ONSLOW COUNTY SCHOOLS

TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS

112 E FOY STREET RICHLANDS, NC 28574

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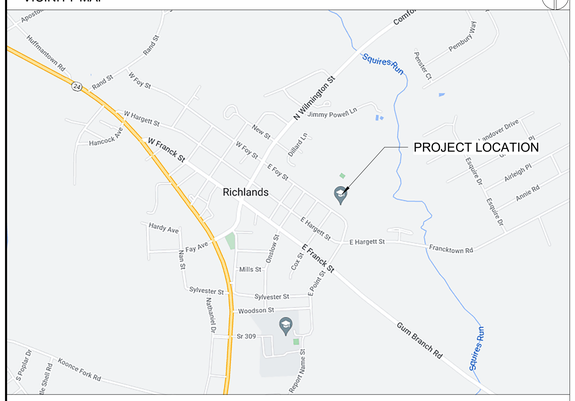
VICINITY MAP



BIRDS EYE

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- **1-1:** HVAC WALL UNIT - BARD
- **1-2:** SWITCHES - SQUARE D
- **1-3:** WATER COOLER WITH BOTTLE FILLER - ELKAY
- **1-4:** THERMOSTATS - VENSTAR EXPLORER SMART STAT
- **1-5:** DOOR HARDWARE:
  - **a.** DOOR LOCKS - SCHLAGE
  - **b.** EXIT DEVICES - VON DUPRIN
  - **c.** CLOSERS - LCN

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- **2-1:** MECHANICAL UPGRADES
- **2-2:** ELECTRICAL UPGRADES
- **2-3:** CEILINGS & LIGHTING UPGRADES
- **2-4:** DOOR REPLACEMENT & TRANSOM INFILL
- **2-5:** WINDOW REPLACEMENT

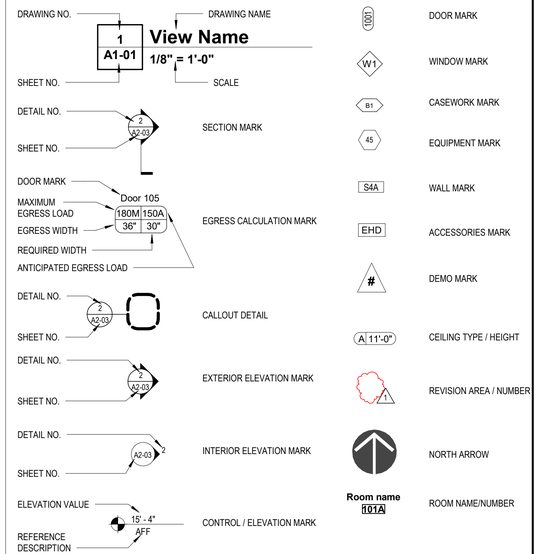
ALT 3: BUS PARKING
- **3-1:** PARKING LOT, DRIVE, & ASSOCIATED SIDEWALKS
- **3-2:** CANOPY & LIGHTING

ALT 4: PARENT/STUDENT QUEUE
PARKING LOT, DRIVE, & ASSOCIATED SIDEWALKS

ABBREVIATIONS

@	AT
AB	AREA DRAIN
ACC	ACCENT COLOR
ACT	ACOUSTICAL CEILING TILE
ACOUS	ACOUSTIC
ACW	ACOUSTICAL WALL PANELS
ADJ	ADJUSTABLE
AE	APPROVED EQUAL
AFF	ABOVE FINISH FLOOR
AFL	ATHLETIC FLOORING
AHU	AIR HANDLING UNIT
ALB	ALUMINUM BASE
ALT	ALUMINUM TILE
ALUM	ALUMINUM
ANOD	ANODIZED
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATTEN	ATTENUATION
AWP	ACRYLIC WALL PANELS
BBT	BIOBASED TILE
BF	BLOCK FILL
BFC	BROOMED FINISHED CONCRETE
BL	BLINDS
BLDG	BUILDING
BLKG	BLOCKING
BOT	BOTTOM
BFG	BULLET PROOF GLASS
CB#	CATCH BASIN
CEM	CEMENTIOUS SIDING
CF	CORK FLOORING
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFT	CERAMIC FLOOR TILE
CG	CURVED CEILING GRID
CI	CAST IRON
CI#	CURB INLET
CJ	CONTROL JOINT
CLG	CEILING
CL	CENTERLINE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONTR	CONTRACTOR
CORR	CORRUGATED
CPT	CARPET
CPTT	CARPET TILE
CTB	CERAMIC TILE BASE
CRC	COLD ROLLED CHANNEL
CRF	CORK RUBBER FLOORING
CS	COUNTERSUNK
CWT	CERAMIC WALL TILE
DET	DETAIL
DEPT	DRY FOG PAINT
DIA	DIAMETER
DISP	DISPENSER
DN	DOWN
DP	DEEP
DR	DOOR
DS	DOWNSPOUT
E/W	EACH WAY
EDG	EDGE BANDING
EES	EMERGENCY EYE WASH AND SHOWER
EFC	EPOXY FLOOR COATING
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EIP	EXISTING IRON PIPE
ELEV	ELEVATION
EJ	EXPANSION JOINT
EN	ENAMEL
EPT	HIGH PERFORMANCE EPOXY PAINT
EQ	EQUAL
EST	EXISTING
EXT	EXTERIOR
EXP	EXPOSED CEILING
EWC	ELECTRIC WATER COOLER
FC	FIRECODE
FD	FLOOR DRAIN
FEB	FIRE EXSTINGUISHER BRACKET
FEC	FIRE EXSTINGUISHER CABINET
FF	FINISH FLOOR
FH	FIRE HYDRANT
FLU	FLOURESCENT
FOF	FACE OF FRAME
FOM	FACE OF MASONRY
FOW	FACE OF WALL
FTG	FOOTING
GC	GENERAL CONTRACTOR
GCT	GRANITE COUNTERTOP
GA	GAGE
GALV	GALVANIZED
GEN	GENERATOR
GFT	GRANITE FLOOR TILE
GL	GLASS
GMT	GLASS MOSAIC TILE
GT	GROUT
GYP	GYPSUM BOARD
HC	HOLLOW CORE
HB	HOSE BIB
HC	HANDICAPP
HDWD	HARDWOOD
HM	HOLLOW METAL
HORZ	HORIZONTAL
HR	HOUR
ICF	INFECTION CONTROL FLOORING
ID	INSIDE DIAMETER
INSTAL	INSTALLATION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
JB	JOIST BEARING
JB#	JUNCTION BOX
JT	JOINT
L	LONG
LFT	LINOLEUM FLOOR TILE
LP	LIGHT POLE
LST	LINOLEUM SHEET FLOORING
LVT	LUXURY VINYL TILE
MATL	MATERIAL
MAX	MAXIMUM
MC	METAL CANOPY
MCT	METAL CEILING TILE
MB	MASONRY - BRICK
MECH	MECHANICAL
MFR	MANUFACTURER
MFT	MARBLE FLOOR TILE
MIN	MINIMUM
MO	MASONRY OPENING
MTB	MARBLE TILE BASE
MTD	MOUNTED
MTL	METAL
MWM	METAL WALK-OFF MAT
MWT	MARBLE WALL TILE
NIC	NOT IN CONTRACT
NOM	NORMAL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFOI	OWNER FURNISHED, OWNER INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OPP	OPPOSITE
OZ	OUNCE
P-LAM	PLASTIC LAMINATE
P-LAM WD	PLASTIC LAMINATE WOOD DOORS
PC	POLISHED CONCRETE
PERF	PERFORATED
PFT	PORCELAIN FLOOR TILE
PIV	POST INDICATOR VALVE
PL	PLATE
PLYWD	PLYWOOD
PNT	PAINT
PP	POWER POLE
PR	PAIR
PTB	PORCELAIN TILE BASE
PTD	PAINTED
PTP	PLASTIC TOILET PARTITIONS
PWT	PORCELAIN WALL TILE
PVC	POLYVINYL CHLORIDE
QS	QUARTZ SURFACE
QT	QUARRY TILE
QZT	QUARTZ TILE
R	RADIUS
R&S	ROD AND SHELF
RB	RUBBER BASE
RBT	RUBBER TILE
RCP	REINFORCED CONCRETE
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RECEPT	RECEPTACLE
RECYF	RECYCLED FLOORING
REQD	REQUIRED
RES	RESILIENT
RM	RUBBER MAT
ROW	RIGHT OF WAY
RSF	RESINOUS FLOORING
RTF	RESILENT TILE FLOORING
SAT	SPRAYED ACOUSTICAL TREATMENT
SC	SEALED CONCRETE
SCH	SCHEDULE
SCW	SOLID CORE WOOD
SDT	STATIC DISSIPATIVE TILE
SF	SQUARE FEET
SIM	SIMILAR
SLS	SOLID SURFACE
SP	SPACES
SQ	SQUARE
SS	STAINLESS STEEL
SSC	STAINED SEALED CONCRETE
SRT	SLIP RESISTANT TILE
ST	STEEL
ST&R	STAIR TREADS AND RISERS
STD	STANDARD
SUSP	SUSPENDED
TC	TERRA COTTA
T&G	TONGUE AND GROOVE
TCA	TILE COUNCIL OF AMERICA
TELE	TELEPHONE
TEMP	TEMPERED
TEXD	TEXTURED
TFT	TERRAZZO FLOOR TILE
TOC	TOP OF CURB
TOS	TOP OF STEEL
TP	TELEPHONE POLE
TVB	TELEVISION MOUNTING BRACKET
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
U/L	UTILITY/LIGHTS
UON	UNLESS OTHERWISE NOTED
VACT	VINYL ACOUSTICAL TILE
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VWC	VINYL WALL COVERING
W/	WITH
WC	WATER CLOSET
WD	WOOD
WF	WOOD FLOORING
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

SYMBOL LEGEND



SHEET NUMBERING LEGEND

SECTION

0	DEMOLITION / GENERAL
1	PLANS
2	EXTERIOR ELEVATIONS
3	BUILDING / WALL SECTIONS
4	ENLARGED PLANS, CASEWORK, INTERIOR ELEVATIONS & RELATED DETAILS
5	DETAILS
6	WINDOW & DOOR SCHEDULES
7	FINISH PLAN & SCHEDULES
8	VERTICAL CIRCULATION
9	BID ALTERNATES

DISCIPLINE

G	GENERAL
C	CIVIL
L	LANDSCAPE
S	STRUCTURAL
A	ARCHITECTURAL
Q	EQUIPMENT
P	PLUMBING
M	MECHANICAL
E	ELECTRICAL
FP	FIRE PROTECTION
X	MISCELLANEOUS

PAGE NUMBER

A1-01

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BID/PERMIT SET

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Smith Sinnett Architecture, P.A. 2023

THIS DRAWING IS FORMATTED TO BE PRINTED ON A 24" X 36" SHEET

ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

COVER SHEET

2022017 — 20 Feb 2023

G0-01

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

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

Name of Project: TREXLER MIDDLE SCHOOL RENOVATION AND SITE IMPROVEMENTS

Address: 112 E. FOY STREET, RICHLANDS, NC Zip Code 28574

Owner/Authorized Agent: BRENDAN GARTNER Phone # (910) 455.2211 EXT.71310 E-Mail brendan.gartner@onslow.k12.nc.us

Owned By: ONSLOW COUNTY SCHOOLS ■ City/County ONSLOW ☐ Private _____ ☐ State _____

Code Enforcement Jurisdiction: ☐ City _____ ☐ County _____ ☐ State _____

CONTACT: CHARLIE TENNANT, SMITH SINNETT ARCHITECTURE

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Fire Alarm	Progressive Design Collaborative	Steve Campbell	025020	(919)790.9989	scampbell@pdcengineering.com
Plumbing	Progressive Design Collaborative	Steve Campbell	025020	(919)790.9989	scampbell@pdcengineering.com
Mechanical	Progressive Design Collaborative	Steve Campbell	025020	(919)790.9989	scampbell@pdcengineering.com
Sprinkler Standpipe	--	--	--	( )	
Structural	Kaydos-Daniels PLLC	Andrew Warnke	031467	(919)828.4966	andrew@kaydosdaniels.com
Retaining Walls >5' High	N/A			( )	
Other				( )	

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

2018 NC BUILDING CODE: ☐ New Building ☐ Addition ☐ Renovation
☐ 1st Time Interior Completions ☐ Shell/Core* ☐ Phased Construction*
*Contact the local inspection jurisdiction for possiblitinal procedures and requirements.

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

CONSTRUCTED: (date) -- **CURRENT OCCUPANCY(S)** (Ch.3): --

RENOVATED: (date) -- **PROPOSED OCCUPANCY(S)** (Ch.3): --

OCCUPANCY CATEGORY (Table 1604.5): **Current:** II **Proposed:** II

BASIC BUILDING DATA

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

Sprinklers: ■ No ☐ Partial ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

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

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

Special Inspections Required: ☐ Yes ■ No If special inspections are required, contact the local inspection jurisdiction for additional procedures and requirements.

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	WORK AREA(SQ FT)	SUB-TOTAL
3rd Floor			
2nd Floor	-- SF	-- SF	
Mezzanine			
1st Floor	9,775 SF	9,775 SF	9,775 SF
Basement	-- SF	-- SF	
TOTAL	9,775 SF	9,775 SF	9,775 SF

ALLOWABLE AREA

Primary Occupancy Classification(s):

Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ■
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 I-1 & I-2 Condition ☐ 1 ☐ 2
☐ I-3 ☐ I-4 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): _____

Incidental Uses (Table 509): _____

Special Uses (Chapter 4 - List Code Sections): _____

Special Provisions: (Chapter 5 - List Code Sections): _____

Mixed Occupancy: ■ No ☐ Yes Separation: ____ Hr. Exception: _____

☐ Non-Separated Use (508.3)

☐ Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

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

_____ + _____ + ... = _____ ≤1.00

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

[1] Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____(P)
c. Ratio (F/P) = _____(F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase $I_f = 100[F/P - 0.25] \times W/30$ = _____*(%)*

[2] Unlimited area applicable under conditions of Section 5.07 (506.2).
[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories)
[4] The maximum area of open parking garages must comply with Table 406.5.4 . The maximum area of air traffic control towers must comply with Table 412.3.1
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	XX	XX	
Building Height in Stories (Table 504.4)	XX	XX	

EXISTING/ UNCHANGED

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

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

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

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

EXISTING/ UNCHANGED

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	☐ No	■ Yes (WORK AREAS)
Exit Signs:	☐ No	■ Yes
Fire Alarm:	☐ No	■ Yes
Smoke Detection Systems:	☐ No	☐ Yes Partial (WORK AREAS)
Carbon Monoxide Detection:	☐ No	■ Yes (WORK AREAS)

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: G1-01

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

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

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

EXISTING/ UNCHANGED

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESSAISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	
EXISTING		210	-	-	7	7
TOTAL		210	-	-	7	7

NOTE: SCOPE OF WORK WILL MAINTAIN EXISTING PARKING COUNTS

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS M	WATERCLOSETS F	WATERCLOSETS UNI	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS /TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
STUDENT	EXISTING	0	0	8	0	0	0	8	0	2	0
	NEW (TOTAL)	4	4	0	0	2	2	0	0	1	1
	REQUIRED	4	4	0	0	2	2	0	0	1	1
	EXISTING	0	0	0	0	0	0	0	0	0	0
	NEW (TOTAL)	0	0	1	0	0	0	1	0	0	0
	REQUIRED	0	0	1	0	0	0	1	0	0	0

SPECIAL APPROVALS

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

ONSLOW COUNTY, NCDPI

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 performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ■ (If checked the remainder of this section is not applicable.)

Exempt Building: ☐ Provide code or statutory reference:

Climate Zone: ■ 3A ☐ 4A ☐ 5A

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

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: N/A
U_o Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
Description of assembly: N/A (ALTERNATE) WINDOW INFILL
U_o Value of total assembly: N/A (ALTERNATE) 0.0345
R-Value of insulation: N/A (ALTERNATE) R-19 (6" BATT) + R-10ci
Openings (windows or doors with glazing)
U-Value of assembly: 0.53
Solar heat gain coefficient: 0.75
projection factor: 0.13
Door R-Values: 13

Walls below grade (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of total assembly: N/A

Floors over unconditioned space (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of total assembly: N/A

Floors slab on grade
Description of assembly: 4" CONCRETE OVER VAPOR BARRIER
U-Value of total assembly: 0.481
R-Value of insulation: NR
Horizontal/vertical requirement: NR
slab heated: N/A

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

DESIGN LOADS:

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

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

Ground Snow Load: _____ psf

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

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 S_S _____ %g S_1 _____ %g

Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F
Data Source: ☐ Field Test ☐ Presumptive ☐ Historical Data

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

Analysis Procedure: ☐ Simplified ☐ Equivalent Lateral Force ☐ Dynamic

Architectural, Mechanical, Components anchored? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☐

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

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

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: _____
summer dry bulb: _____

Interior design conditions
winter dry bulb: _____
summer dry bulb: _____
relative humidity: _____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System
Unitary
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____
Boiler
Size category If oversized, state reason.: _____
Chiller
Size category If oversized, state reason.: _____

List equipment efficiencies: _____

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

ELECTRICAL SYSTEM AND EQUIPMENT

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

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

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

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

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BID/PERMIT SET

ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

BUILDING CODE SUMMARY

2022017 20 Feb 2023

G0-02

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WALL TYPE NAMING CONVENTION

M8UA

TYPE OF CORE
- C CONCRETE
- F FURRING
- M MASONRY
- S METAL STUD
- W WOOD

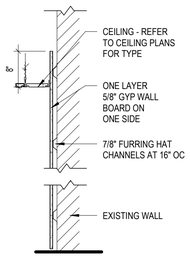
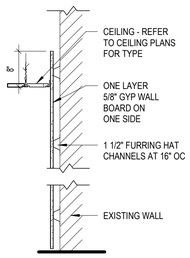
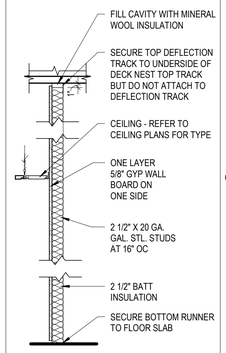
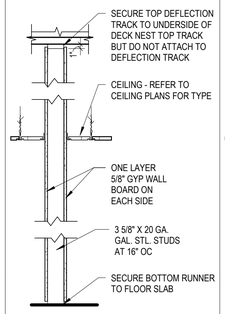
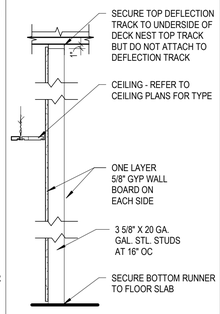
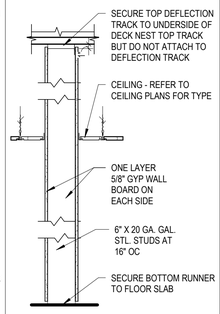
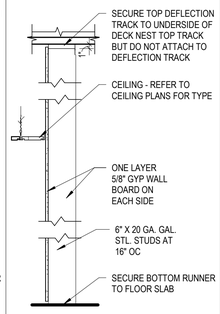
WIDTH OF CORE
- 4 4" MASONRY, 3 5/8" METAL STUD
- 5 4" METAL STUD
- 6 6" MASONRY, 6" METAL STUD
- 8 8" MASONRY, 8" METAL STUD
- 10 10" MASONRY
- 12 12" MASONRY, 12" METAL STUD

HEIGHT OF WALL
- C UP TO CEILING
- D DETACHED - SEE DRAWINGS FOR HEIGHT
- J UP TO JOIST BEARING
- P 8" ABOVE CEILING
- U UP TO DECK ABOVE

ITERATION - SEE WALL TYPES LEGEND
- NONE IF NO LAYERS OR FINISHES
- A (EX: 1 LAYER GWB ON EACH SIDE)
- B (EX: 1 LAYER GWB ON ONE SIDE)
- C ...

NOTE:
1. SEE WALL SECTIONS FOR EXTERIOR WALL CONSTRUCTION.
2. SEE WALL TYPE LEGEND FOR CONSTRUCTION OF ASSEMBLIES AND FIRE RATINGS UL LISTING.

WALL TYPE LEGEND

MARKER	F1PB	F1.5PB	S2UB	S4UA	S4UB	S6UA	S6UB
SYMBOL							
							
DESCRIPTION	7/8" HAT CHANNEL UP TO MIN. 8" ABOVE CEILING WITH 5/8" GYP BOARD ON ONE SIDE	1 1/2" HAT CHANNEL UP TO MIN. 8" ABOVE CEILING WITH 5/8" GYP BOARD ON ONE SIDE	2 1/2" METAL STUD UP TO BOTTOM OF DECK WITH BATT INSULATION AND 5/8" GYP BOARD ON ONE SIDE	3 5/8" METAL STUD UP BOTTOM OF DECK WITH 5/8" GYP BOARD EACH SIDE	3 5/8" METAL STUD UP TO BOTTOM OF DECK WITH 5/8" GYP BOARD ON ONE SIDE	6" METAL STUD UP BOTTOM OF DECK WITH 5/8" GYP BOARD EACH SIDE	6" METAL STUD UP TO BOTTOM OF DECK WITH 5/8" GYP BOARD ON ONE SIDE
UL DESIGN # HEAD	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED
WALL	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED
BASE	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED	NON-RATED
PENETRATIONS	REFERENCE MEP	REFERENCE MEP	REFERENCE MEP	REFERENCE MEP	REFERENCE MEP	REFERENCE MEP	REFERENCE MEP

NOTES:
1. ALL CMU WALLS GOING UP TO BOTTOM OF DECK ARE TO PROVIDE A 1" GAP FOR DEFLECTION.
2. FILL 1" GAP WITH MINERAL WOOL INSULATION ALONG THE ENTIRE LENGTH OF WALL
3. AT ALL METAL STUD WALLS TERMINATING AT BOTTOM OF DECK PROVIDE A DEFLECTION TRACK SECURED TO THE UNDERSIDE OF THE DECKING, NEST TOP TRACK BUT DO NOT ATTACH TO DEFLECTION TRACK
4. SEE FINISH SCHEDULE FOR WALL, FLOOR BASE AND CEILING TYPES AND FINISHES
5. REFER TO STRUCTURAL DRAWINGS FOR LOCATION OF REINFORCING, BOND BEAMS, BRACING, ETC.
6. PROVIDE ABUSE-RESISTANT GWB IN ALL CLASSROOMS, CORRIDORS AND BULKHEADS

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SMITH SINNETT ARCHITECTURE PA CERT. NO. 50172 RALEIGH

CHARLES WHITMAN TENNANT REGISTERED ARCHITECT 13798 NORTH CAROLINA RALEIGH

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

WALL TYPE LEGEND

2022017 20 Feb 2023

G0-03

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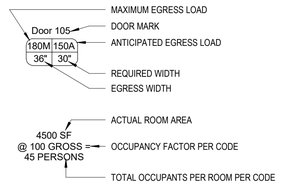
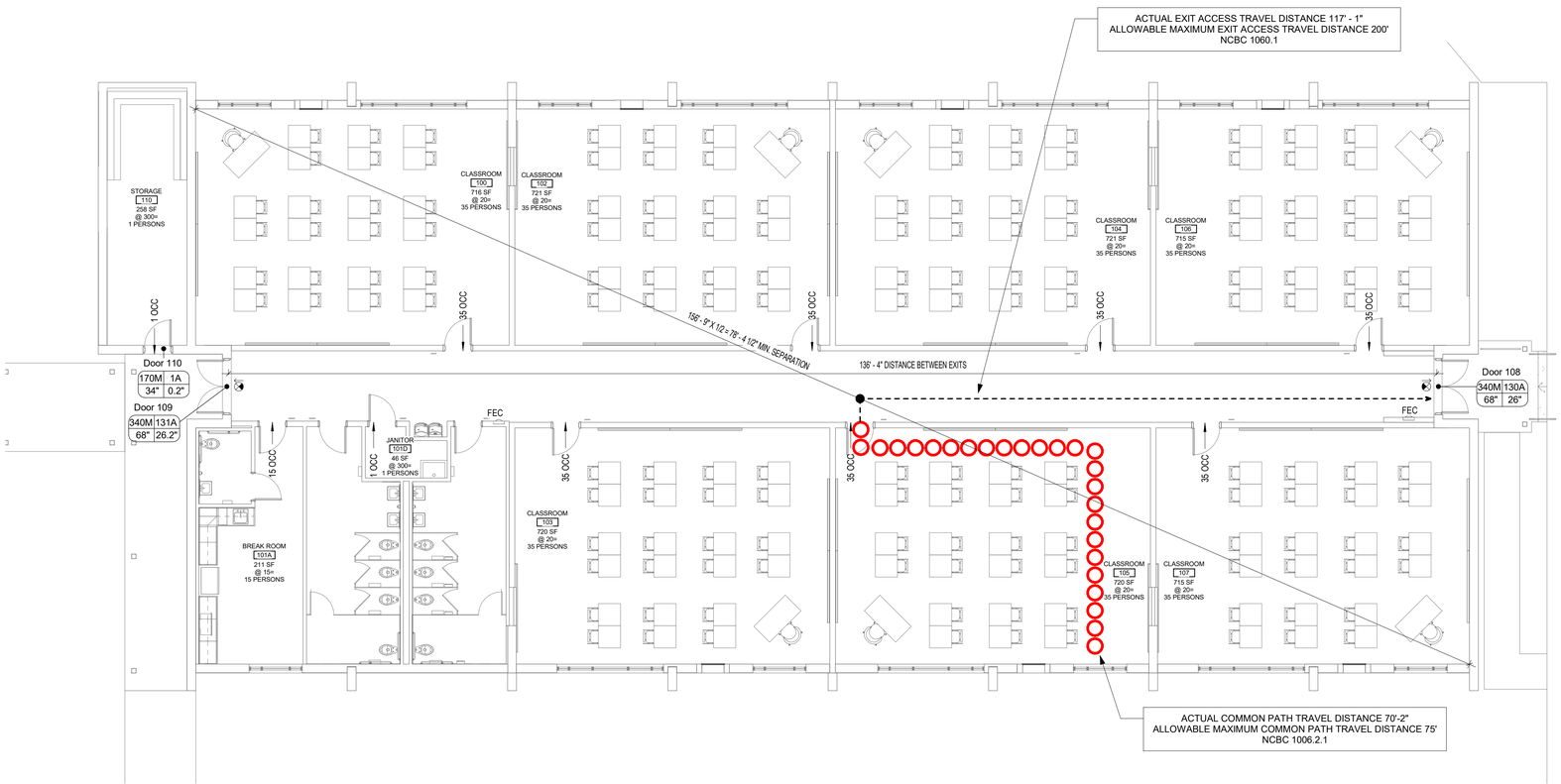
LIFE SAFETY LEGEND

- LOCATION OF EXIT SIGN
- FEC FEC — LOCATION OF FIRE EXTINGUISHER IN A CABINET
- COMMON PATH OF EGRESS TRAVEL (PER NCBC 1006.2.1)
- EXIT ACCESS TRAVEL DISTANCE (PER NCBC 1017)





1 G1-01 **LIFE SAFETY PLAN**

1/8" = 1'-0"

smith sinnett ARCHITECTURE

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Raleigh, NC 27607

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SMITH SINNETT ARCHITECTURE, PA — CERT. NO. 50172 — RALEIGH

CHARLES WHITMAN TENNANT — REGISTERED ARCHITECT — 13798 — NORTH CAROLINA — RALEIGH — 20 Feb 23

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112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

LIFE SAFETY PLAN

2022017 — 20 Feb 2023

G1-01

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TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS
GROUNDED ENGINEERING PROJECT #22096

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

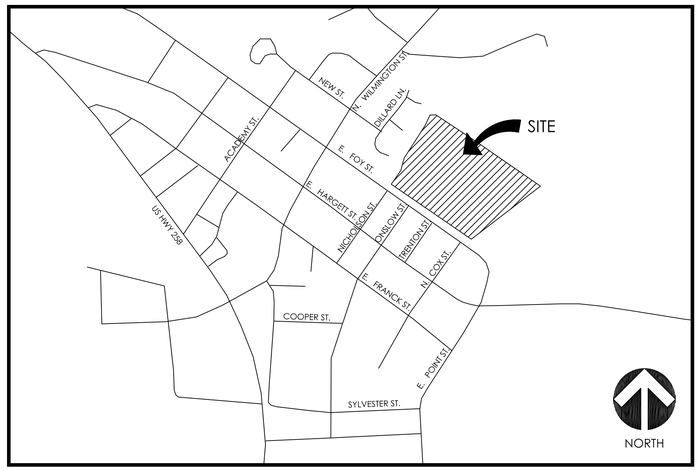
REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

SITE DATA SUMMARY

PROJECT NAME	TREXLER MIDDLE SCHOOL TRANSPORTATION SERVICES IMPROVEMENTS
PROPERTY ADDRESS	110 E. FOY STREET, RICHLANDS, NC 28540
PROJECT LOCATION	LATITUDE: 34.900156 LONGITUDE: -77.542353
COUNTY	ONSLOW
ONSLOW COUNTY PIN	443219714709
PARCEL ID	040022
EXISTING PARCEL SIZE	32.07 AC.
CURRENT ZONING	R-8
RIVER BASIN	WHITE OAK
OVERLAY DISTRICTS	N/A
CURRENT USE	SCHOOL
PROPOSED USE	SCHOOL
CHANGE TO IMPERVIOUS AREA	REFER TO TABLE ON SHEET C-000
APPROXIMATE AREA OF DISTURBANCE	5.7 AC. (249,000 SF)
OWNER	ONSLOW COUNTY PUBLIC SCHOOLS 200 BROADHURST ROAD JACKSONVILLE, NC 28540 CONTACT: DANIEL GRAY EMAIL: Daniel.Gray@onslow.k12.nc.us PHONE: 910.581.0467 FAX: N/A
CIVIL ENGINEER / APPLICANT	GROUNDED ENGINEERING, INC. PO BOX 37132 RALEIGH, NC 27627 CONTACT: SEAN A. DOLLE, PE EMAIL: SEAN@GROUNDED-ENGINEERING.COM PHONE: 919.438-3694 FAX: N/A
ARCHITECT	SMITH SINNETT ARCHITECTURE 4600 LAKE BOONE TRAIL, SUITE 205 RALEIGH, NC 27607 CONTACT: CHARLIE TENNANT, AIA, LEED AP EMAIL: CTENNANT@SMITHSINNETT.COM PHONE: 919.781.8582 FAX: N/A
SURVEYOR	PARKER & ASSOCIATES, INC. P.O. BOX 976 JACKSONVILLE, NC 28540 CONTACT: STACY L. BATCHELOR PHONE: 910.455.2414 FAX: N/A

PARKING SUMMARY

EXISTING PARKING SPACES	210
PROPOSED PARKING SPACES	210
REQUIRED ADA SPACES	7 (1 VAN)
PROVIDED ADA SPACES	7 (7 VAN)



VICINITY MAP
N.T.S.

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
BRIAN WRENN
Acting Director

NORTH CAROLINA
Environmental Quality

June 8, 2020

Onslow County Public Schools
Attn: Daniel Grey
200 Broadhurst Road
Jacksonville, NC 28540

Subject: Stormwater Permit Exemption – Redevelopment Project
Old Richlands Elementary School
Project Number SW8 200505
Onslow County

Dear Mr. Grey:

On May 8, 2020, the Wilmington Regional Office of the Division of Energy, Mineral and Land Resources (DEMLR) received a complete request to exempt the subject proposed redevelopment project from Stormwater Management Permit requirements. Staff review of the plans and supporting documentation has determined that the project proposes activities that are exempted from State Stormwater permitting requirements as set forth in the stormwater rules under Title 15A NCAC 2H.1000, as amended.

Therefore, the director of the DEMLR is hereby providing confirmation that the subject project is exempted from State Stormwater permitting requirements under the following conditions:

1) The project must be constructed as shown on the plans submitted to this Office.
2) The total proposed built-upon area of 55,100 square feet does not exceed the existing built-upon area of 55,100 square feet. The 55,100 square feet of built-upon area allocated to this 104,000 square foot project area includes 0 square feet of proposed built-upon area and 55,100 square feet of built-upon area allocated for future improvements.
3) The proposed stormwater control, vegetated sheet flow to a stormwater collection system, provides equal protection of surface waters as the existing stormwater control, which is vegetated sheet flow to a stormwater collection system.

Under Section .1019(2) of the stormwater rules, the entire common plan of development must be permitted. Therefore, any future development or changes to the proposed development, including, but not limited to, the relocation of built-upon area and the construction of additional built-upon area, will require approval or a Stormwater Management permit application and permit issuance from the DEMLR prior to any construction. Construction of additional development or changes to the proposed development prior to receipt of the required approval or failure to maintain compliance with the exemption conditions, are violations of Title 15A NCAC 2H.1000, and may result in the initiation of appropriate enforcement action.

Please keep in mind that this determination does not affect your legal obligation to obtain other permits and approvals, which may be required by Federal, State, or local government agencies, rule or law. If you have any question, or need additional information concerning this matter, please contact Christine Hall at 910-796-7215.

Sincerely,

for Brian Wrenn, Acting Director
Division of Energy, Mineral and Land Resources

DES/canh: \\\Stormwater\Permits & Projects\2020\200505 Exemption\2020 06 permit 200505

cc: Sean Dolle, PE; Grounded Engineering
Wilmington Regional Office Stormwater File

North Carolina Department of Environmental Quality | Division of Energy, Mineral and Land Resources
Wilmington Regional Office | 127 Cardinal Drive Extension | Wilmington, North Carolina 28405
910.796.7215

SHEET INDEX

C-000	SITE COVER SHEET
C-001	PROJECT NOTES
C-100	OVERALL EXISTING CONDITIONS PLAN
C-110	ENLARGED EXISTING CONDITIONS PLAN (BUS PARKING)
C-120	ENLARGED EXISTING CONDITIONS PLAN (CARPOOL)
C-210	ENLARGED SITE DEMOLITION PLAN (BUS PARKING)
C-210A	ALT #3-1 - ENLARGED SITE DEMOLITION PLAN (BUS PARKING)
C-220	ENLARGED SITE DEMOLITION PLAN (CARPOOL)
C-220A	ALT #4 - ENLARGED SITE DEMOLITION PLAN (CARPOOL)
C-310	ENLARGED SITE LAYOUT PLAN (BUS PARKING)
C-310A	ALT #3-1 - ENLARGED SITE LAYOUT PLAN (BUS PARKING)
C-320	ENLARGED SITE LAYOUT PLAN (CARPOOL)
C-320A	ALT #4 - ENLARGED SITE LAYOUT PLAN (CARPOOL)
C-411A	ALT #3-1 - EROSION CONTROL PLAN-STAGE 1 (BUS PARKING)
C-412A	ALT #3-1 - EROSION CONTROL PLAN-STAGE 2 (BUS PARKING)
C-413A	ALT #3-1 - EROSION CONTROL PLAN-STAGE 3 (BUS PARKING)
C-421A	ALT #4 - EROSION CONTROL PLAN-STAGE 1 (CARPOOL)
C-422A	ALT #4 - EROSION CONTROL PLAN-STAGE 2 (CARPOOL)
C-423A	ALT #4 - EROSION CONTROL PLAN-STAGE 3 (CARPOOL)
C-430	EROSION CONTROL PLAN - NPDES NOTES
C-431	EROSION CONTROL PLAN - NPDES NOTES
C-510	ENLARGED GRADING & DRAINAGE PLAN (BUS PARKING)
C-510A	ALT #3-1 - ENLARGED GRADING & DRAINAGE PLAN (BUS PARKING)
C-520	ENLARGED GRADING & DRAINAGE PLAN (CARPOOL)
C-520A	ALT #4 - ENLARGED GRADING & DRAINAGE PLAN (CARPOOL)
C-710A	ALT #3-1 - ENLARGED SITE UTILITY PLAN (BUS PARKING)
C-900	SITE DETAILS
C-901	SITE DETAILS
C-910	EROSION CONTROL DETAILS
C-911	EROSION CONTROL DETAILS
C-912	EROSION CONTROL DETAILS
C-920	STORM DRAINAGE DETAILS
C-921	STORM DRAINAGE DETAILS
C-922	STORM DRAINAGE DETAILS
C-930	SITE UTILITY DETAILS

STORMWATER EXEMPTION NOTE:

THE PROPOSED IMPROVEMENTS ASSOCIATED WITH THIS PROJECT WILL RESULT IN A NET DECREASE OF IMPERVIOUS AREA. THEREFORE, THIS PROJECT IS NOT REQUIRED TO PROVIDE ANY STORMWATER MANAGEMENT.

	BASE BID	BASE BID W/ ALT #3	BASE BID W/ ALT #4	BASE BID W/ ALT #3 & #4
EXISTING IMPERVIOUS AREA TO BE REMOVED	-762 SF	-38,967 SF	-67,348 SF	-105,553 SF
PROPOSED IMPERVIOUS AREA TO BE CONSTRUCTED	+750 SF	+92,600 SF	+40,200 SF	+132,050 SF
"BANKED" IMPERVIOUS AREA FROM PREVIOUS PROJECT (SW8 200505)	-55,100 SF	-55,100 SF	-55,100 SF	-55,100 SF
NET CHANGE IN IMPERVIOUS AREA	-55,112 SF	-1,467 SF	-82,248 SF	-28,603 SF

Know what's **below.**
Call before you dig.

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Raleigh, NC 27606
919.438.3694 (o)
Firm License C-3898

grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER SEAN A. DOLLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS

SITE COVER SHEET

ISSUE DATE	SUBMITAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-000

CONSTRUCTION SEQUENCE

STAGE 1 (SHEET C-411A & C-421A)

1. THE CONTRACTOR SHALL SCHEDULE A COORDINATION MEETING ON-SITE WITH THE NCDEQ INSPECTOR AND OWNER'S REPRESENTATIVES. THE CONTRACTOR SHALL PROVIDE ATTENDEES WITH A MINIMUM OF 72 HOURS NOTICE FOR ALL ON-SITE MEETINGS. THE CONTRACTOR SHALL OBTAIN A LAND-DISTURBING PERMIT.
2. THE CONTRACTOR SHALL INSTALL THE EROSION CONTROL MEASURES AS SHOWN ON THE APPROVED CONSTRUCTION PLANS. THE CONTRACTOR SHALL TAKE GREAT CARE TO NOT DISTURB ANY MORE AREA THAN NECESSARY TO INSTALL THE MEASURES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION. UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL CONTACT THE NCDEQ INSPECTOR TO SCHEDULE AN ON-SITE INSPECTION OF THE MEASURES AND TO OBTAIN A CERTIFICATE OF COMPLIANCE.
3. ONCE THE MEASURES HAVE BEEN APPROVED BY THE NCDEQ INSPECTOR, THE CONTRACTOR SHALL PROCEED TO EROSION CONTROL STAGE 2.

STAGE 2 (SHEET C-412A & C-422A)

1. BEGIN DEMOLITION OF SITE IMPROVEMENTS AS SHOWN ON THE APPROVED CONSTRUCTION PLANS.
2. ONCE DEMOLITION IS COMPLETE, BEGIN THE SITE GRADING OPERATIONS. MAINTAIN DEVICES AS NEEDED.
3. INSTALL STORM DRAINAGE IMPROVEMENTS AND ASSOCIATED INLET PROTECTION.
4. CONTRACTOR SHALL INSTALL PROPOSED SITE UTILITY IMPROVEMENTS.
5. ONCE GRADING AND STORM DRAINAGE INSTALLATION OPERATIONS ARE COMPLETE, PROCEED TO STAGE 3.

STAGE 3 (SHEET C-413A & C-423-A)

1. CONTRACTOR SHALL INSTALL CURB & GUTTER AND STONE BASE. THE CONTRACTOR SHALL MAINTAIN THE SKIMMER BASIN AS LONG AS POSSIBLE. ONCE NECESSARY AND APPROVED BY NCDEQ, THE CONTRACTOR SHALL REMOVE THE TEMPORARY SKIMMER BASIN.
2. ONCE CURB & GUTTER IS INSTALLED, THE CONTRACTOR SHALL CONVERT THE INLET PROTECTION AT IMPACTED STRUCTURES FROM BLOCK & GRAVEL TO SEDIMENT SACK. THE INLETS ARE TO BE CONTINUALLY PROTECTED THROUGHOUT THE PROJECT UNTIL THE NCDEQ INSPECTOR APPROVES THEIR REMOVAL.
3. CONTRACTOR SHALL INSTALL PAVEMENT, CONCRETE SIDEWALKS AND CANOPIES (REFER TO ARCHITECTURAL PLANS FOR CANOPY DETAILS AND INFORMATION).
4. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DEVICES AS NEEDED.
5. AS AREAS ON SITE ARE NO LONGER BEING USED OR IMPACTED BY CONSTRUCTION, THE CONTRACTOR SHALL FINE GRADE AREAS PER THE APPROVED CONSTRUCTION PLANS AND PROVIDE IMMEDIATE STABILIZATION.
6. THE CONTRACTOR SHALL INCREASE MAINTENANCE FREQUENCY WHERE APPROVED MEASURES FAIL TO PREVENT ACCELERATED EROSION, OFF-SITE SEDIMENTATION, OR REPETITIVE NON-COMPLIANCE ISSUES.
7. THE CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN GOOD WORKING ORDER. REFER TO MAINTENANCE REQUIREMENTS PROVIDED ON THE DETAIL SHEETS IN THESE PLANS AND IN THE CURRENT NCDEQ EROSION CONTROL MANUAL.
8. ONCE GRADING IS COMPLETE AND THE SITE IS STABILIZED, THE CONTRACTOR SHALL CALL NCDEQ INSPECTOR TO REQUEST AN INSPECTION AND OBTAIN APPROVAL TO REMOVE TEMPORARY MEASURES. DO NOT REMOVE ANY TEMPORARY MEASURES WITHOUT PRIOR NCDEQ INSPECTOR APPROVAL.
9. ONCE GRADING IS COMPLETE, TEMPORARY MEASURES ARE REMOVED, THE SITE IS STABILIZED, THE CONTRACTOR SHALL CALL NCDEQ INSPECTOR TO SCHEDULE A FINAL INSPECTION. FULL STABILIZATION ON THE ENTIRE SITE IS REQUIRED IN ORDER TO OBTAIN A CERTIFICATE OF OCCUPANCY.
10. ONCE THE FINAL INSPECTION IS APPROVED, CLOSE THE SEDIMENTATION & EROSION CONTROL PERMIT AND OBTAIN A CERTIFICATE OF COMPLETION.

THE NCDEQ INSPECTOR CONTACT INFORMATION FOR THIS PROJECT IS:
NCDEQ WILMINGTON REGIONAL OFFICE
PHONE #: 910.796.7215

EROSION CONTROL NOTES

1. REFER TO GENERAL NOTES.
2. THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS, BUT MAY ADJUST AS NECESSARY BASED ON FIELD CONDITIONS.
3. THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL MEASURES FOR THE LIFE OF THE PROJECT AND SHALL ENSURE THEY ARE CONTINUALLY IN GOOD WORKING CONDITION.
4. THE CONTRACTOR SHALL ENSURE GRADING OPERATIONS ARE PERFORMED IN A MANNER THAT DO NOT ALLOW ANY SEDIMENT OFF-SITE OR OUTSIDE OF THE PROJECT LIMITS OF DISTURBANCE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL SELF-INSPECTIONS AND SELF-MONITORING IN ACCORDANCE WITH CONDITIONS OF NPDES PERMIT NO. NCG010000 AND NORTH CAROLINA GENERAL STATUE 113A-54.1(e) AND 15A NCAC 04B .0131.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL NECESSARY PERMITS ASSOCIATED WITH OFF-SITE BORROW SOURCES, IF NEEDED.
7. THE CONTRACTOR SHALL PROVIDE A CONCRETE WASH OUT AT EACH CONSTRUCTION ENTRANCE IN EACH PHASE OF CONSTRUCTION.
8. THE FOLLOWING MUST BE KEPT ON SITE UNTIL THE E&SC PLAN HAS BEEN CLOSED OUT BY LAND QUALITY: PREVIOUS 30 DAYS OF SELF INSPECTION REPORTS, RAIN GUAGE, APPROVAL CERTIFICATE/LETTER, APPROVED PLAN, AND NPDES PERMIT. THESE ITEMS SHOULD BE LOCATED NEAR THE MAIN CONSTRUCTION ENTRANCE. FAILURE TO MAINTAIN THESE ON SITE VIOLATES THE NPDES PERMIT.
9. CONCRETE DUST/WASTE/WASTEWATER MUST BE CLEANED OFF THE ROADWAY BY DRY SWEEPING METHODS ONLY. WATER MUST NOT BE USED TO WASH SEDIMENT OFF OF ROADS, DRIVEWAYS, OR PARKING LOTS.
10. THE CONTRACTOR SHALL NOT REMOVE ANY EROSION CONTROL MEASURES IN ANY PHASE OF CONSTRUCTION PRIOR TO APPROVAL BY THE EROSION CONTROL INSPECTOR.
11. NO ON-SITE FUEL STORAGE SHALL BE LOCATED WITHIN 50' OF ANY EXISTING OR PROPOSED STORM DRAINAGE INLET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITTING, SAFETY MEASURES AND APPROVALS NEEDED FOR ON-SITE FUEL STORAGE.
12. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL BLANKET ON ALL SLOPES WITH A HEIGHT/DEPTH OF 8 FEET OR LARGER. MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATION.
13. NO EROSION CONTROL MEASURES SHALL BE TEMPORARILY OR PERMANENTLY REMOVED WITHOUT PERMISSION FROM THE NCDEQ INSPECTOR.
14. THE SKIMMER BASIN MUST BE MAINTAINED UNTIL ALL UPGRADE DRAINAGE AREAS HAVE BEEN STABILIZED WITH THE ESTABLISHMENT OF VEGETATION, STONE BASE, OR PAVEMENT.
15. ALL DEWATERING OF SEDIMENT CONTAINMENT DEVICES FOR MAINTENANCE, REMOVAL OR CONVERSION PURPOSES IS TO BE DONE THROUGH A SILT BAG.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING ALL GROUND COVER PER CONDITIONS OF THE NPDES PERMIT.
17. ONCE FINAL SITE STABILIZATION IS ESTABLISHED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL RIP-RAP DISSIPATOR PADS THAT WERE USED DURING SITE CONSTRUCTION AND ARE SHOWN AS PERMANENT MEASURES.

EROSION CONTROL MAINTENANCE CONTACT INFORMATION

ONSLOW COUNTY PUBLIC SCHOOLS
200 BROADHURST ROAD
JACKSONVILLE, NC 28540
CONTACT: DANIEL GRAY
EMAIL: Daniel.Gray@onslow.k12.nc.us
PHONE: 910.581.0467
FAX: N/A

GRADING & DRAINAGE NOTES

1. REFER TO GENERAL NOTES.
2. COMPACTION OF SOILS SHALL BE PERFORMED IN ACCORDANCE WITH ONLSOW COUNTY STANDARDS AND SPECIFICATIONS AND/OR RECOMMENDATIONS OF A LICENSED GEOTECHNICAL ENGINEER, WHICHEVER IS MORE STRINGENT.
3. THE CONTRACTOR SHALL CONTACT GROUNDED ENGINEERING FOR ANY VARYING SITE CONDITIONS OR DISCREPANCIES AFFECTING SITE ACCESSIBILITY REQUIREMENTS.
4. SLOPES THAT ARE 3:1 OR FLATTER ARE PERMITTED TO BE SEEDED. SLOPES STEEPER THAN 3:1 ARE REQUIRED TO BE SODDED. 1:1 SLOPES ARE NOT PERMITTED UNLESS ADJACENT TO A RETAINING WALL. 1:1 SLOPES ARE NOT ALLOWED WITHIN ANY PUBLIC EASEMENT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING AND GRADING ALL PROPOSED IMPROVEMENTS IN A MANNER THAT ALLOWS FOR POSITIVE DRAINAGE AWAY FROM THE BUILDING. PONDING WATER ANYWHERE ON SITE, INCLUDING LANDSCAPE ISLANDS, IS PROHIBITED. THE CONTRACTOR SHALL SPILL CURB & GUTTER WHERE NECESSARY TO ENSURE PONDING DOES NOT OCCUR.
6. NO STATEMENT IS MADE OR IMPLIED THAT THE ON-SITE GRADING AND EARTHWORK INDICATED ON THESE DRAWINGS IS BALANCED.
7. NO STATEMENT IS MADE OR IMPLIED REGARDING THE QUALITY OF THE ON-SITE SOILS.
8. ALL CLEAN-OUTS OUTSIDE OF THE BUILDING LOCATED IN PAVEMENT AREAS (ASPHALT OR CONCRETE) SHALL BE CAPPED WITH A MINI-MANHOLE.
9. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0%.
10. REFER TO ARCHITECTURAL PLANS FOR ELEVATIONS AND DETAILS RELATED TO STEPS/STAIRS ON SITE.
11. THE CONTRACTOR SHALL PROVIDE A 5'x5' LANDING AT ALL DOORWAYS INTO BUILDINGS THAT DOES NOT EXCEED 2.0% SLOPE IN ANY DIRECTION.

SITE ACCESSIBILITY NOTES

ALL BUILDINGS WITHIN THE BOUNDARY OF THIS SITE, UNLESS OTHERWISE NOTED AS EXEMPT, SHALL HAVE "ACCESSIBLE ROUTES" AS REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT, FAIR HOUSING STANDARDS, AND GOVERNING STATE HANDICAP CODE STANDARDS. THESE STANDARDS FOR ACCESSIBILITY INCLUDE, BUT ARE NOT LIMITED TO:

- MAXIMUM WALK SLOPE = 1:20
- MAXIMUM RAMP SLOPE = 1:12 WITH RAILING
- MAXIMUM CROSS SLOPE = 2.0%
- ALL WALKS TO BE BROOM FINISHED CONCRETE UNLESS OTHERWISE SPECIFIED ON THESE DRAWINGS

The work taking place related to the changes in this SITE PLAN will be fully compliant with the North Carolina Accessibility Codes (ANSI 117.1 -2009 and Chapter 11 of the NCBC) unless and except in areas where an approved statement from a site engineer, surveyor or architect verifies that site conditions exist where the topography of the site is extreme and only alternate methods of compliance are possible. The SITE will be fully compliant with the North Carolina Accessibility Codes (ANSI 117.1 -2009 and Chapter 11 of the NCBC) unless and except in areas where an approved statement from a site engineer, surveyor or architect verifies that site conditions exist where the topography of the site is extreme and only alternate methods of compliance are possible.

NARRATIVE

THE SUBJECT SITE IS CURRENTLY DEVELOPED WITH MULTIPLE BUILDINGS AND SUPPORTING INFRASTRUCTURE. THE PROPOSED PROJECT INCLUDES THE REMOVAL OF SOME OF THE EXISTING PAVEMENT AND SUPPORTING INFRASTRUCTURE IN PREPARATION FOR A NEW BUS PARKING LOT AND UPDATED CARPOOL LINE.

SEDIMENTATION AND EROSION CONTROL MEASURES INCLUDE CONSTRUCTION ENTRANCE, SILT FENCE, SILT FENCE OUTLETS, SILT FENCE J-HOOKS, SKIMMER BASIN, CONCRETE WASHOUT BASIN, AND INLET PROTECTION.

THE CONTRACTOR SHALL FAITHFULLY MAINTAIN ALL SEDIMENTATION AND EROSION CONTROL MEASURES. ADDITIONAL MEASURES MAY BE REQUIRED BY NCDEQ LAND QUALITY SECTION, IF WARRANTED.

UTILITY NOTES

1. REFER TO GENERAL NOTES.
2. EXISTING UTILITIES IN CONFLICT WITH PROPOSED IMPROVEMENTS SHALL BE REMOVED OR RELOCATED.
3. THIS PLAN IS DIAGRAMMATIC AND REPRESENTS THE APPROXIMATE LOCATION OF UTILITIES UNLESS SPECIFICALLY DIMENSIONED. THE CONTRACTOR SHALL COORDINATE THE ACTUAL AND PROPOSED LOCATION OF UTILITIES TO AVOID CONFLICTS.
4. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL UTILITY SERVICES WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE CONDUITS AS REQUIRED FOR ALL UTILITIES UNDER PAVED AREAS, INCLUDING SITE LIGHTING.
5. CONTRACTORS MUST COORDINATE ALL SITE UTILITY INSPECTIONS WITH ONSLOW COUNTY PUBLIC SCHOOLS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTING THE WATER AND SANITARY SEWER SERVICES TO THE RELOCATED MODULAR UNIT.
6. THE CONTRACTOR IS NOT AUTHORIZED TO USE UNMETERED WATER DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT ONSOW COUNTY PUBLIC SCHOOLS FOR TEMPORARY METER AND SERVICE OPTIONS.
7. THE CONTRACTOR SHALL MAINTAIN CONSTANT WATER AND SANITARY SEWER SERVICE TO ALL ACTIVE BUILDINGS.
8. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL WATER AND SANITARY SEWER SERVICES WITH THE BUILDING PLANS PROVIDED BY OTHERS TO ENSURE THE CONNECTION LOCATION AND ELEVATION ARE COORDINATED.
9. ALL SANITARY SEWER SERVICES SHALL HAVE A MINIMUM SLOPE OF 2.0%.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL UNDERGROUND UTILITIES TO ENSURE THERE ARE NO CONFLICTS AND THAT ALL UTILITIES MEET THE MINIMUM COVER AND SEPARATION REQUIREMENTS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WATER METERS.

