shall be in addition thereto and shall take precedence over their original provisions in case of conflict.

SUPPLEMENTARY GENERAL CONDITIONS

The following supplements modify, change, delete from or add to the "General Conditions of the Contract for Construction," AIA Document A201, Latest Edition. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 3:

3.12.12 Shop Drawings: Add the following:
Product Data and Samples: Each contractor shall submit a minimum of five (5) copies of all shop drawings and product data for approval. With prior approval from the architect / engineers electronic submittals will be permitted.

3.12.13 Shop Drawings: The contractor shall make any corrections required by the Architect and file with him two (2) copies of the corrected submittals, when requested. Additional copies shall be furnished to other trades and prime contractors where necessary to coordinate their work. Each prime contractor shall keep at the project site a current set of shop drawings that bear the review stamp of the Architect / Engineer for each product requiring shop drawings.

3.15.3 Cleaning Up: Add the following:

Before final inspection and acceptance of the building, the contractors shall clean the site and building, including, but not limited to, glass, hardware, fixtures, equipment, masonry, clean floors as specified, and completely prepare the building for use by the Owner with no cleaning required by the Owner.

ARTICLE 7:

7.3.3 Change Orders (Profit and Overhead): Add the following:

The allowances for overhead and profit combined shall under Methods 1 and 3 not exceed 15% of net cost except where the change involves a subcontractor, allowances shall not exceed 10% for the subcontractor and 7.5% for the prime contractor.

The total of allowances for overhead and profit combined under Methods 1 and 3 shall not exceed 17.5 % of the net cost.

Under method 2, no allowance shall be made for overhead and profit. In the case of deduct change orders, under Method 1 and 3, the contractor shall include not less than 10% profit, but no allowance for overhead.

At the time of signing a change order, the contractor shall certify as follows, "I certify that my Bonding Company will be notified forthwith that my contract has been increased or decreased by the amount of this Change Order and that a copy of the approved change will be mailed to my surety upon receipt by me".

ARTICLE 9:

Payments and Completion:

9.2.1 Schedule of Values: Add the following:

Schedule of Values shall separate labor and material for each phase of the work. The phases of work shall be broken down per each section of the specifications. Where a section includes two or more two or more major items of work, they shall also be broken out separately. Submit four (4) copies to the Architect.

9.3.1 Application for Payment: Add the following:

Type of Form: Application and Certificate for Payment AIA Document G-702 and Continuation sheet G702A, latest edition.
Number of copies: Four (4) unless noted otherwise.

Application shall be in the Architect's office no later than the later than the 25th day of each month and shall be signed and notarized.

Retainage: Each certificate shall show, and the owner will retain, 5% of the amount of each estimate until final completion and acceptance of all work covered by this contract. However the retainage may be adjusted at 50% completion under the following requirements: Retained percentage shall be at the rate of 5% until 50% of the contract is in place after which there would be no additional retainage, provided the work has progressed to the satisfaction of the Owner, and provided the contractor's surety and the owner agree in writing to this procedure.

ARTICLE 11:

11.1 Contractor's Liability Insurance:

Shall be furnished and maintained by the contractor as outlined with the following adjustments and additions:

General Liability shall include: Comprehensive form, premises, operations, explosion and collapse hazard, underground hazard and products/completed operations hazard.

Automotive liability shall include: Comprehensive form, owned, hired, and non-owned.

Worker's Compensation and Employer's Liability.

11.1.1 Add the following:
Full contract amount shall appear on each document as necessary.

Effective date on each document shall be the same as the contract document date.

Expiration date shall be sufficient to complete the project.

Each policy shall be countersigned by an authorized individual agent, licensed to do business in North Carolina.

The title "Licensed Resident Agent" shall appear after the signature.

11.1.2 Limits shall be as follows:

Combined Single Limit:

General Liability - For Bodily Injury and Property Damage

Each Occurrence = $ 1,000,000

General Aggregate = $ 2,000,000

Auto Liability - For Bodily Injury and Property Damage

Combined Single Limit - $ 300,000

Employer Liability for each accident = $ 100,000

Subcontractor's Insurance Coverage -The Contractor shall either:

1) Require each of his subcontractors to procure and to maintain during the life of this subcontract, Subcontractor's Comprehensive General Liability, Automobile Liability, and Property Insurance of the type and in the same amount as specified in paragraph above; or
2) Insure the activity of his subcontractors in his own policy.

11.3.1 Property and Loss-of-Use Insurance:

Modify first sentence as follows:Contractor shall purchase and maintain insurance in lieu of Owner.

PERFORMANCE BOND AND PAYMENT BOND

1) Each contractor shall furnish a construction *Performance Bond* and construction *Payment Bond* executed by a surety company authorized to do business in North Carolina. These bonds will serve as security for the faithful perfoirmance, and payment of all bids and obligations arising from the performance of the Contract and shall be in the full contract amount. Bonds shall be executed in the form bound with these specifications (Section 307 and Section 308).

2) All bonds shall be countersigned by an authorized agent of the bonding company who is licensed to do business in North Carolina.

SECTION 1D - SPECIAL CONDITIONS

Payments:

1. Payments for stored material will not be approved unless the Application for Payment is accompanied by a paid invoice. Material that is stored away from the site shall not be approved for payment unless special arrangements are made to establish the Owner's claim to the material in the event of default.

2. Application for Payment shall be made through the Architect, in four (4) copies on AIA Document G-702. Note that signing of the form by the Contractor constitutes an affidavit that he has paid all subcontractors in the same proportion as he has received previous payments.

3. All payments by the Owner shall be to and through the Contractors, based on the Contractor's monthly itemized estimate An amount equal to 5% of the work completed and of materials stored at the site as of the end of the month shall be withheld from each monthly estimate. The Contractor may, therefore, withhold an amount equal to 5% from all subcontractors and from all materials suppliers unless there is good cause to do otherwise.

4. Final payment will be made to the Contractor within 30 days after all work has been finally completed and each and every provision of the Specifications and accompanying Drawings complied with to the Owner's and Architect's satisfaction. Acceptance of the complete job will be made by the Owner, or his representative, and the Architect.

Permits, Licenses, Certificates, Fees, Sales Tax

1. Each Contractor or subcontractor shall obtain and pay for all permits, licenses, certificates, etc., from all authorities requiring same and pay all necessary inspection fees and sales tax.

2. Each Contractor shall include in his Proposal the costs for all North Carolina State and Local Sales and Use Tax applicable to this project.

3. Each monthly Application for Payment shall include an itemized list of all North Carolina State and Local Sales and Use Tax paid by contractor(s) on this project.

Project Schedule

1. The General Contractor in cooperation with his subcontractors shall prepare a Project Schedule for review by the Owner and the Architect and for distribution to all project participants. The schedule shall be kept current, revised and redistributed as necessary.

Subcontractors and Materials

1. Within fifteen (15) days following the award of a contract, the Contractor shall submit to the Architect for approval a complete list of subcontractors and materials that he proposes to use on the project. No substitution from those specified shall be made unless authorized in writing by the Owner or Architect, who may request samples for comparison and test before approving any item in the above list.

2. The list of alternates submitted by the Contractor with his Proposal will be considered and notice shall be given to the Contractor in writing of any acceptable substitutions prior to execution of the Contract.

3. Subcontractors are subject to the approval of the Owner and Architect, and such approval shall be given in writing. No sub-contractor will be approved unless he is qualified by previous satisfactory performance on similar work. Subcontractors will not be allowed to start work until they and their insurance certificates have been approved by the Contractor.

Measurements and Dimensions.

1. The General Contractor shall, immediately upon entering project site for purpose of beginning work, locate all general reference points and take such action as is necessary to prevent their destruction, lay out his own work and be responsible for all bench marks, lines, elevations, and measurements for buildings, grading, utilities, and other work executed by him under the Contract. He must exercise proper precaution to verify figures shown on Drawings before laying out work and will be responsible for any error resulting from his failure to exercise such precaution.

2. Before ordering any materials or proceeding with his work, the Contractor and each of his subcontractors shall take all necessary measurements at the building and be responsible for the correctness of same, and they shall verify all controlling dimensions shown on shop drawings at the job site. No extra charge or compensation will be allowed on account of differences between actual job dimensions indicated on Drawings (including shop drawings). Any difference which may be found shall be submitted to the Architect for decision before proceeding with the work.

Responsibility of the Contractors.

1. The Contractor is responsible for producing his work in place, in carrying it out to the completion without unnecessary delays, and maintaining it in perfect condition until final completion.

2. The General Contractor shall keep for reference on the premises at least one copy of the Specifications and one set of the Drawings; these documents shall be readily available to the Architect, the Owner and his nominees, all subcontractors and foremen, and all proper officials.

3. The General Contractor shall be the "Project Coordinator" and shall be responsible for the overall coordination of all the work. He shall notify other trades when their work is required to continue the progress of the job and he shall endeavor to resolve conflicts in the work of various trades. All subcontractors shall promptly respond to the requests of the General Contractor and shall abide by decisions of the General Contractor, as approved by the Architect.

4. The project site must be kept clean and orderly to the satisfaction of the Architect. Remove debris as quickly as possible. Materials shall be stored neatly in a location approved by the Architect.

Temporary Water, Light and Power

1. The General Contractor shall furnish whatever temporary water, power, light, communications or other facilities necessary during the process construction to insure an efficient and workmanlike procedure without delays. The General Contractor will be responsible for any changes or damage. After permanent power is connected to the building, the contractor may remove temporary utilites and use the site's permanent services.

Progress Meetings

1. The General Contractor, as "Project Coordinator" shall hold regularly scheduled progress meetings at the job site. General Contractor shall be responsible for taking minutes of progress meetings and provide them to all participants.

Temporary Toilet.

1. Adequate temporary toilet facilities for the use of workmen shall be provided and maintained by the General Contractor at location approved by the Architect.

Protections.

1. During the entire work, the General Contractor shall be responsible for and shall provide adequate protections, barricades, runways, red lights, etc., as required by law and as may be necessary to protect new and existing work and to protect the public against any injury to person or property. He shall protect any existing work that is to remain in place from damage; and he shall repair or replace at his own expense any such existing work damaged during his construction operations. He shall also cover and protect all portions of his work when work is not in progress, and shall be responsible for damage from any cause. The building and all materials connected herewith shall be at the Contractor's risk until they are accepted, and he shall be responsible and liable for their safety in the amount paid to him by the Owner on account thereof. The General Contractor shall comply with all applicable OSHA requirements with respect to the undertaking of the work and the maintenance of the building site.

Signs.

1. No signs or advertisements will be allowed to be displayed without the approval of the Owner.

Cleaning Up

1. Contractors shall keep the premises reasonably free from rubbish and debris and shall remove any accumulation of it from time to time or when directed by the Architect.
2. The General Contractor shall provide trash receptacles and shall daily pickup around the job and dispose of the accumulation as necessary.
3. Debris shall be confined to piles and shall be removed from the Job site on a daily basis.
4. Materials to be used on the job shall be stacked and maintained in an orderly fashion.
5. Upon completion of each trade, the subcontractor shall clean and protect all portions of his work, and it shall be accepted and maintained by the appropriate contractor.
6. Before final acceptance of the project, the Contractors shall clean and/or reclean all portions of their work and completely prepare the facility for use by the Owner.
7. Final inspection of the project will not be scheduled until the above cleaning has been accomplished to the satisfaction of the Architect.

Operating Manuals.

1. It shall be the responsibility of the Contractor to compile a manual of maintenance instructions for the project.
2. The manual shall be bound in loose-leaf fashion, and indexed, and shall contain manufacturer's data, maintenance instructions, operation information for all equipment, together with names and addresses of subcontractors, suppliers and service agents.

Damage to Existing Property.

1. Exercise all possible precautions to protect the existing property, equipment and site. This includes buildings, paving, active pipelines, planting, etc.
2. The Contractor shall repair or replace any damages that occur as a result of the work being performed under this contract.
3. The Contractor shall be responsible for protecting adjacent drives and streets from deposits of soil, materials, litter, etc. and shall clean up any such deposits.

Substantial Completion.

1. The Architect shall establish in writing the date of substantial completion. Substantial completion shall be defined as that time when all material, labor and equipment have been incorporated in the project as originally specified and / or shown, and the project may be occupied by the Owner for its intended use. Exceptions to this may be made such as when equipment not affecting the Owner's use of the project is temporarily unavailable through no fault of the Contractor.

2. Following the date of substantial completion and before final payment, the Contractor is expected to correct defective work, make necessary adjustments to equipment, deliver guarantees and release of liens, complete required tests, and provide operating instructions.

Completion Time.

1. It is hereby understood and mutually agreed, by and between the Contractors and the Owner, that the time for "substantial completion" as specified for the work to be done here under is an essential condition of this contract. It is mutually understood and agreed that the work embraced in this contract shall be "Substantially Complete" within the time designated by the contractor in the Proposal.

2. The awarding of contracts will be based on the lowest responsible bid with respect to the number of days to complete the project as well as the amount of dollars.

3. The Contractor agrees that the said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure "substantial completion" of the work described herein, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

Liquidated Damages.

1. Work shall be started and the time for construction shall begin on a date designated by the Architect. Each Contractor shall state in his proposal the number of calendar days he will require to complete the project.

2. The Owner may retain the sum of $300.00 per calendar day as liquidated damages assessed against each Contractor responsible for delay, for each calendar day in excess of the designated time that the project is not "Substantially Complete". The Architect shall determine which Contractors are responsible for the delay, as well as when the project is substantially complete. The total liquidated damages shall be deducted from the final payment due to the contractor under the terms of the Contract.

3. Consideration for additional time will be given only to written requests based on extraordinary Acts of God, Acts of the Owner, Acts of an agency of the local, State or Federal Government, Fire, Strike, or Embargo. Written requests for additional time shall be submitted monthly with the periodic Application for Payment. Extraordinary weather claims shall be supported by U.S. Weather Bureau data documenting average conditions for the period.

Unit Prices

1. See the form of proposal for items to be included as unit prices. Unit costs shall be provided for the following:
   a. removal and replacement of unsuitable soils
   b. removal of rock and replacement with suitable fill (if necessary)

Acceptance and Final Payment.

1. When in the opinion of the Contractor, the work has been completed in an acceptable manner in accordance with the Contract Documents, he shall make written request to the Architect for Final Inspection.

2. The Owner and the Architect shall make a Final Inspection of the entire project and upon completion of all necessary repairs the Architect shall certify in writing to the Owner and Contractor as to the acceptability of the project.

3. The Owner, upon receipt of said certificate, shall cause to be paid to the Contractor the amount of money then due under the contract. All prior certificates or estimates upon which payments may have been made being merely partial estimates and subject to the correction in the final payment.

4. Issuance of final payment by the Owner to the Contractor shall serve as notice to the contractor of acceptance of the project, subject to the following guarantee.

Allowances

1. The Contractor shall include any allowances stated in his base bid.

Guarantee

1. The contractor will be required to guarantee all material, equipment, and workmanship against defects of any description for a period of 12 months from the date of "Substantial Completion". The Performance Bond shall be so written as to cover this guarantee period. All work under this contract shall be performed in such a manner as to insure that any standard or specified guarantees or warranties to be provided by product manufacturers or materials suppliers as a part of their work are not affected or voided.

2. At the completion of the job, the Contractor shall secure and turn over to the Owner the guarantees and bonds issued by manufacturers or suppliers of products incorporated in the project.

DIVISION 1 -- GENERAL REQUIREMENTS

Scope of Work.

1. The work required for this project shall consist of the complete construction to the extent indicated herein and on the Drawings.

2. The Contractor shall, unless otherwise specified, supply all labor, tools, materials, equipment, temporary buildings, transportation, apparatus, utilities, fuel, etc., necessary for the entire completion of this work and be responsible for the safe, proper and lawful construction, maintenance, and use of same; and he shall construct and/or perform in the best and most workmanlike manner all work shown on the Drawings and/or specified and everything properly incidental thereto or reasonable implied therefrom, and in accordance with the Contract Documents.

3. No deviations from the construction methods, materials, details, specifications, general notes, schedules or equipment, nor deletion of any requirement shown on these plans, will be acceptable without specific written permission from the Owner.

4. The Contractor shall be responsible for constructing the building in strict accordance with all provisions of applicable building codes, ordinances and standards, including all state and federal handicap access requirements. Contractor shall consult with respective local fire department authorities having jurisdiction relative to requirements for fire protection of the building.

5. The Prime Contractor shall be responsible for honoring all guarantees, warranties and other requirements enumerated in these drawings and specifications, even when said responsibility is passed on to another subcontractor or materials supplier.

6. All materials to be incorporated into the project shall be new. If required, the contractor shall furnish satisfactory evidence as to building components' compliance with specification standards and requirements.

Examination of Site

1. Prior to submitting a Proposal, each bidder shall examine the site and all conditions thereon, correlating same with the Bidding Documents. All Proposals will be presumed to include all such existing conditions as may affect any work on the project; and failure to familiarize himself with any such conditions will in no way relieve the successful bidder from the necessity of furnishing any materials or performing any work that may be required to complete the work in accordance with the drawings and specifications, without additional cost to the Owner.

Demolition

1. Unless otherwise indicated, demolished materials become the property of the Contractor. Remove from site and dispose of demolished materials according to all local, state and federal rules and regulations.

2. Maintain and protect existing utilities to remain in service before proceeding with demolition.

3. Provide and maintain shoring, bracing and/or structural support of adjacent buildings until permanent support and bracing is in place.

4. Prior to any demolition, asbestos containing material shall be removed pursuant to Local, State and Federal rules and guidelines. Submit required paper work to NCDEHNR and secure permits before asbestos abatement and demolition activities begin.

DIVISION 2 -- SITE WORK

Erosion Control

1. Control of erosion and sedimentation resulting from land disturbing activities is subject to the requirements of the State of NC. The Contractor shall provide and be responsible for maintaining all temporary and permanent erosion and sedimentation measures and facilities until the project is accepted by the Owner, or until removal of facilities and cessation of control measures are authorized by the governing authority.

Temporary Seeding

1. See seeding schedules on erosion control details.

Protection of Existing Structure, Grounds, Pavement and Utility Lines

1. Repair or replace any portion of the building and grounds damaged by construction operations, in a manner acceptable to the Architect. Protect existing pavement and walks from damage during construction. Remove and replace any pavement damaged by the construction operations.

2. Caution must be taken to locate and protect existing water, sewer, electrical, telephone, and fuel lines. Damaged active lines must be replaced immediately at the contractors expense. Lines that are to be relocated are to be located and protected until the new lines are ready to be put in service. Notify the Owner of any anticipated interruption of service.

Clearing, Grubbing, and Stripping

1. The sequence of work under this section shall comply with the requirements of the Construction Sequence Schedule as shown on the Drawings (if any). All erosion control measures should be in place prior to clearing, grubbing and stripping.

2. After the building, paved and graveled areas, and graded areas are staked out, remove completely all obstructions within these areas. Dispose of all unsuitable material off the site.

3. Strip topsoil to its entire depth from areas where changes in existing grades are indicated. Stockpile topsoil and use exclusively for finished grading after site has been rough graded to required levels.

Cutting, Filling, Grading

1. Cut, fill, and rough grade as required to bring areas outside the building(s) to proper subgrade levels. Make grades not otherwise indicated, at uniform levels or slopes between where elevations are given, or between such points and existing grades; and provide proper drainage from all areas.

2. Excavate as required to provide adequate soil bearing for footings. Assume existing soil to be undisturbed earth or suitable compacted fill with bearing capacity of 2,500 psf. Notify Architect if questionable. The Contractor shall provide the services of an approved testing laboratory service to inspect, test, approve and report on footing subgrade, backfilling compaction and compacted filling operations.

3. Fill material shall be obtained off the site. Material shall be suitable for compaction to 98%. Fill shall have a unit weight of not less than 90 pcf and shall have a plasticity index of less than 30.

4. All fill material shall be placed in accordance with Section 235 of the N.C. Department of Transportation Standard Specifications for Roads and Structures.

5. The Contractor will provide and pay for continuous supervision and testing of the filling operation by the testing laboratory.

6. Do not backfill against foundation walls until directed.

7. Fill material will be spread in successive, uniform and approximately horizontal layers not more that 6" thick for the full area of the the full area of the fill. The layers will be kept level and distributed over the full width of the fill.

8. Each layer of fill material will be thoroughly compacted before the next layer is placed. The compaction will be by tamping equipment equipment as required to achieve the specified compaction.

9. The entire earth fill and backfill shall be compacted to a density of at least 98 percent of the standard Proctor Density for the soil soil being compacted. Fill failing to meet these requirements will be be removed and then replaced at the expense of the Contractor. Mechanical tamping of areas near the structures shall be of a type approved by the Architect. Proctor tests and density determinations shall be performed by an approved testing laboratory and shall be paid for by the Contractor.

10. Fine grade the surrounding area disturbed by the building construction, leaving it free of debris, to finish grade levels and ready for grassing.

11. All aspects of the earthwork operation (proof-rolling, filling, etc.) are to be continuously observed and monitored by an approved testing laboratory.

12. Soil is to be dried, or moistened, to within +/- 3% of optimum content prior to compacting.

13. Proofrolling:
    a. All exposed materials shall be proof-rolled.
    b. Entire proof-rolling operation shall be observed by the Soils Engineer
    c. Proof-roll with a loaded dumptruck or similar pneumatic-tired vehicle with a minimum loaded weight of 25 tons.
    d. Proof-rolling procedure shall consist of four (4) complete passes of the exposed areas with two of the passes being in a direction in a direction perpendicular to the preceding ones.
    e. Soils observed to pump or deflect shall be undercut and replaced with properly compacted fill.

14. Lab inspect and approve all column and randon wall footing bearing surfaces.

15. Restore and retest any disturbed footing subgrades prior to concrete placement.

16. Undercut and replace any unacceptable soil.
    a. After locating areas of soft surface soils, as required in paragraph on proof-rolling herein, undercut soft soil to firm soil, as directed by soils engineer. to firm soil, as directed by Soils Engineer.
    b. In areas of unsuitable existing soil material, remove unsuitable material to the minimum depth necessary to provide firm, suitable soil necessary to provide firm suitable soil.
    c. After undercutting, all areas shall be approved by a soils engineer prior to placing engineered fill.

Soil Treatment

1. Contractor shall poison the soil in and around the foundation of the new construction in accordance with the minimum standards of the NC Pest Control Commission and the insuring company. Provide water-based emulsion specifically formulated to prevent infestation of termites and fire ants. Fuel oil will not be permitted. Provide only soil treatment solutions which are not injurious to planting in landscape areas. Soil treatment must be in compliance with the EPA guidelines and all applicable codes. Unless otherwise prohibited, provide a working solution of one of the following chemical elements and concentrations:

    a. Heptachlor, 0.5%
    b. Chlordane, 1% solution
    c. Aldrin, 0.5% solution
    d. Dieldrin, 0.5% solution

2. Remove foreign matter which could decrease effectiveness of treatment on areas to be treated. Loosen, rake and level soil to be treated, except previously compacted areas under slabs and foundations.

3. Apply soil treatment solution within the building area, with or without slabs on grade, and outside the building perimeter, under aprons, pads or paved extensions, at a rate of one (1) gallon per ten (10) square feet.

4. The contractor shall provide three (3) copies of written guarantee, certifying that chemicals having the required concentration and rate as herein specified have been applied and that the soil poisoning treatment will prevent attack by by subterranean termites for a period of five (5) years, and that if subterranean termite activity is discovered during the guarantee period, the contractor shall retreat the soil and also repair or replace damage caused by termite infestation. This guarantee shall include a repair bond and shall include provisions for the owner to renew the bond for an additional ten (10) years on an annual basis.

Paving and Storm Drainage

1. All materials, methods and workmanship shall conform to applicable specifications of the NC Department of Transportation Standard Specifications and Structures latest edition, except as otherwise noted; and all section numbers referred to herein are taken from same.

2. The subgrade shall be properly shaped and thoroughly compacted so that it conforms to the lines and grades shown, and shall be brought to a firm, unyielding condition and proof-rolled before any crushed stone is placed thereon. Proof rolled before any crushed stone is placed thereon.

3. Provide concrete paving where indicated on the Drawings, using 4,000 psi concrete, of the thickness shown and with a floated, broom finish. See Division 3 for concrete specifications. Joints in sidewalks shall be hand tooled, not sawn.

4. Storm sewer pipe shall be schedule 40 PVC or reinforced concrete (as designated on plans). Catch basins and associated covers, grates and frames shall be as required to meet NCDOT standards.

5. Crushed stone base shall be placed on the subgrade, compacted and maintained in accordance with Section 520. The compacted thickness shall be as detailed on Plans.

6. Asphaltic surface course shall be as detailed on Plans.

7. Provide painting of lines, symbols, etc, in drive and parking areas as shown on site plans, using paint specifically formulated for use as pavement marking in automotive traffic areas and in the colors selected by the Architect from the standard colors of the approved manufacturers. Use proper masking, stencils and application equipment and install as recommended by the manufacturer.

8. Maintain finish grades as shown on the Site Plan and to provide good drainage. Provide good drainage.

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LICENSED ARCHITECT
Rev. 7-24-2026
#10611
NORTH CAROLINA

CONSULTANT JOB NO.

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

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REVISIONS

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SPECIFICATIONS

DATE June 24, 2026

DRAWN BY: JRS | CHECKED:

JOB NO. 25063

SHEET NO.

SP1

OF

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DIVISION 3 -- CONCRETE

Concrete Work:

1. Work in this section includes providing formwork and cast-in-place concrete consisting of Portland Cement, fine and coarse aggregate, selected admixtures, mixing, transporting, placing, finishing, and curing as specified herein. Work shall also include special premixed grouts.

2. Products and execution are specified in this section by reference to the following specifications or standards:
   a) American Concrete Institute (ACI)
   b) American Society for Testing and Materials (ASTM)

3. The latest edition of the following standard references and codes shall apply to the work of this section:

   a) ACI 301 "Specifications for Structural Concrete"
   b) ACI 302 "Guide for Concrete Floor and Slab Construction"
   c) ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete"
   d) ACI 305 "Hot Weather Concreting"
   e) ACI 306 "Cold Weather Concreting"
   f) ACI 308 "Recommended Practice for Curing Concrete"
   g) ACI 309 "Recommended Practice for Consolidation of Concrete"
   h) ACI 318 "Building Code Requirements for Reinforced Concrete"
   i) ACI 212 "Guide for Use of Admixtures in Concrete"
   j) ACI 347 "Recommended Practice for Concrete Formwork"
   k) ACI-117 "Standard Tolerances for Concrete Construction and Materials"

4. The following materials shall be included in this section:

   a) Portland Cement - ASTM C-150, Type I. The same brand shall be used throughout unless changes are approved in writing by Engineer. The fineness of cement used shall not have less than 10% retained on a #325 mesh screen when thested in accordance with ASTM C430.

   b) Aggregates - ASTM C-33
      1) Fine Aggregate - clean, sharp, natural sand, free of deleterious substances.
      2) Coarse Aggregate - clean, uncoated, granite processed from natural rock.

   c) Water - potable

   d) Admixtures - shall conform to the appropriate specification listed. Do not use admixtures which have not been incorporated and tested in the accepted mixes unless otherwise authorized in writing by the Architect.
      1) Air-entraining Admixture - ASTM C-260
      2) Water Reducing Admixture - ASTM C-494, Type A, chloride free.
      3) High Range Water Reducers (Superplasticizers) - ASTM C-494, Type F, chloride free.

   e) Special mortars and grout - equal to Masterflow 713 by Master Builders Technologies.

   f) Premolded expansion joint filler - Asphalt Impregnated type, ASTM D-1751

   g) Liquid curing materials for concrete shall exceed the requirements of ASTM C-309, Type I. Products acceptable shall provide a water retention rate not to exceed 0.02 grams per sq. cm. Liquid curing materials are to compatible with with floor finishes, adhesives, etc.

   h) Curing Membranes:
      1) Polyethylene membrane shall be 6 mil polyethylene film complying to ASTM C-171. Membrane is to meet or exceed test for water retention, ASTM C-156.
      2) Burlap shall be free of sizing or any substances that are injurious to cement or can cause discoloration. Burlap shall be rinsed in water prior to use. Burlap shall be sufficient thickness to retain water without frequent wetting.

   i) Formwork material is to be plywood. Provide high density overlay type plywood in largest practical sizes for exposed surfaces. Brace and shore formwork as required. Contractor is responsible for design of formwork. Remove formwork only after concrete is hardened sufficiently to prevent damage. Work shall also include installation into formwork, items furnished by others, such as anchors, plates, inserts and any other items embedded in concrete.

   j) Joint sealing compound for sawn construction and control joints in interior slabs on grade shall be a semi-rigid epoxy having a minimum Shore D hardness of 55 and a minimum of 15% elongation. Joint sealeant shall be equal to "Esco 700" as manufactured by by Euclid Chemical Company. Chemical Company.

   k) Concrete Floor hardener shall be "Lapidolith" as manufactured by Sonneborn, Inc. or equal.

5. Prepare concrete mix designs in accordance with Section 4.3 (Field Experience) or Section 4.4 (Trial Batches) of ACI 318.

6. Except wall grout, proportion all concrete so that when produced it will have a maximum slump of 5 inches, and a minimum slump of 3-inches. Concrete wall grout shall contain high range water reducers. All concrete containing high range water reducers shall have a maximum slump of 8 inches. The concrete shall arrive at the site with a slump of 1" to 2", slump verified and recorded, and a high range water reducer added to increase the slump to the approved level. The addition of a high range water reducer shall be by a truck mounted mechanical dispenser or by a qualified certified concrete technician of the concrete supplier. The admixture shall not be manually dispensed by the concrete truck driver. After the addition of the high range water reducer, the concrete shall be rotated at maximum speed for a minimum of three minutes (45 revolutions minimum).

7. Concrete batch plants must comply with the requirements of ACI 304 with sufficient capacity to produce concrete of the quantity and quality as specified herein.

8. Ready-mix concrete shall comply with the requirements of ASTM C-94 and as specified herein unless otherwise noted. During hot weather or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C-94 will be required as follows: When air temperatures are between 80 Degrees F. and 90 Degrees F., reduce the mixing and delivery time from 1-1/2 hours to 1 hour. When temperatures are above 90 Degrees F., reduce the mixing and delivery time from 1-1/2 hours to 45 minutes. Concrete temperature is not to exceed 90 Degrees F.

9. Addition of water at the site for the purpose of retempering or increasing the slump beyond specified limits will not be permitted. Water is to be added at the jobsite only if the resulting slump will not exceed the specified limit, the design water-cement ratio will not be exceeded, and the concrete batcher authorizes in writing such addition. Concrete delivery to the site with a slump greater than the maximum specified shall be rejected by Contractor.

9.1. The following concrete types and strengths shall be used:

Location	Mix	Minimum 28-Day Compressive Strengths & Max. w/c Ratio
Except as noted below, All Concrete	Normal Weight	4000 psi (Max. w/c Ratio = .50)
Slabs on Grade/ Supported Slabs	Normal Weight	3500 psi (Max w/c Ratio = .55)
Footings	Normal Weight	4000 psi (Max w/c Ratio = .60)
Grout for Masonry	Normal Weight (3/8" Stone)	3000 psi (Max w/c Ratio = .60)
Weather Exposed Concrete	Normal Weight	Air-entrained (6%) 4000 psi (Max w/c Ratio = .45)

(NOTE: High Range Water Reducer is not permitted in slabs on grade)

DIVISION 3 -- CONCRETE

10. Thoroughly clean all surfaces to be occupied by concrete prior to casting concrete. Secure all reinforcement expansion joint material, anchors, and other embedded items prior to casting concrete.

11. Place concrete in compliance with the practices and recommendations of ACI 304. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, and tamping. Use of vibrators shall be in accordance with ACI 309.

12. Concrete floor slab on grade shall have Class A moisture barrier Stego Perminator or approved equal over 4" thick compacted clean stone, 3/8" minimum size, #78 stone. Restore any damaged subgrade areas to specified density immediately prior to installation of slab sub-base. Lab verify specified compaction. Install underslab membrane beneath stone, lapping joints 6 inches. Provide another layer of membrane over any punctures or tears, lapping edges of ruptured membrane at 12 inches. Tape all joints with duct tape. Turn up membrane at edges of all slabs, unless otherwise detailed. Deposit and consolidate concrete in slabs in a continuous operation, within the limits of construction joints until the placing of the entire section is complete. Placing shall be carried on at such a rate that the concrete being integrated with fresh concrete is still plastic. Concrete shall not be allowed to "free fall" a distance greater than 3'-0". Deposit concrete in walls in horizontal layers not to exceed 18" in thickness and in a manner to avoid cold joints.

13. Bring surface of slabs to the correct elevations with a straight edge and strike off. Use bull floats or derbies to smooth the surface, leaving it free of humps and hollows. Do not sprinkle water on the plastic concrete surface. Mechanically float all slab surfaces.

14. Concrete mixes may be pumped to the point of deposit with the following provisions:
   a) Concrete pumps shall be a piston type pump.
   b) Slumps shall not exceed the previously specified limits at the discharge end of the nozzle.

16. Notify Architect upon completion of installation of all reinforcing and other items in ample time to permit inspection of the work.

17. After floating, apply trowel finish to all interior surfaces (minimum three separate trowelings). Trowel with a power trowel as necessary to consolidate the concrete surface with the final troweling operation free of trowel marks and uniform in texture.

18. No water or free cement is to be added during the finishing operation. Finishing operations are not to be initiated while bleed water is present on surface. Exterior concrete landings, walks, pads, etc., shall be given a light broom finish.

19. Apply scratch finish to monolithic slab surfaces that are to receive mortar setting beds for the other bonded floor finish materials.

20. Cure "Exposed-to-view" slab surfaces by applying 6 mil polyethylene film on top of complete covering of saturated burlap as soon as troweling or floating has been complete. Maintain curing on slab for for seven days minimum.

21. Apply chemical hardener to all permanently exposed concrete surfaces. Apply in strict accordance with manufacturer's printed instructions. Apply evenly. Allow required drying between coats. After final coat has dried, remove surplus by scrubbing and mopping with water.
(Minimum three coats.)

22. The Contractor shall provide protection for fresh concrete, as follows:

   a) Cold Weather Placing.

   1) Protect all concrete work from physical damage or reduce strength which could be caused by frost, freezing actions, or low temperatures, in compliance with the requirements of ACI 306 and as herein specified.

   2) Do not place concrete when temperature is 40 Degrees F. and falling when freezing weather is predicted within 24 hours.

   3) "Cold Weather Concreting", ACI 306, shall be following for placing concrete in cold weather with the noted exceptions: No calcium chloride or "anti-freezes" shall be used. Only the specified and approved non-chloride accelerators shall be used. High early strength cement shall not be used. In addition to laboratory cured test specimens, additional concrete test specimens shall be cured under field conditions as required to check the adequacy of curing and protection of the concrete.

   4) Adequate equipment shall be provided for heating the concrete material and protecting the concrete during the freezing weather. No frozen material containing ice shall be used. The length of protection and curing shall be in accordance with ACI 306.

   b) Hot Weather Placing.

   1) Cool reinforcing by wetting sufficiently so that the steel temperature will not exceed the ambient air temperature immediately before placing concrete. Use in approved admixture design to retard the rate of set when outside temperatures exceed 70 Degrees F. Admixtures shall be tested in the design mix prior to use. Admixtures shall not contain any chlorides.

   2) Wet forms and subgrade thoroughly before placing concrete.

   3) The concrete supplier shall make provision for cooling the coarse and fine aggregate during hot weather by pre-wetting the aggregates on the conveyor belt and/or maintaining stock piles covered with crushed ice.

   4) The temperature of fresh concrete immediately prior to placement shall not exceed 90 degrees F.

   5) The Contractor shall take measures recommended in AI\CI-305 to prevent plastic shrinkage cracking.

22. The Contractor shall employ a testing laboratory to perform tests on concrete as outlined and to submit results of tests to the Architect. The Contractor shall furnish access to the site, samples of the concrete, and casual labor as required to the testing agency.

23. All concrete will be sampled and tested during placement of concrete as follows:

   a) Sampling Fresh Concrete - ASTM C-172, ASTM C-91
   b) Slump - ASTM C-143, one test from each truck

   c) Air Content - ASTM C-231, one test for each compression strength tst.

   d) Unit weight, one test for each compression strength test.

   e) Concrete temperature, test each truck when air temperature is 40 Degrees F. and below and when 80 Degrees F. and above; and each time a set of compression test specimen is made.

   f) Compression Test Specimens - ASTM C-31, one set of four standard cylinders for each compressive strength test.

   g) Compression Strength Tests - ASTM C-39, one set for each 100 cubic yards or fraction thereof of each concrete class placed in any one day. Test one cylinder at 7 days and 3 cylinders at 28 days.

24. Concrete work that does not conform to specified requirements, including strength, tolerance and finishes shall be repaired or replaced at no additional cost to Owner.

DIVISION 3 -- CONCRETE

Concrete Reinforcement

1. Work in this section includes reinforcement and placement of reinforcement for cast-in-place concrete, including bars, welded wire fabric, ties and supports. Reinforcing shall conform to ASTM A615, Grade 60.

2. Products and execution are specified in this section by reference to the following specifications and standards:

   a) American Concrete Institute (ACI)
   b) American Society for Testing Materials (ASTM)
   c) Concrete Reinforcing Steel Institute (CRSI)

3. The following standard references shall apply to the work of this section (latest editions):
   a) ACI-315 Manual of Standard Practice for Detailing Reinforced Concrete Structures.
   b) ACI-318 Building Code Requirements for Reinforced Concrete
   c) "Manual of Standard Practice" by CRSI.
   d) ASTM A-82 Specifications for Cold Drawn Steel Wire for Concrete Reinforcement
   e) ASTM A-185 Specifications for Welded Steel Wire Fabric for Concrete Reinforcement - provide in mat form when #8 gage, or heavier.
   f) ASTM A-615-SI Specifications for Deformed Billet-Steel Bars for Concrete Reinforcement.
   g) ASTM A-617 Specifications for Axle-Steel Deformed and Plain Bars for Concrete Reinforcement.
   h) AWS D1.4 and AWS D1.1

4. Reinforcing steel and wire mesh delivered to the project site and not immediately placed shall be protected from mud, excessive rust producing conditions, oil, grease, or distortion. Reinforcing steel and wire mesh shall be stored off the ground.

5. Minimum concrete protective covering for reinforcement shall be as follows:
   a) Concrete deposited against the ground: 3-inches
   b) Concrete deposited for slabs and walls: 1-1/2-inch

6. All reinforcement, at the time concrete is placed, shall be free of mud, oil, scale, loose rust, or other materials that may adversely affect or reduce the bond.

7. All reinforcing bars shall be supported and wired together to prevent displacement by construction loads or the placing of concrete beyond the tolerances as previously set forth. Place to + 1/4" tolerance. Pull slab wire mesh into position and support on small mounds of fresh concrete, placed immediately prior to main concreting operation as to secure it into position as stated on drawings, as pour progresses. Place dowels by means of plywood templates.

8. Lap wire mesh minimum one full mesh width at splices.

9. The Architect shall always be notified of the concrete placement schedule in advance and in ample time prior to placement of concrete to inspect the reinforcement. Inspection of reinforcement will be made only after each section to be poured is complete. Inspections will not relieve contractor of responsibility of providing work in accordance with contract drawings.

10. Reinforcing shall be fabricated to shapes and dimensions indicated on drawings and in compliance with ACI 315 and ACI 318. Bars shall be cold beat in shop. No bars are to be bent in field. Bars are to be bent and sheared to a tolerance of + 1" except tolerance for stirrups and ties is to be + 1/4".

Concrete Floor Finishing (mezzanine)

1. Basis of Design: Sikafloor CurHard-24 (Liquid)
   or
2. Sikafloor QuartzTop - 100 (Dry Shake)

DIVISION 4 -- MASONRY

1. Masonry block shall be standard size lightweight concrete masonry units, conforming to ASTM C-90, Grade N. Furnish corners, U-Blocks, headers, lintels, bullnose and other special shapes required. Units exposed to view on the exterior of the building (and elsewhere as noted on drawings) shall be custom masonry split-faced units. Exposed to view units shall be painted as specified in Division 9.

2. Bond pattern: Lay exposed masonry in running bond, do not use units with less than 4" horizontal face dimensions at corners or jambs.

3. Fill space between steel frames and masonry solidly with mortar.

4. Where parging is indicated, apply in 2 uniform coats to a total thickness of 3/4" with a steel-trowel finish. Damp-cure parging for at least 24 hours and protect parging until cured.

5. Face brick shall be similar to existing brick veneer in Building # 1. Selection of brick for use in the project shall be by owner and architect.
Face Brick: ASTM C 216, Grade Sw, Type FBA.

6. The Portland cement / lime mortar shall conform to ASTM C 270, Type-S. Mortar color to be standard.

7. Hydrated lime: ASTM C 207, Type S.

8. Masonry cement: ASTM C 91.

9. Aggregate for Grout: ASTM C 404.

10. Aggregate for Mortar: ASTM C 144.
Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

11. Do not use calcium chloride in mortar or grout.

12. Joint reinforcing shall be Standard galvanized trussed Dur-O- Wal or approved equal for single wythe walls and composite walls.

13. Anchors for fastening brick veneer to masonry structure shall be Hickman No. 315 and No. 315c Anchor Rods and Anchor Straps with No. 316 Triangle Ties (or approved equal), spaced as noted on drawings.

14. Anchors for fasting brick veneer to wood or light gauge metal frame structure shall be manufacturers standard strap anchors, spaced in accordance with code requirements.

15. All concrete masonry units shall be laid in running bond. Lay units in full bed and head joints. Mason shall tool joints concave when thumbprint hard.

16. Build in all items of fabric flashing, metal lath, door frames, windows, anchors, bolts, lintels, pipe sleeves, etc.

17. Use full-size units without cutting if possible. When cutting, use motor driven saws, provide clean, sharp, unchipped edges.

18. Clean masonry with water, stiff brushes, and metal scrapers. Clean glazed masonry units with non-abrasive tools and chemicals as recommended by manufacturer. High pressure wash and sandblasting is not allowed. Point all holes and cut out and repoint all bad joints.

19. Clean brick by bucket and brush had-cleaning method described in BIA Technical Notes 20.

DIVISION 5 -- METALS

Structural Steel

1. All structural steel fabrication and erection shall comply with the AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings", latest edition, and the AISC "Code of Standard Practice for Steel Bridges and Buildings", and the AWS "Code for Welding in Building Construction".

2. All structural steel shapes and plates shall conform to ASTM A-36, except tubing shall conform to ASTM A-500 and steel pipe shall conform to A-53, latest edition.

3. All foundation anchor bolts shall conform to ASTM A-307. Other bolted connections shall conform to AISC "Specifications for Structural Joints Using ASTM A-325 or A-490 Bolts". Tighten 3/4" dia. ASTM-325 bolts to 28,000 lbs. tension. Provide washers under all nuts.

4. Welding electrodes for arc-welding shall conform to E70 Series of the "Specifications for Mild Steel Arc-Welding Electrodes", ASTM A-233.

5. Non-shrink grout shall be Masterflow 713 as manufactured by the Master Builders Technologies of Cleveland, Ohio or approved equal.

6. Unless noted otherwise, all concealed structural steel shall receive minimum 2 mil DFT shop coat of red zinc primer paint and shall be touched up in the field after erection. Omit paint at field weld locations.

7. Submit shop drawings of all fabricated materials to be furnished and delivered to the site. Erection drawings to locate and identify members shall accompany shop drawings.