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

GENERAL NOTES

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONSLOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.
2. EXISTING BOUNDARY, TOPOGRAPHY, AND EXISTING CONDITIONS TAKEN FROM SURVEY PROVIDED BY PARKER & ASSOCIATES, INC.. PORTIONS OF THE EXISTING CONDITIONS SHOWN, INCLUDING TOPOGRAPHIC CONDITIONS, ARE BASED ON DESIGN PLANS FROM PREVIOUSLY COMPLETED DEMOLITION PROJECT AND/OR AERIAL IMAGERY. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING SITE CONDITIONS AND REPORTING ANY DISCREPANCIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING, COORDINATING, AND PAYMENT FOR ALL NECESSARY LOCATING SERVICES INCLUDING INDEPENDENT LOCATING SERVICES. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES LOCATED AT LEAST 48 HOURS PRIOR TO BEGINNING DEMOLITION, EXCAVATION, OR ANY OTHER FORM OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNERS REPRESENTATIVES OF ANY DISCREPANCIES OR CONFLICTS.
4. ALL SUB-SURFACE UTILITIES IDENTIFIED ON THE CONSTRUCTION DOCUMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED ON SURVEY INFORMATION, FIELD OBSERVATIONS, AND OTHER RECORD DRAWINGS WHICH MAY BE AVAILABLE. THESE DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING UTILITIES.
5. EXISTING IMPROVEMENTS DAMAGED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED OR REPLACED TO ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COORDINATING INSPECTIONS, CERTIFICATIONS, AND OTHER REQUIREMENTS WHICH MUST BE MET UNDER THIS CONTRACT.
7. THE CONTRACTOR SHALL MAINTAIN AS-BUILT DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS WILL BE PROVIDED TO THE OWNER'S REPRESENTATIVE AT REGULAR INTERVALS THROUGHOUT THE PROJECT FOR RECORD KEEPING AND AT THE CONCLUSION OF CONSTRUCTION.
8. IF DEPARTURES FROM THE PROJECT DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THERE FOR SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER'S REPRESENTATIVE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY EXISTING UTILITY INFRASTRUCTURE REQUIRED TO COMPLETE ANY PORTION OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE COORDINATION AND COSTS OF ASSOCIATED WORK.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS AND RUBBISH CAUSED BY THE CONTRACTOR. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.
11. THE CONTRACTOR IS NOT AUTHORIZED TO USE UNMETERED WATER DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT ONWASA FOR TEMPORARY METER AND SERVICE OPTIONS.
12. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

SITE DEMOLITION PLAN NOTES

1. REFER TO GENERAL NOTES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING APPROPRIATE SIGNAGE AND MEASURES TO SECURE THE CONSTRUCTION SITE AND MAINTAIN SAFETY FOR ALL PARTIES.
3. THE CONTRACTOR SHALL REMOVE CONCRETE (WHERE REQUIRED) TO THE FIRST COLD JOINT OR SAW CUT TO OBTAIN A CLEAN EDGE.
4. THE CONTRACTOR SHALL SAW CUT ASPHALT (WHERE REQUIRED) TO OBTAIN A CLEAN EDGE.
5. CLEANOUTS AND WATER VALVES LOCATED IN AREAS OF DEMOLITION OR SUBSEQUENT CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND ADJUSTED TO BE FLUSH WITH NEW GRADE.
6. CLEAN SOILS SHALL BE UTILIZED FOR BACKFILL. COMPACTION OF THESE SOILS SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.
7. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE REMOVED COMPLETELY, INCLUDING ALL SUBGRADE MATERIALS DIRECTLY ASSOCIATED WITH ITEMS TO BE REMOVED.
8. ANY MATERIALS REMOVED AS PART OF DEMOLITION FOR THIS PROJECT SHALL BE PROPRELY DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS ASSOCIATED WITH A TEMPORARY CONSTRUCTION TRAILER IF ONE IS TO BE USED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SHORING AND STRUCTURAL STABILIZATION.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING APPROPRIATE TRAFFIC CONTROL MEASURES TO CONTROL CONSTRUCTION TRAFFIC IN AND OUT OF THE PROJECT SITE INCLUDING FLAGGERS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL INACTIVE INFRASTRUCURE WITHIN THE AREA OF DEMOLITION.
13. IF CONSTRUCTION MEANS AND METHODS REQUIRE ANY TEMPORARY LANE CLOSURES ALONG PUBLIC ROADWAYS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES HAVING JURISDICTION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE TIMING OF THE MOVING OF THE TRANSPORTATION SERVICES MODULAR UNIT WITH THE CLIENT.

SITE LAYOUT NOTES

1. REFER TO GENERAL NOTES.
2. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION JOINTS FOR ALL CONCRETE SIDEWALK AND CONCRETE PAVING IN ACCORDANCE WITH GUIDELINES PROVIDED BY THE PORTLAND CEMENT ASSOCIATION AND THE AMERICAN CONCRETE INSTITUTE
3. ALL SIDEWALKS MUST BE ACCESSIBLE TO PERSONS WHO ARE BLIND, HAVE LOW VISION, AND PEOPLE WITH MOBILITY DISABILITIES. ALTERNATE PEDESTRIAN ROUTES DURING CONSTRUCTION WILL BE REQUIRED TO BE COMPLIANT WITH TEH PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PPOWAG), 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. ALL SIDEWALKS SHALL HAVE A CROSS SLOPE LESS THAN 2.0%.

PAVEMENT MARKING & SIGN NOTES

1. ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), NCDOT, AND PERSON COUNTY STANDARDS.
2. ALL SIGNS SHALL BE MOUNTED WITH 5-FT MINIMUM VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2 LB GALVANIZED STEEL U-CHANNEL POST SET IN 3 FT DEEP x 12 INCH DIAMETER CONCRETE FOOTING.
3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.
4. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE LINES WHICH MAY BE THERMOPLASTIC OR ALKYD-RESIN TYPE PAINT.

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Raleigh, NC 27606
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grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 JOHN A. DOLL 20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS

PROJECT NOTES

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

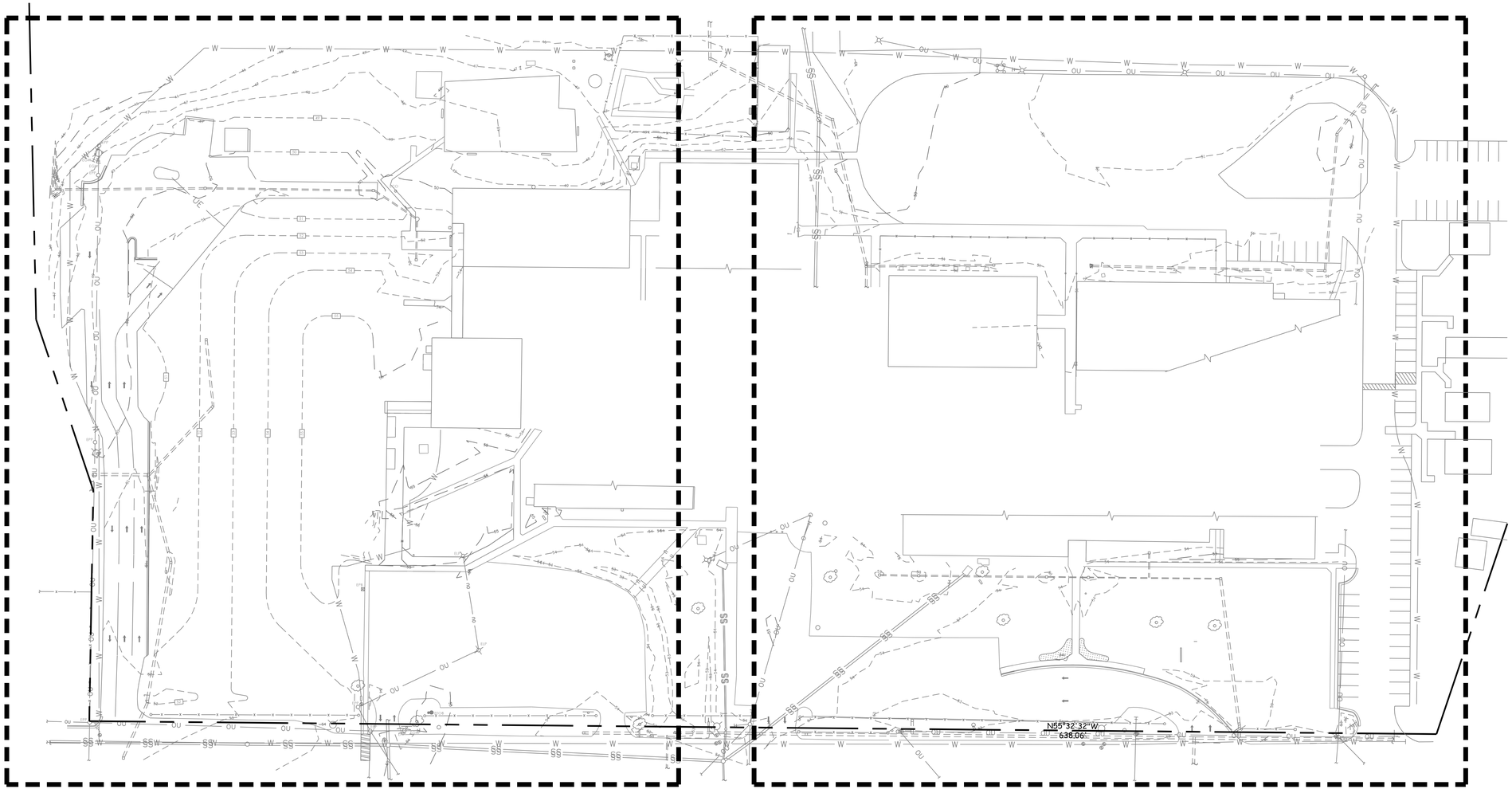
SHEET # C-001

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

REFER TO SHEET C-110 FOR ENLARGED PLAN AND DETAILS

REFER TO SHEET C-120 FOR ENLARGED PLAN AND DETAILS



LEGEND

- XXX — EXISTING CONTOUR (MAJOR)
- XXX — EXISTING CONTOUR (MINOR)
- W — EXISTING WATERLINE
- SS — EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- FO — EXISTING FIBER OPTIC LINE
- G — EXISTING GAS LINE
- OU — EXISTING OVERHEAD UTILITY LINE
- UE — EXISTING UNDERGROUND UTILITY LINE
- F — EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- X — X — EXISTING CHAIN LINK FENCE
- EPP — EXISTING UTILITY POLE
- ELP — EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- S — EXISTING SANITARY SEWER MH
- ECO — EXISTING CLEANOUT
- D — EXISTING STORM DRAINAGE MH
- EPB — EXISTING PHONE BOX
- EFOP — EXISTING FIBER OPTIC WITNESS POST
- EBL — EXISTING BOLLARD
- EXISTING SIGN

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NORTH

60 30 0 60 120

GRAPHIC SCALE

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grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER IAN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
OVERALL EXISTING CONDITIONS PLAN

SUBMITAL DESCRIPTION	ISSUE DATE
0 - BID / PERMIT SET	02.20.2023

PROJECT # 22096

SHEET # C-100

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

EXISTING 6" PVC WATERLINE
EXISTING BLOCK WALL
EXISTING CONCRETE
EXISTING BUILDING 1-STORY
EXISTING PLAYGROUND
EXISTING FIRE HYDRANT W/ BOLLARDS
EXISTING CATCH BASIN TOP = 48.07 INV = 44.17
EXISTING FES INV OUT = 41.15
EXISTING 15" RCP STORM DRAINAGE PIPE
EXISTING YARD INLET TOP = 49.66 INV = 46.00
EXISTING UNDERGROUND UTILITY LINE (TYP)
EXISTING YARD INLET TOP = 49.59 INV = 46.84
EXISTING STORM MH TOP = 51.10 INV = 47.50
EXISTING STORM DRAIN PIPE (TYP)
EXISTING YARD INLET TOP = 51.58 INV = 48.03
EXISTING BUILDING 1-STORY FFE = 54.46
EXISTING CONCRETE PAD
EXISTING CONCRETE PAD W/ UTILITIES
EXISTING BUILDING 1-STORY FFE = 55.61
EXISTING YARD INLET TOP = 52.03 INV = 49.93
EXISTING YARD INLET TOP = 52.77 INV = 49.22
EXISTING BREEZEWAY
EXISTING CONCRETE SIDEWALK
EXISTING TRANSFORMER
ASSUMED LOCATION OF EXSITING 3" WATER SERVICE
EXISTING UTILITY POLE (TYP)
EXISTING FIRE HYDRANT
EXISTING OVERHEAD UTILITY LINE (TYP)
EXISTING STORM DRAIN PIPE (TYP)
EXISTING WATERLINE (TYP)
EXISTING CATCH BASIN TOP = 50.75 INV = 47.75
EXISTING ASPHALT DRIVEWAY
EXISTING YARD INLET TOP = 50.68 INV = 48.15
EXISTING STORM DRAIN PIPE (TYP)
EXISTING CONCRETE CURB & GUTTER
EXISTING FLAG POLE
EXISTING PHONE BOX
APPROXIMATE LOCATION OF EXISTING WATER SERVICE LINE
EXISTING PARKING LOT
EXISTING WATER METER
EXISTING FIRE HYDRANT (TYP)
EXISTING YARD INLET TOP = 51.91 INV = 49.41
EXISTING OVERHEAD UTILITY LINE (TYP)
EX. SANITARY SEWER MH TOP = 53.84 INV = 50.17
EXISTING SANITARY SEWER LINE (TYP)
EXISTING 6" PVC WATERLINE
EXISTING CHAIN LINK FENCE (TYP)
E. FOY STREET (PUBLIC R/W)
EXISTING SANITARY SEWER SERVICE
EX. SANITARY SEWER MH TOP = 54.46 INV = 50.61

LEGEND

XXX	EXISTING CONTOUR (MAJOR)
XXX	EXISTING CONTOUR (MINOR)
W	EXISTING WATERLINE
SS	EXISTING SANITARY SEWER
	EXISTING STORM DRAINAGE
FO	EXISTING FIBER OPTIC LINE
G	EXISTING GAS LINE
OU	EXISTING OVERHEAD UTILITY LINE
UE	EXISTING UNDERGROUND UTILITY LINE
F	EXISTING FUEL LINE
	EXISTING PROPERTY LINE
X	EXISTING CHAIN LINK FENCE
EPP	EXISTING UTILITY POLE
ELP	EXISTING LIGHT POLE
	EXISTING FIRE HYDRANT
	EXISTING WATERLINE VALVE
S	EXISTING SANITARY SEWER MH
ECO	EXISTING CLEANOUT
D	EXISTING STORM DRAINAGE MH
EPB	EXISTING PHONE BOX
EFOP	EXISTING FIBER OPTIC WITNESS POST
EBL	EXISTING BOLLARD
	EXISTING SIGN

Know what's below. Call before you dig.

NORTH

30 15 0 30 60
GRAPHIC SCALE

4909 Liles Road
Raleigh, NC 27606
919.438.3694 (o)
Firm License C-3898

grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER IAN A. DOLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
EXISTING CONDITIONS PLAN (BUS PARKING)

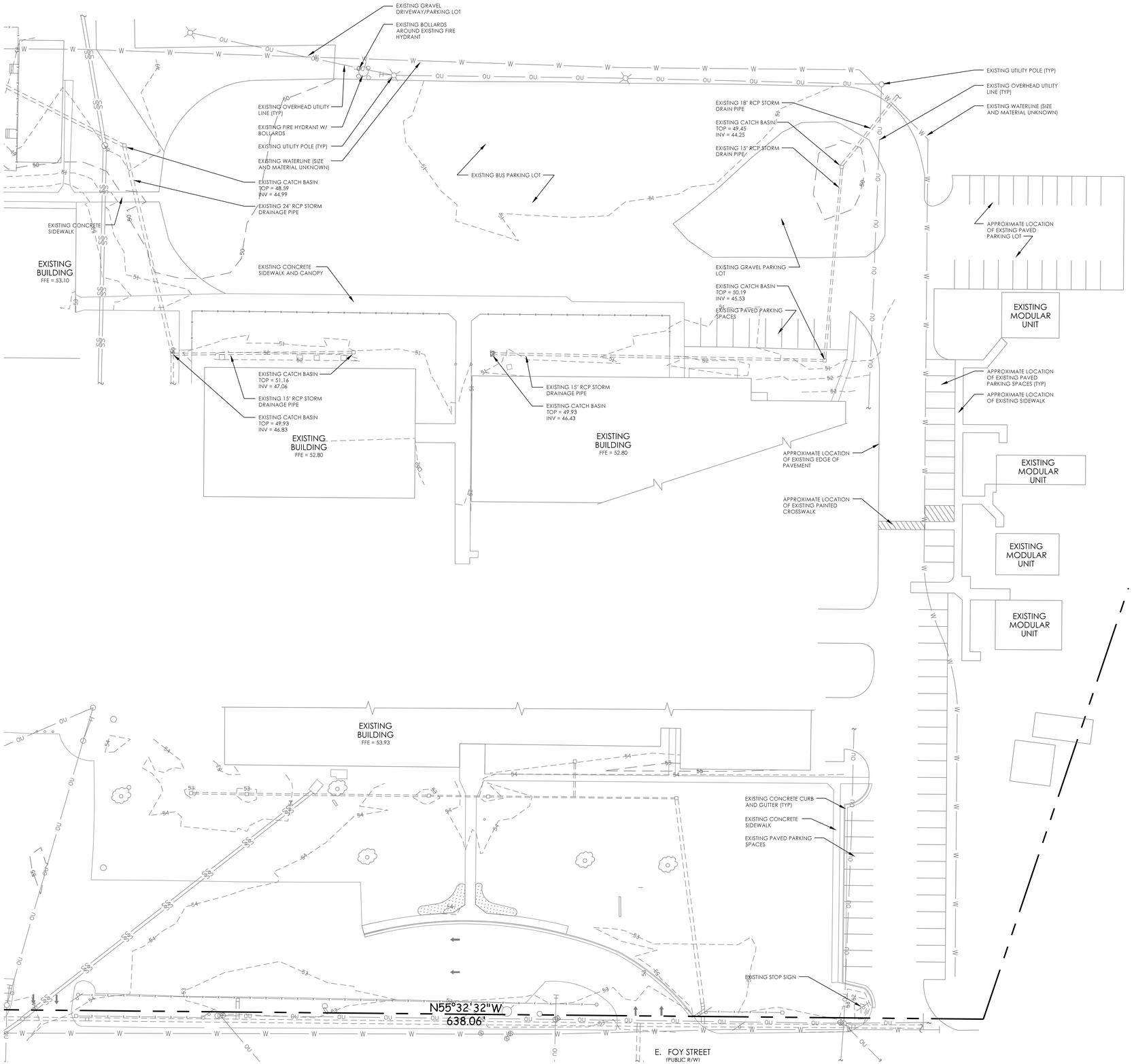
ISSUE DATE	SUBMITAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-110

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONSLOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



LEGEND

- EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- EXISTING WATERLINE
- EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- EXISTING FIBER OPTIC LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING UNDERGROUND UTILITY LINE
- EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- EXISTING CHAIN LINK FENCE
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- EXISTING SANITARY SEWER MH
- EXISTING CLEANOUT
- EXISTING STORM DRAINAGE MH
- EXISTING PHONE BOX
- EXISTING FIBER OPTIC WITNESS POST
- EXISTING BOLLARD
- EXISTING SIGN

Know what's below. Call before you dig.

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GRAPHIC SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 JOHN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

EXISTING CONDITIONS PLAN (CARPOOL)

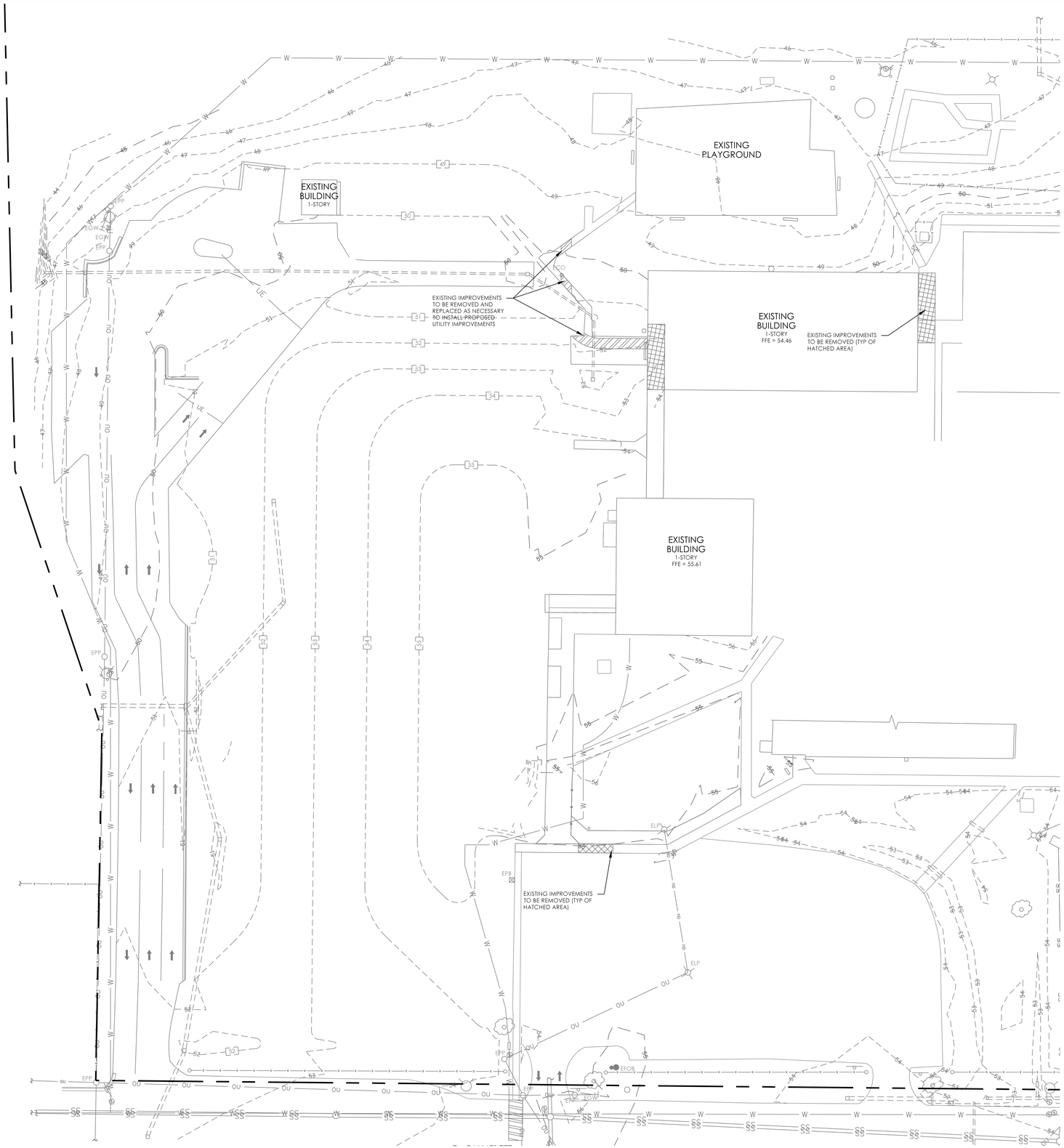
SUBMITTAL DESCRIPTION	ISSUE DATE
0 - BID / PERMIT SET	02.20.2023

PROJECT # 22096

SHEET # C-120

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



LEGEND

- XXX — EXISTING CONTOUR (MAJOR)
- XXX — EXISTING CONTOUR (MINOR)
- W — EXISTING WATERLINE
- SS — EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- FO — EXISTING FIBER OPTIC LINE
- G — EXISTING GAS LINE
- OU — EXISTING OVERHEAD UTILITY LINE
- UE — EXISTING UNDERGROUND UTILITY LINE
- F — EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- X — X — EXISTING CHAIN LINK FENCE
- EPP — EXISTING UTILITY POLE
- ELP — EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- S — EXISTING SANITARY SEWER MH
- ECO — EXISTING CLEANOUT
- D — EXISTING STORM DRAINAGE MH
- EPB — EXISTING PHONE BOX
- EFOP — EXISTING FIBER OPTIC WITNESS POST
- EBL — EXISTING BOLLARD
- EXISTING SIGN
- EXISTING IMPROVEMENTS TO BE REMOVED

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NORTH

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GRAPHIC SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 JOHN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
SITE DEMOLITION PLAN (BUS PARKING)

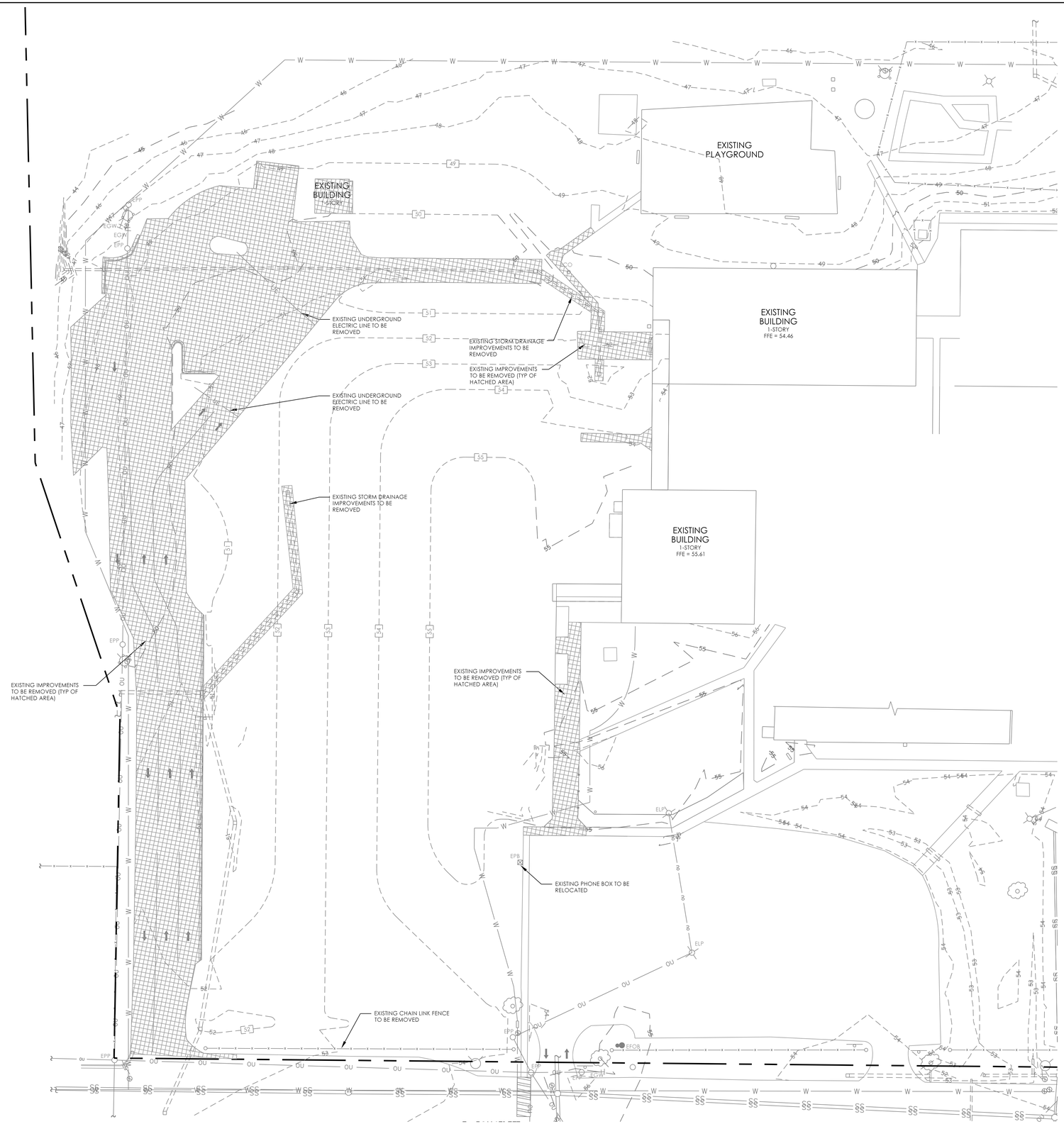
ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-210

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



LEGEND

- XXX — EXISTING CONTOUR (MAJOR)
- XXX — EXISTING CONTOUR (MINOR)
- W — EXISTING WATERLINE
- SS — EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- FO — EXISTING FIBER OPTIC LINE
- G — EXISTING GAS LINE
- OU — EXISTING OVERHEAD UTILITY LINE
- UE — EXISTING UNDERGROUND UTILITY LINE
- F — EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- X — X — EXISTING CHAIN LINK FENCE
- EPP — EXISTING UTILITY POLE
- ELP — EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- S — EXISTING SANITARY SEWER MH
- ECO — EXISTING CLEANOUT
- D — EXISTING STORM DRAINAGE MH
- EPB — EXISTING PHONE BOX
- EFOP — EXISTING FIBER OPTIC WITNESS POST
- EBL — EXISTING BOLLARD
- EXISTING SIGN
- EXISTING IMPROVEMENTS TO BE REMOVED

Know what's below. Call before you dig.

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GRAPHIC SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 JOHN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

ALT #3-1 - SITE DEMOLITION PLAN (BUS PARKING)

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-210A

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

EXISTING BUILDING
FFE = 53.10

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 52.80

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING BUILDING
FFE = 53.93

EXISTING IMPROVEMENTS TO BE REMOVED (TYP OF HATCHED AREA)

N55°32'32"W
638.06'

E. FOY STREET
(PUBLIC R/W)

LEGEND

- EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- EXISTING WATERLINE
- EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- EXISTING FIBER OPTIC LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING UNDERGROUND UTILITY LINE
- EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- EXISTING CHAIN LINK FENCE
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- EXISTING SANITARY SEWER MH
- EXISTING CLEANOUT
- EXISTING STORM DRAINAGE MH
- EXISTING PHONE BOX
- EXISTING FIBER OPTIC WITNESS POST
- EXISTING BOLLARD
- EXISTING SIGN
- EXISTING IMPROVEMENTS TO BE REMOVED

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GRAPHIC SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 JOHN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
SITE DEMOLITION PLAN (CARPOOL)

SUBMITTAL DESCRIPTION	ISSUE DATE
0- BID / PERMIT SET	02.20.2023

PROJECT # 22096

SHEET # C-220

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

EXISTING IMPROVEMENTS TO BE REMOVED (TYP OF HATCHED AREA)

EXISTING BUILDING
FFE = 53.10

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 52.80

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT AND ASSOCIATED RAMP TO BE RELOCATED ON SITE BY OWNER

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING BUILDING
FFE = 53.93

EXISTING IMPROVEMENTS TO BE REMOVED (TYP OF HATCHED AREA)

N55°32'32"W
638.06'

E. FOY STREET
(PUBLIC R/W)

LEGEND

- XXX — EXISTING CONTOUR (MAJOR)
- XXX — EXISTING CONTOUR (MINOR)
- W — EXISTING WATERLINE
- SS — EXISTING SANITARY SEWER
- SS — EXISTING STORM DRAINAGE
- FO — EXISTING FIBER OPTIC LINE
- G — EXISTING GAS LINE
- OU — EXISTING OVERHEAD UTILITY LINE
- UE — EXISTING UNDERGROUND UTILITY LINE
- F — EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- X — X — EXISTING CHAIN LINK FENCE
- EPP — EXISTING UTILITY POLE
- ELP — EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- S — EXISTING SANITARY SEWER MH
- ECO — EXISTING CLEANOUT
- D — EXISTING STORM DRAINAGE MH
- EPB — EXISTING PHONE BOX
- EFOP — EXISTING FIBER OPTIC WITNESS POST
- EBL — EXISTING BOLLARD
- EXISTING SIGN
- EXISTING IMPROVEMENTS TO BE REMOVED

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GRAPHIC SCALE

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20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

ALT #4 - SITE DEMOLITION PLAN (CARPOOL)

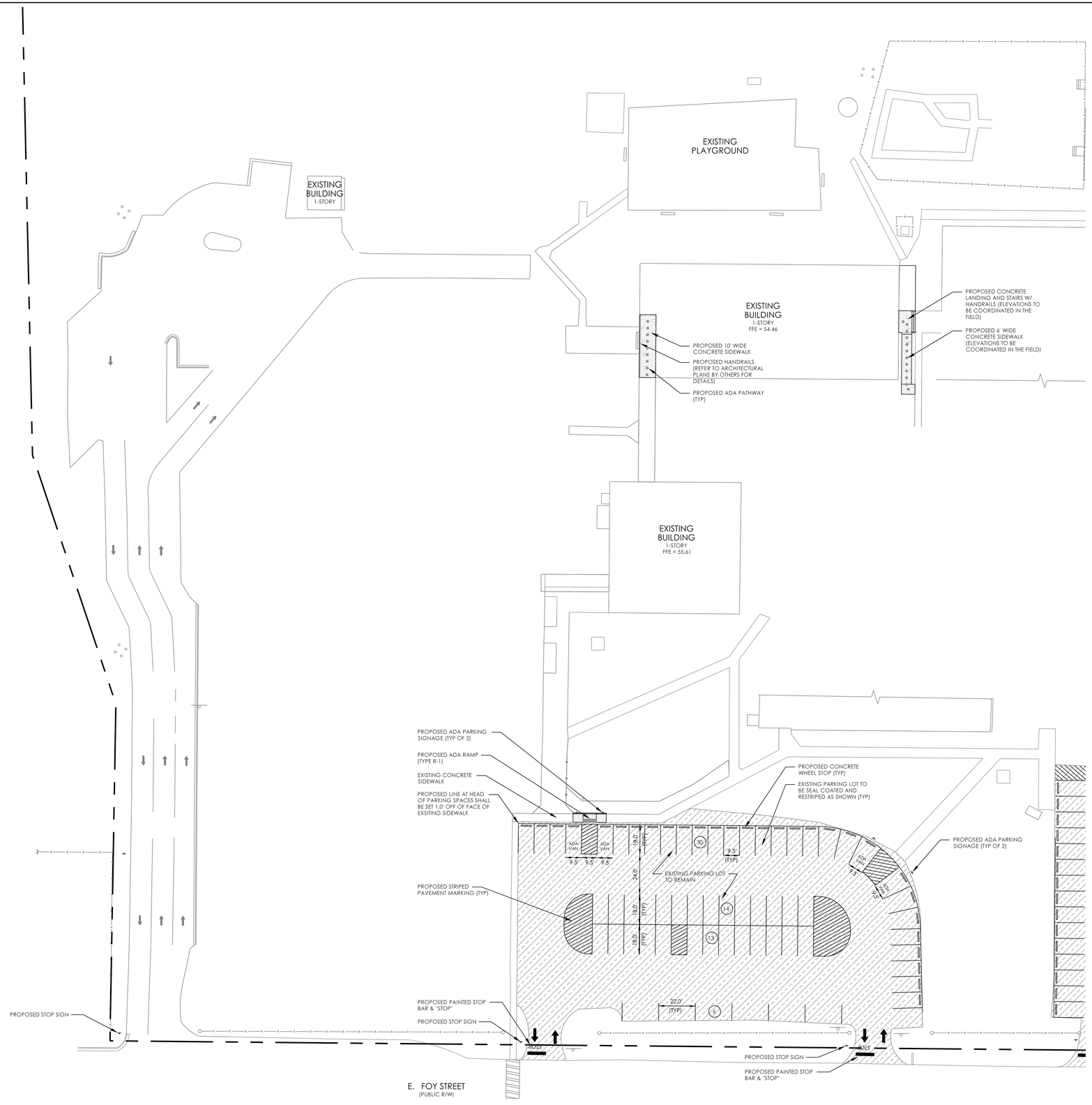
ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-220A

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



LEGEND

- PROPOSED BUILDING
- PROPOSED ASPHALT PAVEMENT
- PROPOSED AREA OF SEALCOAT AND RESTRIPING
- PROPOSED CONCRETE SIDEWALK
- EXISTING PROPERTY LINE
- PROPOSED CURB & GUTTER
- PROPOSED SIGN
- PROPOSED # OF PARKING SPACES
- PROPOSED ADA PATHWAY

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30 15 0 30 60

GRAPHIC SCALE

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Raleigh, NC 27606
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Firm License C-3898

NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER IAN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
ENLARGED SITE LAYOUT PLAN (BUS PARKING)

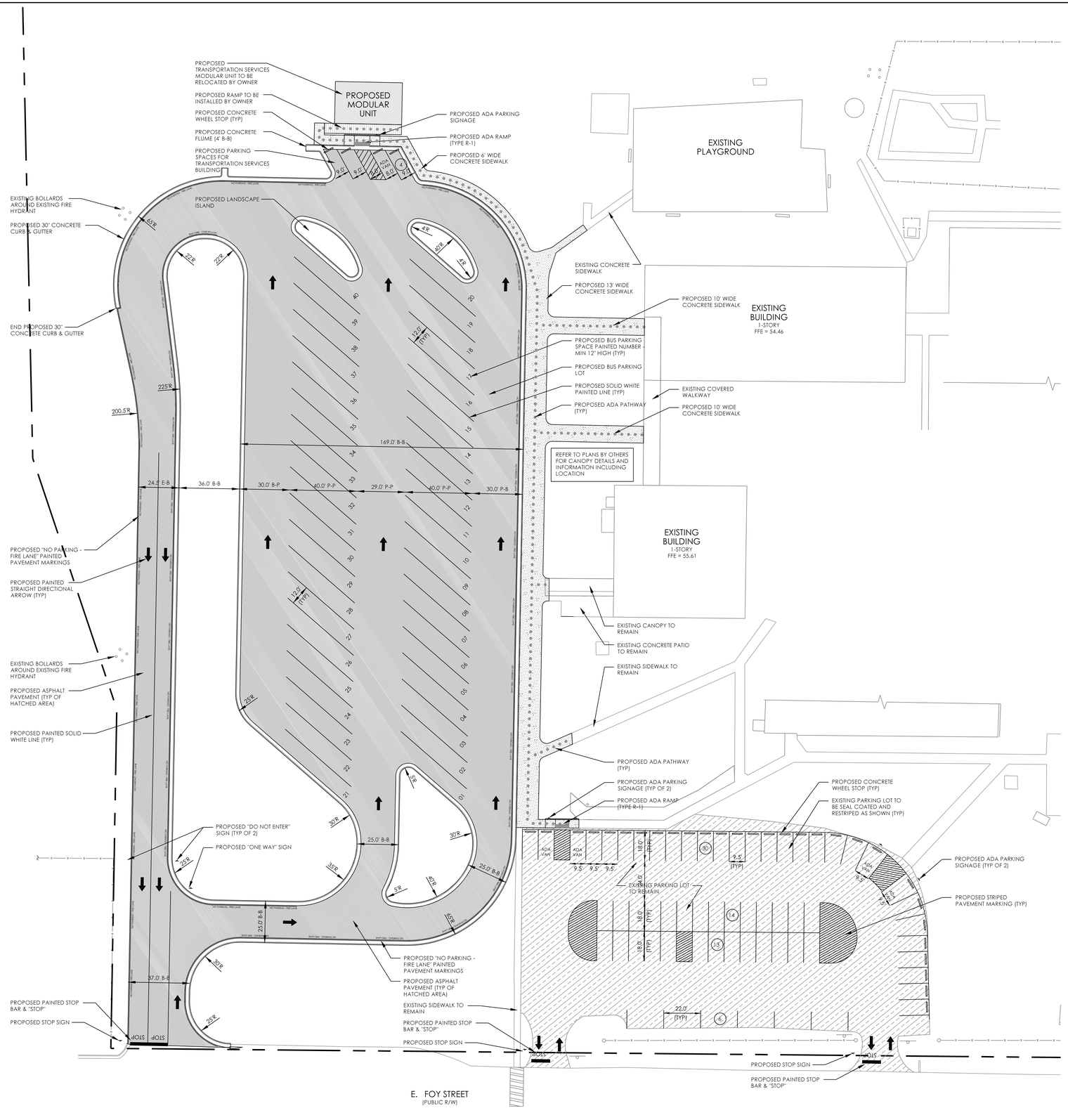
ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-310

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



LEGEND

- PROPOSED BUILDING
- PROPOSED ASPHALT PAVEMENT
- PROPOSED AREA OF SEALCOAT AND RESTRIPING
- PROPOSED CONCRETE SIDEWALK
- EXISTING PROPERTY LINE
- PROPOSED CURB & GUTTER
- PROPOSED SIGN
- PROPOSED # OF PARKING SPACES (XX)
- PROPOSED ADA PATHWAY

811 Know what's below. Call before you dig.

NORTH

30 15 0 30 60

GRAPHIC SCALE

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NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER IAN A. DOLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

ALT #3-1 - ENLARGED SITE LAYOUT PLAN (BUS PARKING)

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-310A

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

EXISTING PAVEMENT TO BE SEAL COATED AND RESTRIPED AS SHOWN

PROPOSED PAINTED CROSSWALK

PROPOSED CONCRETE WHEEL STOP (TYP)

PROPOSED PAINTED SOLID WHITE LINE (TYP)

PROPOSED PAINTED SOLID WHITE LINE (TYP)

PROPOSED PAINTED CROSSWALK

PROPOSED STRIPED PAVEMENT MARKING

PROPOSED "NO PARKING - FIRE LANE" PAINTED PAVEMENT MARKINGS

PROPOSED "NO PARKING - FIRE LANE" PAINTED PAVEMENT MARKINGS

PROPOSED PAINTED DIRECTIONAL ARROW (TYP)

PROPOSED PAINTED SOLID WHITE LINE (TYP)

EXISTING BUILDING
FFE = 53.10

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 53.93

EXISTING PAVEMENT TO BE SEAL COATED AND RESTRIPED AS SHOWN (TYP)

PROPOSED STRIPED PAVEMENT MARKING

PROPOSED CONCRETE WHEEL STOP (TYP)

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

APPROXIMATE LOCATION OF EXISTING SIDEWALK

EXISTING PAVEMENT TO BE SEAL COATED AND RESTRIPED AS SHOWN (TYP)

APPROXIMATE LOCATION OF EXISTING EDGE OF PAVEMENT

PROPOSED PAINTED SOLID WHITE LINE (TYP)

APPROXIMATE LOCATION OF EXISTING PAINTED CROSSWALK

PROPOSED PAINTED CROSSWALK

PROPOSED PAINTED DIRECTIONAL ARROW (TYP)

PROPOSED STRIPED PAVEMENT MARKING

EXISTING PARKING LOT TO BE SEAL COATED AND RESTRIPED AS SHOWN (TYP)

EXISTING PARKING LOT TO REMAIN

PROPOSED CONCRETE WHEEL STOP (TYP)

PROPOSED STRIPED PAVEMENT MARKING (TYP)

PROPOSED ADA RAMP

PROPOSED 5' WIDE PAINTED CROSSWALK

PROPOSED PAINTED VISITOR LABEL - MIN 12" HIGH (TYP)

EXISTING PARKING LOT TO BE SEAL COATED AND RESTRIPED AS SHOWN (TYP)

PROPOSED PAINTED DIRECTIONAL ARROW (TYP)

EXISTING CONCRETE CURB AND GUTTER (TYP)

EXISTING CONCRETE SIDEWALK

EXISTING PAVED PARKING SPACES

EXISTING PAVEMENT TO BE SEAL COATED AND RESTRIPED AS SHOWN (TYP)

PROPOSED PAINTED STOP BAR & "STOP"

EXISTING STOP SIGN

PROPOSED STOP SIGN

PROPOSED PAINTED STOP BAR & "STOP"

PROPOSED STOP SIGN

PROPOSED ADA PARKING SIGNAGE (TYP OF 2)

N55°32'32"W
638.06'

LEGEND

- PROPOSED BUILDING
- PROPOSED ASPHALT PAVEMENT
- PROPOSED AREA OF SEALCOAT AND RESTRIPING
- PROPOSED CONCRETE SIDEWALK
- EXISTING PROPERTY LINE
- PROPOSED CURB & GUTTER
- PROPOSED SIGN
- (XX) PROPOSED # OF PARKING SPACES
- PROPOSED ADA PATHWAY

Know what's below. Call before you dig.

NORTH

30 15 0 30 60
GRAPHIC SCALE

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NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER ANNA DOLLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

ENLARGED SITE LAYOUT PLAN (CARPOOL)

ISSUE DATE	SUBMITAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-320

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

EXISTING GRAVEL DRIVEWAY/PARKING LOT

EXISTING BOLLARDS AROUND EXISTING FIRE HYDRANT

PROPOSED ASPHALT PAVEMENT (TYP OF HATCHED AREA)

PROPOSED PAINTED STOP BAR & "STOP"

PROPOSED "NO PARKING - FIRE LANE" PAINTED PAVEMENT MARKINGS

PROPOSED PAINTED DIRECTIONAL ARROW (TYP)

PROPOSED PAINTED SOLID WHITE LINE (TYP)

PROPOSED CONCRETE WHEEL STOP (TYP)

EXISTING PAVEMENT TO BE SEAL COATED AND RESTRIPED AS SHOWN

PROPOSED CONCRETE WHEEL STOP (TYP)

PROPOSED 6' WIDE CONCRETE SIDEWALK

PROPOSED PAINTED CROSSWALK

PROPOSED PAINTED DIRECTIONAL ARROW (TYP)

PROPOSED ASPHALT PAVEMENT (TYP OF HATCHED AREA)

EXISTING CONCRETE SIDEWALK

PROPOSED 6' WIDE CONCRETE SIDEWALK

PROPOSED ADA PATHWAY (TYP)

APPROXIMATE LOCATION OF EXISTING PAVED PARKING LOT

APPROXIMATE LOCATION OF EXISTING SIDEWALK

APPROXIMATE LOCATION OF EXISTING EDGE OF PAVEMENT

PROPOSED PAINTED SOLID LINE (TYP)

PROPOSED PAINTED CROSSWALK

PROPOSED PAINTED DIRECTIONAL ARROW (TYP)

PROPOSED STRIPED PAVEMENT MARKING

EXISTING BUILDING
FFE = 53.10

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 52.80

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING BUILDING
FFE = 53.93

PROPOSED CONCRETE WHEEL STOP (TYP)

EXISTING PARKING LOT TO BE SEAL COATED AND RESTRIPED AS SHOWN (TYP)

PROPOSED STRIPED PAVEMENT MARKING (TYP)

EXISTING PARKING LOT TO REMAIN

PROPOSED ADA RAMP

PROPOSED 5' WIDE PAINTED CROSSWALK

PROPOSED ADA PARKING SIGNAGE (TYP OF 2)

PROPOSED PAINTED VISITOR LABEL - MIN 12" HIGH (TYP)

EXISTING PARKING LOT TO BE SEAL COATED AND RESTRIPED AS SHOWN (TYP)

PROPOSED PAINTED DIRECTIONAL ARROW (TYP)

EXISTING CONCRETE CURB AND GUTTER (TYP)

EXISTING CONCRETE SIDEWALK

EXISTING PAVED PARKING SPACES

EXISTING PAVEMENT TO BE SEAL COATED AND RESTRIPED AS SHOWN (TYP)

PROPOSED "NO PARKING - FIRE LANE" PAINTED PAVEMENT MARKINGS

PROPOSED PAINTED STOP BAR & "STOP"

EXISTING STOP SIGN

PROPOSED ASPHALT PAVEMENT (TYP OF HATCHED AREA)

N55°32'32"W
638.06'

LEGEND

- PROPOSED BUILDING
- PROPOSED ASPHALT PAVEMENT
- PROPOSED AREA OF SEALCOAT AND RESTRIPING
- PROPOSED CONCRETE SIDEWALK
- EXISTING PROPERTY LINE
- PROPOSED CURB & GUTTER
- PROPOSED SIGN
- PROPOSED # OF PARKING SPACES
- PROPOSED ADA PATHWAY

Know what's below. Call before you dig.

NORTH

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GRAPHIC SCALE

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grounded ENGINEERING

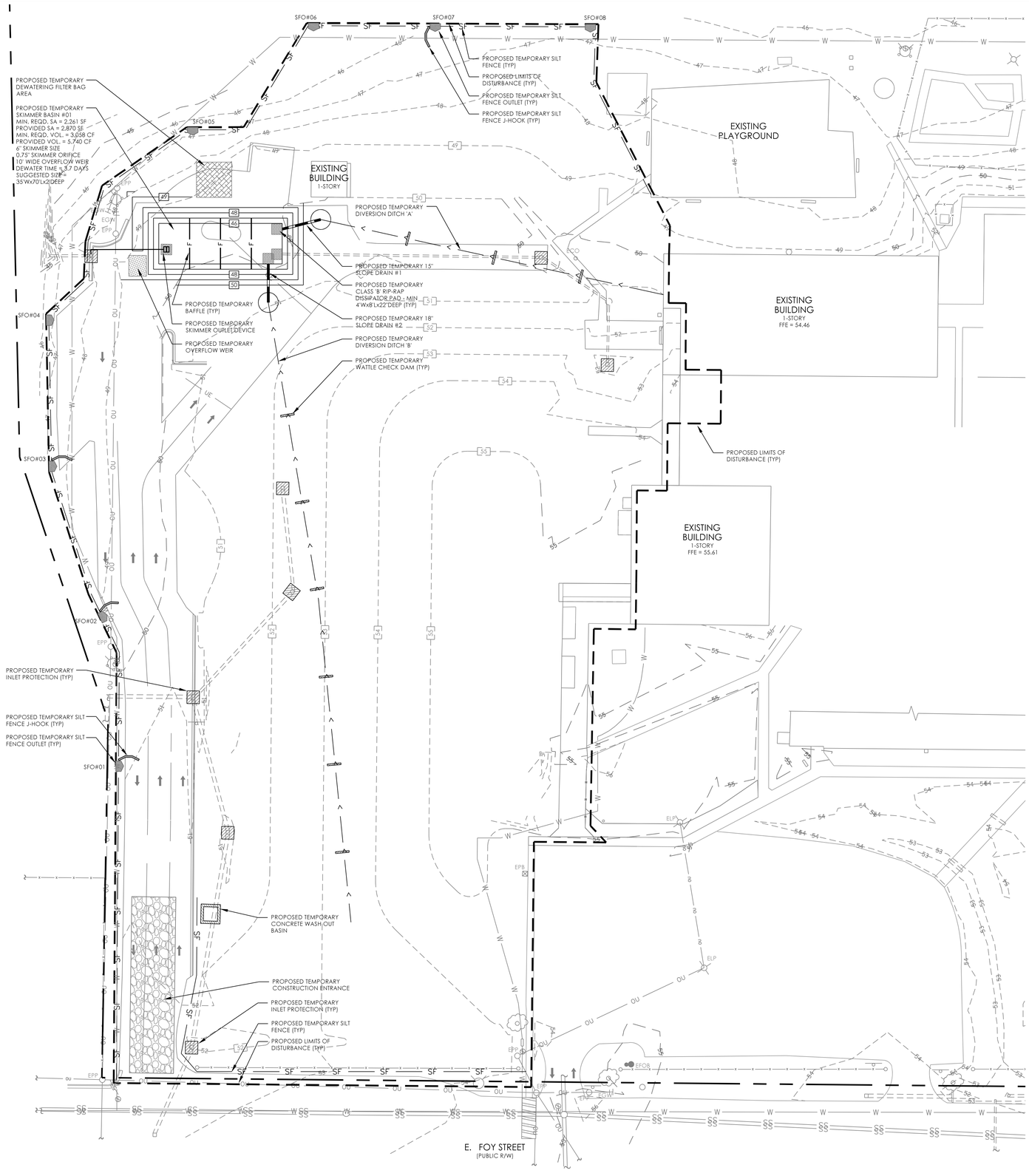
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 ANA DOLLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
ALT #4 - ENLARGED SITE LAYOUT PLAN (CARPOOL)

ISSUE DATE	SUBMITAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT #
22096

SHEET #
C-320A



ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

LEGEND

XXX	EXISTING CONTOUR (MAJOR)
XXX	EXISTING CONTOUR (MINOR)
W	EXISTING WATERLINE
SS	EXISTING SANITARY SEWER
	EXISTING STORM DRAINAGE
FO	EXISTING FIBER OPTIC LINE
G	EXISTING GAS LINE
OU	EXISTING OVERHEAD UTILITY LINE
UE	EXISTING UNDERGROUND UTILITY LINE
F	EXISTING FUEL LINE
	EXISTING PROPERTY LINE
X X	EXISTING CHAIN LINK FENCE
EPP	EXISTING UTILITY POLE
ELP	EXISTING LIGHT POLE
	EXISTING FIRE HYDRANT
	EXISTING WATERLINE VALVE
S	EXISTING SANITARY SEWER MH
ECO	EXISTING CLEANOUT
D	EXISTING STORM DRAINAGE MH
EPB	EXISTING PHONE BOX
EFOP	EXISTING FIBER OPTIC WITNESS POST
EBL	EXISTING BOLLARD
	EXISTING SIGN
	PROPOSED LIMITS OR DISTURBANCE
SF	PROPOSED TEMPORARY SILT FENCE
F	PROPOSED BAFFLE
>	PROPOSED DIVERSION DITCH
	PROPOSED INLET PROTECTION (BLOCK & GRAVEL)
	PROPOSED INLET PROTECTION (DROP SACK)
	PROPOSED DRAWDOWN SKIMMER

Know what's **below.** **Call** before you dig.