8. Do not use gas cutting torches in the field for correcting fabrication errors in structural framing.

9. All welds shall be made by certified welders.

10. No unapproved splices shall be made in steel shapes.

11. No field torch cutting will be allowed unless approved by Architect. Do not flame cut holes or enlarge holes by burning.

12. Contractor shall field verify all existing field conditions, dimensions and elevations prior to commencement of construction.

13. The Contractor shall use qualified personnel for all layout work.

14. Erect structure plumb and level within tolerances specified by AISC. Do final bolt tightening after structure is plumb and aligned.

15. Provide temporary shoring, guying and bracing as required until structure is permanently stabilized.

16. Member and Connection Design:

A. All details shown on drawings are typical. Similar details shall apply to similar conditions, unless indicated otherwise.

B. Promptly notify Architect whenever design of members and connections for any portion of the structure are not indicated clearly.

C. Design any connections not specifically detailed on drawings. Submit design for Architect's approval. Design shall be in accordance with latest AISC specifications.

Miscellaneous Metal

1. Furnish all miscellaneous metal items, including stairs, railings, platforms, lintels, anchors, brackets, frames, plates, etc. All work shall be fully welded, ground smooth where exposed, and shop painted.

2. Railings for stairs and landings shall be 1-1/2" I.D. Standard weight Schedule 40 black steel pipe. Form railing as required by the Drawings. All connections to be welded and ground smooth. Provide pipe sleeves, and cast brackets and end caps.

3. Lintels for plumbing, mechanical and electrical openings shall be provided by the General Contractor.

Metal Railings

1. All railings shall be supplied to conform to applicable sections of the 2024 NC State Building Code.
2. Handrails shall withstand the following loads:
   a. Uniform load of 50 lbf / ft., applied in any direction.
   b. Concentrated load of 200 lbf, applied in any direction.
3. Top rails of guards shall withstand the following loads:
   a. Uniform load of 50 lbf / ft., applied in any direction.
   b. Concentrated load of 200 lbf, applied in any direction.
4. Infill area of guards shall withstand the following loads:
5. Horizontal concentrated load of 50 lbf applied to 1 sq. ft. at any point in the system, including panels, intermediate rails, balusters or other elements composing infill area.
6. Prevent galvanic reaction and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
7. All metal surfaces shall be smooth, without seam marks, roller marks, rolled trade names, discolorations or blemishes.

Infill for Railings

1. Welded steel wire mesh infill panel: minimum 0.118 inch wire diameter steel.
2. Pattern: 2" square.
3. Frame: steel U-channel, minimum 14 gauge, corners welded and ground smooth. To assure max. corrosion protection, the bottom U-channel shall be open, in order to evacuate all water.
4. Corrosion protection:
   a. Entire panel to be electro-coated with PPG Power cron 8000 or equivalent, and shall cover all exposed surfaces. Electro-coating to be applied in 4 steps: pre-teatment, electro-coat, post rinse & bake oven.
   b. Panel shall be powder coated withSilver powder coat or equivalent coat color. Powder to be TGIC polyester, minimum AAMA 2604.
5. Infill panels to be attached to railing using # 145 panel retainers and 1/4"-20 screws, with appropriate slot width for panel thickness, and set screw for final tightening of panel within retainer slot.

DIVISION 5 -- METALS

Cold-formed Metal Framing

Provide cold-formed metal framing capable of withstanding design loads without deflection greater than the following:
Interior load bearing wall framing: Horizontal deflection of 1/ 360 of the wall height.

Quality Assurance:

1. Welding: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel."

2. AISI Specifications and Standards: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" and its "Standard for Cold-Formed Steel Framing - General Provisions."

3. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
   - Minimum Base-Metal Thickness: 0.0428 inch (1.09 mm).
   - Flange Width: 1-5/8 inches (41 mm).

4. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and same minimum base-metal thickness as steel studs.

5. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal and lateral loads.

Accessories and Miscellaneous Materials:

1. Fabricate steel-framing accessories of the same material and finish used for framing members, with a minimum yield strength of 33,000 psi (230 MPa), of manufacturer's standard thickness and configuration, unless otherwise indicated.
2. Steel Shapes and Clips: ASTM A 36 / A 36 M, zinc coated by hot-dip process accoring to ASTM A 123.
3. Anchor Bolts: ASTM F 1554, threaded carbon-steel hex-headed bolts and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153 / A 153 M, Class C.
4. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times design load, as determined by testing per ASTM 488 conducted by a qualified independent testing agency.
5. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing per ASTM E 1190 conducted by a qualified independent testing agency.
6. Mechanical Fasteners: Corrosion-resistant-coated, self-drilling, self-threading steel drill screws.
7. Galvanizing Repair Paint: ASTM A 780.
8. Cement Grout: Portland cement, ASTM C 150, Type I; and clean, natural sand, ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
9. Thermal Insulation: ASTM C 665, Type I, unfaced mineral-fiber blankets produced by combining glass or slag fibers with thermosetting resins.

Installation:

1. Install cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened, according to ASTM C 1007, manufacturer's written recommendations, and requirements in this section.
   - Cut framing members by sawing or shearing. Do not torch cut.
   - Fasten cold-formed metal framing members by welding or screw fastening, as standard with fabricator. Wire tying of framing members is not permitted.
   - Install framing members in one-piece lengths.
   - Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed.
   - Install insulation in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.
   - Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's standard punched openings.
   - Do not bridge building expansion and control joints with cold-formed metal framing. Independently frame both sides of joints.
   -

2. Erection Tolerances: Install cold-formed metal framing level, plumb, true to line to a maximum allowable tolerance variation of 1/8" inch in ten feet (1:960) and as follows:
   - Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

4. Install supplementary framing, blocking, and bracing in stud framing indicated to support fixtures, equipment, services, casework, heavy trim, furnishings, and similar work requiring attachment to framing.

DIVISION 6 -- WOOD

Rough Carpentry

1. Provide all necessary scaffolding, forming, furring, blocking, nailers, rough hardware and similar items required for the completion of the project.

2. Wood framing, blocking, nailers, etc., unless otherwise noted, shall be No. 2 Common Southern Yellow Pine, air dried to a moisture content of not over 19%. All sills, plates, etc., in contact with masonry and elsewhere as indicated shall be Wolmanized No. 2 Common Pine.

3. Interior plywood shall be INT-DFPA, and exterior plywood EXT DEPA,in thicknesses as shown and detailed on drawings.

4. Sills, blocking, bracing, and carpentry items shall be laid out as called for on the Drawings and as required by normal trade practices and shall be cut and fitted as required by the job conditions encountered. All work shall be connected with a sufficient quantity of nails, spikes, bolts, etc., to insure the rigidity of the work.

Finish Carpentry

Cabinets

1. Construct cabinets as detailed and in locations shown on drawings.
2. Wood Cabinets, Transparent Finish: Comply with AWI Section 400, Division 400A, "Wood Cabinets". Cabinet construction shall be AWI premium grade flush overlay, with face frame (unless otherwise detailed), premium grade red oak, rift sawn veneer, with wood interiors.
3. Materials for cabinets shall meet the following standards: Hardwood plywood and Face venners - HPVA HP-1; Plastic Laminate - NEMA LD 3.
4. Cabinet hardware shall comply with BHMA A156.9. Hardware finishes shall comply with BHMA A156.18. Finish shall be stainless steel - BHMA 630.
5. Wood cabinets shall be of custom grade with flush overlay type construction, unless shown otherwise on drawings.

CABINET HARDWARE

1. Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items which are specified in Section 08 71 00, "Door Hardware".
2. Comply with ANSI / BHMA A156.9 "American National Standard for Cabinet Hardware" for items indicated by reference to BHMA numbers or referenced to this standard.
3. Provide cabinet hardware as required as follows:
   a. Pulls: 3-1/2" Wire Pulls, polished chrome
   b. Hinges: European Style
   c. Slides: Heavy-duty full extension, 120 lb. / pair carrying capacity.
   d. Recessed Shelf Standards: KV No. 255 NP, Nickle Finish with No. 256 shelf rest, or equal product by Stanley, National or Hafele.
   e. Locks: Corbin No. 15760, polished chrome, or equal product by Stanley, National or Hafele.
4. Hardware finishes: Comply with BHMA 1301 for finishes indicated by BHMA Code Numbers, or not otherwise indicated, provide finishes complying with requirements indicated below:
5. For exposed hardware, comply with requirements indicated for BHMA 630 (polished chrome).
6. For concealed hardware, provide manufacturer's standard finish which complies with product class requirements of ANSI / BHMA A 156.9

Countertop

1. Construct countertops as detailed and in location shown on drawings.
2. Plastic laminate countertop shall comply with AWI Section 400, Division 400B.
3. Provide GP-50 plastic laminate for all wearing surfaces.
4. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damage.
5. Install finish carpentry level, plumb, true, and aligned with adjacent materials.

DIVISION 7 -- THERMAL AND MOISTURE PROTECTION

Batt Insulation

1. Where noted on drawings, provide kraft-faced or foil-faced fiberglass batt insulation. Insulation shall comply with ASTM C612, Class 1 and Class 2. Fit tightly and fasten securely with facing on warm side.

Perimeter Foundation Insulation

1. Where perimeter foundation insulation is indicated install rigid, closed cell extruded polystyrene foam equal to Dow Styrofoam SM with R value of 15 or greater.

Flashing and Sheet Metal

1. Work included: Provide flashing and sheet metal not specifically described in other Sections of these Specifications but required to prevent penetration of water through the exterior sheet of the building. Work of this section includes gutters, downspouts, flashing and trim.

2. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

3. In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in current edition of "Architectural Sheet Meta Manual" published by the Sheet Metal and Air-conditioning Contractors National Association (SMACNA).

4. Where sheet metal is required, and no material or gage is indicated on the Drawings, provide the highest quality and gauge commensurate with the referenced standards.

5. Materials:
A. Pre-finished aluminum:
1) .035 gauge pre-finished alumimum (white)

B. Nails, screws, bolts, rivets and other fastenings for concealed aluminum work shall be AISI type 304 or 305 stainless steel. Exposed fasteners for precoated aluminum work shall match adjacent finish and color. Nails shall be 12 ga. (minimum) flat head, annuiar-thread type of sufficient length to penetrate penetrate backing at least 3/4".

C. Provide other materials, not specifically described but required for a complete and proper installation as selected by the Contractor subject to the approval of the Architect.

6. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

7. Form sheet metal accurately and to the dimensions and shapes required, finishing molded and broken surfaces with true, sharp, and straight lines and angles and, where intercepting other members, coping to an accurate fit. Unless otherwise specifically permitted by the Architect, turn exposed edges back 1/2". Work shall allow for thermal movement and with regard to relation to adjacent materials. Insulate dissimilar metals from each other to prevent galvanic action. Seal at all laps. Lap adjacent pieces of sheet metal flashing a minimum of 3". Seal joints between sheet metal work and adjacent work as necessary to provide resilient watertight condition.

8. After completion of installation of work of this Section, exposed work shall be cleaned thoroughly of all scrapes, stains, flux, oil and other materials which would damage the work. Clean metal in accordance with manufacturers printed instructions.

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6-24-2026
10611
NORTH CAROLINA

CONSULTANT JOB NO.

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

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REVISIONS

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SPECIFICATIONS

DATE June 24, 2026

DRAWN BY: JRS | CHECKED:

JOB NO. 25063

SHEET NO.

SP2

OF

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DIVISION 8 -- GLASS, WINDOWS, DOORS & HARDWARE

Wood Doors

1. Interior wood doors shall be 1-3/4" thick, solid particle core flush doors with premium grade, book matched white birch veneer face.
2. Interior wood doors shall have a 2 year manufacturer's warranty.

Hollow Metal Doors, and Frames

1. Hollow metal doors and frames shall conform to requirements of Steel Door Institute and Commercial Standards CS 242. Doors and frames shall be as manufactured by Republic, or other approved equal.
2. Doors to be 1-3/4" thick, 18 gauge cold rolled steel, flush, insulated, stiffened doors prepared for scheduled hardware.
3. Frames to be 16 gauge formed cold rolled steel with welded joints and anchors 16" o.c. Provide 4" headers where indicated.
4. Provide openings for glazing with steel glazing beads.

Bullet Resistant Hollow Metal Doors, and Frames

1. Hollow metal door and frame shall be "non ricochet" type and in accordance with U.L. 752 - Standard Bullet Resisting Equipment and ASTM A36 / A36M-08 Standard Specification.
2. All joints and connections shall be tight, providing hairline points and true alignment of adjacent members.
3. Frame dimensions: as indicated on the Drawings. Frame shall be manufactured to defeat ballistic assaults in accordance with UL Standard 752, Level 1 through 8.
4. Frame Construction: 16 gauge commercial cold rolled steel. Frame shall be welded and ground flush.
5. Glazing: Shall comply with UL 752, Level 1 through 8 and shall not be removable from threat side of sash, bullet resistant level 3. Glazing shall be 1-1/4" polycarbonate.
6. Warranty: ten (10) years after substantial date of completion.
7. Basis of Design: Total Security Solutions, Inc., 935 Garden Lane, Fowlerville, MI 48836.

Sectional Overhead and Rolling Doors

1. Sectional overhead doors shall be electrically operated sectional door as manufactured by Clopay Corporation, Cookson or Cornell.
2. Sections will be 2" thick sandwich construction of exterior and interior steel pressure bonded to expanded polystyrene core. Door will have one full view section located in panel three.
3. Door operator shall be capable of fully opening door in a minimum of 12 seconds.
4. Door dimensions shall be as shown on drawings.

DIVISION 8 -- GLASS, WINDOWS, DOORS & HARDWARE

Aluminum Bullet Resistant Windows

1. Window system shall be "non ricochet" type, Level 5 in accordance with U.L. 752 - Standard Bullet Resisting Equipment.
2. Polycarbonate Glazing: shall be 1-1/4" bullet resistant glazing, Level 3 with bullet resistant speak & backer system.
3. Bullet resistant aluminum framing system, Anodized finish: ASTM B 209, extruded aluminum alloy 6063 T5 anodized.
4. Frame finish: Clear anodic finish - Architectural Class I, clear coating AA-M10C22A41 mechanical finish, 0.70 mils minimum complying with AAMA 611"Voluntary Specification for Anodized Architectural Aluminum".
5. Glazing channel: U-channel designed to secure transparencies tightly. Angles and stops are only acceptable for top attachment. Exposed corners shall be rounded and sanded.
6. Color: Clear
7. Anchors: Fully concealed, per manufacturer recommendation.
8. Protect adjacent surfaces work areas and finish surfaces from damage during installation.
9. Protect aluminum members in contact with masonry, steel, concrete or dissimilar materials.
10. Warranty: ten (10) years after substantial date of completion.
11. Basis of Design: Total Security Solutions, Inc., 935 Garden Lane, Fowlerville, MI 48836.

Cash Tray

1. Recessed
2. Finish: Brushed Stainless Steel, # 4 finish.
3. Mateiral: 18 gauge stainless steel.
4. Dimension: 16" x 8" x 1-1/2"

DIVISION 8 -- GLASS, WINDOWS, DOORS & HARDWARE

Finish Hardware

1. See door schedule for listing of primary hardware requirements. Provide all hardware required for complete installation.
2. Hardware Supplier shall be a recognized builders hardware supplier who has been furnishing hardware in the project's vicinity for a period of not less than 2 years, and who is, or employs an experienced hardware consultant who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to Owner, Architect and Contractor. The hardware supplier shall prepare a schedule of hardware, as described below, for approval by the Architect, and shall provide copies and templates to the Contractor for use on the project.
3. Provide hardware for fire-rated openings in compliance with NFPA Standard No. 80. Provide only hardware which has been tested and listed by UL for types and sizes of doors required and complies with requirements of door and door frame labels. Where emergency exit devices are required on fire-rated doors, (with supplementary marking on doors; UL labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide UL label on exit devices indicating "Fire Exit Hardware".
4. Comply with Owner's instructions for master keying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks. Provide keys of nickel silver only. Furnish 3 change keys for each lock; 5 master keys for each master system.
5. Provide matching finishes for hardware units as each door or opening, to the greatest extent possible, and except as otherwise indicated. Reduce differences in color and textures as much as commercially possible where the base metal or metal forming process is different for individual units of hardware exposed at the same door or opening. In general, match items to the manufacturer's standard finish for the latch and lock set (or push-pull units if no latch- lock sets) for color and texture. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness and other qualities complying with manufacturer's standards, but in no case less than specified for the applicable units of hardware by referenced standards. Provide protective lacquer coating on all exposed hardware finishes of brass, bronze and aluminum, except as otherwise indicated.
6. Provide products complying with the following standards and requirements:

Butts and Hinges:	ANSI A156.1
Locks and Lock Trim	ANSI A156.2 Grade 1
Exit Devices:	ANSI A156.3 Grade 1
Door Controls - Closers	ANSI A156.4
Auxiliary Locks:	ANSI A156.5
Architectural Door Trim:	ANSI A156.6
Template Hinge Dimensions:	ANSI A156.7
Finish:	US26D

7. Hinges shall be five knuckle, full mortise, ball bearing type, suitable for standard weight/medium frequency applications. Provide steel hinge pins, non-removable on exterior doors and non-rising on interior doors. Provide number of hinges indicated but not less than 3 hinges for door leaf for doors 90" or less in height and one additional hinge for each 30" of additional height. Unless noted otherwise, locksets shall be mortise-type, heavy duty, with lever operators, of style as selected from approved manufacture's standard designs.
8. Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set. Provide armored latchguard where scheduled.
9. Closers: Except as otherwise specifically indicated, comply with manufacturer's specifications for size of door control unit, depending upon size of door, exposure to weather, and anticipated frequency of use. Provide parallel arms for all overhead closers unless other-wise indicated or required for proper operation. Where parallel arms are used, provide closer unit one size larger than recommended for use with standard arms.
10. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Custom Steel Doors and Frames by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations comply with governing regulations and except as otherwise directed by Architect. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage and reinstallation or application of surface protections with finishing work specified in the Division-9 sections. Do not install surface-mounted items until finishes have been completed on the substrate.
11. Set units level, plumb and true to line and location adjust and reinforce the attachment substrate as necessary for proper installation and operation. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
12. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.
13. Final adjustment: Wherever hardware installation is made more than one week prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance of occupancy and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment. Instruct Owner's personnel proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.

DIVISION 9 -- FINISHES

Light Gauge Metal Framing

1. Steel studs shall be cold-rolled from galvanized steel, and designed for screw attachment of wallboard, DWS type. Provide floor and ceiling runners of 20 gauge material. Provide 20 gauge stud material where required and where recommended by Manufacturer for specific location and loading. For remaining stud framing, provide minimum 25 gauge material.
2. Carrying channels shall be 3/4" and 1-1/2", 16 gauge cold rolled steel channels, asphalt painted.
3. Furring channels shall be hat shaped, formed of 25 gauge electro-galvanized steel, 2-3/4" wide by 7/8" deep, with 1/2" wing flanges.
4. Unless otherwise called for on Drawings, partition stud spacing shall be 1'-4" on center. Furring channel spacing: 2'-0" on center.
5. Provide metal furring channels for walls and metal suspension system including hanger wires, runner channels, and furring channels where required.
6. Provide additional framing as required at anchorage points for wall mounted fixtures, accessories, etc.
7. Set perimeter studs and floor runners in two continuous 1/4" beads of sealant for sound attenuation.
8. Light gauge floor, ceiling and roof framing shall be of size and gauge recommended by manufacturer.

Gypsum Board

1. Standard gypsum wallboard shall be 5/8" thick, 48" wide, tapered edge sheetrock complying with ASTM - C36.
2. Fire rated gypsum wallboard shall be 5/8" thick, 48" wide, tapered edge type "X" (Firecode) sheetrock complying with ASTM - C36. Materials shall bear fire rating label and fire classification numbers.
3. Water resistant gypsum wallboard shall be self-furring, 5/8" thick, 48" wide, complying with ASTM - C36.
4. High Abuse rated gypsum wallboard shall be equal to National gypsum's "Hi-Abuse" brand wallboard.
5. Corner beads and casing beads shall be standard galvanized steel section, manufactured for use with drywall construction.
6. Nails shall be annular ring nails conforming to ASTM - C380.
7. Screws shall be self-drilling, corrosion resistant screws with phillips heads.
8. Joint treatment products shall include fiber reinforced tape and ready mixed joint and topping compound of the type recommended by wallboard manufacturer.
9. Gypsum wallboard shall be installed by an approved, experienced drywall applicator normally engaged in this trade.
10. Water resistant gypsum wallboard shall be applied to walls in men's and women's toilet rooms. Fire-rated gypsum board shall be applied to walls as noted or scheduled. All other areas shall receive standard gypsum wallboard. The application of fire rated gypsum wallboard shall conform to U.L. rated design.
11. Board of maximum practical length shall be used so that an absolute minimum number of end joints occur. Boards shall be brought into contact with each other, but shall not be forced into place. Wallboard joints at opening shall be located so that no end joint will align with edges of opening. All end joints shall be staggered.
12. Apply gypsum wallboard with the length at right angles to the supporting members. Center abutting ends or edges over supports.
13. Fasteners shall be spaced not less than 3/8" from ends and edges of wallboard. Wallboard shall be held in firm contact with support member while fasteners are being placed. Heads shall be dimpled slightly below the surface of the wallboard, with care being taken not to break the paper face.
14. Apply gypsum wallboard with fasteners spaced at 12" on center in the filed and 8" on center along the vertical edges.
15. Corner beads shall be applied to all external corners. Casing beads shall be applied around all wall or ceiling openings. All joints, internal angles, dimpled corners and edges shall be reinforced and finished using the 3-coat system. Allow 24 hours for drying between applications of cement. Sand the cement after each coat is dry to a smooth surface, effectively concealing the joints or fasteners.

Acoustical Ceiling

1. Acoustical ceiling system shall be mineral fiber, 24" x 24", painted, lay-in ceiling panels in a suspended exposed T-grid system, complete with all accessories including perimeter angle moulding. All exposed-to-view portions and edge mouldings of grid system shall have a factory applied aluminum finish.
2. Installation of the suspension system shall comply with ASTM C636, and be installed in accordance with the manufacturer's printed instructions and shall conform to the reflected ceiling plan. Use #12 Galvanized wire hanger at 48" o.c. maximum. Provide any additional hangers or furring necessary for grid and at each corner of lay-in light fixtures and ceiling diffusers and grilles. Ceiling grid shall be leveled to within 1/8" in 12 feet prior to placing acoustical units.
3. Ceiling contractor shall perform all cuts for penetrations through ceiling.
4. Upon completion of work, clean all exposed surfaces of acoustical ceilings, including trim, edge mouldings and suspension members. Comply with manufacturer's instructions for cleaning, and touch-up minor damage. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.
5. In addition to the furnishing and installation of all acoustical materials required to complete the project, an extra carton of each type and size of acoustical ceiling unit used in the project shall be included in the contract and shall be turned over to the owner upon completion of the project.
6. Provide acoustical tiles complying with the following:
   a. Color: white
   b. Light Reflectance coefficient: not less than LR 0.70
   c. Noise Reduction Coefficient: NRC 0.70
   d. Edge detail: Beveled
   e. Thickness: 3/4"

DIVISION 9 - FINISHES

RESILIENT TILE FLOORING

1. Luxury vinyl tile (LVT), 18" x 18" tile shall have a minimum thickness of 1/8" (3.2mm) with color and pattern to be selected by Owner from manufacturer's standard palette. See finish schedule on drawings for locations and types.
2. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement- or blended hydraulic cement-based formulation provided or approved by flooring manufacturer for applications indicated.
3. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
4. Metal Edge Strips: Extruded aluminum with mill finish of width shown, of height required to protect exposed edge of tiles, and in maximum available lengths to minimize running joints.
5. Lay out tiles from center marks established with principal walls, discounting minor offsets, so widths at opposite edges of room are equal to one another and are at least one-half of a tile. Match tiles for color and pattern by selecting from cartons in same sequence as manufactured and packaged. Lay in pattern as directed by Architect.
6. Provide tiles complying with the following:
   a. Color & patterns: As selected by the Owner.
   b. Tile standard: ASTM F 1066, Class 1, solid color or Class 2, through pattern tile.

RESILIENT WALL BASE AND ACCESSORIES

Wall Base:

1. Rubber,FS SS-W-40, Type I, of color selected by Architect and Owner for manufacturer's full pallet. Style: Cove with top-set toe. Height 4 inches (101.6 mm). Lengths: Cut lengths 48 inches (1219.2 mm) long or coils in lengths standard with manufacturer, but not less than 96 feet (29.26 m). Outside and Inside Corners: Premolded. Surface: Smooth.
2. Adhesively install resilient wall base and accessories. Install wall base in maximum lengths possible. Apply to walls, pilasters, casework, and other permanent fixtures in rooms or areas where base is required.
3. Factory pre-formed corners only.
4. Install reducer strips at edges of flooring that otherwise would be exposed.

Ceramic Tile

1. Tiles shall comply with ANSI A137.1 - 2022, "American National Standard Specifications for Ceramic Tile", for types, compositions, and other characteristics indicated.
2. Provide 12" x 12" x 5/16" thick ceramic floor tile, unglazed, equal to Daltile Keystones.
   Provide 6" x 6" x 5/16" ceramic tile cove base, equal to Daltile Classic.
   Provide 6" x 6" x 5/16" glazed ceramic wall tile, equal to Daltile Classic.
   Provide 3" x 6" x 5/16" glazed ceramic bullnose unit, equal to Daltile Classic.
3. Thin set tile is to be set in latex modified thin set mortar and grouted. Bed set tile shall be laid in sand-cement setting bed and grouted.
4. Install, clean and protect tile in accordance with the recommendations of the Tile Council of North America (TCNA) - Handbook for Ceramic, Glass, and Stone Tile Installation - 2024.

Painting

1. See schedules for areas to be painted. Unless noted otherwise, paint all unfinished exposed-to-view surfaces, except as follows. Aluminum, stainless steel, bronze, chrome plated, nickel, monel metal, lead, lead coated copper, and other surfaces with factory finishes shall not be painted or finished, except as otherwise scheduled. Paint exposed-to- view plumbing, mechanical and electrical items, including, but not limited to roof vents exhaust fans and roof caps, interior piping, ductwork, conduit electrical service equipment electrical panel fronts, etc. Unless directed otherwise these surfaces are to match the adjacent surface colors. Interior painting of all new work, and all required exterior painting, including of new and existing cast concrete panels, CMU, brick, concrete walls, metal facade, planter walls, bollards, are a part of this contract.
2. Provide finish coats which are compatible with prime paints used. Review painting schedule to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information on characteristics of finish materials proposed for use to insure compatible prime coats are used. Provide barrier coats over incompatible primers or remove and re-prime as required. Contractor shall inspect painted surfaces and determine compatible coatings prior to beginning work. Provide barrier coats over incompatible primers and existing coatings or remove and re-prime as required. Notify the Architect in writing of any anticipated problems using the specified coating systems. Prior to applying final coat of paint contractor shall verify the surface has been properly prepared. Painting of surfaces that have not been properly filled, sanded or in any other not properly prepared shall be re-finished at no cost to the owner.
3. Provide the best quality grade of the various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying the manufacturer's identification as a standard, best-grade product will not be acceptable.
4. Provide undercoat paint produced by the same manufacturer as the finish coats. Lightly sand trim surfaces between coats. Use only thinners and additives approved by the paint manufacturer, and use only within recommended limits.
5. Schedule of Painting and Varnishing: Consult architect for required colors, textures, and sheen.
6. Surfaces to be painted shall be clean, smooth, free from scratches and dust, thoroughly dry and well sanded before painting work is started.
7. On wood and drywall surfaces, after prime coat is applied, nail holes shall be filled with putty, colored to match the finish. Putty shall be brought flush with the surface.
8. Prepare cementitious surfaces to be painted by removing all efflorescence, chalk, dust, dirt, grease, oils and by roughening as required to remove glaze. Do not paint over surfaces where the moisture content exceeds that permitted in the manufacturer's printed directions. On masonry walls point up mortar joints and "rub" CMU joints to remove excess mortar.
9. Metal surfaces shall be cleaned of rust, scale, dirt, oil and welding flux prior to priming.
10. Paint shall be applied in the number of coats specified and at the minimum square foot coverage stated in the paint manufacturer's printed specifications. If not indicated, then of not less than 5.0 mils for the entire coating system of three (3) coat work or not less than shall cover to the satisfaction of the architect, or additional coats shall be applied at the contractor's expense until approval is obtained.
11. Paint shall not be applied when the temperature falls below 45 degrees, or in damp, rainy weather.
12. Paint shall be evenly spread and well brushed. The finish coats shall be free from noticeable laps, brush marks, and streaks. Contractor shall scrape roller as clean as possible final rinsing to limit waste.
13. Upon completion, all touching-up as required shall be done, and paint removed from all surfaces which are not specified to be painted.
14. Painting Schedule:

    Interior and Exterior Metal
    (Pretreat Galvanized Metal)
    1st Coat - Rust Inhibitive Primer
    2nd & 3rd Coats - Alkyd Enamel

    Interior Gypsum Wallboard, Painted:
    1st Coat - Latex Wall Primer
    2nd and 3rd Coats - Eggshell Latex Wall Paint

    Concrete and Masonry, Interior:
    1st Coat - Water Base acrylic /epoxy blockfiller
    2nd and 3rd Coats - Gloss acylic enamel

    Interior and exterior wood, Painted:
    1st Coat - Latex Wall Primer
    2nd and 3rd Coats - Semi-gloss enamel

    Interior Ferrous Metal (including exposed structure):
    1st Coat - Zinc-rich primer on all surfaces not shop coated
    2nd and 3rd Coats - Semi-gloss enamel

DIVISION 10 -- SPECIALTIES

TOILET ROOM ACCESSORIES

1. Provide stainless steel accessories as indicated on the Toilet Accessory Schedule on the Drawings.
2. Install accessories using fasteners appropriate to substrate indicated and recommended by the unit manufacturer. Install units level, plumb and firmly anchored in locations and at heights indicated and as required to comply with NC Building Code 2024. Install grab bars to withstand a downward load of at least 250 lbf when tested according to method in ASTM F 446.
3. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items. Remove all temporary labels and protective coatings.

Corner Guards

1. Corner guards shall be Construction Specialties' DeCrovin LG- 200, clear.
2. Install per manufacturer recommendations on all outside drywall corners.

SIGNAGE

1. Except where otherwise indicated or specified, Contractor shall furnish and install interior and exterior signage.
2. Locate signs as directed by architect and the NC State Building Code 2018.
3. Signs shall be secured to walls with tamper-proof fasteners. Sign materials shall be suitable for exterior installations.
4. Submit samples of signs for approval before installation.
5. Provide signs, at each toilet, that comply with North Carolina State Building Code 2018 and ANSI ICC A117.1-2009 (Accessibility Code)
6. Install per manufacturer recommendations.

FIRE PROTECTION SPECIALTIES

SECTION REQUIREMENTS

1. Submittals: Product Data.
2. Fire Extinguishers: NFPA 10, listed and labeled for the type, rating, and classification of extinguisher, UL Listed.

3. FIRE EXTINGUISHERS AND CABINETS

1. Where indicated on drawings supply and install portable dry chemical fire extinguishers equal to JL Industries Cosmic 10E. Provide extinguisher fire cabinet equal to JL Industries Clear Vu 1526F25. Where required due to fire rating of wall, install with FX Option.
2. Fire Protection Cabinets: semirecessed and surface-mounted cabinets for fire extinguisher.
   a. Trim Style: Square trim
   b. Door and Trim Material: Stainless steel.
   c. Door Glazing: Tempered float glass
   d. Door Style: Fully glazed with frame
   e. Accessories: Mounting brackets

Installation

A. Install cabinets and brackets at heights indicated or, if not indicated, at heights to comply with applicable regulations of authorities.

B. Adjust final location of cabinets as directed by local Fire Marshal and as confirmed by the Architect jurisdiction.

DIVISION 13 -- SPECIAL CONSTRUCTION

Pre-Engineered Buildings (by others)

1. The General Contractor shall be responsible of purchasing and erecting the new Pre-Engineered Metal Building addition to Building # 2.
2. The General Contractor will contact the Architect to have the structural loads and reactions of the new Pre-Engineered Metal Building analyzed, and to determine if any adjustments to the Foundation Plan (Sheet S-1.0) are needed.
3. Building Dimensions: same as existing Building # 2 (PEMB).
4. Building Height: same as existing Building # 2 (PEMB).
5. Include wall and roof insulation per NC Energy Conservation Code 2018

DIVISION 14 -- CONVEYING EQUIPMENT

HOISTS AND CRANES

1. Max. Lift Height: 15'-0"
2. Max. HP: 1.0
3. Voltage 115 / 230 AC
4. Phase: Single
5. Basis of Design: Milwaukee 1-ton electric chain hoist, model 9567

alley, williams, carmen & king, inc.
ENGINEERS & ARCHITECTS
p.o. box 1179
740 chapel hill road
burlington, n.c. 27215
336/226-5534

ALLEY WILLIAMS CARMEN & KING, INC
REGISTERED ARCHITECTURAL ENGINEERING CORPORATION NO. 28
BURLINGTON NC

JORGE LUIS RODRIGUEZ SEAL
LICENSED ARCHITECT
6-29-2026
#10611
NORTH CAROLINA

CONSULTANT JOB NO.

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH REMAIN THE PROPERTY OF THE ARCHITECT. PUBLISH OR USE THEIN ONLY WITH ARCHITECT'S WRITTEN APPROVAL.

REVISIONS

-	-

SPECIFICATIONS

DATE June 24, 2026

DRAWN BY: JRS | CHECKED:

JOB NO. 25063

SHEET NO.

SP3

OF

GENERAL STRUCTURAL NOTES
IN ACCORDANCE WITH 2018 NORTH CAROLINA CODE REVISIONS TO 2015 IBC

CONSTRUCTION

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT SAME AGAINST INJURY, DAMAGE, OR LOSS.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS, AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT. SAFETY REGULATIONS SHALL BE STRICTLY FOLLOWED AT ALL TIMES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIALS IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
4. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH NEW WORK IN AREAS AFFECTED BY EXISTING CONDITIONS. THE DESIGNER SHALL BE INFORMED IN WRITING OF CONFLICTS BETWEEN EXISTING AND PROPOSED NEW CONSTRUCTION.
5. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION, AND ANY TEMPORARY BRACING OR SUPPORT REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON NEW AND/OR EXISTING STRUCTURES. SUCH LOADS SHALL NOT EXCEED THE CAPACITY OF THE STRUCTURE AT ANY TIME.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, ERECTING, AND REMOVING ANY SHORING AND BRACING REQUIRED DURING CONSTRUCTION, INCLUDING BRACING REQUIRED FOR SIDES OF EXCAVATIONS DURING FOUNDATION CONSTRUCTION AND TEMPORARY BRACING FOR WALLS.
8. THE CONTRACTOR SHALL INFORM THE DESIGNER, IN WRITING, OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY VIRTUE OF THE DESIGNER'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC. UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE DESIGNER OF SUCH DEVIATION AT TIME OF SUBMISSION, AND THE DESIGNER HAS GIVEN WRITTEN APPROVAL FOR THE SPECIFIC DEVIATION.
9. NO OPENINGS NOR ANY CHANGES IN SIZE, DIMENSION OR LOCATION SHALL BE MADE IN ANY STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL OF THE DESIGNER.
10. WHERE CONSTRUCTION TOLERANCES ALLOW FOR VARIATIONS IN LOCATION, SIZE, ETC. OF STRUCTURAL ELEMENTS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL MATERIALS AND LABOR NECESSARY TO MODIFY CONNECTION ELEMENTS AS REQUIRED TO PROVIDE A FINISHED PRODUCT WHICH IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. ANY SUCH MODIFICATIONS REQUIRED SHALL BE REVIEWED AND APPROVED BY THE DESIGNER PRIOR TO EXECUTION.
11. THE DESIGNER SHALL BE NOTIFIED AT THE PROPER TIME WHEN ITEMS ARE READY FOR FIELD REVIEW. SUFFICIENT NOTICE SHALL BE GIVEN TO ALLOW SCHEDULING OF THE FIELD REVIEW.
12. REFER TO PROJECT SPECIFICATIONS FOR SPECIAL INSPECTIONS REQUIREMENTS.

DRAWINGS & COORDINATION

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS, AND DRAWINGS OF OTHER TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE WORK OF ALL TRADES IS COORDINATED WITH THE STRUCTURAL WORK.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS.
3. ANYTHING WHICH, IN THE OPINION OF THE CONTRACTOR, APPEARS TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS OR AMBIGUITIES IN THE PLANS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER. CORRECTIONS OR WRITTEN INTERPRETATIONS SHALL BE ISSUED BEFORE CONSTRUCTION OF THE AFFECTED WORK MAY PROCEED.
4. DETAILS ARE MARKED AT THE SPECIFIC LOCATION WHERE THEY APPLY, BUT ALSO INDICATE GENERAL CONSTRUCTION REQUIREMENTS FOR OTHER LOCATIONS WITH SIMILAR CONDITIONS.
5. DETAILS NOTED AS "TYPICAL" MAY NOT BE REFERENCED ON THE DRAWINGS. TYPICAL DETAILS APPLY AT ALL LOCATIONS WHERE THE TYPE OF CONSTRUCTION SHOWN IN THE TYPICAL DETAIL OCCURS.

FOUNDATIONS

1. THE CONTRACTOR IS TO REVIEW THE SUBSURFACE EXPLORATION REPORT PERFORMED FOR THIS PROJECT BEFORE COMMENCEMENT OF SITE GRADING TO BECOME GENERALLY FAMILIAR WITH SUBSURFACE CONDITIONS WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION. ALL SUBGRADE PREPARATION SHALL BE PERFORMED AS DEFINED IN THE PLANS AND SPECIFICATIONS AND IN COOPERATION WITH THE OWNER'S GEOTECHNICAL TESTING SERVICE.
2. SPECIAL FOUNDATIONS FOR THE SUPPORT OF MECHANICAL, ELECTRICAL, OR OTHER EQUIPMENT INSIDE OR OUTSIDE OF THE BUILDING SHALL BE DESIGNED BY THE EQUIPMENT SUPPLIER(S) AND REVIEWED BY THE STRUCTURAL ENGINEER FOR COMPATIBILITY WITH THE BUILDING FOUNDATION SYSTEM. DRAWINGS OF THE FOUNDATIONS SHALL BE SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.
3. FOUNDATION DRAINAGE AND GROUNDWATER CONTROL SYSTEMS MAY BE INDICATED IN PART ON THE STRUCTURAL DRAWINGS TO SHOW APPROXIMATE LOCATIONS RELATIVE TO CERTAIN STRUCTURAL COMPONENTS. FOUNDATION DRAINAGE AND GROUNDWATER CONTROL SYSTEMS ARE NOT A PART OF THE STRUCTURAL DESIGN. SEE OTHER DRAWINGS FOR DESIGN REQUIREMENTS OF THESE SYSTEMS.
4. ALL FOOTINGS ARE DESIGNED TO BEAR ON RESIDUAL SOIL OR COMPACTED ENGINEERED FILL AND TO HAVE A MINIMUM BEARING CAPACITY AS LISTED UNDER "STRUCTURAL DESIGN DATA" IN THE GENERAL NOTES. FOOTING EXCAVATIONS ARE TO BE INSPECTED BY AN INDEPENDENT TESTING LABORATORY FOR SUITABLE SOILS, BEARING PRESSURE, AND COMPACTION. COMPACTION OF SOIL UNDER FOOTINGS TO BE 100% OF THE MAXIMUM STANDARD PROCTOR DRY DENSITY.

REINFORCING STEEL

1. DETAILING, FABRICATION, STORAGE, AND INSTALLATION OF REINFORCING, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF THE " BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND THE " MANUAIOF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315), BOTH BY THE AMERICAN CONCRETE INSTITUTE.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. REINFORCING STEEL WELDED TO EMBEDDED STEEL PLATES OR SHAPES SHALL CONFORM TO ASTM A706. DO NOT WELD REINFORCING BARS TO EACH OTHER.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
4. UNLESS NOTED OTHERWISE ON PLANS OR IN DETAILS, REINFORCING BARS MARKED ON THE PLANS AS BEING CONTINUOUS SHALL BE LAPPED AT SPLICE LOCATIONS AS SHOWN IN SCHEDULE. FOR SPLICES AT CORNERS OR INTERSECTIONS OF WALLS AND BEAMS, SEE TYPICAL DETAILS.
5. REINFORCING STEEL SHALL BE CLEAN OF MUD, DEBRIS, LOOSE RUST, CEMENT GROUT, OR ANY OTHER MATERIAL WHICH MAY INHIBIT BOND BETWEEN THE STEEL AND THE CONCRETE.
6. REINFORCING SHALL BE SECURELY TIED AND ANCHORED IN PLACE BEFORE CONCRETE PLACEMENT, TO PREVENT DISLOCATION.
7. UNLESS OTHERWISE NOTED, CONCRETE COVERAGE ON REINFORCING STEEL SHALL BE AS FOLLOWS:

SLAB-ON-GRADE - TOP	1"
FOOTINGS - BOTTOM	3"

8. BARS SHALL BE BENT ONLY USING APPROVED METHODS. BARS SHALL NOT BE BENT AFTER PARTIAL EMBEDMENT IN HARDENED CONCRETE.

CONCRETE

1. CONCRETE SHALL BE NORMAL WEIGHT CONCRETE UNLESS NOTED OTHERWISE. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28-DAY COMPRESSIVE STRENGTHS UNLESS NOTED OTHERWISE IN THE PLANS OR SPECIFICATIONS.

FOOTINGS	3,000 PSI
SLAB ON GRADE	4,000 PSI

2. CONCRETE PERMANENTLY EXPOSED TO WEATHER SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.45 AND SHALL CONTAIN APPROXIMATELY 6% ENTRAINED AIR. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.
3. CONCRETE SHALL BE BATCHED USING MATERIALS AND PROPORTIONS DESIGNATED IN THE APPROVED DESIGN MIXES. THE GENERAL CONTRACTOR SHALL PROVIDE QUALITY CONTROL OF THE CONCRETE MIX.
4. CONCRETE SLUMP SHALL BE 4"± 1" TYP.
5. THE ADDITION OF WATER TO INCREASE SLUMPS ABOVE THE LEVEL SPECIFIED OR TO RETEMPER CONCRETE WHICH HAS EXPERIENCED SLUMP LOSS DUE TO EXCESSIVE MIXING OR HEAT BUILD-UP IS NOT PERMITTED.
6. CONCRETE SHALL BE HANDLED, PLACED, AND CONSOLIDATED IN ACCORDANCE WITH THE ACI RECOMMENDATIONS.
7. PROVIDE APPROVED DISSIPATING CURING COMPOUND OR 7 DAY WET CURE ON ALL SLABS .
8. PROVIDE PRE-MOLDED EXPANSION-JOINT FILLER AT EDGES OF SLABS ON GRADE AGAINST VERTICAL SURFACES UNLESS NOTED OTHERWISE.
9. DOWELS FROM FOOTINGS SHALL BE ACCURATELY LOCATED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF THE CONCRETE. PLACEMENT OF DOWELS IN FRESH CONCRETE AFTER THE CONCRETE HAS BEEN PLACED WILL NOT BE PERMITTED. USE TEMPLATES FOR THE PLACEMENT OF DOWELS IN COLUMNS AND SHEAR WALLS.
10. THE CONTRACTOR SHALL USE INSTRUMENTS TO MAINTAIN A CONTINUOUS CHECK OF THE ELEVATIONS OF THE TOP SURFACES OF SLABS DURING THE PLACEMENT AND FINISHING OF THE CONCRETE. ADJUSTMENTS SHALL BE MADE TO MAINTAIN THE SURFACES WITHIN THE SPECIFIED TOLERANCES.
11. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL ANCHOR BOLTS, CLIPS, INSERTS, SLEEVES AND OTHER REQUIRED ITEMS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND IN COOPERATION WITH OTHER TRADES PRIOR TO THE PLACING OF CONCRETE.
12. CONCRETE FORMWORK SHALL NOT BE REMOVED UNTIL CONCRETE HAS REACHED SUFFICIENT STRENGTH TO NOT BE DAMAGED BY FORMWORK REMOVAL. SEE ALSO SPECIFICATIONS.

ANCHORS & FASTENERS

1. GENERAL:
   A. ALL ANCHOR AND FASTENER PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS BY PERSONNEL CERTIFIED BY THE MANUFACTURER IN THE USE OF THE PRODUCTS BEING INSTALLED. SUBMIT CERTIFICATION DOCUMENTS.
   B. SEE DRAWINGS AND SPECIFICATIONS FOR SPECIFIC ANCHOR AND FASTENER REQUIREMENTS.
   C. PRODUCT DATA SHALL BE SUBMITTED AND APPROVED PRIOR TO INSTALLATION.
   D. WHERE THE MANUFACTURER IS IDENTIFIED IN THE CONTRACT DOCUMENTS, IT IS PROVIDED AS THE PERFORMANCE STANDARD FOR THE ANCHOR OR FASTENER PRODUCT. ALTERNATE PRODUCTS MAY BE SUBMITTED FOR APPROVAL AND MUST PROVIDE AT LEAST THE SAME PERFORMANCE FOR THE DETAILED INSTALLATION AS THE REFERENCED PRODUCT.
   E. DAMAGE TO EXISTING MATERIALS DUE TO ANCHOR INSTALLATION SHALL BE REPAIRED USING PROCEDURES AND MATERIALS APPROVED BY THE ENGINEER.
2. ANCHORAGE IN CONCRETE:
   A. THE SUITABILITY OF POST-INSTALLED ANCHORS FOR USE IN CONCRETE SHALL HAVE BEEN DEMONSTRATED BY THE ACI 355.2 PREQUALIFICATION TESTS.
   B. THE INSTALLATION OF ANCHORS IN HARDENED CONCRETE SHALL NOT DAMAGE THE SURROUNDING CONCRETE OR ANYTHING EMBEDDED IN THE CONCRETE. PRIOR TO DRILLING FOR ANCHOR INSTALLATION, LOCATE MATERIALS EMBEDDED IN THE CONCRETE USING NON-DESTRUCTIVE METHODS. ADJUST ANCHOR LOCATIONS TO AVOID EMBEDDED MATERIALS. SUBMIT POSITIONS OF RELOCATED ANCHORS TO ENGINEER FOR APPROVAL PRIOR TO DRILLING. PRE-DRILL PROBE HOLES USING A SMALL DIAMETER DRILL BIT AT FINAL ANCHOR LOCATION TO CONFIRM A CLEAR DRILLING PATH.
   C. ADHESIVE ANCHORS SHALL BE INSTALLED PER THESE NOTES AND PER TYPICAL DETAILS.

BUILDING CODES:

THESE PLANS ARE PREPARED UNDER THE STATE CODE REVISIONS TO 2015 IBC AND SHALL COMPLY WITH OR EXCEED THE REQUIREMENTS OF THE CODE AND ITS AMENDMENTS.

SAFETY

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT SAME AGAINST INJURY, DAMAGE, OR LOSS.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS, AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT. SAFETY REGULATIONS SHALL BE FOLLOWED STRICTLY.

STRUCTURAL STEEL

1. STRUCTURAL STEEL CONSTRUCTION SHALL CONFIRM WITH THE LATEST BASIC "CODE OF STANDARDS PRACTICE FOR STEEL BUILDING AND BRIDGES", BASIC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDING LOAD AND RESISTANCE FACTOR DESIGN, INCLUDING COMMENTARY, AND APPLICABLE PROVISIONS OF AWS "STRUCTURAL WELDING CODE"
2. ROLLED STEEL W-SHAPES SHALL CONFORM TO ASTM A992, GRADE 50, FY=50 KSI. STEEL PIPE SHALL CONFORM TO ASTM A500, GRADE-B, FY=46 KSI. COLD FORMED STEEL TUBING SHALL CONFORM TO ASTM A500, GRADE B, FY=42KSI ALL OTHER ROLLED STEEL SHAPES, PLATES, AND BARS, SHALL CONFORM TO ASTM A36, FY=36 KSI. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 36.
3. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS, COMMENTARY, AND CODE OF STANDARD OF PRACTICE.
4. CONNECTIONS NOT DETAILED ON THE PLANS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR AND APPROVED BY THE DESIGNER. CONNECTION DESIGNS SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE BUILDING CODE AND "AISC SEISMIC PROVISIONS FOR STURCTURAL STEEL BUILDINGS, AISC 341-10 & AISC 341S1-10".
5. WELDS:
   A. ALL WELDS SHALL BE MADE IN ACCORDANCE WITH AWS D1.1 STRUCTURAL WELDING CODE - STEEL BY THE AMERICAN WELDING SOCIETY FOR THE MATERIAL BEING WELDED. WELDS SHALL BE MADE USING E70XX LOW-HYDROGEN ELECTRODES UNLESS OTHERWISE NOTED.
   B. GALVANIZED STEEL SHALL BE WELDED IN ACCORDANCE WITH AWS D19 - WELDING ZINC COATED STEEL BY THE AMERICAN WELDING SOCIETY. STEEL SURFACES SHALL BE FREE OF ZINC IN THE AREA TO BE WELDED.
   C. WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED BY TESTS AS PRESCRIBED IN AWS D1.1 BY THE AMERICAN WELDING SOCIETY, TO PERFORM THE TYPE OF WORK REQUIRED.
   D. ALL SHOP WELDS SHALL BE A MINIMUM 3/16" AND ALL FIELD WELDS SHALL BE A MINIMUM 1/4", UNLESS NOTED OTHERWISE. INDICATED WELDING OF CONNECTED PARTS SHALL BE "CONTINUOUS" OR "ALL AROUND" AS APPLICABLE, UNLESS NOTED OTHERWISE.
   E. WELDS SHALL BE CLEANED AND TOUCHED UP WITH THE APPROPRIATE PAINT OR ZINC COATING.
   F. PROVIDE SEAL WELDS ON ALL WELDED STEEL JOINTS EXPOSED TO VIEW, MOISTURE, OR CORROSIVE CONDITIONS WHICH WOULD NOT OTHERWISE BE WELDED FOR STRENGTH.
6. BOLTED CONNECTIONS SHALL BE MADE USING HIGH-STRENGTH BOLTS, 3/4" DIA CONFORMING TO ASTM A325N, UNLESS OTHERWISE NOTED ON PLAN. SEE SPECIFICATIONS FOR BOLT TIGHTENING METHODS.
7. SPLICES FOR ALL STEEL MEMBERS NOTED AS "CONTINUOUS" SHALL OCCUR OVER SUPPORTING MEMBERS.
8. PROVIDE ADEQUATE SEPARATION BETWEEN STRUCTURAL STEEL AND ALUMINUM AND OTHER DISSIMILAR METALS TO PREVENT GALVANIC CORROSION. SEPARATION MATERIALS SHALL BE ADEQUATE TO TRANSFER LOADS.
9. ALL STEEL WHICH IS PERMANENTLY EXPOSED TO NORMAL VIEW BY PEDESTRIANS OR OCCUPANTS SHALL BE CLASSIFIED AS ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) AS DEFINED BY THE AISC CODE OF STANDARD PRACTICE.
10. SEE ARCHITECTURAL DRAWINGS FOR FIREPROOFING REQUIREMENTS.

STRUCTURAL STEEL WELDING :

- STRUCTURAL STEEL SHOP DRAWINGS SHALL SHOW ALL WELDING WITH AWS A2.4 SYMBOLS.
- ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS AND IN ACCORDANCE WITH AWS D1.1 WELDS SHOWN ON THE DRAWINGS ARE THE MINIMUM SIZES.
- INCREASE WELD SIZE TO AWS MINIMUM SIZES, BASED ON PLATE THICKNESS.
- THE MINIMUM D1.1 WELD SIZE SHALL BE 3/16 INCH. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.I SHALL BE USED.
- WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOW AND FILED WELDS.
- ALL PARTIAL PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO EFFECTIVE THROAT THICKNESS.
- ALL WELDS SHALL BE MADE USING LOW HYDROGEN ELECTRODES WITH MINIMUM TENSILE STRENGTH PER AWS D1.1 (MINIMUM 70 KSI).
- LOW HYDROGEN MAW ELECTRODES SHALL BE USED WITHIN FOUR HOURS OF OPENING THEIR HERMETICALLY SEALED CONTAINERS, OR SHALL BE REFRIED PER AWS D1.1 SECTION 4.5. ELECTRODES SHALL BE REFRIED NO MORE THAN ONE TIME, AND ELECTRODES THAT HAVE BEEN WET SHALL NOT BE USED.
- ALL WELDING SHALL BE PERFORMED IN STRICT ADHERENCE TO A WRITTEN WELDING PROCEDURE SPECIFICATION (PS) PER AW D1.1. ALL WELDING PARAMETERS SHALL BE WITHIN THE ELECTRODE MANUFACTURER'S RECOMMENDATIONS.

POST-INSTALLED ANCHORS AND ADHESIVES

1. ALL POST-INSTALLED ANCHORING SYSTEMS SHALL BE ICC-ESR APPROVED UNLESS NOTED OTHERWISE. SUBSTITUTION OF APPROVED SYSTEMS WITH NON-APPROVED SYSTEMS IS NOT PERMITTED.
2. ALL ADHESIVE SYSTEMS APPLIED TO CONCRETE SHALL BE INJECTION TYPE SUCH AS HILTI HIT-RE 500 V3 ADHESIVE ANCHOR (ICC-ES-3814) OR EQUIVALENT UNLESS NOTED OTHERWISE.
3. ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS, CONSULT WITH MANUFACTURER FOR PRODUCT SPECIFIC APPLICATION

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL BE NEW AND CONFORM TO THE FOLLOWINGS UNLESS NOTED OTHERWISE:

ROLLED SHAPES	ASTM A992 GR. 50 (50 KSI)
PLATES, ANGLES, CHANNELS	ASTM A36 (36 KSI)
ROUND HOLLOW STRUCTURAL SECTIONS (HSS)	ASTM A500 GR. B (42 KSI)
RECTANGULAR HSS	ASTM A500 GR. B (46 KSI)
ROUND PIPES	ASTM A53 GR. B (35 KSI)
ANCHOR RODS	ASTM F1554 GR. 55 (55 KSI)
STAINLESS STEEL	AISI 304 (30 KSI)
STAINLESS STEEL ANCHOR RODS	ASTM A193B8 CLASS 1 (30 KSI)

2. WELDS SHALL BE E70XX ELECTRODES AND CONFORM TO AWS D1.1 (D1.2 FOR ALUMINUM AND D1.6 FOR STAINLESS STEEL)
3. BOLTS SHALL BE MINIMUM OF 3/4" DIA. AND CONFORM TO ASTM A325 OR A490
4. GALVANIZING SHALL CONFORM TO ASTM A123
5. ALL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE CURRENTLY APPLICABLE CODES AND AISC STANDARDS
6. ALL STEEL SHALL BE SIZES INDICATED ON THE DRAWINGS. SUBSTITUTIONS, EVEN WITH MEMBERS OF HIGHER CAPACITIES, ARE NOT PERMITTED UNLESS APPROVED BY THE ARCHITECT AND ENGINEER
7. STEEL CONTRACTOR TO PROVIDE ENGINEERED SHOP DRAWINGS THAT ENTAIL ERECTION PLANS, MEMBER SIZES AND MARKS, FABRICATION AND ASSEMBLY DETAILS, CONNECTIONS AND ETC. GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTING TO ARCHITECT AND ENGINEER FOR REVIEW
8. DETAILS SHOWN ON DRAWINGS ARE CONCEPTUAL ONLY. THEY DO NOT INDICATE THE REQUIRED PLATE SIZES, BOLT QUANTITIES, WELD SIZES AND ETC. UNLESS NOTED OTHERWISE
9. UNLESS THE CONNECTION DESIGN IS SPECIFICALLY INDICATED ON THE DRAWINGS, ALL SHEAR AND MOMENT CONNECTIONS SHALL BE DESIGNED BY THE STEEL CONTRACTOR UTILIZING RATIONAL ENGINEERING METHODS IN ACCORDANCE WITH THE LATEST EDITION OF AISC STEEL CONSTRUCTION MANUAL. CALCULATIONS PREPARED AND STAMPED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF ILLINOIS SHALL BE SUBMITTED FOR REVIEW
10. ALL MOMENT CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL BENDING CAPACITY OF THE MEMBERS
11. ALL SHEAR CONNECTIONS BETWEEN BEAMS, GIRDERS AND COLUMNS SHALL BE DESIGNED BASED ON THE GREATEST MAGNITUDE OF THE FOLLOWINGS OR AS DEMED APPLICABLE BY THE DESIGNING PROFESSIONAL UNLESS NOTED OTHERWISE:
    - FORCES INDICATED ON PLAN (SERVICE LOADS)
    - ONE-HALF (50%) OF THE TOTAL UNIFORM LOAD FOR THE MEMBER AS TABULATED IN THE AISC MANUAL (75% FOR COMPOSITE BEAM)
12. ALL WELDS SHALL BE CONTINUOUS FILLET WELDS OF MINIMUM 1/4" SIZE UNLESS NOTED OTHERWISE
13. STRUCTURAL STEEL NOT RECEIVING FIRE PROOFING OR GALVANIZING SHALL BE PAINTED IN ACCORDANCE WITH SPECIFICATIONS. VERIFY WITH ARCHITECT ON FIRE PROOFING AND PAINT REQUIREMENTS
14. STRUCTURAL STEEL EXPOSED TO ELEMENTS SHALL BE HOT-DIP GALVANIZED
15. ANY PAINT OR GALVANIZED COATING REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE TOUCHED UP IN FIELD WITH THE SAME TYPE AND COLOR OF COATING. TOUCH-UP GALVANIZED PAINT SHALL CONFORM TO TT-P-641
16. SPLICING OF STEEL MEMBERS ARE NOT PERMITTED UNLESS NOTED OTHERWISE ON DRAWINGS OR APPROVED BY THE ARCHITECT AND ENGINEER
17. CUTTING OR BURNING HOLES IN STEEL MEMBERS IN FIELD IS NOT PERMITTED UNLESS APPROVED BY THE ARCHITECT AND ENGINEER
18. STEEL MEMBERS SHALL BE FABRICATED WITH CAMBER AS INDICATED ON DRAWINGS. ERECT MEMBERS WITH NATURAL CAMBER UP
19. HEADED STUDS OR DEFORMED BARS ON STEEL MEMBERS SHALL BE END WELDED TO THE STEEL MEMBER
20. STEEL FRAMING STRUCTURE IS UNSTABLE UNTIL THE LATERAL LOAD RESISTING COMPONENTS ARE IN PLACE AND CONNECTIONS ARE 100% COMPLETE. CONTRACTOR TO PROVIDE TEMPORARY SUPPORT DURING CONSTRUCTION UNTIL THE FRAMING IS STRUCTURALLY STABLE
21. DO NOT ATTACH EXTERIOR WALL ELEMENTS TO STEEL FRAMING UNLESS ADEQUATE TEMPORARY SUPPORT IS PROVIDED OR UNTIL THE LATERAL LOAD RESISTING COMPONENTS ARE IN PLACE
22. ALL NON-STRUCTURAL WALL ELEMENTS ATTACHED TO THE STEEL FRAMING SHALL PROVIDE CONNECTIONS THAT ALLOW DEFLECTION AND/OR ROTATION OF THE FRAMING MEMBERS
23. STEEL CONTRACTOR SHALL PROVIDE ADJUSTABLE MASONRY TIES, WHERE APPLICABLE. SHOP-WELDED TO THE FACE OF THE STEEL MEMBERS THAT THE MASONRY WALLS ARE ATTACHED TO. THE TIES SHALL BE CAPABLE OF TRANSMITTING HORIZONTAL FORCES PERPENDICULAR TO THE PLANE OF THE WALLS
24. HIGH STRENGTH NON-SHRINK LEVELING GROUT SHALL BE PROVIDED AT ALL STEEL BEARING LOCATIONS ON CONCRETE OR CMU SUCH AS BELOW COLUMN BASE PLATES, BEAM/JOIST BEARING PLATES OR LINTELS TO ENSURE A PROPER UNIFORM BEARING
25. "AESS" DENOTES ARCHITECTURALLY EXPOSED STRUCTURAL STEEL AND SHALL BE FABRICATED IN ACCORDANCE WITH SPECIFICATIONS

STEEL FLOOR DECK (1.5B DECK 20 GAUGE)

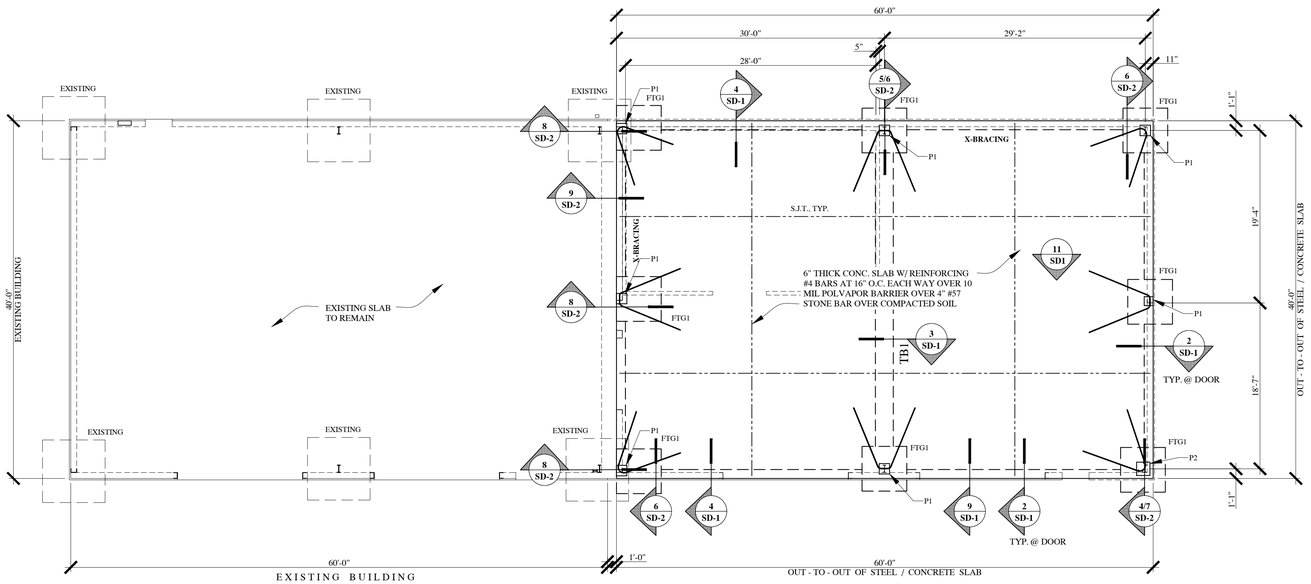
A. STEEL FLOOR DECK SHALL CONFORM TO ASTM A653 SQ GRADE 60 FOR GALVANIZED PBR PANEL. STEEL PBU PANEL DECK SHALL HAVE CURRENT ICBO OR CABO APPROVAL.
B. STEEL FLOOR DECK SHALL BE ERECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AS A 3 SPAN MINIMUM AND SHALL BE ATTACHED USING THE FOLLOWING MINIMUM ATTACHMENTS:
   ATTACH DECK TO SUPPORTING MEMBERS WITH 7 #12-24 x 1 1/2" LONG TEKS/5 HEX WASHER HEAD SCREWS PER SHEET AT ENDS, END LAPS, AND AT INTERMEDIATE SUPPORTS AND AT 12" O.C. AT PERIMETER MEMBERS AND OPENING EDGES
   RUNNING PARALLEL TO THE DECK. SIDE SEAM ATTACHMENT SHALL BE #12-14 x 3/4" LONG TEKS / 1 HEX WASHER HEAD SCREWS AT 24" O.C.

STEEL JOISTS

1. STEEL JOISTS SHALL BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS, LATEST REVISION.
2. SEE PLANS FOR JOIST SIZES. JOIST DEFLECTIONS SHALL BE LIMITED TO THE TABULATED SERVICEABILITY REQUIREMENTS: ALLOWABLE DEFLECTION LIMITS SCHEDULE LISTED ON SHEET S0.1.
3. FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL. DRAWINGS SHALL INCLUDE JOIST PLACEMENT, DIMENSIONS, LOADING REQUIREMENTS, AND ANY ADDITIONAL PERTINENT INFORMATION TO ENSURE GENERAL CONFORMANCE TO THE DESIGN INTENT OF THESE DRAWINGS.
4. SPECIAL JOISTS SHALL BE DESIGN FOR THE LOADING DIAGRAMS AND DESIGNATIONS PROVIDED ON THESE PLANS. DESIGN SHALL ADEQUATELY ACCOUNT FOR THE DISTRIBUTION OF LOADING CONDITIONS AND FOR THE EFFECT OF THE ADJACENT OPENINGS, WHERE APPLICABLE. DESIGNS ARE TO MEET THE MINIMUM REQUIREMENTS OF SJI.
5. SPECIAL JOISTS SHALL BE TAGGED TO ENSURE THAT FIELD PLACEMENT CORRESPONDS WITH ORIENTATION SHOWN ON ERECTION DRAWINGS.
6. ERECTOR TO PROVIDE ALL NECESSARY BRIDGING IN ACCORDANCE WITH THE SJI STANDARD SPECIFICATIONS.
7. BRIDGING LINES TERMINATING AT WALLS OR BEAMS SHALL BE PROPERLY ANCHORED TO THE WALL OR BEAM.
8. ALL BRIDGING AND CONNECTIONS SHALL BE PROPERLY INSTALLED IN THEIR ENTIRETY PRIOR TO PLACING ANY CONSTRUCTION LOADS ON THE JOISTS.
9. CONSTRUCTION LOADS SHALL NOT EXCEED THE JOIST ALLOWABLE DESIGN LOADS.
10. ROOF JOISTS SHALL BE CAPABLE OF RESISTING THE NET UPLIFT AS NOTED ON THESE DRAWINGS. ADDITIONAL ROWS OF CONTINUOUS HORIZONTAL BOTTOM CHORD BRIDGING, LOCATED AT THE FIRST PANEL POINT AT EACH END, SHALL BE INSTALLED ON ALL ROOF JOISTS.
11. EXTEND BOTTOM CHORD OF JOISTS LOCATED AT COLUMN CENTERLINES FOR ERECTION STABILITY, UNLESS NOTED OTHERWISE. DO NOT PERMANENTLY CONNECT BOTTOM CHORD EXTENSION TO COLUMN, UNLESS NOTED OTHERWISE.
12. JOISTS LOCATED ON OR NEAR COLUMN CENTERLINES SHALL HAVE FIELD-BOLTED CONNECTIONS FOR ERECTION STABILITY, UNLESS NOTED OTHERWISE.
13. JOIST MANUFACTURER SHALL COORDINATE WITH STEEL FABRICATOR FOR THE DESIGN OF ALL CONNECTIONS PRIOR TO SUBMITTED SHOP DRAWINGS.
14. STEEL JOISTS SHALL BE FURNISHED WITH THE STANDARD CAMBER PER SJI SPECIFICATIONS, UNLESS NOTED OTHERWISE.
15. ALL ITEMS SUSPENDED FROM JOISTS, SUCH AS, BUT NOT LIMITED TO, CATWALKS, EQUIPMENT, PARTITIONS, PIPES, DUCTWORK, ETC. SHOULD BE INSTALLED AFTER DEAD LOADS FROM ROOFING, CEILING, ETC. HAVE BEEN INSTALLED.
16. JOISTS SHALL BE PRIMED IN ACCORDANCE WITH SJI SPECIFICATIONS. COLOR SHALL MATCH STRUCTURAL STEEL COLOR, UNLESS NOTE OTHERWISE. VERIFY COLOR WITH OWNER.
17. JOISTS SHALL NOT RE ALTERED OR FIELD CUT WITHOUT WRITTEN APPROVAL FROM THE JOIST SUPPLIER.
18. JOIST SUPPLIER SHALL COORDINATE WITH ALL DISCIPLINES AND THEIR RESPECTIVE DESIGN DRAWINGS AND SPECIFICATIONS TO AVOID POSSIBLE CONFLICTS.

SHORING NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTA



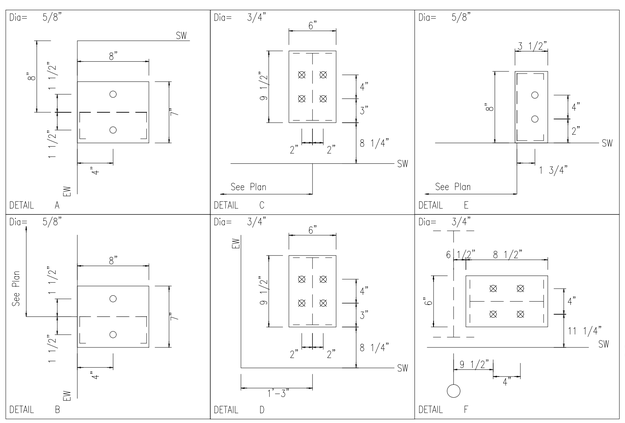
NOTE:
BASE PLATE DESIGN BY OTHERS

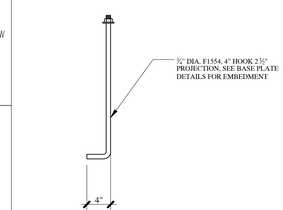
FOUNDATION/ ANCHOR BOLT PLAN

(SCALE:-1/8"=1'-0")

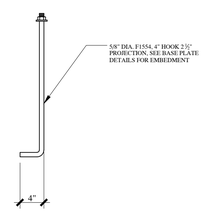
NOTE: ALL BASE PLATES @ 100'-0" (U.N.O.)

NOTE:
CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.

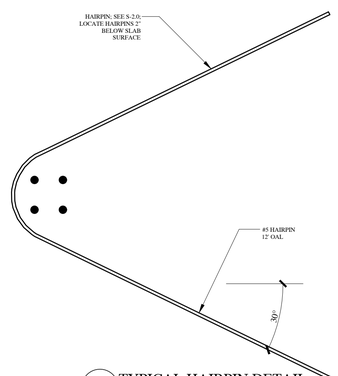




1 ANCHOR BOLT DETAIL 3/4"
(SCALE :-1" = 1'-0")



2 ANCHOR BOLT DETAIL 5/8"
(SCALE :-N.T.S.)



3 TYPICAL HAIRPIN DETAIL
(SCALE :-1" = 1'-0")

GENERAL NOTES:

1. THE DESIGNER MAKES EVERY EFFORT TO USE ONLY PRODUCTS AND TECHNIQUES RECOGNIZED AT THE TIME AS APPROPRIATE FOR THE APPLICATIONS SHOWN. HOWEVER, MANY ITEMS SHOWN ON THESE PLANS ARE IN GENERIC TERMS AND ARE LEFT TO THE OWNER'S AND/OR CONTRACTOR'S DISCRETION OR ARE SHOWN SPECIFICALLY AS REQUESTED BY THE OWNER AND/OR THE CONTRACTOR. THE DESIGNER ASSUMES NO RESPONSIBILITY FOR THE RESPONSIBILITY FOR THE PERFORMANCE OF ANY MATERIAL OR PRODUCTS SHOWN OR ANY TECHNIQUES NOT SPECIFICALLY SHOWN ON THE PLANS.
2. WHERE A DETAIL IS SHOWN ON STRUCTURAL DRAWINGS FOR ONE CONDITION, IT SHALL APPLY TO ALL SIMILAR OR LIKE CONDITIONS, UNLESS NOTED OR SHOWN OTHERWISE.
3. IF CONTRACTOR FINDS A DIFFERENCE BETWEEN THESE DRAWINGS AND FIELD CONDITIONS WHICH PROHIBIT EXECUTION OF THE WORK AS DIRECTED ON THESE DRAWINGS, CONTRACTOR SHALL NOTIFY DESIGNER IMMEDIATELY.
4. ALL ITEMS SHALL BE LIKELY ANCHORED OR ATTACHED SQUARE, PLUMB AND TRUE, OR IN OTHER PLANES OR SHAPES AS SHOWN ON THE DRAWINGS. JOINTS SHALL BE TIGHT, EVEN, AND FREE OF OFFSETS. NO FIELD ALTERING OF ANY MEMBERS WILL BE ALLOWED THAT WILL CAUSE THEM NOT TO BE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, WITHOUT WRITTEN APPROVAL OF THE DESIGNER.
5. GENERAL CONTRACTOR IS RESPONSIBLE TO PROVIDE ADEQUATE SHORING TO THE STRUCTURE DURING CONSTRUCTION PROCEDURE ASSOCIATED WITH THIS PROJECT.
6. IT IS THE INTENT THAT THESE DRAWINGS BE IN CONFORMANCE WITH THE BUILDING CODE. NEC AND ALL APPLICABLE LOCAL REGULATIONS. SHOULD A DISCREPANCY ARISE BETWEEN THESE DRAWINGS AND THE CODE, THE CODE SHALL GOVERN.
7. ALL TRADES SHALL FURNISH ALL LABOR, MATERIALS AND PERFORM ALL WORK NECESSARY, INDICATED, REASONABLY INFERRED OR REQUIRED BY ANY CODE WITH JURISDICTION TO COMPLETE THEIR SCOPE OF WORK.
8. DO NOT SCALE THESE DRAWINGS, WRITTEN DIMENSIONS AND NOTES SHALL CONTROL. CONTRACT THE FIELD MANAGER WITH ANY CONFLICTS IN THE PLANS BEFORE BEGINNING WORK.
9. THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE DESIGNER.
10. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED PERMITS, INSPECTIONS AND RELATED FEES.
11. THE GENERAL CONTRACTOR SHALL PROVIDE SUBMITTALS AND/OR SHOP DRAWINGS FOR APPROVAL BY OWNER PRIOR TO COMMENCEMENT OF WORK.

NOTE:

1. SEE S-0.0 FOR GENERAL STRUCTURAL NOTES

FOOTING & PIER SCHEDULE

MARK	SIZE	RIENFORCEMENT
FTG1	5'-0"x5'-0"x 1'-6"D	(6) #5 REBAR TOP AND BOTTOM EACH WAYS
P1	1'-2"x1'-2"x 2'-0"D	(8) #6 REBAR W/ #3 TIES @3" O.C.
P2	1'-6"x1'-6"x 2'-0"D	(10) #6 REBAR W/ #3 TIES @3" O.C.
TB1	2'-0"Wx1'-0"D CONT.	(3) ROWS #4 BARS T. & B. & #4 @ 24" O.C. TRANSVERSE

NOTE: CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR THE DESIGN, DETAILING AND INSTALLATION OF ALL FLASHING AND WATERPROOFING ASSEMBLIES.

***FINISHED FLOOR AT ELEVATION 100'-0"**

***BASE PLATE BY OTHERS.**

ANCHOR ROD DRAWINGS

1. FOUNDATION MUST BE SQUARE AND LEVEL WITH ALL ANCHOR RODS TRUE IN SIZE, LOCATION, AND PROJECTION.
2. PROJECTION SHOWN MUST BE HELD TO KEEP THREADS CLEAR OF FINISHED CONCRETE.
3. THIS STRUCTURAL DESIGN DATA INCLUDES MAGNITUDE AND LOCATION OF DESIGN LOADS AND SUPPORT CONDITIONS, MATERIAL PROPERTIES, AND TYPE AND SIZE OF MAJOR STRUCTURAL MEMBERS NECESSARY TO SHOW COMPLIANCE WITH THE ORDER DOCUMENTS AT THE TIME OF THIS ISSUE. ANY CHANGE TO BUILDING LOADS OR DIMENSIONS MAY CHANGE STRUCTURAL MEMBER SIZES AND LOCATIONS SHOWN. THIS STRUCTURAL DESIGN DATA WILL BE SUPERSEDED AND VOIDED BY ANY FUTURE MAILING.
4. ANCHOR ROD SIZE AS NOTED ON THE DRAWINGS HAS BEEN DETERMINED BY SHEAR AND TENSION AT THE BOTTOM OF THE BASE PLATE. THE LENGTH OF THE ANCHOR ROD AND METHOD OF LOAD TRANSFER TO THE FOUNDATION ARE TO BE DETERMINED BY THE FOUNDATION ENGINEER. ANCHOR RODS ARE NOT PROVIDED BY THE METAL BUILDING MANUFACTURER.
5. ANCHOR RODS ARE ASTM F1554 GR. 36 MATERIAL UNLESS NOTED OTHERWISE.
6. 4000 PSI CONCRETE COMPRESSIVE STRENGTH (F'C') IS ASSUMED FOR THE PURPOSE OF COLUMN BASE PLATE DESIGN UNLESS OTHERWISE NOTED.

FOUNDATION NOTES

1. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACING AND SHORING REQUIRED FOR STRESSES AND INSTABILITY OCCURRING FROM ANY CAUSE DURING CONSTRUCTION.
2. FOUNDATIONS TO BE PLACED ON ORIGINAL UNDISTURBED SOIL OR FILL.
3. PROVIDE SAWCUT CRACK CONTROL JOINTS AS SHOWN ON THE PLANS AS SOON AS CURING PERMITS, BUT NOT TO EXCEED 12 HOURS FROM THE TIME OF CONCRETE POUR.
4. THE FLOOR SLAB IS A STRUCTURAL DIAPHRAGM AND PART OF THE LATERAL FORCE RESISTING SYSTEM.
5. LOCATION OF CONSTRUCTION JOINTS IN THE SLAB DEPEND ON THE POUR.
6. ALL FILL WITHIN 10' OF BUILDING SHALL BE COMPACTED TO 99% STANDARD PROCTOR. MAXIMUM UNCOMPACTED LIFT IS 6".
7. SOIL BEARING PRESUMED TO BE 2,000PSF.
8. PROVIDE A 10 MIL POLYETHYLENE VAPOR BARRIER UNDER THE SLAB-ON-EARTH; LAP 6" MINIMUM. VAPOR BARRIER MUST BE INSTALLED PER SECTION 1910 OF THE 2018 NCBC.
9. THE 28-DAY COMPRESSIVE STRENGTH OF ALL CONCRETE IS 4,000 PSI.
10. ALL REINFORCING STEEL TO BE ASTM A615 GRADE 60. ALL REBAR LAPS TO BE 30 BAR MINIMUM U.N.O. ALL REINFORCING STEEL AND ACCESSORIES SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI MANUAL, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."
11. SEE METAL BUILDING ANCHOR BOLT LAYOUT FOR SIZE & LOCATION OF ANCHOR BOLTS; ALL PEMB ANCHOR BOLTS SHALL BE 18" LONG WITH A MINIMUM OF 15" EMBEDMENT, U.N.O. DESIGN BY OTHERS.
12. T.O.F. TOP OF FOOTING; T.O.F.= 99'-0" U.N.O.
13. T.O.S. TOP OF SLAB T.O.P. TOP OF PIER; T.O.S.-T.O.P.=100'-0" U.N.O.
14. FOUNDATION CONCRETE MIX TO HAVE 1 1/2" MAXIMUM AGGREGATE SIZE.
15. FOOTING DETAILS NOT SHOWN ARE SIMILAR TO FOOTING DETAILS THAT ARE SHOWN; SEE FOOTING SCHEDULE FOR ALL FOOTING SIZES.

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NCBELS FIRM #:P-2046

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

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DATE
June 24, 2026

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25063

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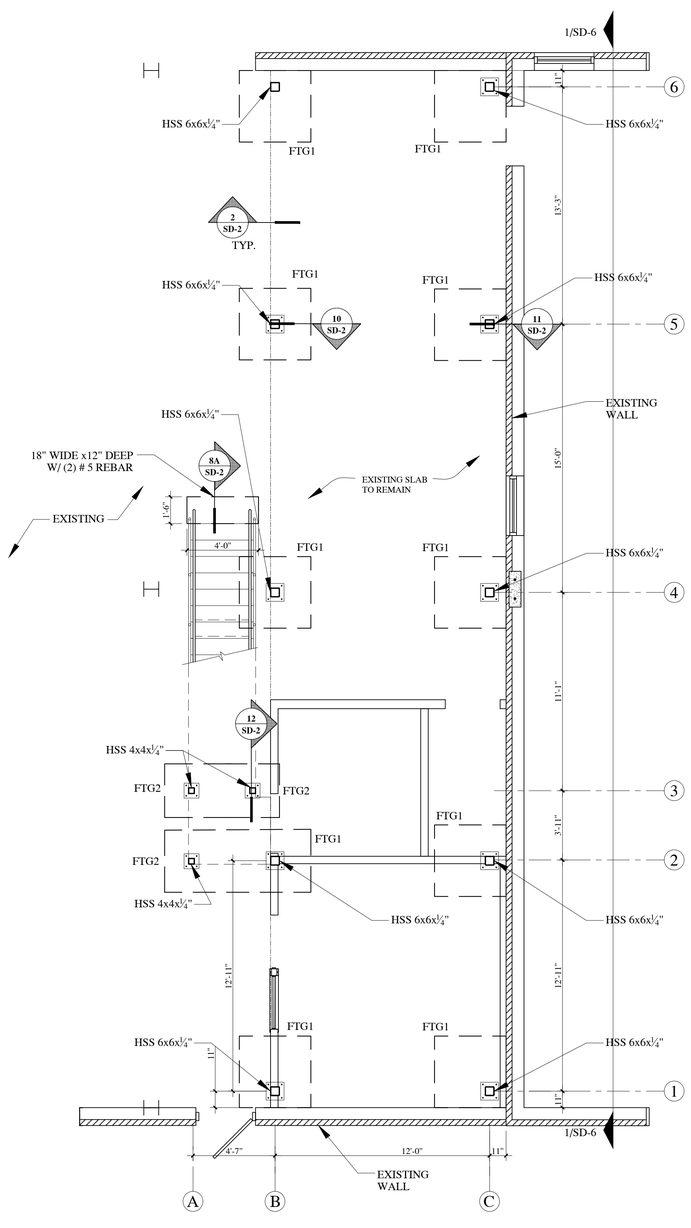
S-2.0

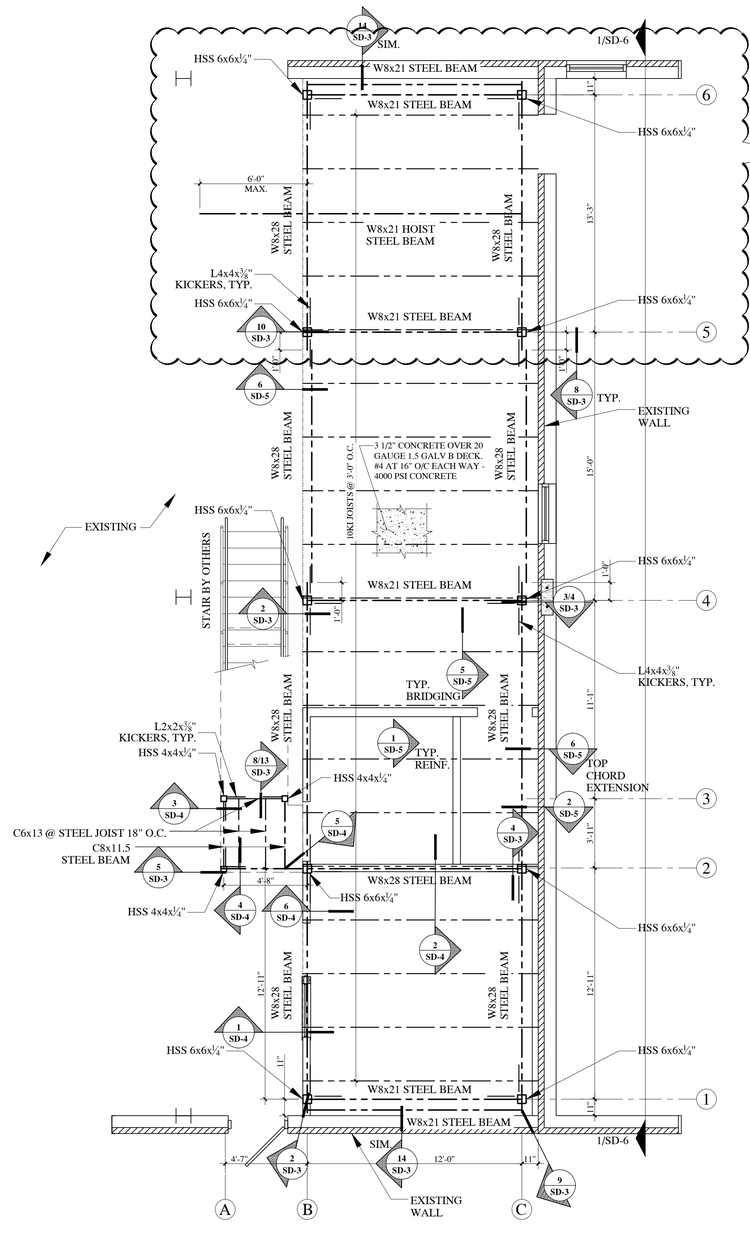
OF



1 FOUNDATION PLAN - GARAGE (BUILDING #1)

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

NOTE: CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.



2 FLOOR PLAN - GARAGE (BUILDING #1)

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

NOTE: CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.

GENERAL NOTES:

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3. IF CONTRACTOR FINDS A DIFFERENCE BETWEEN THESE DRAWINGS AND FIELD CONDITIONS WHICH PROHIBIT EXECUTION OF THE WORK AS DIRECTED ON THESE DRAWINGS, CONTRACTOR SHALL NOTIFY DESIGNER IMMEDIATELY.
4. ALL ITEMS SHALL BE LIKELY ANCHORED OR ATTACHED SQUARE, PLUMB AND TRUE, OR IN OTHER PLANES OR SHAPES AS SHOWN ON THE DRAWINGS. JOINTS SHALL BE TIGHT, EVEN, AND FREE OF OFFSETS, NO FIELD ALTERING OF ANY MEMBERS WILL BE ALLOWED THAT WILL CAUSE THEM NOT TO BE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, WITHOUT WRITTEN APPROVAL OF THE DESIGNER.
5. GENERAL CONTRACTOR IS RESPONSIBLE TO PROVIDE ADEQUATE SHORING TO THE STRUCTURE DURING CONSTRUCTION PROCEDURE ASSOCIATED WITH THIS PROJECT.
6. IT IS THE INTENT THAT THESE DRAWINGS BE IN CONFORMANCE WITH THE BUILDING CODE. NEC AND ALL APPLICABLE LOCAL REGULATIONS. SHOULD A DISCREPANCY ARISE BETWEEN THESE DRAWINGS AND THE CODE, THE CODE SHALL GOVERN.
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8. DO NOT SCALE THESE DRAWINGS. WRITTEN DIMENSIONS AND NOTES SHALL CONTROL. CONTRACT THE FIELD MANAGER WITH ANY CONFLICTS IN THE PLANS BEFORE BEGINNING WORK.
9. THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE DESIGNER.
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11. THE GENERAL CONTRACTOR SHALL PROVIDE SUBMITTALS AND/OR SHOP DRAWINGS FOR APPROVAL BY OWNER PRIOR TO COMMENCEMENT OF WORK.