NORTH

30 15 0 30 60

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Firm License C-3898

grounded ENGINEERING

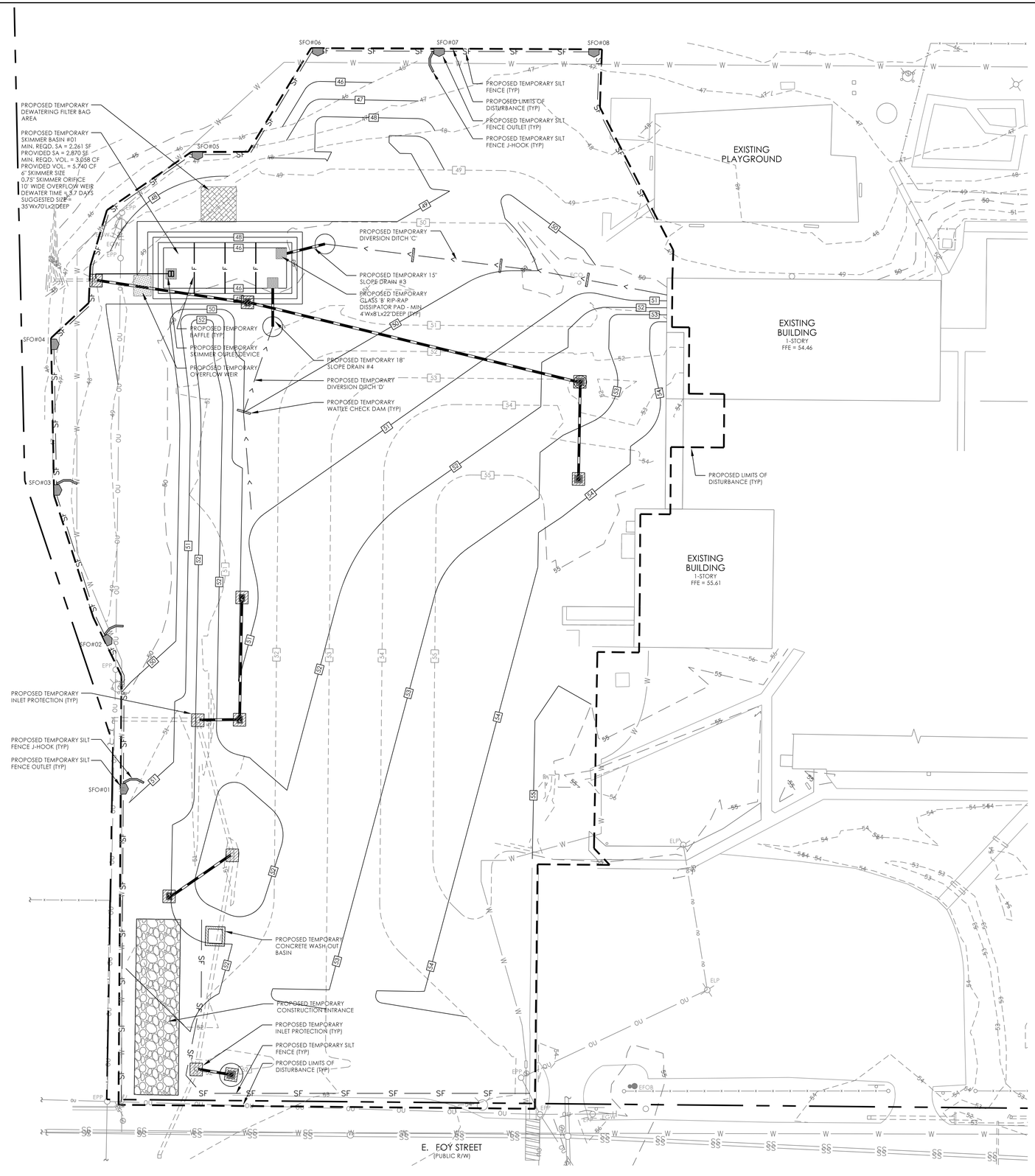
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 JOHN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
ALT #3-1 - EROSION CONTROL PLAN-STAGE 1 (BUS PARKING)

ISSUE DATE	SUBMITAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-411A



ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

LEGEND

XXX	EXISTING CONTOUR (MAJOR)
XXX	EXISTING CONTOUR (MINOR)
W	EXISTING WATERLINE
SS	EXISTING SANITARY SEWER
	EXISTING STORM DRAINAGE
FO	EXISTING FIBER OPTIC LINE
G	EXISTING GAS LINE
OU	EXISTING OVERHEAD UTILITY LINE
UE	EXISTING UNDERGROUND UTILITY LINE
F	EXISTING FUEL LINE
	EXISTING PROPERTY LINE
X X	EXISTING CHAIN LINK FENCE
EPP	EXISTING UTILITY POLE
ELP	EXISTING LIGHT POLE
	EXISTING FIRE HYDRANT
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D	EXISTING STORM DRAINAGE MH
EPB	EXISTING PHONE BOX
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EBL	EXISTING BOLLARD
	EXISTING SIGN
	PROPOSED LIMITS OR DISTURBANCE
SF	PROPOSED TEMPORARY SILT FENCE
F	PROPOSED BAFFLE
>	PROPOSED DIVERSION DITCH
	PROPOSED INLET PROTECTION (BLOCK & GRAVEL)
	PROPOSED INLET PROTECTION (DROP SACK)
	PROPOSED DRAWDOWN SKIMMER

Know what's **below.** **Call** before you dig.

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GRAPHIC SCALE

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grounded ENGINEERING

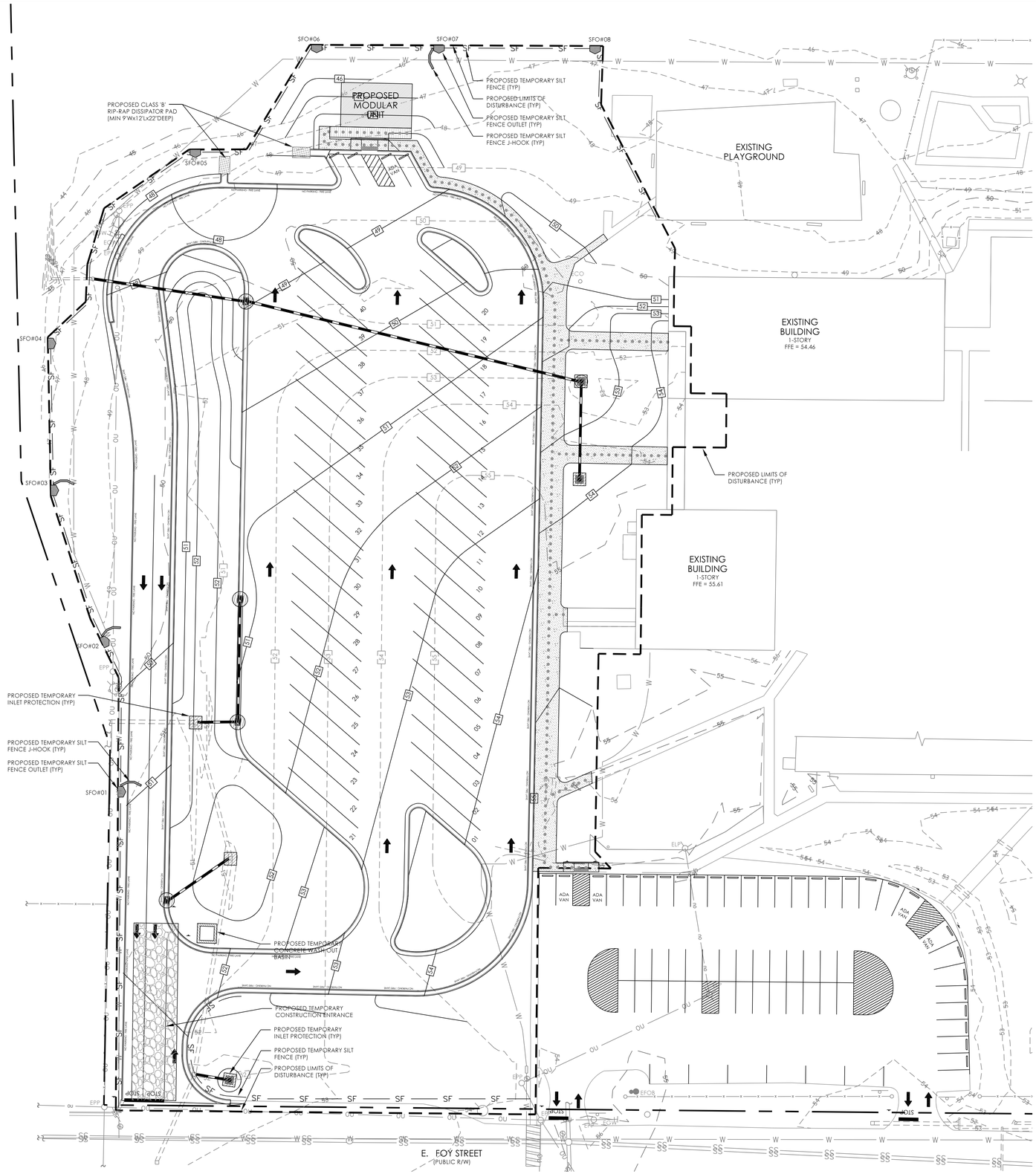
NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER ANNA DOLL
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
ALT #3-1 - EROSION CONTROL PLAN-STAGE 2 (BUS PARKING)

ISSUE DATE	SUBMITAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-412A



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TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

ALT #3-1 - EROSION CONTROL PLAN-STAGE 3 (BUS PARKING)

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-413A

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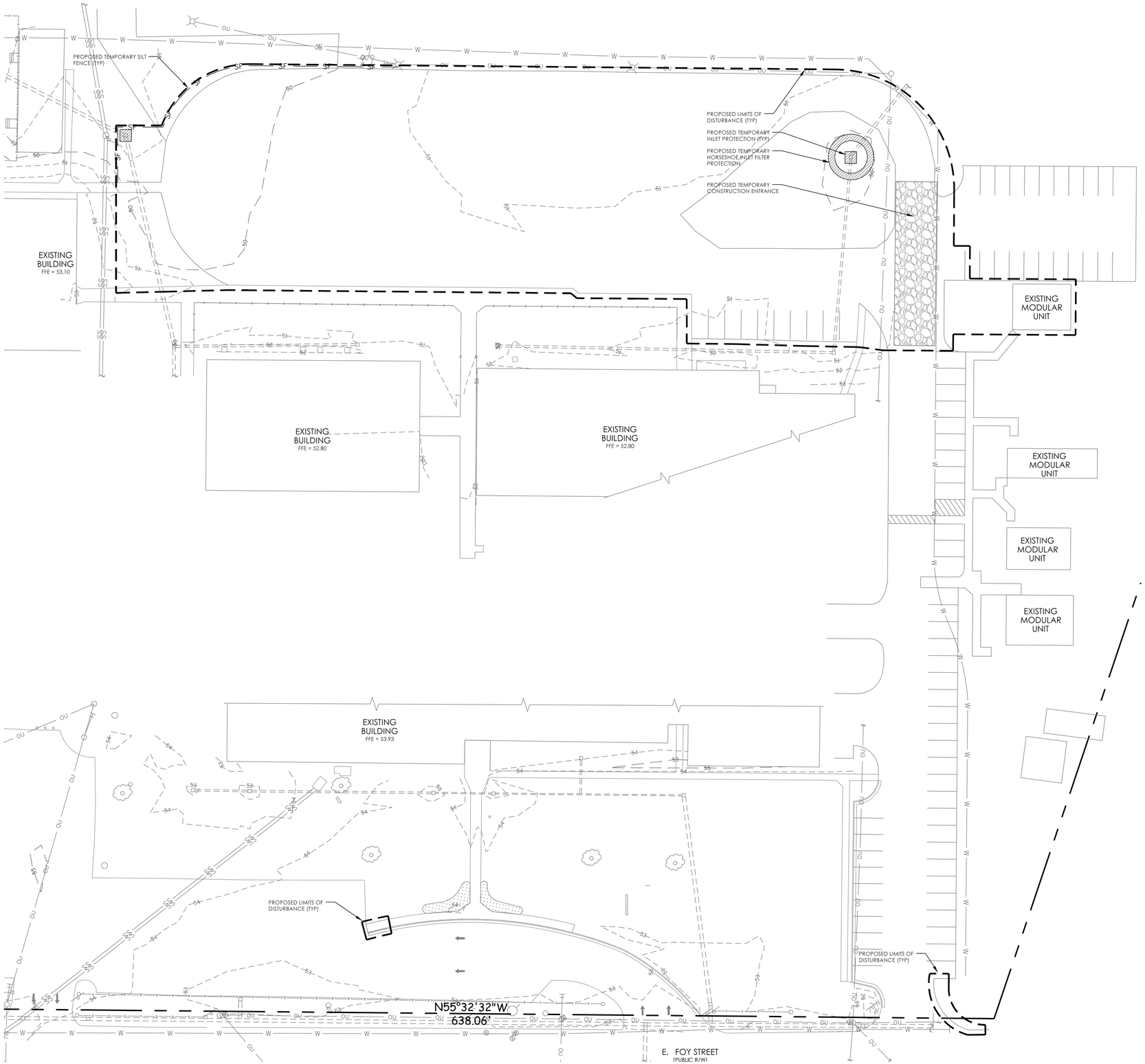

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20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

ALT #4 - EROSION CONTROL PLAN-STAGE 1 (CARPOOL)

SUBMITTAL DESCRIPTION	ISSUE DATE
0 - BID / PERMIT SET	02.20.2023

PROJECT # 22096

SHEET # C-421A

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

PROPOSED TEMPORARY SILT FENCE (TYP)

PROPOSED TEMPORARY INLET PROTECTION (TYP)

PROPOSED LIMITS OF DISTURBANCE (TYP)

PROPOSED TEMPORARY INLET PROTECTION (TYP)

PROPOSED TEMPORARY CONSTRUCTION ENTRANCE

PROPOSED TEMPORARY CONCRETE WASH OUT BASIN

EXISTING BUILDING
FFE = 53.10

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 52.80

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING BUILDING
FFE = 53.93

PROPOSED LIMITS OF DISTURBANCE (TYP)

PROPOSED LIMITS OF DISTURBANCE (TYP)

N55°32'32"W
638.06'

LEGEND

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20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

ALT #4 - EROSION CONTROL PLAN-STAGE 2 (CARPOOL)

ISSUE DATE	SUBMITTAL DESCRIPTION
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PROJECT # 22096

SHEET # C-422A

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FFE = 53.93

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ADA VAN

N55°32'32"W
638.06'

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TRANSPORTATION SERVICES IMPROVEMENTS

ALT #4 - EROSION CONTROL PLAN-STAGE 3 (CARPOOL)

SUBMITTAL DESCRIPTION	ISSUE DATE
0 - BID / PERMIT SET	02.20.2023

PROJECT # 22096

SHEET # C-423A

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONSLOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

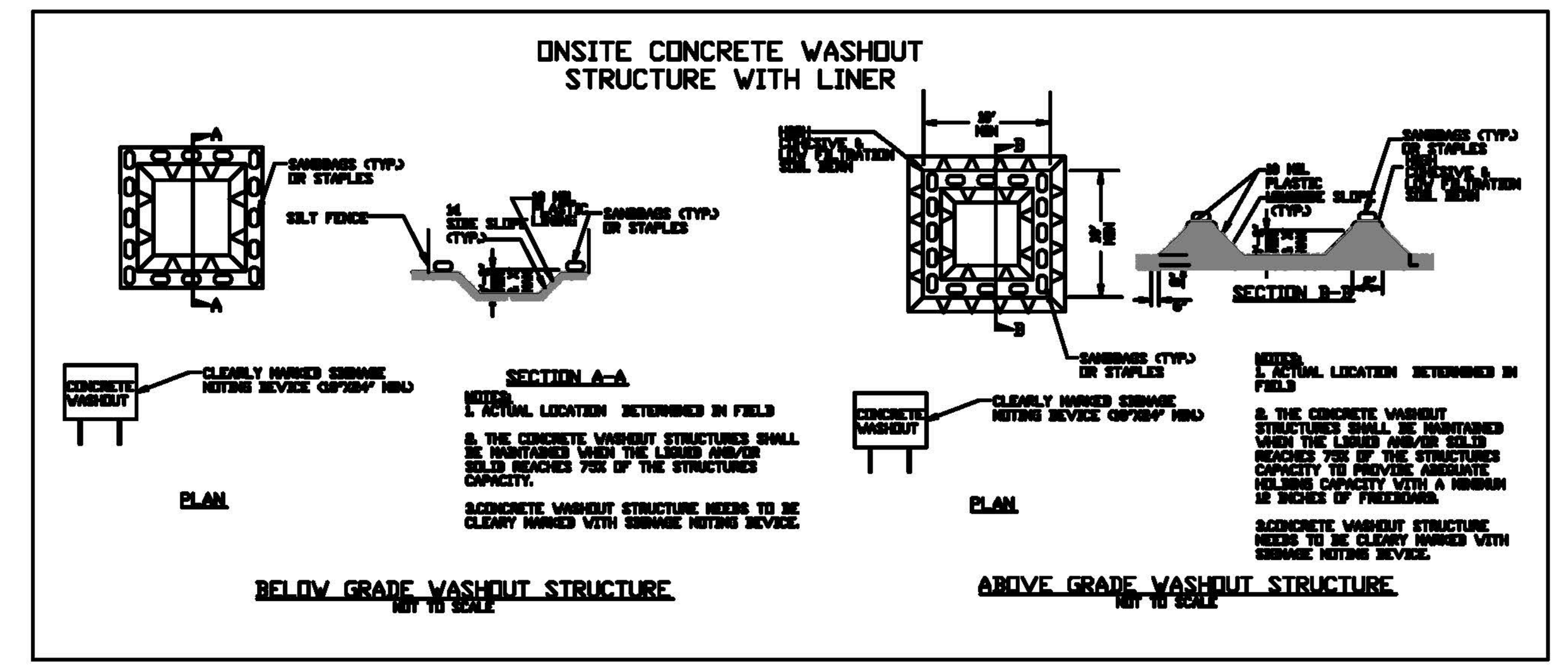
PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA
Environmental Quality



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
EROSION CONTROL PLANS - NPDES NOTES

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-430

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (anc this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA *Environmental Quality*

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER JOHN A. DOYLE 20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
EROSION CONTROL PLANS - NPDES NOTES

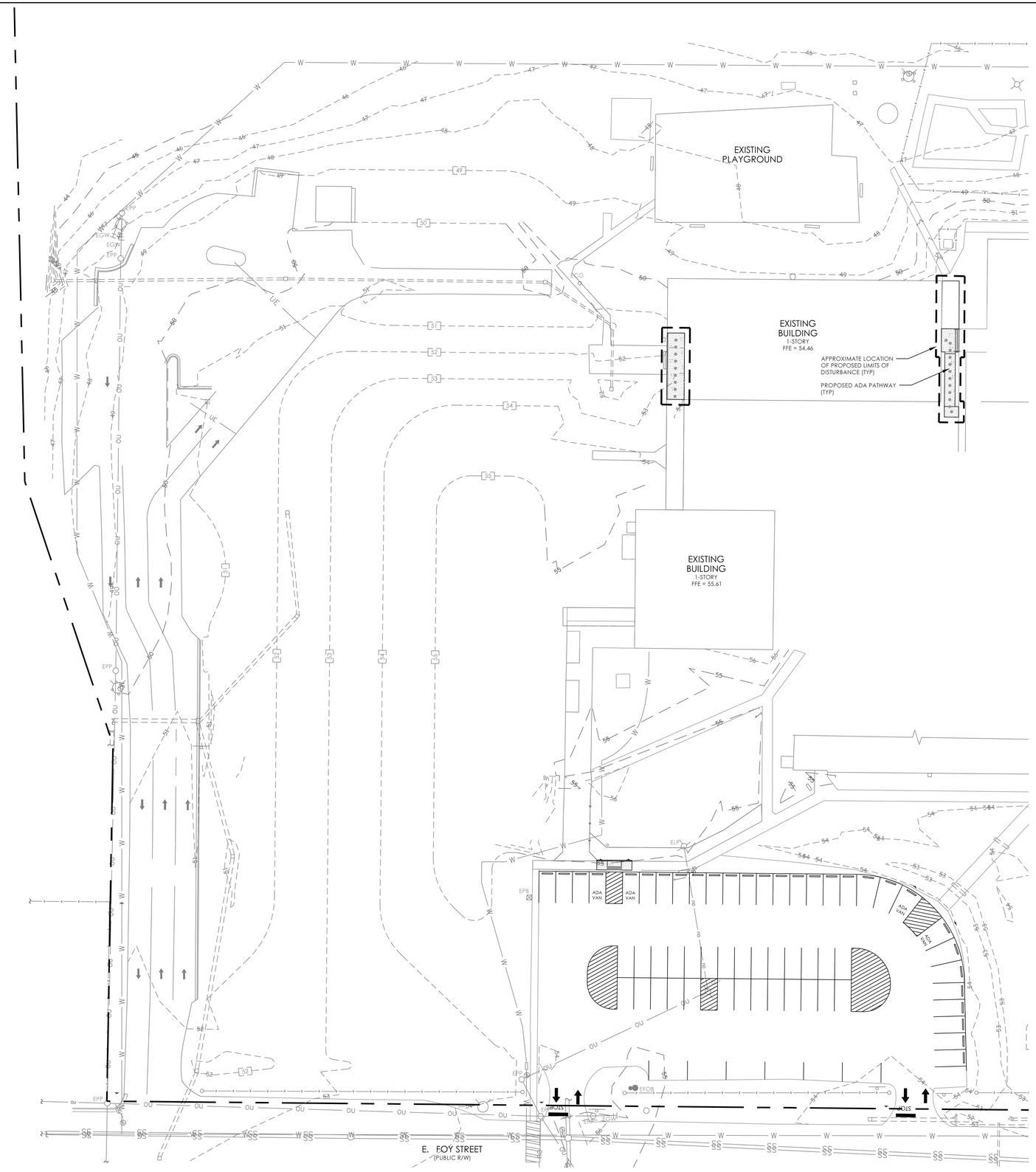
ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-431

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONSLOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



LEGEND

XXX	EXISTING CONTOUR (MAJOR)
XXX	EXISTING CONTOUR (MINOR)
W	EXISTING WATERLINE
SS	EXISTING SANITARY SEWER
	EXISTING STORM DRAINAGE
FO	EXISTING FIBER OPTIC LINE
G	EXISTING GAS LINE
OU	EXISTING OVERHEAD UTILITY LINE
UE	EXISTING UNDERGROUND UTILITY LINE
F	EXISTING FUEL LINE
	EXISTING PROPERTY LINE
X X	EXISTING CHAIN LINK FENCE
EPP	EXISTING UTILITY POLE
ELP	EXISTING LIGHT POLE
	EXISTING FIRE HYDRANT
	EXISTING WATERLINE VALVE
S	EXISTING SANITARY SEWER MH
ECO	EXISTING CLEANOUT
D	EXISTING STORM DRAINAGE MH
EPB	EXISTING PHONE BOX
EFOP	EXISTING FIBER OPTIC WITNESS POST
EBL	EXISTING BOLLARD
	EXISTING SIGN
	PROPOSED ADA PATHWAY
	PROPOSED STORM DRAIN PIPE
	PROPOSED DROP INLET

Know what's **below.** **Call** before you dig.

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NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER JOHN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

GRADING & DRAINAGE PLAN (BUS PARKING)

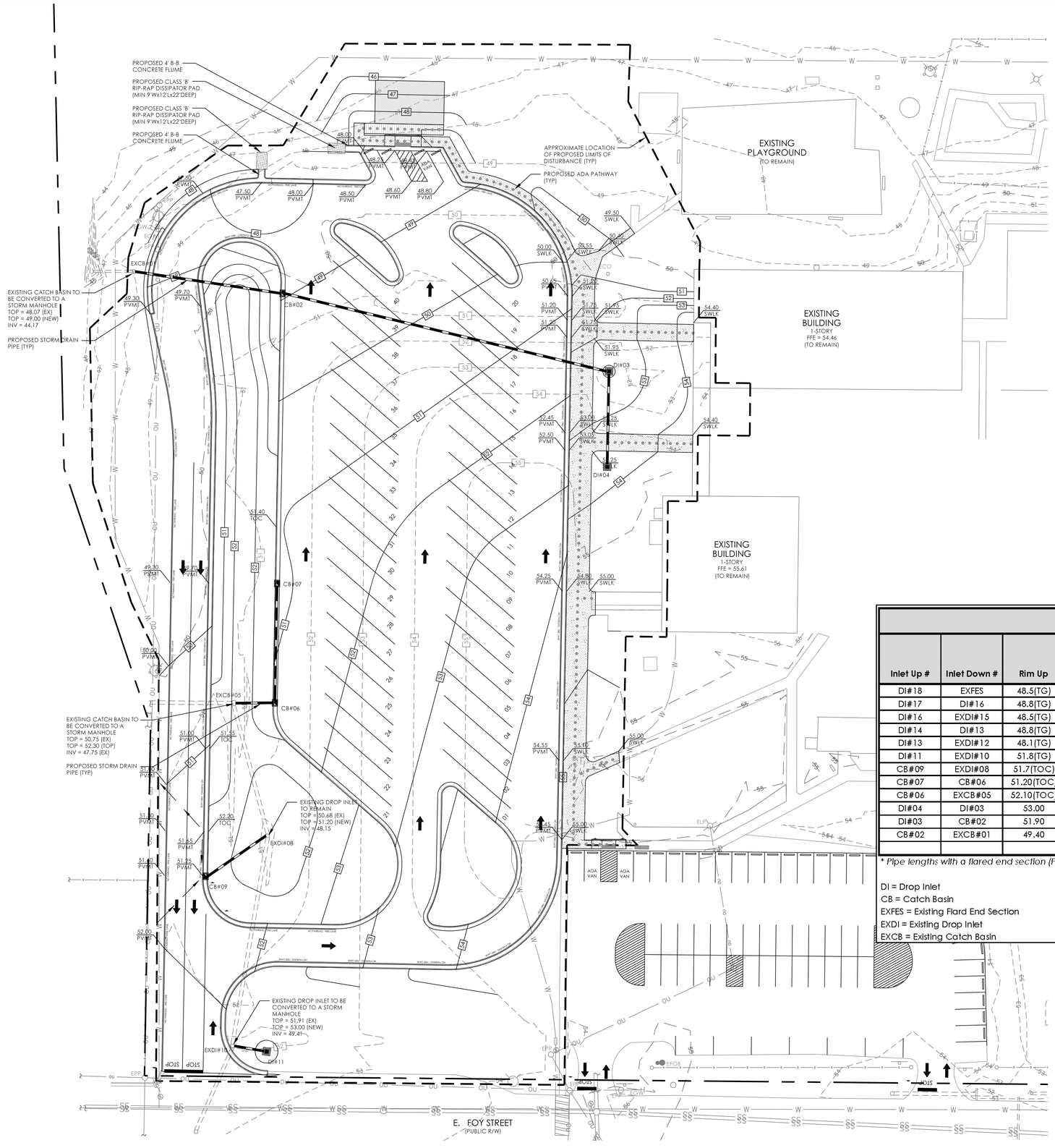
ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-510

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



LEGEND

- XXX — EXISTING CONTOUR (MAJOR)
- XXX — EXISTING CONTOUR (MINOR)
- W — EXISTING WATERLINE
- SS — EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- FO — EXISTING FIBER OPTIC LINE
- G — EXISTING GAS LINE
- OU — EXISTING OVERHEAD UTILITY LINE
- UE — EXISTING UNDERGROUND UTILITY LINE
- F — EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- X — X — EXISTING CHAIN LINK FENCE
- EPP — EXISTING UTILITY POLE
- ELP — EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- S — EXISTING SANITARY SEWER MH
- ECO — EXISTING CLEANOUT
- D — EXISTING STORM DRAINAGE MH
- EPB — EXISTING PHONE BOX
- EFOP — EXISTING FIBER OPTIC WITNESS POST
- EBL — EXISTING BOLLARD
- EXISTING SIGN
- PROPOSED ADA PATHWAY
- PROPOSED STORM DRAIN PIPE
- PROPOSED DROP INLET

Storm Drain Pipe Schedule

Inlet Up #	Inlet Down #	Rim Up	Invert Up	Invert Down	Pipe Length (ft)	Pipe Diameter (in)	Pipe Material	Pipe Slope (%)	Notes
DI#18	EXFES	48.5(TG)	44.65	----	----	EX 15	RCP	EX	
DI#17	DI#16	48.8(TG)	45.40	45.00	80	15	RCP	0.5%	
DI#16	EXDI#15	48.5(TG)	44.90	44.35	100	15	RCP	0.5%	
DI#14	DI#13	48.8(TG)	46.10	45.70	80	15	RCP	0.5%	
DI#13	EXDI#12	48.1(TG)	45.6	45.1	100	15	RCP	0.5%	
DI#11	EXDI#10	51.8(TG)	49.6	49.5	18	15	RCP	0.6%	
CB#09	EXDI#08	51.7(TOC)	48.6	48.3	42	15	RCP	0.7%	
CB#07	CB#06	51.20(TOC)	48.7	48.3	67	15	RCP	0.6%	
CB#06	EXCB#05	52.10(TOC)	48.1	47.9	22	15	RCP	0.9%	
DI#04	DI#03	53.00	48.0	47.1	53	15	RCP	1.7%	
DI#03	CB#02	51.90	46.9	44.9	192	15	RCP	1.0%	
CB#02	EXCB#01	49.40	44.8	44.3	86	15	RCP	0.6%	

** Pipe lengths with a flared end section (FES) include the length of the FES*

DI = Drop Inlet
CB = Catch Basin
EXFES = Existing Flard End Section
EXDI = Existing Drop Inlet
EXCB = Existing Catch Basin
RCP = Reinforced Concrete Pipe
TG = Top of Grate
TOC = Top of Curb
EX = Existing

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 JOHN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
ALT #3-1 - GRADING & DRAINAGE PLAN (BUS PARKING)

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-510A

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

NO GRADING OR STORM DRAINAGE IMPROVEMENTS ARE PROPOSED IN THE BASE SCOPE FOR THE CARPOOL PORTION OF THE PROJECT

EXISTING BUILDING
FFE = 53.10

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 53.93

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

N55°32'32"W
638.06'

ADA VAN

ADA VAN

STOP

STOP

LEGEND

- XXX — EXISTING CONTOUR (MAJOR)
- XXX — EXISTING CONTOUR (MINOR)
- W — EXISTING WATERLINE
- SS — EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- FO — EXISTING FIBER OPTIC LINE
- G — EXISTING GAS LINE
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- F — EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- x — x — EXISTING CHAIN LINK FENCE
- EPP — EXISTING UTILITY POLE
- ELP — EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- S — EXISTING SANITARY SEWER MH
- ECO — EXISTING CLEANOUT
- D — EXISTING STORM DRAINAGE MH
- EPB — EXISTING PHONE BOX
- EFOP — EXISTING FIBER OPTIC WITNESS POST
- EBL — EXISTING BOLLARD
- EXISTING SIGN
- PROPOSED ADA PATHWAY
- PROPOSED STORM DRAIN PIPE
- PROPOSED DROP INLET

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NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER IAN A. DOLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
GRADING & DRAINAGE PLAN (CARPOOL)

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-520

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

EXISTING DROP INLET
TOP = 48.59
INV = 44.99

EXISTING 24" RCP STORM DRAINAGE PIPE

APPROXIMATE LOCATION OF PROPOSED LIMITS OF DISTURBANCE (TYP)

PROPOSED ADA PATHWAY (TYP)

EXISTING BUILDING
FFE = 53.10

EXISTING BUILDING
FFE = 52.80

EXISTING BUILDING
FFE = 52.80

EXISTING CATCH BASIN
TOP = 50.19
INV = 45.53

APPROXIMATE LOCATION OF PROPOSED LIMITS OF DISTURBANCE (TYP)

EXISTING 18" RCP STORM DRAIN PIPE

EXISTING CATCH BASIN
TOP = 49.45 (EX)
TOP = 48.80 (NEW
INV = 44.25

EXISTING 15" RCP STORM DRAIN PIPE

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

EXISTING MODULAR UNIT

N55°32'32"W
638.06'

Storm Drain Pipe Schedule

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DI#11	EXDI#10	51.8(TG)	49.6	49.5	18	15	RCP	0.6%	
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CB#02	EXCB#01	49.40	44.8	44.3	86	15	RCP	0.6%	

** Pipe lengths with a flared end section (FES) include the length of the FES*

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TG = Top of Grate
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EX = Existing

LEGEND

- EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- EXISTING WATERLINE
- EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- EXISTING FIBER OPTIC LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING UNDERGROUND UTILITY LINE
- EXISTING FUEL LINE
- EXISTING PROPERTY LINE
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- EXISTING UTILITY POLE
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- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- EXISTING SANITARY SEWER MH
- EXISTING CLEANOUT
- EXISTING STORM DRAINAGE MH
- EXISTING PHONE BOX
- EXISTING FIBER OPTIC WITNESS POST
- EXISTING BOLLARD
- EXISTING SIGN
- PROPOSED ADA PATHWAY
- PROPOSED STORM DRAIN PIPE
- PROPOSED DROP INLET

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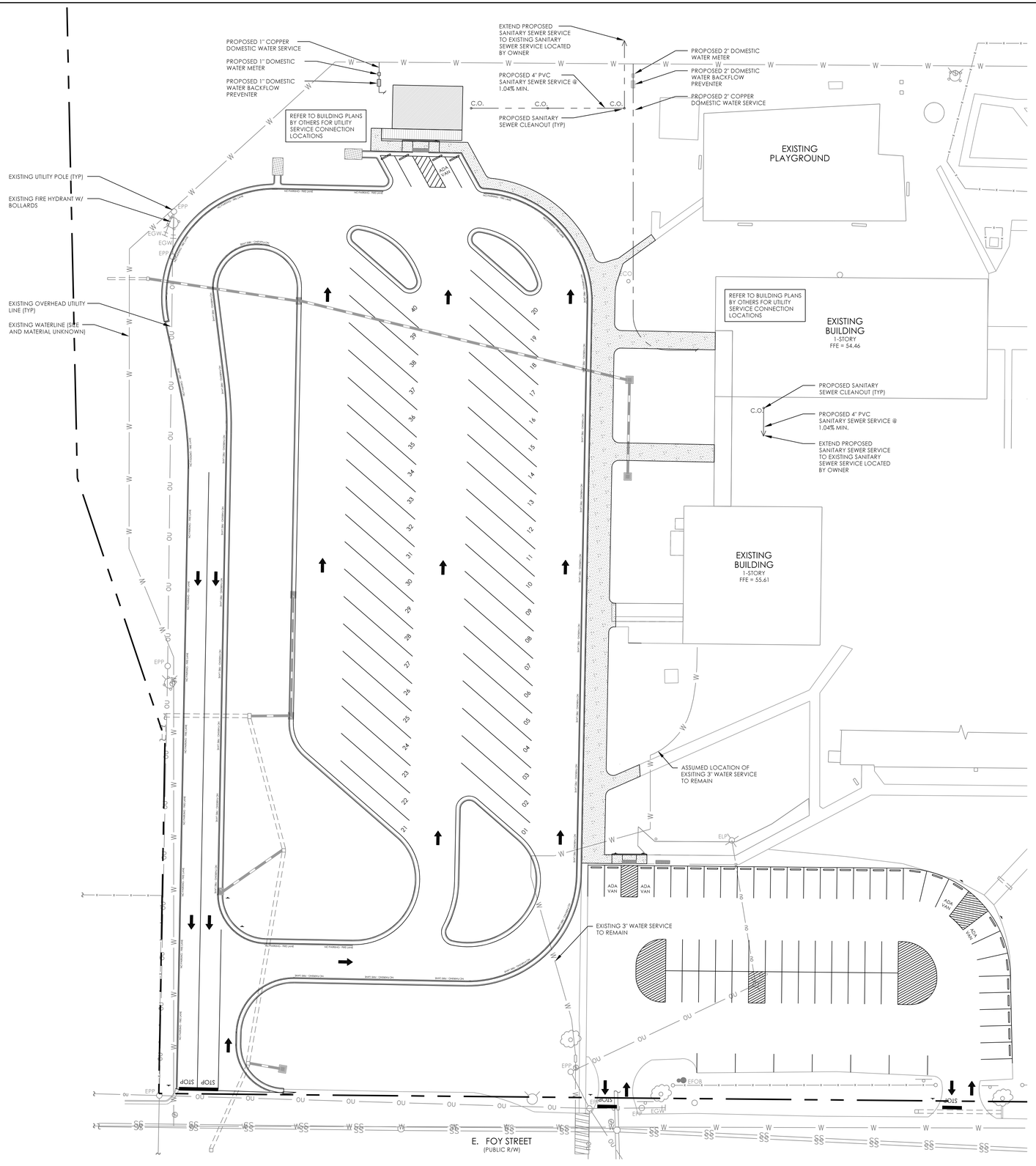
NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER TINA A. DOLL
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
ALT #4 - GRADING & DRAINAGE PLAN (CARPOOL)

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-520A



ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

LEGEND

- EXISTING WATERLINE
- EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- EXISTING FIBER OPTIC LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING UNDERGROUND UTILITY LINE
- EXISTING FUEL LINE
- EXISTING PROPERTY LINE
- EXISTING CHAIN LINK FENCE
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATERLINE VALVE
- EXISTING SANITARY SEWER MH
- EXISTING CLEANOUT
- EXISTING STORM DRAINAGE MH
- EXISTING PHONE BOX
- EXISTING FIBER OPTIC WITNESS POST
- EXISTING BOLLARD
- EXISTING SIGN
- PROPOSED SANITARY SEWER LINE
- PROPOSED WATERLINE

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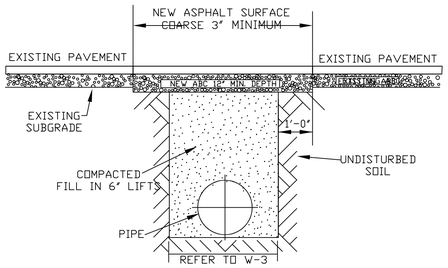
NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER IAN A. DOLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
ALT #3-1 - ENLARGED SITE UTILITY PLAN (BUS PARKING)

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

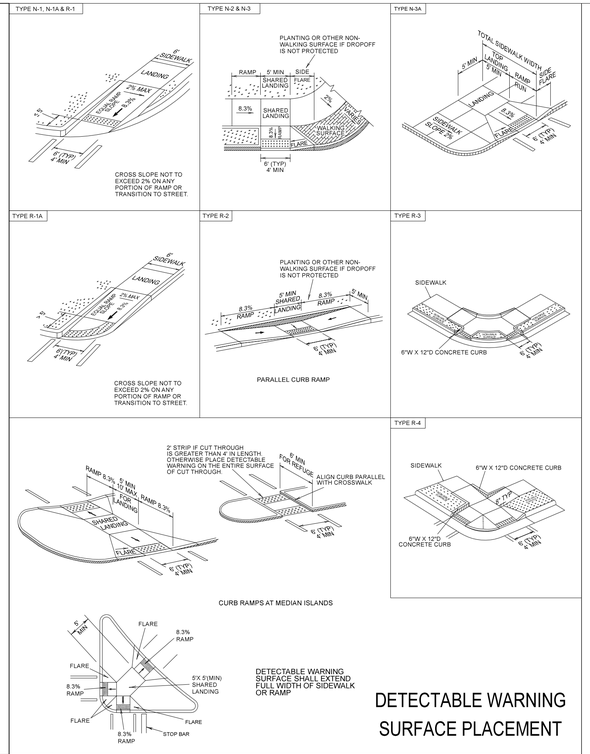
SHEET # C-710A



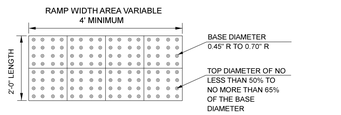
NOTES:

1. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT MACHINE.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
3. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
4. THE ENTIRE THICKNESS/ VERTICAL EDGE OF CUT SHALL BE TACKED.
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
7. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING, W-3. FOR ADDITIONAL DETAILS.
8. NO HAND PATCHING ALLOWED.
9. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

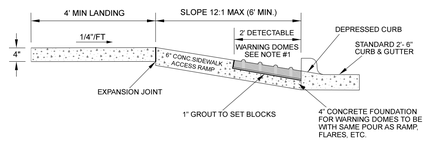
ASPHALT PAVEMENT PATCH



DETECTABLE WARNING SURFACE PLACEMENT



DETECTABLE WARNING DOMES CONCRETE PAVER



RAMP SECTION
WITH DETECTABLE WARNING PAVERS

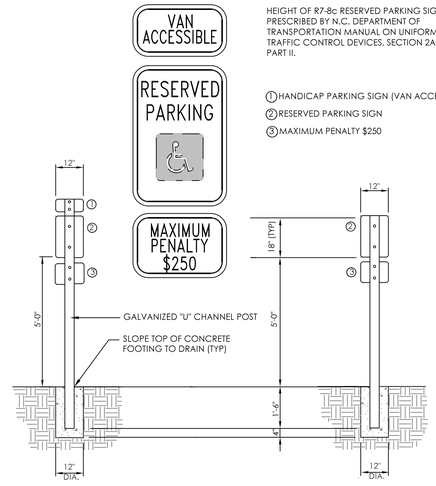
NOTES:

1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL. SIZE OF PAVER SHALL BE 1' X 1'.
2. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.

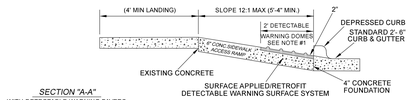
DETECTABLE WARNING SURFACE PAVERS

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

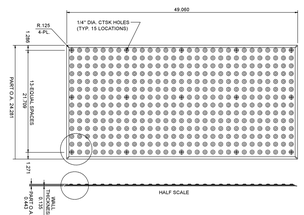
REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



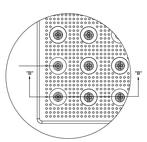
POST MOUNTED HANDICAP SIGN
NTS

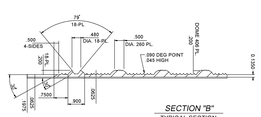


SECTION "A-A"
WITH DETECTABLE WARNING PAVERS



TILE INSTALLATION
VIEW @ 4X SCALE





SECTION "B"
TYPICAL SECTION

NOTE:
THIS APPLICATION ONLY TO BE USED WHEN RETRO FITTING EXISTING BARRIER FREE RAMPS

NOTES:

1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL.
2. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.

DETECTABLE WARNING SURFACE, SURFACE APPLIED (RETROFIT ONLY)

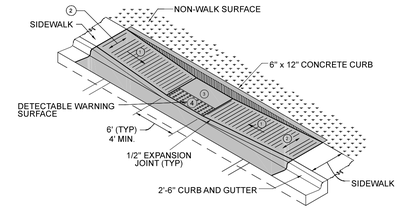
CURB RAMPS GENERAL NOTES

1. STANDARD CURB RAMPS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT OF WAY ACCESS GUIDELINES (PROWAG).
2. CURB RAMPS SHALL BE PROVIDED AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SIDEWALK ACCESS RAMPS SHALL BE LOCATED AS INDICATED IN THE DETAIL, HOWEVER, THE LOCATION MAY BE ADJUSTED IN COORDINATION WITH WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT.
3. DOUBLE WHEELCHAIR RAMPS ARE TO BE INSTALLED AT ALL PUBLIC STREET INTERSECTIONS WHERE SIDEWALK IS REQUIRED.
4. THE WALKING SURFACE SHALL BE SLIP RESISTANT. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.
5. NO SLOPE ON THE SIDEWALK ACCESS RAMP SHALL EXCEED 1"/FT (12:1) IN RELATIONSHIP TO THE GRADE OF THE STREET.
6. IN NO CASE SHALL THE WIDTH OF THE SIDEWALK ACCESS RAMP BE LESS THAN 48" ALL RAMPS SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.
7. USE CLASS A (3000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NONSKID SURFACE.
8. A 1/2" EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK ACCESS RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
9. CURB RAMPS SHOULD BE PLACED PARALLEL TO THE DIRECTION OF TRAVEL.

CURB RAMP NOTES

CONCRETE DEPTH	
RAMP / FLARES	6"
LANDING	4"

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
4. RAMPS AND DOMES SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.
5. IF LENGTH EXCEEDS 5', TRUNCATED DOMES SHALL BE INSTALLED ALONG THE BACK OF THE CURB COVERING THE FULL WIDTH OF THE RAMP.



TYPE R-2
(USE ONLY WHERE WATER WILL NOT POND WITHIN LANDING)

ADA RAMP (TYPE R-1)

4909 Lies Road
Raleigh, NC 27606
919.438.3694 (o)
Firm License C-3898

grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER JAN A. DOLL 20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS

SITE DETAILS

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-900

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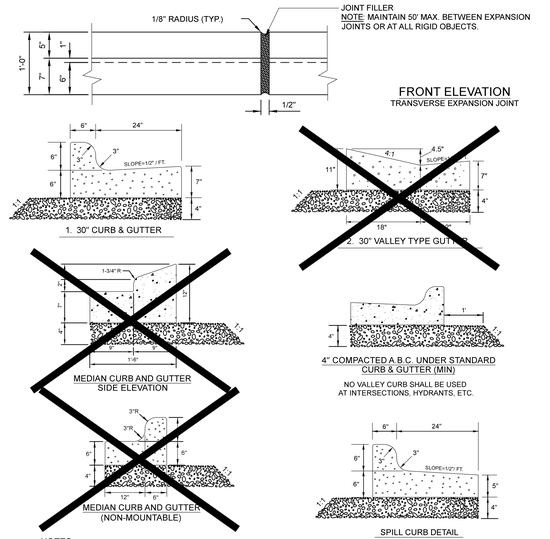
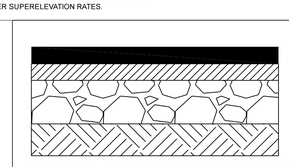


NOTES:

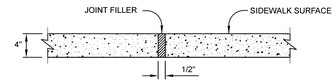
1. 10' MAXIMUM BETWEEN DUMMY JOINTS. 15' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026-2 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS AND STRUCTURES.
5. ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 846.01 THE JOINT MATERIAL SHALL CONFORM TO SECTION 1028-2 OF NCDOT STANDARD & SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. REFER TO NCDOT DETAIL 846.01 FOR CURB AND GUTTER SUPERELEVATION RATES.

CURB AND GUTTER

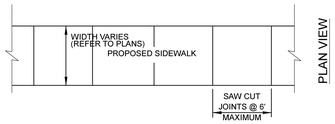


TYPICAL HEAVY DUTY ASPHALT PAVEMENT SECTION

N.T.S.



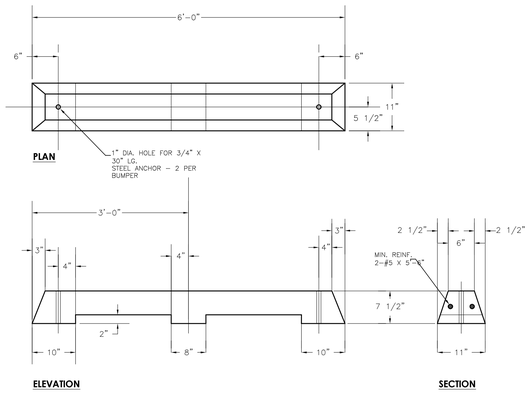
TRANSVERSE EXPANSION JOINT



NOTES:

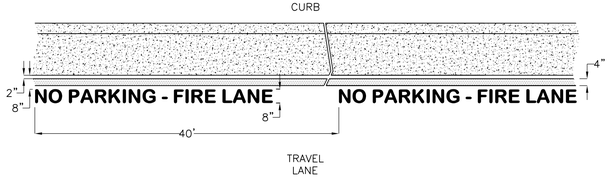
1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 50 FEET.
2. ALL CONCRETE TO BE 3000 PSI AND FINISHED WITH CURING COMPOUND.
3. A 6 INCH DEPTH IS REQUIRED AT LOCATIONS OF DRIVEWAY CROSSINGS, AT STREET INJTERSECTIONS (ALONG THE LENGTH OF RADIUS CURB RETURNS), AND IN THE HANDICAP RAMPS.
4. CONTRACTOR SHALL PROVIDE 6X6 WWMF IN ALL PROPOSED SIDEWALKS.
5. ALL CONCRETE SHALL HAVE A BROOM FINISH.

4" THICK CONCRETE SIDEWALK



CONCRETE WHEEL STOP

SECTION, ELEVATION, PLAN



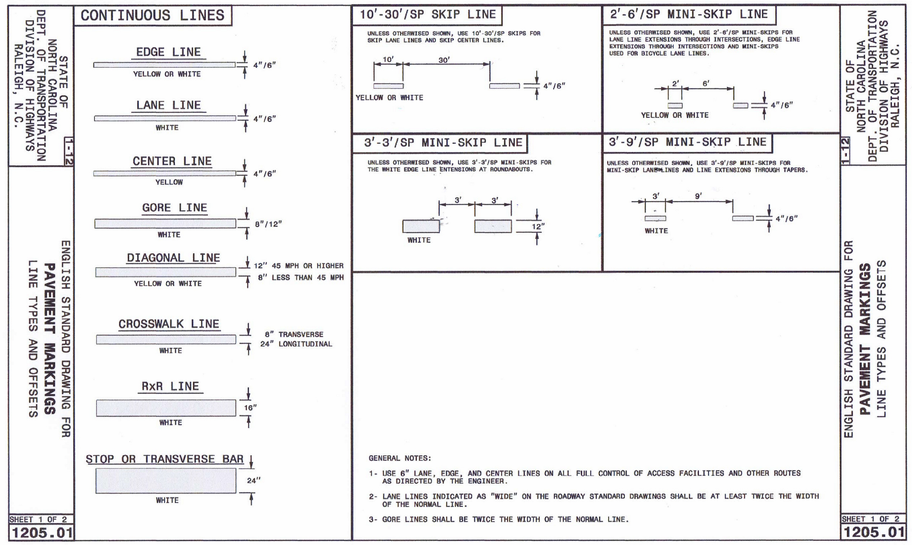
NOTES:

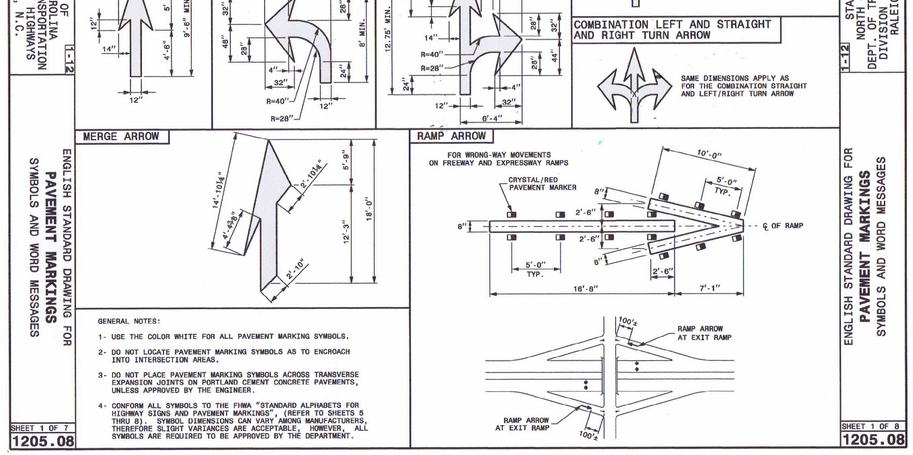
1. "NO PARKING–FIRE LANE" LETTER MARKINGS SHALL BE YELLOW.
2. LETTERS SHALL BE A MINIMUM OF 8" HIGH AND SPACED 8" FROM THE EDGE OF PAVEMENT.
3. LETTER MARKING SHALL BE PLACED EVERY 40' AND AT EVERY FIRE HYDRANT.
4. SOLID 4" WIDE YELLOW LINE SHALL BE PLACED 2" FROM THE EDGE OF PAVEMENT.

FIRE LANE PAVEMENT MARKING

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.





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grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER JENNA A. DOLL
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL

TRANSPORTATION SERVICES IMPROVEMENTS

SITE DETAILS

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-901

811 Know what's **below.** **Call** before you dig.

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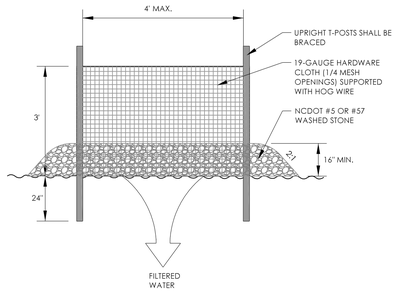
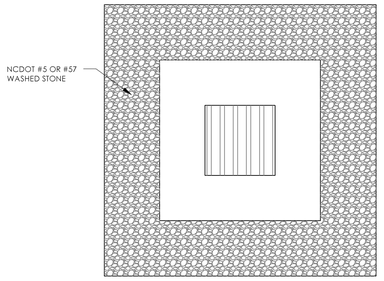




CONSTRUCTION SPECIFICATIONS

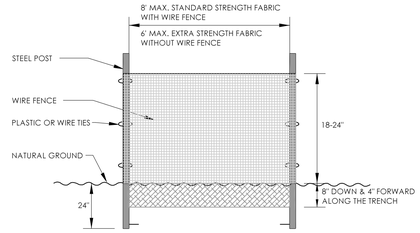
1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZED IT WITH GROUNDCOVER.

MAINTENANCE REQUIREMENTS

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

TEMPORARY INLET PROTECTION

NOT TO SCALE

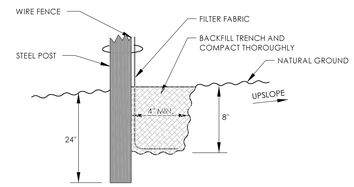


MATERIAL SPECIFICATIONS

1. USE A SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS OF ASTM D 6461, WHICH IS SHOWN IN PART IN TABLE 6.62b IN THE NCDEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. SYNTHETIC FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0-DEGREES TO 120-DEGREES FARENHEIT.
2. ENSURE THAT POSTS FOR SEDIMENT FENCES ARE 1.25 LB/LINEAR FOOT MINIMUM STEEL WITH A MINIMUM LENGTH OF 5 FEET. MAKE SURE THAT STEEL POSTS HAVE PROJECTIONS TO FACILITATE FASTENING THE FABRIC.
3. FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC, USE WIRE FENCE WITH A MINIMUM 14 GAUGE AND A MAXIMUM MESH SPACING OF 6 INCHES.

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
2. ENSURE THAT TEH HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.)
3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS FOLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
4. SUPPORT STANDARD LENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO TEH BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFOREMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
7. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.
10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.



CROSS-SECTION VIEW

INSTALLATION SPECIFICATIONS

1. THE BASE OF BOTH END POSTS SHOULD BE AT LEAST ONE FOOT HIGHER THAN THE MIDDLE OF THE FENCE. CHECK WITH LEVEL IF NECESSARY.
2. INSTALL POSTS 4 FEET APART IN CRITICAL AREAS AND 6 FEET APART ON STANDARD APPLICATIONS.
3. INSTALL POSTS 2 FEET DEEP ON DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC, ENABLING POSTS TO SUPPORT THE FABRIC FROM UPSTREAM WATER PRESSURE.
4. INSTALL POSTS WITH TEH NIPPLES FACING AWAY FROM THE FILT FABRIC,
5. ATTACH THE FABRIC TO EACH POST WITH THREE TIES. ALL SPACED WITH THE TOP 8 INCHES OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45-DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1 INCH VERTICALLY APART. ALSO, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENING TO PREVENT SAGGING.
6. WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
7. NO MORE THAN 24 INCHES OF A 36 INCH FABRIC IS ALLOWED ABOVE GROUND LEVEL.
8. THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION.
9. COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQUARE INCH. COMPACT THE UPSTREAM SIDE FIRST, AND THEN EACH SIDE TWICE FOR A TOTAL OF 4 TRIPS.

MAINTENANCE REQUIREMENTS

INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.

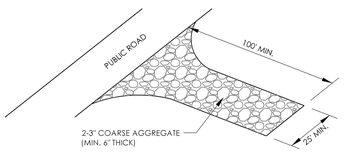
SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.

REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

TEMPORARY SILT FENCE (SEDIMENT FENCE)

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

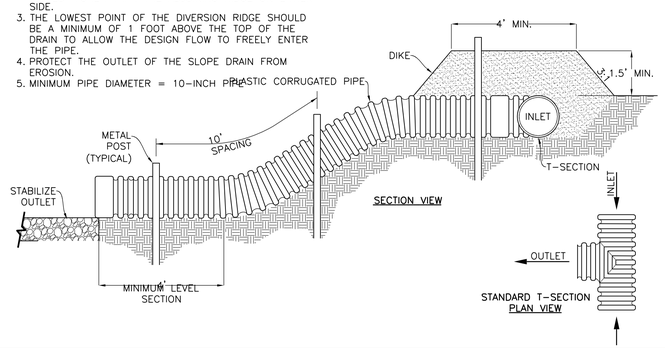
MAINTENANCE REQUIREMENTS

MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

TEMPORARY CONSTRUCTION ENTRANCE

NOT TO SCALE

NOTES:
1. CONSTRUCT AN EARTHEN DIVERSION WITH A DIKE RIDGE TO DIRECT SURFACE RUNOFF INTO THE TEMPORARY SLOPE DRAIN.
2. MAKE THE HEIGHT OF THE RIDGE OVER THE DRAIN CONDUIT A MINIMUM OF 1.5 FEET AND AT LEAST 6 INCHES HIGHER THAN THE ADJOINING RIDGE ON EITHER SIDE.
3. THE LOWEST POINT OF THE DIVERSION RIDGE SHOULD BE A MINIMUM OF 1 FOOT ABOVE THE TOP OF THE DRAIN TO ALLOW THE DESIGN FLOW TO FREELY ENTER THE PIPE.
4. PROTECT THE OUTLET OF THE SLOPE DRAIN FROM EROSION.
5. MINIMUM PIPE DIAMETER = 10-INCH PIPE



TEMPORARY SLOPE DRAIN

4909 Liles Road
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919.438.3694 (o)
Firm License C-3898

grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER TINA DOLL
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS

EROSION CONTROL DETAILS

SUBMITTAL DESCRIPTION	ISSUE DATE
0- BID / PERMIT SET	02.20.2023

PROJECT # 22096

SHEET # C-910

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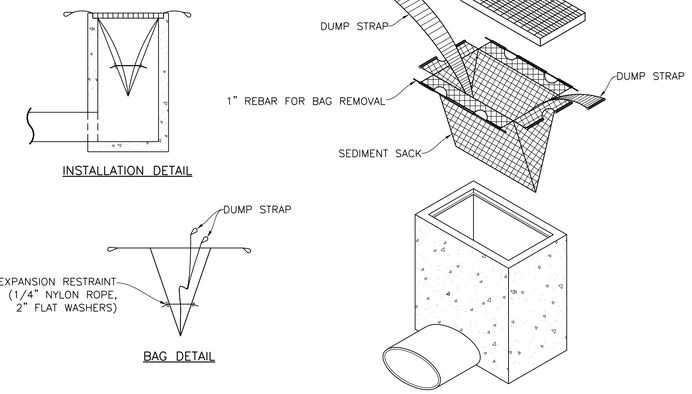
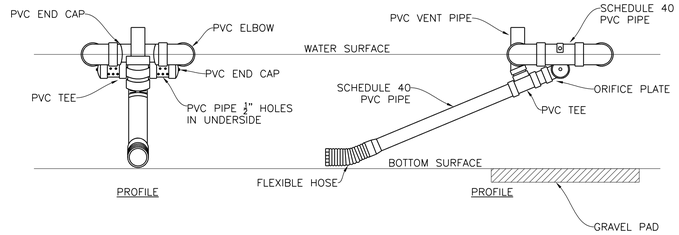
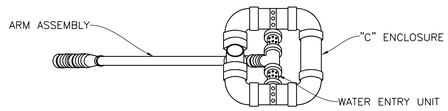


INLET SEDIMENT CONTROL DEVICE

SKIMMER DEVICE SHALL BE TIED TO THE RISER STRUCTURE WITH A ROPE TO FACILITATE RECOVERY FOR MAINTENANCE

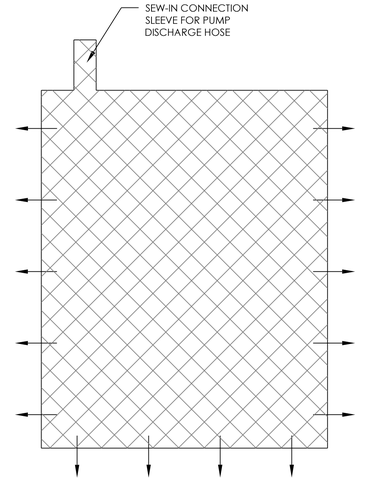




SKIMMER DETAIL

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

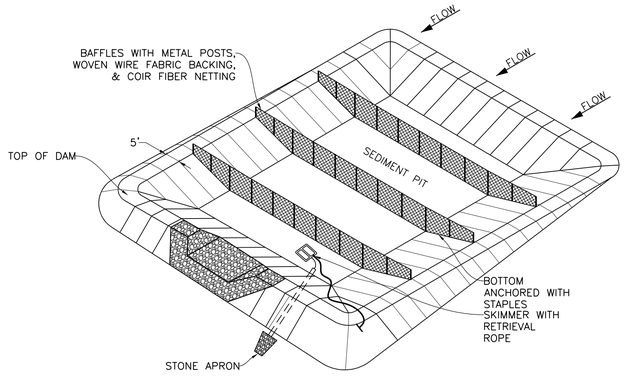


NOTES:

1. CONTRACTOR SHALL EXERCISE CAUTION NOT TO BURST OR DAMAGE THE SEDIMENT FILTER BAG. IF ANY DAMAGE IS FOUND, THE BAG SHALL BE REPLACED IMMEDIATELY.
2. THE MINIMUM "FOOTPRINT" OF THE BAG SHALL BE 10'x15'.
3. SEDIMENT FILTER BAGS SHALL BE EQUIPPED WITH A SEWN-IN SLEEVE OF SUFFICIENT SIZE TO ACCEPT A MINIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE DISCHARGE HOSE SHOULD BE EXTENDED INTO THIS SLEEVE A MINIMUM OF 6 INCHES AND BE TIGHTLY SECURED WITH A HOSE CLAMP OR OTHER SUITABLE MEANS TO PREVENT LEAKAGE. HOSE CONNECTION THROUGH A SLIT IN THE BAG WILL NOT BE ACCEPTABLE.
4. THE PUMP DISCHARGE HOSE CONNECTION SLEEVE SHALL BE SECURELY TIED OFF DURING DISPOSAL OF THE SEDIMENT FILTER BAG IN ORDER TO PREVENT LEAKAGE OF COLLECTED SEDIMENT.
5. SEDIMENT FILTER BAG SHALL BE MAINTAINED AND REPLACED WHEN ONE HALF FULL OF SEDIMENT OR IN ACCORDANCE WITH TEH MANUFACTURER'S RECOMMENDATION, WHICHEVER IS MORE STRINGENT.
6. WHEN PREPARING TO DEWATER, THE BAG SHALL BE LAID IN A FLAT AREA. THE BAG SHALL BE PLACED ON A POUROUS SURFACE SUCH AS AGGREGAGE VEGETATION, OR HAY BALES.
7. MONITOR THE BAG DURING THE DEWATERING OPERATION TO ENSURE THE BAG IS PUMPING AND FILTERING EFFECTIVELY (AT RATES THE BAG CAN HANDLE). THE BAG WILL BE FILLED WHEN IT STOPS FILTERING OR PASSING WATER AT A REASONABLE RATE. IF THE BAG IS SWELLING QUICKLY, REDUCE TEH VOLUME TO ALLOW FOR THE BAG TO SETTLE.

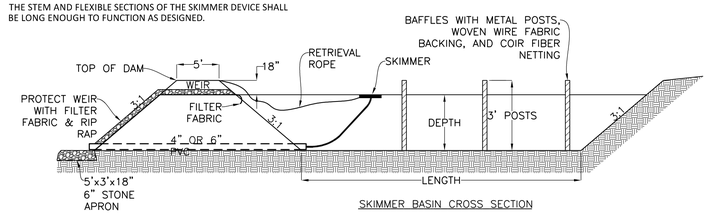
SEDIMENT FILTER BAG

N.T.S.



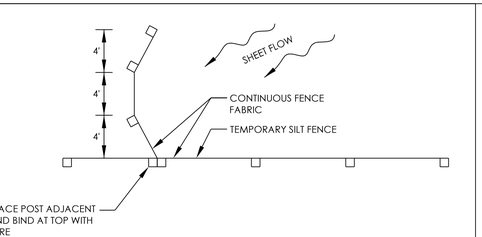
SKIMMER SEDIMENT BASIN

THE STEM AND FLEXIBLE SECTIONS OF THE SKIMMER DEVICE SHALL BE LONG ENOUGH TO FUNCTION AS DESIGNED.



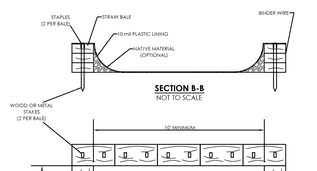
NOTES:
1. USE FOR DRAINAGE AREAS NOT EXCEEDING 10 ACRES.
2. EARTH BERM SHALL BE STABILIZED WITH VEGETATION ACCORDING TO TOWN SPECIFICATIONS.
3. INSPECT TEMPORARY SEDIMENT BASINS AND EMPTY SKIMMER OF ALL DEBRIS AFTER EACH PERIOD OF SIGNIFICANT RAINFALL. REMOVE SEDIMENT AND RESTORE BASIN TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE–HALF THE DESIGN DEPTH OF THE BASIN. PLACE THE SEDIMENT THAT HAS BEEN REMOVED IN A DESIGNATED DISPOSAL AREA. REPAIR AND/OR REPLACE BAFFLES.
4. CHECK THE STRUCTURE FOR DAMAGE FROM EROSION OR PIPING. PERIODICALLY CHECK THE DEPTH OF THE SPILLWAY TO ENSURE IT IS A MINIMUM OF 1.5 FEET BELOW THE LOW POINT OF THE EMBANKMENT. IMMEDIATELY FILL ANY SETTLEMENT OF THE EMBANKMENT TO SLIGHTLY ABOVE DESIGN GRADE. ANY RIP RAP DISPLACED FROM THE SPILLWAY MUST BE REPLACED IMMEDIATELY.
5. STABILIZE THE EMBANKMENT AND ALL DISTURBED AREAS ABOVE THE SEDIMENT POOL AND DOWNSTREAM FROM THE TRAP IMMEDIATELY AFTER CONSTRUCTION WITH SEEDING.
6. FLOW ENTERING THE BASIN MUST BE DIRECTED TO AVOID EROSION ALONG THE SLOPE AND SCOUR IN THE BASIN. APPROPRIATELY SIZED SLOPE DRAINS, PER THE STANDARD DETAIL, ARE RECOMMENDED.

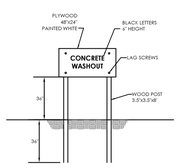
SKIMMER SEDIMENT BASIN



TEMPORARY SILT FENCE J-HOOK

N.T.S.

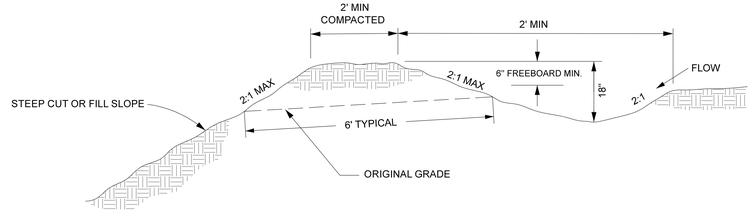




NOTES

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS, OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

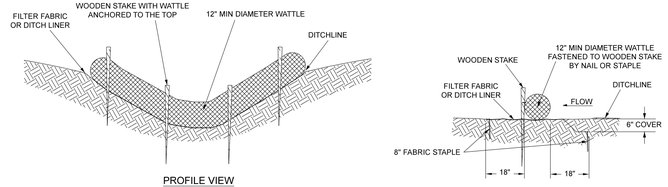
NCDENR CONCRETE WASHOUT DETAIL



CROSS SECTION

NOTES:
1. STABILIZE IMMEDIATELY UPON CONSTRUCTION AND PRIOR TO SITE INSPECTION APPROVAL.
2. STABILIZE DIVERSION DITCH BASED ON DESIGN VELOCITY. IF DESIGN VELOCITIES (O_2) IN BARE EARTH CONDITIONS EXCEEDS 2 FT/S, A TEMPORARY LINER IS REQUIRED.
3. MAXIMUM 5 ACRE DRAINAGE AREA TO TEMPORARY DIVERSION.

TEMPORARY DIVERSION DITCH



NOTES:
1. WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL.
2. SPACING FOR WATTLES SHALL BE DETERMINED BY THE SITE ENGINEER.
3. WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP INLETS WITH APPROVAL BY THE STORMWATER PROGRAM MANAGER OR DESIGNEE.
4. FOR USE OF WATTLE IN A DITCH, GRADE OF DITCH MUST BE <2.5%.

WATTLE CHECK DAM DETAIL

Know what's **below.** **Call** before you dig.

4909 Liles Road
Raleigh, NC 27606
919.438.3694 (o)
Firm License C-3898

grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER JAN A. DOLL 20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS

EROSION CONTROL DETAILS

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-911

TEMPORARY SEEDING SPECIFICATIONS

Complete grading before preparing seedbeds, and install all necessary erosion control practices such as, dikes, waterways, and basins. Minimize steep slopes because they make seedbed preparation difficult and increase the erosion hazard. If soils become compacted during grading, loosen them to a depth of 6-8 inches using a ripper, harrow, or chisel plow.

SEEDBED PREPARATION
Good seedbed preparation is essential to successful plant establishment. A good seedbed is well-pulverized, loose, and uniform. Where hydroseeding methods are used, the surface may be left with a more irregular surface of large clods and stones.

Liming—Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on finetextured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

Fertilizer—Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

Surface roughening—If recent tillage operations have resulted in a loose surface, additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by disking, raking, harrowing, or other suitable methods. Groove or furrow slopes steeper than 3:1 on the contour before seeding (Refer to the NCDEQ Erosion and Sediment Control Planning and Design Manual, Practice 6.03, Surface Roughening).

PLANT SELECTION
Select an appropriate species or species mixture from Table 6.10a for seeding in late winter and early spring, Table 6.10b for summer, and Table 6.10c for fall.

In the Mountains, December and January seedings have poor chances of success. When it is necessary to plant at these times, use recommendations for fall and a securely tacked mulch.

SEEDING
Evenly apply seed using a cyclone seeder (broadcast), drill, cultipacker seeder, or hydroseeder. Use seeding rates given in Tables 6.10a-6.10c. Broadcast seeding and hydroseeding are appropriate for steep slopes where equipment cannot be driven. Hand broadcasting is not recommended because of the difficulty in achieving a uniform distribution.

Small grains should be planted no more than 1 inch deep, and grasses and legumes no more than 1/2 inch. Broadcast seed must be covered by raking or chain dragging, and then lightly firmed with a roller or cultipacker. Hydroseeded mixtures should include a wood fiber (cellulose) mulch.

MULCHING
The use of an appropriate mulch will help ensure establishment under normal conditions, and is essential to seeding success under harsh site conditions (Refer to the NCDEQ Erosion and Sediment Control Planning and Design Manual, Practice 6.14, Mulching). Harsh site conditions include: • seeding in fall for winter cover (wood fiber mulches are not considered adequate for this use),

- slopes steeper than 3:1,
- excessively hot or dry weather,
- adverse soils (shallow, rocky, or high in clay or sand), and
- areas receiving concentrated flow.

If the area to be mulched is subject to concentrated waterflow, as in channels, anchor mulch with netting (Refer to the NCDEQ Erosion and Sediment Control Planning and Design Manual, Practice 6.14, Mulching).

TEMPORARY SEEDING MAINTENANCE

Reseed and mulch areas where seedling emergence is poor, or where erosion occurs, as soon as possible. Do not mow. Protect from traffic as much as possible.

PERMANENT SEEDBED PREPARATION

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO 6 INCHES DEEP.
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE ADMIXTURE BELOW).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDING WITHIN THE PLANTING SEASON IF POSSIBLE. IF STAND SHOULD BE MORE THAN 50% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES AND LANDSCAPING PLANS.
9. SEE SEEDING SCHEDULES ON THIS SHEET FOR PERMANENT SEEDING, MULCHING, AND FERTILIZING RATES. ALL AREAS NOT DESIGNATED TO RECEIVE PLANTS SHALL BE SEEDED PER THE LANDSCAPING PLANS.

PERMANENT SEEDING

DATE: APRIL 15 - JULY 31
TYPE: 100% HULLED COMMON BERMUDAGRASS
PLANTING RATE: 1-2 LBS PER 1,000 SF (43-87 LBS PER ACRE)

TEMPORARY SEEDBED PREPARATION

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO 6 INCHES DEEP.
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE ADMIXTURE BELOW).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDING WITHIN THE PLANTING SEASON IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER, AND SEEDING RATES.

ADMIXTURES

FERTILIZER: COMMERCIAL SLOW-RELEASE FERTILIZER. 1,000 LBS PER ACRE. NITROGEN, PHOSPHOROUS, AND POTASSIUM IN AMOUNTS RECOMMENDED IN SOIL REPORTS FROM A QUALIFIED SOIL-TESTING LABORATORY.
AGRICULTURAL LIMESTONE: 2 TONS/ACRE OR 3 TONS/ACRE IN CLAY SOILS.
MULCH: 4,000 LBS PER ACRE - SMALL GRAIN STRAW
ANCHOR: ASPHALT EMULSION AT 400 GALLONS PER ACRE

TABLE 6.10a - TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE

SPECIES	RATE (LBS/ACRE)
RYE (GRAIN)	120
ANNUAL SWITCHGRASS (KOBE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50

OMIT ANNUAL SWITCHGRASS WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

SEEDING DATES:
MOUNTAINS - ABOVE 2500 FEET: FEB. 15 - MAY 15
BELOW 2500 FEET: FEB. 1 - MAY 1
PIEDMONT - JAN. 1 - MAY 1
COASTAL PLAIN - DEC. 1 - APR. 15

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT OR NETTING.

MAINTENANCE:
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TABLE 6.10b - TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE

SPECIES	RATE (LBS/ACRE)
GERMAN MILLET	40

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

SEEDING DATES:
MOUNTAINS - MAY 15 - AUG. 15
PIEDMONT - MAY 1 - AUG. 15
COASTAL PLAIN - APR. 15 - AUG. 15

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT OR NETTING.

MAINTENANCE:
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TABLE 6.10c - TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE

SPECIES	RATE (LBS/ACRE)
RYE (GRAIN)	120

SEEDING DATES:
MOUNTAINS - AUG. 15 - DEC. 15
PIEDMONT - AUG. 15 - DEC. 30
COASTAL PLAIN - AUG. 15 - DEC. 30

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT OR NETTING.

MAINTENANCE:
REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

CONCRETE WASHOUT BASIN MAINTENANCE

CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY AND AFTER HEAVY RAINS TO CHECK FOR LEAKS, IDENTIFY IF PLASTIC LININGS AND SIDEWALLS HAVE BEEN DAMAGED BY CONSTRUCTION ACTIVITIES, AND DETERMINE WHETHER THEY HAVE BEEN FILLED TO OVER 75% CAPACITY. WHEN THE WASHOUT BASIN IS FILLED TO OVER 75% OF ITS CAPACITY, THE MATERIAL SHOULD BE REMOVED AND RECYCLED. DAMAGES TO THE LINING AND SIDEWALLS SHOULD BE REPAIRED PROMPTLY. BEFORE HEAVY RAINS, THE WASHOUT BASIN SHOUDL BE COVERED TO AVOID AN OVERFLOW DURING THE RAIN STORM.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE MAINTENANCE

MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS.

TEMPORARY INLET PROTECTION MAINTENANCE

INSPECT THE BARRIER AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL AND MAKE REPAIRS AS NEEDED. REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN ADEQUATELY STABILIZED, REMOVE ALL MATERIALS AND AN UNSTABLE SOIL, AND EITHER SALVAGE OR DISPOSE OR IT PROPERLY. BRING THE DISTURBED AREA TO PROPER GRADE, THEN SMOOTH AND COMPACT IT. APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.

SILT FENCE OUTLET MAINTENANCE

REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.

REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.

SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.

REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

SILT FENCE MAINTENANCE

INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED RAPAIRS IMMEDIATELY.

SHOULD THE FABRIC FOR A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.

REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABLILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

TEMPORARY SKIMMER BASIN MAINTENANCE

INSPECT SKIMMER BASINS AS LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND TEH SKIMMER OR THE FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.

REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR THE BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.

IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO, REMOVE THE DEBRIS.

IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.

CHECK THE FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.

TEMPORARY SLOPE DRAIN MAINTENANCE

INSPECT THE SLOPE DRAIN AND SUPPORTING DIVERSION AFTER EVERY RAINFALL, AND PROMTLY MAKE NECESSARY REPAIRS. WHEN THE PROTECTED AREA HAS BEEN PERMANENTLY STABILIZED, TEMPORARY MEASURES MAY BE REMOVED, MATERIALS DISPOSED OF PROPERLY, AND ALL DISTURBED AREAS STABILIZED APPROPRIATELY.

TEMPORARY DIVERSION MAINTENANCE

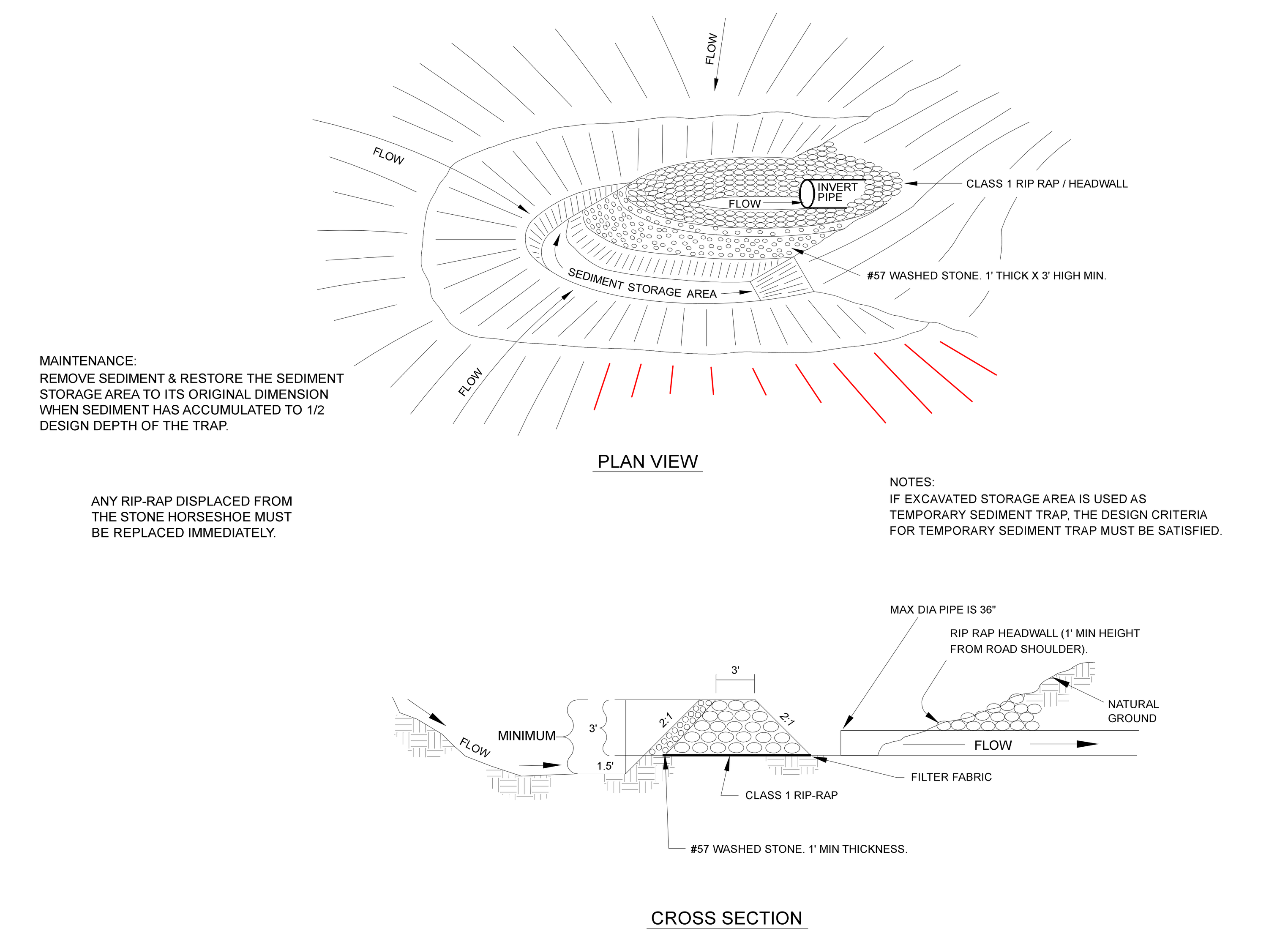
INSPECT EMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENTS FROM THE FLOW AREA AND REPAIR FHE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.

TEMPORARY HORSESHOE INLET PROTECTION MAINTENANCE

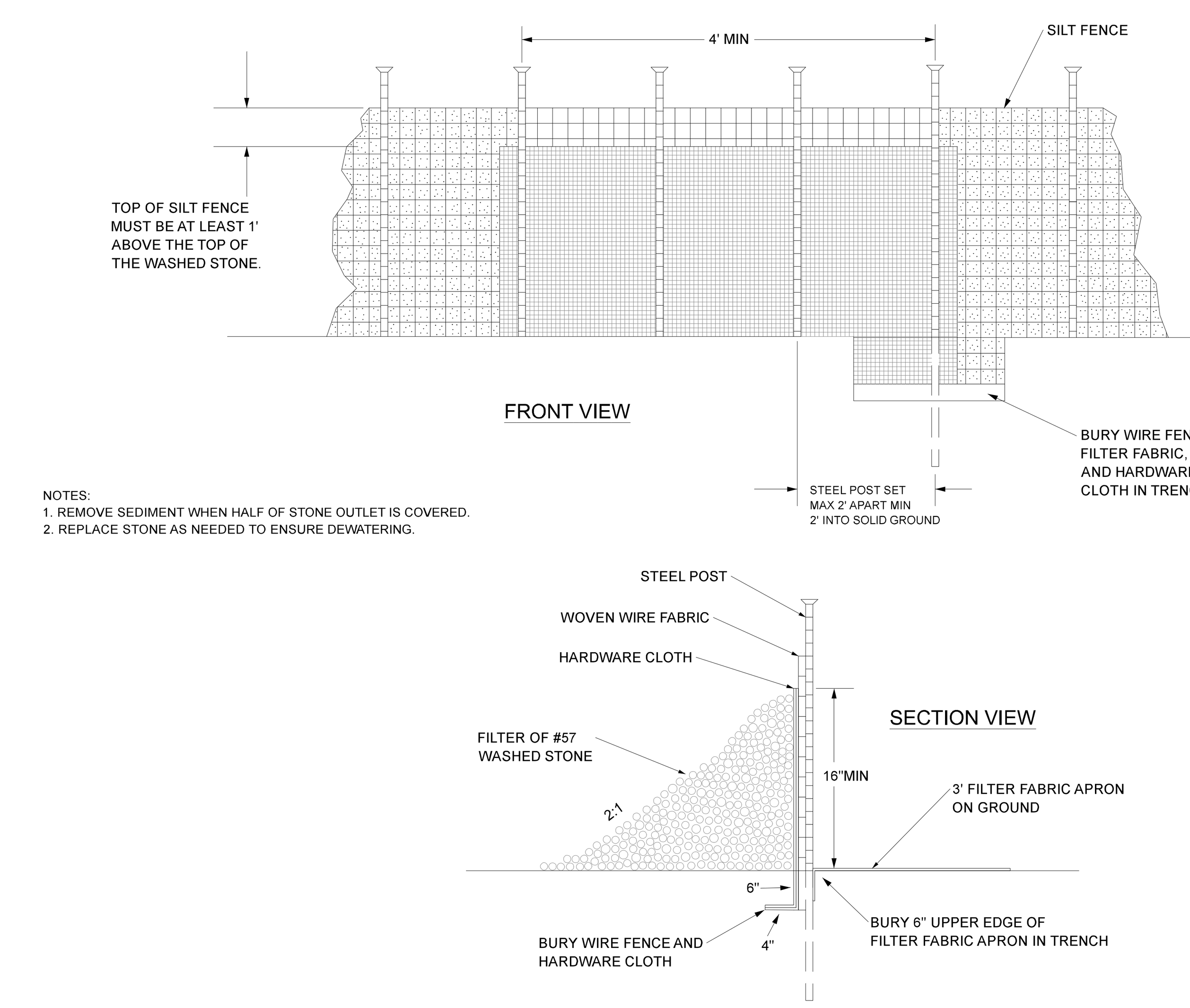
INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNAGED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING. CHECK THE STRUCTURE FOR DAMAGE. ANY RIPRAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY. AFTER ALL THE SEDIMENT PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE AND ALL UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND PROVIDE PERMANENT GROUND COVER.

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONSLOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



TEMPORARY HORSESHOE INLET PROTECTION



TEMPORARY SILT FENCE OUTLET

NOT TO SCALE

811
Know what's below. Call before you dig.

grounded ENGINEERING
4909 Liles Road
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 ... A. DOLLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
EROSION CONTROL DETAILS

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT #
22096

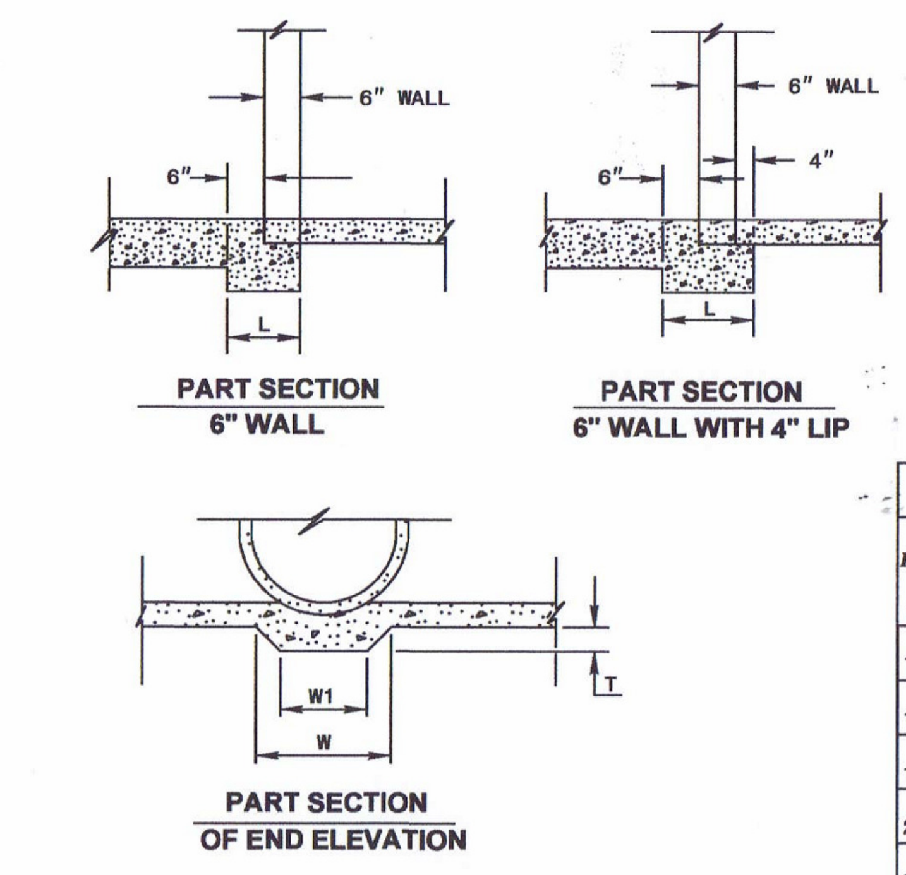
SHEET #
C-912

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONSLOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

840.00 — ENGLISH STANDARD DRAWING FOR CONCRETE BASE PAD FOR DRAINAGE STRUCTURES

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12



TABLES OF QUANTITIES FOR PIPE SET IN PAD

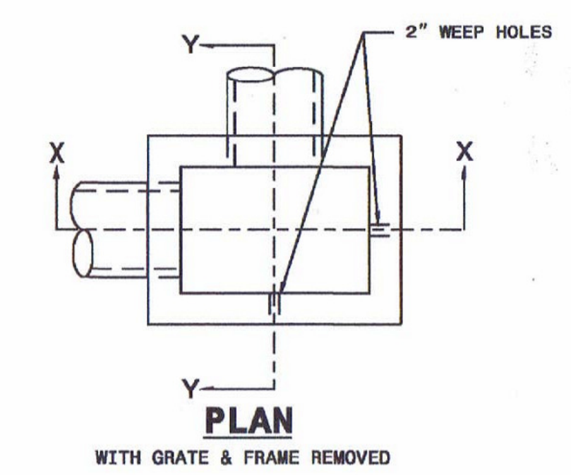
PIPE D	"W" DIM	"W1" DIM	"T" DIM	C.Y. QUANTITIES WHEN L IS 12"	16"	20"
12"	1'-1 7/8"	0'-7 7/8"	0'-2"	0.005	0.007	0.008
15"	1'-3 5/8"	0'-9 1/8"	0'-2"	0.006	0.008	0.010
18"	1'-5 1/4"	0'-10 3/8"	0'-2"	0.007	0.010	0.012
24"	1'-8 3/4"	1'-0 1/8"	0'-3"	0.011	0.014	0.018
30"	2'-0 1/4"	1'-2 3/4"	0'-3 1/2"	0.014	0.018	0.023
36"	2'-3 3/4"	1'-5 3/8"	0'-4"	0.017	0.023	0.025
42"	2'-7 1/8"	1'-7"	0'-5 1/4"	0.025	0.030	0.038
48"	2'-10 5/8"	1'-8 3/4"	0'-5 3/4"	0.028	0.038	0.047
54"	3'-2 1/8"	1'-10 1/2"	0'-6 1/4"	0.035	0.047	0.058
60"	3'-5 5/8"	2'-0 1/4"	0'-6 3/4"	0.042	0.056	0.071
66"	3'-9"	2'-2 1/4"	0'-7 1/4"	0.050	0.067	0.084
72"	4'-0 1/2"	2'-3 3/4"	0'-7 3/4"	0.059	0.078	0.098

GENERAL NOTES:
USE THIS STANDARD WITH ALL DRAINAGE STRUCTURES USING REINFORCED CONCRETE PIPE SET IN BASE SLAB.

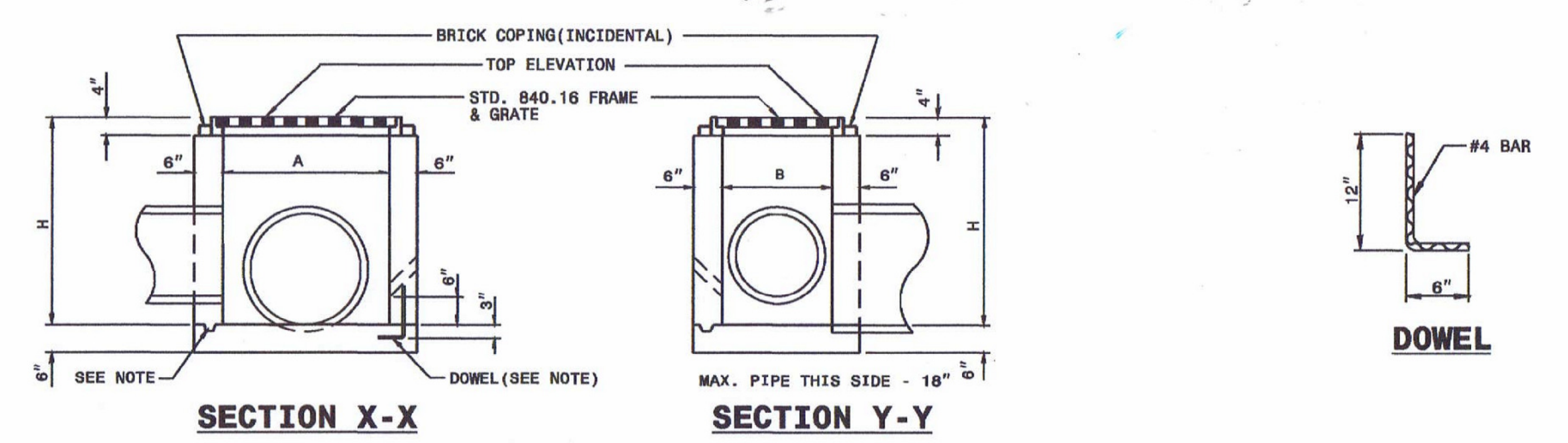
SHEET 1 OF 1 — 840.00

840.14 — ENGLISH STANDARD DRAWING FOR CONCRETE DROP INLET 12" THRU 30" PIPE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12



GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
CONSTRUCT WITH PIPE CROWNS MATCHING.
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.
INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.
INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.



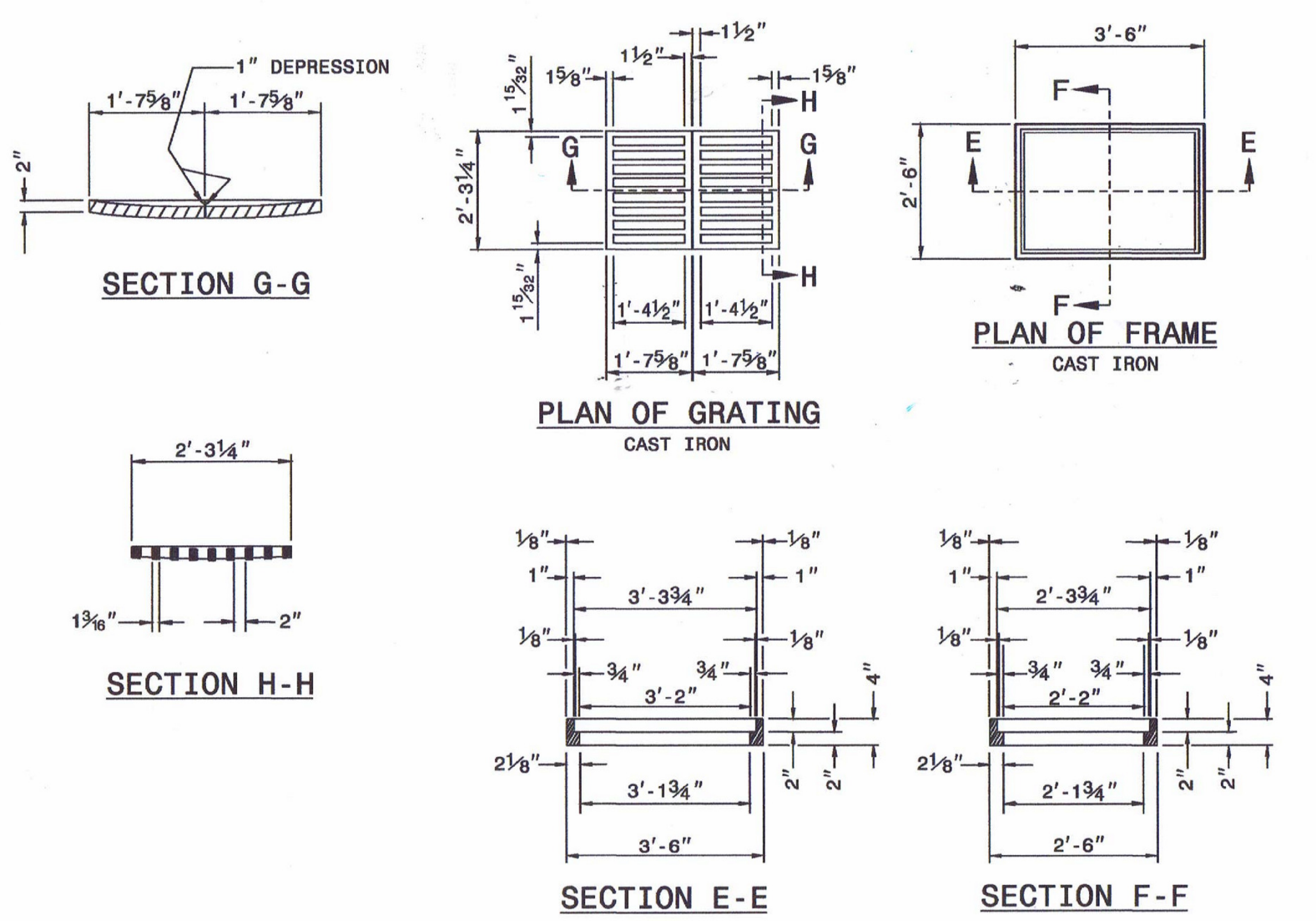
DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)

PIPE D	SPAN A	WIDTH B	MIN. HEIGHT H	CUBIC YARDS CONC. IN BOX: BOTTOM SLAB	WALL PER FT. HT.	TOTAL CONCRETE FOR MINIMUM HEIGHT, H	DEDUCTIONS FOR ONE PIPE: C.M.	R.C.
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026
15"			2'-3"			0.648	0.023	0.036
18"			2'-6"			0.703	0.033	0.049
24"			3'-0"			0.814	0.059	0.085
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127

SHEET 1 OF 1 — 840.14

840.16 — ENGLISH STANDARD DRAWING FOR DROP INLET FRAME AND GRATES FOR USE WITH STD. DWG.S 840.14 AND 840.15

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

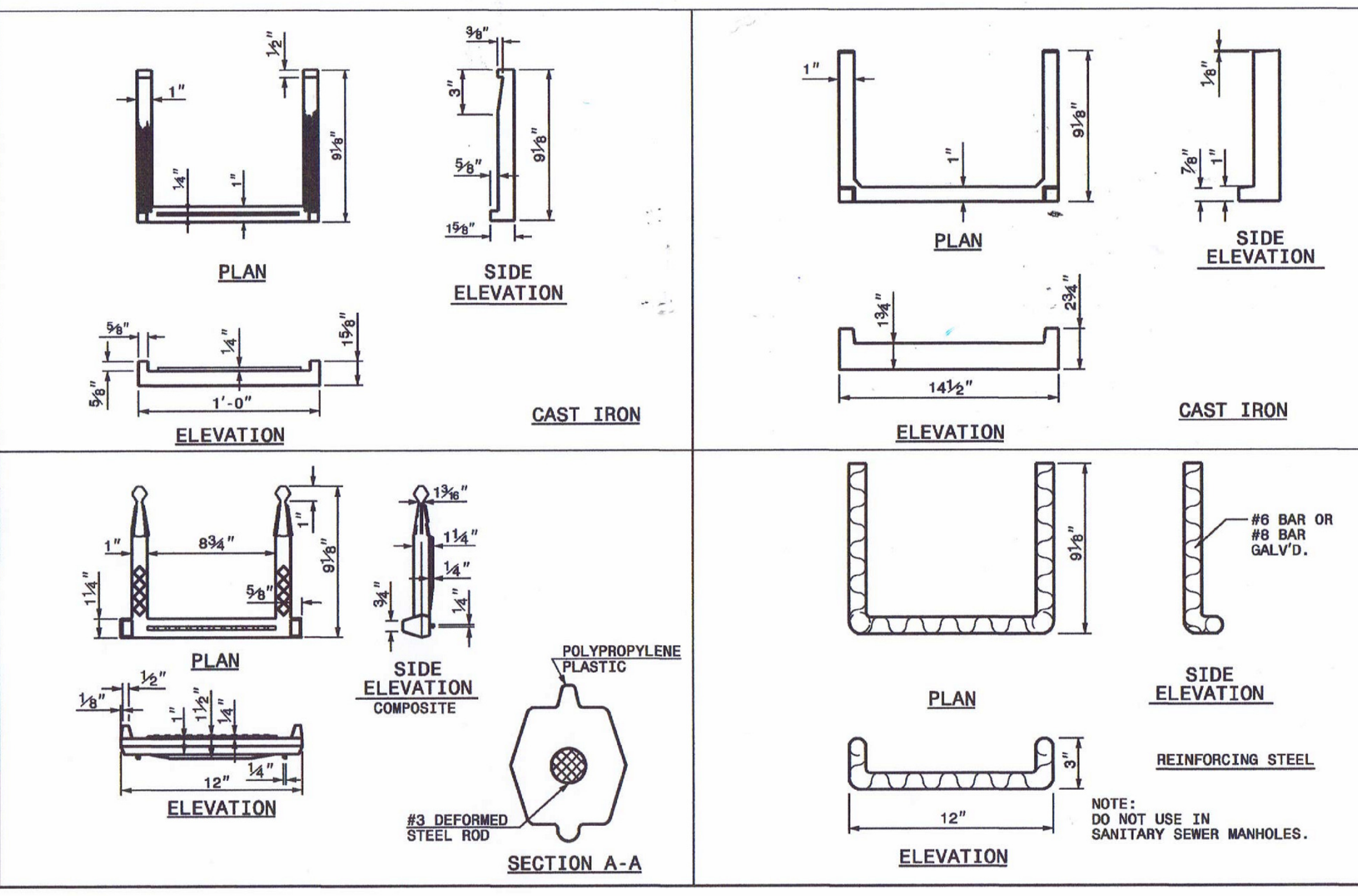


SHEET 1 OF 1 — 840.16

840.66 — ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

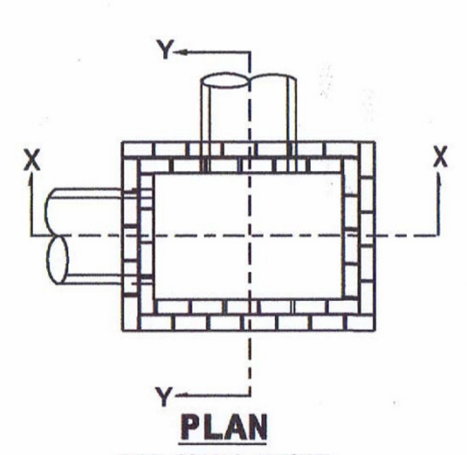
NOTES:
INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL.
STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.



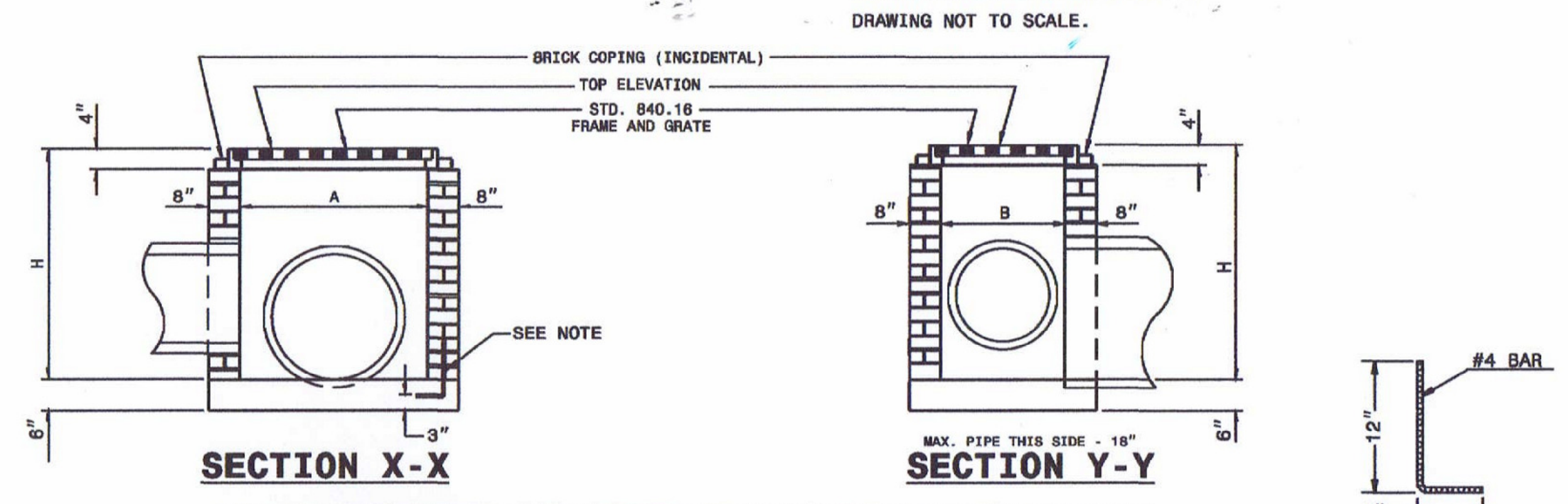
SHEET 1 OF 1 — 840.66

840.15 — ENGLISH STANDARD DRAWING FOR BRICK DROP INLET 12" THRU 30" PIPE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12



GENERAL NOTES:
MORTAR JOINTS 1/2" +/- 1/8" THICK.
USE CLASS "B" CONCRETE THROUGHOUT.
USE FORMS FOR CONSTRUCTION OF THE BOTTOM SLAB.
USE #4 BAR DOWELS AT 12" CENTERS.
DEDUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY.
PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
FOR 8'-0" IN HEIGHT OR LESS, USE 8" WALL. OVER 8'-0" IN HEIGHT, USE 12" WALL TO 6'-0" FROM TOP OF WALL AND 8" WALL FOR THE REMAINING 6'-0". QUANTITES TO BE ADJUSTED ACCORDINGLY.
CONSTRUCT WITH PIPE CROWNS MATCHING.
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES.
DO NOT USE BRICK MASONRY DROP INLET IN LOCATIONS SUBJECT TO TRAFFIC.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.