FOUNDATION NOTES:

1. FOUNDATIONS TO BE PLACED ON ORIGINAL UNDISTURBED SOIL.
2. ALL FILL WITHIN 10' OF BUILDING SHALL BE COMPACTED TO 99% STANDARD PROCTOR. MAXIMUM UNCOMACTED LIFT IS 6".
3. SOIL BEARING PRESUMED TO BE 2000 PSF.
4. THE 28- DAY COMPRESSIVE STRENGTH OF ALL CONCRETE IS 4,000 PSI.
5. ALL REINFORCING STEEL TO BE ASTM A615 GRADE 60.
6. FOUNDATION CONCRETE MIX TO HAVE 1 ½" MAXIMUM AGGRETE SIZE.

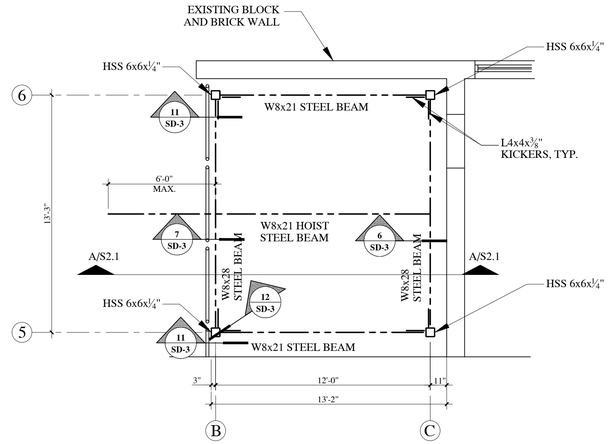
NOTE:

1. SEE S-0.0 FOR GENERAL STRUCTURAL NOTES

FOOTING & PIER SCHEDULE

MARK	SIZE	RIENFORCEMENT
FTG1	4'-0"x4'-0"x 1'-6"D	(5) #5 REBAR TOP AND BOTTOM EACH WAYS
FTG2	3'-0"x3'-0"x 1'-6"D	(4) #5 REBAR TOP AND BOTTOM EACH WAYS

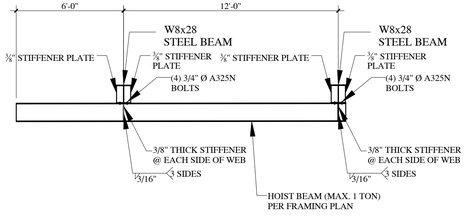
NOTE: CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR THE DESIGN, DETAILING AND INSTALLATION OF ALL FLASHING AND WATERPROOFING ASSEMBLIES.



3 HOIST PLAN (BUILDING #1)

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

NOTE: CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.



SECTION A-A

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

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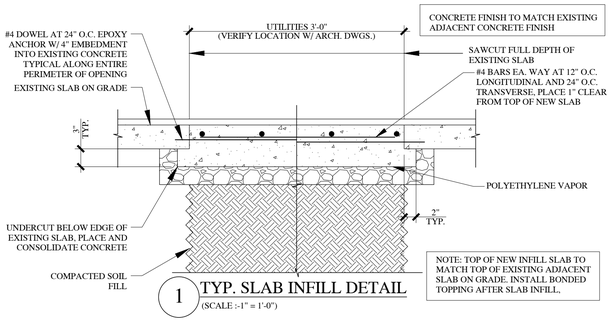
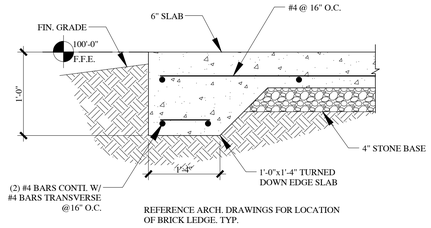
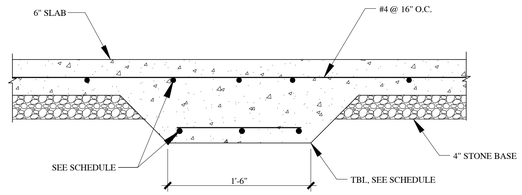


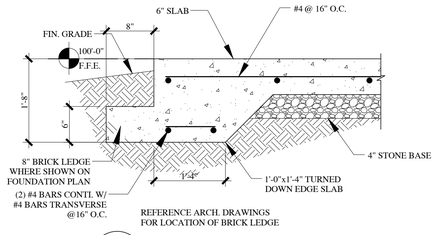
1 TYP. SLAB INFILL DETAIL
(SCALE :-1" = 1'-0")



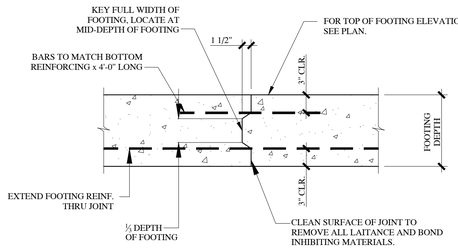
2 TURNDOWN SLAB DETAIL
(SCALE :-1" = 1'-0")



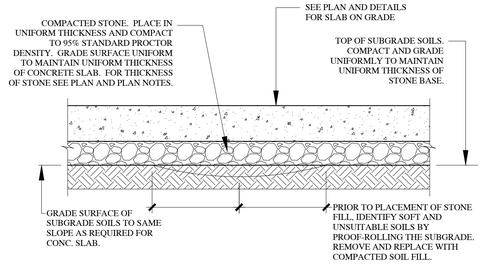
3 TBI DETAIL
(SCALE :-N.T.S.)



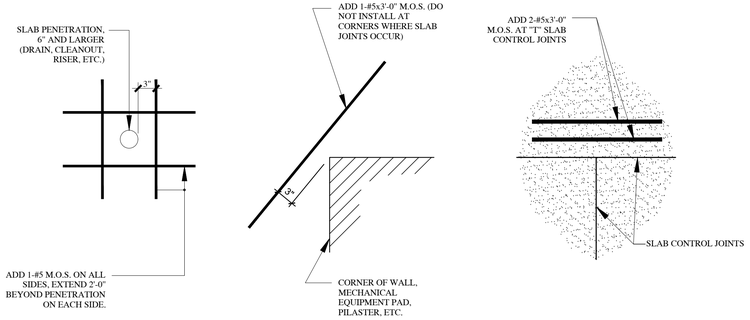
4 TURNDOWN SLAB DETAIL
(SCALE :-N.T.S.)



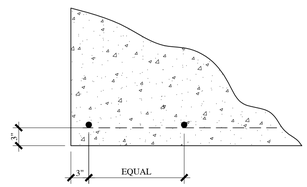
5 TYP. DETAIL - WALL FOOTING CONSTRUCTION JOINT
(SCALE :-1" = 1'-0")



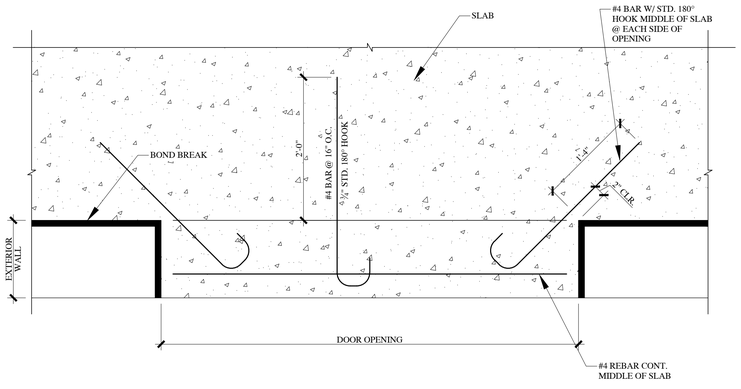
6 TYP. DETAIL - SLAB ON GRADE SUBGRADE PREPRATION
(SCALE :-1" = 1'-0")



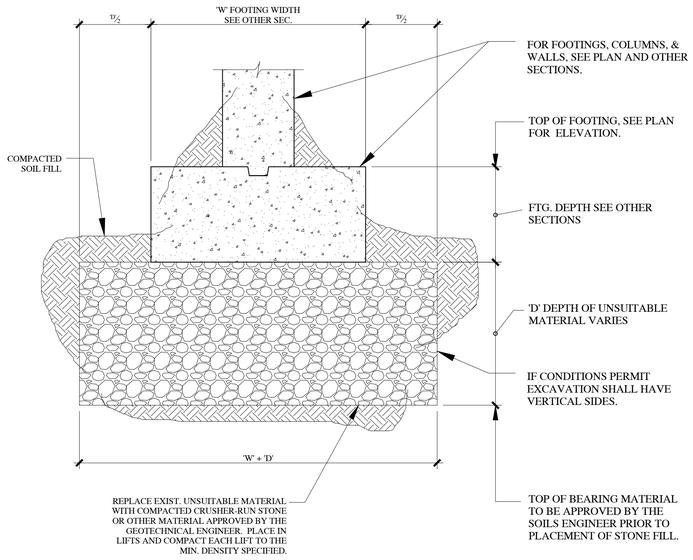
7 TYPICAL DETAIL SLAB ON GRADE REINFORCING
(SCALE :-1" = 1'-0")



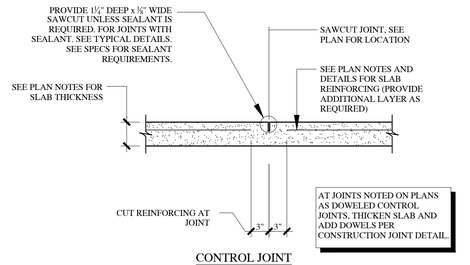
8 TYPICAL REBAR PLACEMENT DETAIL
(SCALE :-1" = 1'-0")



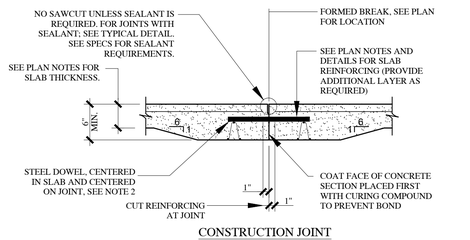
9 SLAB REINF. @ EXTERIOR DOORS
(SCALE :-1" = 1'-0")



10 TYP. DETAIL - FOOTING @ UNSUITABLE BEARING MATERIAL
(SCALE :-1" = 1'-0")



CONTROL JOINT



CONSTRUCTION JOINT

11 TYPICAL DETAIL SLAB ON GRADE JOINT
(SCALE :-1" = 1'-0")

SLAB-ON-GRADE JOINT NOTES:

1. LOCATE JOINTS IN CONCRETE SLAB AS SHOWN ON FOUNDATION PLAN.
2. SLAB JOINT DOWELS:
   A. PROVIDE ¾"x 16" SMOOTH ROUND STEEL DOWELS IN SLAB JOINTS SPACED AT 12" O/C DOWELS SHALL BE SAWCUT TO LENGTH.
   B. DOWELS SHALL BE SECURELY SUPPORTED DURING CONCRETE PLACEMENT ON CONTINUOUS SLAB BOLSTERS ON EACH SIDE OF THE JOINT. POSITION AND ALIGN DOWELS TO BE PERPENDICULAR TO THE JOINT AND PARALLEL TO THE TOP SLAB SURFACE.
   C. AT CONSTRUCTION JOINT, GREASE END OF DOWEL PLACED IN FIRST SECTION OF CONCRETE. AFTER CONCRETE IN FIRST SECTION HAS HARDENED, MOVE DOWEL BACK AND FORTH IN HOLE TO INSURE THAT BOND IS BROKEN. AT DOWELED CONTROL JOINT, GREASE ENTIRE LENGTH OF DOWEL.
   D. DIAMOND PLATE JOINT KEYS MAY BE USED AS AN ALTERNATIVE TO DOWELS. SUBMIT PRODUCT DATA FOR APPROVAL.
3. SAW CUTTING:
   A. SAWCUT CONTROL JOINTS IMMEDIATELY AFTER COMPLETING SLAB SURFACE FINISHING AT EACH JOINT LOCATION AND AFTER THE CONCRETE IS SUFFICIENTLY SET TO LEAVE NO TRACKS ON THE SURFACE. SAW SHALL BE CAPABLE OF CUTTING OF HARDENED, UNCURED CONCRETE WITHOUT DAMAGING THE CONCRETE.
   B. SAW CUTS AT CONSTRUCTION JOINTS MAY BE MADE WHEN CONTROL JOINTS ARE CUT OR AT ANY TIME PRIOR TO THE TIME THAT JOINT SEALANTS OR FILLERS ARE TO BE INSTALLED.
   C. IMMEDIATELY AFTER SAWCUTTING, CLEAN THE JOINTS AND SLAB SURFACE. CLEANING SHALL REMOVE ALL LAITANCE, SAW DUST, AND OTHER CONTAMINANTS FROM SLAB SURFACE.
4. AFTER SAWING JOINTS AND CLEANING, COMMENCE CURING OF THE SLAB AND JOINTS AS SPECIFIED.

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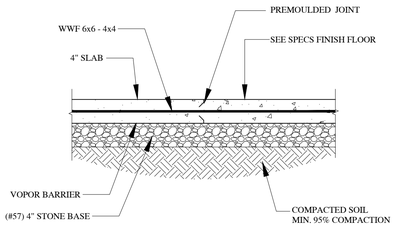
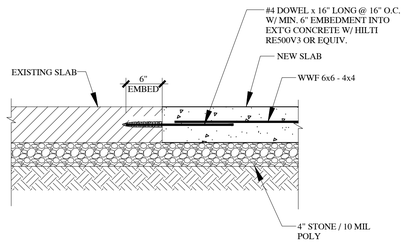


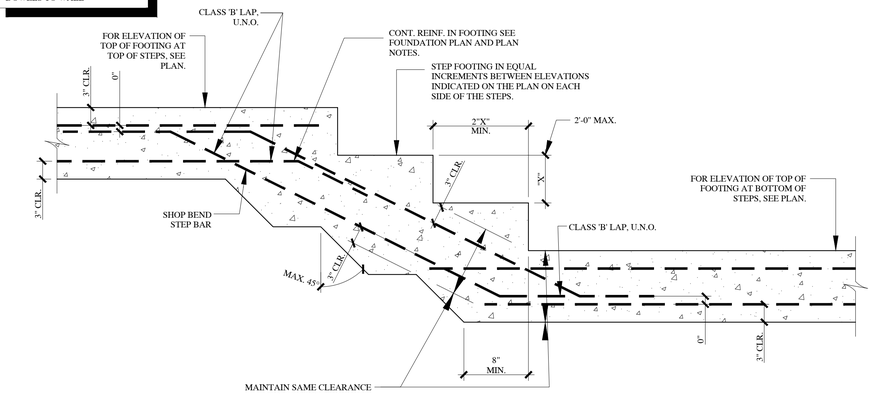
1 CONSTRUCTION JOINT DETAIL
(SCALE :-1" = 1'-0")

NOTE: #4 BARS DO NOT CONTINUE ACROSS CONTROL JOINTS. EVERY 4TH BAR CAN TO KEEP THE CAGE FROM RACKING.

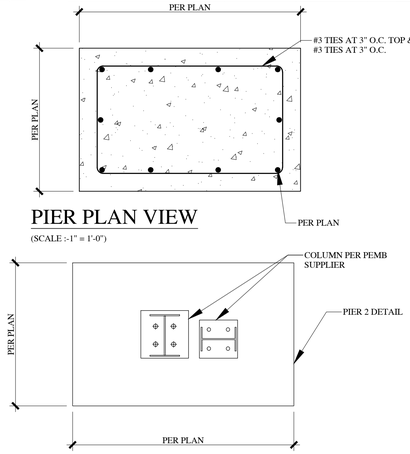


2 EXISTING SLAB TO NEW SLAB CONN.
(SCALE :-1" = 1'-0")

NOTE: SEE OTHER DETAILS FOR DOWELS TO WALL

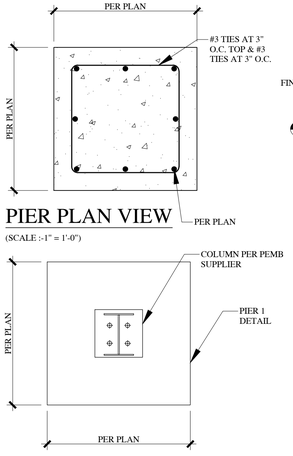


3 TYP. DETAIL - STEPPED WALL FOOTING W/ TOP & BOTTOM STEEL
(SCALE :-1" = 1'-0")

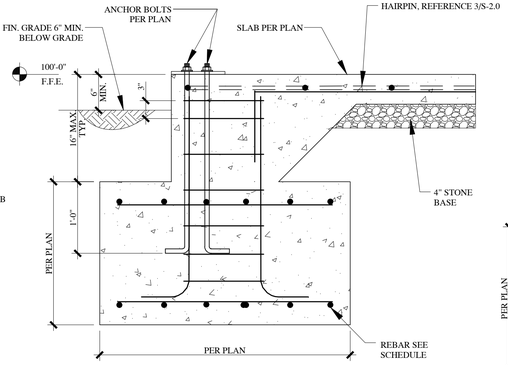


PIER PLAN VIEW
(SCALE :-1" = 1'-0")

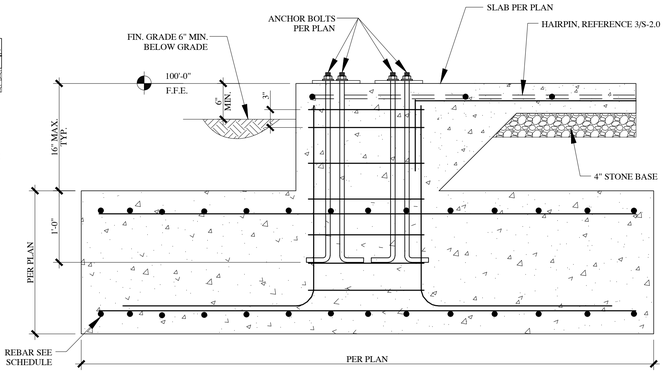
4 PIER 2 DETAIL
(SCALE :-1" = 1'-0")



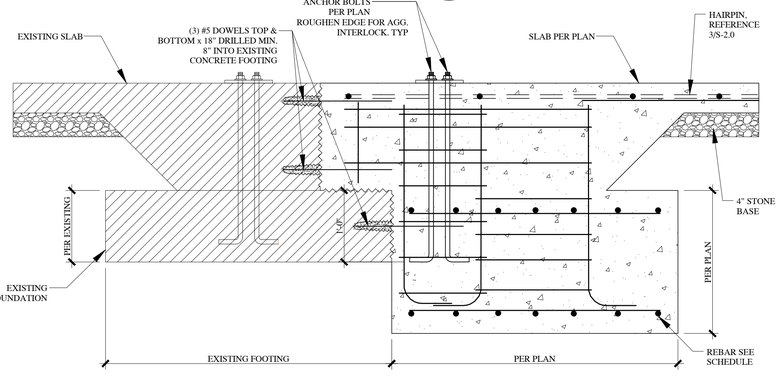
PIER PLAN VIEW
(SCALE :-1" = 1'-0")



6 PIER 1 FOUNDATION DETAIL
(SCALE :-1" = 1'-0")



7 PIER 2 FOUNDATION DETAIL
(SCALE :-1" = 1'-0")



8 EXISTING FOOTING TO PIER 1 FOUNDATION DETAIL
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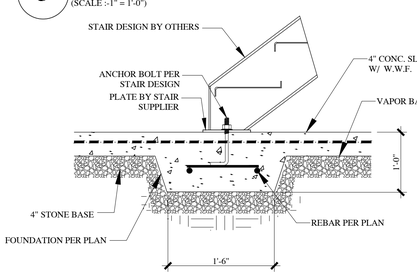
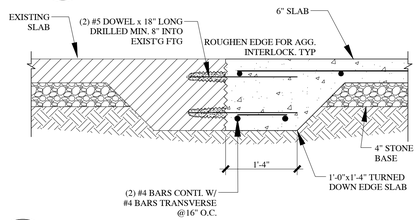


5 PIER 1 DETAIL
(SCALE :-1" = 1'-0")



8A STAIR FOUNDATION DETAIL
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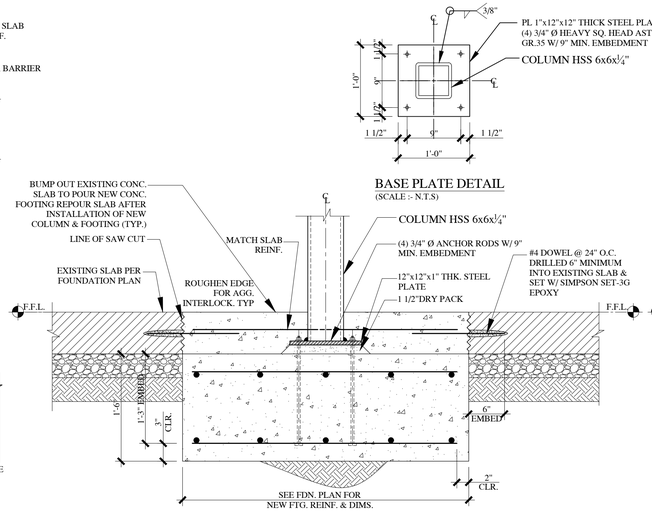
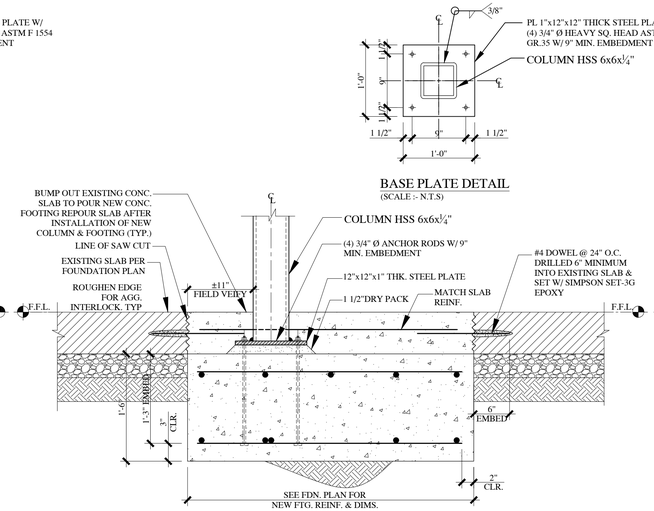


9 EXISTING SLAB TO NEW SLAB CONNECION
(SCALE :-1" = 1'-0")

10 HSS COLUMN FOOTING
(SCALE :-N.T.S.)



11 HSS COLUMN FOOTING
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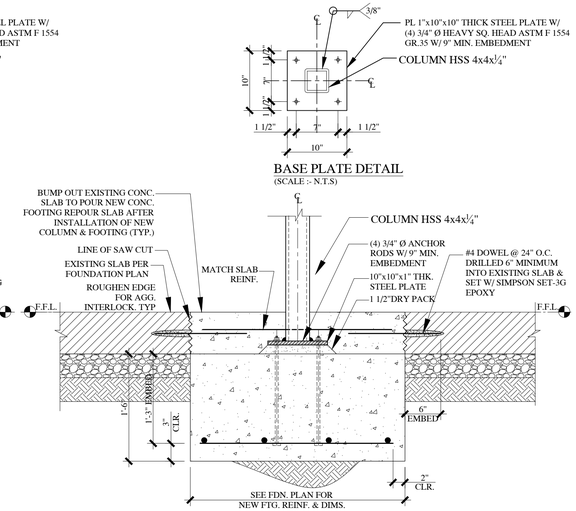

12 HSS COLUMN FOOTING
(SCALE :-N.T.S.)

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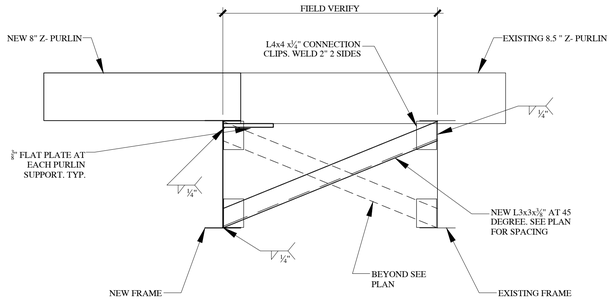
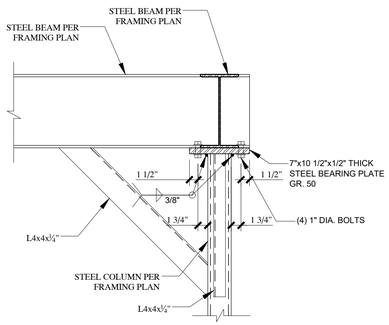


1 EXISTING FRAME TO FRAME CONN.
(SCALE :-1" = 1'-0")



2 DETAIL
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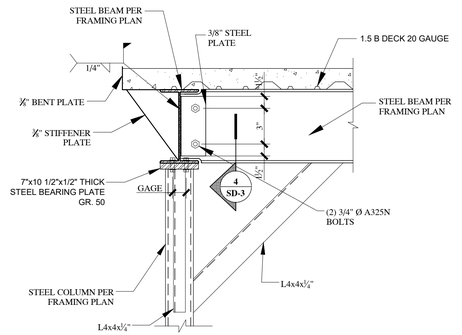

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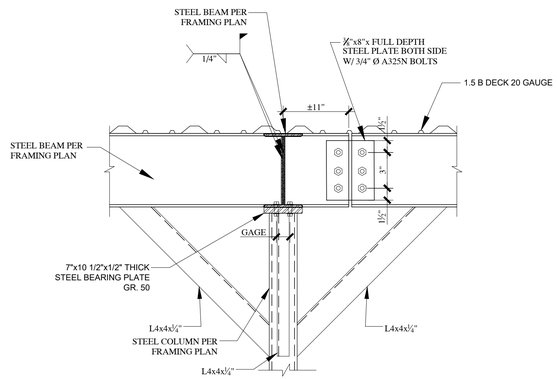

4 DETAIL
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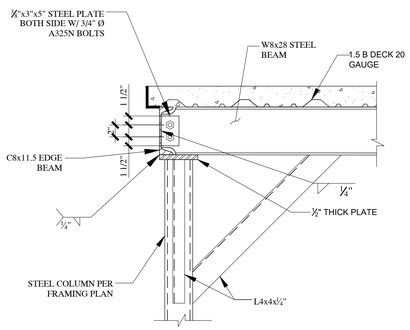
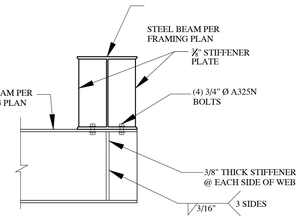
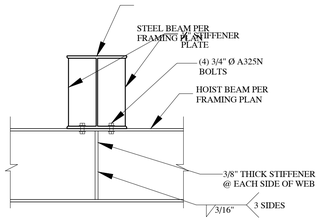


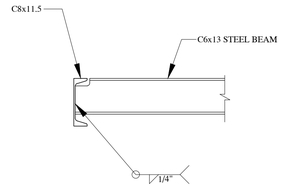
5 DETAIL
(SCALE :-1" = 1'-0")



6 STEEL BEAM @ STEEL BEAM
(SCALE :-N.T.S.)



7 HOIST BEAM @ STEEL BEAM
(SCALE :-N.T.S.)



8 C CHANNEL TO C CHANNEL CONN. DETAIL
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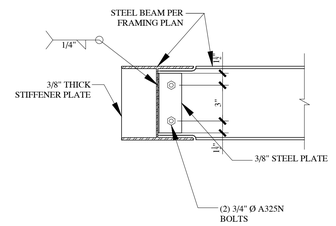
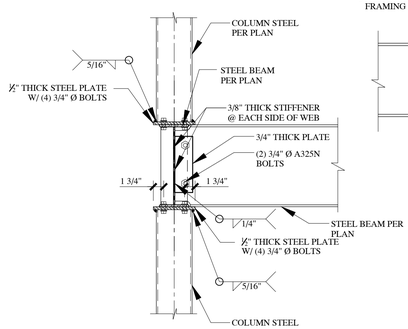


9 STEEL BEAM TO STEEL BEAM CONNECTION
(SCALE :- NOT TO SCALE)



10 DETAIL
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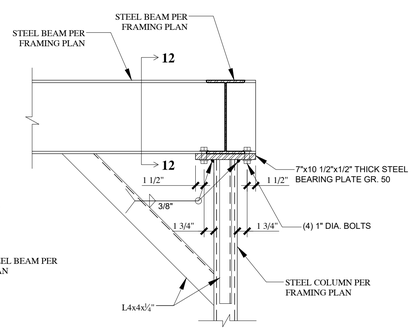

11 DETAIL
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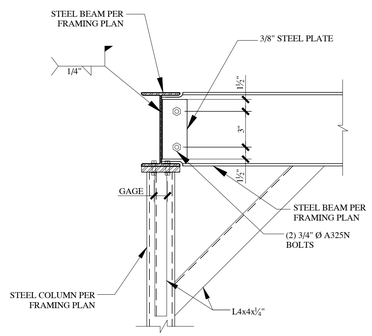

12 SECTION 12-12
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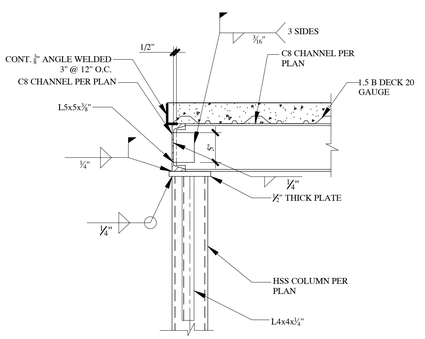

13 BEAM TO BEAM DETAIL
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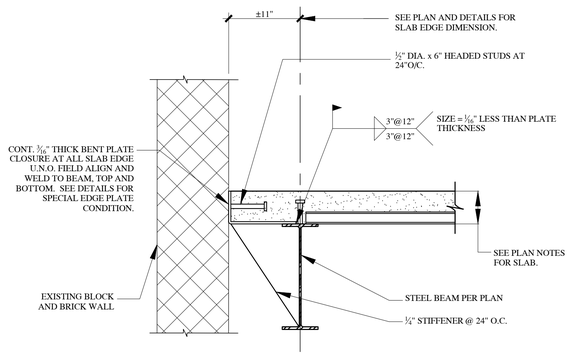

14 TYPICAL DETAIL SLAB PLATE
(SCALE :-NOT TO SCALE)

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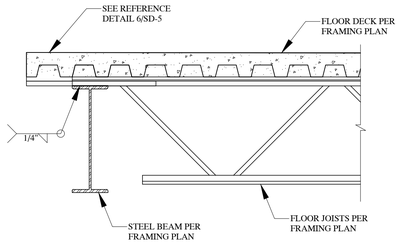
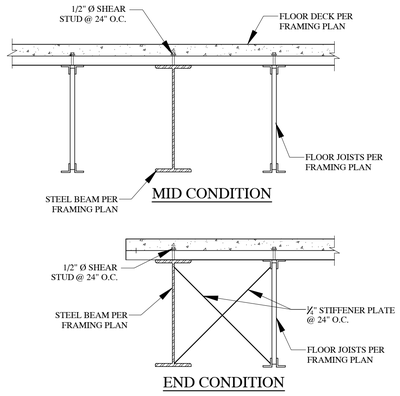


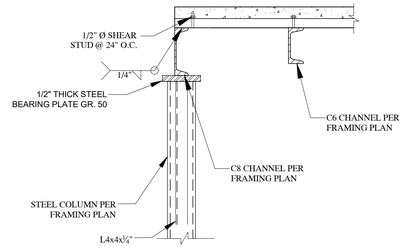
1 PERPENDICULAR STEEL FLOOR JOISTS AT STEEL BEAM

(SCALE :- NOT TO SCALE)



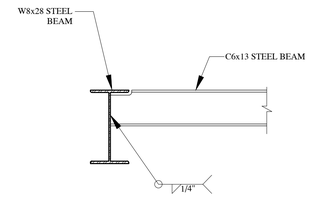
2 PARALLEL STEEL FLOOR JOISTS AT STEEL BEAM

(SCALE :- NOT TO SCALE)



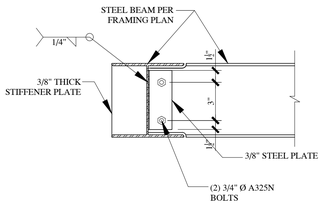
3 PARALLEL STEEL FLOOR JOISTS AT STEEL BEAM

(SCALE :- NOT TO SCALE)



4 W BEAM TO C BEAM CONNECTION DETAIL

(SCALE :- NOT TO SCALE)



5 STEEL BEAM TO STEEL BEAM CONNECTION

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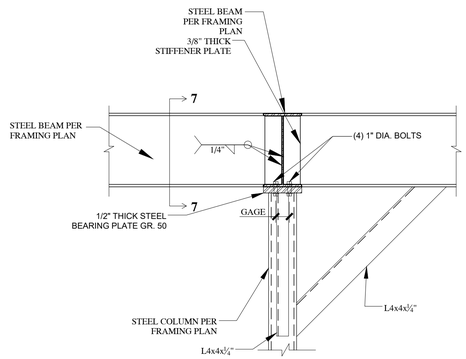
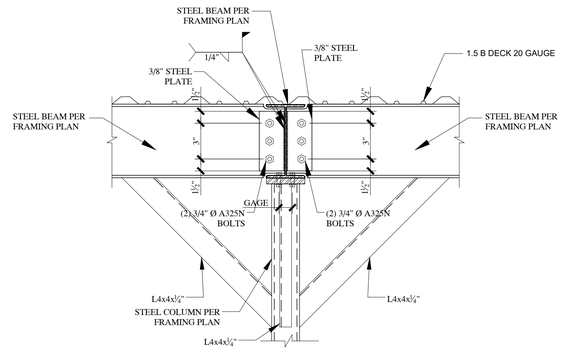


6 DETAIL

(SCALE :-1" = 1'-0")



7 DETAIL

(SCALE :-1" = 1'-0")

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OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

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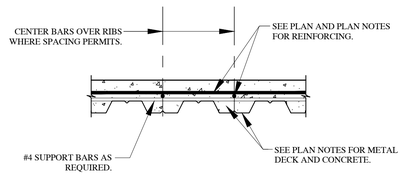
DATE June 24, 2026

DRAWN BY: JRS | CHECKED:

JOB NO. 25063

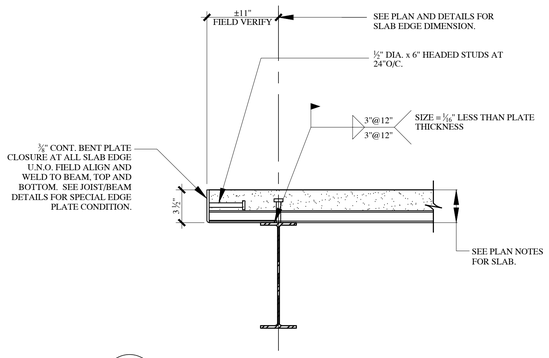
SHEET NO. SD-4

OF



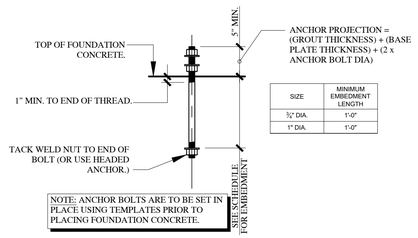
1 TYPICAL DETAIL SLAB REINFORCING

(SCALE :-1" = 1'-0")



2 TYPICAL DETAIL SLAB PLATE

(SCALE :-1" = 1'-0")



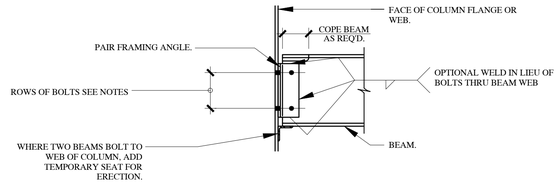
SIZE	MINIMUM EMBEDMENT LENGTH
⅝" DIA.	1'-0"
1" DIA	1'-0"

3 TYPICAL DETAIL ANCHOR BOLTS

(SCALE :-1" = 1'-0")

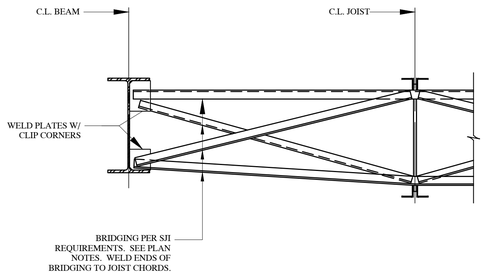
NOTES:

1. CONNECTIONS SHALL BE DESIGNED AND DETAILED BY STEEL FABRICATOR ACCORD WITH ALL APPLICABLE PROVISIONS OF THE AISC MANUAL OF STEEL CONSTRUCTION AND APPROVED BY THE ARCHITECT/ENGINEER.
2. MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE AS FOLLOWS: 2 ROWS FOR W8" AND W10"; 3 ROWS FOR W12" AND W14"; 4 ROWS FOR W16" AND W18"; 5 ROWS FOR W21" AND W24"; 6 ROWS FOR W27" AND W30"; AND 7 ROWS FOR W33" AND W36" BEAMS.
3. THE REACTION USED IN DESIGN SHALL BE ONE-HALF THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM UNLESS A LARGER REACTION IS INDICATED IN THE CONTRACT DOCUMENTS.
4. DUE CONSIDERATION SHALL BE GIVEN TO BOLT SHEAR, BOLT BEARING ON CONNECTING MATERIAL, BEAM WEB TEAR-OUT (BLOCK SHEAR), SHEAR ON NET AREA OF THE CONNECTION ANGLES AND LOCAL BENDING STRESSES.



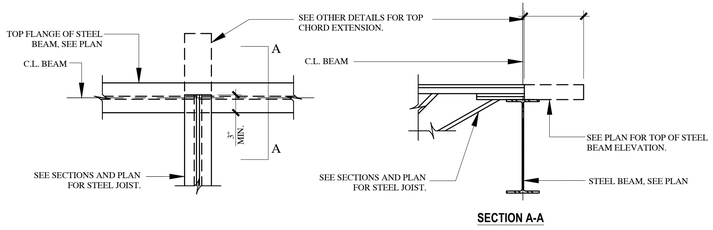
4 TYPICAL DETAIL FRAMED BEAM CONNECTION (U.N.O.)

(SCALE :-1" = 1'-0")



5 TYPICAL DETAIL JOIST BRIDGING ATTACHMENT DETAIL

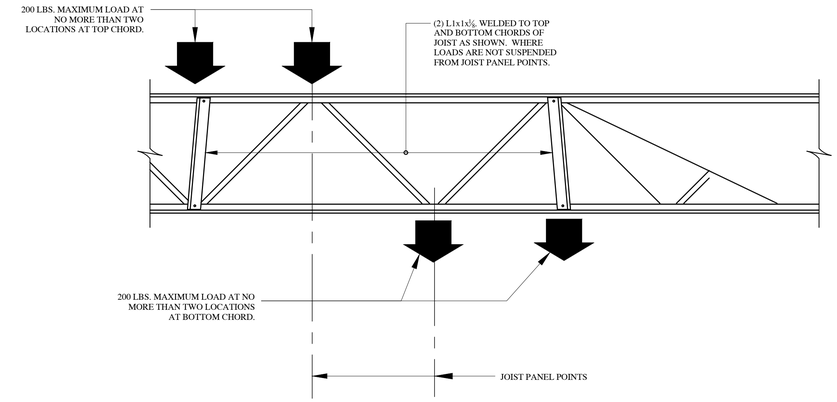
(SCALE :-1" = 1'-0")



SECTION A-A

6 TYPICAL DETAIL STEEL BEAM BEARING CONDITIONS

(SCALE :-1" = 1'-0")

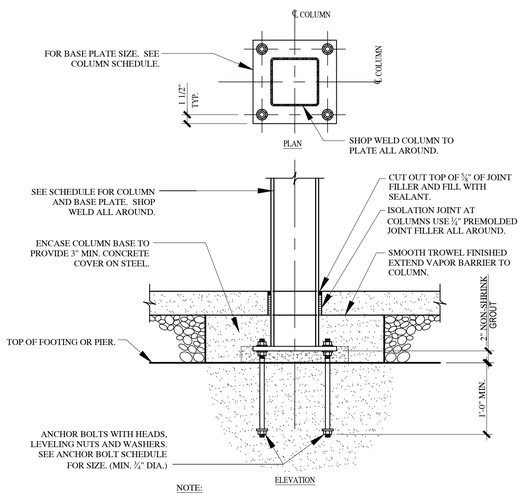


NOTES:

1. WHERE POSSIBLE ALL LOADS ARE TO BE SUPPORTED FROM PANEL POINTS. WHERE NOT POSSIBLE, ADD ANGLES AS SHOWN.
2. LOADS LESS THAN 30 LBS. REQUIRE NO ANGLE. LOADS LARGER THAN 200 LBS. PER JOIST REQUIRE SPECIAL SUPPORT CONDITIONS TO BE APPROVED BY THE ENGINEER.
3. TOTAL ADDED CONCENTRATED LOADS NOT TO EXCEED 400LBS PER JOIST
4. WHERE JOIST CHORD MATERIAL THICKNESS IS LESS THAN 5/16" USE #12 SELF TAPPING FASTENER INSTEAD OF WELD.

7 TYPICAL DETAIL - CONCENTRATED LOADS ON STEEL JOISTS

(SCALE :-1" = 1'-0")

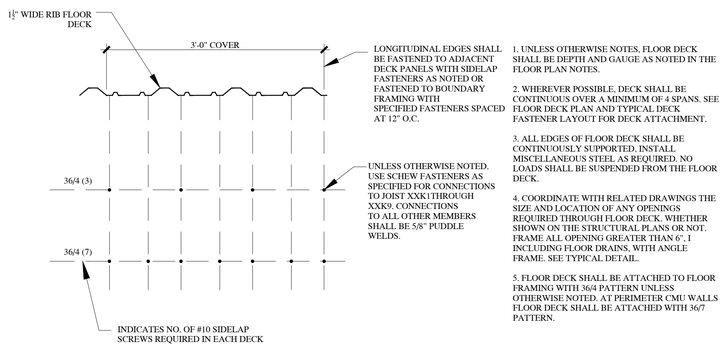


NOTE:

1. NON-SHRINK GROUT BENEATH PLATES TO BE AS SPECIFIED. PLACE BY POURING TO A WOOD FORM 2" CLEAR FROM EDGES OF BASE PLATE (ALL SIDES). POUR A FLOWABLE MIX TO THE FORM AND UP TO THE TOP OF THE BASE PLATE. TAP TOP OF PLATE TO ELIMINATE TRAPPED AIR IN THE GROUT.
2. ALL STEEL BELOW GRADE SHALL BE COATED WITH ASPHALTIC PAINT PRIOR TO COVERING WITH CONCRETE.

8 TYPICAL DETAIL RECTANGLE HSS COLUMN BASE PLATE

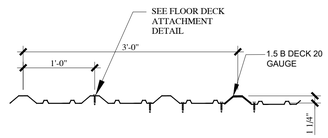
(SCALE :-1" = 1'-0")



1. UNLESS OTHERWISE NOTES, FLOOR DECK SHALL BE DEPTH AND GAUGE AS NOTED IN THE FLOOR PLAN NOTES.
2. WHEREVER POSSIBLE, DECK SHALL BE CONTINUOUS OVER A MINIMUM OF 4 SPANS. SEE FLOOR DECK PLAN AND TYPICAL DECK FASTENER LAYOUT FOR DECK ATTACHMENT.
3. ALL EDGES OF FLOOR DECK SHALL BE CONTINUOUSLY SUPPORTED. INSTALL MISCELLANEOUS STEEL AS REQUIRED. NO LOADS SHALL BE SUSPENDED FROM THE FLOOR DECK.
4. COORDINATE WITH RELATED DRAWINGS THE SIZE AND LOCATION OF ANY OPENINGS REQUIRED THROUGH FLOOR DECK. WHETHER SHOWN ON THE STRUCTURAL PLANS OR NOT. FRAME ALL OPENING GREATER THAN 6", I INCLUDING FLOOR DRAINS, WITH ANGLE FRAME. SEE TYPICAL DETAIL.
5. FLOOR DECK SHALL BE ATTACHED TO FLOOR FRAMING WITH 36/4 PATTERN UNLESS OTHERWISE NOTED. AT PERIMETER CMU WALLS FLOOR DECK SHALL BE ATTACHED WITH 36/7 PATTERN.