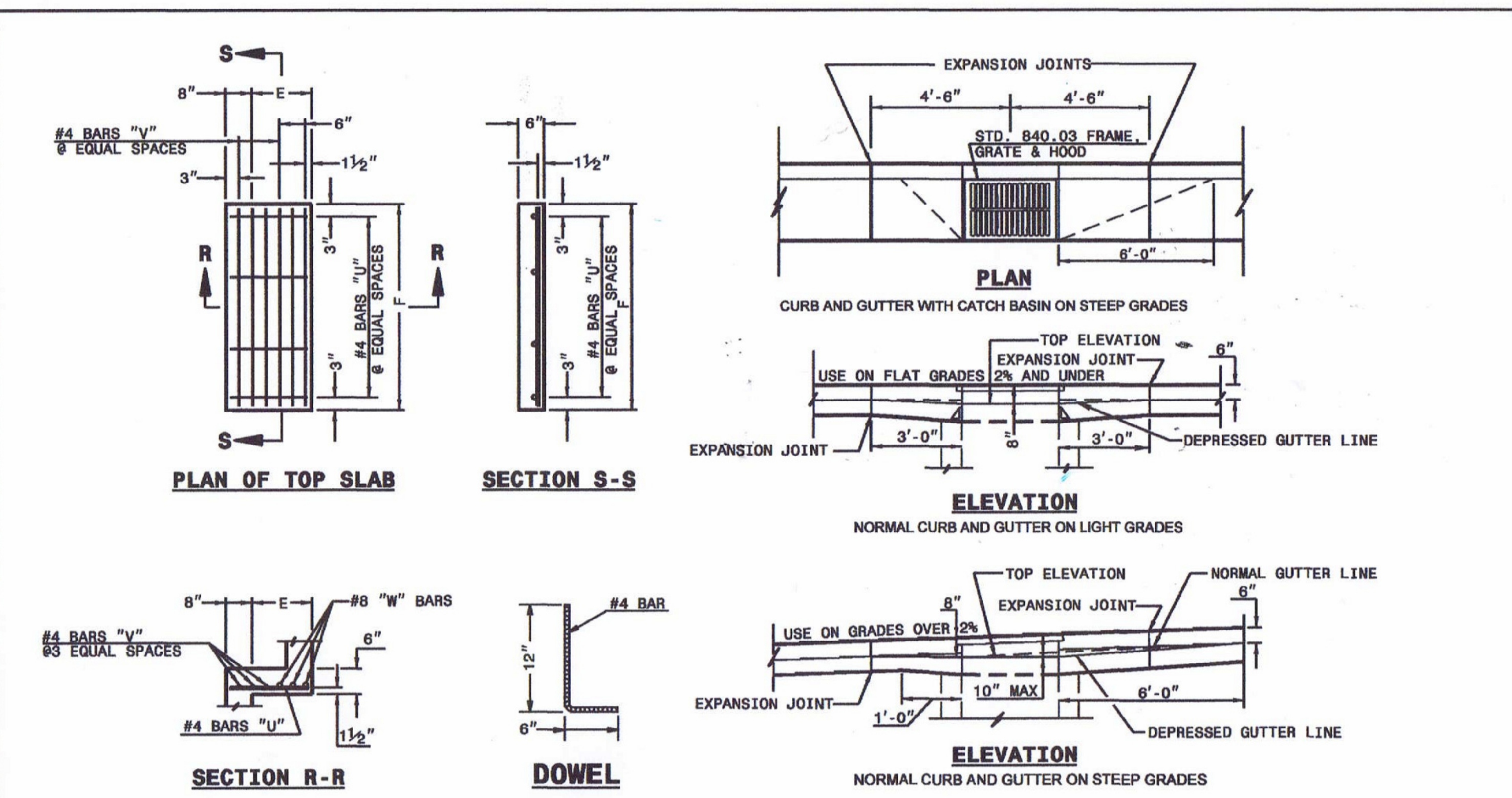
DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)

PIPE D	SPAN A	WIDTH B	MIN. HEIGHT H	CUBIC YARDS CONCRETE: BOTTOM SLAB	CUBIC YARDS BRICK MASONRY: WALL PER FOOT HT.	TOTAL BRICK MASONRY FOR MIN. HEIGHT, H	DEDUCTIONS FOR ONE PIPE: C.S.	R.C.
12"	3'-0"	2'-0"	2'-0"	0.268	0.313	0.522	0.020	0.032
15"			2'-3"	0.268	0.313	0.600	0.031	0.047
18"			2'-6"	0.268	0.313	0.678	0.044	0.065
24"			3'-0"	0.268	0.313	0.835	0.078	0.113
30"	3'-0"	2'-0"	3'-6"	0.268	0.313	0.991	0.122	0.170

SHEET 1 OF 1 — 840.15

840.01 — ENGLISH STANDARD DRAWING FOR BRICK CATCH BASIN 12" THRU 54" PIPE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12



MINIMUM DIMENSIONS AND QUANTITIES FOR BRICK CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER)*

PIPE D	SPAN A	WIDTH B	WIDTH C	SPAN G	MIN. HEIGHT H	TOP SLAB DIMENSIONS E	F	BARS-U NO.	BARS-U LENGTH	BARS-V NO.	BARS-V LENGTH	BARS-W NO.	BARS-W LENGTH	TOTAL LBS.	CU.YDS. CONC. IN BOX: TOP SLAB	BOTTOM SLAB	TOTAL CONC.	BRICK MASONRY: BRICK MSNR. IN WALLS	TOTAL BRICK AND CONCRETE	DEDUCTIONS ONE PIPE: C.M.	R.C.
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	0.281	0.281	0.883	1.164	0.020	0.042
15"	3'-0"	2'-2"			3'-0"											0.281	0.281	0.963	1.244	0.031	0.047
18"	3'-0"	2'-2"			3'-3"											0.281	0.281	1.043	1.324	0.044	0.065
24"	3'-0"	2'-2"			3'-9"											0.281	0.281	1.204	1.485	0.078	0.121
30"	3'-0"	2'-2"	3'-4"		4'-3"	1'-2"	4'-4"	4	1'-6"	3	4'-1"	3	4'-1"	45	0.147	0.374	0.521	1.606	2.217	0.122	0.184
36"	3'-0"	2'-2"	3'-10"		4'-9"	1'-8"	4'-4"	4	2'-0"	4	4'-1"	3	4'-1"	49	0.187	0.415	0.602	1.914	2.516	0.176	0.261
42"	3'-0"	2'-2"		4'-5"	5'-3"	1'-5"	3'-6"	4	1'-9"	3	3'-3"	3	3'-3"	38	0.135	0.373	0.508	2.152	2.660	0.240	0.371
48"	3'-0"	2'-2"		5'-0"	5'-9"	2'-0"	3'-6"	4	2'-6"	4	3'-3"	3	3'-3"	41	0.173	0.410	0.583	2.415	2.998	0.313	0.477
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-7"	3'-6"	4	3'-0"	6	3'-3"	3	3'-3"	47	0.211	0.448	0.659	2.806	3.465	0.396	0.595

* RISER HAS .321 CUBIC YARDS OF BRICK MASONRY PER FOOT HEIGHT

SHEET 2 OF 2 — 840.01

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 — 20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
STORM DRAINAGE DETAILS

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-920

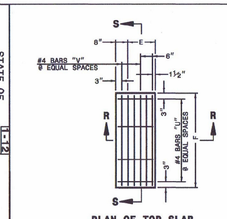
ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

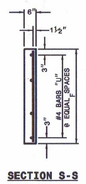
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **BRICK CATCH BASIN** 12" THRU 54" PIPE

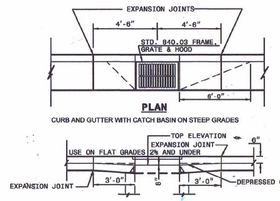
SHEET 2 OF 2 **840.01**



PLAN OF TOP SLAB



SECTION S-S

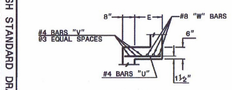


PLAN

CURB AND GUTTER WITH CATCH BASIN ON STEEP GRADES

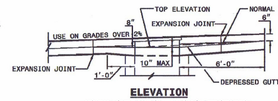
ELEVATION

NORMAL CURB AND GUTTER ON LIGHT GRADES



SECTION R-R

DOWEL



ELEVATION

NORMAL CURB AND GUTTER ON STEEP GRADES

MINIMUM DIMENSIONS AND QUANTITIES FOR BRICK CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER)*

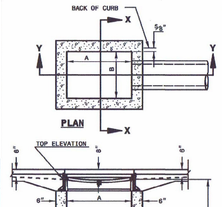
DIMENSIONS OF BOX AND PIPE						TOP SLAB DIMENSIONS		BARS-U		BARS-V		BARS-W			CU.YDS. CONC. IN BOX			BRICK MASONRY		DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT	E	F	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	TOTAL LBS.	TOP SLAB	BOTTOM SLAB	TOTAL CONC.	INSIDE FACE IN WALLS	TOTAL INSIDE AND CONCRETE	C.M.	R.C.
D	A	B	C	G	H																
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	0.281	0.281	0.883	1.164	0.020	0.042
15"	3'-0"	2'-2"			3'-0"											0.281	0.281	0.963	1.244	0.031	0.047
18"	3'-0"	2'-2"			3'-3"											0.281	0.281	1.043	1.324	0.044	0.065
24"	3'-0"	2'-2"			3'-9"											0.281	0.281	1.204	1.485	0.078	0.121
30"	3'-0"	2'-3"	3'-4"		4'-3"	1'-3"	4'-4"	4	1'-6"	3	4'-1"	3	4'-1"	45	0.147	0.374	0.521	1.606	2.217	0.122	0.184
36"	3'-0"	2'-3"	3'-10"		4'-9"	1'-6"	4'-4"	4	2'-0"	4	4'-1"	3	4'-1"	49	0.187	0.415	0.602	1.914	2.518	0.178	0.281
42"	3'-0"	2'-3"		4'-5"	5'-3"	1'-5"	3'-6"	4	1'-9"	3	3'-3"	3	3'-3"	38	0.135	0.373	0.508	2.152	2.660	0.240	0.371
48"	3'-0"	2'-3"		5'-0"	5'-8"	2'-0"	3'-6"	4	2'-6"	4	3'-3"	3	3'-3"	41	0.173	0.410	0.583	2.415	2.998	0.313	0.477
54"	3'-0"	2'-3"		5'-7"	6'-3"	2'-7"	3'-6"	4	3'-0"	6	3'-3"	3	3'-3"	47	0.211	0.448	0.659	2.606	3.465	0.388	0.595

* RISER HAS .321 CUBIC YARDS OF BRICK MASONRY PER FOOT HEIGHT

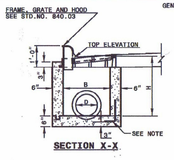
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **CONCRETE CATCH BASIN** 12" THRU 54" PIPE

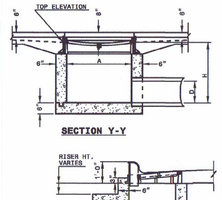
SHEET 1 OF 2 **840.02**



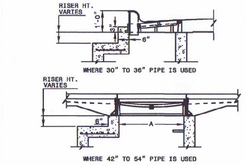
PLAN



SECTION X-X



SECTION Y-Y



DETAIL SHOWING METHOD OF RISER CONSTRUCTION

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

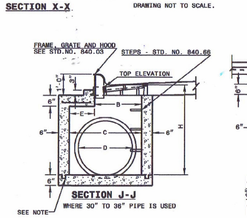
USE TYPE "C", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

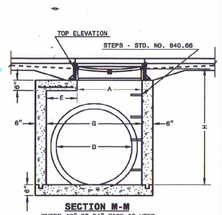
CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.



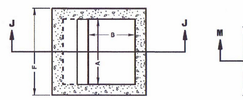
SECTION J-J

WHERE 30" TO 36" PIPE IS USED

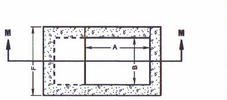


SECTION M-M

WHERE 42" TO 54" PIPE IS USED



PLAN



PLAN

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

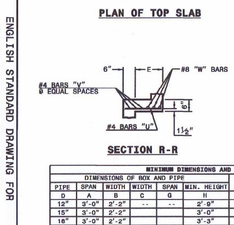
ENGLISH STANDARD DRAWING FOR **CONCRETE CATCH BASIN** 12" THRU 54" PIPE

SHEET 1 OF 2 **840.02**

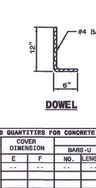
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **CONCRETE CATCH BASIN** 12" THRU 54" PIPE

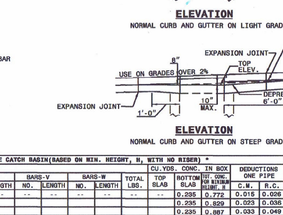
SHEET 2 OF 2 **840.02**



PLAN OF TOP SLAB



SECTION S-S

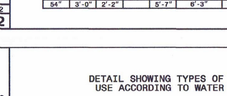


PLAN

CURB AND GUTTER WITH CATCH BASIN ON STEEP GRADES

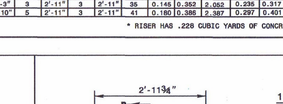
ELEVATION

NORMAL CURB AND GUTTER ON LIGHT GRADES



SECTION R-R

DOWEL



ELEVATION

NORMAL CURB AND GUTTER ON STEEP GRADES

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *

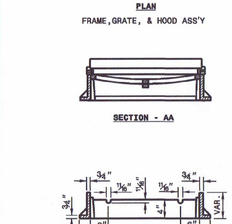
DIMENSIONS OF BOX AND PIPE						COVER DIMENSION		BARS-U		BARS-V		BARS-W			CU.YDS. CONC. IN BOX			DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT	E	F	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	TOTAL LBS.	TOP SLAB	BOTTOM SLAB	TOTAL CONC.	C.M.	R.C.
D	A	B	C	G	H														
12"	3'-0"	2'-2"			2'-9"	--	--												
15"	3'-0"	2'-2"			3'-0"											0.235	0.829	0.023	0.035
18"	3'-0"	2'-2"			3'-3"											0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-9"											0.235	1.001	0.059	0.085
30"	3'-0"	2'-3"	3'-4"		4'-3"	1'-3"	4'-0"	4	1'-5"	3	3'-9"	3	3'-9"	39	0.123	0.321	1.493	0.092	0.127
36"	3'-0"	2'-3"	3'-10"		4'-9"	1'-6"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.359	1.714	0.132	0.179
42"	3'-0"	2'-3"		4'-5"	5'-3"	1'-5"	3'-3"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-3"		5'-0"	5'-8"	2'-0"	3'-3"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.146	0.352	2.050	0.235	0.317
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN

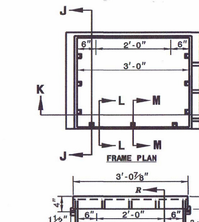
SHEET 1 OF 2 **840.03**



PLAN

FRAME,GRATE, & HOOD ASS'Y

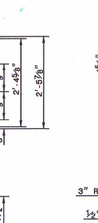
NOTE: USE TYPE "E", "F" AND "G" GRATE UNLESS OTHERWISE NOTED.

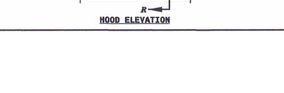


SECTION - BB

SECTION - AA

SECTION - KK





STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

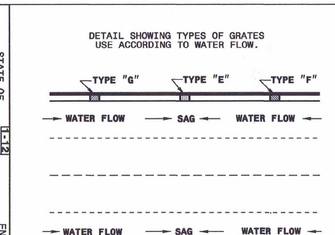
ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN

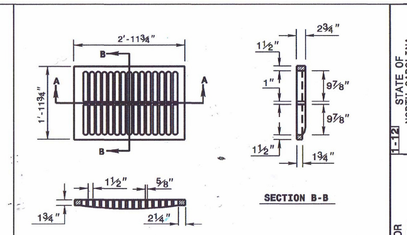
SHEET 1 OF 2 **840.03**

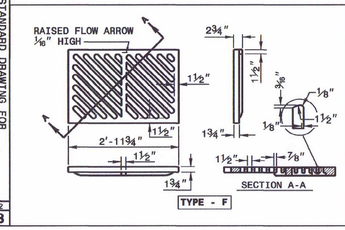
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

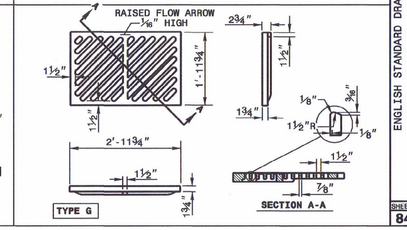
ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN

SHEET 2 OF 2 **840.03**









ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN

SHEET 2 OF 2 **840.03**

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grounded ENGINEERING

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026963 JOHN A. DOLL 20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
STORM DRAINAGE DETAILS

ISSUE DATE	SUBMITAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-921

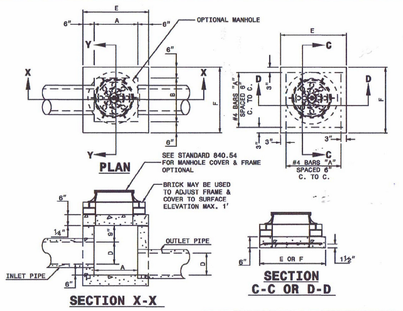
811 Know what's below. Call before you dig.

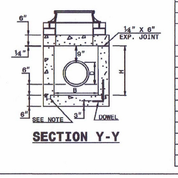
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
12" THRU 66" PIPE

SHEET 1 OF 1
840.31





GENERAL NOTES:

CHAMFER ALL EXPOSED CORNERS 1".

USE CLASS "B" CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS TO CONSTRUCT THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.

ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES

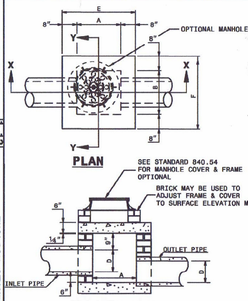
DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS "A"		TOP SLAB DIMENSIONS		CUBIC YARDS IN BOX			TOTAL QUANTITIES BOX AND SLABS		DEDUCTIONS FOR ONE PIPE CU.YDS.	
PIPE	SPAN	WIDTH	HEIGHT	NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB	WALL/ FT. OF HT.	LBS. REINF	CU. YDS. MIN. "fc"	C.S.	R.C.
D	A	B	H											
12"	2'-0"	2'-0"	2'-3"	12	2'-9"	3'-0"	3'-0"	0.167	0.167	0.185	22	0.750	0.015	0.024
15"	2'-3"	2'-3"	2'-6"	12	3'-0"	3'-3"	3'-3"	0.196	0.196	0.204	24	0.902	0.023	0.036
18"	2'-6"	2'-6"	2'-9"	14	3'-3"	3'-6"	3'-6"	0.227	0.227	0.222	30	1.065	0.033	0.049
24"	3'-0"	3'-0"	3'-3"	16	3'-9"	4'-0"	4'-0"	0.296	0.296	0.259	40	1.434	0.059	0.085
30"	3'-6"	3'-6"	3'-9"	18	4'-3"	4'-6"	4'-6"	0.375	0.375	0.296	51	1.860	0.092	0.127
36"	4'-0"	4'-0"	4'-3"	20	4'-9"	5'-0"	5'-0"	0.463	0.463	0.333	64	2.341	0.132	0.178
42"	4'-6"	4'-6"	4'-9"	22	5'-3"	5'-6"	5'-6"	0.560	0.560	0.370	77	2.878	0.180	0.243
48"	5'-4"	5'-4"	5'-3"	26	6'-3"	6'-4"	6'-4"	0.743	0.743	0.407	111	3.823	0.235	0.317
54"	5'-10"	5'-10"	5'-9"	28	6'-7"	6'-10"	6'-10"	0.885	0.885	0.444	126	4.283	0.297	0.401
60"	6'-8"	6'-6"	6'-3"	30	7'-3"	7'-6"	7'-6"	1.042	1.042	0.481	145	5.080	0.367	0.495
66"	7'-1"	7'-1"	6'-9"	32	7'-10"	8'-1"	8'-1"	1.210	1.210	0.518	169	5.917	0.444	0.588

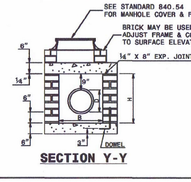
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

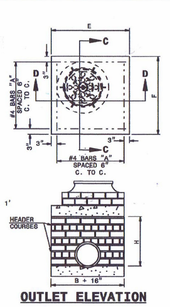
1-12

ENGLISH STANDARD DRAWING FOR
BRICK JUNCTION BOX
(WITH OPTIONAL MANHOLE)
12" THRU 66" PIPE

SHEET 1 OF 1
840.32







GENERAL NOTES:

CHAMFER ALL EXPOSED CORNERS 1".

USE CLASS "B" CONCRETE THROUGHOUT.

USE #4 BAR DOWELS AT 12" CENTERS.

MORTAR JOINTS ½" ± ⅛" THICK.

CONCAVE TOO ALL EXPOSED JOINTS.

USE FORMS TO CONSTRUCT THE BOTTOM SLAB.

JUMBO BRICK WILL BE PERMITTED. CONCRETE BRICK OR 4" SOLID CONCRETE BLOCKS MAY BE USED IN LIEU OF CLAY BRICK.

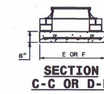
FOR 8'-0" IN HEIGHT OR LESS, USE 8" WALL. OVER 8'-0" IN HEIGHT, USE 12" WALL TO 6'-0" FROM TOP OF WALL, AND 8" WALL FOR THE REMAINING 6'-0". ADJUST DIMENSIONS AND QUANTITIES ACCORDINGLY.

IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.

ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.



DIMENSIONS AND QUANTITIES FOR BRICK JUNCTION BOXES

DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS		TOP SLAB DIMENSIONS		CUBIC YARDS			DEDUCTIONS FOR ONE PIPE CU.YDS.	
								CONC.	BRICK MASONRY			
PIPE	SPAN	WIDTH	HEIGHT	NO.	LENGTH	E	F	TOP & BOTTOM CU. YD.	WTH. WALL HEIGHT CU. YD	WTH. WALL PER FT. HT. CU. YD.	C.S.	R.C.
D	A	B	H									
12"	2'-0"	2'-0"	2'-3"	12	3'-1"	3'-4"	3'-4"	0.412	0.591	0.263	0.020	0.032
15"	2'-0"	2'-0"	2'-6"	12	3'-1"	3'-4"	3'-4"	0.412	0.657	0.263	0.031	0.047
18"	2'-4"	2'-4"	2'-9"	14	3'-5"	3'-8"	3'-8"	0.498	0.814	0.296	0.044	0.065
24"	3'-0"	3'-0"	3'-3"	16	4'-1"	4'-4"	4'-4"	0.695	1.176	0.362	0.078	0.113
30"	3'-4"	3'-4"	3'-9"	18	4'-5"	4'-8"	4'-8"	0.807	1.481	0.395	0.122	0.170
36"	4'-0"	4'-0"	4'-3"	20	5'-1"	5'-4"	5'-4"	1.053	1.959	0.461	0.176	0.238
42"	4'-8"	4'-8"	4'-9"	22	5'-9"	6'-0"	6'-0"	1.333	2.503	0.527	0.240	0.323
48"	5'-4"	5'-4"	5'-3"	26	6'-5"	6'-8"	6'-8"	1.646	2.940	0.560	0.313	0.422
54"	5'-10"	5'-10"	5'-9"	28	6'-11"	7'-2"	7'-2"	1.902	3.502	0.609	0.396	0.535
60"	6'-8"	6'-8"	6'-3"	30	7'-7"	7'-10"	7'-10"	2.272	4.113	0.658	0.489	0.660
66"	7'-1"	7'-1"	6'-9"	32	8'-2"	8'-5"	8'-5"	2.624	4.778	0.708	0.591	0.798

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.

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NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER ANNA DOLL 20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS

STORM DRAINAGE DETAILS

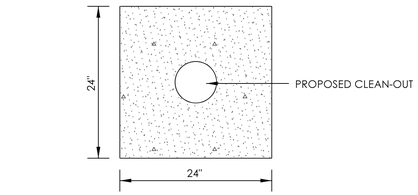
ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-922

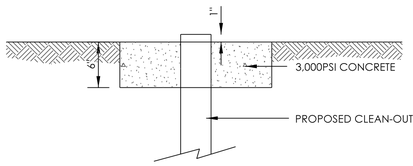
ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM WITH ONLSOW COUNTY AND NCDEQ STANDARDS AND SPECIFICATIONS.

REFER TO SHEET C-001 FOR PROJECT AND SHEET RELATED NOTES.



PLAN VIEW

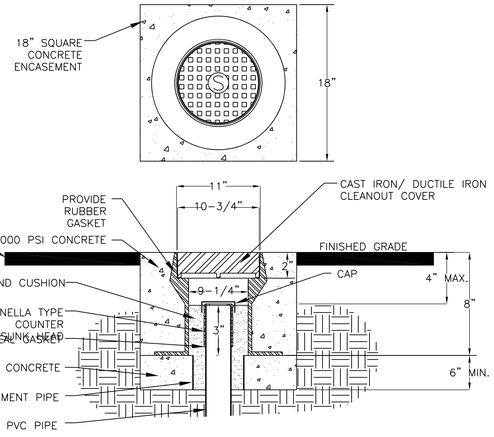
THE CONCRETE PROTECTION SHALL BE PROVIDED AROUND ALL CLEANOUTS



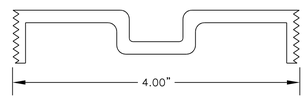
SIDE VIEW

CLEANOUT CONCRETE PROTECTION

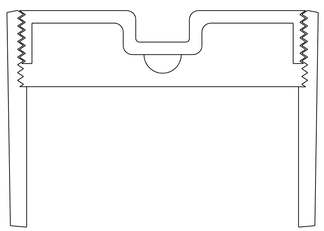
N.T.S.



MINI-MANHOLES FOR CLEAN-OUTS



STANDARD 4" BRONZE CLEANOUT PLUG

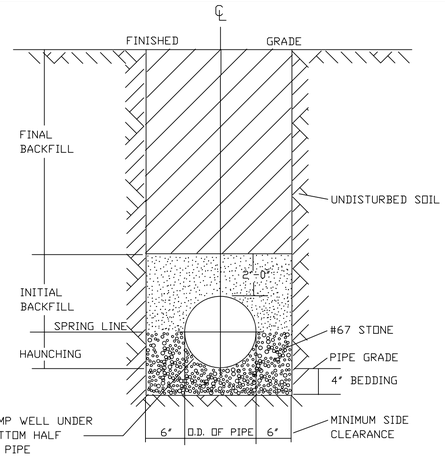


CLEANOUT FERRULE WITH PLUG

STYLES ACCEPTED:

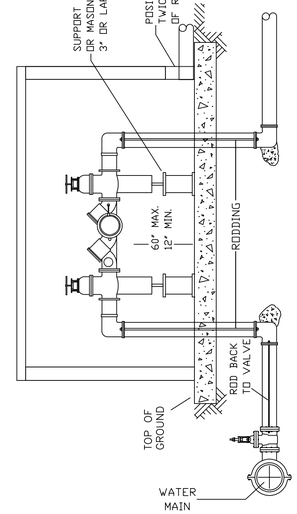
INVERTED NUT
RAISED NUT

4" CLEANOUT PLUG



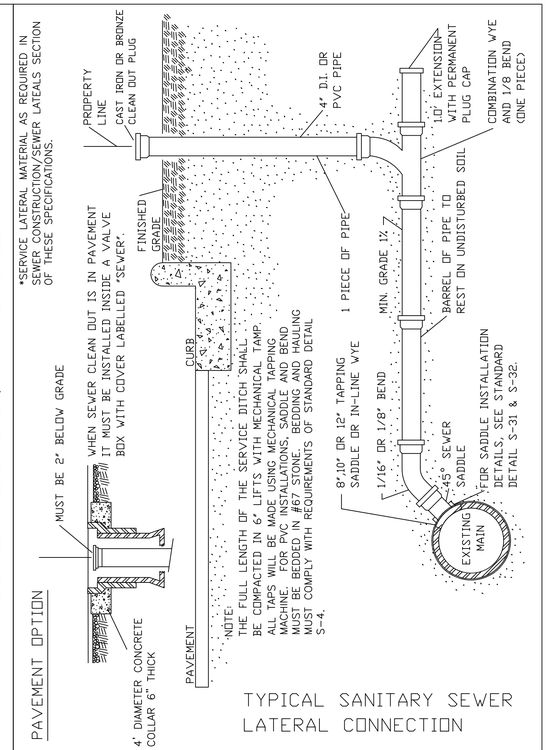
NOTES:
1. For trenches requiring shoring and bracing, dimensions shall be taken from the inside face of the shoring and bracing.
2. No rocks or boulders 4" or larger to be used in initial backfill.
3. All backfill material shall be suitable native material.
4. Backfill shall be tamped in 6" lifts in traffic areas, 12" in non-traffic areas.

TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN



1. ALL ABOVE GROUND ENCLOSURES MUST HAVE ADEQUATE DRAINAGE (TWICE THE DIAMETER OF THE R.P. ASSEMBLY OR EQUIVALENT).
2. REDUCED PRESSURE BACKFLOW PRESENTERS MAY BE LOCATED IN A BUILDING PROVIDED THERE ARE NO OTHER UNPROTECTED TAPS BETWEEN THE MAIN AND THE BUILDING.
3. ABOVE GROUND INSULATED VAULTS MUST BE ASSE 1060 APPROVED ABOVE GROUND ENCLOSURES.
4. RESIDENTIAL LAWN IRRIGATION R.P. ASSEMBLIES THAT ARE REMOVED TO PREVENT FREEZING IN THE WINTER MONTHS MUST BE CAPPED OFF.
5. STANDPIPES FOR ALL IRRIGATION R.P. ASSEMBLIES ARE TO BE COPPER OR BRASS.
6. FOR VAULT DIMENSIONS SEE DETAIL W-30
7. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.

REDUCED PRESSURE BACKFLOW PREVENTER



TYPICAL SANITARY SEWER LATERAL CONNECTION

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NORTH CAROLINA PROFESSIONAL SEAL 026963 ENGINEER IAN A. DOYLE
20 FEBRUARY 2023

TREXLER MIDDLE SCHOOL
TRANSPORTATION SERVICES IMPROVEMENTS
SITE UTILITY DETAILS

ISSUE DATE	SUBMITTAL DESCRIPTION
02.20.2023	0 - BID / PERMIT SET

PROJECT # 22096

SHEET # C-930

STRUCTURAL GENERAL NOTES

1.0 GENERAL NOTES:

1.0.1 THE PROJECT SPECIFICATIONS (A BOOK OF SPECIFICATIONS WHEN PROVIDED) ARE A PART OF THE CONTRACT DOCUMENTS. IF THERE IS A DISCREPANCY FOUND BETWEEN THE SPECIFICATIONS AND THE DRAWINGS, SPECIFICATIONS TAKE PRECEDENCE, HOWEVER THE MATTER SHALL BE PROMPTLY SUBMITTED TO THE SEOR FOR CLARIFICATION. ANY WORK PERFORMED BY THE CONTRACTOR WITHOUT SUCH A CLARIFICATION SHALL BE AT CONTRACTOR'S OWN RISK AND EXPENSE.

1.0.2 EXAMINE THE STRUCTURAL DRAWINGS AND THE SPECIFICATIONS AND NOTIFY THE ENGINEER & CONTRACTING OFFICER OF ANY DISCREPANCIES IN ELEVATIONS, DIMENSIONS, AND SITE CONDITIONS INCLUDING ERRORS BEFORE PROCEEDING WITH ANY WORK. OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS (AND SPECIFICATIONS) SHALL BE RESOLVED IN WRITING WITH THE ENGINEER/ARCHITECT PRIOR TO START OF WORK.

1.0.3 THE DRAWINGS (AND SPECIFICATIONS) REPRESENT THE COMPLETED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. PROVIDE ALL MEASURES AND MEANS NECESSARY TO PROTECT PERSONS AND THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING, ETC. OBSERVATION VISITS BY THE ARCHITECT OR ENGINEER DOES NOT INCLUDE REVIEW OF THESE MEASURES.

1.0.4 TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE WHETHER SPECIFICALLY REFERENCED OR NOT.

1.0.5 DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.

1.0.6 NO PIPES OR DUCTS SHALL BE PLACED IN STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ENGINEER & CONTRACTING OFFICER.

1.0.7 REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:

A. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, UNLESS OTHERWISE NOTED.
B. SIZE AND LOCATION OF INTERIOR AND EXTERIOR NON-BEARING PARTITIONS.
C. SIZE AND LOCATION OF CURBS, FLOOR DRAINS, SLOPES, DEPRESSED AREAS, CHANGES IN LEVEL, RAMPS, CHAMFERS, GROOVES, INSERTS, ETC., EXCEPT AS SHOWN.
D. SIZE AND LOCATION OF FLOOR AND ROOF OPENINGS, EXCEPT AS SHOWN.
E. FLOOR AND ROOF FINISHES.
F. STAIR FRAMING AND DETAILS, EXCEPT AS SHOWN.
G. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.

1.0.8 REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:

A. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, SLAB OPENINGS, ETC., EXCEPT AS SHOWN OR NOTED.
B. ELECTRICAL CONDUITS, BOXES, OUTLETS.
C. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL AND PLUMBING FIXTURES.
D. SIZE AND LOCATION OF MACHINE AND EQUIPMENT BASES, ANCHOR BOLTS, ETC.

1.0.9 ASTM REFERENCES ARE FROM THE LATEST ISSUE AND LATEST REVISION, UNLESS OTHERWISE NOTED.

1.0.10 INVESTIGATE THE SITE DURING CLEARING AND EXCAVATION FOR UNSUITABLE CONDITIONS, UNCONSOLIDATED AND UNDOCUMENTED FILLS, BURIED STRUCTURES, UTILITIES, ETC., AND IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER & CONTRACTING OFFICER OF ANY SITE CONDITIONS NOT REFLECTED ON THE DRAWINGS OR DIFFERENT FROM MAXIMUM OR MINIMUM DIMENSIONS INDICATED, INCLUDING CONFLICT IN GRADES, ADVERSE SOIL CONDITIONS, GROUNDWATER PRESENT, DEEPENED FOOTINGS, UNCOVERED AND UNEXPECTED UTILITY LINES, ETC.

1.0.11 CONSTRUCTION MATERIALS, IF PLACED ON STRUCTURAL MEMBERS, SHALL BE SPREAD OUT SUCH THAT THE LOADING DOES NOT EXCEED THE DESIGN LIVE LOADS. PROVIDE SHORING AND BRACING WHERE CONSTRUCTION LOADING EXCEEDS THE DESIGN STRENGTH OF THE STRUCTURAL MEMBERS OR THE STRUCTURAL STRENGTH HAS NOT BEEN ATTAINED OR THE STRUCTURE IS NOT COMPLETE.

1.0.12 DETERMINE THE LOCATION OF UTILITY SERVICES IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING. DAMAGE CAUSED AS A RESULT OF FAILING TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.

1.0.13 THE CAD DRAWING FILES ARE THE PROPERTY OF THE EOR AND WILL NOT BE RELEASED TO THE CONTRACTOR OR SUBCONTRACTOR FOR THEIR USE.

1.0.14 STRUCTURAL DRAWINGS TO BE USED IN CONJUNCTION WITH ARCHITECTURAL

1.1 DESIGN CRITERIA

1. BUILDING CODE..... 2018 NC STATE BUILDING CODE
2. BUILDING CLASSIFICATION CATEGORY (TABLE 1604.5)..... III
3. DESIGN LIVE LOADS:
   a) ROOF (MIN)..... 20 PSF
   b) STAIRS.....100 PSF
   c) SLAB ON GRADE.....100 PSF
4. SUPERIMPOSED DEAD LOADS:
   a) ROOF..... 15 PSF
   b) FLOOR.....15 PSF
5. SNOW:
   a) GROUND SNOW LOAD..... 10 PSF
   b) FLAT ROOF SNOW LOAD (MIN)..... 13 PSF
   c) SNOW EXPOSURE FACTOR, Ce..... 1.0
   d) IMPORTANCE FACTOR, Is..... 1.1
   e) THERMAL FACTOR, Ct..... 1.0
6. WIND:
   a) ULTIMATE WIND SPEED.....143 MPH
   b) NOMINAL WIND SPEED.....111 MPH
   c) WIND EXPOSURE CATEGORY..... B
   d) INTERNAL PRESSURE COEFFICIENT..... +/- 0.18
   e) ROOF COMPONENTS AND CLADDING.....+/- 40 PSF
   f) ROOF OVERHANG.....+/- 65 PSF
   g) WALL COMPONENTS AND CLADDING.....+/- 45 PSF
   h) WIND BASE SHEAR.....N/A, EXISTING BUILDING
7. SEISMIC:
   a) IMPORTANCE FACTOR, Ie.....1.25
   b) MAPPED SPECTRAL RESPONSE ACCELERATION, Ss.....0.152 G
   c) ONE SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT, S1..... 0.072 G
   d) SITE CLASS.(ASSUMED)..... D
   e) SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT, Sds.....0.173 G
   f) ONE SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT, Sd1.....0.115 G
   g) SEISMIC DESIGN CATEGORY..... B
   h) BASE SHEAR.....N/A, EXISTING BUILDING

2.0 FOUNDATION:

2.0.1 FOUNDATION DESIGN IS BASED ON AN ASSUMED ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF, TO BE CONFIRMED DURING CONSTRUCTION BY GEOTECHNICAL ENGINEER.

2.0.2 GEOTECHNICAL REPORT AND ALL SUPPLEMENTAL REPORTS OR ADDENDA SHALL BE KEPT ON THE JOB SITE AT ALL TIMES.

2.0.3 FOOTING DEPTHS SHOWN ARE A MINIMUM AND MAY REQUIRE DEEPENING PER DIRECTION OF THE GEOTECHNICAL ENGINEER.

2.0.4 NO CONCRETE SHALL BE PLACED UNDER WATER OR ON FROZEN SUBGRADE. PROTECT IN-PLACE FOUNDATIONS AND SLABS FROM FROST PENETRATION UNTIL PROJECT IS COMPLETE..

2.0.5 FOOTINGS SHALL BEAR ON FIRM UNDISTURBED OR COMPACTED SOIL PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

2.0.6 GEOTECHNICAL ENGINEER SHALL VERIFY IN WRITING TO THE ARCHITECT/ENGINEER THAT SITE GRADING WORK COMPLIES WITH ALL OF THE RECOMMENDATIONS AND CONCLUSIONS OF THE GEOTECHNICAL REPORT. SUBMIT COMPACTION TEST REPORTS FOR ALL FILL BY A QUALIFIED TESTING LAB TO ARCHITECT/ENGINEER BEFORE FOUNDATION PLACEMENT. ALL LOOSE SOIL AND FILL DIRT SHALL BE COMPACTED PER GEOTECHNICAL REPORT AND TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO A MINIMUM OF 95% MAXIMUM DENSITY.

2.0.7 THE FOOTING EXCAVATIONS SHALL BE KEPT FREE FROM LOOSE MATERIAL AND STANDING WATER AND SHALL BE NEAT AND TRUE TO LINE BEFORE ANY CONCRETE IS PLACED. EXCAVATION SHALL BE CHECKED AND APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER TO ENSURE COMPLIANCE WITH THE REQUIREMENTS OF THE GEOTECHNICAL REPORT.

2.0.8 ALL SITE GRADING WORK SHALL BE PERFORMED UNDER THE DIRECT OBSERVATION OF THE GEOTECHNICAL ENGINEER. ANY DEVIATIONS IN SOILS CONDITIONS FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT ARE TO BE REPORTED TO THE ARCHITECT/ENGINEER & GEOTECHNICAL ENGINEER IMMEDIATELY.

2.0.9 UTILITY TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED IN LAYERS TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER.

2.0.10 ALL ABANDONED FOOTINGS, UTILITIES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.

2.0.11 WALL FOOTINGS ARE CONTINUOUS POURED CONCRETE WITH CONTINUOUS REINFORCING PLACED 3" CLEAR OF BOTTOM AND SIDES.

2.0.12 UNLESS OTHERWISE NOTED, WALL FOOTINGS ARE CENTERED UNDER WALLS AND COLUMN FOOTINGS UNDER COLUMNS.

2.0.13 PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN ALL GRADES.

2.0.14 PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM SURFACE, GROUND, AND OR SEEPAGE WATER.

3.0 STRUCTURAL STEEL:

3.0.1 THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH "AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND STEEL CONSTRUCTION MANUAL AISC 360, LATEST ADOPTED EDITION. EXCEPT AS AMENDED IN IBC CHAPTER 22.

3.0.2 THE SEISMIC DESIGN OF STEEL STRUCTURES SHALL BE IN ACCORDANCE WITH "AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS", INCLUDING ALL SUPPLEMENTS AISC 341 EXCEPT AS AMENDED IN IBC CHAPTER 22.

3.0.3 ALL CONNECTIONS SHALL BE DETAILED IN ACCORDANCE WITH LATEST EDITION OF AISC "DETAILING FOR STEEL CONSTRUCTION".

3.0.4 STEEL FURNISHED FOR STRUCTURAL LOAD-CARRYING PURPOSES SHALL BE PROPERLY IDENTIFIED FOR CONFORMITY TO THE SPECIFIED GRADES SHOWN BELOW AND IN ACCORDANCE WITH ASTM STANDARDS AND PROVISIONS OF IBC CHAPTER 22. STEEL THAT IS NOT READILY IDENTIFIABLE AS TO GRADE FROM MARKING AND TEST RECORDS SHALL BE TESTED TO DETERMINE CONFORMITY TO:

A. WIDE FLANGE	ASTM F992 (Fy=50 ksi)
B. ANGLES AND CHANNELS	ASTM A36 (Fy=36 ksi)
C. PLATES	ASTM A36 (Fy=36 ksi)
D. HSS (RECTANGULAR)	ASTM A500 GRADE B (Fy=46 ksi)
E. ANCHOR BOLTS	ASTM F1554 GRADE 36

3.0.5 ALL COLUMN ENDS TO BE MILLED.

3.0.6 ALL EXTERIOR STRUCTURAL STEEL PERMANENTLY EXPOSED TO THE WEATHER SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION. ZINC COATING SHALL CONFORM TO ASTM A123 (G-60 U.O.N.).

3.0.7 ALL WELDING DONE AFTER GALVANIZING SHALL BE PROTECTED WITH TWO COATS OF "GALVALOY", OR EQUAL. CONTRACTOR TO USE VENTILATION WHILE PERFORMING THIS WORK AS REQUIRED BY OSHA.

3.0.8 ALL STEEL FABRICATION SHALL BE PERFORMED IN AN APPROVED FABRICATION SHOP.

3.0.9 STEEL FABRICATOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

3.0.10 ALL METAL ITEMS, INCLUDING CONNECTORS, EXPOSED TO THE WEATHER SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

3.0.11 STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC.

3.0.12 SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION FOR ALL STRUCTURAL STEEL MEMBERS AND ACCESSORIES.

4.0 CONCRETE:

4.0.1 CEMENT SHALL CONFORM TO ASTM C150, TYPE I / II

4.0.2 AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C44, 1 1/2" MAXIMUM SIZE.

4.0.3 ADMIXTURES MAY NOT BE USED WITHOUT PRIOR APPROVAL OF THE ENGINEER. ADMIXTURES USED TO INCREASE THE WORKABILITY OF THE CONCRETE SHALL NOT REDUCE THE STRENGTH OF CONCRETE. FLY ASH (POZZOLAN) IF PERMITTED BY SPECIFICATIONS SHALL NOT EXCEED 25% FOR SLAB ON GRADE AND 25% FOR ALL OTHER CONCRETE.

4.0.4 THE MIX DESIGN, INCLUDING PROPORTIONS OF MATERIALS FOR A ONE YARD BATCH, SHALL BE SUBMITTED TO THE ENGINEER OF RECORD & CONTRACTING OFFICER FOR REVIEW PRIOR TO ORDERING CONCRETE.

4.0.5 READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.

4.0.6 ALL REINFORCING BARS AND INSERTS SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE.

4.0.7 CONDUITS EMBEDDED HORIZONTALLY IN THE SLAB SHALL HAVE AN OUTSIDE DIAMETER NO GREATER THAN 1/4 THE THICKNESS OF THE SLAB. CONDUIT SHALL NOT BE EMBEDDED IN A SLAB THAT IS LESS THAN 4 1/2" THICK. EXCEPT FOR LOCAL OFFSETS, MIN. CLEAR DISTANCE BETWEEN CONDUITS SHALL BE 6".

4.0.8 NON-STRUCTURAL STEEL MEMBERS EMBEDDED IN CONCRETE SHALL BE GALVANIZED OR PAINTED. ALL DAMAGED GALVANIZED AREAS SHALL BE REPAIRED PRIOR TO EMBEDMENT.

4.0.9 ALL NORMAL WEIGHT CONCRETE SHALL HAVE A MAXIMUM DRY DENSITY OF 150 pcf. ALL LOW WEIGHT CONCRETE TO HAVE MAXIMUM DENSITY OF 115 pcf.

4.0.10 MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS.

	MIN. f'c
SLAB ON GRADE	3,000 psi
FOOTINGS & ALL OTHER CONCRETE	3,000 psi

4.0.11 PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLAB ON GRADE AS SHOWN ON PLANS UNLESS SPECIFIED OTHERWISE. LOCATION OF JOINTS NOT SPECIFICALLY INDICATED SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER & CONTRACTING OFFICER PRIOR TO PLACING REINFORCING STEEL.

4.0.12 DRY PACK SHALL BE ONE PART CEMENT AND 2 3/4 PARTS SAND WITH JUST ENOUGH WATER TO HYDRATE CEMENT AND FORM A BALL SHOWING MOISTURE ON THE SURFACE WHEN SQUEEZED. IT SHALL BE RAMMED IN TIGHT TO MAXIMUM DENSITY ATTAINABLE, AND SHALL BE FROM A PRODUCT THAT SPECIFIES A MINIMUM STRENGTH AT 28 DAYS OF 5000 psi.

4.0.13 NON-SHRINK GROUT SHALL BE FROM A PRODUCT THAT SPECIFIES A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 7,000 psi PER ASTM C109. GROUTING OF BASE PLATES PRIOR TO PLUMBING OF COLUMN IS NOT PERMITTED.

4.0.14 PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4" CHAMFER OR TOOLED EDGE, UNLESS OTHERWISE NOTED.

4.0.15 ALL CONCRETE WHICH DURING THE LIFE OF THE STRUCTURE WILL BE SUBJECT TO FREEZING TEMPERATURES WHILE WET, SHALL HAVE A WATER CEMENT RATIO NOT EXCEEDING 0.45 BY WEIGHT AND SHALL CONTAIN ENTRAINED AIR PER ACI 614. SUCH CONCRETE SHALL INCLUDE EXTERIOR SLABS, PERIMETER FOUNDATIONS, EXTERIOR CURBS, ETC.

4.1 REINFORCING STEEL:

4.1.1 DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 415-LATEST ADOPTED EDITION.

4.1.2 ALL REINFORCING SHALL BE ADEQUATELY SUPPORTED TO PREVENT DISPLACEMENT BY CONCRETE PLACEMENT OR WORKERS.

4.1.3 ALL REINFORCING BARS EXCEPT BARS TO BE WELDED SHALL CONFORM TO THE "STANDARD SPECIFICATION FOR DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT", ASTM A615 GRADE 60. BARS TO BE WELDED SHALL CONFORM TO ASTM A706.

4.1.4 WELDING OF REINFORCING BARS TO BE IN ACCORDANCE WITH "STRUCTURAL WELDING CODE-REINFORCING STEEL", AWS D1.4. REINFORCING STEEL TO BE WELDED SHALL HAVE A MAXIMUM CARBON EQUIVALENT (CE) OF 0.75. SPECIAL INSPECTION IS REQUIRED. TESTING IS REQUIRED FOR ALL WELDS THICKER THAN 5/16".

4.1.5 WHERE CONTINUOUS BARS ARE CALLED OUT IN FOOTINGS, SPLICES MAY BE USED. WHERE BARS ARE SHOWN SPLICED, THEY MAY RUN CONTINUOUS AT CONTRACTOR'S OPTION.

4.1.6 ALL REINFORCING BAR BENDS SHALL BE MADE COLD.

4.1.7 UNLESS OTHERWISE SHOWN, WALL VERTICAL REINFORCING SHALL BE POSITIONED AT THE CENTER OF THE WALL.

4.1.8 DOWELS BETWEEN FOOTINGS AND WALLS SHALL BE THE SAME GRADE, SIZE, AND SPACING AS VERTICAL REINFORCING.

4.1.9 ALL REINFORCING BARS SHALL BE PROVIDED WITH THE FOLLOWING CONCRETE COVER:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:..... 3"

CONCRETE EXPOSED TO EARTH OR WEATHER:
NO.6 THROUGH NO.18 BAR ..... 2"
NO.5 BAR, W31 OR D31 WIRE, AND SMALLER ..... 1 1/2"

CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
SLABS, WALLS, JOISTS:
NO.14 AND NO.18 BAR ..... 1 1/2"
NO.11 BAR AND SMALLER ..... 3/4"

4.1.10 SLAB ON GRADE REINFORCEMENT SHALL BE POSITIONED AT MID-DEPTH.

4.1.11 SHOP DRAWINGS FOR SIZE AND LAYOUT OF REINFORCING BARS ARE REQUIRED WHEN NOTED IN THE LIST OF REQUIRED SHOP DRAWINGS.

4.2 ADHESIVE, ANCHOR RODS AND REBAR IN HARDENED CONCRETE (EPOXY ANCHORS):

4.2.1 ALL ADHESIVE ANCHOR INSTALLATIONS SHALL COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND SPECIFICATIONS, INCLUDING ANY ICC-ES REPORTS.

4.2.2 DUST SHALL BE BLOWN FROM THE HOLE WITH COMPRESSED AIR TO ENSURE PROPER ANCHOR SEATING DEPTH AND TO PROVIDE A CLEAN BONDING SURFACE. ADDITIONALLY, THE HOLE SHALL BE BRUSHED WITH A NYLON BRUSH THEN BLOWN AGAIN WITH COMPRESSED AIR.

4.2.3 ADHESIVE SHALL ONLY BE APPLIED TO DRY SURFACES.

4.2.4 BASE MATERIAL TEMPERATURE MUST BE 40°F OR ABOVE AT TIME OF INSTALLATION. FOR BEST RESULTS, MATERIAL SHOULD BE 70°F-80°F.

4.2.5 WHEN INSTALLING EPOXY ANCHORS INTO MASONRY, ANCHORS SHALL BE INSTALLED IN SOLID GROUTED CELLS ONLY.

4.2.6 CHEMICAL ANCHOR SYSTEMS:

A. CONCRETE: USE ONLY ADHESIVE ANCHOR SYSTEMS THAT HAVE BEEN ISSUED AN ICC-ES REPORT IN ACCORDANCE WITH PROVISIONS OF OF ICC-ES AC308. ANCHOR SYSTEM SHOULD BE APPROVED FOR USE IN CRACKED CONCRETE AND SEISMIC DESIGN CATEGORIES A-F PER SECTION 2.0 OF THE ICC-ES EVALUATION SERVICES REPORT. ANCHOR SYSTEM SHALL BE INSTALLED PER REQUIREMENTS OF THE ICC-ES EVALUATION SERVICES REPORT FOR SPECIFIC ANCHOR, AND AS REQUIRED BY THE MANUFACTURER.

4.2.7 ANCHOR RODS:

ALL RODS SHALL BE ASTM A36 THREADED RODS WITH ASTM A563 GRADE A NUTS AND ANSI B18.22.1 TYPE A WASHERS, UNLESS OTHERWISE NOTED. ANCHORS DESIGNATED AS ASTM A193 GRADE B7 THREADED RODS SHALL USE ASTM A563 GRADE DH HEAVY HEX NUTS AND ASTM F436 WASHERS.

4.2.8 REINFORCEMENT BARS: ASTM A615 GRADE 60 STEEL.

4.2.9 REMOVE GREASE, OIL, RUST AND ANY OTHER LAITANCE FROM RODS AND DOWELS PRIOR TO INSTALLATION.

4.2.10 SPECIAL INSPECTION REQUIREMENTS WILL BE DICTATED BY SECTION 4.0 OF THE ICC-ES EVALUATION SERVICES REPORT. ANY SPECIAL INSPECTION SHALL VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, HOLE DIMENSIONS, ANCHOR SPACINGS, EDGE DISTANCES, SLAB THICKNESS, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE.

4.2.11 CONTRACTOR'S OPTION TO USE OTHER MANUFACTURER'S PRODUCTS ONLY WITH PRIOR APPROVAL OF THE ENGINEER & CONTRACTING OFFICER. SUBMIT MANUFACTURER'S LITERATURE AND PRODUCT INSTALLATION FOR REVIEW.

5.0 STRUCTURAL METAL STUDS:

5.01 STRUCTURAL METAL STUDS SHALL BE COLD-FORMED, AND SHALL BE OF SIZE AND GAGE AS SHOWN ON PLANS.

5.02 ALL METAL STUDS SHALL HAVE 1 5/8" FLANGES AND 50 KSI YIELD STRESS, UNLESS NOTED OTHERWISE.

5.03 METAL STUDS FOR ROOF OVER-BUILD AREAS SHALL BE 3 5/8", 20 GAGE, UNLESS NOTED OTHERWISE.

5.04 METAL STUD MEMBERS SHALL NOT BE CUT FOR PLUMBING OR WIRING UNLESS DETAILED ON THE APPROVED SHOP DRAWINGS.

5.05 ALL METAL STUD ATTACHMENTS SHALL USE A MINIMUM OF (3) #10 TEK SCREWS OR POWDER ACTUATED FASTENERS.

6.0 STRUCTURAL SHORING & UNDERPINNING (TEMPORARY SHEETING, SHORING, AND BRACING NOTES)

1. THE CONTRACTOR FOR THIS WORK SHALL PROVIDE EVIDENCE OF A MINIMUM OF 5 YEARS EXPERIENCE INSTALLING THE SHEETING, SHORING, AND BRACING METHODS PROPOSED AND SHALL SUBMIT A LETTER STATING HIS EXPOSURE.
2. THE CONTRACTOR FOR THIS WORK SHALL VERIFY ALL EXISTING CONDITIONS RELATED TO THIS WORK PRIOR TO BEGINNING ANY WORK OR ORDERING ANY MATERIAL.
3. THE CONTRACTOR SHALL COORDINATE ALL RELATED TRADE ACTIVITY REGARDING SHUT DOWNS, RE-ROUTING, TEMPORARY INSTALLATION, ETC. NECESSARY FOR THIS INSTALLATION WITH THE OWNER'S REPRESENTATIVE.
4. THE CONTRACTOR SHALL ESTABLISH SPECIFIC MEANS AND METHODS FOR INSTALLATION AND SHALL COORDINATE THE WORK FOR ALL OTHER CONTRACTORS TO COMPLY WITH OWNER'S REQUIREMENTS.
5. PERFORM TEMPORARY SHEETING, SHORING, AND/OR BRACING WORK AS REQUIRED TO MAINTAIN THE STABILITY OF THE EXISTING FOUNDATION ELEMENTS TO REMAIN THAT ARE ADJACENT TO THE BUILDING THAT IS TO BE DEMOLISHED. THE SHEETING, SHORING, AND/OR BRACING WORK SHALL BE DESIGNED TO WITHSTAND ALL LATERAL LOADS INCLUDING SURCHARGE OF EXISTING FOUNDATIONS OF ADJACENT STRUCTURES. REVIEW DESIGN CRITERIA PARAMETERS WITH THE OWNER'S GEOTECHNICAL ENGINEER.
6. ALL SHEETING, SHORING, AND BRACING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER HIRED AND PAID FOR BY THE CONTRACTOR. THE PROFESSIONAL ENGINEER SHALL HAVE A MINIMUM OF 5 YEARS OF DESIGN EXPERIENCE AND BE REGISTERED AND LICENSED IN THE STATE OF NORTH CAROLINA. THE CONTRACTOR'S ENGINEER SHALL BE REQUIRED TO SUBMIT A CERTIFIED LETTER BEARING THE SEAL OF THE REGISTERED PROFESSIONAL ENGINEER STATING THAT HE HAS ESTABLISHED ALL OF THE SHEETING, SHORING, AND BRACING PROCEDURES, SEQUENCE, TEMPORARY AND/OR PERMANENT BRACING AND/OR TIEBACKS WHERE REQUIRED BY DESIGN AND THAT HE HAS CONFIRMED DESIGN CRITERIA WITH THE OWNER'S GEOTECHNICAL ENGINEER. SHEETING, SHORING, AND BRACING WORK SHALL NOT PROCEED UNTIL THE CERTIFIED LETTER HAS BEEN RECEIVED BY THE OWNER AND THE GEOTECHNICAL ENGINEER.
7. THE CONTRACTOR'S ENGINEER SHALL BE REQUIRED TO INSPECT THE SHEETING, SHORING, AND BRACING WORK ON A FULL-TIME BASIS AND SHALL BE TOTALLY RESPONSIBLE TO GIVE ALL DIRECTION REGARDING HIS DESIGNED SYSTEM, SAFETY ASPECTS AND MEANS AND METHODS OF CONSTRUCTION FOR THE PERFORMANCE OF THE SHEETING, SHORING, AND BRACING.
8. THE CONTRACTOR'S ENGINEER SHALL PROVIDE THE OWNER WITH ONE SET OF SEALED DRAWINGS INDICATING THE EXTENT AND RELATED DETAILS FOR THE SHEETING, SHORING, AND BRACING SYSTEMS. THIS WORK SHALL BE REVIEWED BY THE OWNER'S GEOTECHNICAL ENGINEER AND WHERE NECESSARY INCORPORATE ALL COMMENTS PROVIDED.
9. TESTING AND INSPECTION OF MATERIAL AND PLACEMENT INVOLVING THE SHEETING, SHORING, AND BRACING WORK WILL BE PERFORMED BY THE OWNER'S TESTING AND INSPECTION AGENCY AND THE OWNER'S GEOTECHNICAL ENGINEER AS REQUIRED.
10. THE ARCHITECT WILL NOT REVIEW THE DESIGN OR ANY DRAWINGS REGARDING SHEETING, SHORING, AND BRACING OR ANY MATTERS RELATED TO MEANS AND METHODS OF CONSTRUCTION OR SAFETY. THE SHEETING, SHORING, AND BRACING SHALL NOT USE ELEMENTS OF THE EXISTING BUILDING STRUCTURE THAT IS TO REMAIN FOR TEMPORARY SUPPORT.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL SHEETING, SHORING, AND BRACING WORK TO ENSURE THAT IT DOES NOT INTERFERE WITH THE NEW BUILDING ELEMENTS. WHERE REQUIRED PROVIDE OPENINGS THROUGH WALL, ETC FOR BRACING AND PROVIDE REPAIR UPON REMOVAL OF BRACING.
12. TEMPORARY SUPPORT SHALL NOT BE REMOVED UNTIL PERMANENT WORK HAS BEEN INSTALLED, FULLY INSPECTED AND ANY CORRECTIVE WORK COMPLETED.

FIELD VERIFY ALL DIMENSIONS & CONDITIONS, PRIOR TO THE FABRICATION OF STRUCTURAL STEEL.

DEFERRED SUBMITTALS

THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED BY THE ARCHITECT OR ENGINEER OF RECORD AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING.

1. STRUCTURAL STEEL SHOP DRAWINGS AND CONNECTION DESIGN
2. COLD-FORMED METAL FRAMING
3. STAIRS, LADDERS, HANDRAILS, GUARDRAILS AND THEIR COMPONENTS
4. SUPPORT ANCHORAGE OF MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT AND COMPONENTS
5. SUBMIT SLAB ON GRADE CONTROL JOINT PLAN (NO PE REQUIRED)

THE ABOVE LISTED SUBMITTAL DOCUMENTS SHALL BE STAMPED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA.

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Smith Sinnett Architecture, P.A. 2022

THIS DRAWING IS FORMATTED TO BE PRINTED ON A 24" X 36" SHEET

ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

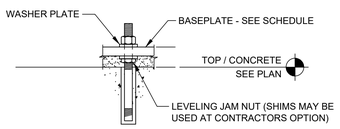
ID	DATE	DESCRIPTION

DRAWN BY: MPW
CHECKED BY: AKW

GENERAL NOTES

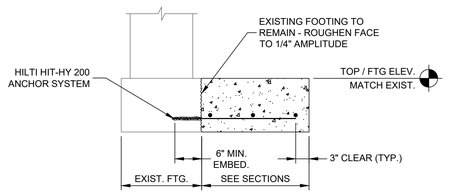
2022017 20 February 2023

S0-01



NOTES:
1. ANCHOR ROD SHALL BE 3/4" Ø
2. ANCHOR ROD SHALL BE TYPE F1554, GRADE 36 UNO

ANCHOR ROD DETAILS AND ADDITIONAL PLATES & NUTS



CONNECTION TO EXISTING FOOTING

FOOTING SCHEDULE			
MARK	SIZE	REINFORCING	REMARKS
F2X4	2'-0" X 4'-0" X M.E.	(3) # 5 LONG WAY BOTT. & (5) # 5 SHORT WAY BOTT.	

FOOTING SCHEDULE

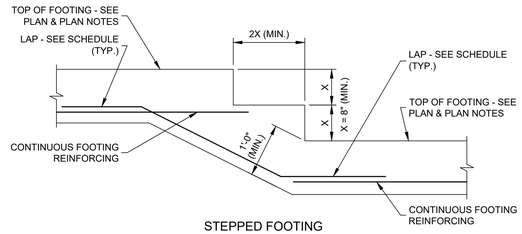
COLUMN BASE PLATE SCHEDULE		
COLUMN	BASE PLATE	REMARKS
HSS5x5x5/16	3/4 X 11 X 0'-11"	

COLUMN BASE PLATE SCHEDULE

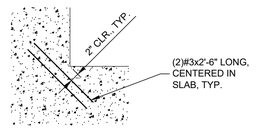
LAP SPLICE AND 90° HOOK SCHEDULE			
BAR SIZE	LAP (in.)		90° HOOK (in.)
	TOP BARS*	OTHER BARS	
#3	22	17	6
#4	29	22	8
#5	36	28	10
#6	43	33	12
#7	63	48	14

* "Top Bars" refers to horizontal reinforcing placed with more than 12 in. fresh concrete cast below the reinforcing.

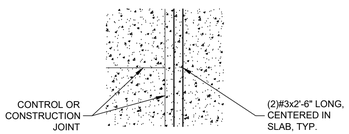
REINFORCING BAR LAP & HOOK SCHEDULE



STEPPED FOOTING



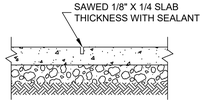
RE-ENTRANT CORNER



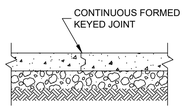
DISCONTINUOUS JOINT

TYPICAL REINFORCEMENT AT SLAB RE-ENTRANT CORNERS

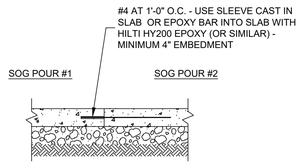
NOTES:
1. SEE PLANS FOR REQUIRED SLAB THICKNESS
2. SLAB ON GRADE CONSTRUCTION AND CONTROL JOINTS SHALL BE DETERMINED BY THE CONTRACTOR. JOINT LOCATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION
3. SAW CUT CONTROL JOINTS WITHIN 8 HOURS OF SLAB POUR



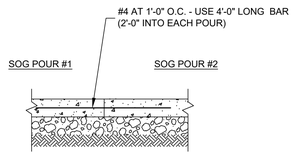
CONTROL JOINT



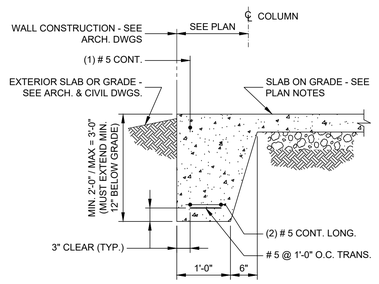
CONSTRUCTION JOINT (OPTION 1)



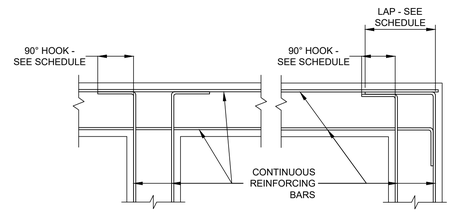
CONSTRUCTION JOINT (OPTION 2)



CONSTRUCTION JOINT (OPTION 3)



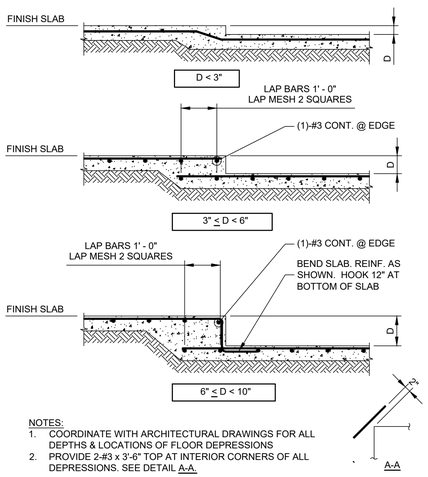
TYPICAL TURNED DOWN SLAB



TYPICAL INTERSECTION LOCATION

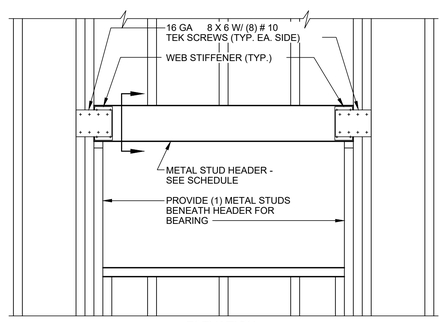
TYPICAL CORNER LOCATION

PLACEMENT OF CONTINUOUS REINFORCING FOR BOND BEAMS, FOOTINGS AND CONCRETE WALLS

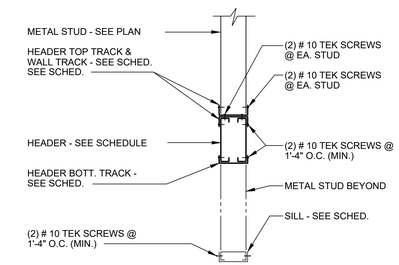


NOTES:
1. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL DEPTHS & LOCATIONS OF FLOOR DEPRESSIONS
2. PROVIDE 2-#3 x 3'-6" TOP AT INTERIOR CORNERS OF ALL DEPRESSIONS. SEE DETAIL A-A.

SLAB DEPRESSION



ELEVATION



SECTION

EXTERIOR STUD WALL HEADER SCHEDULE						
OPENING	HEADER SIZE	TOP TRACK	BOTT. TRACK	KING STUDS	SILL	REMARKS
≤ 5'-6"	(2) 600S200-43	600T200-43	600T200-43	(2) 600S200-43	600S200-43 + 600T200-43	
5'-6" ≤ 9'-0"	(2) 1000S250-54	600T250-54	600T250-54	(3) 600S250-54	600S250-54 + 600T250-54	
9'-0" ≤ 12'-0"	(2) 1200S250-54	600T250-54	600T250-54	(3) 600S250-54	600S250-54 + 600T250-54	

BASE BID SIZES (FINAL SIZES BY METAL STUD ENGINEER)
METAL STUD HEADER

TYPICAL CONSTRUCTION DETAILS

NOT TO SCALE

Typical Construction Detail Notes

1. Typical details shown on this sheet apply throughout the project, in all cases, unless noted otherwise.
2. Typical details may not be specifically referenced on foundation plans or framing plans.

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

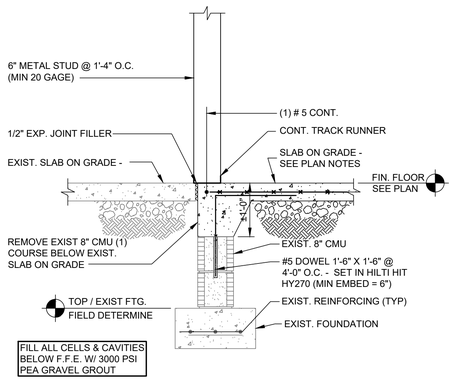
ID	DATE	DESCRIPTION

DRAWN BY: MPW
CHECKED BY: AKW

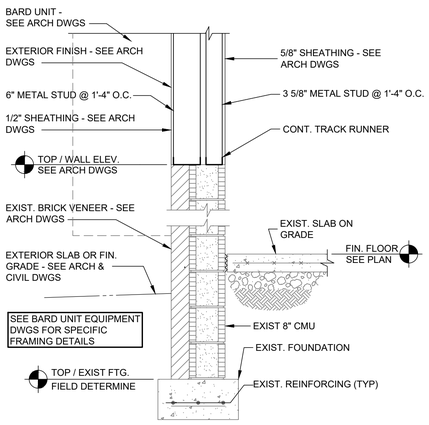
TYPICAL DETAILS

2022017 20 February 2023

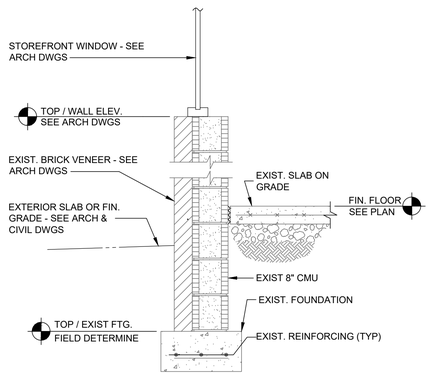
S0-02



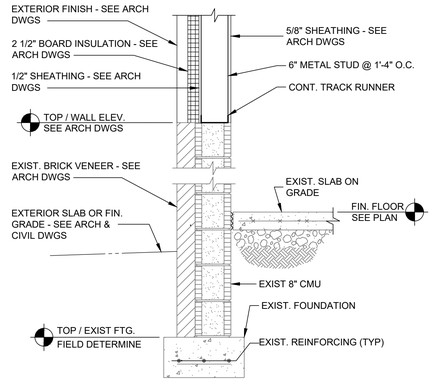
4 S1-01 SECTION
3/4" = 1'-0"



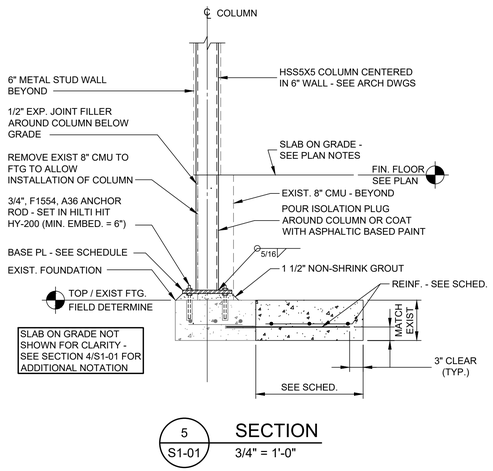
3 S1-01 SECTION
3/4" = 1'-0"



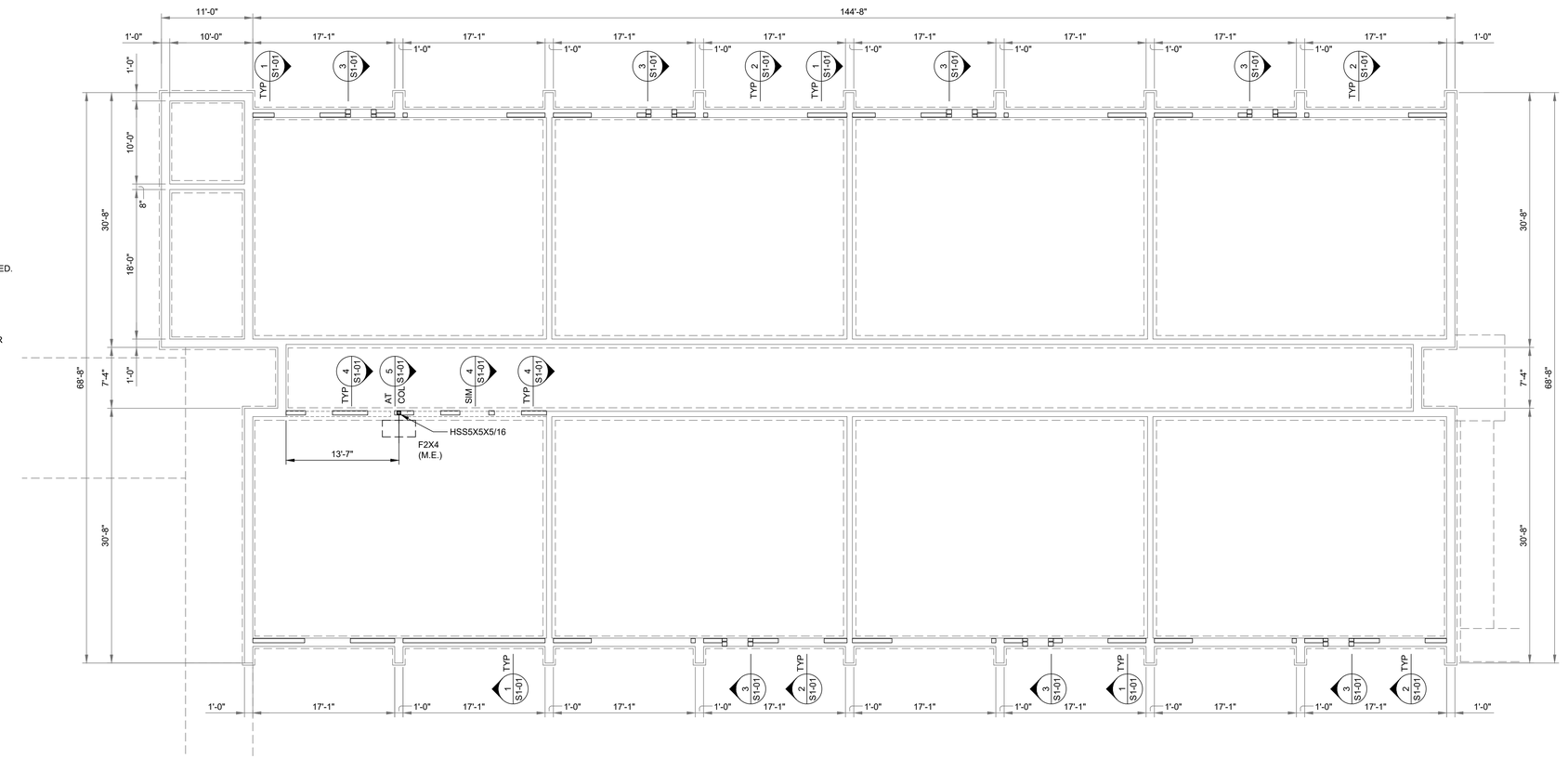
2 S1-01 SECTION
3/4" = 1'-0"



1 S1-01 SECTION
3/4" = 1'-0"



5 S1-01 SECTION
3/4" = 1'-0"



FOUNDATION PLAN
1/8" = 1'-0"

Foundation Plan Notes:

1. Entire area shall receive 4" concrete slab on grade reinforced with 6x6 - W1.4xW1.4 welded wire reinforcing. Slab shall bear on 4" of compacted, porous fill. Provide vapor barrier between porous fill and earth.
2. Finish Floor Elevation shall be 0.00' (reference) unless noted otherwise.
3. See Architectural Drawings for exact wall and wall opening locations.
4. Metal stud design engineer shall provide all final metal stud sizes, configurations and headers as required to facilitate design loads and construction.
5. F_ on plan indicates a column footing. See typical detail and schedule on Sheet S0-02.
6. Marks shown thus (M.E.) indicate top of footing elevation to match the existing top of footing elevation. The Structural Engineer shall be notified of conflicts or discrepancies in top of footing elevations.
7. CJ (construction or control joints - contractor's option) shall be placed at each column centerline, and intermediately spaced at 12'-0" o.c. max. each way between column centerlines. See typical detail on sheet S0-02.
8. See Typical Construction Details on Sheets S0-02.
9. See General Notes on Sheet S0-01.

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DRAWN BY: MPW
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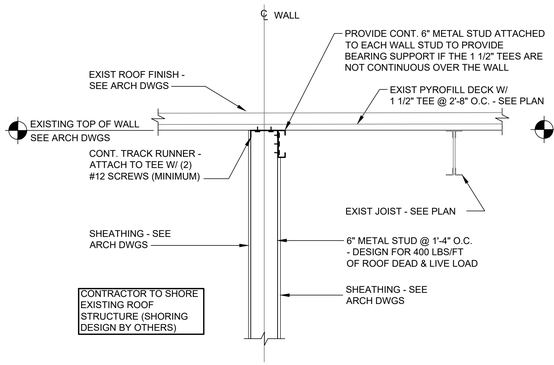
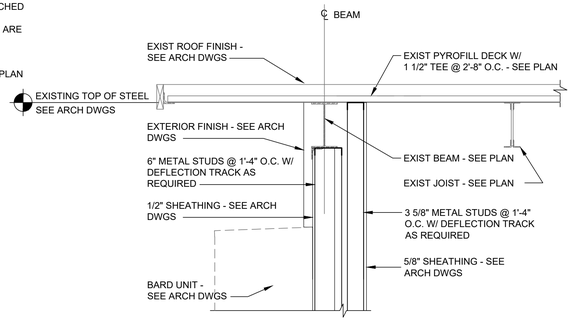
FOUNDATION PLAN & SECTIONS

2022017 20 February 2023

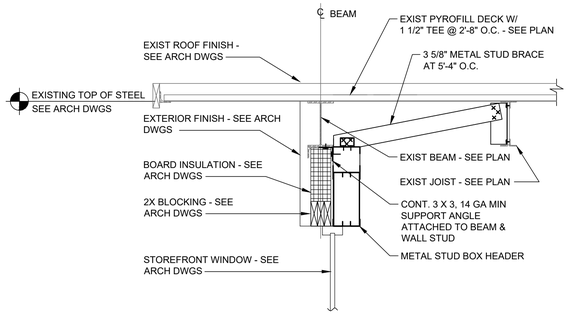
S1-01



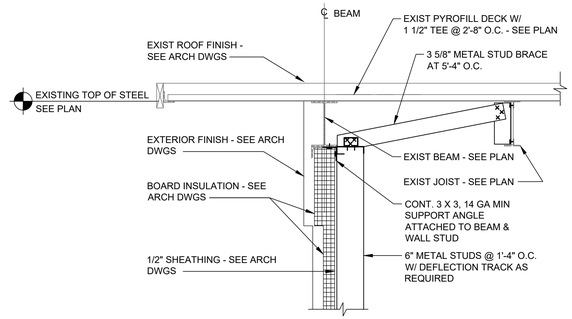
4 / S1-02 SECTION 3/4" = 1'-0"



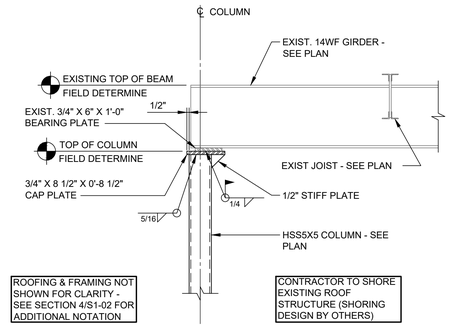
3 / S1-02 SECTION 3/4" = 1'-0"



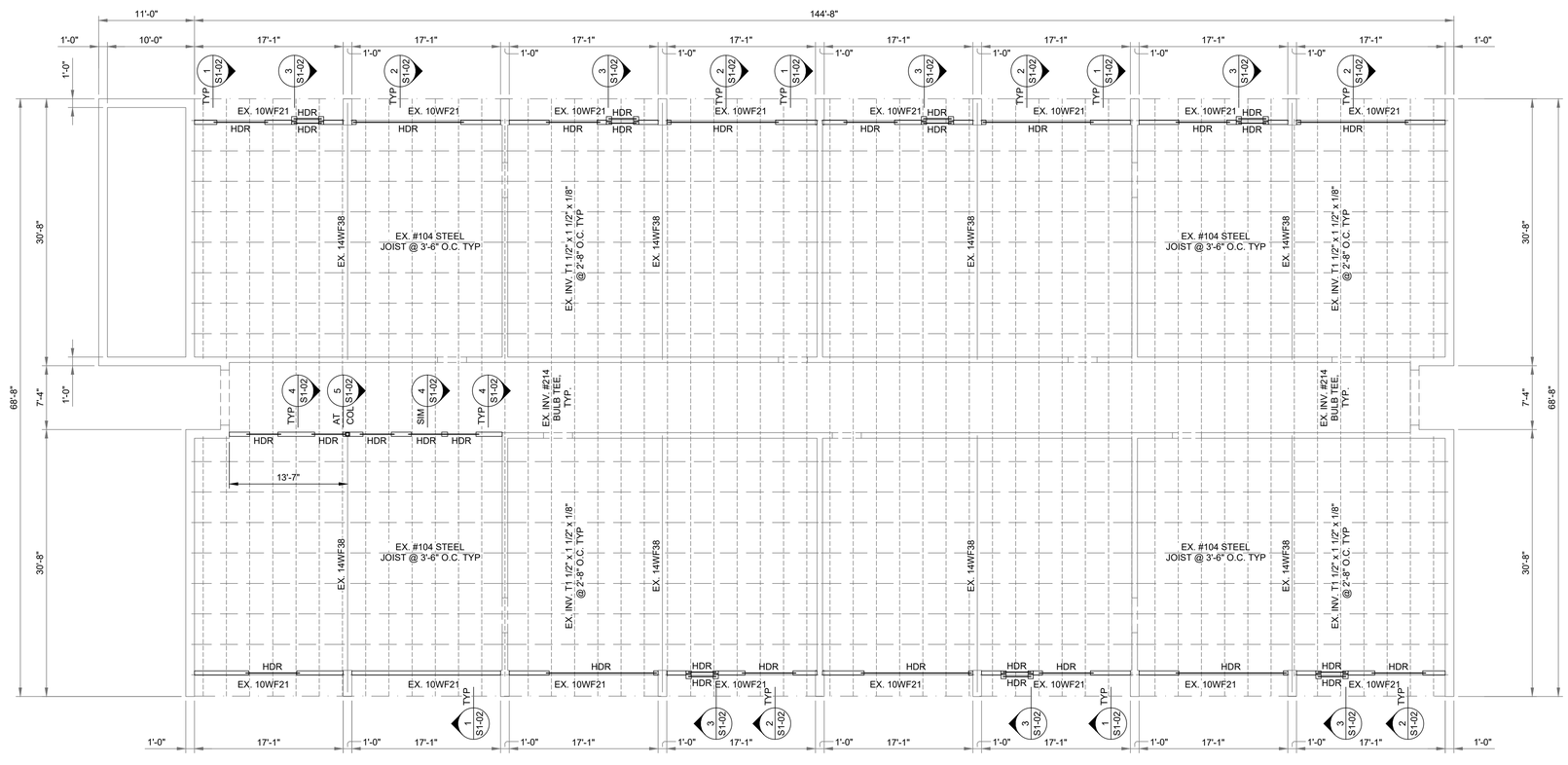
2 / S1-02 SECTION 3/4" = 1'-0"



1 / S1-02 SECTION 3/4" = 1'-0"



5 / S1-02 SECTION 3/4" = 1'-0"



ROOF FRAMING PLAN
1/8" = 1'-0"

Roof Framing Plan Notes:

1. See Architectural Drawings for exact wall and wall opening locations.
2. Metal stud design engineer shall provide all final metal stud sizes, configurations and headers as required to facilitate design loads and construction.
3. HDR on plan indicates metal stud box header provided by the metal stud design engineer.
4. 14WF43 shall be temporarily shored to allow installation of new HSS5x5x5/16 column. Temp shoring is by others. Temp shoring shall be capable to supporting 8 kips.
5. Temp shoring is required for corridor roof where 8" cmu wall is being removed. Temp shoring is by others. Temp shoring shall be capable of supporting 300 lbs/ft.
6. See Typical Construction Details on Sheets S0-02.
7. See General Notes on Sheet S0-01.

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ROOF FRAMING PLAN & SECTIONS

2022017 20 February 2023

S1-02

GENERAL DEMOLITION NOTES:

1. ALL CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR WHERE DEMOLITION IS TO OCCUR. THE CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY INCONSISTANCIES IN WRITING PRIOR TO STARTING ANY WORK.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WEEKLY AND/OR DAILY REMOVAL AND PROPER DISPOSAL OF ALL DEBRIS ACCUMULATED DURING DEMOLITION AND CONSTRUCTION.

3. REMOVAL OF HAZARDOUS MATERIAL AND DEBRIS SHALL BE AS FOLLOWS:
   - A. ALL HAZARDOUS SHALL BE REMOVED BY THE CONTRACTOR PRIOR TO PROJECT COMPLETION. CONTRACTOR SHALL FOLLOW ALL THE REQUIREMENTS TO LEGALLY DISPOSE OF ALL HAZARDOUS MATERIALS.
   - B. THE CONTRACTOR IS REQUIRED TO PERFORM ABATEMENT AND REMEDIATION ACTIVITIES INSIDE NEGATIVEAIR PRESSURIZED ENCLOSURES.
   - C. ABATEMENT OF ALL HAZARDOUS MATERIALS SHALL OCCUR PRIOR TO BUILDING DEMOLITION. BOTH ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE PROJECT SHALL BE PHASED SUCH THAT DEMOLITION CAN FOLLOW ABATEMENT IN THE FIRST AREA OF THE BUILDING WHILE ABATEMENT IS OCCURING IN THE NEXT AREA OF THE BUILDING.

   ASBESTOS - REFER TO ASBESTOS REMOVAL DESIGN AND SPECIFICATIONS
   LEAD - REFER TO LEAD CLEANING DESIGN AND SPECIFICATIONS
   BULBS - FLUORESCENT, MERCURY VAPOR, SODIUM, ETC. BULBS WILL BE HANDLED AS UNIVERSAL WASTE. UPON REMOVAL FROM LIGHTING DEVICES, THEY IMMEDIATELY MUST BE PUT INTO APPROPRIATE CONTAINERS AND LABELED ASUSED LAMPS. A UNIVERSAL WASTE LABEL WILL BE ATTACHED AND ACCUMULATION DATE FILLED IN ON THE LABEL. BOX MUST BE CLOSED AND TAPED SHUT AT ALL TIMES UNLESS BULBS ARE BEING ADDED. BULBS UNLESS BROKEN SHALL BE RECYCLED. ANY BROKEN OR DAMAGETOP BULBS WILL BE CONTAINERIZED IN PLASTIC OR METAL CONTAINERS FOR DISPOSAL AS HAZARDOUS WASTE
   BALLAST - ALL BALLAST WILL BE CONTAINERIZED AND RECYCLED

4. ANY FLOOR, CEILING, WALL OR OTHER MATERIALS INCLUDING FINISHES IN AREAS TO REMAIN ARE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT. ANY MATERIALS DAMAGED DURING CONSTRUCTION OR DEMOLITION, SHALL BE RETURNED TO THEIR ORIGINAL STATE, OR IMPROVED AS INDICATED BY THE OWNER OR ARCHITECT, OR REPLACED WITH A NEW MATERIAL TO MATCH ADJACENT MATERIALS, TYPICAL.

5. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING SURFACES TO REMAIN AND MATERIALS EXPOSED TO VIEW WHERE OTHER ITEMS OR MATERIALS HAVE BEEN REMOVED.

6. REFER TO PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL AND COMPLETE SCOPE OF DEMOLITION THAT MAY OR MAY NOT BE NOTED ON THE ARCHITECTURAL DEMOLITION PLAN AND NOTES.

7. CONTRACTOR SHALL REMOVE ALL WALL MOUNTED FIXTURES OR ITEMS UNLESS OTHERWISE NOTED. ALL WALLS SHALL BE REPAIRED, AND VOIDS FILLED AFTER FIXTURE REMOVAL. ALL FINISHES SHALL MATCH ADJACENT SURFACES. REMOVE ALL FOREIGN MATTER, SHEATHING, LOOSE DEBRIS INCLUDING TAPE, ADHESIVE, NAILS, SCREWS, ETC. FROM WALLS. SCRAPE, WIRE BRUSH, AND SAND SMOOTH. WASH ALL PAINTED SURFACES TO REMOVE ANY "FILM OR RESIDUE". PREPARE SURFACES TO PROVIDE A MAXIMUM DEGREE OF NEW PAINT ADHESION. PATCH AND REPAIR ALL VOIDS IN PREPARATION FOR NEW FINISHES.

8. ALL FIXTURES, WALLS AND PORTIONS OF WALLS SHOWN AS DASHED LINES OR LABELED SHALL BE DEMOLISHED UNLESS ELEMENTS REMOVED OR REPLACED. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING AND IS RESPONSIBLE FOR ANY FAILURE DUE TO LACK OF PROPER BRACING.

9. DURING THE BIDDING PROCESS, CONTRACTORS SHALL TAKE NOTE OF EXISTING PLUMBING MECHANICAL, AND ELECTRICAL ITEMS IN AREAS TO BE RENOVATED. ITEMS INCLUDE BUT ARE NOT LIMITED TO WIRES, CONDUITS, PIPES, THERMOSTATS, FIRE ALARM DEVICES, PANEL CANS, ETC. THESE HAVE BEEN IDENTIFIED IN THE DEMOLITION DRAWINGS FOR ARCHITETURE, PLUMBING, MECHANICAL, AND/OR ELECTRICAL. FOR ITEMS NOT SHOWN, CONTRACTOR SHALL WORK WITH THE ARCHITECT AND OWNER TO DETERMINE IF THE ITEM IS STILL IN USE ITEMS WHICH ARE NOTED TO BE REMOVED AND STORED FOR LATER REINSTALLATION SHALL BE TAGGED AND LISTED ON AN ITEMIZED LIST GIVEN TO THE OWNER AND ARCHITECT.

10. THE GENERAL CONTRACTOR SHALL COORDINATE THE DEMOLITION OF THE EXISTING BUILDING AREAS WITH THE ARCHITECT AND OWNER. THE CONTRACTOR SHALL COORDINATE AFTER HOURS WORK AND OBTAIN WRITTEN OWNER PERMISSION FOR NIGHT AND WEEKEND WORK.

11. CONTRACTOR SHALL ENSURE WATER-TIGHT INTEGRITY OF THE TEMPORARY ENCLOSURE SYSTEMS AND MAINTAIN THEM THROUGH THE ENTIRETY OF CONSTRUCTION TO PREVENT THE INTRUSION OF WATER AND THE ELEMENTS INTO THE BUILDING.

12. ALL EXISTING FIRE EXTINGUISHER AND BRACKETS SHALL REMAIN AND BE INSTALLED IN THEIR CURRENT LOCATION UNLESS SHOWN ON THE PLANS TO RELOCATE.

13. CONTRACTOR SHALL PATCH AND FILL IN ANY VOIDS LEFT FROM THE DEMOLITION OF ANY PLUMBING, MECHANICAL, OR ELECTRICAL ITEMS. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR COMPLETE SCOPE OF DEMOLITION.

DEMOLITION SPECIFIC AREA NOTES:

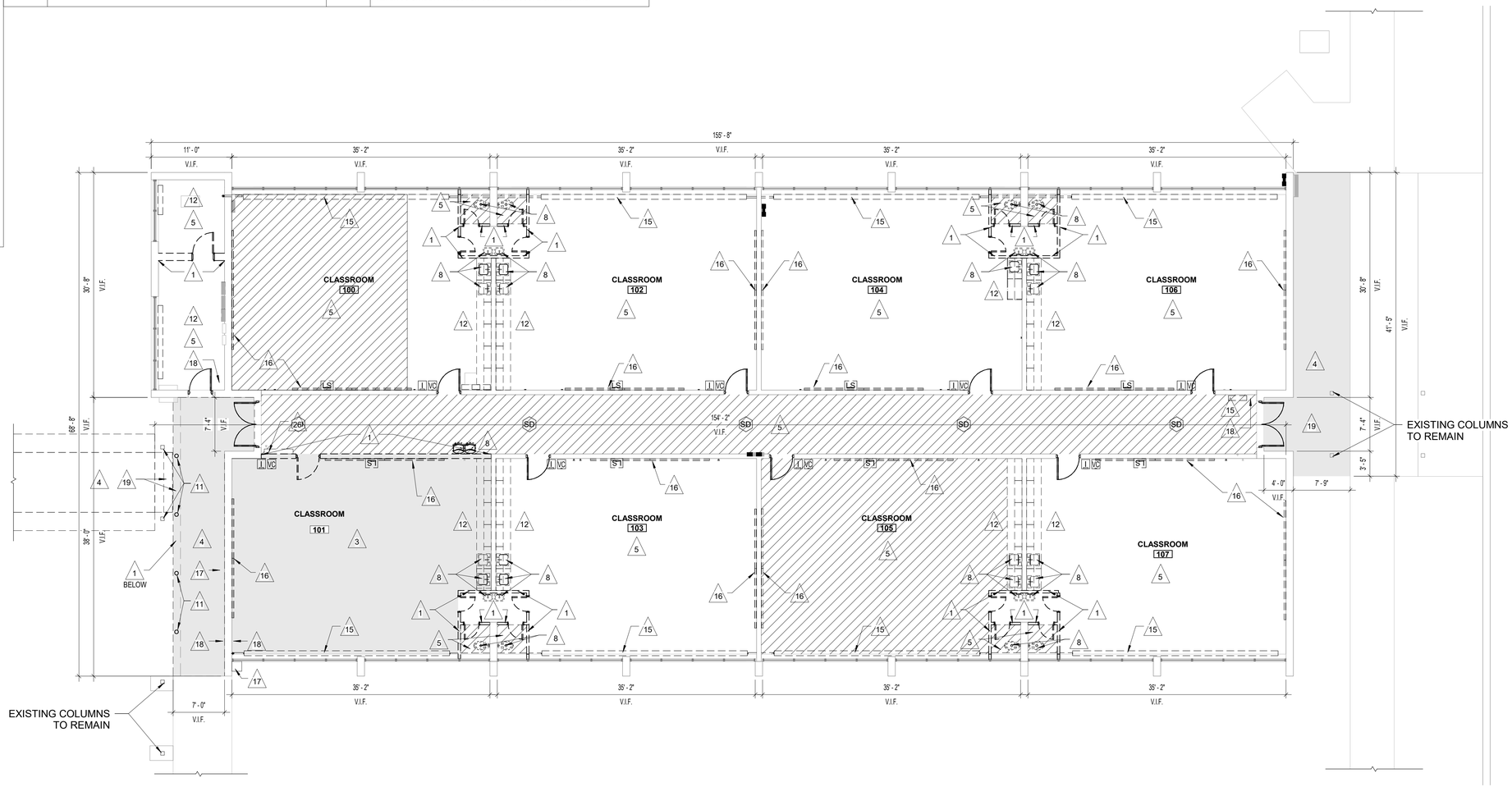
1	REMOVE EXISTING CMU WALL, FRAMING, AND ASSOCIATED PARTS IN ITS ENTIRETY. ASSOCIATED PARTS INCLUDE BUT NOT LIMITED TO DOOR, DOOR FRAME, HARDWARE, TRACK AND SUPPORTS. PREPARE SURROUNDING AREA TO RECEIVE NEW STUD WALL
2	CUT OPENING IN EXISTING CMU WALL TO THE EXTENTS SHOWN. DEMOLITION SHALL BE SUFFICIENT ENOUGH TO INSTALL A LINTEL OVER THE OPENINGS. PATCH AND REPAIR SURROUNDING MASONRY AS NECESSARY. REFER TO STRUCTURAL FOR LINTEL DETAIL. PREPARE EXISTING WALL TO RECEIVE A NEW FRAME AND PREPARE SURROUNDING AREA TO RECEIVE NEW FINISH SPECIFIED OR IF NO FINISH IS SPECIFIED MATCH EXISTING. PROVIDE DEMOLITION MASONRY TOOTHING AS NECESSARY TO INSTALL NEW FRAME.
3	REMOVE EXISTING CONCRETE FLOOR SLAB TO EXTENTS SHOWN. PREP AREA TO RECEIVE NEW CONCRETE SLAB. COORDINATE FINAL LOCATION OF CUT WITH STRUCTURAL, PLUMBING, AND ELECTRICAL AND OTHER TRADES AS REQUIRED. CONCRETE CUT IS DIAGRAMMATIC. CONTRACTOR SHALL CUT AS REQURIED FOR NEW WORK SHOWN. COORDINATE WITH ALL TRADES FOR COMPLETE SIZE, LOCATION, AND EXTENTS OF SLAB CUTS.
4	REMOVE EXISTING CONCRETE PAVING, SIDEWALK, CURB, AND GUTTER IN ITS ENTIRETY TO THE EXTENTS SHOWN. CONTRACTOR TO PROTECT EXISTING COLUMNS TO REMAIN WHERE APPLICABLE, UNLESS OTHERWISE NOTED. REFER TO CIVIL DRAWINGS FOR COMPLETE SCOPE OF DEMOLITION.
5	REMOVE EXISTING FLOOR FINISH & BASE IN ITS ENTIRETY FOR AREA NOTED. REMOVE EXISTING CONCRETE SEALER AS NECESSARY OR REQUIRED AND CLEAN EXISTING SLAB AS NECESSARY OR REQUIRED FOR INSTALLATION OF NEW FLOOR FINISHES. LEVEL FLOOR AND FILL ANY VOIDS AS NECESSARY. IF ADJACENT WALL IS NOTED FOR DEMOLITION, THE EXISTING BASE DOES NOT HAVE TO BE SEPARATELY REMOVED FROM THE WALL. PREPARE FLOOR TO RECEIVE NEW FINISHES PER SPECIFICATION AND THESE CONSTRUCTION DRAWINGS.
6	REMOVE EXISTING DOOR, FRAME, TRANSOM, & HARDWARE IN ITS ENTIRETY. PREPARE EXISTING WALL TO RECEIVE A NEW FRAME AND PREPARE SURROUNDING AREA TO RECEIVE NEW FINISH SPECIFIED OR IF NO FINISH IS SPECIFIED MATCH EXISTING. PROVIDE DEMOLITION MASONRY TOOTHING AS NECESSARY TO INSTALL NEW FRAME.
7	REMOVE EXISTING CEILING TILE, GRID, HANGERS AND ASSOCIATED PARTS IN ITS ENTIRETY, INCLUDING SECONDARY CEILING WHERE APPLICABLE. PREP AREA TO RECIEVE NEW CEILING.
8	REMOVE EXISTING PLUMBING FIXTURE, SINK, FLOOR DRAIN, TOILET ACCESSORIES, OR WATER COOLER IN ITS ENTIRETY. CAP ALL UTILITIES BELOW SLAB. PATCH AND REPAIR SLAB OR WALL AS NECESSARY. REFER TO PLUMBING FOR COMPLETE SCOPE OF PLUMBING DEMOLITION. ITEM SHALL BE OFFERED TO THE OWNER AND STORED IN AN APPROVED LOCATION DESIGNATED BY THE OWNER. IF THE OWNER DECLINES, THE CONTRACTOR SHALL DISPOSE OF THE ITEM.

9	REMOVE EXISTING WINDOW, GLAZING, BLINDS, FRAME AND ITS ASSOCIATED PARTS IN ITS ENTIRETY. REFER TO ASBESTOS REMOVAL DESIGN AND SPECIFICATIONS FOR INSTRUCTIONS ON THE ASBESTOS WINDOW GLAZING AND FRAME CAULK. PREPARE EXISTING WALL TO RECIEVE A NEW FRAME OR METAL PANEL INFILL ASSEMBLY. PREPARE SURROUNGING AREA TO RECIEVE NEW FINISH SPECIFIED OR IF NO FINISH SPECIFIED, MATCH EXISTING. WINDOW OPENING SHALL BE SECURED WITH EITHER A WEATHER PROOF TEMPORARY PARTITION OR THE PERMANENT FRAME AND GLAZING. REFER TO ALLOWANCE NO. ??
10	REMOVE EXISTING WINDOW, GLAZING, FRAME AND ITS ASSOCIATED PARTS IN ITS ENTIRETY. PREP EXISTING WALL TO BE INFILLED WITH STUD WALL.
11	REMOVE EXISTING METAL COLUMNS AND ASSOCIATED PARTS SUPPORTING CANOPY ABOVE.
12	REMOVE EXISTING CASEWORK, COUNTERS, AND SHELVING AND ALL ASSOCIATED PARTS IN ITS ENTIRETY. PATCH AND REPAIR ALL SURFACES TO REMAIN AS REQUIRED FOR SCOPE OF NEW PROJECT WORK AND FINISHES.
13	REMOVE ALL EXISTING LIGHTING FIXTURES, CEILING FANS, AND ALL ASSOCIATED PARTS IN ITS ENTIRETY, INCLUDING BUT NOT LIMITED TO CONNECTING CONDUIT. RETURN CEILING FANS TO OWNER . REFER TO ELECTRICAL FOR COMPLETE SCOPE OF DEMOLITION. REFER TO GENERAL DEMO NOTES FOR REQUIREMENTS ON BULB AND BALLAST DISPOSAL.
14	REMOVE EXISTING MECHANICAL SYSTEM AND ASSOCIATED PARTS. COMPONENTS INCLUDE BUT NOT LIMITED TO ROOF TOP UNIT, DUCTS, AND ASSOCIATED PARTS. REFER TO MECHANICAL COMPLETE SCOPE OF DEMOLITION.
15	REMOVE EXISTING RADIATOR AND ALL ASSOCIATED PARTS IN ITS ENTIRETY. REFER TO MECHANICAL DRAWINGS FOR COMPLETE SCOPE OF DEMOLITION.
16	REMOVE ALL EXISTING MARKER BOARDS, TACK BOARDS, OR ANY WALL-MOUNTED DISPLAY. PREPARE SURFACE TO RECEIVE NEW FINISH AND IF NO FINISH IS SPECIFIED, MATCH EXISTING.
17	REMOVE EXISTING WOOD FRAMING, SHEATHING, AND ALL ASSOCIATED PARTS AND FASTENERS. PATCH AND REPAIR SURFACE TO REMAIN AS REQUIRED TO RECEIVE NEW FINISH SPECIFIED OR IF NO FINISH IS SPECIFIED MATCH EXISTING SURROUNDING SURFACES.
18	REMOVE EXISTING PIPING AND ALL ASSOCIATED PARTS IN ITS ENTIRETY. PATCH AND REPAIR SURFACE TO REMAIN AS REQUIRED TO RECEIVE NEW FINISH SPECIFIED OR IF NO FINISH IS SPECIFIED MATCH EXISTING SURROUNDING SURFACES. PROVIDE DEMOLITION MASONRY TOOTHING AS NECESSARY TO INFILL EXISTING MASONRY WALLS TO REMAIN.
19	REMOVE EXISTING CONCRETE STAIR AND/OR RAMP SYSTEM, LANDINGS, MASONRY WALLS, AND ASSOCIATED PARTS IN THEIR ENTIRETY. ASSOCIATED PARTS INCLUDE BUT NOT LIMITED TO HANDRAIL, GUARDRAIL, AND INTERNAL STRUCTURE. CLEAR SOILS AND DEBRIS LEVEL WITH ADJACENT GRADE. PREPARE SURROUNDING AREA TO RECIEVE NEW WORK AS SPECIFIED. REFER TO CIVIL DRAWINGS FOR COMPLETE SCOPE OF DEMOLITION.

DEMOLITION LEGEND:

SYMBOL	DESCRIPTION
	EXISTING CONCRETE SLAB TO BE REMOVED. SEE KEYED NOTE 9.
	EXISTING FLOORING TO BE REMOVED
	NOTE THE PRESENCE OF ASBESTOS CONTAINING ITEMS. REFER TO ASBESTOS REMOVAL DESIGN & SPECIFICATIONS FOR REMOVAL INSTRUCTIONS.

SYMBOL	DESCRIPTION
#	DEMOLITION KEYED NOTE
———	EXISTING TO REMAIN
- - - - - - - -	EXISTING TO BE REMOVED DURING DEMOLITION



1 A0-01 **DEMO PLAN**
1/8" = 1'-0"

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SMITH SINNETT ARCHITECTURE, PA CERT. NO 50172 RALEIGH NORTH CAROLINA
REGISTERED WHITMAN TENNANT ARCHITECT 13798 NORTH CAROLINA RALEIGH 12/31/23

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

DEMOLITION PLAN

2022017 20 Feb 2023

A0-01

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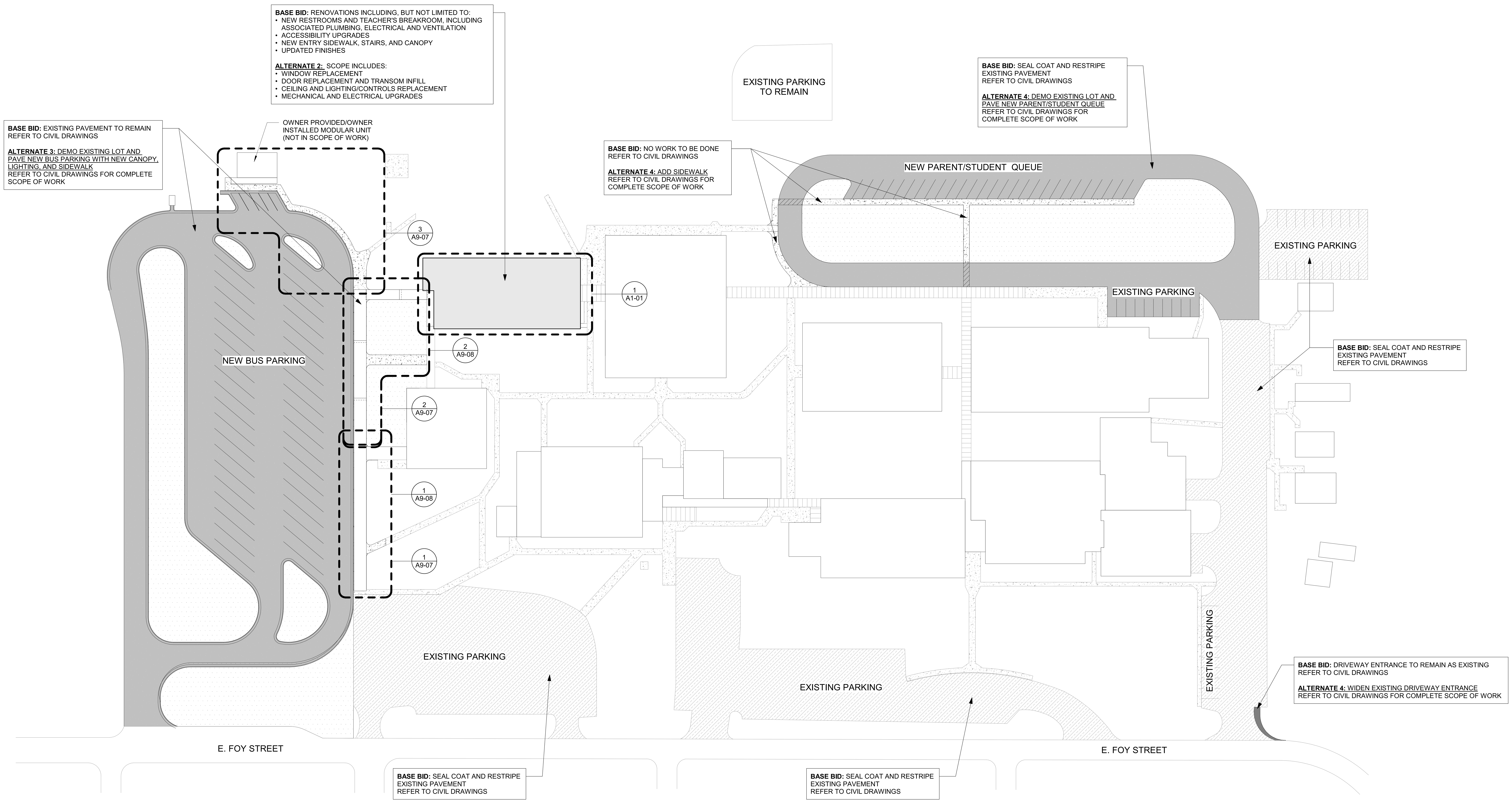
PHASING/COORDINATION NOTES:

1. DURING THE SCHOOL YEAR 2022-2023 AND 2023-2024, THE SCHOOL WILL REMAIN OPEN DURING NORMAL SCHOOL HOURS (8:00am - 4:00pm). CONTRACTOR SHALL PROVIDE A PHASING SCHEDULE AND COORDINATE WITH THE SCHOOL TIMES THAT PORTIONS OF THE SITE MAY BE INACCESSIBLE BY THE OWNER. EMERGENCY EGRESS IS TO BE MAINTAINED AT ALL TIMES.