9 TYP. DETAIL FLOOR DECK FASTENER LAYOUT

(SCALE :-N.T.S.)



10 1.5 B DECK 20 GAUGE

(SCALE :-N.T.S.)

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740 chapel hill road
burlington, n.c. 27215
336/226-5534

NORTH CAROLINA PROFESSIONAL SEAL 039775 ENGINEER MATTHEW C. RIDDLE
6/29/2026

MID-CAROLINA STRUCTURES, PLLC
PO BOX 19221, GREENSBORO NC, 27419
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NCBELS FIRM #:P-2046

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REVISIONS

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DATE June 24, 2026

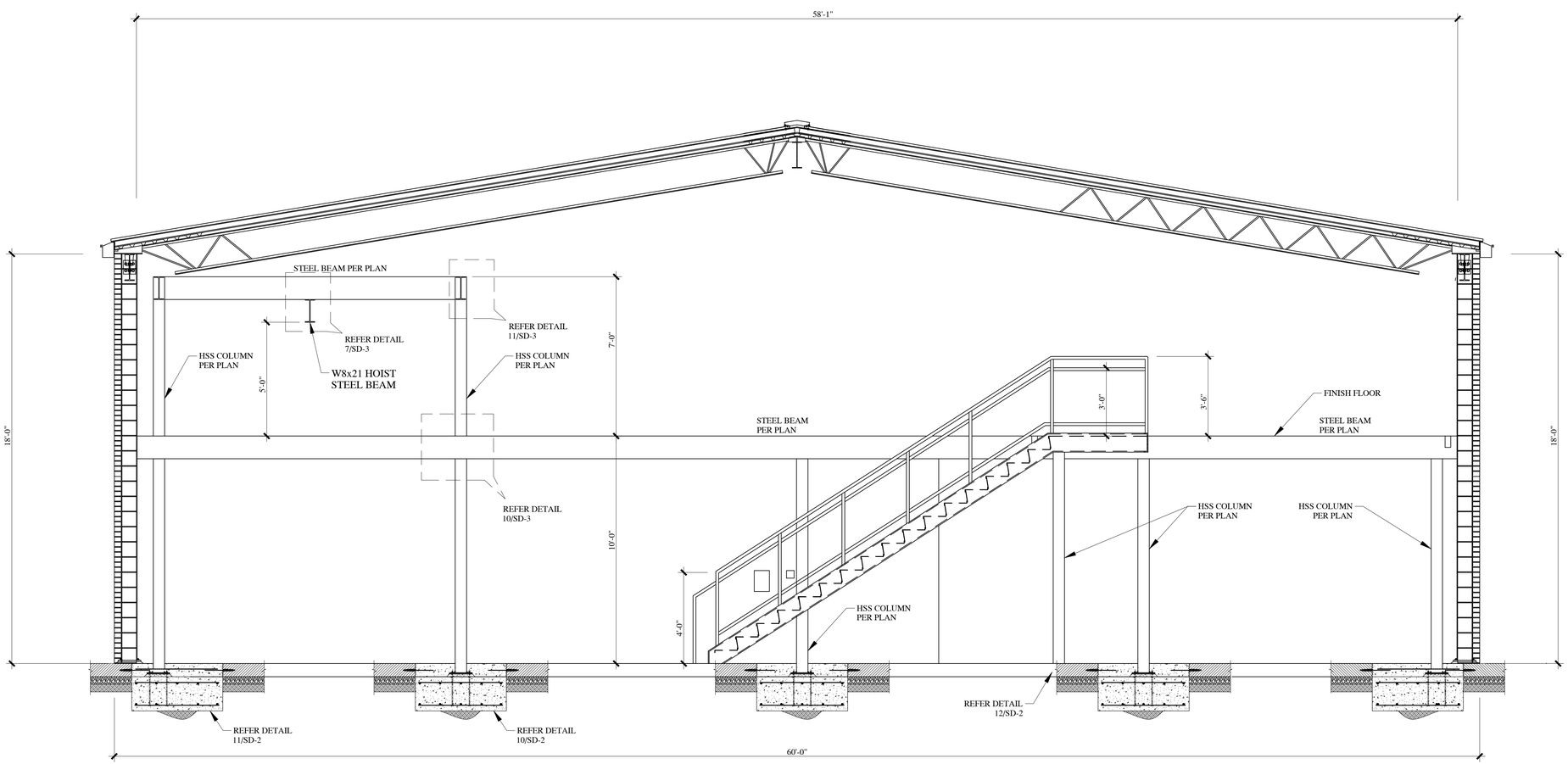
DRAWN BY: JRS | CHECKED:

JOB NO. 25063

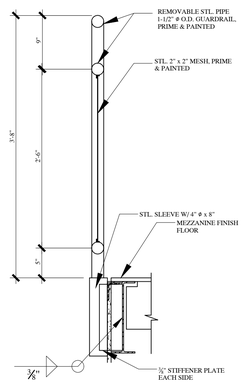
SHEET NO.

SD-5

OF



1 WALL SECTION @ OPEN BAYS
(SCALE :-3/8" = 1'-0")



2 TYP. GUARDRAIL DETAIL
(SCALE :-1" = 1'-0")

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ENGINEERS & ARCHITECTS
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336/226-5534

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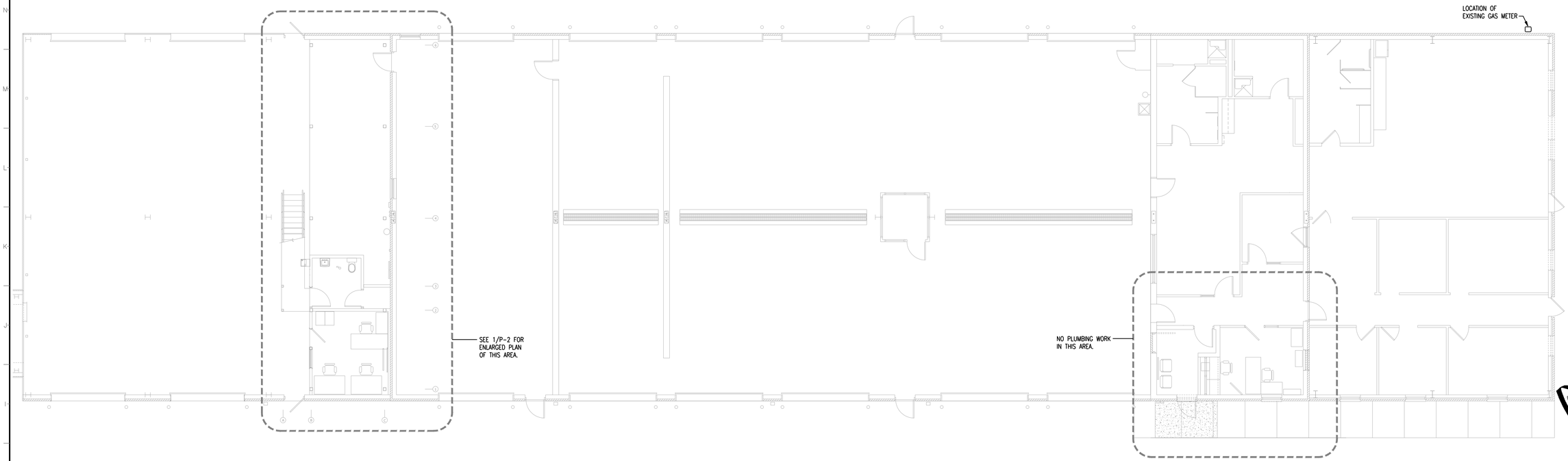
JOB NO. 25063

SHEET NO.

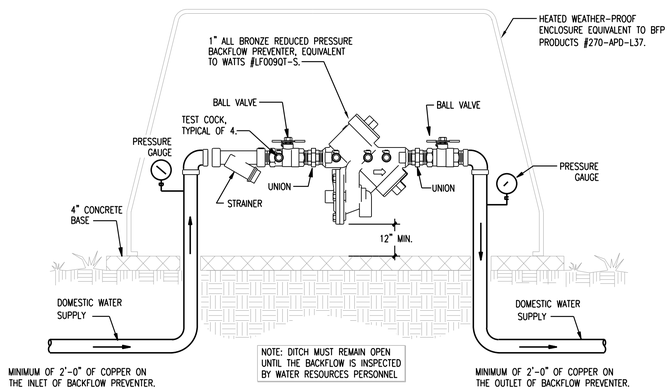
SD-6

OF



1/P1 PLUMBING FLOOR PLAN OFFICE AND GARAGE RENOVATIONS TO BLDG #1

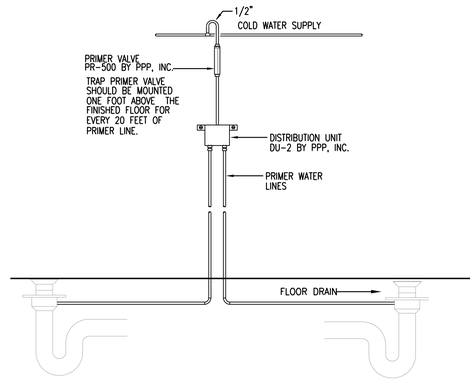
1/8"=1'-0"



3/P1 BACKFLOW PREVENTER DETAIL

PROVIDE NEW BFP WITH-IN 10 FEET OF WATER METER, SEE SITE PLAN FOR LOCATION.

NOT TO SCALE



2/P1 TRAP PRIMER DETAIL

NOT TO SCALE

SYMBOLS SCHEDULE	
AFF	ABOVE FINISHED FLOOR
UNO	UNLESS NOTED OTHERWISE
SAN	SANITARY SEWER
FD	FLOOR DRAIN
WCO	WALL CLEAN OUT
FCO	FLOOR CLEAN OUT
— — —	DOMESTIC COLD WATER
— — —	DOMESTIC HOT WATER
V	VENT
ø	DIAMETER OR POWER PHASE
⌐	PIPE ELBOW
⌐	PIPE ELBOW DOWN
⫼	UNION
⊢	PIPE TEE
⋈	ISOLATION VALVE

GENERAL NOTES:

1 – ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL STATE AND LOCAL CODES.

2 – THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL PIPING AND EQUIPMENT WITH ALL OTHER TRADES PRIOR TO BEGINNING INSTALLATION TO AVOID CONFLICTS AND INTERFERENCE WITH OTHER TRADES.

3 – FINAL UTILITY CONNECTIONS (GAS, ELECTRIC, WATER ETC.) TO EQUIPMENT SHALL BE MADE BY THE CONTRACTOR INSTALLING THE EQUIPMENT REQUIRING THE UTILITIES.

4 – PLANS AND ISOMETRICS ARE DIAGRAMMATIC. THERE IS NO INTENT TO INDICATE ALL AND FITTINGS REQUIRED. GENERALLY, PIPING SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO AND PLUMB WITH WALL CONSTRUCTION. SPECIAL CARE SHALL BE TAKEN TO COORDINATE EQUIPMENT AND PIPING LOCATIONS WITH ALL OTHER TRADES. IF INTENT OF DESIGN IS NOT CLEAR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.

5 – ON FLOOR PLAN DRAWINGS, SOIL AND WASTE AND RAINWATER PIPING IS SHOWN BELOW FLOOR. DOMESTIC WATER, VENTS, AND OTHER SUPPLY PIPING (UNLESS NOTED OTHERWISE) IS ABOVE CEILING OR AS HIGH AS POSSIBLE IN SPACE.

6 – SOIL AND WASTE PIPING SHALL BE LAID ON MINIMUM 1/4" PER FT. SLOPE FOR PIPE SIZES LESS THAN 4", AND MINIMUM 1/8" PER FT. FOR PIPE 4" AND LARGER.

7 – UNLESS OTHERWISE NOTED, PLUMBING CONTRACT SHALL TERMINATE AT A POINT FIVE (5) FEET OUTSIDE THE BUILDING. FOR WORK BY OTHER CONTRACTORS OUTSIDE THE 5 FOOT TERMINATION, REFER TO SITE UTILITY DRAWINGS.

8 – CONSTRUCTION INTERFACE BETWEEN PLUMBING AND OTHER SUB-CONTRACTS (I.E. SITE WORK, HVAC EQUIPMENT, ELECTRICAL WORK, ETC.) SHALL BE CLOSELY COORDINATED WITH OTHER DRAWINGS INCLUDED WITH THESE DOCUMENTS.

9 – VALVES AND DEVICES INSIDE CHASES OR WALLS OR ABOVE NON-ACCESIBLE CEILINGS SHALL BE PROVIDED WITH APPROPRIATELY SIZED ACCESS PANEL COMPATIBLE WITH SURROUNDING FINISHES. SUCH ACCESS PANELS SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR FOR INSTALLATION BY THE GENERAL CONTRACTOR.

10 – PLUMBING VENT PIPING PENETRATING ROOF SHALL BE INSTALLED BY THE PLUMBING CONTRACTOR. CUTTING OF HOLES AND FLASHING OF PENETRATIONS SHALL BE BY THE GENERAL CONTRACTOR.

11 – REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONED LOCATIONS OF WALLS AND PARTITIONS AND FOR PARTITION THICKNESS AND CONSTRUCTION MATERIALS.

12 – REFER TO STRUCTURAL DRAWINGS FOR DIMENSIONED COLUMN AND STRUCTURE LOCATIONS.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19293 MICHAEL B. SPRAGUE 7-1-26

BLACK MOUNTAIN ENGINEERING PLLC MECHANICAL ENGINEERING PLUMBING ENGINEERING FIRE PROTECTION ENGINEERING CERT. NO. C-1553 GREENSBORO, NC NORTH CAROLINA

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BLACK MOUNTAIN ENGINEERING PLLC
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CONSULTANT JOB NO.
25-112

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REVISIONS

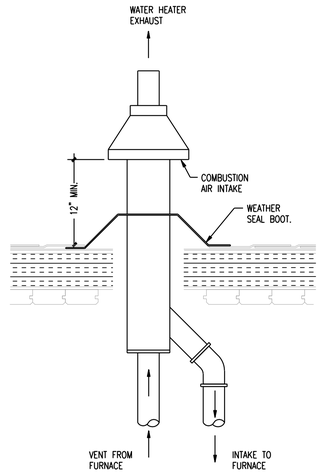
OFFICE & GARAGE PLUMBING FLOOR PLAN & NOTES

DATE: 6/24/26

DRAWN BY: MBS | CHECKED: MBS

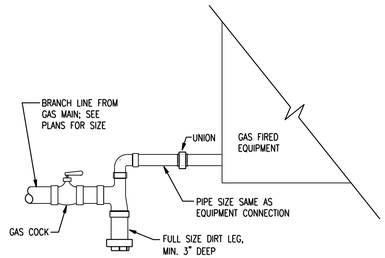
JOB NO. 25063

SHEET NO. P1



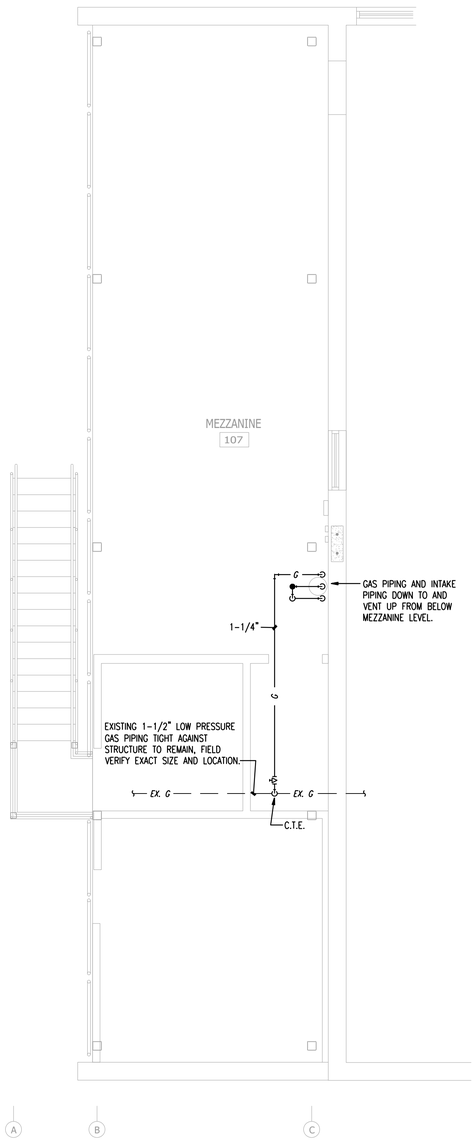
5/P2 COMB GAS VENT/INTAKE DETAIL

NOT TO SCALE



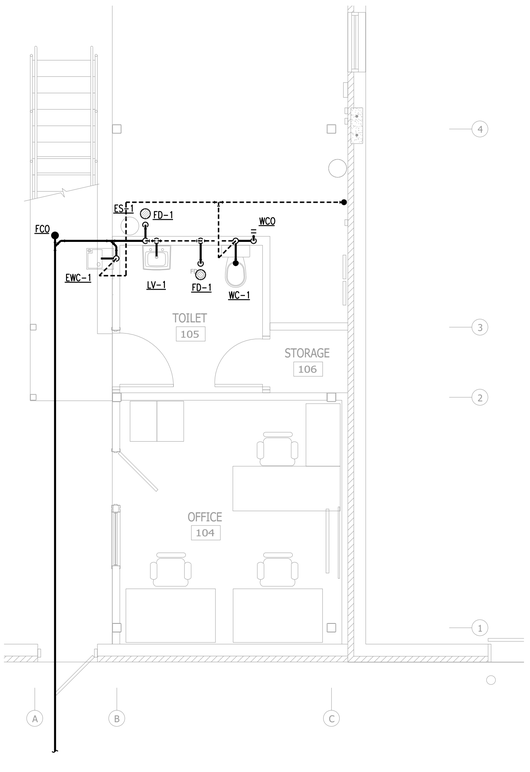
6/P2 GAS DIRT LEG DETAIL

NOT TO SCALE



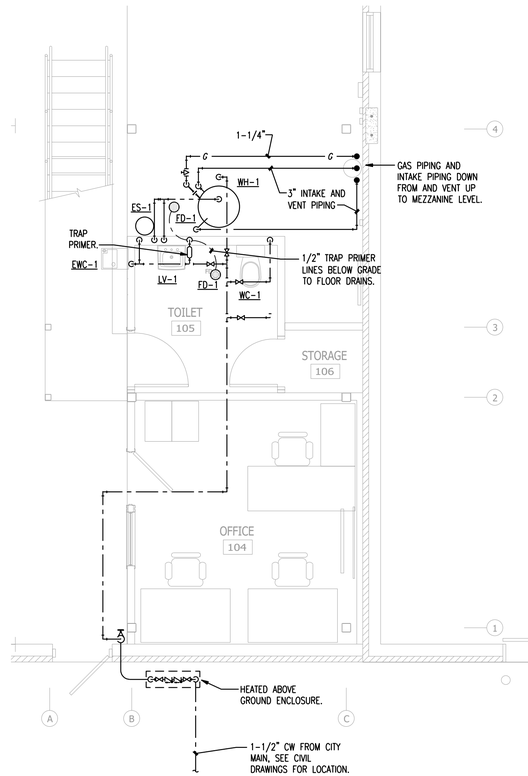
1/P2 BLDG#1 MEZZANINE PLUMBING FLOOR PLAN

1/4"=1'-0"



2/P2 BLDG#1 WASTE & VENT FLOOR PLAN

1/4"=1'-0"



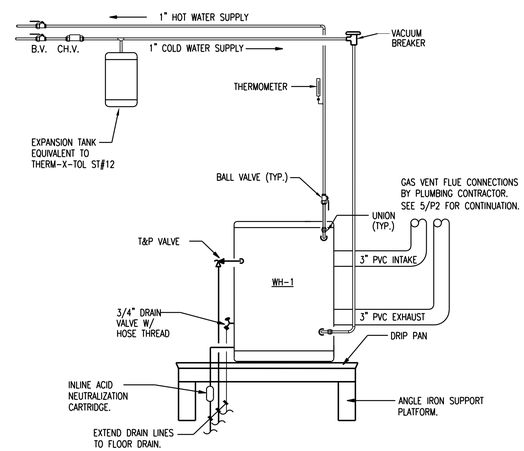
3/P2 BLDG#1 SUPPLY FLOOR PLAN

1/4"=1'-0"

GAS WATER HEATER SCHEDULE

MARK	TANK VOLUME	RECOVERY	MINIMUM OUTPUT	MINIMUM EFFICIENCY	POWER	MANUFACTURER	MODEL
WH-1	60 GALLON	138 GPH	112.8 MBH	94%	120V/1ø	AO SMITH	#BTH-120A

WH-1, WATER HEATER SHALL BE MODEL #BTH-120 AS MANUFACTURED BY AO SMITH OR EQUIVALENT. WATER HEATER SHALL BE OF GLASS-LINED DESIGN, AND GAS-FIRED, EQUIPPED TO BURN NATURAL GAS AND DESIGN CERTIFIED BY THE AMERICAN GAS ASSOCIATION, AND SHALL BE APPROVED BY THE NATIONAL SANITATION FOUNDATION. HEATERS MUST MEET ALL APPLICABLE CODES. HEATER SHALL BE SUITABLE FOR SEALED COMBUSTION DIRECT VENTING. THE CONDENSING FLUE COIL SHALL BE COATED ON THE FLUE GAS SIDE WITH ACID RESISTANT GLASS LINING DESIGNED FOR USE IN CONDENSING HEATERS. HEATER SHALL HAVE A WORKING PRESSURE OF 160 PSI. HEATER SHALL BE PROVIDED WITH AN AUTOMATIC SHUTOFF DEVICE AND SAFETY SHUTOFF IN EVENT OF FLAME FAILURE; A GAS PRESSURE REGULATOR SET FOR THE TYPE OF GAS SUPPLIED, AND EXTRUDED ANODE ROD RIGIDLY SUPPORTED FOR CATHODIC PROTECTION. AN A.G.A./ASME RATED PRESSURE AND TEMPERATURE RELIEF VALVE SHALL BE FURNISHED AND INSTALLED BY MANUFACTURER. THE TANK SHALL BE FOAM INSULATED. THE OUTER JACKET SHALL HAVE A BAKED ENAMEL FINISH OVER A BONDERIZED UNDERCOATING. ALL INTERNAL SURFACES OF THE HEATER EXPOSED TO WATER SHALL BE GLASS-LINED WITH AN ALKALINE BOROSILICATE COMPOSITION THAT HAS BEEN FUSED TO STEEL BY FIRING AT A TEMPERATURE RANGE OF 1400° TO 1600°F. HEATER SHALL HAVE A THREE YEAR LIMITED WARRANTY AGAINST CORROSION AND TANK FAILURE DUE TO SEDIMENT BUILD-UP AS OUTLINE IN WRITTEN WARRANTY. HEATER SHALL BE DESIGN CERTIFIED BY A.G.A.



4/P2 GAS WATER HEATER DETAIL

NOT TO SCALE

BUILDING #1 WASTE AND WATER CALCULATIONS

FIXTURE TYPE	QUANTITY	WASTE FIXTURE UNITS		HOT WATER FIXTURE UNITS		COLD WATER FIXTURE UNITS		TOTAL WATER FIXTURE UNITS	
		PER UNIT	EXTENSION	PER UNIT	EXTENSION	PER UNIT	EXTENSION	PER UNIT	EXTENSION
WATER CLOSET - TANK	1	4	4	0	0	5	5	5	5
LAVATORY	1	1	1	1.5	1.5	1.5	1.5	2	2
EMERGENCY SHOWER	1	2	2	3	3	3	3	4	4
ELECTRIC WATER COOLER	1	0.5	0.5	0	0	0.25	0.25	0.25	0.25
FLOOR DRAIN	2	2	4	0	0	0	0	0	0
TOTAL			11.5		4.5		9.75		11.25

PLUMBING FIXTURE SCHEDULE

ITEM NO.	FIXTURE DESCRIPTION	MANUFACTURER	MODEL NO.	CONNECTION SIZES			REMARKS
				C.W.	H.W.	WASTE	
WC-1	WATER CLOSET - TANK TYPE	AMERICAN STANDARD	731AA001S	1/2"	--	4"	1.6 GPF, ADA HEIGHT RIM
LV-1	WALL HUNG LAVATORY	AMERICAN STANDARD	0356.012	1/2"	1/2"	1-1/2"	SINGLE LEVER FAUCET, TRUEBRO COVERS
SK-1	SINGLE COMPARTMENT SINK	JUST	SLX-2225-A-GR	1/2"	1/2"	1-1/2"	SINGLE LEVER FAUCET, TRUEBRO COVERS
ES-1	EMERGENCY SHOWER	BRADLEY	S19-310AC	1"	1"	-	--
EWC-1	ELECTRIC WATER COOLER	EBCO OASIS	PBAMSL	1/2"	--	1-1/2"	SPLIT LEVEL ELECTRIC WATER COOLER
HB-1	INTERIOR HOSE BIBB	WATTS	HB-1	1/2"	--	--	--

FIXTURE MODEL NUMBERS LISTED ARE FOR DESCRIPTION ONLY. FIXTURES BY KOHLER, SLOAN, TOTO AND ZURN ARE ALSO ACCEPTABLE. DRAINS BY JAY R. SMITH OR OTHER COMPARABLE MANUFACTURER ARE ACCEPTABLE.

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REVISIONS

BLDG#1 PLUMBING FLOOR PLANS, ISCHEDULES & DETAILS

DATE: 6/24/26

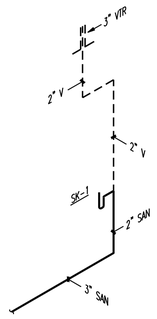
DRAWN BY: MBS | CHECKED: MBS

JOB NO. 25063

SHEET NO. P2

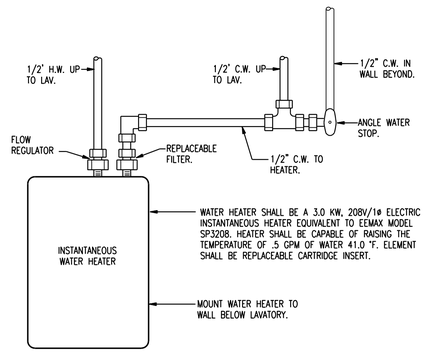
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19293 7-1-26 MICHAEL B. SPRAGUE

BLACK MOUNTAIN ENGINEERING, P.A. NORTH CAROLINA REGISTERED ENGINEERING CORPORATION CERT. NO. C-1553 GREENSBORO, NC



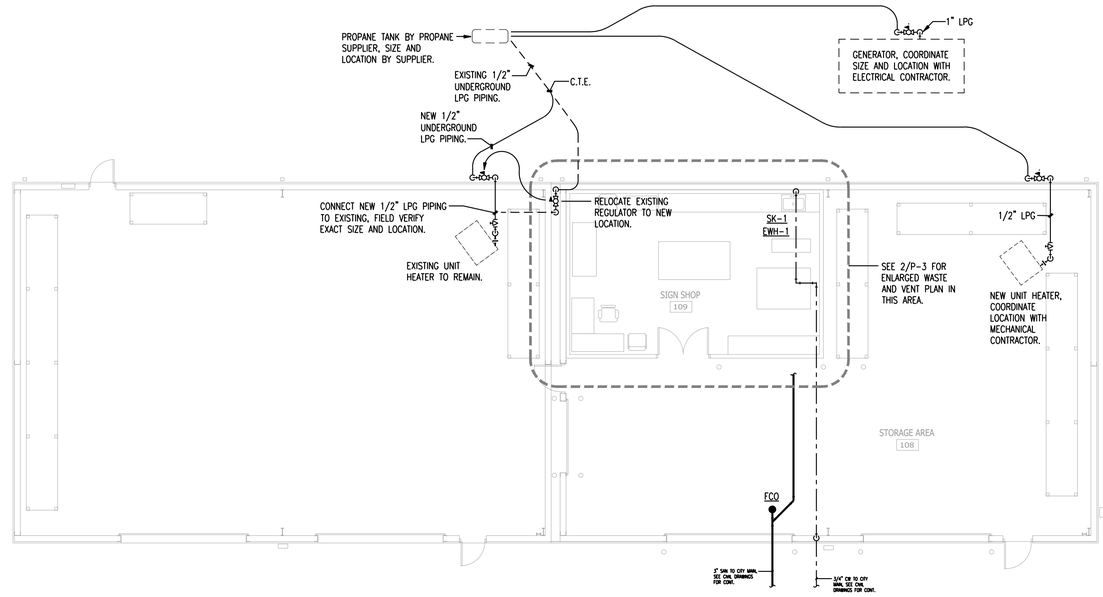
3 / P3 WASTE & VENT ISOMETRIC

NO SCALE



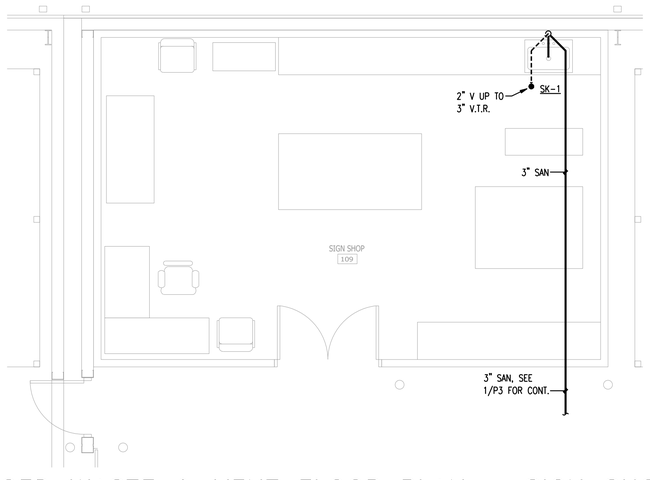
4 / P3 INSTANTANEOUS WATER HEATER

NO SCALE



1 / P3 SUPPLY FLOOR PLAN – SIGN SHOP (BLDG # 2)

1/8"=1'-0"



2 / P3 ENLARGED WASTE & VENT FLOOR PLAN – SIGN SHOP (BLDG # 2)

1/4"=1'-0"

LPG EQUIPMENT SCHEDULE		
MARK	DESCRIPTION	BTU/hr.
EX. UH	UNIT HEATER	75,000
UH-1	UNIT HEATER	75,000
GEN	GENERATOR	480,000
	TOTAL	630,000

PIPE SIZE BASED ON PROPANE GAS THRU STEEL SCHEDULE PIPE WITH AN INLET PRESSURE OF 11" W.C. AND A MAXIMUM EQUIVALENT PIPE LENGTH OF 30 FEET FOR UNIT HEATERS AND 20 FEET FOR GENERATOR. TANK SIZE AND LINE SIZE TO REGULATORS BY PROPANE SUPPLIER.

NORTH CAROLINA LICENSED SEAL 19293 ENGINEER MICHAEL B. SPRAGUE 7-1-26

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REVISIONS

BLDG#2 PLUMBING FLOOR PLAN, ISOMETRICS AND DETAILS

DATE: 6/24/26

DRAWN BY: MBS | CHECKED: MBS

JOB NO. 25063

SHEET NO. P3

PLUMBING SPECIFICATIONS

General:

Provide all materials, equipment, manpower etc. required to install a complete and functioning system as specified, shown or implied herein on this sheet.

Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal.

Obtain and pay for all required permits,request and arrange for all required inspections. Deliver all certificates of inspection to the Architect. Final pay application will not be approved until all inspections are complete and a Certificate of Occupancy has been issued.

All work and materials shall be in compliance with applicable state, local and national codes. Code provisions shall be the absolute minimum standards, where provisions herein exceed code requirements the contractor shall provide the work as specified.

Thoroughly review the entire set of construction documents and coordinate work with the work of all other trades to avoid conflicts and interference.

The contractor shall visit the site prior to bid, and shall verify every aspect of the proposed work and existing field conditions which might affect the completion of the work. Failure or neglect to throughly investigate the contract documents and/or the site shall not be sufficient cause for additional compensation to the contractor.

The contractor shall be responsible for all cutting and patching required for the proper installation of his or her work and shall be responsible for any damaged caused by himself or his workmen. All patching and repairs shall be done by individuals regularly engaged in the installation of like materials or systems.

All materials and equipment shall be new and shall be listed and labeled by Underwriters Laboratories, Inc. (UL) or Electronics Testing Labs, Inc. (ETL) for it's intended use.

The drawings are diagrammatic in nature and are not intended to include every detail of construction. Contractor shall coordinate actual installation with the work of other trades and existing site conditions. Finish dimensions shall be taken in the field in lieu of scaling from the plans.

The contractor shall warrant all materials and workmanship to be free from defect for a period of one year. The warranty period shall start upon time of acceptance by the owner. If within the warranty period any work or equipment is found to be defective, the contractor shall correct the defect promptly at no cost to the owner.

All final utility connections (electrical, water, gas, etc.) to equipment shall be by the contractor providing the equipment requiring the utilities. Coordinate utility connections with mechanical and electrical contractors.

Supports and Hangers:

All pipes sizes 1/2" to 1-1/2" shall be supported with carbon steel adjustable swivel split ring hangers.

All pipes sizes 2" and larger shall be supported with carbon steel adjustable clevis hangers.

Uninsulated copper pipe shall be supported with hangers as noted above with a PVC coating.

Pipe supports for insulated pipe shall be provided with either pipe shields or pipe saddles to protect the insulation. All pipe supports for insulated cold water piping shall be provided with pipe shields. All pipe supports for hot water pipe sizes 2-1/2" or greater shall be provided with steel pipe saddles.

Install hangers within 12" of all horizontal elbows.

Support horizontal cast iron pipe adjacent to each hub, with a maximum spacing of five feet between hangers. Support vertical cast iron pipe at each hub and at each floor. PVC drain piping shall have a maximum spacing between the hangers of six feet.

All other piping shall be supported with a maximum spacing between hangers as follows:

Pipe size	Maximum Hanger Spacing
1/2" to 1-1/4"	6'-6"
1-1/2" to 6"	10'-0"

Piping Insulation:

Insulation shall be installed by a contractor specializing in applying pipe insulation with a minimum of three years experience.

Deliver materials to the site in original factory packaging, labeled with manufacturer's indentification, including product density and thickness. Store insulation in original wrapping to protect from weather and construction traffic. Any damaged insulation will be replaced by the contractor at no additional expense to the owner.

Insulation shall not be installed unless ambient temperatures and conditions meet the requirements of the manufacturers of adhesives, mastics, and insulation cements. Maintain ambient temperature for 24 hours (minimum) after installation of insulation.

Insulate all hot & cold domestic water with 1" thick fiberglass pipe insulation with ASJ jacket.

All insulation shall have a maximum flame spread/smoke developed rating of 25/50.

Piping:

All valves shall have manufacturer's name and pressure rating stamped on valve body.

Conform to City of Hillsborough department of Water Resources requirements for installation of backflow prevention devices.

Accept valves on site in shipping containers with labeling in place. Inspect for damage. Provide temporary protective coating on cast iron and steel valves.

Provide temporary end caps and closures on piping and fittings. Maintain in place until installation. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of the completed system.

Underground sanitary and storm drainage piping with-in five feet of building shall be service weight cast iron pipe with hub & spigot joints sealed with neoprene gaskets. Contractor may, at his option, use PVC DWV piping in lieu of cast iron pipe.

Above grade sanitary and storm drainage piping shall be service weight cast iron no-hub pipe and fittings. No-hub gaskets shall be a heavy duty coupling equivalent to Charlotte Pipe and Foundry Co. Fig. No. HD-1. Contractor may, at his option except in return air plenums, use PVC DWV piping in lieu of cast iron pipe for sanitary system. All piping in return air plenums shall be cast iron.

Domestic water piping shall be copper tubing with wrought copper or bronze fittings. Below grade piping shall be type "K" tubing. Joints shall be kept to a minimum below grade. No joints will be permitted below building slab. Above grade piping shall be type "L" tubing.

Install piping to conserve building space and not interfere with the use of the space. Group piping at common elevations whenever practical. Install piping to allow for expansion and contraction without stressing pipe, joints or connected equipment. Provide clearance for installation of insulation and access to valves and fittings.

Provide access doors where valves or equipment are not exposed.

Provide unions downstream of valves and at equipment or apparatus connections.

Provide brass male adapters each side of valves in copper piped systems. Sweat solder adapters to pipe.

Provide ball valves for shut-off and to isolate equipment, part of system, and where indicated on the plans on domestic water systems.

Provide ball or globe valves for flow control in water recirculating systems where indicated.

Disinfect domestic water system after verifing that the system is complete. Ensure PH of water to be treated is between 7.4 and 7.6 by adding caustic soda, soda ash, or hydrochloric acid. Inject chlorine throughout system to obtain 50 to 80 mg/L residual. Bleed water from outlets to ensure distribution of disinfectant. Maintain disinfectant in system for 24 hours. If final disinfectant residual tests less than 25 mg/L, repeat treatment. Flush disinfectant from system until residual is equal to that of incoming water or 1.0 mg/L.

Before commencing with sanitary or storm drainage piping, field verify invert elevations of existing sewers. Confirm inverts are adequate to maintain proper pitch and cover for new sanitary and storm drainage systems. Notify architect if inverts do not appear to be adequate.

Plumbing Fixtures:

Fixtures shall be delivered to the site in factory packaging. The contractor shall inspect fixtures upon delivery and replace any damaged fixtures. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place until final clean-up.

Verify that field measurements are as indicated on the shop drawings and confirm that millwork is constructed with adequate provision for the installation of sinks.

Provide one year warranty for all plumbing fixtures to be free from material or manufacturing defect.

Provide two extra sets of faucet washers for each sink at completion of the project.

Water Closet (WC-1)
Provide a floor mounted tank type toilet with elongated bowl, everclean antimicrobial surface, 16-1/2" rim hieght and champion 4 flushing system with 4" non-adjustable piston action accelerator flush valve equivalent to American Standard Champion #731AA001S, 16.5"H EL 1.6/PA with 1/2"x 3/8" stop equivalent to Maguire #2165LX. Acceptable manufacturers: American Standard, Kohler, Sloan and Zurn.

Lavatory: (LV-1)
Bowl: Wall hung vitreous china lavatory equivalent to American Standard Lucerne #0356.012. Mount with top rim 34" A.F.F.. Acceptable manufacturers: American Standard, Kohler, and Zurn.
Faucet: Brass single lever handle lavatory faucet with 4" handle, 4" spout and 1/2 gpm vandal resistant aerator equivalent to Moen 8416F05. Acceptable manufacturers: Delta HDF, Moen, and Zurn.
Trim: Chrome plated 17 Gauge P-trap with pre-wraped protective cover and offset grid strainer equivalent to McGuire #PW 2125-WC. Angle wheel handle stops equivalent to McGuire #175 with 12" long 1/2" o.d. riser, and 3/8" o.d. inlet.
Carrier: Cast iron and steel frame with tubular legs, lugs for the floor and wall attachment, concealed arm support, bearing plate and studs equivalent to Zurn #Z-1231. Acceptable Manufactureres: Jay R. Smith, Josam and Zurn.

Sink (SK-1)
Bowl: Single Compartment 16 X 22 X 12, 18 Gauge 304 Stainless Steel, equivalent to Just # SLX-2225-A-GR. Acceptable Manufacturers: Elkay, Just, and Moen.
Faucet: Single handle deck faucet with 4" handle, and grid waste assembly equivalent to Moen # 8125 with 14" high gooseneck spout with vacuum breaker equivalent to Moen #SV0004. Acceptable manufacturers: Delta HDF, Moen, and Zurn.
Trim: Chrome plated 17 Gauge P-trap Equivalent to McGuire #8912. Angle wheel handle stops equivalent to McGuire #175 with 12" long 1/2" o.d. riser, and 3/8" o.d. inlet.

Combination Eye/Face Wash & Drench Shower (ES-1):

Combination shower and eye/face wash. Eye/face wash shall be stainless steel bowl, twin feather-flo ABS plastic eye/face wash heads with integral flip top dust covers, stainless steel push flag and foot treadle operate a stay open type 316 stainless steel ball valve and a dual pressure compensating devices to ensure steady water flow. Drench shower shall be ABS plastic SpinTec showerhead with a metal pull rod. Combination unit shall be equivalent to Bradley #S19-310AC. Provide dual service tempering valve with brass body and temperature gage. Tempering valve shall be capable of supplying .4 gpm tempered water for the eye wash and 20 gpm tempered water for the drench shower and shall be equivalent to Bradley #S19-2100. Acceptable manufacturers: Bradley, Guardian, and Haws.

Electric Water Cooler (EWC-1)
Provide a wall mounted split level water cooler equivalent to an Ebco Oasis Model P8AMSL with McGuire #8902C chrome plated 17 gauge p-trap and McGuire #175 angle wheel stops. Cooler capacity to equal 8.0 GPH 50° water. 120 volt electrical outlet is required in concealed apron area of cooler. Color to be selected by the Architect.

Floor Drain (FD-1)
Provide an adjustable floor drain with Dura-Coated cast iron body, bottom outlet, combination invertible membrane clamp and "Type N" deep flange grate, equivalent to Zurn #ZB-415-N. Acceptable manufacturers: Jay R. Smith, Josam, and Zurn.

Internal Hose Bibb (HB-1)
Model HB-1 by Watts or equivalent. Brass body type hose bibb with built in vacuum breaker. 1/2" male I.P. Meets ASSE Std. 1011.

Freezeless Wall Hydrant: (FPWH-1)
Provide a wall mounted, non-freeze, anti-siphon, automatic draining, with bronze casing and all bronze interior parts, equivalent to Zurn model Z-1310 with loose operating key. Acceptable manufacturers: Jay R. Smith, Josam, and Zurn.

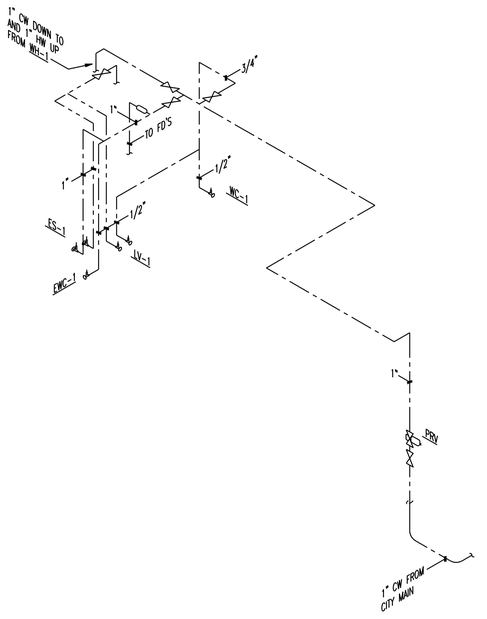
Cleanouts: Floor cleanout shall be equivalent to Zurn #ZB-1400. Wall cleanouts shall be equivalent to Zurn #Z-1442. Yard cleanouts in paved areas shall be equivalent to Zurn #Z-1400-HD. Yard cleanouts in non-paved areas shall be equivalent to Zurn #Z-1474 with a #Z-1400 ferrule. Acceptable manufacturers: Jay R. Smith, Josam and Zurn.