1 A1-00 **SITE**
1" = 50'-0"

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Smith Sinnett Architecture, P.A. 2023

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

ARCHITECTURAL SITE PLAN

2022017 20 Feb 2023

A1-00

NOTES:

1. ALL INTERIOR WALL TYPES TO BE 'S4UA' UNLESS OTHERWISE NOTED.
2. WALL DIMENSIONS ARE TO FACE OF METAL STUD, FACE OF CONCRETE MASONRY UNIT (CMU), OR CENTERLINE OF COLUMN.
3. ALL METAL STUD WALLS TERMINATING AT BOTTOM OF DECK ARE TO PROVIDE A DEFLECTION TRACK SECURED TO THE UNDERSIDE OF THE DECKING, NEST TOP TRACK BUT DO NOT ATTACH TO DEFLECTION TRACK. FILL FLUTE IN METAL DECK WHERE REQUIRED.
4. ALL WALLS EXTEND TO DECK AND ARE BRACED TO DECK AT HEAD ON ALTERNATE STUDS OR 32" OC FOR CMU WALLS, UNLESS OTHERWISE NOTED.
5. CONTROL JOINTS SHALL BE AS SHOWN ON PLANS AND ELEVATIONS OR SPACED AT A MINIMUM OF 20'-0" OC AND A MAXIMUM OF 32'-0" OC WITH ONE CONTROL JOINT LOCATED WITHIN 3'-4" OF ANY CORNER. FOR INTERIOR GYPSUM WALL CONTROL JOINTS SEE DETAIL
6. SEE FINISH SCHEDULE FOR WALL, FLOOR, BASE, AND CEILING TYPES AND FINISHES.
7. REFER TO STRUCTURAL DRAWINGS FOR LOCATION OF REINFORCING, BOND BEAMS, BRACING, ETC.
8. ALL EXTERIOR SIDEWALKS SHALL SLOPE AWAY FROM THE BUILDING AT 1/4" PER FOOT, MINIMUM.
9. ALL EXTERIOR WINDOWS TO HAVE ROLLER SHADE BLINDS UNLESS OTHERWISE NOTED, REFER TO SPECIFICATIONS.
10. FURNITURE AND EQUIPMENT SHOWN DASHED ON PLANS IS NOT IN CONTRACT (NIC). GC TO PROVIDE WOOD BLOCKING FOR ALL WALL/CEILING MOUNTED ACCESSORIES.
11. FIELD VERIFY FINAL ROOM DIMENSIONS PRIOR TO CASEWORK FABRICATION.
12. NOT USED
13. ALL CERAMIC TILE TO HAVE CONTROL JOINTS THAT ALIGN WITH CONTROL JOINTS IN CONCRETE SLAB.
14. THERE SHALL BE NO PENETRATIONS IN THROUGH WALL FLASHING.
15. DOOR JAMB FROM INTERSECTING WALLS: STUD - 4" UNLESS OTHERWISE NOTED

GENERAL EQUIPMENT SCHEDULE

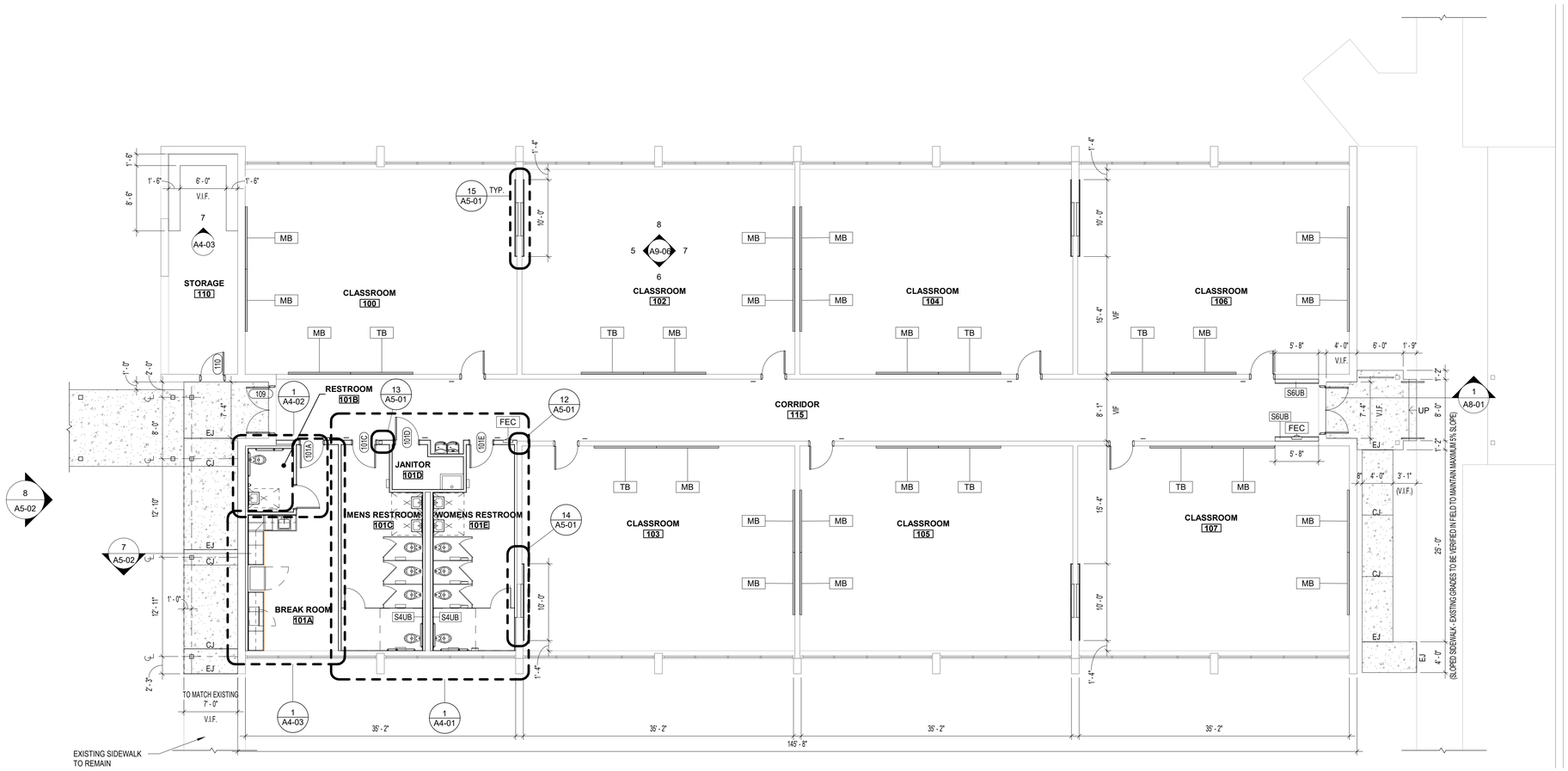
MARK	MODEL	DESCRIPTION	FURNISHED BY/INSTALLED BY	MOUNTING HEIGHT	MANUFACTURER	REMARKS
FEC	REFER TO SPECIFICATIONS	FIRE EXTENGUISHER AND SEMI-RECESSED FIRE EXTENGUISHER CABINET	CFCI	2' - 2" A.F.F. TO BOTTOM OF CASE	REFER TO SPECIFICATIONS	
MB	REFER TO SPECIFICATIONS	48"X96" MAGNETIC MARKER BOARD	OFCI	6' - 8" A.F.F. TO TOP OF MARKER BOARD	REFER TO SPECIFICATIONS	
SH	REFER TO SPECIFICATIONS	SHELVING	CFCI	VARIES, SEE 7/A4-03	REFER TO SPECIFICATIONS	
TB	REFER TO SPECIFICATIONS	48"X96" TACK BOARD	OFCI	6' - 8" A.F.F. TO TOP OF TACK BOARD	REFER TO SPECIFICATIONS	

SCHEDULE ABBREVIATIONS

CFCI - CONTRACTOR FURNISHED / CONTRACTOR INSTALLED
OFCI - OWNER FURNISHED / CONTRACTOR INSTALLED
OFOI - OWNER FURNISHED / OWNER INSTALLED

NOTES

1. G.C. TO PROVIDE 3/4" FIRE RETARDANT PLYWOOD PANEL TO MOUNT EQUIPMENT. COORDINATION LOCATIONS WITH OWNER / ARCHITECT FOR OWNER FURNISHED EQUIPMENTS.
2. G.C. TO PROVIDE NECESSARY BLOCKING & REINFORCING PLATES IN GWB WALLS & REINFORCING IN CMU WALLS. COORDINATE WITH OWNER/ARCHITECT FOR OWNER FURNISHED EQUIPMENTS.



1 A1-01 **FIRST FLOOR PLAN**
1/8" = 1'-0"

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CHARLES WHITMAN TENNANT REGISTERED ARCHITECT 13798 NORTH CAROLINA RALEIGH

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Smith Sinnett Architecture, P.A. 2023

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ONSLOW COUNTY SCHOOLS
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ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

RENOVATION PLAN

2022017 20 Feb 2023

A1-01

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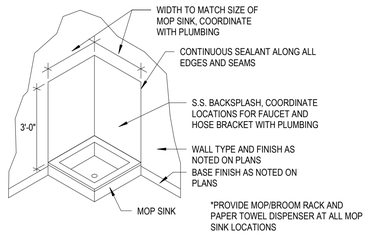
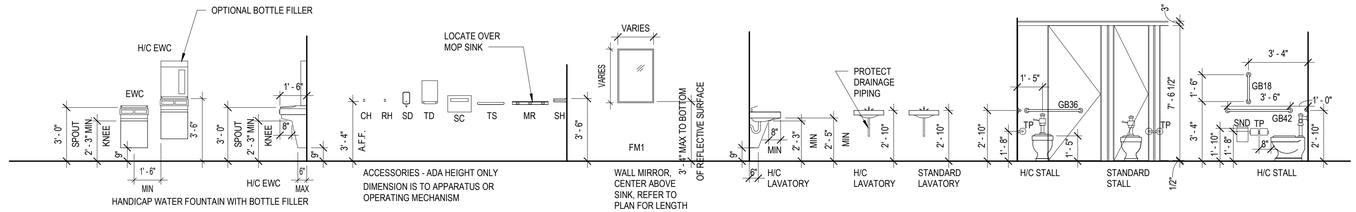
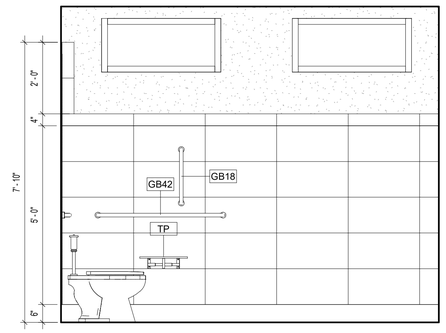
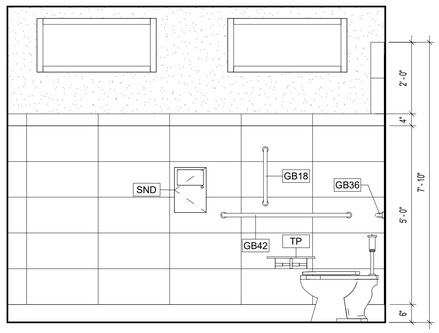


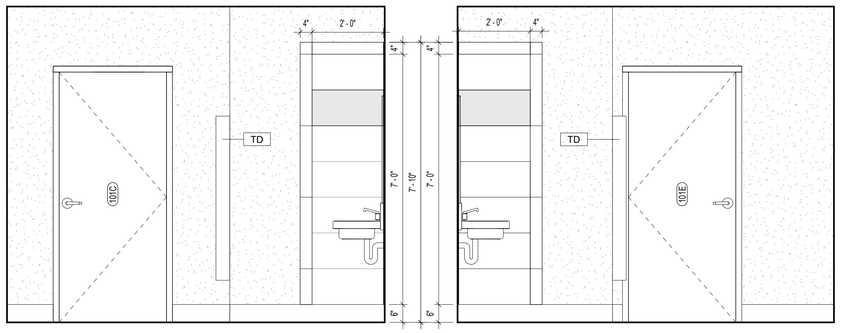




8 / A4-01 ELEVATION AT MEN'S RESTROOM
1/2" = 1'-0"



7 / A4-01 ELEVATION AT WOMEN'S RESTROOM
1/2" = 1'-0"



6 / A4-01 ELEVATION AT MEN'S RESTROOM
1/2" = 1'-0"

5 / A4-01 ELEVATION AT WOMEN'S RESTROOM
1/2" = 1'-0"

4 / A4-01 ELEVATION AT WOMEN'S RESTROOM
1/2" = 1'-0"

3 / A4-01 ELEVATION AT MEN'S RESTROOM
1/2" = 1'-0"

ACCESSORY SCHEDULE

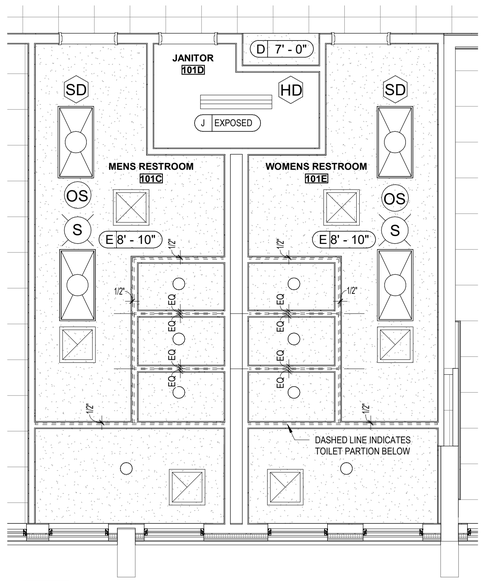
MARK	MODEL	DESCRIPTION	FURNISHED BY/INSTALLED BY	MOUNTING HEIGHT	MANUFACTURER	REMARKS
FM2	B-165 2436	TEMPERED GLASS CHANNEL FRAME MIRROR	CFCI	40" A.F.F. TO BOTTOM OF REFLECTIVE SURFACE	BOBRICK	
GB18	B-6806	1 1/2" DIA. X 18" S.S. VERTICAL GRAB BAR - PEENED	CFCI	34" A.F.F. TO CENTER OF FIXTURE	BOBRICK	
GB36	B-6806	1 1/2" DIA. X 36" S.S. GRAB BAR - PEENED	CFCI	34" A.F.F. TO CENTER OF FIXTURE	BOBRICK	
GB42	B-6806	1 1/2" DIA. X 42" S.S. GRAB BAR - PEENED	CFCI	34" A.F.F. TO CENTER OF FIXTURE	BOBRICK	
SD	TBD	SURFACE-MOUNTED SOAP DISPENSER	OFOI	40" A.F.F. TO POINT OF DISPENSION	TBD	
SND	B-254	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL	OFOI	24" MAX TO POINT OF DISPENSION		
TD	TBD	SURFACE MOUNTED PAPER TOWEL DISPENSER AND WASTE RECEPTACLE	OFOI	40" A.F.F. TO POINT OF DISPENSION	TBD	
TP	TBD	SURFACE MOUNTED TOILET TISSUE DISPENSER	OFOI	20" TO POINT OF DISPENSION	TBD	

SCHEDULE ABBREVIATIONS

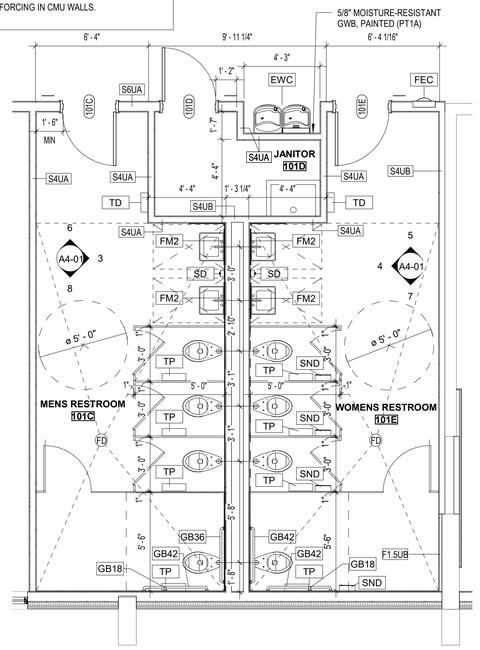
CFCI - CONTRACTOR FURNISHED / CONTRACTOR INSTALLED
OFCI - OWNER FURNISHED / CONTRACTOR INSTALLED
OFOI - OWNER FURNISHED / OWNER INSTALLED

NOTES

1. G.C. TO PROVIDE 3/4" FIRE RETARDANT PLYWOOD PANEL TO MOUNT EQUIPMENT. COORDINATION LOCATIONS WITH OWNER / ARCHITECT FOR OWNER FURNISHED EQUIPMENTS.
2. G.C. TO PROVIDE NECESSARY BLOCKING & REINFORCING PLATES IN GWB WALLS & REINFORCING IN CMU WALLS. COORDINATE WITH OWNER/ARCHITECT FOR OWNER FURNISHED EQUIPMENTS.



2 / A4-01 ENLARGED RESTROOM RCP
1/4" = 1'-0"



1 / A4-01 ENLARGED RESTROOM PLAN
1/4" = 1'-0"

REFLECTED CEILING LEGEND AND NOTES

A 10'-0" — CEILING TYPE / CEILING HEIGHT

SYMBOL	TYPE	DESCRIPTION
	A	ACT-1, 2x2 CEILING TILE, WHITE FINISH
	B	NOT USED
	C	NOT USED
	D	GYPSUM WALLBOARD CEILING SYSTEM
	E	MOISTURE RESISTANT GYP WALLBOARD
	F	NOT USED
	G	METAL SOFFIT PANEL - PERFORATED
	H	NOT USED
	J	EXPOSED

SYMBOL	DESCRIPTION
	2 X 4 LED FIXTURE
	CAN STYLE FIXTURE
	EXHAUST AIR GRILLE
	SUPPLY AIR DIFFUSER
	HANGING LED FIXTURE
OS	OCCUPANCY SENSOR
	WIRELESS ACCESS POINT
	EXIT SIGN - CEILING MOUNTED
	CAMERA
SD HD	CEILING MOUNTED SMOKE/HEAT DETECTOR
S	FIRE ALARM WITH STROBE ONLY
H	FIRE ALARM WITH HORN AND STROBE
H S	WALL MOUNTED FIRE ALARM WITH HORN AND STROBE

1. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR COMPLETE SCOPE OF CEILING PENETRATIONS AND FIXUTRES.
2. REFER TO PROJECT SPECIFICATIONS FOR COMPLETE DESCRIPTION OF CEILING MATERIAL

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CHARLES TENNANT REGISTERED ARCHITECT 13798 NORTH CAROLINA RALEIGH

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Smith Sinnett Architecture, P.A. 2023

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CHECKED BY: CWT

ENLARGED RESTROOM PLANS AND ELEVATIONS

2022017 — 20 Feb 2023

A4-01

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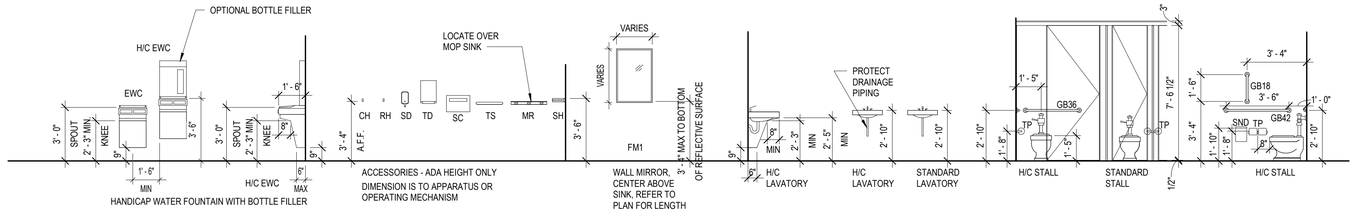

ACCESSORY SCHEDULE

MARK	MODEL	DESCRIPTION	FURNISHED BY/INSTALLED BY	MOUNTING HEIGHT	MANUFACTURER	REMARKS
FM2	B-165 2436	TEMPERED GLASS CHANNEL FRAME MIRROR	CFCI	40" A.F.F. TO BOTTOM OF REFLECTIVE SURFACE	BOBRICK	
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SND	B-254	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL	OFOI	24" MAX TO POINT OF DISPENSION		
TD	TBD	SURFACE MOUNTED PAPER TOWEL DISPENSER AND WASTE RECEPTACLE	OFOI	40" A.F.F. TO POINT OF DISPENSION	TBD	
TS	TBD	SURFACE MOUNTED TOILET TISSUE DISPENSER	OFCI	20" TO POINT OF DISPENSION	TBD	

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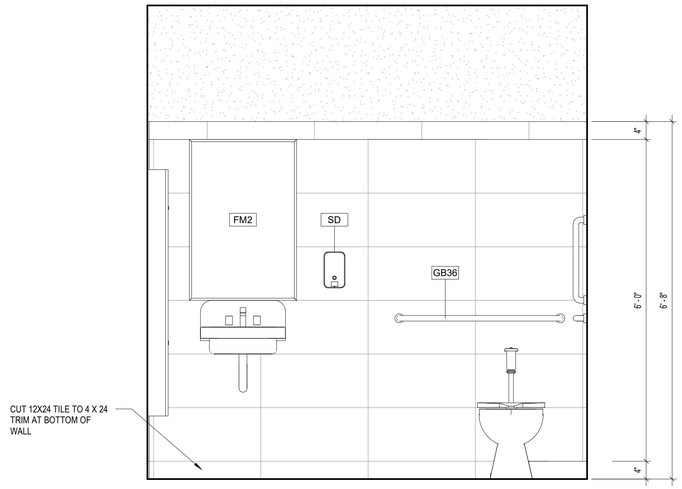
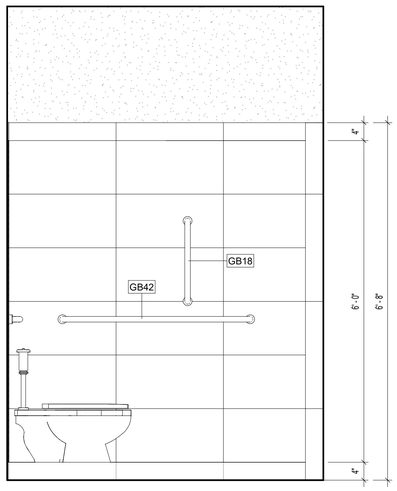
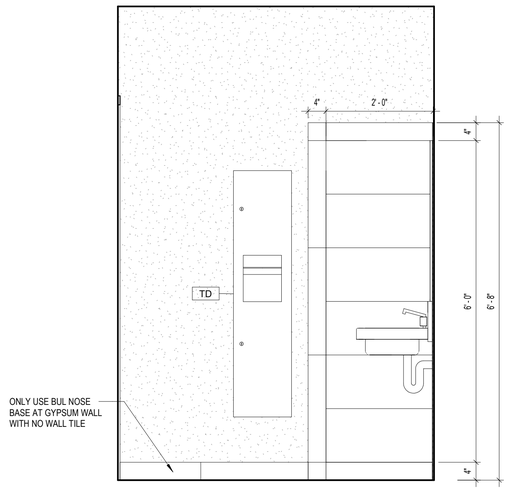


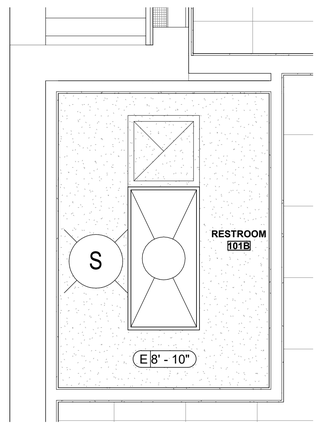
5 A4-02 ELEVATION OF TEACHER'S RESTROOM
3/4" = 1'-0"



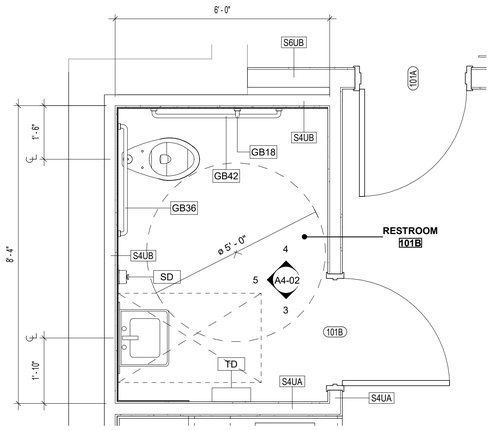
4 A4-02 ELEVATION OF TEACHER'S RESTROOM
3/4" = 1'-0"



3 A4-02 ELEVATION OF TEACHER'S RESTROOM
3/4" = 1'-0"



2 A4-02 TEACHER'S RESTROOM RCP
1/2" = 1'-0"



1 A4-02 TEACHER'S RESTROOM
1/2" = 1'-0"

REFLECTED CEILING LEGEND AND NOTES

CEILING TYPE
A 10'-0" CEILING HEIGHT

SYMBOL	TYPE	DESCRIPTION
	A	ACT-1, 2x2 CEILING TILE, WHITE FINISH
	B	NOT USED
	C	NOT USED
	D	GYPSUM WALLBOARD CEILING SYSTEM
	E	MOISTURE RESISTANT GYP WALLBOARD
	F	NOT USED
	G	METAL SOFFIT PANEL - PERFORATED
	H	NOT USED
	J	EXPOSED

SYMBOL	DESCRIPTION
	2 X 4 LED FIXTURE
	CAN STYLE FIXTURE
	EXHAUST AIR GRILLE
	SUPPLY AIR DIFFUSER
	HANGING LED FIXTURE
OS	OCCUPANCY SENSOR
	WIRELESS ACCESS POINT
	EXIT SIGN - CEILING MOUNTED
	CAMERA
SD HD	CEILING MOUNTED SMOKE/HEAT DETECTOR
S	FIRE ALARM WITH STROBE ONLY
H	FIRE ALARM WITH HORN AND STROBE
H	WALL MOUNTED FIRE ALARM WITH HORN AND STROBE

1. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR COMPLETE SCOPE OF CEILING PENETRATIONS AND FIXUTRES.
2. REFER TO PROJECT SPECIFICATIONS FOR COMPLETE DESCRIPTION OF CEILING MATERIAL

smith sinnett ARCHITECTURE

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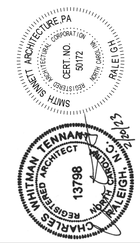
4600 Lake Boone Trail
Suite 205
Raleigh, NC 27607

info@smithsinnett.com



BID/PERMIT SET

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Smith Sinnett Architecture, P.A. 2023

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

ENLARGED TEACHER'S RESTROOM PLANS AND ELEVATIONS

2022017 20 Feb 2023

A4-02

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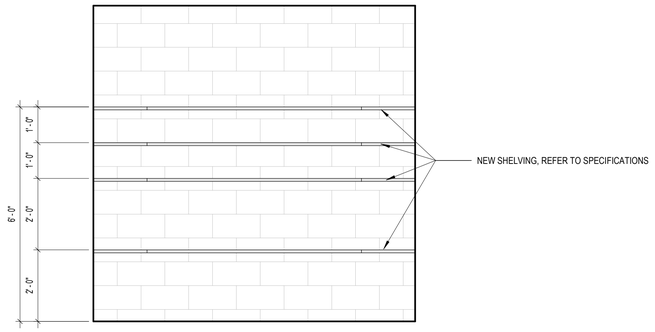
2/22/2023 9:23:38 AM



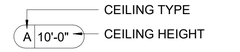
7 / A4-03 — **ELEVATION OF SHELVING IN STORAGE ROOM**
1/2" = 1'-0"

CASEWORK NOTES AND LEGEND:

MARK	DESCRIPTION
B1	2'-0" DEEP BASE CABINET; TWO HINGED DOORS AND TWO 6" HIGH DRAWERS AND ONE ADJUSTABLE SHELF. PROVIDE FIXED VERTICAL DIVIDER IN UNITS MORE THAN 3'-0" WIDE. HEIGHT/WIDTH VARIES.
B4	2'-0" DEEP BASE CABINET; ONE HINGED DOOR WITH ONE ADJUSTABLE SHELF, ONE 6" HIGH DRAWER. HEIGHT/WIDTH VARIES.
B7	LAMINATED PARTICLE BOARD PANELS TO MATCH ADJACENT CASEWORK. ATTACH WITH FINISH SCREWS TO 2X2 BLOCKING. ATTACHED TO SIDE OF CASEWORK OR PROVIDE FINISHED END PANEL TO FLOOR. CLEAR WIDTH NO LESS THAN 30 INCHES FOR ADA SINK ACCESS. SEE SECTION THROUGH ADA LAVATORY.
B8	2'-0" DEEP BASE CABINET; FOUR DRAWERS. HEIGHT/WIDTH VARIES.
W1	1'-0" DEEP WALL CABINET; TWO HINGED DOORS AND TWO ADJUSTABLE SHELVES. PROVIDE FIXED VERTICAL DIVIDER IN UNITS MORE THAN 3'-0" WIDE. HEIGHT/WIDTH VARIES. FOR HEIGHTS OVER 4'-0" INCREASE TO THREE ADJUSTABLE SHELVES.
W5	1'-0" DEEP, OPEN SHELVING; TWO ADJUSTABLE SHELVES. HEIGHT/WIDTH VARIES. FOR HEIGHTS OVER 4'-0" INCREASE TO THREE ADJUSTABLE SHELVES.
W6	1'-0" DEEP CORNER WALL CABINET; ONE HINGED DOOR & TWO ADJUSTABLE SHELVES. HEIGHT VARIES. FOR HEIGHTS OVER 4'-0" INCREASE TO THREE ADJUSTABLE SHELVES. FOR HEIGHTS LESS THAN 2'-0" REDUCE TO ONE ADJUSTABLE SHELF.

1. ALL CASEWORK SHOWN IS MANUFACTURED PLASTIC LAMINATE CASEWORK, TYPICAL UNLESS NOTED OTHERWISE.
2. G.C. TO PROVIDE NECESSARY BLOCKING AND REINFORCING PLATES IN GWB WALLS.

REFLECTED CEILING LEGEND AND NOTES



SYMBOL	TYPE	DESCRIPTION
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	B	NOT USED
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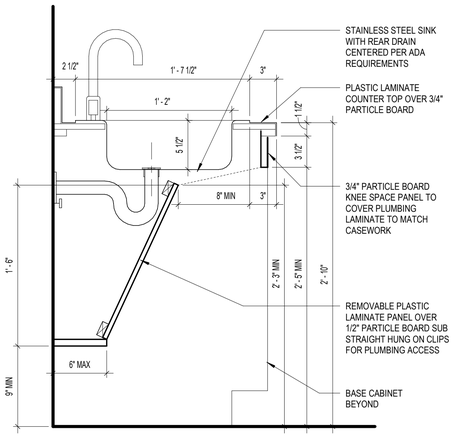
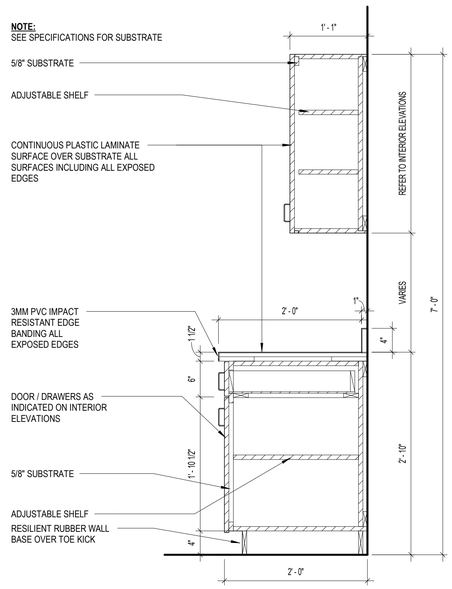
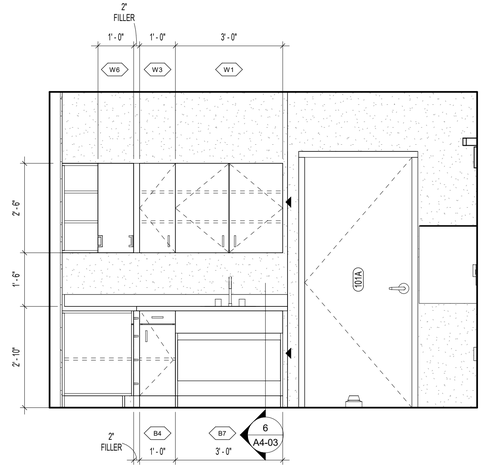
2. REFER TO PROJECT SPECIFICATIONS FOR COMPLETE DESCRIPTION OF CEILING MATERIAL



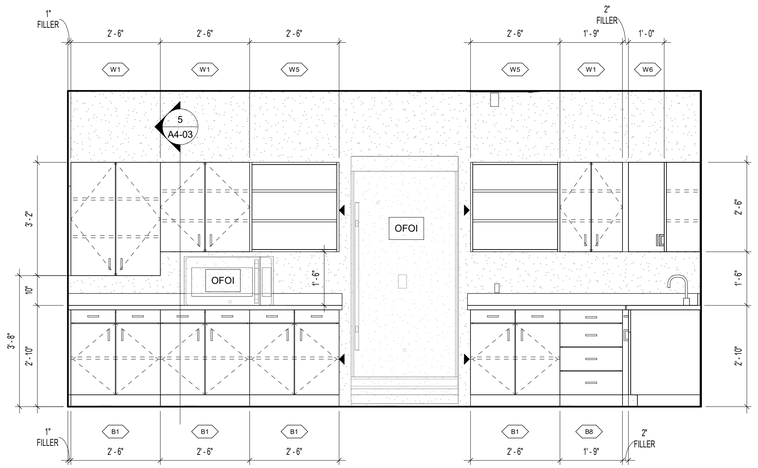
6 / A4-03 — **ADA LAVATORY SECTION DETAIL**
1 1/2" = 1'-0"



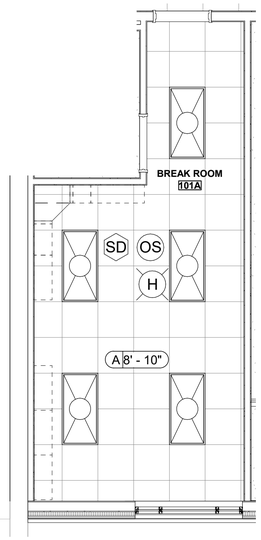
5 / A4-03 — **TYPICAL CABINET SECTION**
1" = 1'-0"



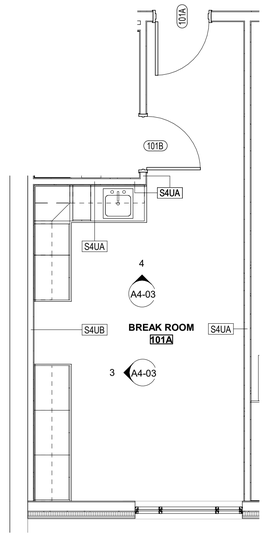
4 / A4-03 — **SIDE ELEVATION AT TEACHER'S BREAKROOM**
1/2" = 1'-0"



3 / A4-03 — **ELEVATION AT TEACHER'S BREAKROOM**
1/2" = 1'-0"



2 / A4-03 — **TEACHER'S BREAKROOM RCP**
1/4" = 1'-0"



1 / A4-03 — **ENLARGED PLAN - TEACHER'S BREAKROOM**
1/4" = 1'-0"

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SMITH SINNETT ARCHITECTURE PA — CERT. NO. 50172 — RALEIGH, NORTH CAROLINA

CHARLES TENNANT WHITMAN — REGISTERED ARCHITECT — 13798 — NORTH CAROLINA — RALEIGH — 10/27

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ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

CASEWORK ELEVATIONS AND DETAILS

2022017 — 20 Feb 2023

A4-03

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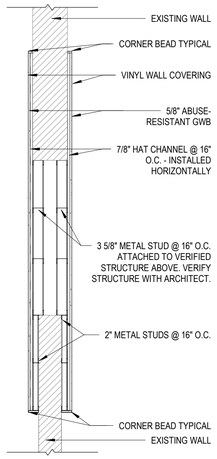
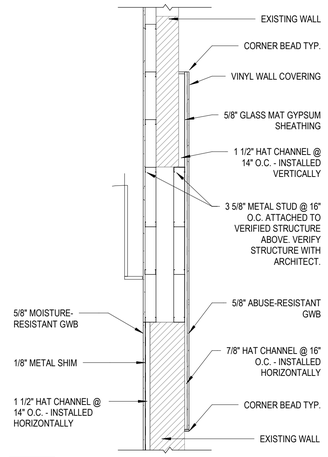
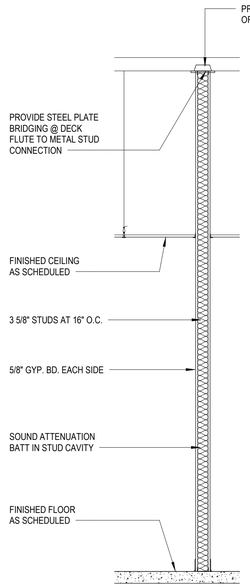


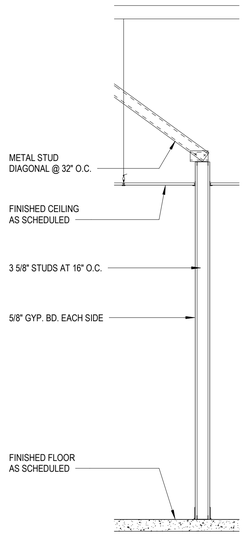
15 / A5-01 — TYPICAL CLASSROOM WALL INFILL
1/2" = 1'-0"



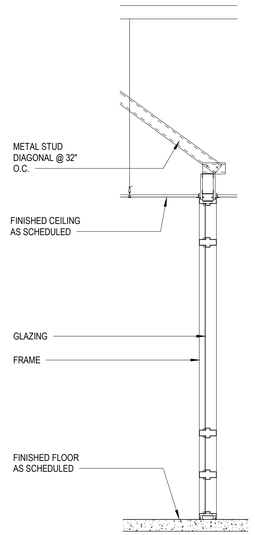
14 / A5-01 — BATHROOM WALL INFILL
1/2" = 1'-0"



TIGHT TO DECK WALL

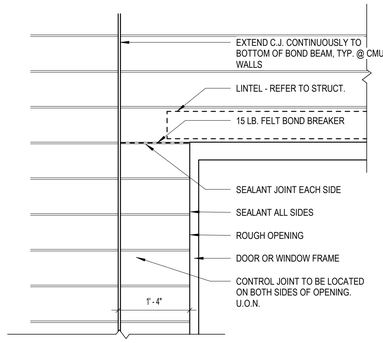


TYPICAL INTERIOR WALL

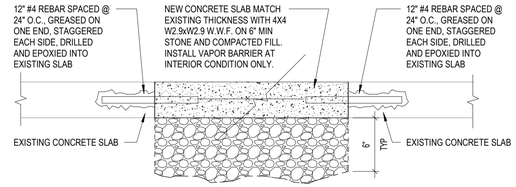


TYPICAL FRAMING AND GLAZING WALL

11 / A5-01 — INTERIOR WALL BRACING DETAIL
1/2" = 1'-0"



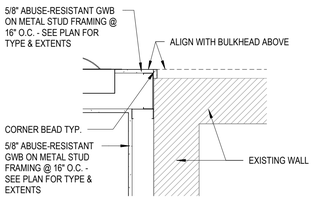
10 / A5-01 — CONTROL JOINT AT ALL WALL OPENINGS
3/4" = 1'-0"



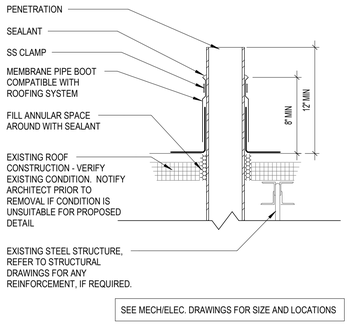
NOTE: INSTALL EXPANSION JOINT IN LIEU OF EPOXY ANCHOR AT INTERSECTION OF SLAB EDGE AND EXISTING WALL LOCATIONS.

9 / A5-01 — TYPICAL SLAB TRENCH INFILL DETAIL
1 1/2" = 1'-0"

13 / A5-01 — PLAN OF NEW STRUCTURE
1" = 1'-0"

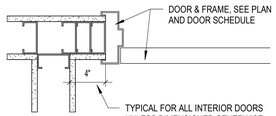


12 / A5-01 — PLAN OF RESTROOM CORNER
1" = 1'-0"

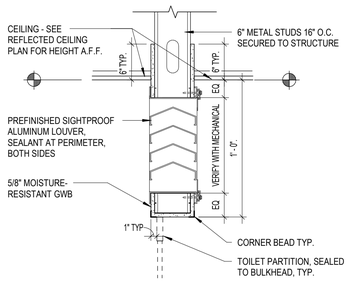


SEE MECH/ELEC. DRAWINGS FOR SIZE AND LOCATIONS

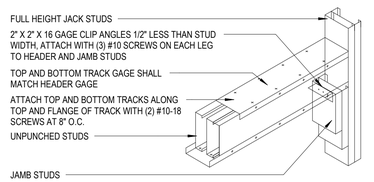
8 / A5-01 — PIPE PENETRATION
1 1/2" = 1'-0"



7 / A5-01 — TYP DOOR PLACEMENT - MTL STUD
1 1/2" = 1'-0"

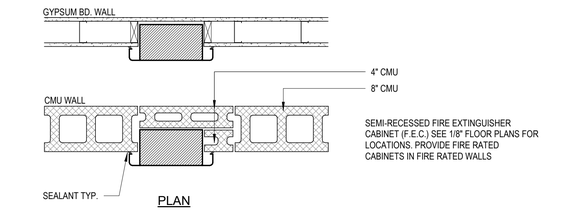


6 / A5-01 — TYP HEADER DETAIL
1" = 1'-0"



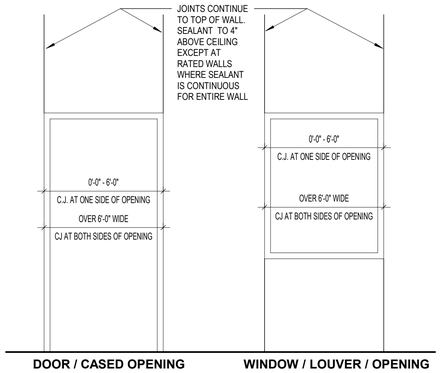
NON-LOAD BEARING HEADER

5 / A5-01 — TYP INTERIOR HEADER - MTL STUD
1/2" = 1'-0"

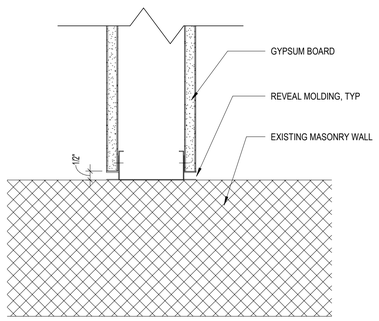


(ALL FIRE EXTINGUISHER CABINETS AND BRACKETS SHALL BE PROVIDED WITH A 10# ABC EXTINGUISHER AS SPECIFIED)

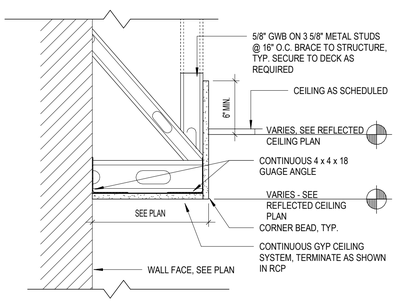
4 / A5-01 — SEMI-RECESSED FIRE EXTINGUISHER CABINET
1" = 1'-0"



3 / A5-01 — GYPSUM WALL CONTROL JOINTS
1/2" = 1'-0"



2 / A5-01 — GYPSUM TO MASONRY DETAIL - REVEAL
3" = 1'-0"



1 / A5-01 — TYP GYP CONTINUOUS BULKHEAD
1 1/2" = 1'-0"

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REGISTERED ARCHITECT — CHARLES WHITMAN TENNANT — 13798 — NORTH CAROLINA — RALEIGH

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DRAWN BY: AC
CHECKED BY: CWT

DETAILS

2022017 — 20 Feb 2023

A5-01

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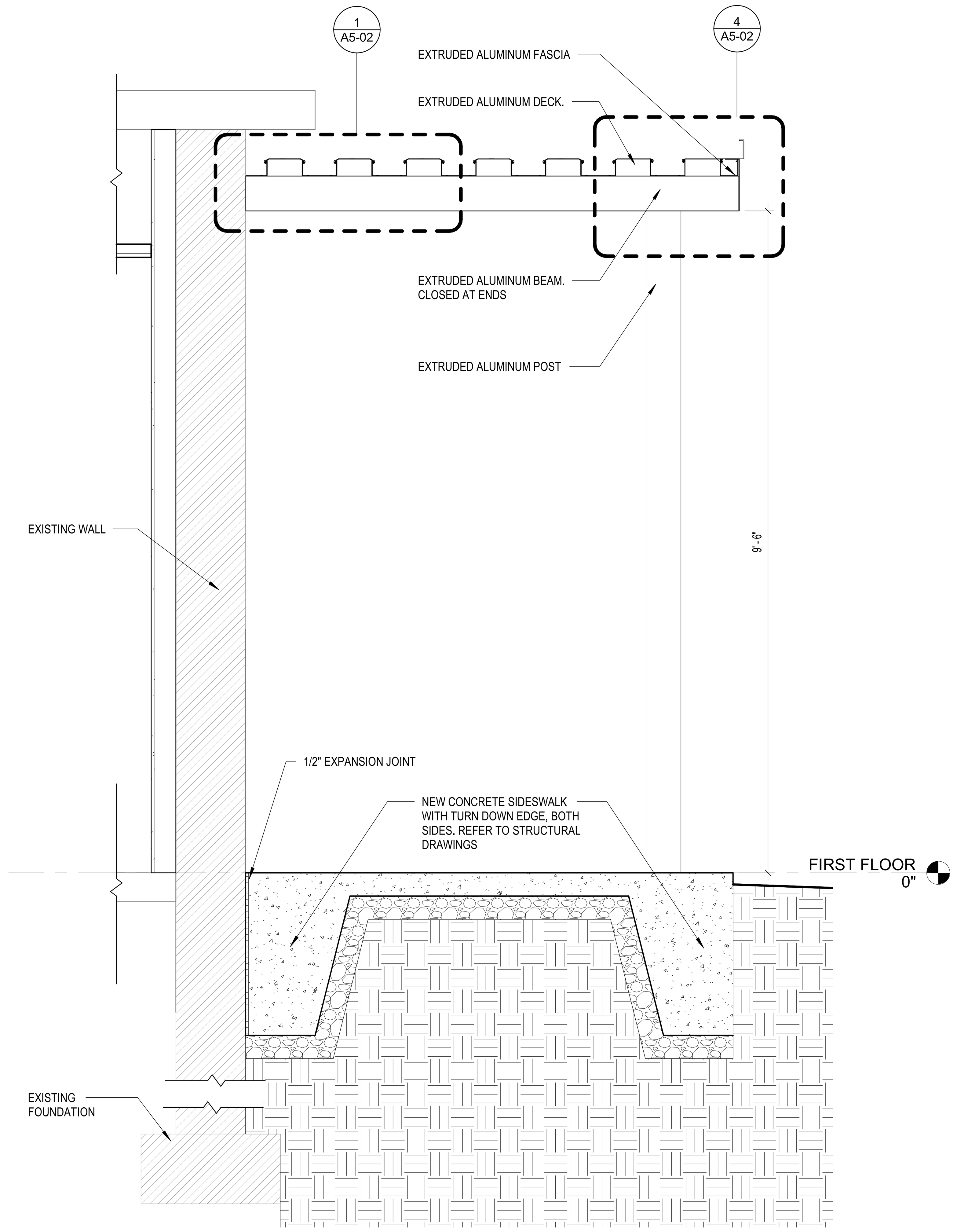
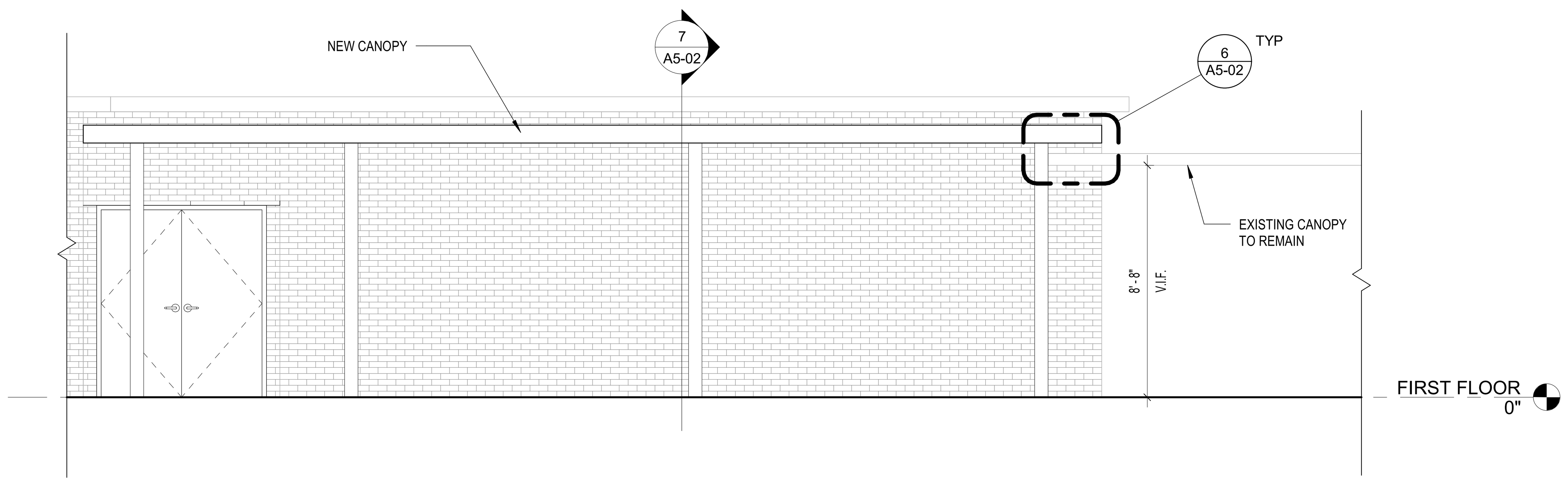
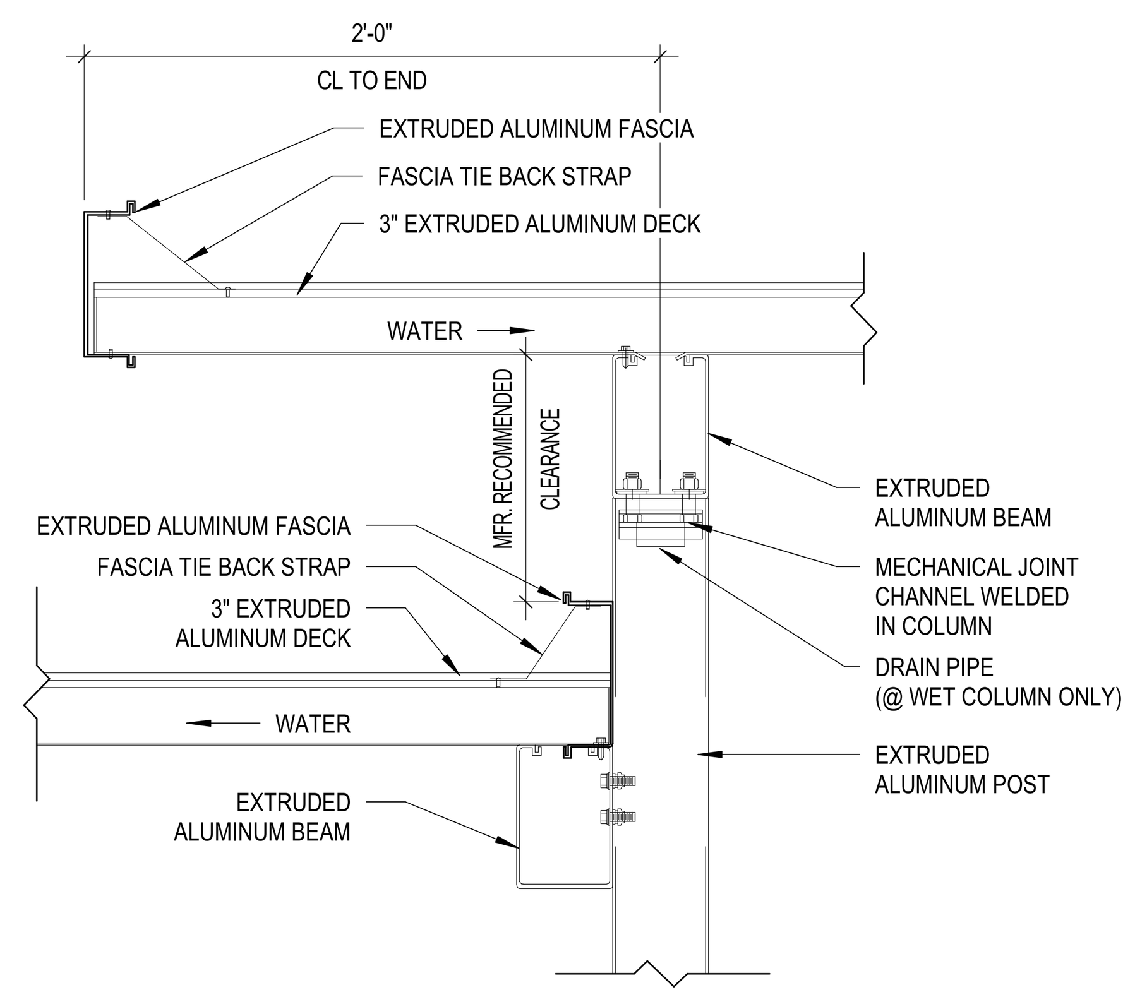