Reduced Pressure Zone Assembly - Potable: (3/4" to 2")

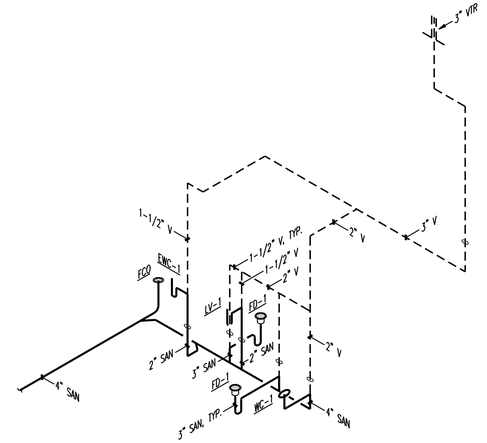
A Reduced Pressure Zone Assembly shall be installed at each potential health hazard location to prevent backflow due to backsiphonage and/or backpressure. The assembly shall consist of an internal pressure differential relief valve located in a zone between two positive seating check modules with captured springs and silicone seat discs. Seats and seat discs shall be replaceable in both check modules and the relief valve. There shall be no threads or screws in the waterway exposed to line fluids. Service of all internal components shall be through a single access cover secured with stainless steel bolts. Body and shutoffs shall be constructed using Lead Free* Epoxy coated cast iron unibody with plastic seats. Relief valve shall be constructed with stainless steel seat and trim. Ball valve test cocks shall be constructed Lead Free cast copper silicon alloy body. Lead Free* reduced pressure zone assembly shall comply with state codes and standards, where applicable, requiring reduced lead content.

The assembly shall also include two resilient seated isolation valves, four resilient seated test cocks and an air gap drain fitting. The assembly shall meet the requirements of: USC; ASSE Std. 1013; AWWA Std. C511; CSA B64.4. Shall be a Watts Series LF009.

Assemblies shall be suitable for supply pressures up to 175psi (12.1 bar) and water temperature at 110°F (43°C) continuous, 140°F (60°C) intermittent.



1 / P4 SUPPLY PIPING ISOMETRIC
NO SCALE



2 / P4 WASTE & VENT ISOMETRIC
NO SCALE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19293 7-1-26 MICHAEL B. SPRAGUE

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REVISIONS

BLDG#1 PLUMBING ISOMETRICS AND SPECIFICATIONS

DATE: 6/24/26

DRAWN BY: MBS | CHECKED: MBS

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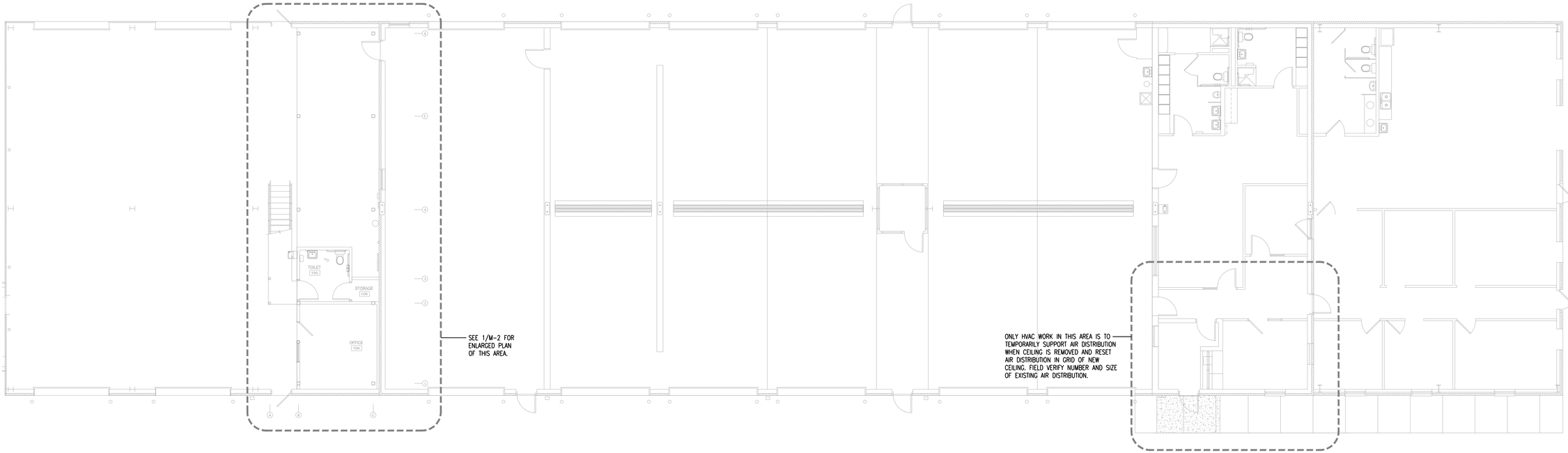
SHEET NO. P4



1 / M1 HVAC FLOOR PLAN - OFFICE AND GARAGE RENOVATIONS TO BLDG #1

1/8"=1'-0"

SYMBOLS AND ABBREVIATIONS LEGEND

T	THERMOSTAT	U.N.O.	UNLESS NOTED OTHERWISE
	CEILING SUPPLY DIFFUSER	— G —	NATURAL GAS
	CEILING RETURN GRILLE		PIPE ELBOW
	CEILING EXHAUST GRILLE		PIPE ELBOW DOWN
	MANUAL BALANCING DAMPER		UNION
	SIDEWALL SUPPLY DIFFUSER		PIPE TEE
	SIDEWALL RETURN OR EXHAUST GRILLE	ø	DIAMETER OR POWER PHASE
	EXISTING PIPE, DUCT OR EQUIPMENT	C.T.E.	CONNECT TO EXISTING
	NEW PIPE, DUCT OR EQUIPMENT	M.O.D.	MOTOR OPERATED DAMPER
	SUPPLY DUCT SECTION	O.A.	OUTSIDE AIR
	RETURN DUCT SECTION	R.A.	RETURN AIR
	EXHAUST DUCT SECTION	S.A.	SUPPLY AIR
	RECTANGULAR ELBOW WITH TURNING VANES	A.F.F.	ABOVE FINISHED FLOOR
N.I.C.	NOT IN CONTRACT	S	EMERGENCY STOP SWITCH

GENERAL NOTES:

1 - SMOKE DETECTORS SHALL BE HARD WIRED TO THEIR RESPECTIVE AIR HANDLING UNITS TO SHUT OFF THE FAN ON ALARM OF THE DETECTOR.

2 - ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL STATE AND LOCAL CODES.

3 - ALL DUCT SIZES DENOTED ON THE FLOOR PLAN ARE INSIDE CLEAR DIMENSIONS. THE CONTRACTOR SHALL INCREASE METAL SIZES OF DUCTWORK TO ACCOMMODATE DUCT LINER WHERE APPLICABLE.

4 - DUCT DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW THE INTENT OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY ADDITIONAL TRANSITIONS, OFFSETS, OR TURNS, IN THE DUCTWORK AND/OR PIPING, NOT SHOWN BUT REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

5 - THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL DUCTWORK AND PIPING WITH ALL OTHER TRADES TRADES PRIOR TO BEGINNING INSTALLATION TO AVOID CONFLICTS AND INTERFERENCE WITH OTHER TRADES.

6 - ALL DUCTWORK SHALL BE INSTALLED TIGHT AGAINST THE STRUCTURE UNLESS OTHERWISE NOTED OR SHOWN.

7 - AIR DISTRIBUTION LOCATIONS SHOWN ON MECHANICAL PLANS ARE APPROXIMATE. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR ACTUAL LOCATIONS.

8 - FINAL UTILITY CONNECTIONS (GAS, ELECTRIC, WATER ETC.) TO EQUIPMENT SHALL BE MADE BY THE CONTRACTOR INSTALLING THE EQUIPMENT REQUIRING THE UTILITIES.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE

Prescriptive _X___ Energy Cost Budget

Thermal Zone: 4A

Exterior design conditions:
Winter dry bulb 14 degrees Fahrenheit
Summer dry bulb 91 degrees Fahrenheit

Interior design conditions:
Winter dry bulb 70 degrees Fahrenheit
Summer dry bulb 74 degrees Fahrenheit
Relative humidity 50 Percent

Building heating load: 139.7 MBH

Building cooling load: 1.9 Tons

Mechanical Space Conditioning System Description:

Unitary
Description of unit: Air Cooled Split System < 65,000 Btu/Hr with gas fired furnace < 225,000 Btu/Hr
Heating efficiency: 92% AFUE
Heat output of unit: 38.4 MBH
Cooling efficiency: 14.0 SEER2
Cooling Output of unit 1.5 Tons

Description of unit: Air Cooled Split System Heat Pump < 65,000 Btu/Hr with no supplemental heat
Heating efficiency: 13.0 HSPF2
Heat output of unit: 9.0 MBH
Cooling efficiency: 35.0 SEER2
Cooling Output of unit 0.5 Tons

Description of unit: Gas fired unit heaters < 225,000 Btu/Hr
Heating efficiency: 80.0 AFUE
Heat output of unit: 60.0 MBH

Boiler: n/a
Chiller: n/a

List Equipment efficiencies:
Equipment schedules with motors:
See schedules on drawings.
All motors efficiencies are part of packaged equipment efficiecies noted above.

DESIGNERS STATEMENT:
To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina Energy Code.

NORTH CAROLINA SEAL 19293 ENGINEER MICHAEL B. SPRAGUE 7-1-26

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REVISIONS

BLDG#1 HVAC FLOOR PLAN, & NOTES

DATE: 6/24/26

DRAWN BY: MBS | CHECKED: MBS

JOB NO. 25063

SHEET NO. M1

OF 3

MECHANICAL SPECIFICATIONS

General:

Provide all materials, equipment, manpower etc. required to install a complete and functioning HVAC system as specified, shown or implied herein on Mechanical sheets.

Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal.

Obtain and pay for all required permits, and request, and arrange for all required inspections. Deliver all certificates of inspection to the Architect. Final pay application will not be approved until all inspections are complete and a Certificate of Occupancy has been issued.

All work and materials shall be in compliance with applicable state, local and national codes. Code provisions shall be the absolute minimum standards, where provisions herein exceed code requirements the contractor shall provide the work as specified.

Thoroughly review the entire set of construction documents and coordinate HVAC work with the work of all other trades to avoid conflicts and interference.

The contractor shall visit the site prior to bid, and shall verify every aspect of the proposed work and existing field conditions which might affect the completion of the HVAC work. Failure or neglect to thoroughly investigate the contract documents and/or the site shall not be sufficient cause for additional compensation to the contractor.

The contractor shall be responsible for all cutting and patching required for the proper installation of his or her work and shall be responsible for any damage caused by himself or his workmen. All patching and repairs shall be done by individuals regularly engaged in the installation of like materials or systems.

All materials and equipment shall be new and shall be listed and labeled by Underwriters Laboratories, Inc. (UL) or Electronics Testing Labs, Inc. (ETL) for it's intended use.

The drawings are diagrammatic in nature and are not intended to include every detail of construction. The Contractor shall coordinate actual installation with the work of other trades and existing site conditions. Finish dimensions shall be taken in the field in lieu of scaling from the plans.

The contractor shall warrant all materials and workmanship to be free from defect for a period of one year. The warranty period shall start upon time of acceptance by the owner. If within the warranty period any work or equipment is found to be defective, the contractor shall correct the defect promptly at no cost to the owner.

The system shall be balanced in accordance with AABC and reported on standard AABC or NEBB forms by a technician certified by AABC or NEBB and having a minimum of three years experience.

Electrical Requirements:

All conduit and wire shall be installed as per the electrical specifications on Sheet E3-1. Mechanical contractor shall provide all motor starters, and unless otherwise noted the electrical contractor shall provide all disconnect switches. Power wiring to the load side of the disconnect switch shall be provided by the electrical contractor. Power wiring from the disconnect switch through the starter and to the terminal block on the mechanical equipment shall be provided by the mechanical contractor.

Split System A/C Units with High Efficiency Gas Furnace:

Indoor unit shall be a self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, heater, controls, air filter and refrigerant coil.

Indoor unit cabinet shall be Galvanized steel with baked enamel finish, with easily removed secured access doors. Supply fan shall be centrifugal type rubber mounted with belt drive, adjustable pitch motor pulley. Air filters shall be 1" thick glass fiber disposable type arranged for easy replacement. Evaporator Coil shall be copper tube with aluminum fin assembly with galvanized positively sloped drain pan, drain connection, refrigerant piping connections and factory installed thermostatic expansion valve. Filters shall be 1" thick pleated media throw away filter. High efficiency sealed combustion liquid propane gas heater with soft mounted inducer, 3 pass 20 gauge corrosion resistant aluminized steel primary heat exchanger and a secondary heat exchanger with an interior polypropylene laminate coating.

Outdoor unit shall be self-contained, packaged, factory assembled and pre-wired units suitable for outdoor use consisting of cabinet, condensing coils and fans, controls, liquid receiver, and screens.

Outdoor unit cabinet shall constructed with a welded steel frame with galvanized steel panels with weather resistant, baked enamel finish. Mount starters. and controls in weather proof panel provided with full opening access doors.

Condenser coil shall be aluminum fins mechanically bonded to seamless copper tubing. Air test under water to 425 psig, and dehydrate. Seal with holding charge of nitrogen. Condenser fans shall be vertical discharge direct driven propeller type with fan guard on discharge. Provide weatherproof motors suitable for outdoor use, with permanent lubricated bearings and built-in thermal overload protection.

Compressor shall be a scroll type mounted on rubber isolators.

Provide initial and cooling season startup, and winter season shut down for first year of operation, including routine servicing and check out.

Supply initial charge of refrigerant and oil for each refrigeration circuit. Inspect and test for refrigerant leaks every four months, and replace losses of refrigerant and oil, during the first year of operation.

Acceptable Manufacturers: Carrier, Johnson Controls, Trane, and York.

Insulation:

All low pressure ductwork, (supply, return, and outside air) shall be insulated with 3" thick glass fiber duct wrap with 1.0 lb/cu ft density and kraft paper vapor barrier jacket. All joints shall be taped with kraft paper reinforced with glass fiber yarn and bonded to aluminized film. Insulation shall be continuous through walls, sleeves, hangers and other duct penetrations.

Insulate entire duct system including all fittings, joints, flanges, fire dampers, flexible connections and expansion joints.

Insulate suction refrigerant piping with 1/2" thick cellular elastomeric pipe insulation with a minimum "K" value of .27 at 75 degrees Fahrenheit. Seal all joints with air dried, contact adhesive, compatible with insulation.

Provide galvanized steel shields and 6" long inserts at all pipe hangers. Inserts shall be hydrous calcium silicate insulation or other heavy density insulating material. Install inserts between support shields and piping and under finish jacket.

Refrigerant Piping:

ACR hard drawn copper tubing - ASTM B280, with ASME B16.22 wrought fittings. Joints shall be silver brazed, grade 95TA solder. Provide moisture indicator, filter dryer, and packed angle service valves with each circuit. Slope piping 1% for oil return to compressor. Test in accordance with ASME B31.5 and fully charge after testing.

Pipe Hangers:

Hangers for pipe 1/2" to 1-1/2" shall be Carbon steel adjustable swivel, split ring type, with a maximum spacing of 8'-0" on centers.

Hangers for cold pipe 2" and over shall be carbon steel adjustable clevis type. Hanger spacing for pipes 2-1/2" and smaller shall not exceed 10'-0" on centers. Hangers spacing for pipes 3" through 5" shall not exceed 12'-0" on centers.

Hangers for copper piping shall be PVC coated Carbon Steel. Type, and spacing, of hangers shall be as specified above.

Provide clearance in hangers from structure and other equipment for installation of insulation and access to valves and fittings.

Install hangers with 5'-0" of all changes in direction of piping.

Prime coat all exposed steel hangers.

Air Outlets and Inlets:

Louver Face Directional Diffusers shall be aluminum with a minimum of three removable fixed cones. Diffusers furnished with opposed blade dampers shall have provisions to adjust the damper through the face of the grille with removing the inner core of the diffuser. Finish diffusers with an off-white electro-depostition paint.

Perforated ceiling return grilles shall be aluminum flush face type.

Sidewall grilles shall be double deflection aluminum grilles with adjustable blades and 3/4" spacing between the blades.

Acceptable Manufacturers: Carnes, E. H. Price, Metal Industries, Nailor Industries, or Tuttle & Bailey.

Install diffusers and grilles with air tight connections.

Provide balancing dampers on duct takeoff to diffusers, and grilles regardless of whether dampers are specified as part of the diffuser or grille.

Low Pressure Ductwork:

All ductwork shall be constructed with galvanized sheet steel, lock forming quality, having zinc coating of 1.25 oz. per square foot on each side in conformance with ASTM 90.

Fabricate and support in accordance with SMACNA Low Pressure Duct Construction Standards and ASHRAE Handbooks. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

Construct bends, and elbows with a full radius not less than one and a half times the width of duct on center line Where not possible to install a full radius bend, or where noted on the plans provide turning vanes.

Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

Connect diffusers or troffer boots to low pressure ducts with a maximum of 6 feet of flexible duct. Secure flexible duct to rigid ductwork with strap or clamp plus duct sealing tape at both inner conductor and outer vapor barrier

Connect duct to equipment with canvas flexible connectors.

Fabricate volume control dampers in accordance with SMACNA Low Pressure Duct Construction Standards. Single blade dampers may be used in branch duct. Multi-blade opposed blade dampers shall be used for volume control in rectangular main or trunk duct. Splitter dampers shall not be permitted. Provide all manual dampers with locking, indicating, quadrant regulators.

Fabricate fire dampers in accordance with NFPA 90A and UL 555. Provide multiple blade static Type "B" fire dampers with 20 gage galvanized steel frame and 24 gage galvanized steel blades and plated steel concealed linkage, stainless steel closure spring, blade stops and lock. Fusible links shall separate at 160 degrees Fahrenheit. Furnish damper with steel sleeve and retaining angles by damper manufacturer. be in strict accordance with manufacturer's U.L. listed instructions.

Provide balancing dampers and fire dampers where indicated.

Provide access duct access doors for inspection and cleaning before and after filters, coils, fans, automatic dampers, at fire dampers, and elsewhere as indicated. Provide minimum 8" x 8" door for hand access and a minimum 18" x 18" door for shoulder access. Access doors shall be rigid and close fitting doors of galvanized steel with sealing gaskets, quick fastening locking device, and hinges. For insulated ductwork, install minimum one inch thick insulation with sheet metal cover.

Provide flexible connections between ductwork and fan driven equipment. Flexible connectors shall be fabricated with UL listed fire retardant neoprene coated woven glass fiber fabric, minimum density of 20 oz per square yard.

Provide duct test holes where required for testing and balancing.

Ceiling Exhaust Fans:

Provide factory assembled packaged unit consisting of fan wheel, housing, motor, and accessories as indicated in the schedule on the plans. Exhaust fans shall be centrifugal direct drive type.

The fan wheel shall be forward curve twin double width wheels constructed of galvanized steel with separate galvanized steel scrolls, and inlet cone. Wheels shall be dynamically balanced.

Fan housing shall be constructed of corrosion resistant galvanized steel.

Motors shall be sized to match fan loads, have thermal overload protection, and be mounted on vibration isolators.

Acceptable Manufacturers: ACME, Carnes, Greenheck, Loren Cook and Penn Ventilator.

Gas Fired Unit Heaters:

Provide self-contained, packaged, factory assembled, pre-wired unit including but not limited to cabinet, propeller supply fan, controls, gas burner and heat exchanger.

Units shall have a minimum thermal efficiency of 80

Burner shall be fan assisted type with a power exhauster certified for use with a Type "B" vent pipe.

Safety controls shall include, but not be limited to, 100 switch that assures proper venting conditions.

Provide wall mounted thermostat to cycle on and off unit to maintain space temperature.

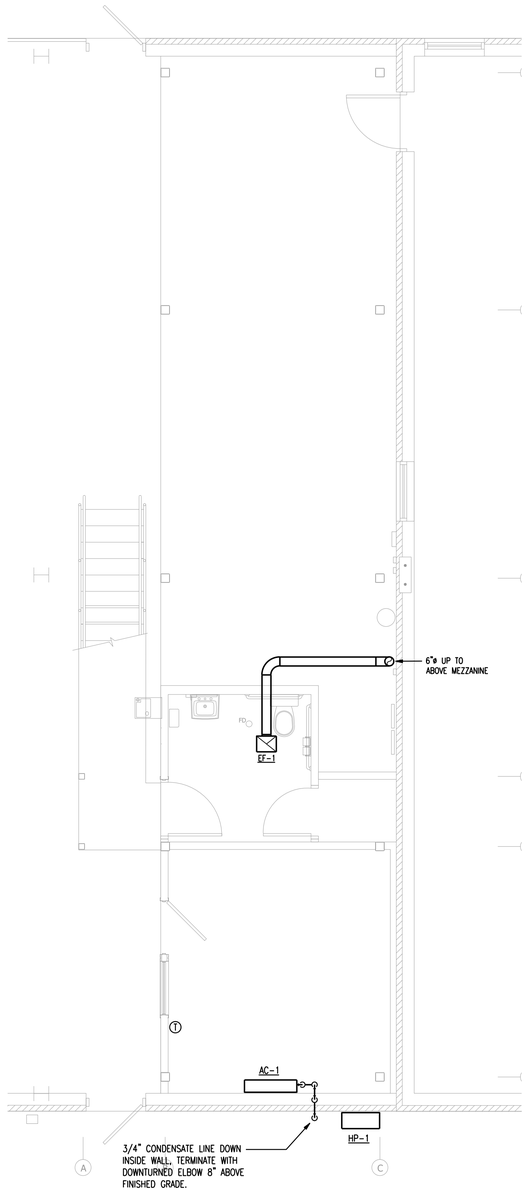
Acceptable Manufacturers: Modine and Reznor.

Breeching, Chimneys, and Stacks:

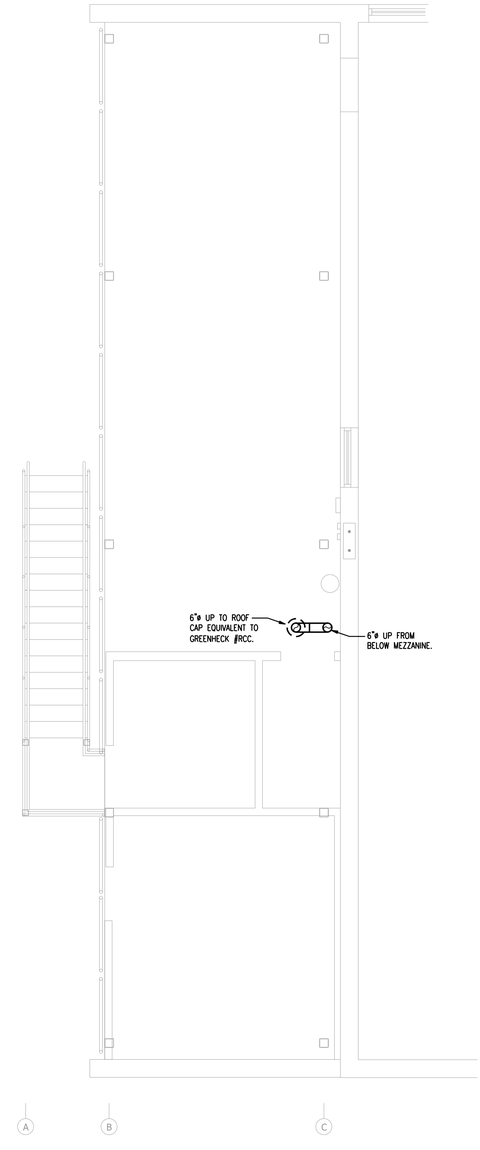
Provide Type "B" double wall gas vents fabricated with sheet aluminum inner pipe, and galvanized steel outer pipe, tested in compliance with UL 441.

Provide Type "IPIC-1" double wall insulated gas vents fabricated with 304 stainless steel inner pipe, aluminized steel outer pipe, and 1" thick ceramic insulation in the interstitial space, tested in compliance with UL 103.

Maintain UL listed minimum clearances from combustibles. Assemble pipe and accessories as required for complete installation.



1 / M2 HVAC FLOOR PLAN - OFFICE (BLDG # 1)
1/4" = 1'-0"



2 / M2 HVAC FLOOR PLAN - MEZZANINE (BLDG # 1)
1/4" = 1'-0"

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REVISIONS

BLDG #1 HVAC FLOOR PLAN, & SPECIFICATIONS

DATE: 6/24/26

DRAWN BY: MBS | CHECKED: MBS

JOB NO. 25063

SHEET NO. M2

OF 3

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19293 7-1-26 MICHAEL B. SPRAGUE

BLACK MOUNTAIN ENGINEERING, P.A. REGISTERED ENGINEERING CORPORATION CERT. NO. C-1553 NORTH CAROLINA GREENSBORO, N.C.

SPLIT SYSTEM A/C UNIT WITH GAS FURNACE SCHEDULE

MARK	MANUFACTURER	INDOOR UNIT MODEL NO.	INDOOR COIL MODEL NO.	INDOOR UNIT POWER	OUTDOOR UNIT MODEL NO.	OUTDOOR UNIT POWER	SUPPLY FAN DATA				COOLING CAPACITY			GAS HEATING CAPACITY		REMARKS
							AIR FLOW	O.A. FLOW	E.S.P.	MOTOR SIZE	SENSIBLE	TOTAL	MIN. EFF.	MIN. OUTPUT	MIN. EFF.	
AHU/CU-1	TRANE	S9X1B040U3PSBB	5TXCBU18AC3CC	120V/1ø	5TTR5018	208V/1ø	540 CFM	60 CFM	0.9" W.G.	3/4 H.P.	13.0 MBH	17.4 MBH	14 SEER2	38.4 MBH	96 % AFUE	1,2,3,4

REMARKS:

1 – PROVIDE HIGH EFFICIENCY FURNACE WITH SEALED COMBUSTION CHAMBER.
2 – PROVIDE UNIT WITH PROGRAMABLE ON, OFF, AUTO THERMOSTAT WITH AUTO CHANGEOVER BETWEEN HEATING AND COOLING MODES, AND PLEATED MEDIA, MERV 8 THROWAWAY FILTER.
3 – PROVIDE UNIT WITH PROPANE BURNER..
4 – PROVIDE UNIT WITH REFRIGERANT SENSOR DOWNSTREAM OF COOLING COIL AND INTERNAL CONTROLS TO SHUT DOWN CONDENSING UNIT AND TURN ON SUPPLY FAN IF REFRIGERANT IS DETECTED IN THE SUPPLY AIR.

SPLIT SYSTEM HEAT PUMP SCHEDULE

MARK	MANUFACTURER	INDOOR UNIT MODEL NO.	INDOOR UNIT POWER	OUTDOOR UNIT MODEL NO.	OUTDOOR UNIT POWER	SUPPLY FAN DATA				COOLING CAPACITY		HEATING CAPACITY		REMARKS
						AIR FLOW	O.A. FLOW	E.S.P.	MOTOR SIZE	TOTAL	MIN. EFF.	@ 47°F	MIN. EFF.	
AC-1/HP-1	MITSUBISHI	MSZ-FX06NL	208V/1ø	MUZ-FX06NLHZ	208V/1ø	233 CFM	0 CFM	0" W.G.	40 W	6.0 MBH	35.0 SEER2	9.0 MBH	13.0 HSPF2	1,2,3

REMARKS:

1 – PROVIDE UNIT WITH REMOTE THERMOSTAT.; 2 – PROVIDE UNIT WITH PRE-PIPED AND WIRED REFRIGERANT/POWER LINE SET TO CONNECT INDOOR AND OUTDOOR UNIT.
3 – PROVIDE UNIT WITH CONDENSATE PUMP AND PIPE PUMPED CONDENSATE LINE TO THE LOCATION INDICATED ON THE FLOOR PLAN.

GAS UNIT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL NO.	SERVES	MOUNTING HEIGHT	OUTPUT	MIN. EFF.	POWER	FAN TYPE	FAN MOTOR	REMARKS
UH-1	MODINE	HD-75	WAREHOUSE	12'-0" A.F.F.	60.0 MBH	80.0%	120V/1ø	PROP	1/12	1

REMARKS: 1 – PROVIDE UNIT WITH PROPANE BURNER

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	CFM	SP	MOTOR	POWER	RPM	SONES	CONTROL	REMARKS
EF-1	GREENHECK	SP-90	CEILING FAN	80	1/4" W.G.	1/4	120V/1ø	870	1	LIGHT SWITCH	1

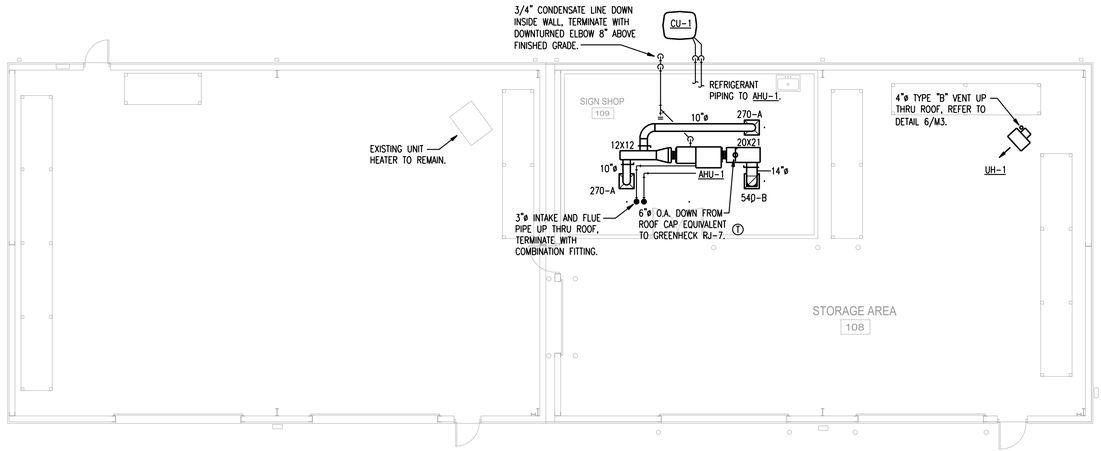
REMARKS: 1 – PROVIDE UNIT WITH VIBRATION ISOLATION HANGERS, BACKDRAFT DAMPER, INTEGRAL DISCONNECT SWITCH AND ROOF CAP WITH ROOF CURB.

AIR DISTRIBUTION SCHEDULE

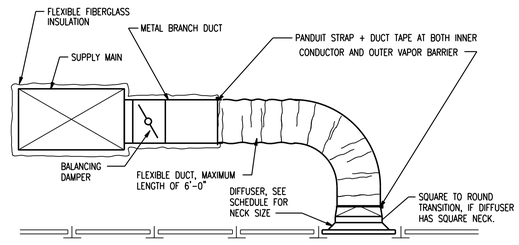
MARK	MANUFACTURER	NECK SIZE	PANEL SIZE	CFM RANGE	USE	TYPE	MODEL
A	PRICE	10"ø	24X24	210-360	SUPPLY	LOUVERED CEILING DIFFUSER	ASCD
B	"	14"ø	24X24	480-700	RETURN	PERFORATED RETURN GRILLE	APDDR

MINIMUM VENTILATION CALCULATION

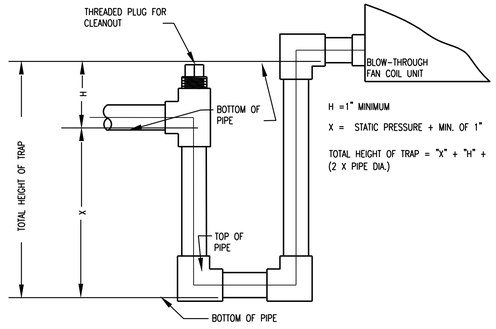
ZONE NAME	AREA	OCCUPANT DENSITY	PEOPLE	VENTILATION RATE		O.A. REQUIRED	O.A. SPECIFIED
OFFICE	504	5 PEOPLE/1000 SQ. FT.	3	5 CFM/PERSON	0.06 CFM/SQ. FT.	46 CFM	60 CFM
TOTAL OUTSIDE AIR						46 CFM	60 CFM



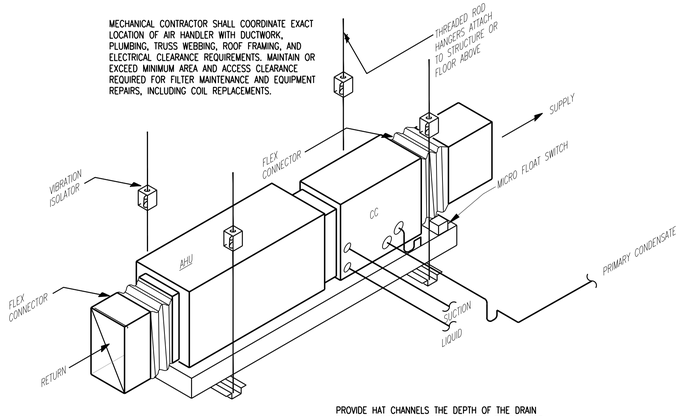
1 / M3 HVAC FLOOR PLAN - SIGN SHOP (BLDG # 2)
1/8"=1'-0"



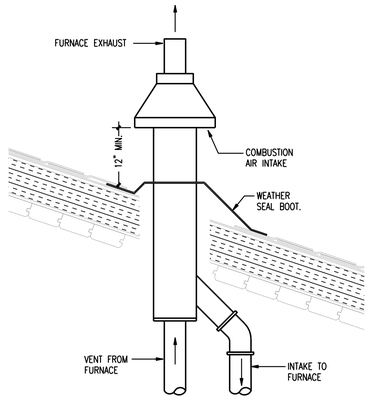
3 / M3 SUPPLY DIFFUSER DETAIL
NOT TO SCALE



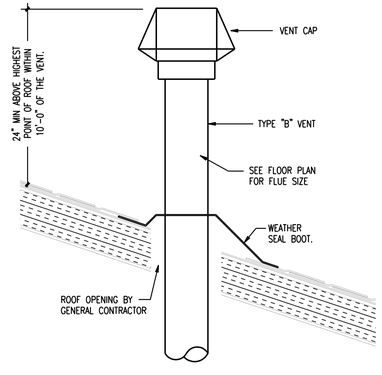
5 / M3 POS. PRESS. P-TRAP DETAIL
NOT TO SCALE



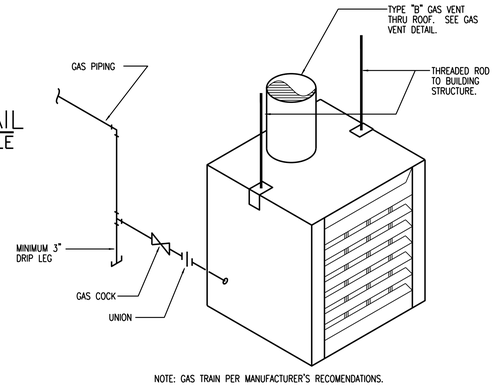
2 / M3 AIR HANDLER UNIT DETAIL
NOT TO SCALE



4 / M3 COMBINATION GAS VENT/INTAKE DETAIL
NOT TO SCALE



6 / M3 GAS VENT THROUGH ROOF DETAIL
NOT TO SCALE



NOTE: GAS TRAIN PER MANUFACTURER'S RECOMENDATIONS.

7 / M3 GAS FIRED UNIT HEATER
NOT TO SCALE

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REVISIONS

BLDG#2 HVAC FLOOR PLAN, SCHEDULES & DETAILS.

DATE: 6/24/26
DRAWN BY: MBS
CHECKED: MBS
JOB NO. 25063
SHEET NO. M3
OF 3

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 19293 7-1-26 ENGINEER MICHAEL B. SPRAGUE

BLACK MOUNTAIN ENGINEERING, P.A. REGISTERED ENGINEERING CORPORATION CERT. NO. C-1553 NORTH CAROLINA GREENSBORO, N.C.

ELECTRICAL SPECIFICATIONS :

1. THE EC SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, AND SERVICES NECESSARY FOR THE PROPER COMPLETION OF ALL ELECTRICAL WORK AS SHOWN ON THE ENTIRE SET OF DRAWINGS AND SPECIFICATIONS. THIS SHALL ALSO INCLUDE, BUT NOT BE LIMITED TO, THE FURNISHING, HANDLING, INSTALLATION, AND FINAL CONNECTION OF ALL REQUIRED COMPONENTS.

THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO INCLUDE EVERY DETAIL OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ACTUAL INSTALLATION WITH THE WORK OF OTHER TRADES AND EXISTING SITE CONDITIONS. FINISH DIMENSIONS SHALL BE TAKEN IN THE FIELD IN LIEU OF SCALING FROM THE PLANS.

THE ENTIRE PROJECT SET OF SPECIFICATIONS AND DRAWINGS ARE COMPLIMENTARY AND ARE TO BE TAKEN TOGETHER FOR A COMPLETE INTERPRETATION OF THE WORK.

2. ALL WORK SHALL MEET OR EXCEED ANY FEDERAL/STATE/COUNTY/LOCAL CODES, AND LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70). WHERE PROVISIONS HEREIN EXCEED CODE REQUIREMENTS, THE EC SHALL PROVIDE THE WORK AS SPECIFIED, UNLESS SPECIFICALLY CLARIFIED BY ADDENDUM. ALL MATERIALS USED IN THIS PROJECT SHALL BE NEW, AND SHALL BE UL LISTED. EXISTING CONDUIT, OF SUITABLE TYPE, SIZE & CONDITION, MAY BE REUSED.

3. A LICENSED CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS, INSPECTIONS, AND FEES. DELIVER ALL CERTIFICATES OF INSPECTION TO THE OWNER.

4. ANY WALL OR FLOOR PENETRATIONS MADE BY THE EC, SHALL BE SEALED TO PROVIDE FIRE-PROOFING AFTER THE REQUIRED CONDUIT/EQUIPMENT HAS BEEN INSTALLED TO MAINTAIN FIRE RATING. FIRE-PROOFING MATERIALS SHALL BE UL LISTED FOR THE TYPE OF PENETRATION. THE ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF SMOKE AND/OR FIRE-RATED WALLS/CEILINGS/PARTITIONS. ALL PENETRATION SEALS SHALL COMPLY WITH THE LATEST EDITION OF THE U.L. FIRE RESISTANCE DIRECTORY. AT NO TIME SHALL A 4 HR. WALL BE PENETRATED WITHOUT THE WRITTEN APPROVAL OF THE LOCAL AHJ.

5. WHERE ELECTRICAL EQUIPMENT PENETRATES EXTERIOR WALLS OR THE ROOF, THEY SHALL BE PROPERLY WATER SEALED IN ACCORDANCE WITH THE SPECIFICATIONS. SUBMIT DETAIL OF PROPOSED WORK.

6. WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, FLOOR OR PARTITION FOR THE PURPOSE OF ROUTING RACEWAY CARRYING ELECTRICAL, VOICE/DATA/A/V OF LOCAL COMMUNICATION AND/OR SIGNACE CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE. COORDINATION W/ THE GC SHALL BE MAINTAINED TO ENSURE THIS FIRE STOPPING IS ACCOMPLISHED. USE APPROVED ASSEMBLIES SUCH AS THE ONES BELOW. ALL PENETRATION SEALS SHALL COMPLY WITH THE LATEST EDITION OF THE U.L. FIRE RESISTANCE DIRECTORY.
   - CONDUIT PENETRATIONS OF 1, 2, 3 & 4 HOUR GYPSUM BOARD WALLS – U.L. #W-L-1001
   - CONDUIT PENETRATIONS OF 2, 3 & 4 HOUR CONCRETE OR BLOCK WALLS – U.L. #C-AJ-1001
   - CONDUIT PENETRATIONS OF 2, 3 & 4 HOUR CONCRETE FLOORS – U.L. #C-AJ-1001
   - CONDUIT PENETRATIONS OF 1 HOUR GYPSUM BOARD CEILING ASSEMBLY – U.L. #L526
   - MULT. CONDUIT PENETRATIONS OF 2, 3 & 4 HOUR CONCRETE OR BLOCK WALL OR FLOOR – UL #C-AJ-1042

7. UON, ALL WIRE SHALL BE PROPERLY PHASE & COLOR CODED AND SHALL BE COPPER, TYPE THHN (INTERIOR) OR THWN-2/XHHW-2 (EXTERIOR), RATED 600 VOLTS, 90°C, SIZE #12 (MINIMUM). UON, ALUMINUM WIRING MAY NOT BE USED. ALL WIRE #8 AND LARGER SHALL BE STRANDED. UNLESS DERATING FACTORS ARE APPLIED AND WIRING IS SIZED ACCORDINGLY, MAX (3) CURRENT CARRYING CONDUCTORS PLUS GROUND IN ANY ONE CONDUIT. (REFER TO NOTE 23 BELOW FOR FURTHER INFORMATION). MULTI-PHASE CONDUCTORS SHALL BE CONNECTED TO CONSECUTIVE ODD OR CONSECUTIVE EVEN-NUMBERED CIRCUIT BREAKERS. ALL WIRING ABOVE PLENUM RATED CEILINGS SHALL BE SUITABLE FOR PLENUM USAGE (I.E. PLENUM RATED CABLE).

8. THE FOLLOWING RACEWAY TYPES (1/2" MINIMUM) ARE ACCEPTABLE FOR USE IAW THEIR APPLICABLE ARTICLES OF THE NEC:

RGS, IMC, PVC	:	OUTDOOR AREAS
PVC	:	IN OR BELOW CONCRETE
PVC, EMT, ENT	:	IN CONCRETE ABOVE GRADE
EMT, MC	:	IN HOLLOW WALL SPACES AND/OR ABOVE CEILINGS
EMT, MC	:	SURFACE MOUNTED WHERE EXPOSED
MC LUMINARY	:	MC CABLE W/ POWER & LV WIRING FOR 0-10V DIMMING

MC CABLE MAY BE USED IN DEVICE WIRING WHERE INSTALLED IN A WORKMANLIKE MANNER AND PARALLEL / PERPENDICULAR TO BUILDING LINES. MC CABLE SHALL NOT BE USED FOR HOMERUNS OR IN EXPOSED AREAS. MC CABLE SHALL HAVE FULL SIZED GROUND. EC SHALL OBSERVE BEND RADIUS AND SUPPORT REQUIREMENTS. USE CONDUIT SEAL-OFFS IN CLASSIFIED AREAS. USE EXPANSION FITTINGS WHEN CROSSING EXPANSION JOINTS.

9. CONDUCTORS FOR BRANCH CIRCUITS SHALL BE SIZED TO PREVENT A VOLTAGE DROP EXCEEDING THREE PERCENT (3%) AT THE FARTHEST OUTLET OF POWER HEATING AND LIGHTING LOADS, OR ANY COMBINATION OF SUCH LOADS. THE MAXIMUM TOTAL VOLTAGE DROP ON BOTH FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST OUTLET SHALL NOT EXCEED FIVE PERCENT (5%). (TYPICAL) WHERE THE CONDUCTOR LENGTH FROM THE PANEL TO THE FIRST DEVICE ON A 277V CIRCUIT EXCEEDS 125 FT, THE BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST DEVICE SHALL NOT BE SMALLER THAN #10 AWG. WHERE THE CONDUCTOR LENGTH FROM THE PANEL TO THE FIRST DEVICE ON A 120V CIRCUIT EXCEEDS 50 FEET, THE BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST DEVICE SHALL NOT BE SMALLER THAN #10 AWG.

10. MOUNTING HEIGHTS OF ALL ELECTRICAL DEVICES SHALL BE COORDINATED/VERIFIED WITH ARCHITECTURAL ELEVATIONS, PTRI. GROUPS OF DEVICES, IN THE SAME GENERAL AREA, SHALL BE INSTALLED TOGETHER AND ALIGNED AT THEIR APPROPRIATE MOUNTING HEIGHTS, UON BY SPECIFIC DRAWING ANNOTATIONS.

11. LOCATIONS OF MECHANICAL EQUIPMENT ARE APPROXIMATE. THE ELECTRICAL AND MECHANICAL CONTRACTORS SHALL VERIFY AND COORDINATE EXACT LOCATIONS/INSTALLATION OF ALL EQUIPMENT. VERIFY ELECTRICAL REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR, PTRI.

12. ALL FINAL CONNECTIONS BETWEEN MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE MADE USING AN 18" TO 36" SECTION OF FLEXIBLE CONDUIT, GREENFIELD FOR INDOORS, LIQUID-TIGHT FOR OUTDOORS. USE INSULATED THROAT, MACHINED STEEL TO 1" SIZE AND MALLEABLE IRON ON LARGER SIZES.

13. WIRING DEVICES SHALL BE THREE-WIRE, SPECIFICATION GRADE, 20A MINIMUM, DUAL VOLTAGE SWITCHES, DUPLEX RECEPTACLES AND GROUND-FAULT CIRCUIT INTERRUPTING RECEPTACLES. PROVIDE COVER PLATES (FINISH DETERMINED BY OWNER/ARCHITECT) FOR FINISHED AREAS. PROVIDE GASKETED WEATHERPROOF COVER PLATES FOR EXTERIOR AREAS. COVER PLATES SHALL BE INSTALLED ON ALL SWITCHES, DUPLEX RECEPTACLES, TELEPHONE AND OTHER OUTLETS. WIRING DEVICES SHALL MATCH IN COLOR AND MANUFACTURER. SPECIAL DEVICES SHALL BE PROVIDED AS INDICATED ON DRAWINGS.

14. SEPARATE ELECTRICAL OUTLETS ON OPPOSITE SIDES OF 1 OR 2 HOUR RATED WALLS A MINIMUM OF 24" HORIZONTALLY.

15. ALL SWITCHGEAR AND ELECTRICAL EQUIPMENT SHALL MATCH IN BRAND NAME, AND SHALL BE BY ONE OF THE FOLLOWING MANUFACTURERS, OR FUNCTIONAL EQUIVALENT: (THE LISTING IS ALPHABETICAL, AND DOES NOT INDICATE ANY PREFERENCE.)

A. SCHNEIDER (SqD) B. GENERAL ELECTRIC
C. SIEMENS D. EATON (CUTLER HAMMER)

ALL EQUIPMENT SHALL BE LABELED WITH THE BRAND NAME AS SHOWN ABOVE. PROVIDE MAX FAULT CURRENT LABEL FOR SERVICE EQUIPMENT IAW NEC 110.24(A).

16. DISCONNECTS SHALL BE 3P4W SOLID NEUTRAL FOR THREE-PHASE AND 2P3W SOLID NEUTRAL FOR SINGLE-PHASE. WHERE A NEUTRAL WIRE IS NOT PRESENT, BOND THE NEUTRAL TO GROUND AND USE THE NEUTRAL BAR AS A GROUND BAR. FUSE TYPE AND AMPACITY ARE AS DENOTED ON DRAWINGS.

17. TERMINATIONS (LUGS, TERMINAL BLOCKS, ETC.) IN DISCONNECT SWITCHES, CIRCUIT BREAKERS, SWITCHGEAR, LIGHTING CONTACTORS, ETC. SHALL BE RATED FOR 75°C, MINIMUM. IF EQUIPMENT TERMINATIONS SUCH AS A/C UNITS, HEAT PUMPS, WATER HEATERS, ETC. ARE RATED AT 60°C ONLY (NOT DUAL RATED 60°/75°), THEN THE CONDUCTORS SHALL BE DERATED AND USED IN ACCORDANCE WITH NEC TABLE 310.15(B)(16) AND SIZED IN ACCORDANCE WITH THE 60°C COLUMN RATINGS.

18. ALL FUSES SHALL BE INSTALLED RIGHT-SIDE UP, AND WITH THE AMPERAGE LABEL FACING OUTWARD. FUSES OUTDOORS SHALL BE INSTALLED USING OXIDATION INHIBITING COMPOUND (PENETROX OR EQUAL) IN THE FUSEHOLDERS.

19. PANELBOARDS SHALL BE AS SPECIFIED IN PANEL SCHEDULES AND PROVIDED W/ TYPEWRITTEN DIRECTORIES. LABEL FACEPLATES OF ALL RECEPTACLES AND DEVICES WITH CIRCUIT #.

20. ALL PANELS, DISCONNECT SWITCHES, CONTACTORS, STARTERS, TIMERS, SHALL BE PERMANENTLY LABELED. ALL LABELS SHALL INDICATE THE DEVICE NAME OR FUNCTION ON THE FIRST LINE, AND VOLTAGE AND PHASING ON THE SECOND LINE. EXAMPLE: PANEL A
208Y/120V, 3Ø, 4W

THE LABELS SHALL BE SIZED APPROPRIATELY FOR THE REQUIRED LETTERING. SECURE LABELS TO FRONT COVER. JUNCTION BOX COVERS SHALL BE LABELED WITH PERMANENT MARKER.

21. ALL CONNECTIONS OUTDOORS SHALL BE MADE USING OXIDATION INHIBITING COMPOUND, PENETROX OR EQUAL. THIS INCLUDES POWER AND GROUNDING CONNECTIONS INSIDE PANELS, WIRING TROUGHS, BOXES, DISCONNECT SWITCHES AND OTHER SWITCHGEAR, ELECTRICAL AND MECHANICAL EQUIPMENT, AND LIGHTING FIXTURE POLES (BUT NOT THE ACTUAL LIGHTING FIXTURES).

22. FOR MULTIPLE-GANG BOXES WITH CIRCUITS OF DIFFERING VOLTAGES (I.E., 120V AND 277V) OR SYSTEMS WHICH ARE REQUIRED BY CODE TO BE SEPARATED, PROVIDE THE CODE-REQUIRED SEPARATION USING A FULL HEIGHT AND DEPTH, METALLIC BARRIER PLATE.

23. ALL CONDUCTOR & CONDUIT SIZES ARE CALCULATED BASED ON INSTALLATION OF NO MORE THAN (3) CURRENT CARRYING CONDUCTORS PER CONDUIT, NEUTRAL(S) INCLUDED. UON, CONTRACTOR SHALL NOT INSTALL MORE THAN (3) CURRENT CARRYING CONDUCTORS PER CONDUIT W/ THE FOLLOWING EXCEPTION: UP TO (9) CURRENT CARRYING CONDUCTORS, NEUTRALS INCLUDED, MAY BE USED IN A SINGLE RACEWAY WHERE PERMITTED BY NEC 310.15(C) WHEN MINIMUM #12 AWG (THWN 90°C) IS USED & WHEN ALL INCLUDED CIRCUITS ARE PROTECTED UPSTREAM BY 20A OVERCURRENT PROTECTION DEVICES & NO OTHER DERATING CONDITIONS EXIST. ADJUST CONDUIT SIZE, AS NECESSARY, FOR MAX 40% FILL.

24. MULTIWIRE BRANCH CIRCUITS SHALL HAVE A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUITS ORIGINATE. SIMULTANEOUS DISCONNECTING OF ALL UNGROUNDED CONDUCTORS CAN BE BY EITHER USE OF A MULTI-POLE CIRCUIT BREAKER OR MULTIPLE SINGLE-POLE BREAKERS WITH A COMMON MULTI-TRIP HANDLE TIE.

25. LOCATIONS OF LIGHTING FIXTURES SHALL BE COORDINATED WITH THE REFLECTED CEILING PLAN AND WITH WORK OF OTHER TRADES TO AVOID CONFLICT. THE EC SHALL VERIFY ALL CEILING TYPES AND FINISHES BEFORE PURCHASE OF ANY LIGHT FIXTURES SO THE PROPER TRIM AND MOUNTING HARDWARE WILL BE PROVIDED FOR THE CEILING TO BE INSTALLED.

26. EC TO COORDINATE WITH OTHER TRADES BEFORE ORDERING CONDUCTORS, FUSES, DISCONNECTS, CONDUIT, CIRCUIT BREAKERS, ETC. TO ENSURE COMPLIANCE WITH THE ACTUAL EQUIPMENT BEING INSTALLED. IF ANY PIECE OF EQUIPMENT IS PROVIDED WHICH IS DIFFERENT FROM WHAT WAS SPECIFIED, AND CAUSES A CHANGE IN THE ELECTRICAL CONTRACT, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR SUPPLYING THE EQUIPMENT TO COMPENSATE THE EC FOR THESE CHANGES.

27. TELEPHONE AND DATA SYSTEMS: EC TO PROVIDE A (UON) 3/4" EMPTY CONDUIT W/ NON-CORROSIVE PULLSTRING, BOXES AND PLATES WHERE SHOWN ON DRAWINGS. CONDUIT TO BE STUBBED AND BUSHED INTO CEILING SPACE OR TO THE NEAREST ACCESSIBLE AREA.

28. NO FIRE ALARM DESIGN. ANY FIRE ALARM DESIGN (EITHER REQUESTED BY OWNER OR REQUIRED BY LOCAL AHJ) SHALL BE BY OTHERS. DESIGN FOR COMBINATION SECURITY/FIRE ALARM SYSTEMS SHALL BE BY SYSTEM SUPPLIER (AS REQ'D) AND ARE NOT A PART OF THESE DRAWINGS.

ABBREVIATIONS

AC	ABOVE COUNTER/CABINET	LTS	LIGHTS
AFF	ABOVE FINISHED FLOOR	LF	LINEAR FEET
AFG	ABOVE FINISHED GRADE	LV	LOW-VOLTAGE
AHJ	AUTHORITY HAVING JURISDICTION	MC	MECHANICAL CONTRACTOR
BFG	BELOW FINISHED GRADE	NF	NON-FUSED
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CM	CEILING MOUNTED	OS	OCCUPANCY SENSOR
CKT	CIRCUIT	PC	PHOTOCELL OR PLUMBING CONTRACTOR
DE	DUAL ELEMENT, TIME DELAY FUSE	PROVIDE	FURNISH & INSTALL
EC	ELECTRICAL CONTRACTOR OR EMPTY CONDUIT	PTO	PRIOR TO ORDER/PURCHASE
FM	FLOOR MOUNTED	PTRI	PRIOR TO ROUGH-IN
FPN	FUSE PER NAMEPLATE	RCPT	RECEPTACLE
G, GFI	GROUND FAULT INTERRUPTING DEVICE	TC	TIMECLOCK
GC	GENERAL CONTRACTOR	UC	UNDER COUNTER/CABINET
GEC	GROUNDING ELECTRODE CONDUCTOR	UON	UNLESS OTHERWISE NOTED
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR	V/D/A/V	VOICE/DATA/AUDIO VISUAL
HACR	HEATING, AIR CONDITONING & REFRIGERATION	VS	VACANCY SENSOR
HVAC	HEATING, VENTILATION & AIR CONDITIONING	WM	WALL MOUNTED
IAW	IN ACCORDANCE WITH	WP	WEATHERPROOF
Ifc	FAULT CURRENT		
Ifca	FAULT CURRENT AVAILABLE		

CIRCUITING LEGEND

HOMERUNS TO PANELBOARDS ARE SHOWN AS POLES RATHER THAN CIRCUITS. SIMILARLY, PANEL SCHEDULES LIST POLES RATHER THAN CIRCUITS, BUT INDICATE WHICH POLES ARE COMMON TRIP, THEREBY FORMING (2) & (3) POLE CIRCUITS. HOMERUN DESIGNATIONS DENOTE PANELBOARD & POLES WHICH PHASE WIRES ARE TO BE CONNECTED. NUMBER OF ARROWS DENOTE THE NUMBER OF CIRCUITS INVOLVED. WIRE "TICK" MARKS ARE SHOWN ONLY WHEN THE # OF POLES EXCEED THE # OF CIRCUITS AND INDICATE THE NUMBER OF WIRES.

TICK MARK NOMENCLATURE: SHORT TICK MARK–PHASE CONDUCTOR
LONGER TICK MARK–NEUTRAL CONDUCTOR

FOR EXAMPLE:

SYMBOL		# POLES	# CKTS	PHASE WIRES	NEUTRAL
——→——	A-1	1	1	1	1
——→→——	A-1,3	2	1	2	0
——→→——	A-1,3	2	1	2	1
——→→→——	A-1,3,5	3	1	3	0
——→→→——	A-1,3,5	3	1	3	1
——→→——	A-1,3	2	2	2	2
——→→→——	A-1,3,5	3	3	3	3

FEEDERS

(X) – DENOTES QUANTITY OF CONDUITS & CONDUCTORS IN PARALLEL. SEE NEC 250.102, 250.122, 300.20, 310.10 FOR SPECIAL REQUIREMENTS.
EXAMPLE: (X)3#1/0,#1/GN,#2G,1-1/2"C – DENOTES (X) 1-1/2" CONDUITS, EACH WITH (3)#1/0 PHASE CONDUCTORS, (1)#1/0 NEUTRAL, AND (1)#2 GROUNDING CONDUCTOR.

EQUIPMENT GROUNDING CONDUCTORS (EGC)

EGC's ARE NOT GENERALLY SHOWN ON CIRCUITING PLANS BUT SHALL BE PROVIDED IN THE SIZES SPECIFIED IN NEC TABLE 250-122 ON ALL CIRCUITS.

SWITCH SCHEDULE

SYMBOL	DESCRIPTION
	CM DUAL-TECH OS W/ POWER PACK (AS REQ'D). 2000sf COVERAGE, 360° DETECTION. (TYP) CURRENT HLI: NXSMDT-OMNI OR APPROVED EQUAL.
$D	WM PRESET SLIDE DIMMER SWITCH. 0-10V. SINGLE / 3-WAY. SUITABLE FOR USE W/ LOAD SERVED. (TYP) 120/277V, 10A. (TYP) CURRENT HLI: PSD710-UNV OR APPROVED EQUAL.
$	TOGGLE SWITCH W/ COVERPLATE (120/277VAC, 20A), UON. BLANK – SINGLE POLE SWITCH 2 – DOUBLE POLE, SINGLE THROW SWITCH. 3 – THREE WAY SWITCH 4 – FOUR WAY SWITCH B – BLANK SWITCH PLATE. THRU-WIRE FOR CONTINUOUS LTG. P – SINGLE POLE PILOT LIGHT SWITCH "ON". 3P – 3-WAY PILOT LIGHT SWITCH "ON". M – MOTOR RATED SWITCH. FAN – WM FAN CONTROL SWITCH WP – WEATHERPROOF SINGLE POLE SWITCH
$OS	WM DUAL-TECH OS/VS. SINGLE RELAY. 180', 1000sf COVERAGE. (TYP) CURRENT HLI: LHRMTS1 OR APPROVED EQUAL.

NOTES:
1. FOR ALL DEVICES, COORDINATE DEVICE & PLATE FINISH W/ OWNER PTO.
2. WHERE LIGHTING GROUPS ARE DESIGNATED (denoted by lowercase a, b, c, etc.), DIMMER/SWITCH TO CONTROL THAT LIGHTING GROUP ONLY.

VOICE/DATA/SEC SCHEDULE

SYMBOL	DESCRIPTION
	ACCESS CONTROL DEVICE: COORDINATE LOCATION. PROVIDE 1-GANG JBOX W/ COVER PLATE FOR DEVICE MOUNTING. PROVIDE (MIN) 1/2" EC (W/ PULLSTRING), STUBBED & BUSHED ABOVE ACCESSIBLE CEILING. DEVICE, SYSTEM & WIRING BY OWNER'S CONTRACTOR TO PROVIDE A FULLY FUNCTIONAL SYSTEM INSTALLATION.
	WM PUSHBUTTON DEVICE FOR REMOTE DOOR RELEASE: COORDINATE LOCATION. PROVIDE 1-GANG JBOX W/ COVER PLATE FOR PUSHBUITON. PROVIDE (MIN) 1/2" EC (W/PULLSTRING), STUBBED & BUSHED ABOVE ACCESSIBLE CEILING. PUSHBUTTON, DOOR RELEASE & WIRING BY OWNER'S CONTRACTOR TO PROVIDE A FULLY FUNCTIONAL SYSTEM INSTALLATION.
CAM	WM/CM SEC. CAMERA: COORDINATE LOCATION. PROVIDE 1-GANG JBOX W/ COVER PLATE FOR CAMERA MOUNTING. PROVIDE (MIN) 1/2" EC (W/PULLSTRING), STUBBED & BUSHED ABOVE ACCESSIBLE CEILING. CAMERA, SYSTEM & WIRING BY OWNER'S CONTRACTOR TO PROVIDE A FULLY FUNCTIONAL SYSTEM INSTALLATION.
V	DATA/VOICE OUTLET. 4" SQ. BOX W/ SINGLE GANG PLASTER RING, PULLSTRING & (MIN) 3/4" EMPTY CONDUIT STUBBED & BUSHED ABOVE DROP CEILING OR TO NEAREST ACCESSIBLE AREA.
V	(AC) DATA/VOICE OUTLET. 4" SQ. BOX W/ SINGLE GANG PLASTER RING, PULLSTRING & (MIN) 3/4" EMPTY CONDUIT STUBBED & BUSHED ABOVE DROP CEILING OR TO NEAREST ACCESSIBLE AREA.

NOTES:
1. DEVICES DENOTED W/ DIMENSIONS AFF (I.E. +42") ARE TO CENTER OF JBOX.
   - UON, INSTALL DEVICE +18"
   - UON, AC DEVICES +4" ABOVE BACKSPLASH.
2. FOR ALL DEVICES, COORDINATE DEVICE & PLATE FINISH W/ OWNER PTO.

GENERAL LIGHTING NOTES (ALL SHEETS):

- LIGHTING FIXTURES & LAMP SPECIFICATIONS SHALL BE IAW LUMINAIRE SCHEDULE, OR EQUAL, TO ENSURE COMPLIANCE W/ STATE ENERGY CODE.
- EC TO COORDINATE EXACT LOCATIONS OF ALL LIGHT SWITCHES W/ TENANT/OWNER, PTRI.
- CONNECT NIGHTLIGHTS (DENOTED BY DIAGONAL SHADING), EXIT SIGNS, EM LTS, UNSWITCHED (I.E. AHEAD OF ANY/ALL LIGHTING CONTROL), TO CKT SPEC'D OR (IF NO CKT SPEC'D) TO LOCAL LIGHTING CKT IN AREA SERVED. AIM EM LTS TO ILLUMINATE PATH OF EGRESS. DEDICATED CIRCUITS ARE NOT ACCEPTABLE FOR EXIT/EM LTS UNLESS THEY MEET NEC 700.12(I).
- WHERE INSTALLED, TOILET LIGHT'S/EF'S TO BE CONNECTED & CONTROLLED VIA LIGHT SWITCH.
- ALL DEVICE(S) & FACEPLATE(S) (BOTH POWER & LIGHTING) FINISHES SHALL BE COORDINATED W/ OWNER/ARCHITECT PRIOR TO ORDER. (TYP: MATCH EXISTING IN LOCAL AREA).

RECEPTACLE SCHEDULE

SYMBOL	DESCRIPTION
	CM DUPLEX RCPT. SUPPORT (VIA THREADED ROD) TO STRUCTURE ABOVE.
	DUPLEX RECEPTACLE.
	(AC) DUPLEX RECEPTACLE. COORDINATE W/ MILLWORK.
	DOUBLE DUPLEX (QUAD) RECEPTACLE.

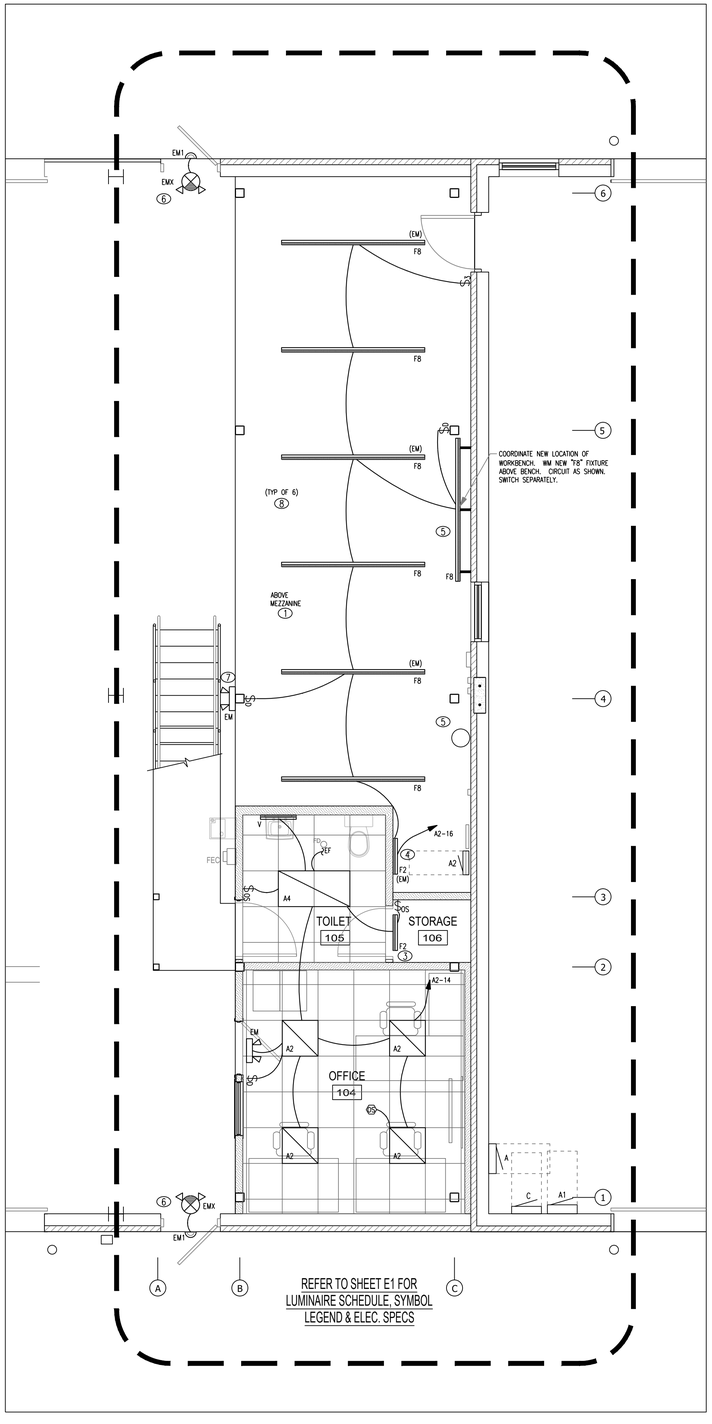
NOTES:
1. RECEPTACLES/DEVICES DENOTED W/ DIMENSIONS AFF (I.E. +42") ARE TO CENTER OF JBOX.
   - UON, INSTALL RCPT/DEVICE +18"
   - UON, AC DEVICES +4" ABOVE BACKSPLASH.
2. DEVICES DENOTED W/ "G" or "GFI" DENOTES GFCI PROTECTED. "WP" DENOTES WEATHERPROOF.
3. FOR ALL DEVICES, COORDINATE DEVICE & PLATE FINISH W/ OWNER PTO.

GENERAL POWER NOTES (ALL SHEETS):

- EC TO COORDINATE ALL OUTLET & EQUIPMENT LOCATIONS, MOUNTING HEIGHTS & EQUIPMENT ELECTRICAL REQUIREMENTS, PTRI OR ORDERING OF DISTRIBUTION EQUIPMENT. COORDINATE INSTALLATION OF OUTLETS W/ MILLWORK.
- EC TO VERIFY ALL LOADS, CONNECTIONS & OVERCURRENT PROTECTION DEVICES PRIOR TO INSTALLATION.
- EC TO PROVIDE GFCI PROTECTION FOR PERSONNEL. IN PARTICULAR, IN THE FOLLOWING AREAS:
  - 210.8(B)(2) – ALL OUTLETS (AS SPEC'D BY CODE) INSTALLED IN KITCHEN
  - 210.8(B)(5) – ALL OUTLETS (AS SPEC'D BY CODE) W/I 6' OF OUTSIDE EDGE OF A SINK
  - 422.5(2) – ELECTRIC WATER COOLERS. INSTALL RECEPTACLE BELOW FOUNTAIN, NOT BEHIND COOLER COVER PLATE.
  - 422.5(5) – CORD-AND-PLUG CONNECTED VENDING MACHINES
- ALL DEVICE(S) & FACEPLATE(S) (BOTH POWER & LIGHTING) FINISHES SHALL BE COORDINATED W/ OWNER/ARCHITECT PRIOR TO ORDER. (TYP: MATCH EXISTING IN LOCAL AREA).
- WHERE UC RECEPTACLES/DEVICES ARE SHOWN, PROVIDE GROMMETED OPENINGS IN CASEWORK FOR EASE OF ROUTING CABLING.
- EC TO COORDINATE W/ MC & PC FOR EXACT LOCATIONS & POWER REQT'S FOR ALL HVAC AND/OR PLUMBING EQUIPMENT.
- WHERE QUAD GFI RCPT'S ARE SPEC'D & NOT GFI PROTECTED BY ANOTHER MEANS, PROVIDE A GFI RCPT IN 2-GANG BOX & WIRE THE 2ND RCPT IN THE SAME BOX & ADDT'L RCPTS DOWNSTREAM FOR GFI PROTECTION BY UPSTREAM GFI RCPT.

LED LUMINAIRE SCHEDULE (INCLUDES FIXTURES FOR BOTH BLDGS) (EQUALS BY CURRENT HLI. PHILIPS. NO OTHERS APPROVED)

ID	SYMBOL	MANUF.	MODEL	LAMP	MOUNT	VA	DESCRIPTION (1)	VOLTS	BLDG
A2		ORACLE	22-FPL-BL-LED-2000L/3000L/4000L-DIM10-MVOLT-35K/40K/50K-85	LED 3,000 LMS	RECESSED	28	2X2 BACKLIT LED FLAT PANEL. 110° BEAM ANGLE. SELECTABLE LUMENS (2000/3000/4000 LMS) & CCT (35/40/50K). 85+CRI. 0-10V DIMMING TO 10%. DAMP LABEL. (EM): WHERE DENOTED, FURNISH W/ 10W BODINE BSL310 BATTERY B/U, FACTORY INSTALLED.	MULTIPLE	OFF/SHOP
A4		ORACLE	24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85	LED 4,000 LMS	RECESSED	39	2X4 BACKLIT LED FLAT PANEL. 110° BEAM ANGLE. SELECTABLE LUMENS (3000/4000/5000 LMS) & CCT (35/40/50K). 85+CRI. 0-10V DIMMING TO 10%. DAMP LABEL. (EM): WHERE DENOTED, FURNISH W/ 10W BODINE BSL310 BATTERY B/U, FACTORY INSTALLED.	120	OFF/SHOP NEW STOR
EM		ISOLITE	BUG-3W-WH-MB-SD	LED	WALL/CEILING	3	LED THERMOPLASTIC EMER. LIGHT. LITHIUM IRON PHOSPHATE BATTERY. (2) 3W LED HEADS. WHITE. SELF DIAGNOSTICS. DAMP RATED. AIM TO ILLUMINATE PATH OF EGRESS.	MULTIPLE	OFF/SHOP NEW STOR
EM1		ISOLITE	ELED-EM-BZ-MB-HX	LED	SURFACE	20	LOW-PROFILE EXT. LED EM LT. DIE-CAST HOUSING W/ POLYCARBONATE LENS, DK BRONZE. "AC" MODE FOR EGRESS LTG & "EM" MODE FOR EMER, EGRESS LTG VIA INTEGRAL NI-CAD BATTERY. 5000'K. SELF DIAGNOSTICS. PC STD. INTERNAL HTR. WET RATED. UON, MOUNT ABOVE EXT. DOOR FRAME. COORDINATE HEIGHT.	120	OFF/SHOP NEW STOR
EMX		ISOLITE	RLP-R-U-WH-MTEB-SD	LED/LED	WALL/CEILING	3	THERMOPLASTIC COMBO (LED EX / EM) UNIT. (2) NICAD BATTERIES. INTEGRAL LED LIGHT PIPE. WHITE W/ RED LETTERS. UNIVERSAL MOUNT. REMOTE CAPACITY. SELF DIAGNOSTICS. ADJUST CHEVRONS AS DESIGNATED. DAMP RATED. AIM TO ILLUMINATE PATH OF EGRESS.	MULTIPLE	OFF/SHOP NEW STOR
F2		ORACLE	2-OEC-LED-2000L/3000L/4000L-DIM10-MVOLT-35K/40K/50K-85-WG	LED 3,000 LMS	WALL	21	2' WM/CM LED STRIP. FROSTED ACRYLIC LENS. SELECTABLE LUMENS (2000/3000/4000 LMS) & CCT (35/40/50K). 85+CRI. 0-10V DIMMING TO 10%. DAMP LABEL. ALUMINUM WIREGARD, WM (TYP) +84" AFF. (EM): WHERE DENOTED, 10W EM. BATT. BACKUP, FACTORY INSTALLED.	MULTIPLE	OFF/SHOP
F8		ORACLE	8-OEC-LED-6000L/8000L/10000L-DIM10-MVOLT-35K/40K/50K-85 WIREGUARD: 4-OCN-T8-WG-AL	LED 8,000 LMS	WALL/CEILING	60	8' WM/CM LED STRIP. FROSTED ACRYLIC LENS. SELECTABLE LUMENS (6000/8000/10000 LMS) & CCT (35/40/50K). 85+CRI. 0-10V DIMMING TO 10%. DAMP LABEL. ALUMINUM WIREGUARD. (EM): WHERE DENOTED, 10W EM. BATT. BACKUP, FACTORY INSTALLED.	MULTIPLE	OFF/SHOP
H4		ORACLE	CB2-LED-14000L/18000L/26000/-DIM10-MVOLT-WD-40K/50K-85 OPTIONS: WHCH-SD5	LED 18,000 LMS	CHAIN HUNG	105	4' LED HIGH BAY. WM/CM LED STRIP. FROSTED POLYCARBONATE LENS. WIDE OPTICS. SELECTABLE LUMENS (14000/18000/26000 LMS) & CCT (40/50K). 85+CRI. 0-10V DIMMING TO 5%. DAMP LABEL. V-HOOK W/ CHAIN KIT & 12' (5 COND) POWER CORD.	120	NEW STOR
H4E		ORACLE	CB2-LED-14000L/18000L/26000/-DIM10-MVOLT-WD-40K/50K-85-EMG-LED-25W-HV OPTIONS: WHCH-SD6	LED 18,000 LMS	CHAIN HUNG	105	SAME AS TYPE "H4", EXCEPT W/ 25W EM. BATT. BACKUP, FACTORY INSTALLED & V-HOOK W/ CHAIN KIT & 12' (6 COND) POWER CORD.	120	NEW STOR
V		ORACLE	2-OVL-LED-2000L-DIM10-MVOLT-30K/40K/50K-90	(1) LED 2,000 LMS	WALL	26	2' LED LINEAR VANITY LIGHT. FROSTED GLASS SHADE. PMMA DIFFUSER. SELECTABLE CCT (30/40/50K). 90CRI. 0-10V DIMMING TO 1%. DAMP RATED. COORDINATE WM HEIGHT/LOCATION (AFF), PTRI.	MULTIPLE	OFF/SHOP
WP5		ORACLE	OWP-FC-211-LED-4000/6000/8000/10000L-DIM10-MVOLT-30K/40K/50K-BZ	LED 6,000 LMS	WALL	42	M



SHOP AREA RENOVATION

1 / E2 LIGHTING PLAN

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

ELECTRICAL SUMMARY

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: SEE LUM. SCHED. (THIS SHEET)
- Number of lamps in fixture: SEE LUM. SCHED. (THIS SHEET)
- Ballast type used in fixture: SEE LUM. SCHED. (THIS SHEET)
- Number of ballasts in fixture: SEE LUM. SCHED. (THIS SHEET)
- Total wattage per fixture: SEE LUM. SCHED. (THIS SHEET)
- Total interior wattage specified vs. allowed: 830W vs 1,244W
- Total exterior wattage specified vs. allowed: N/A

Additional Prescriptive Compliance

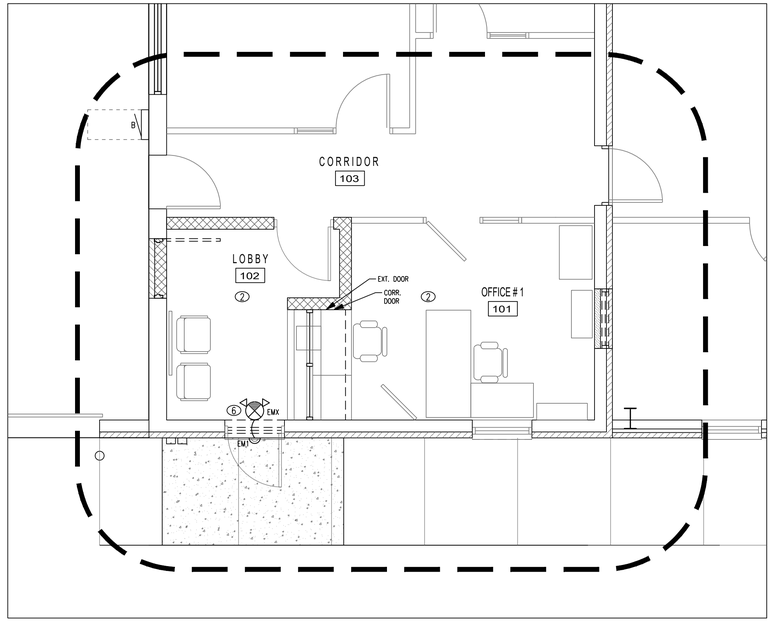
- ☐ C406.2 More efficient HVAC equipment performance
- ■ C406.3 Reduced Lighting Power Density
- ☐ C406.4 Enhanced digital lighting controls
- ☐ C406.5 On-site renewable energy
- ☐ C406.6 Dedicated outdoor air system
- ☐ C406.7 Reduced energy use in service water heating

REFERENCED LIGHTING NOTES (OFFICE/SHOP BLDG RENOVATIONS):

- REFER TO GENERAL LIGHTING NOTES (SHEET E1) FOR FURTHER INFORMATION.
- NO SITE LIGHTING DESIGN. ANY PROJECT SITE LIGHTING SHALL BE BY OTHERS.
- WHERE DIMMERS ARE SHOWN FOR LIGHTING CONTROL, PROVIDE DIMMER COMPATIBLE W/ LOAD BEING SERVED. WHERE 0-10V DIMMING IS REQ'D, PROVIDE PURPLE/PINK WIRING.
- WHERE FIXTURES HAVE INTEGRAL BATTERY BACKUP, PROVIDE AN UNSWITCHED CIRCUIT (I.E. AHEAD OF ANY CONTROLS) TO FIXTURE TO MAINTAIN BATTERY CHARGE.
- LUMINARES ARE SPECIFIED W/ (DEFAULT) SETTINGS. (SEE LUMINAIRE SCHEDULE, SHEET E1). ADJUST LUMINAIRE SETTINGS UP/DOWN, IAW OWNER PREFERENCE. DIMMERS ARE TYPICALLY INCLUDED TO PROVIDE INCREASED CONTROL OF LIGHTING LEVELS.

1. NO LIGHTING REVISIONS ABOVE MEZZANINE. EXISTING OVERHEAD LIGHTING IS CONSIDERED SUFFICIENT AND IS TO REMAIN AS-IS.
2. NO NEW LIGHTING IN OFFICE 101 & LOBBY 102 CONSTRUCTION AREA. AS NECESSARY, RELOCATE LIGHTING IN SAME AREA TO ACCOMMODATE NEW CONSTRUCTION.
3. WM FIXTURE ABOVE DOOR.
4. WM ACROSS FROM EXISTING PANEL.
5. REMOVE WM LINEAR STRIPS ABOVE EXISTING SHOP BENCH. RELOCATE INSTALLATION ABOVE NEW BENCH LOCATION. COORDINATE NEW LOCATION, PTRI. PROVIDE A NEW TYPE "F8" LED FIXTURE AND CONNECT (UNSWITCHED) TO NEW "F8" LIGHTING BENEATH MEZZANINE. SWITCH SEPARATELY. DISPOSE OF EXISTING FLUORESCENT STRIPS IAW OWNER DIRECTION.
6. PROVIDE NEW TYPES "EMX" & "EM1" FIXTURES AT EGRESS DOORS. CONNECT (UNSWITCHED) TO EXISTING OVERHEAD LIGHTING CIRCUIT(S) IN LOCAL AREA.
7. ADD EMERGENCY LIGHT TO ILLUMINATE STAIRS COMING DOWN FROM MEZZANINE. CONNECT (UNSWITCHED) TO OVERHEAD LTG CKT IN LOCAL AREA.
8. TYPE "F8" FIXTURES TO BE MOUNTED TIGHT TO OVERHEAD MEZZANINE & CENTERED BETWEEN MEZZANINE FLOOR JOISTS. LOCATIONS SHOWN ARE NOTIONAL. DO NOT SCALE. COORDINATE W/ ACTUAL CONDITIONS OF INSTALLATION.

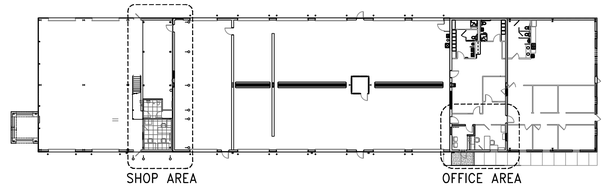
REFER TO SHEET E1 FOR LUMINAIRE SCHEDULE, SYMBOL LEGEND & ELEC. SPECS



OFFICE AREA RENOVATION

1 / E2 LIGHTING PLAN

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



OFFICE/SHOP BLDG RENOVATION

KEY PLAN

SCALE: 1/32 = 1'-0"

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burlington, n.c. 27215 336/226-5534

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CONSULTANT JOB NO.
SSE #: 26015

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

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REVISIONS

△	.

OFFICE / SHOP BLDG RENOVATIONS

LTG PLAN & NOTES

DATE June 24, 2026

DRAWN BY: JLP | CHECKED: JLP

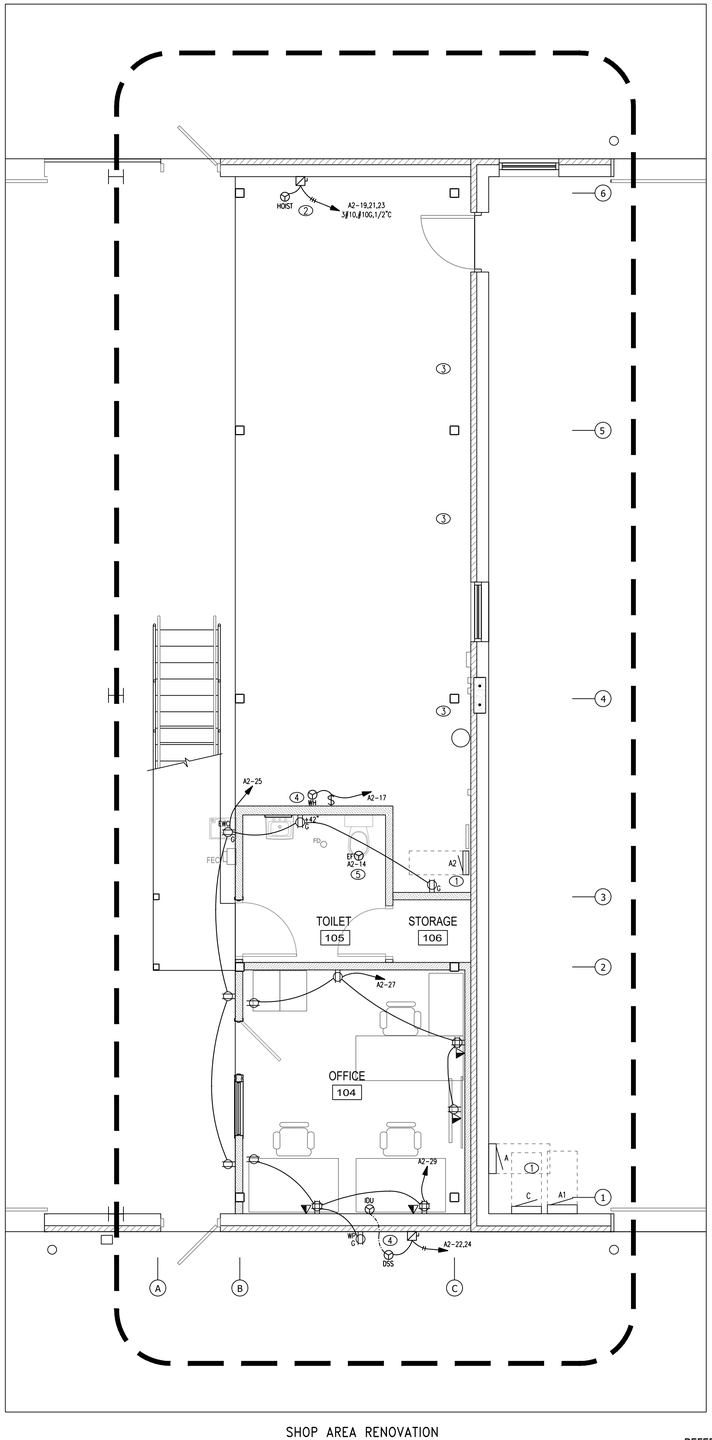
JOB NO. awck: 25063

SHEET NO.

E2

OF

SOLE SOURCE ENGINEERING, P.C. CERTIFIED ENGINEERING CORPORATION CERT. NO. C-2317 NORTH CAROLINA GIBSONVILLE, NC

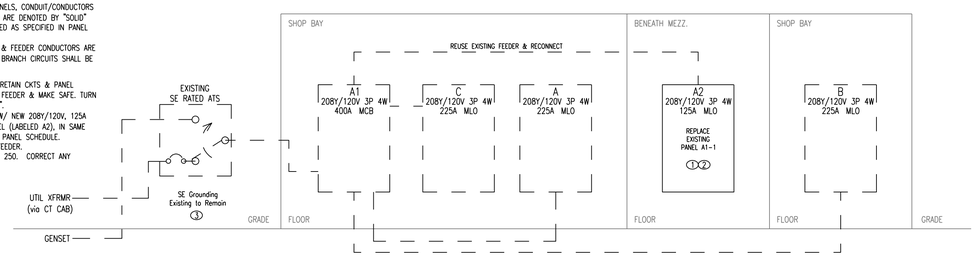


SHOP AREA RENOVATION
1 / E3 POWER PLAN
SCALE: 1/4" = 1'-0"

ELECTRICAL RISER NOTES:

- ALL EXISTING EQUIPMENT, SWITCHGEAR, PANELS, CONDUIT/CONDUCTORS ARE DENOTED BY "DASHED" LINES & NEW ARE DENOTED BY "SOLID" LINES. NEW PANELS SHALL BE CONFIGURED AS SPECIFIED IN PANEL SCHEDULES.
- FEEDERS SHALL BE AS SPEC'D. SERVICE & FEEDER CONDUCTORS ARE SPEC'D AS COPPER, UON AS ALUMINUM. BRANCH CIRCUITS SHALL BE COPPER.

1. DEMO EXISTING PANEL (LABELED A1-1). RETAIN CKTS & PANEL FEEDER IN LOCAL FOR REUSE. CAP-OFF FEEDER & MAKE SAFE. TURN OFF FEEDER BREAKER IN MAIN PANEL "A1".
2. REPLACE EXISTING PANEL LABELED A1-1 W/ NEW 208Y/120V, 125A RATED, 3ø, 4W, NEMA 1, 30 CIRCUIT PANEL (LABELED A2), IN SAME LOCATION. CONFIGURE AS DESIGNATED IN PANEL SCHEDULE. RECONNECT EXISTING CIRCUITS & PANEL FEEDER.
3. INSPECT EXISTING SE GROUNDING \AW NEC 250. CORRECT ANY ANOMALIES.



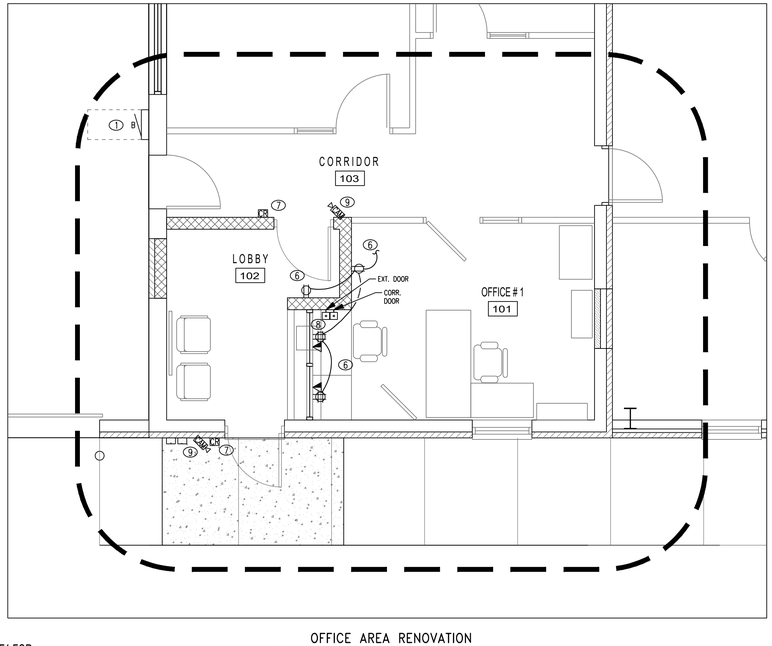
OFFICE/SHOP BLDG
3 / E3 ELECTRICAL RISER
SCALE: NONE

REFERENCED POWER NOTES (OFFICE/SHOP BLDG RENOVATIONS):

- REFER TO GENERAL POWER NOTES (SHEET E1) FOR FURTHER INFORMATION.
- WHEN ROUTING CONDUIT UNDERSLAB, USE SWEEPING BENDS WHEN TURNING CONDUIT UP THROUGH FLOOR.
- COORDINATE NEW ELECTRICAL SERVICE W/ LOCAL UTILITY. ASSUMPTIONS FOR SERVICE EQUIPMENT (I.E. LOCATIONS, SIZING, ETC.) MADE DURING DESIGN MAY NOT MATCH ACTUAL UTILITY INSTALLATION.
- COORDINATE W/ PM CONTRACTORS TO CIRCUIT ACTUAL PM EQUIPMENT INSTALLATION.

1. UON, EXISTING PANELS TO REMAIN AS-IS. PANEL A1-1 TO BE REPLACED IN SAME LOCATION. PROVIDE NEW PANEL (AS SPEC'D) TO INCREASE # OF CKT'S AVAILABLE FOR USE. RELABEL AS "A2".
2. PROVIDE FUSED DISCONNECT & CIRCUITING TO NEW HOIST (MOUNTED TO HOIST BEAM ABOVE MEZZANINE). PROVIDE HOIST CONTROLS AT LOWER LEVEL. COORDINATE LOCATION W/ OWNER.
3. BENEATH MEZZANINE, RELOCATE WM RECEPTACLES, ETC. ALONG SAME WALL, BUT SHIFTED TOWARDS REAR OF BUILDING TO NEW LOCATION(S) OF WORKBENCH, TIRE CHANGER, ETC. COORDINATE NEW LOCATIONS, PTRI TO ACCOMMODATE NEW CONSTRUCTION.
4. PROVIDE NECESSARY ELECTRICAL FOR NEW PM EQUIPMENT (E.G. DUCTLESS SPLIT SYSTEM, WH, EF, ETC.). DSS TO INCLUDE INTERCONNECTING CABLING.
5. CONNECT EF TO LOCAL LTG CKT FOR CONTROL BY WM OS SWITCH.
6. IN OFFICE 101 & LOBBY 102 AREA, REMOVE EXISTING RECEPTACLES ON WALL UNDER CONSTRUCTION. RETAIN CIRCUIT IN LOCAL AREA AND MAKE-SAFE. PROVIDE NEW RECEPTACLES AND/OR VOICE/DATA OUTLETS ON NEW WALL TO ACCOMMODATE NEW CONSTRUCTION. RECONNECT TO CIRCUIT MADE AVAILABLE BY DEMO.
7. PROVIDE PROVISIONS FOR NEW ACCESS CONTROL DEVICE. PROVISIONS TO INCLUDE JBOX FOR MOUNTING & EMPTY CONDUIT (W/ PULLSTRING) STUBBED & BUSHED TO ACCESSIBLE AREA ABOVE CEILING. OWNER'S CONTRACTOR TO PROVIDE ACCESS CONTROL DEVICE, CABLING, HEADEND EQUIPMENT, ETC. FOR A FULLY FUNCTIONAL INSTALLATION.
8. PROVIDE PROVISIONS FOR REMOTE DOOR RELEASE AT RECEPTION DESK. PROVISIONS INCLUDE JBOX FOR MOUNTING & EC (W/ PULLSTRING) STUBBED & BUSHED TO ACCESSIBLE AREA ABOVE CEILING. OWNER'S CONTRACTOR TO PROVIDE PUSHBUTTON(S), CABLING, ETC. FOR A FULLY FUNCTIONAL INSTALLATION.
9. PROVIDE PROVISIONS FOR WM CAMERA. PROVISIONS TO INCLUDE JBOX FOR MOUNTING & EMPTY CONDUIT W/ PULLSTRING) STUBBED & BUSHED TO ACCESSIBLE AREA ABOVE CEILING. OWNER'S

REFER TO SHEET E1 FOR LUMINAIRE SCHEDULE, SYMBOL LEGEND & ELEC. SPECS



OFFICE AREA RENOVATION
2 / E3 POWER PLAN
SCALE: 1/4" = 1'-0"

A2

ROOM EXISTING | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 125 | MAIN BKR MLO
FED FROM A1 | NEUTRAL 100% | LUGS STANDARD
NOTE NEW PANELBOARD (REPLACES EXISTING)

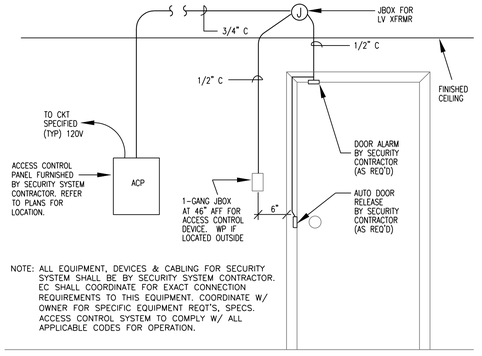
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	50/2		3.12			2	20/2	EXISTING	1.25		
3	|			3.12		4	|			1.25	
5	20/1	EXISTING			1.25	6	30/2	EXISTING			1.75
7	20/1	EXISTING	1.50			8	|		1.75		
9	20/1	EXISTING		1.50		10	20/1	EXISTING		1.00	
11	-/1	SPACE			0.00	12	20/1	EXISTING			1.00
13	20/1	SPARE	0.00			14	20/1	EF, LTG-OFF/TLT	0.28		
15	20/1	SPARE		0.00		16	20/1	LTG-BENEATH MEZZ.		0.44	
17	15/1	WH			0.60	18	20/1	SPARE			0.00
19	20/3	HOIST	0.58			20	20/1	SPARE	0.00		
21	|			0.58		22	15/2	DSS, IDU		0.93	
23	|				0.58	24	|				0.93
25	20/1	EWC, RCPT	0.97			26	20/1	SPARE	0.00		
27	20/1	RCPT-OFF 104		0.90		28	20/1	SPARE		0.00	
29	20/1	RCPT-OFF 104			1.08	30	20/1	SPARE			0.00
								TOTAL CONNECTED KVA BY PHASE	9.45	9.72	7.19

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.89	1.12	(125%)	MOTORS	18.92	18.92	(100%)
LARGEST MOTOR	1.77	0.44	(25%)	RECEPTACLES	5.95	5.95	(50%>10)
				CONTINUOUS	0.60	0.75	(125%)
				TOTAL LOAD		27.18	
				BALANCED 3-PHASE LOAD		75.45 A	

OFFICE & GARAGE EQUIPMENT CONNECTION SCHEDULE

EQ ID	*SYMBOL*	*CONN.*	*FLA*	*MCA*	*MOCP*	*NOTES*	*DISCON DESCR*
DSS		208V 1-PH 2W	9.5	12	15	1	240/30/2/FPN/3R (BOD: 15A DE)
EF		120V 1-PH 2W			15	3	INTEGRAL
HOIST		208V 3-PH 3W	5	6.25	20	1	240/30/3/FPN/1 (BOD: 20A DE)
IDU		208V 1-PH 2W	0.2	1	15	2	240/30/2/FPN/3R (BOD: 15A DE)
WH		120V 1-PH 2W	5	6.25	15	1	120V, 20A RATED (TOGGLE SW)

DISCONNECT NOMENCLATURE: VOLTS/AMPS/#POLES/FUSE/NEMA. NF=NON-FUSED, FPN=FUSE PER NAMEPLATE.
~ FOR ALL EQUIP., COORDINATE CONNECTION REQT'S, TYPE (I.E. NON-FUSED/FUSED/INTEGRAL DISCONNECT, TOGGLE SW, ETC.) W/ ACTUAL EQUIP. INSTALLED PRIOR TO PURCHASE & ROUGH-IN.
1. PROVIDE DISCONCTING MEANS (AS SPEC'D). CIRCUIT AS SHOWN & EXTEND TO UNIT.
2. SINGLE PT CONNECTION TO OUTDOOR UNIT (DSS). PROVIDE INTERCONNECTING CABLE BETWEEN OUTDOOR/INDOOR UNITS.
3. CONNECT EF TO LOCAL LTG CKT FOR WM OS CNTRL.



NOTE: ALL EQUIPMENT, DEVICES & CABLING FOR SECURITY SYSTEM SHALL BE BY SECURITY SYSTEM CONTRACTOR. EC SHALL COORDINATE FOR EXACT CONNECTION REQUIREMENTS TO THIS EQUIPMENT. COORDINATE W/ OWNER FOR SPECIFIC EQUIPMENT REQT'S, SPECS. ACCESS CONTROL SYSTEM TO COMPLY W/ ALL APPLICABLE CODES FOR OPERATION.

4 / E3 (TYP) DOOR ACCESS CNTRL
NO SCALE

CERT. NO. C-2317

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REVISIONS

1	.

OFFICE / SHOP BLDG RENOVATIONS

RISER, SCHEDS, PWR PLAN & NOTES

DATE June 24, 2026

DRAWN BY: JLP | CHECKED: JLP

JOB NO. awck: 25063

SHEET NO.

E3

OF

ELECTRICAL RISER NOTES:

- EXISTING EQUIPMENT, SWITCHGEAR, PANELS, CONDUIT/CONDUCTORS ARE DENOTED BY "DASHED" LINES. NEW ARE DENOTED BY "SOLID" LINES. PANELS SHALL BE (RE)CONFIGURED AS SPECIFIED IN PANEL SCHEDULES.
- FEEDERS SHALL BE AS SPEC'D. SERVICE & FEEDER CONDUCTORS ARE SPEC'D AS ALUMINUM, UON AS COPPER. BRANCH CIRCUITS SHALL BE COPPER.
- PROVIDE NEW PANELS, WIREWAY, DISCONNECTS, EQUIPMENT, CONDUIT/CONDUCTORS, ETC. (AS SPEC'D). COORDINATE EXACT LOCATION W/ OWNER, PTRI. REFER TO PANEL SCHEDULES (THIS SHEET) FOR ADD'L INFO.
- FAULT CURRENT CALCULATIONS WERE BASED ON A POLE-MOUNT TRANSFORMER BANK (AS SPEC'D), LOCATED APPROX. 120' FROM METER. VERIFY ACTUAL CONDITIONS PRIOR TO PROCUREMENT OF SERVICE EQUIPMENT & PANELS TO ENSURE COMPLIANCE W/ 110.24(A). NOTIFY ENGINEER OF DISCREPANCIES TO OBTAIN REVISED FC CALCULATIONS (AS REQ'D). PROVIDE MAX FC LABEL ON SE DISCONNECT "DM".

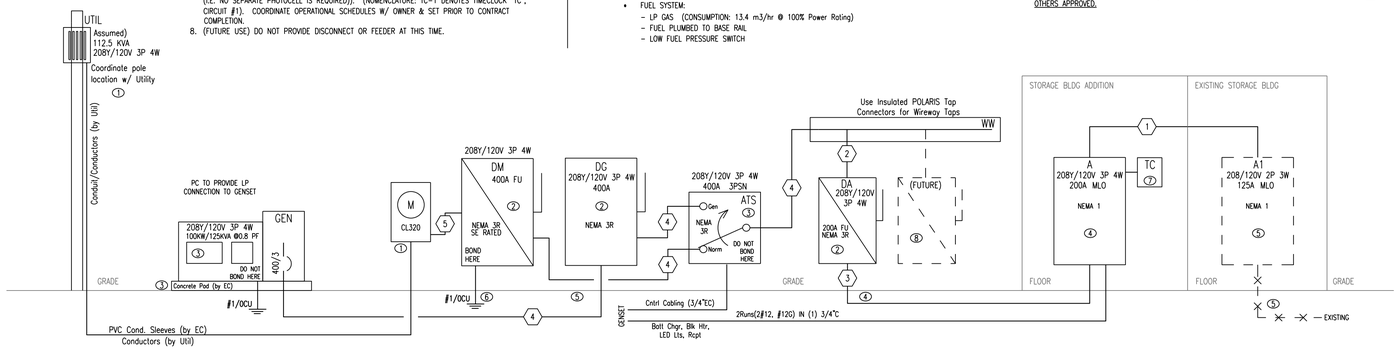
1. COORDINATE W/ LOCAL UTILITY TO PROVIDE NEW POLE-MOUNTED, 208V, 3ø, 112.5KVA TRANSFORMER. KVA DESIGNATED IS PROPOSED. (METER AT BLDG). COORDINATE INSTALLATION REQUIREMENTS W/ LOCAL UTILITY, PTRI.
2. PROVIDE NEW HEAVY DUTY, 240V, 3ø, 4W, 400A, NEMA 3R, FUSED, SE-RATED DISCONNECT "DM", 240V, 3ø, 4W, 200A, NEMA 3R, FUSED, DISCONNECT "DA" & 240V, 3ø, 4W, 400A, NEMA 3R, NON-FUSED DISCONNECT "DG", WHERE SHOWN. PROVIDE (3) 400A DE FUSES & #1/0CU MAIN BONDING JUMPER IN "DM". PROVIDE (3) 200A DE FUSES IN "DA".
3. PROVIDE NEW GENSET & ATS. REFER TO GENSET/ATS SPEC'S (THIS SHEET) FOR FURHTER INFORMATION. PROVIDE CONCRETE PAD. REFER TO PAD SPECS FOR FURTHER INFORMATION.
4. ROUTE PANEL "A" FEEDER FROM "DA" (UNDER SLAB) AND TURN-UP INTO "A".
5. DEMO EXISTING PANEL "A1" FEEDER AS WELL AS ANY GEC'S NECESSARY DUE TO PRIOR REMOTE BLDG REQT'S. REFEED PANEL "A1" FROM NEW PANEL "A". ROUTE FEEDER FROM "A", OVERHEAD & DOWN INTO EXISTING PANEL "A1". REMOVE EXISTING 50A, 2P CB SERVING AS "A1" MAIN. RECONFIGURE "A1" AS SHOWN.
6. PROVIDE SE GROUNDING IAW NEC 250. REFER TO SE GROUNDING DETAIL (THIS SHEET).
7. PROVIDE NEW (2) CIRCUIT TIMECLOCK (TC) ADJACENT TO PANEL "A". (TYP TC: INTERMATIC ET2825C OR EQUAL). 120V CONTROL. TC FEATURES INCLUDE 365/7-DAY ASTRONOMICAL ELECTRONIC CONTROL, HOLIDAY SCHEDULING, 100-HR SUPER CAPACITOR BACKUP, (2) CIRCUITS W/ INDEPENDENT SCHEDULES W/ INDIVIDUAL 2-HR MANUAL OVERRIDE & ASTRONOMIC (DUSK/DAWN) ON/OFF EVENTS (I.E. NO SEPARATE PHOTOCELL IS REQUIRED)). (NOMENCLATURE: TC-1 DENOTES TIMECLOCK "TC", CIRCUIT #1). COORDINATE OPERATIONAL SCHEDULES W/ OWNER & SET PRIOR TO CONTRACT COMPLETION.
8. (FUTURE USE) DO NOT PROVIDE DISCONNECT OR FEEDER AT THIS TIME.

GENERATOR - ATS SPECIFICATIONS:

1. GENERATOR SET (GEN):
   - PACKAGE: 80kW/100kVA, 120/208V, 3ø, 4W, 0.8PF, STANDBY LIQUID PROPANE (LP) GAS GENERATOR.
   - BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE W/ REQT'S, PROVIDE MTU GS100 (AS PROVIDED BY CURTIS POWER SOLUTIONS) OR AN EQUAL PRODUCT BY ONE OF THE FOLLOWING (NO OTHERS ARE APPROVED):
     - CATERPILLAR; ENGINE DIV.
     - CUMMINS POWER GENERATION; INDUSTRIAL BUSINESS GROUP.

     THE SUPPLIER OF THE EQUIPMENT MUST BE THE AUTHORIZED DISTRIBUTOR FOR THE PROJECT LOCATION.
   - PACKAGE CONFIGURATION: MODEL: GS100, UL 2200, IBC CERTIFIED
   - COOLING PACKAGE:
     - 50°C COOLING SYSTEM, CLOSED LOOP, LIQUID COOLED, WITH RADIATOR FACTORY MOUNTED ON ENGINE-GENERATOR SET MOUNTING FRAME & INTEGRAL ENGINE-DRIVEN COOLANT PUMP
   - CIRCUIT BREAKER:
     - 400A, 3P, 100% RATED, LSI TRIP BREAKER (ADJUST TRIP SETTING TO 350A)

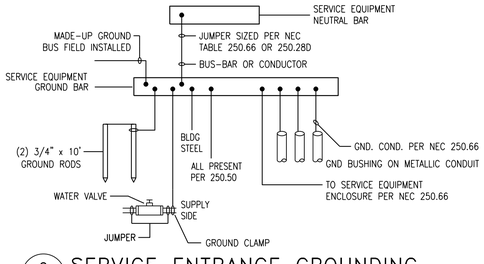
     STARTING AIDS:
     - BATTERY, RACK & ACID. BATTERY RACK INSTALLED. BATTERY FILLED WITH ACID WHEN SHIPPED
     - BATTERY CHARGER: MICRO GENIUS 10A. BATTERY CHARGER MOUNTED & AC/DC WIRED.
   - BLOCK HEATER:
     - -20°F BLOCK HEATER (120V, 1ø - 1800W)
     - BLOCK HEATER MOUNTED & AC WIRED
   - GENSET ENCLOSURE:
     - LEVEL 3, WEATHER PROOF ENCLOSURE CONSTRUCTED OF HEAVY GAUGE STEEL W/ FIXED STORM PROOF PANELS. ENCLOSURE INCLUDES UNIT-MOUNTED INTERNAL MUFFLER & HINGED, LOCKABLE DOUBLE-DOOR ACCESS ON BOTH SIDES OF THE ENCLOSURE
     - 190 MPH WIND RATING.
     - INTERIOR HOUSING LED LIGHTING DESIGNED TO AUTOMATICALLY USE EITHER AC OR DC POWER.
     - DOOR RESTRAINTS. CONVENIENCE RECEPTACLE.
     - REMOTE E-STOP TO BE MOUNTED ON EXTERIOR OF ENCLOSURE CLEARLY MARKED "EMERGENCY GENERATOR STOP" W/ PLASTIC PROTECTIVE COVER.
     - MAX. DBA NOT TO EXCEED 70.5 dbA @ 7M OPEN FIELD
   - VIBRATION ISOLATION:
   - EXHAUST SYSTEM: CRITICAL GRADE EXHAUST-INTERNAL TO ENCLOSURE
   - FUEL SYSTEM:
     - LP GAS (CONSUMPTION: 13.4 m3/hr @ 100% Power Rating)
     - FUEL PLUMBED TO BASE RAIL
     - LOW FUEL PRESSURE SWITCH
   - AIR INTAKE SYSTEM: AIR FILTER 2-STAGE (HEAVY DUTY)
   - GENERATOR CONFIGURATION:
     - GENERATOR MODEL NUMBER: 362CSL/1606. GENERATOR STRIP HEATER. PMG/DVR2000
     - GENERATOR SHALL BE CAPABLE OF A MINIMUM 258 SKVA WITH A MAXIMUM VOLTAGE DIP OF 30%
   - CONTROL PANEL CONFIGURATION:
     - MGC-1500 (MTU ONSITE ENERGY'S GENERATOR SET CONTROLLER).
     - CONTROL PANEL MOUNTED LEFT SIDE. DRY CONTACTS.
   - WARRANTY: 5 YEAR/3000 HOUR COMPREHENSIVE STANDBY LIMITED WARRANTY
   - DOCUMENTATION: ENGLISH, 1 CD FORMAT, 2 HARD COPY
   - START-UP & TESTING:
     - START-UP & ALARM VERIFICATION WITH A FACTORY TRAINED TECHNICIAN. OPERATION & MAINTENANCE TRAINING.
     - 4 HOUR RESISTIVE LOAD BANK
   - PROVIDE THE FOLLOWING CONDUIT & CIRCUITS.
     - 3/4" EMPTY CONDUIT FROM GENSET TO ATS FOR CONTROL WIRING.
     - 3/4" CONDUIT WITH (2) 120V, 20A CIRCUITS FROM PANEL "A" TO GENSET FOR BLOCK HEATER & BATTERY CHARGER, ENCLOSURE LED LIGHTS & CONVENIENCE RECEPTACLE. (2 RUNS(2#10, #10G) IN (1) 3/4"C)
     - CONDUIT SHALL BE ROUTED UNDERGROUND FROM GENSET TO ATS AND/OR PANEL "A". USE SAME TRENCH AS GENERATOR CONDUCTORS TO GREATEST EXTENT POSSIBLE. EC TO COORDINATE SIZING OF CIRCUITS FROM GENSET BASED ON ACTUAL EQUIPMENT INSTALLED PRIOR TO ORDER. NOTIFY ENGINEER OF DIFFERENCES FROM DESIGN.
2. AUTOMATIC TRANSFER SWITCH (ATS):
   - AUTOMATIC TRANSFER SWITCH
     - 400 AMPS RATED, 120/208V, 3P, 4W, 60 HERTZ, 3PSN, NEMA 3R ENCLOSURE. WALL-MOUNT ENCLOSURE
     - ACCESSORY #11BE, FULLY PROGRAMMABLE EXERCISER
     - EVENT LOG DISPLAY WITH TIME, DATE, & EVENT TYPE
     - OPTION #44G STRIP HEATER PREWIRED OFF LOAD SIDE OF ATS.
     - OPTION #73 SURGE SUPPRESSOR IVSS RATED 65KA
   - ATS TO BE BASIS OF DESIGN: ASCO (300 SERIES) OR EQUIVALENT BY ZENITH OR RUSS ELECTRIC. NO OTHERS APPROVED.



STORAGE BLDG ADDITION
1/E4 ELECTRICAL RISER
SCALE: NONE

(TYP) CONCRETE PAD DEPTH CALC.
$D\ (ft) = \frac{G}{150 \times W \times L}$ (TYPICAL)
D: DEPTH OF FOUNDATION (8" MIN)
G: TOTAL WET WT. OF GENSET (LB)
W: FOUNDATION WIDTH (FT)
L: FOUNDATION LENGTH (FT)
150: CONC. DENSITY (LB/CUFT)

(TYPICAL) GENERATOR FOUNDATION: CONCRETE MIXTURE 1:2:3 (CEMENT:SAND:AGGREGATE) W/ MAXIMUM 4" SLUMP W/ A 28 DAY COMPRESSION STRENGTH OF 3000 PSI. REINFORCE FOUNDATION W/#8 STEEL WIRE FABRIC, 6"O.C. OR W/#6 BARS, 12" O.C. BARS SHALL CLEAR FOUNDATION SURFACE A MINIMUM OF 3".



2/E4 SERVICE ENTRANCE GROUNDING
NO SCALE

A

ROOM
MOUNTING SURFACE
FED FROM DA
NOTE NEW PANELBOARD

VOLTS 208Y/120V 3P 4W
BUS AMPS 200
NEUTRAL 100%

AIC 10,000
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	50/2	PANEL A1	4.10			2	20/2	CU		0.93	
3	|			4.10		4	|				0.93
5	20/1	DOOR OPENER			1.60	6	15/1	IFU			1.02
7	20/1	DOOR OPENER	1.60			8	15/2	IWH (BL)	1.50		
9	20/1	DOOR OPENER		1.60		10	|			1.50	
11	20/1	RCPT-SIGN SHOP			0.36	12	25/2	COMPR			1.20
13	20/1	RCPT-SIGN SHOP	0.36			14	|		1.20		
15	20/1	RCPT-SIGN SHOP		0.90		16	15/1	UH1		0.45	
17	20/1	GENSET BATT CHGR			1.20	18	20/1	GENSET BLK HTR			1.80
19	20/1	RCPT-SIGN SHOP	0.54			20	20/1	CORD DROP	0.98		
21	20/1	PLOTTER		1.20		22	20/1	TC CNTRL		0.25	
23	20/1	RCPT-STORAGE			0.54	24	20/1	LTG-STORAGE			0.63
25	20/1	RCPT-STORAGE	0.54			26	20/1	LTG-SIGN SHOP	0.23		
27	20/1	SPARE		0.00		28	20/1	LTG-EXT (VIA TC)		0.35	
29	20/1	RCPT-EXT. CONV.			0.54	30	20/1	HOTBOX			1.50
31	20/1	SPARE	0.00			32	20/1	SPARE	0.00		
33	20/1	SPARE		0.00		34	20/1	SPARE		0.00	
35	20/1	SPARE			0.00	36	20/1	SPARE			0.00
37	20/1	SPARE	0.00			38	20/1	SPARE	0.00		
39	20/1	SPARE		0.00		40	20/1	SPARE		0.00	
41	20/1	SPARE			0.00	42	20/1	SPARE			0.00
								TOTAL CONNECTED KVA BY PHASE	11.99	11.29	10.39

	CONN KVA	CALC KVA	
LIGHTING	2.22	2.77	(125%)
LARGEST MOTOR	2.40	0.60	(25%)
MOTORS	2.40	2.40	(100%)
RECEPTACLES	8.96	8.96	(50%-10)

	CONN KVA	CALC KVA	
NONCOINCIDENT	8.00	4.00	(50%)
NONCONTINUOUS	8.75	8.75	(100%)
HEATING	1.47	0.00	(0%)
COOLING	2.89	2.89	(100%)
TOTAL LOAD		30.37	
BALANCED 3-PHASE LOAD		84.29 A	

(G): GFI CB (BL): PERM. CB LOCK "ON"

A1

ROOM
MOUNTING SURFACE
FED FROM A
NOTE EXISITNG LOAD CENTER

VOLTS 208/120V 2P 3W
BUS AMPS 125
NEUTRAL 100%

AIC 10,000
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B
1	20/1	SPARE (NB)	0.00		2	20/1	SPARE (NB)	0.00	
3	20/1	SPARE (NB)		0.00	4	20/1	SPARE (NB)		0.00
5	20/1	EXISTING (G)	1.00		6	20/1	EXISTING	0.50	
7	20/1	EXISTING		1.00	8	20/1	EXISTING (G)		1.00
9	20/1	EXISTING (G)	1.60		10	15/1	EXISTING	1.00	
11	20/1	EXISTING (G)		1.60	12	15/1	EXISTING		0.50
							TOTAL CONNECTED KVA BY PHASE	4.10	4.10

	CONN KVA	CALC KVA	
LIGHTING	1.00	1.25	(125%)
RECEPTACLES	3.00	3.00	(50%-10)

	CONN KVA	CALC KVA	
NONCOINCIDENT	3.20	1.60	(50%)
NONCONTINUOUS	1.00	1.00	(100%)
TOTAL LOAD		6.85	
BALANCED LOAD		32.93 A	

(G): GFI CB (BL): PERM. CB LOCK "ON" (NB): NEW CB

FC SCHED (A)

DEVICE	UTIL FC	*Ifca	AIC RATING
GEN	2,310	2,369	
DG	2,274	2,333	10,000
UTIL	20,800	20,858	--
M	9,500	9,559	10,000
DM	9,122	9,181	10,000
ATS	8,659	8,718	10,000
DA	7,628	7,687	10,000
A	6,169	6,228	10,000
A1	1,378	1,381	10,000

*Ifca - DESIGNATES MAX FC @ DEVICE SPEC'D INCLUDING MOTOR CONTRIBUTIONS FROM "BACK EMF". DEVICE AIC RATINGS ARE BASED ON Ifca.

FEEDER SCHEDULE

ID	AMPS	CONDUIT / CONDUCTORS	FEEDS
1	50	3#6 AL,#8 AL G,3/4"C	A1
2	200	4#250kcmil AL,#1 AL G,2-1/2"C	DA
3	200	4#250kcmil AL,#4 AL G,2-1/2"C	A
4	400	(2)4#250kcmil AL,#1 AL G,2-1/2"C	ATS, DG, WW
5	400	(2)4#250kcmil AL,2-1/2"C	DM

SIZING METHOD: COPPER, UON. ASSUME DUAL-RATED 60°C/75°C TERMINATIONS.

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CONSULTANT JOB NO.
SSE #: 26015

OFFICE / SHOP RENOVATIONS AND STORAGE BUILDING ADDITION TO MEBANE PUBLIC WORKS DEPT.

636 CORREGIDOR STREET, MEBANE, NC 27302

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REVISIONS

1	.

NEW STOR. BLDG. ADDITION

ELEC. RISER, GENSET, SCHED'S

DATE
June 24, 2026

DRAWN BY:	CHECKED:
JLP	JLP

JOB NO.
awck: 25063

SHEET NO.
E4
OF

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 027431 ENGINEER JIMMY L. PEACOCK

SOLE SOURCE ENGINEERING, P.C. CERT. NO. C-2317 ENGINEERING CORPORATION NORTH CAROLINA GIBSONVILLE, NC

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:

Energy Code: ■ Prescriptive □ Performance
ASHRAE 90.1: □ Prescriptive □ Performance

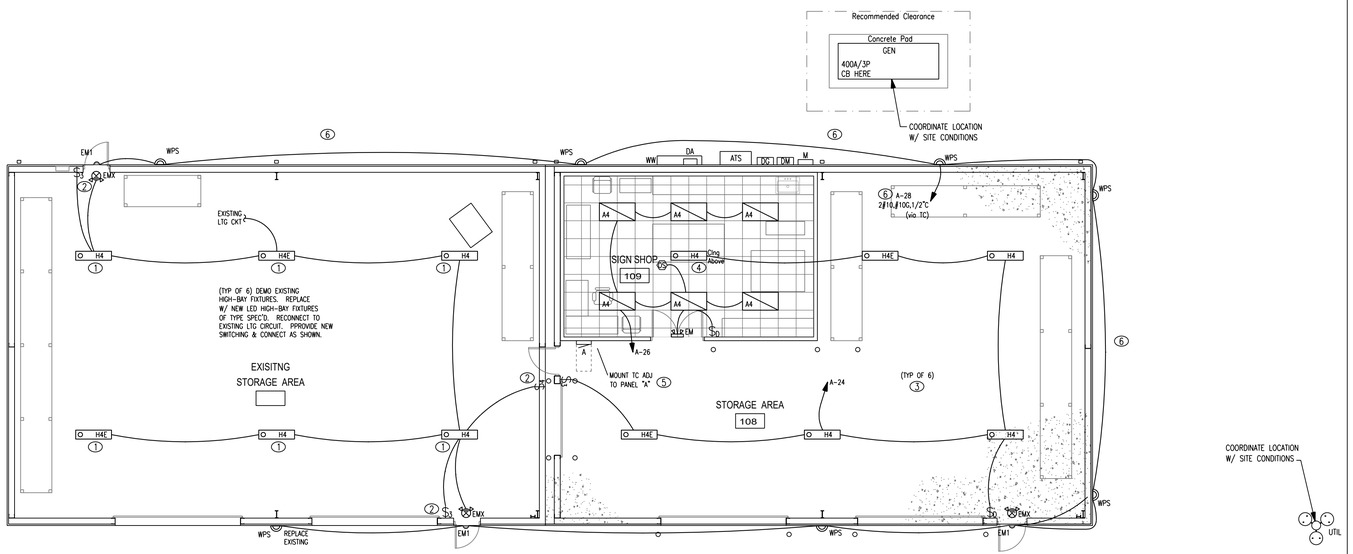
Lighting schedule (each fixture type)

Lamp type required in fixture: SEE LUM. SCHED. (THIS SHEET)
Number of lamps in fixture: SEE LUM. SCHED. (THIS SHEET)
Ballast type used in fixture: SEE LUM. SCHED. (THIS SHEET)
Number of ballasts in fixture: SEE LUM. SCHED. (THIS SHEET)
Total wattage per fixture: SEE LUM. SCHED. (THIS SHEET)
Total interior wattage specified vs. allowed: N/A (OCC. TYPE: S)
Total exterior wattage specified vs. allowed: NCECC: C101.2, Exc. 2

REFERENCED LIGHTING NOTES (NEW STORAGE BLDG/SIGN SHOP): ⊖

- REFER TO GENERAL LIGHTING NOTES (SHEET E1) FOR FURTHER INFORMATION.
- NO SITE LIGHTING DESIGN. ANY PROJECT SITE LIGHTING SHALL BE BY OTHERS.
- WHERE DIMMERS ARE SHOWN FOR LIGHTING CONTROL, PROVIDE DIMMER COMPATIBLE W/ LOAD BEING SERVED. WHERE 0-10V DIMMING IS REQ'D, PROVIDE PURPLE/PINK WIRING.
- WHERE FIXTURES HAVE INTEGRAL BATTERY BACKUP, PROVIDE AN UNSWITCHED CIRCUIT (I.E. AHEAD OF ANY CONTROLS) TO FIXTURE TO MAINTAIN BATTERY CHARGE.
- LUMINAIRES ARE SPECIFIED W/ (DEFAULT) SETTINGS. (SEE LUMINAIRE SCHEDULE, SHEET E1). ADJUST LUMINAIRE SETTINGS UP/DOWN, IAW OWNER PREFERENCE. DIMMERS ARE TYPICALLY INCLUDED TO PROVIDE INCREASED CONTROL OF LIGHTING LEVELS.

1. EXISTING FIXTURE TO BE REPLACED IN SAME LOCATION & HEIGHT. RECIRCUIT/RESWITCH AS SHOWN.
2. PROVIDE NEW SWITCH OF TYPE SPECIFIED & RECIRCUIT AS SHOWN.
3. PROVIDE NEW HIGH-BAY FIXTURES IN THIS AREA. INSTALL AT SAME HEIGHT AS ADJACENT STORAGE BLDG FOR CONSISTENCY.
4. THIS FIXTURE MOUNTED ABOVE SIGN SHOP AREA.
5. PROVIDE NEW TIMECLOCK "TC". REFER TO RISER FOR TC SPEC.
6. PROVIDE NEW EXTERIOR WALLPACKS & TYPE "EM1" FIXTURES, WHERE NOTED. ROUTE CIRCUIT VIA TIMECLOCK "TC-1" AS DESIGNATED. COORDINATE OPERATIONAL HOURS W/ OWNER & PROGRAM ACCORDINGLY, PRIOR TO CONTRACT COMPLETION.



STORAGE BLDG ADDITION
1 / E5 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

REFER TO SHEET E1 FOR LUMINAIRE SCHEDULE, SYMBOL LEGEND & ELEC. SPECS

REFERENCED POWER NOTES (NEW STORAGE BLDG/SIGN SHOP): ⊖

- REFER TO GENERAL POWER NOTES (SHEET E1) FOR FURTHER INFORMATION.
- WHEN ROUTING CONDUIT UNDERSLAB, USE SWEEPING BENDS WHEN TURNING CONDUIT UP THROUGH FLOOR.
- COORDINATE NEW ELECTRICAL SERVICE W/ LOCAL UTILITY. ASSUMPTIONS FOR SERVICE EQUIPMENT (I.E. LOCATIONS, SIZING, ETC.) MADE DURING DESIGN MAY NOT MATCH ACTUAL UTILITY INSTALLATION.
- COORDINATE W/ PM CONTRACTORS TO CIRCUIT ACTUAL PM EQUIPMENT INSTALLATION.

1. COORDINATE SERVICE EQUIPMENT INSTALLATION ON REAR WALL TO AVOID CONFLICTS W/ INSTALLATION OF OTHER TRADES.
2. PROVIDE NEW GENSET W/ ATS. LOCATION OF GENSET IS NOTIONAL. DO NOT SCALE. COORDINATE W/ EXISTING/NEW SITE CONDITIONS ASSOCIATED W/ THIS PROJECT. PROVIDE CONCRETE PAD EXTENDING (MIN) 12" ON ALL SIDES OF GENSET ENCLOSURE. MAINTAIN CLEARANCES (AS SHOWN).
3. PROVIDE WIREWAY TO ALLOW FOR INSTALLATION OF A (FUTURE) DISCONNECTING MEANS TO SERVE BUILDING ADDITIONS SERVED VIA THIS NEW UTILITY SERVICE.
4. NEW COMPRESSOR REQUIREMENTS WERE UNKNOWN AT TIME OF DESIGN. COORDINATE W/ ACTUAL (OWNER SELECTED) EQUIPMENT AND ADJUST CIRCUIT, BREAKER, ETC. TO ACCOMMODATE INSTALLATION.
5. PROVIDE NEW OVERHEAD DOOR OPENER. PROVIDE FOR INSTALLATION OF UP/DOWN CONTROLS WHERE REQ'D. AT DOOR BETWEEN TWO BLDGS, PROVIDE UP/DOWN CONTROLS ON BOTH SIDES OF OVERHEAD DOOR.
6. PANEL "A1" IS EXISTING AND IS CURRENTLY FED FROM ANOTHER LOCATION, THEREBY MAKING PANEL "A1" A REMOTE LOCATION. REMOVE ANY GEC'S PREVIOUSLY REQUIRED (DUE TO BEING A REMOTE LOCATION). PROVIDE A NEW GROUNDING ELECTRODE SYSTEM (IAW NEC 250 & GROUNDING DETAIL) AS SHOWN IN RISER. REFEED PANEL "A1" FROM NEW PANEL "A". SEE RISER FOR ADDT'L INFO.

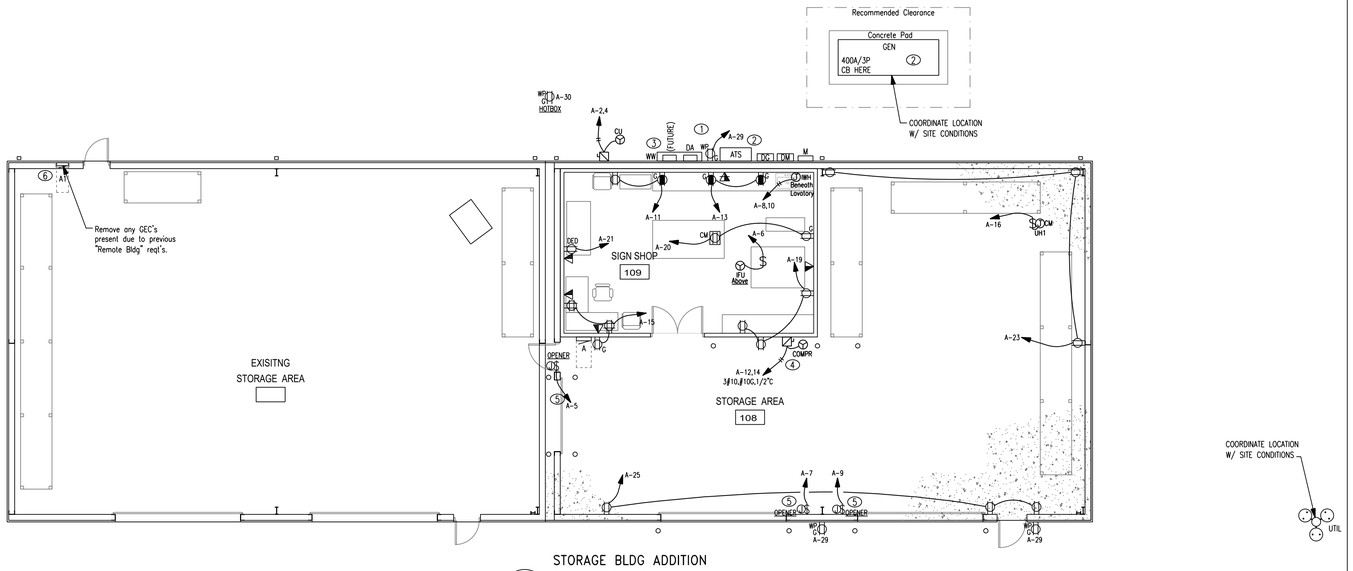
SIGN SHOP (BLDG #2) EQUIPMENT CONNECTION SCHEDULE

EQ ID	*SYMBOL*	*CONN.*	*FLA*	*MCA*	*MOCP*	*NOTES*	*DISCON DESCR*
COMPR		208/120V 1-PH 3W	11.5	15	25	1	240/30/2/FPN/1
CU		208V 1-PH 2W	8.97	9	20	1	240/30/2/FPN/3R (BOD: 20A DE)
IFU	$	120V 1-PH 2W	8.5	10.3	15	1	120V, 20A RATED (TOGGLE SW)
IWH (BL)	①	208V 1-PH 2W	14.4	15	15	2	CB LOCK
UH1	$	120V 1-PH 2W	3.75	5	15	1	120V, 20A RATED (TOGGLE SW)

DISCONNECT NOMENCLATURE: VOLTS/AMPS/#POLES/FUSE/NEMA. NF=NON-FUSED, FPN=FUSE PER NAMEPLATE.

-- FOR ALL EQUIP., COORDINATE CONNECTION REQT'S, TYPE (I.E. NON-FUSED/FUSED/INTEGRAL DISCONNECT, TOGGLE SW, ETC.) W/ ACTUAL EQUIP. INSTALLED PRIOR TO PURCHASE & ROUGH-IN.

1. PROVIDE DISCONNECTING MEANS (AS SPEC'D). CIRCUIT AS SHOWN & EXTEND TO UNIT.
2. PROVIDE DIRECT CONNECTION TO EQUIP. PROVIDE PERMANENT CB LOCK "OPEN", IAW 422.33(B).



STORAGE BLDG ADDITION
2 / E5 POWER PLAN
SCALE: 1/8" = 1'-0"

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REVISIONS

△	.

NEW STOR. BLDG. ADDITION

LTG/PWR PLANS & NOTES

DATE June 24, 2026

DRAWN BY: JLP | CHECKED: JLP

JOB NO. awck: 25063

SHEET NO. E5

OF

SOLE SOURCE ENGINEERING, P.C. CERT. NO. C-2317 NORTH CAROLINA GIBSONVILLE, NC