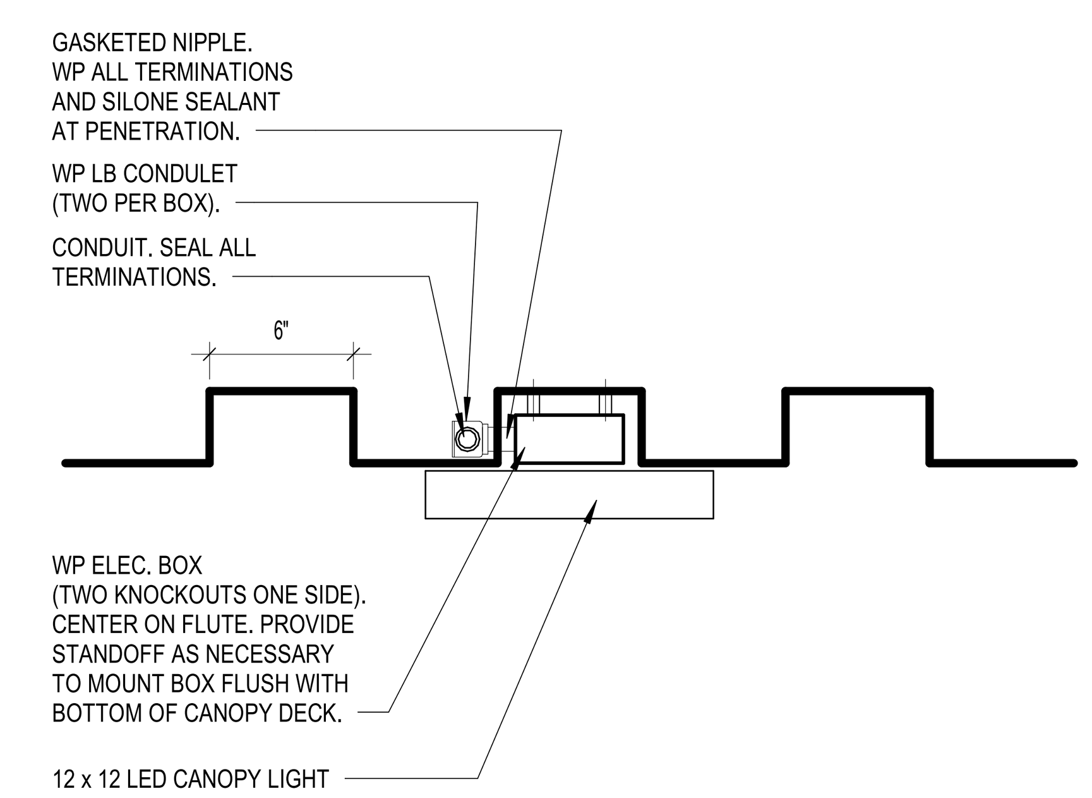
7 A5-02 **SECTION THROUGH NEW CANOPY**
3/4" = 1'-0"



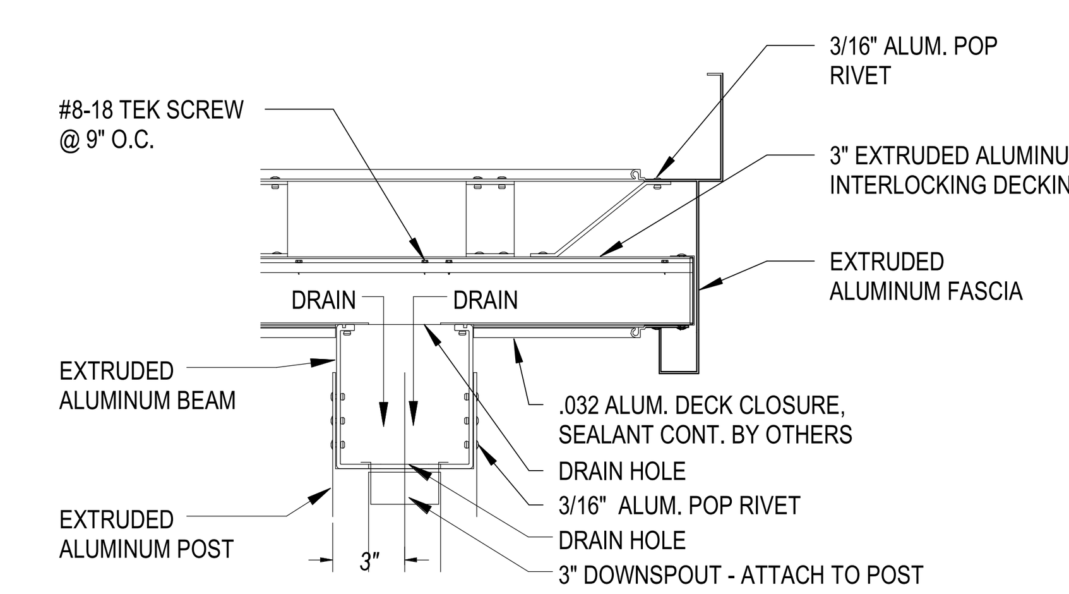
8 A5-02 **WEST ELEVATION - CANOPY**
1/4" = 1'-0"



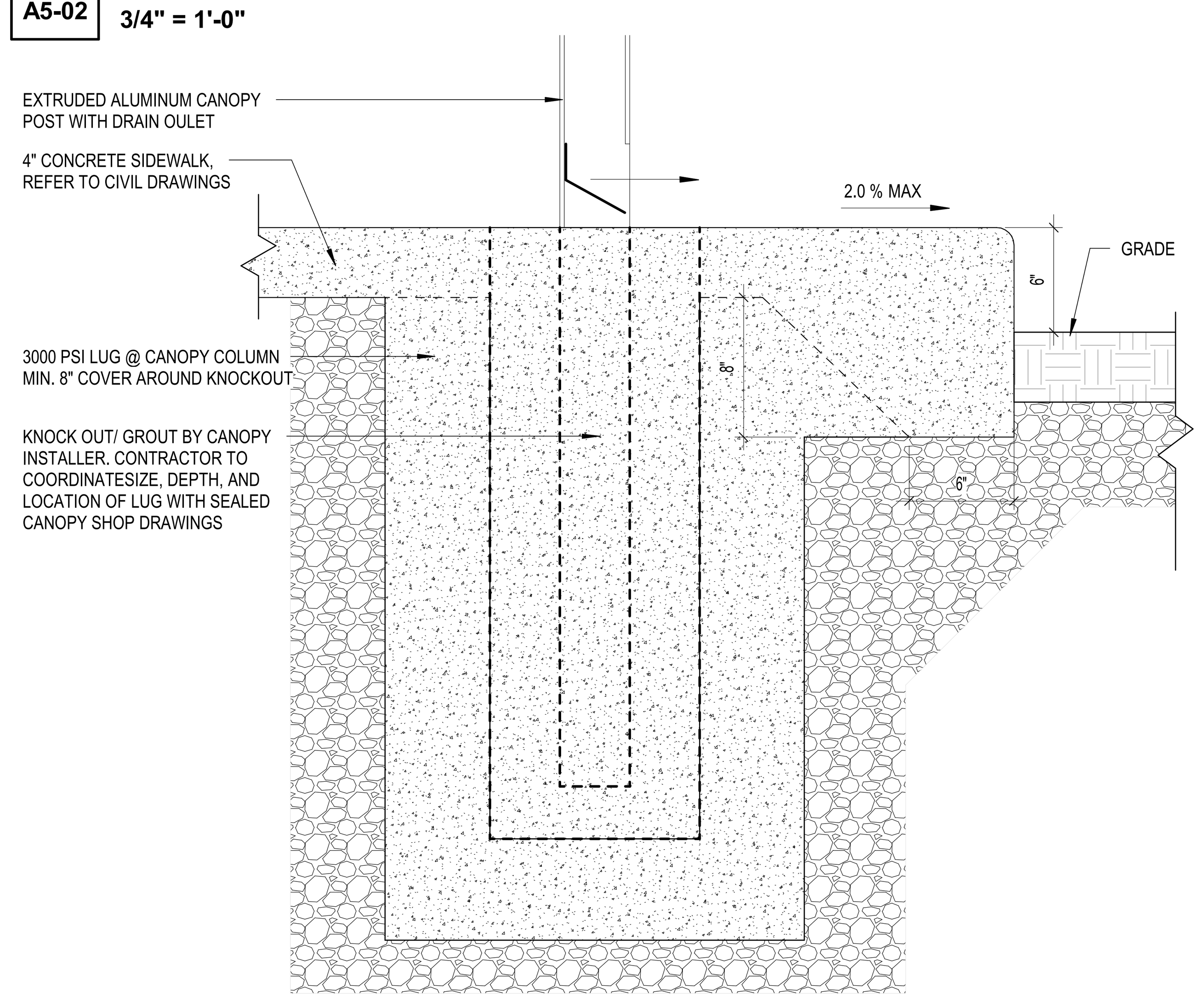
6 A5-02 **TYPICAL CANOPY STEP DETAIL**
1 1/2" = 1'-0"



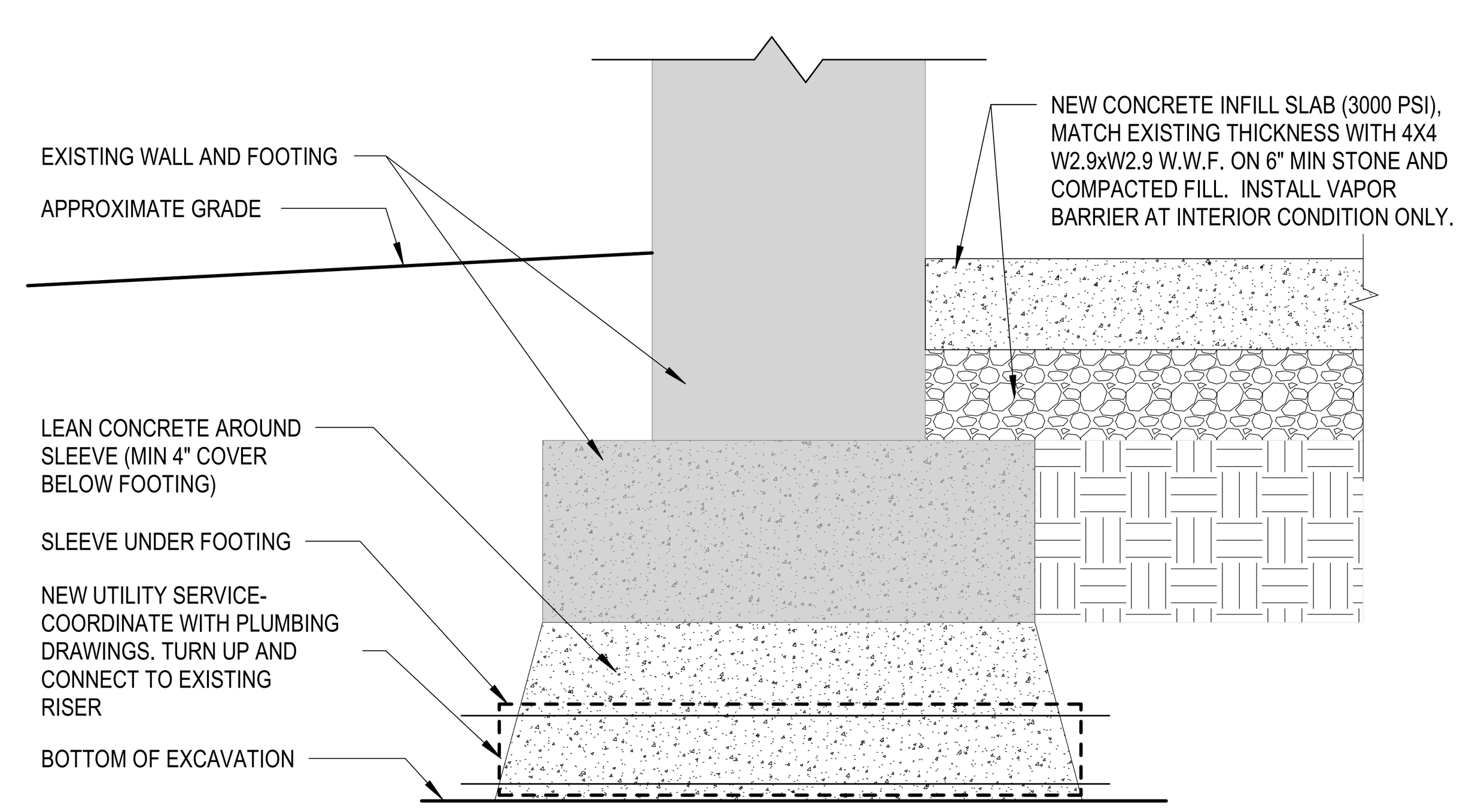
5 A5-02 **TYPICAL CANOPY LIGHT DETAIL**
1 1/2" = 1'-0"



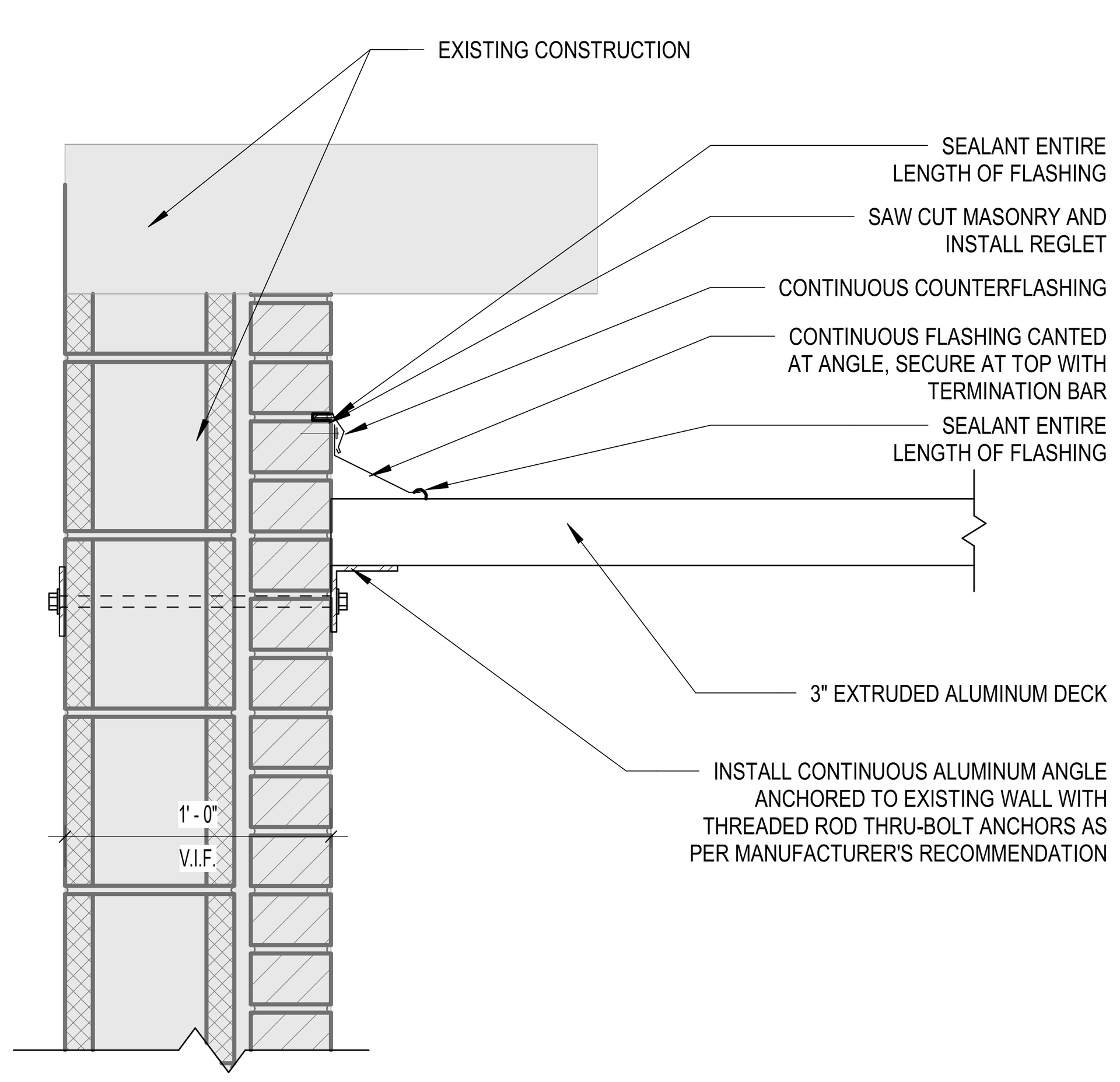
4 A5-02 **CANOPY EDGE DETAIL**
1 1/2" = 1'-0"



3 A5-02 **SECTION AT CANOPY DRAIN**
1 1/2" = 1'-0"



2 A5-02 **UTILITY PENETRATION DETAIL**
1 1/2" = 1'-0"



1 A5-02 **POST SUPPORTED CANOPY**
1 1/2" = 1'-0"

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CHARLES WHITMAN TENNANT REGISTERED ARCHITECT 13798 RALEIGH, N.C. 2/20/23

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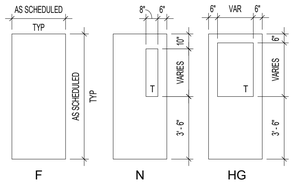
ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

DETAILS AND WALL SECTION - CANOPY

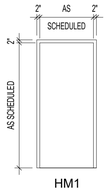
2022017 20 Feb 2023

A5-02



DOOR TYPES

1/4" = 1'-0"

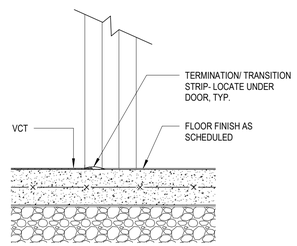


FRAME TYPES

1/4" = 1'-0"

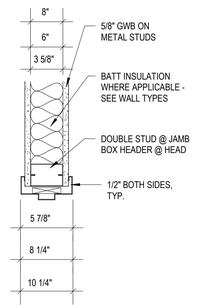
DOOR SCHEDULE

DOOR							FRAME							
	DOOR SIZE								DETAILS					
MARK	WIDTH	HEIGHT	THK	MAT	TYPE	LVS	MAT	TYPE	HEAD	JAMB	THRESH	HARDWARE SET	FIRE RATING	REMARKS
101A	3' - 0"	7' - 0"	1 3/4"	SCWD	F	1	HM	HM1	1/A6-01	2/A6-01	3/A6-01	5	--	
101B	3' - 0"	7' - 0"	1 3/4"	SCWD	F	1	HM	HM1	1/A6-01	2/A6-01	3/A6-01	1	--	
101C	3' - 0"	7' - 0"	1 3/4"	SCWD	F	1	HM	HM1	1/A6-01	2/A6-01	3/A6-01	7	--	1" UNDERCUT
101D	3' - 0"	7' - 0"	1 3/4"	SCWD	F	1	HM	HM1	1/A6-01	2/A6-01	3/A6-01	3	--	
101E	3' - 0"	7' - 0"	1 3/4"	SCWD	F	1	HM	HM1	1/A6-01	2/A6-01	3/A6-01	7	--	1" UNDERCUT



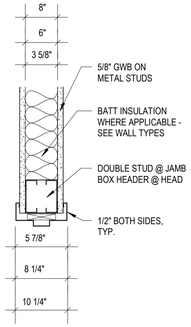
3 A6-01 **HM THRESHOLD AT INTERIOR DOOR**

1 1/2" = 1'-0"



2 A6-01 **HM JAMB AT STUD WALL**

1 1/2" = 1'-0"



1 A6-01 **HM HEAD AT STUD WALL**

1 1/2" = 1'-0"

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CHARLES WHITMAN TENNANT — REGISTERED ARCHITECT — 13798 — NORTH CAROLINA — RALEIGH, NC — 10/27

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ONSLOW COUNTY SCHOOLS

TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS

112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC

CHECKED BY: CWT

DOOR SCHEDULE AND FRAME ELEVATIONS

2022017 20 Feb 2023

A6-01

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GENERAL FINISH NOTES:

1. ALL GWB CEILINGS AND BULKHEADS TO BE PT-1, U.O.N.
2. FINISH MATERIALS SUBMITTED AS EQUALS TO THE BASIS OF DESIGN WILL BE APPROVED OR REJECTED BASED ON COLOR INTEGRITY AND TACTILE CHARACTERISTICS IN ADDITION TO TECHNICAL SPECIFICATIONS.
3. ROOMS THAT HAVE MILLWORK WITH MORE THAN THREE LAMINATE COLORS. EXACT LOCATION OF EACH TYPE TO BE DETERMINED DURING SHOP DRAWING PHASE.
4. FINISHES ARE CONTINGENT ON FINAL OWNER AND ARCHITECT APPROVAL.
5. SEE INTERIOR ELEVATIONS (A4-##, A4-##, & A4-##) FOR WALL PAINT LOCATIONS.
6. METAL FINISHING STRIPS TO BE USED ON ALL VERTICAL OUTSIDE EDGES & CORNERS OF WALL TILE.
7. FINISHED-EDGE TILE TO BE USED AT TOP COURSE OF WALL TILE.
8. ALL WALLS TO BE PAINTED WITH PT3 CHALKBOARD PAINT TO RECEIVE A LEVEL 5 GWB FINISH.
9. GC TO ENSURE LEVEL FLOOR FINISH AT ALL TILE TRANSITIONS.
10. PT1A TO BE USED ON ALL RESTROOM WALLS ABOVE AND ADJACENT TO WALL TILE.

FINISH LEGEND

WALL FINISHES BASED ON PLAN LOCATION →

ROOM NAME ROOM NUMBER			
NORTH	EAST	SOUTH	WEST
FLOOR	BASE	SIGNAGE	

INDICATES ACCENT PAINT OR WALL TILE

INDICATES WALL TO RECEIVE LEVEL 5 GWB FINISH

WALL FINISH

PT1	INTERIOR FIELD PAINT
PT1A	INTERIOR FIELD EPOXY PAINT
PT2	ACCENT PAINT
WT1	WALL TILE 1
WT2	WALL TILE 2

NOTE: CORRIDOR AND CLASSROOM BULKHEADS TO RECEIVE A LEVEL 5 GWB FINISH

FLOOR FINISH

SC	SEALED CONCRETE
VCT1	VINYL COMPOSITE TILE 1
VCT2	VINYL COMPOSITE TILE 2
VCT3	VINYL COMPOSITE TILE 3
VCT4	VINYL COMPOSITE TILE 4
FT1	FLOOR TILE 1
REF	RESINOUS EPOXY

WALL BASE

RB	RUBBER BASE
TB	TILE COVE BASE
REB	INTEGRATED EPOXY RESIN BASE

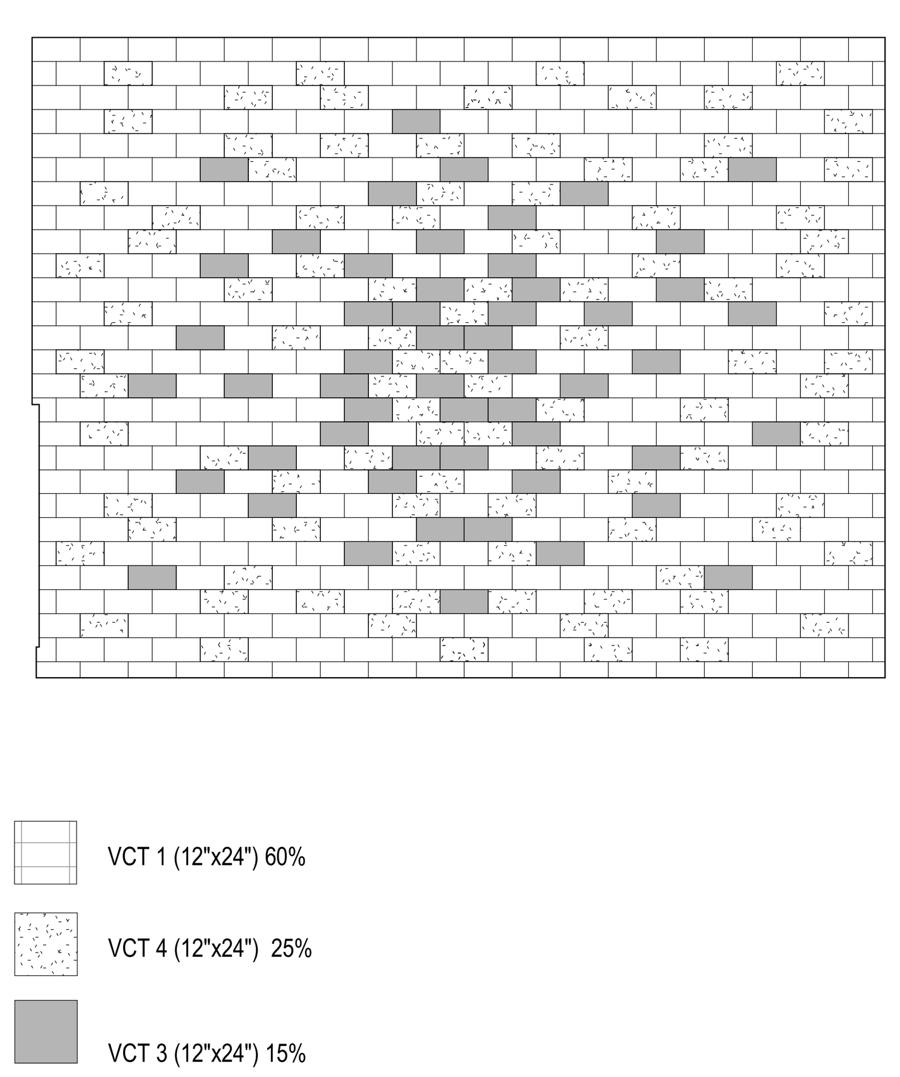
SURFACE FINISH

PL1	PLASTIC LAMINATE
PL2	PLASTIC LAMINATE
SS1	SOLID SURFACE (WINDOW STOOL ONLY)

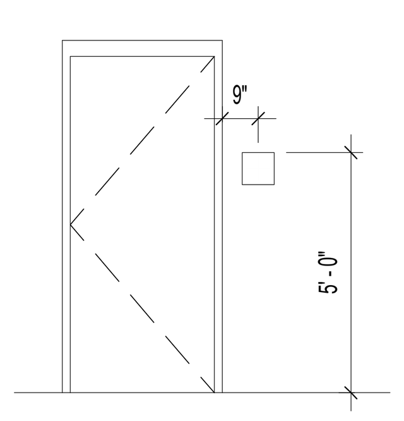
WINDOW TREATMENT

RS	ROLLER SHADES

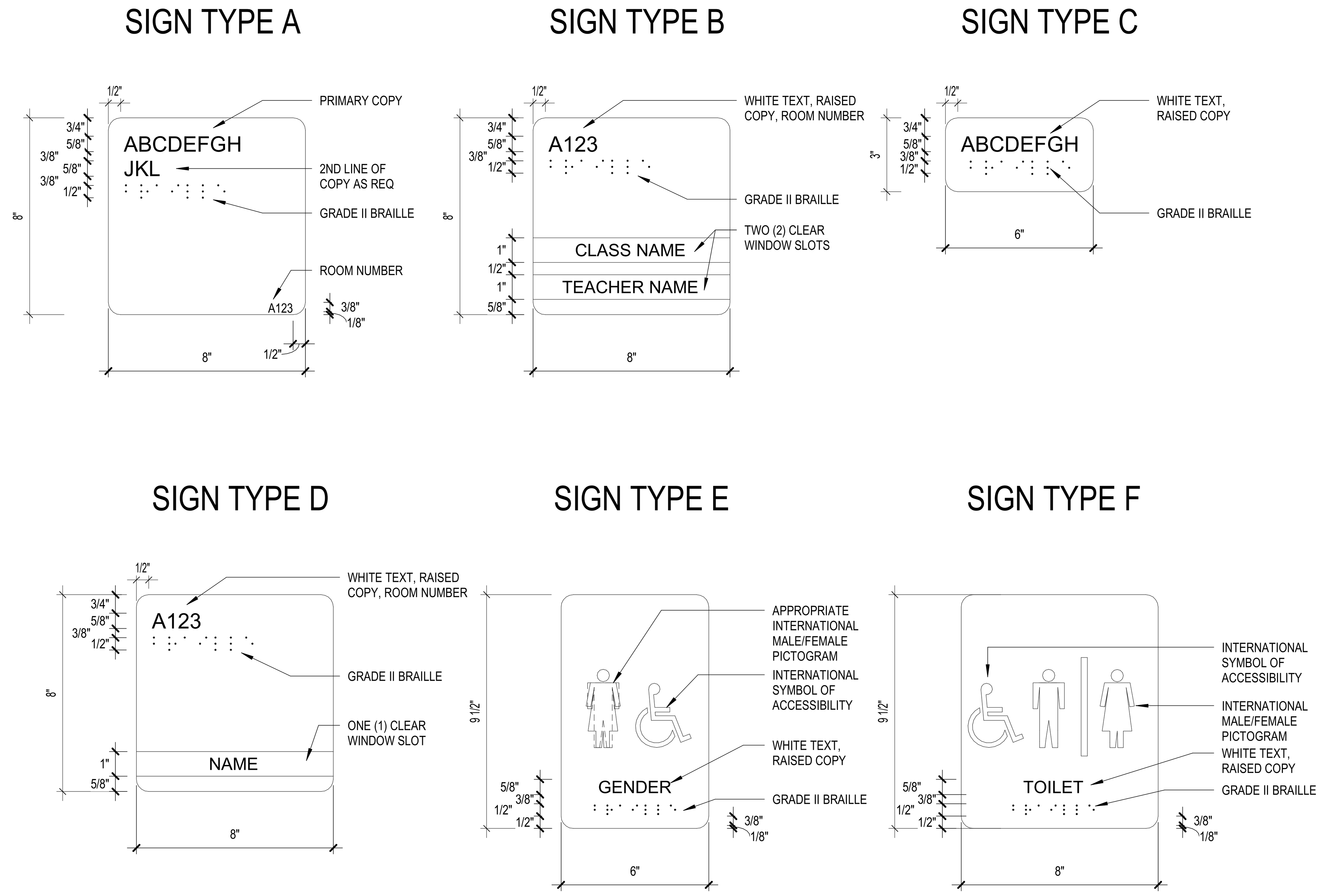
TYPICAL VCTA PATTERN



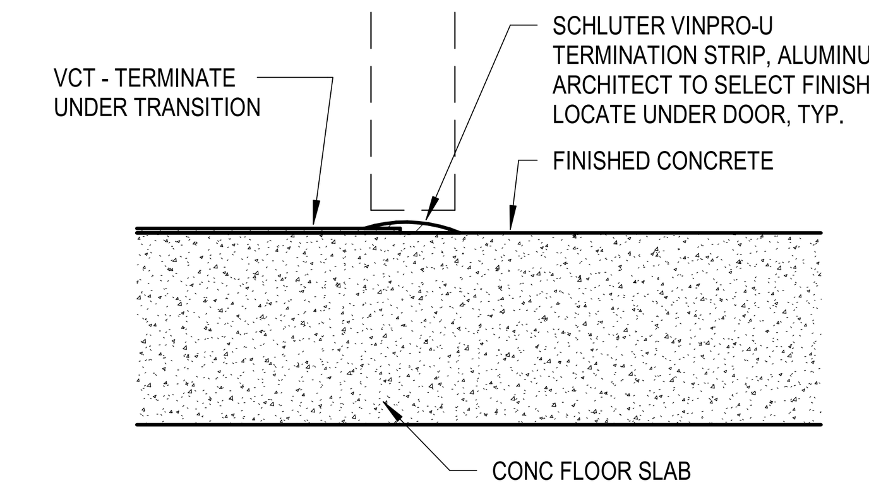
SIGNAGE ELEVATION & NOTES



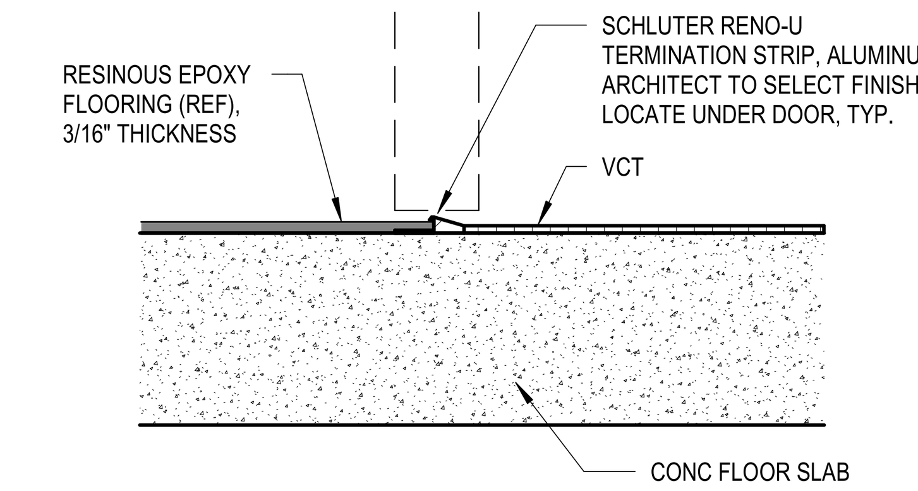
2 A7-01 **SIGNAGE ELEV & NOTES** 1/4" = 1'-0"



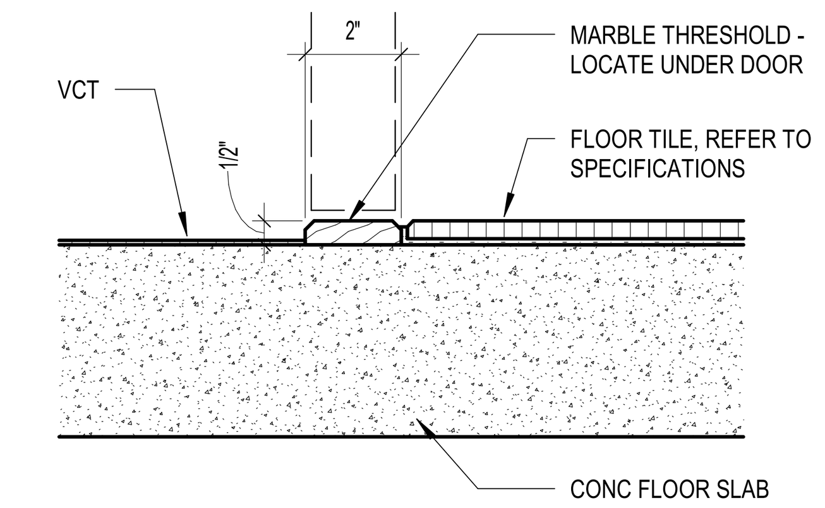
8 A7-01 **7-002 SIGNAGE LEGEND / ELEVATIONS** 3" = 1'-0"



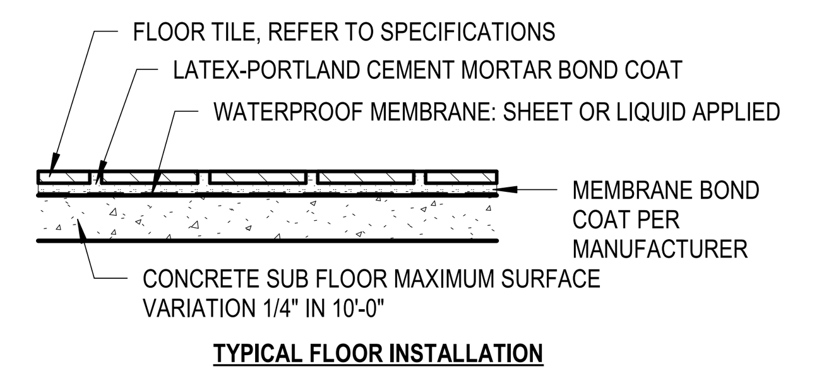
7 A7-01 **VCT TO SEALED CONCRETE** 3" = 1'-0"



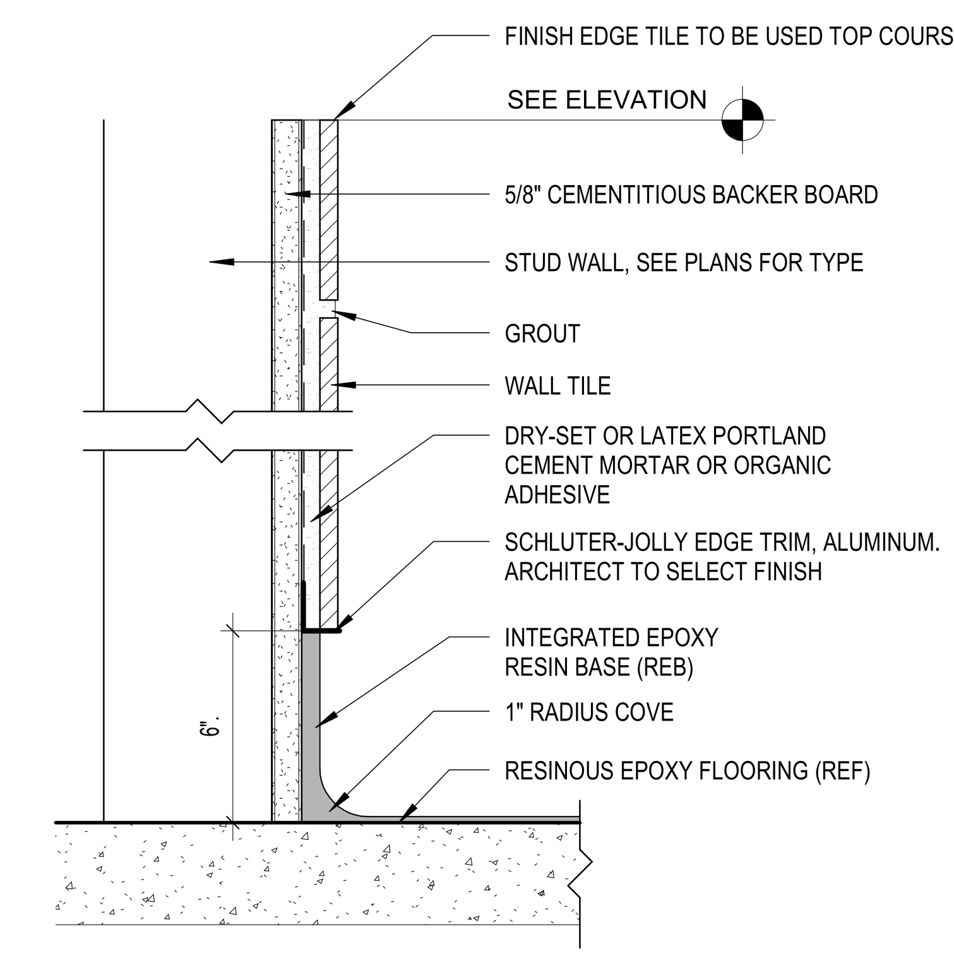
5 A7-01 **VCT TO EPOXY** 3" = 1'-0"



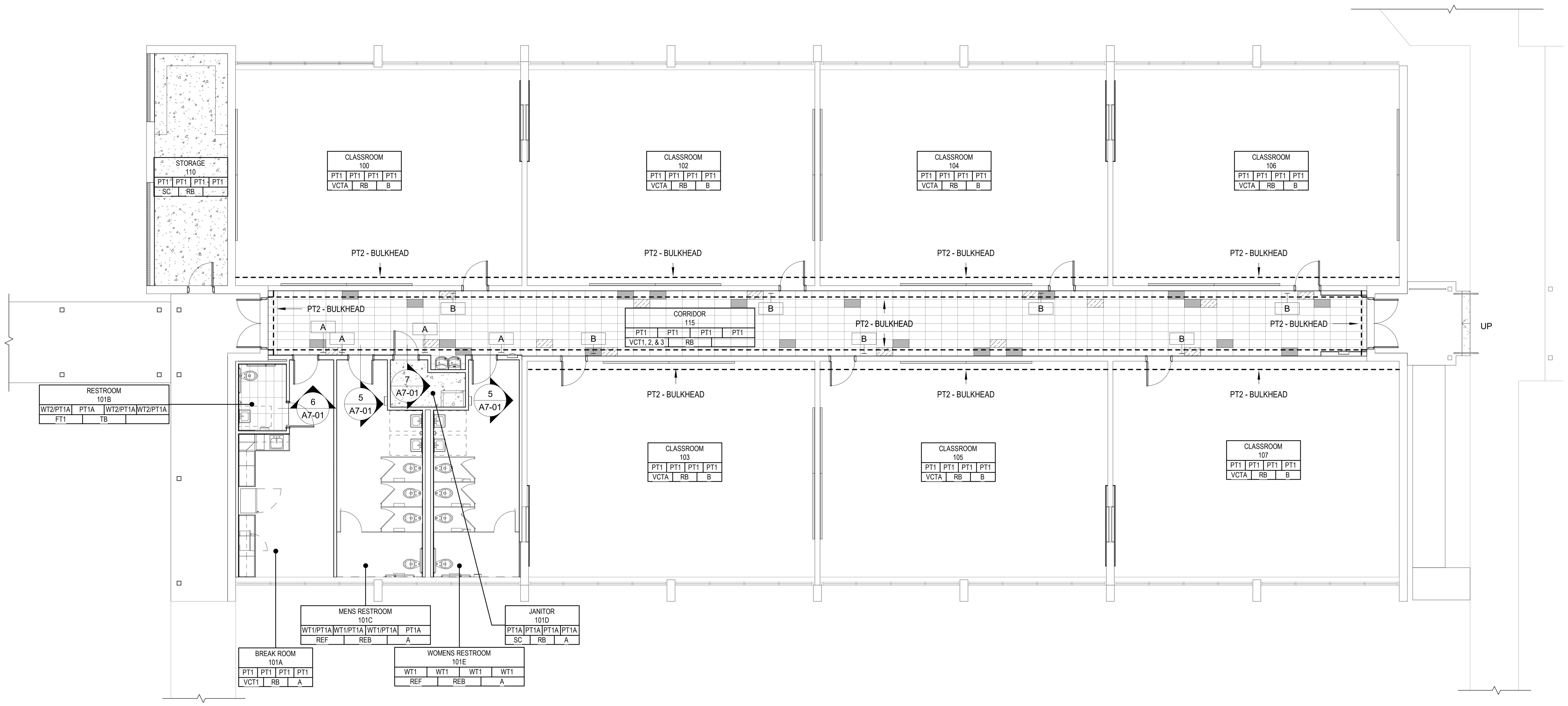
6 A7-01 **VCT TO THIN SET PCT** 3" = 1'-0"



4 A7-01 **FLOOR TILE INSTALLATION** 3" = 1'-0"



3 A7-01 **TILE INSTALLATION @ RESINOUS FLOORING** 3" = 1'-0"



1 A7-01 **1ST FLOOR FINISH PLAN** 1/8" = 1'-0"

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CHARLES WHITMAN TENNANT – REGISTERED ARCHITECT – NORTH CAROLINA – 13798 – RALEIGH, N.C. 2/20/23

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

FINISH PLAN

2022017 20 Feb 2023

A7-01

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3 A8-01 TYPICAL EXTERIOR STAIR DETAIL
1 1/2" = 1'-0"

2 A8-01 TYP GUARDRAIL / HANDRAIL ASSEMBLY
1 1/2" = 1'-0"

1 A8-01 EAST STAIR DETAIL
3/4" = 1'-0"

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ENLARGED STAIRS PLANS AND SECTIONS

2022017 20 Feb 2023

A8-01

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GENERAL DEMOLITION NOTES:

1. ALL CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR WHERE DEMOLITION IS TO OCCUR. THE CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY INCONSISTANCIES IN WRITING PRIOR TO STARTING ANY WORK.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WEEKLY AND/OR DAILY REMOVAL AND PROPER DISPOSAL OF ALL DEBRIS ACCUMULATED DURING DEMOLITION AND CONSTRUCTION.

3. REMOVAL OF HAZARDOUS MATERIAL AND DEBRIS SHALL BE AS FOLLOWS:
   - A. ALL HAZARDOUS SHALL BE REMOVED BY THE CONTRACTOR PRIOR TO PROJECT COMPLETION. CONTRACTOR SHALL FOLLOW ALL THE REQUIREMENTS TO LEGALLY DISPOSE OF ALL HAZARDOUS MATERIALS.
   - B. THE CONTRACTOR IS REQUIRED TO PERFORM ABATEMENT AND REMEDIATION ACTIVITIES INSIDE NEGATIVEAIR PRESSURIZED ENCLOSURES.
   - C. ABATEMENT OF ALL HAZARDOUS MATERIALS SHALL OCCUR PRIOR TO BUILDING DEMOLITION. BOTH ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE PROJECT SHALL BE PHASED SUCH THAT DEMOLITION CAN FOLLOW ABATEMENT IN THE FIRST AREA OF THE BUILDING WHILE ABATEMENT IS OCCURING IN THE NEXT AREA OF THE BUILDING.

   ASBESTOS - REFER TO ASBESTOS REMOVAL DESIGN AND SPECIFICATIONS
   LEAD - REFER TO LEAD CLEANING DESIGN AND SPECIFICATIONS
   BULBS - FLUORESCENT, MERCURY VAPOR, SODIUM, ETC. BULBS WILL BE HANDLED AS UNIVERSAL WASTE. UPON REMOVAL FROM LIGHTING DEVICES, THEY IMMEDIATELY MUST BE PUT INTO APPROPRIATE CONTAINERS AND LABELED ASUSED LAMPS. A UNIVERSAL WASTE LABEL WILL BE ATTACHED AND ACCUMULATION DATE FILLED IN ON THE LABEL. BOX MUST BE CLOSED AND TAPED SHUT AT ALL TIMES UNLESS BULBS ARE BEING ADDED. BULBS UNLESS BROKEN SHALL BE RECYCLED. ANY BROKEN OR DAMAGED BULBS WILL BE CONTAINERIZED IN PLASTIC OR METAL CONTAINERS FOR DISPOSAL AS HAZARDOUS WASTE
   BALLAST - ALL BALLAST WILL BE CONTAINERIZED AND RECYCLED

4. ANY FLOOR, CEILING, WALL OR OTHER MATERIALS INCLUDING FINISHES IN AREAS TO REMAIN ARE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT. ANY MATERIALS DAMAGED DURING CONSTRUCTION OR DEMOLITION, SHALL BE RETURNED TO THEIR ORIGINAL STATE, OR IMPROVED AS INDICATED BY THE OWNER OR ARCHITECT, OR REPLACED WITH A NEW MATERIAL TO MATCH ADJACENT MATERIALS, TYPICAL.

5. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING SURFACES TO REMAIN AND MATERIALS EXPOSED TO VIEW WHERE OTHER ITEMS OR MATERIALS HAVE BEEN REMOVED.

6. REFER TO PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL AND COMPLETE SCOPE OF DEMOLITION THAT MAY OR MAY NOT BE NOTED ON THE ARCHITECTURAL DEMOLITION PLAN AND NOTES.

7. CONTRACTOR SHALL REMOVE ALL WALL MOUNTED FIXTURES OR ITEMS UNLESS OTHERWISE NOTED. ALL WALLS SHALL BE REPAIRED, AND VOIDS FILLED AFTER FIXTURE REMOVAL. ALL FINISHES SHALL MATCH ADJACENT SURFACES. REMOVE ALL FOREIGN MATTER, SHELVING, LOOSE DEBRIS INCLUDING TAPE, ADHESIVE, NAILS, SCREWS, ETC. FROM WALLS. SCRAPE, WIRE BRUSH, AND SAND SMOOTH. WASH ALL PAINTED SURFACES TO REMOVE ANY "FILM OR RESIDUE". PREPARE SURFACES TO PROVIDE A MAXIMUM DEGREE OF NEW PAINT ADHESION. PATCH AND REPAIR ALL VOIDS IN PREPARATION FOR NEW FINISHES.

8. ALL FIXTURES, WALLS AND PORTIONS OF WALLS SHOWN AS DASHED LINES OR LABELED SHALL BE DEMOLISHED UNLESS ELEMENTS REMOVED OR REPLACED. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING AND IS RESPONSIBLE FOR ANY FAILURE DUE TO LACK OF PROPER BRACING.

9. DURING THE BIDDING PROCESS, CONTRACTORS SHALL TAKE NOTE OF EXISTING PLUMBING MECHANICAL, AND ELECTRICAL ITEMS IN AREAS TO BE RENOVATED. ITEMS INCLUDE BUT ARE NOT LIMITED TO WIRES, CONDUITS, PIPES, THERMOSTATS, FIRE ALARM DEVICES, PANEL CANS, ETC. THESE HAVE BEEN IDENTIFIED IN THE DEMOLITION DRAWINGS FOR ARCHITETURE, PLUMBING, MECHANICAL, AND/OR ELECTRICAL. FOR ITEMS NOT SHOWN, CONTRACTOR SHALL WORK WITH THE ARCHITECT AND OWNER TO DETERMINE IF THE ITEM IS STILL IN USE ITEMS WHICH ARE NOTED TO BE REMOVED AND STORED FOR LATER REINSTALLATION SHALL BE TAGGED AND LISTED ON AN ITEMIZED LIST GIVEN TO THE OWNER AND ARCHITECT.

10. THE GENERAL CONTRACTOR SHALL COORDINATE THE DEMOLITION OF THE EXISTING BUILDING AREAS WITH THE ARCHITECT AND OWNER. THE CONTRACTOR SHALL COORDINATE AFTER HOURS WORK AND OBTAIN WRITTEN OWNER PERMISSION FOR NIGHT AND WEEKEND WORK.

11. CONTRACTOR SHALL ENSURE WATER-TIGHT INTEGRITY OF THE TEMPORARY ENCLOSURE SYSTEMS AND MAINTAIN THEM THROUGH THE ENTIRETY OF CONSTRUCTION TO PREVENT THE INTRUSION OF WATER AND THE ELEMENTS INTO THE BUILDING.

12. ALL EXISTING FIRE EXTINGUISHER AND BRACKETS SHALL REMAIN AND BE INSTALLED IN THEIR CURRENT LOCATION UNLESS SHOWN ON THE PLANS TO RELOCATE.

13. CONTRACTOR SHALL PATCH AND FILL IN ANY VOIDS LEFT FROM THE DEMOLITION OF ANY PLUMBING, MECHANICAL, OR ELECTRICAL ITEMS. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR COMPLETE SCOPE OF DEMOLITION.

DEMOLITION SPECIFIC AREA NOTES:

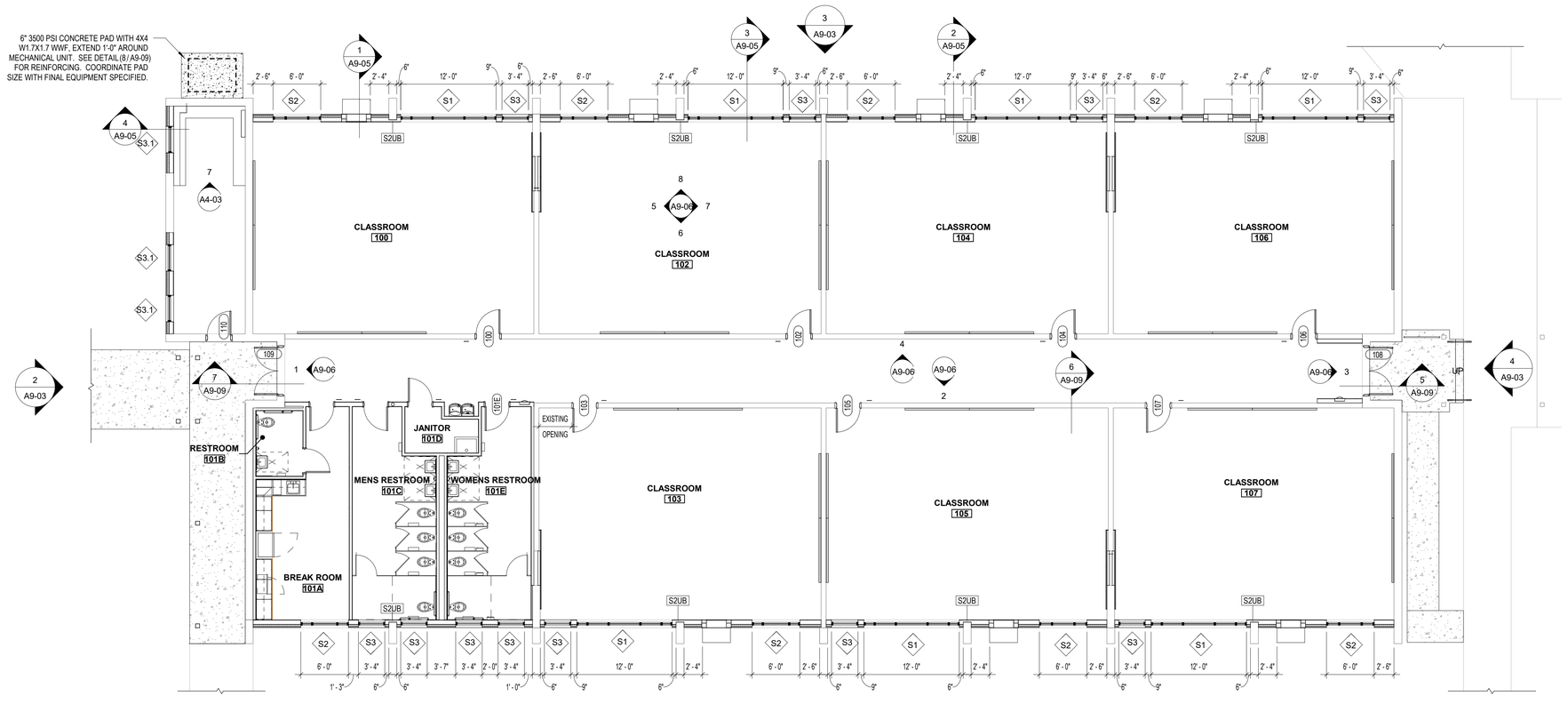
6	REMOVE EXISTING DOOR, FRAME, TRANSOM, & HARDWARE IN ITS ENTIRETY. PREPARE EXISTING WALL TO RECEIVE A NEW FRAME AND PREPARE SURROUNDING AREA TO RECEIVE NEW FINISH SPECIFIED OR IF NO FINISH IS SPECIFIED MATCH EXISTING. PROVIDE DEMOLITION MASONRY TOOTHING AS NECESSARY TO INSTALL NEW FRAME.
9	REMOVE EXISTING WINDOW, GLAZING, BLINDS, FRAME AND ITS ASSOCIATED PARTS IN ITS ENTIRETY. REFER TO ASBESTOS REMOVAL DESIGN AND SPECIFICATIONS FOR INSTRUCTIONS ON THE ASBESTOS WINDOW GLAZING AND FRAME CAULK. PREPARE EXISTING WALL TO RECIEVE A NEW FRAME OR METAL PANEL INFILL ASSEMBLY. PREPARE SURROUNDING AREA TO RECIEVE NEW FINISH SPECIFIED OR IF NO FINISH SPECIFIED, MATCH EXISTING. WINDOW OPENING SHALL BE SECURED WITH EITHER A WEATHER PROOF TEMPORARY PARTITION OR THE PERMANENT FRAME AND GLAZING.

DEMOLITION LEGEND:

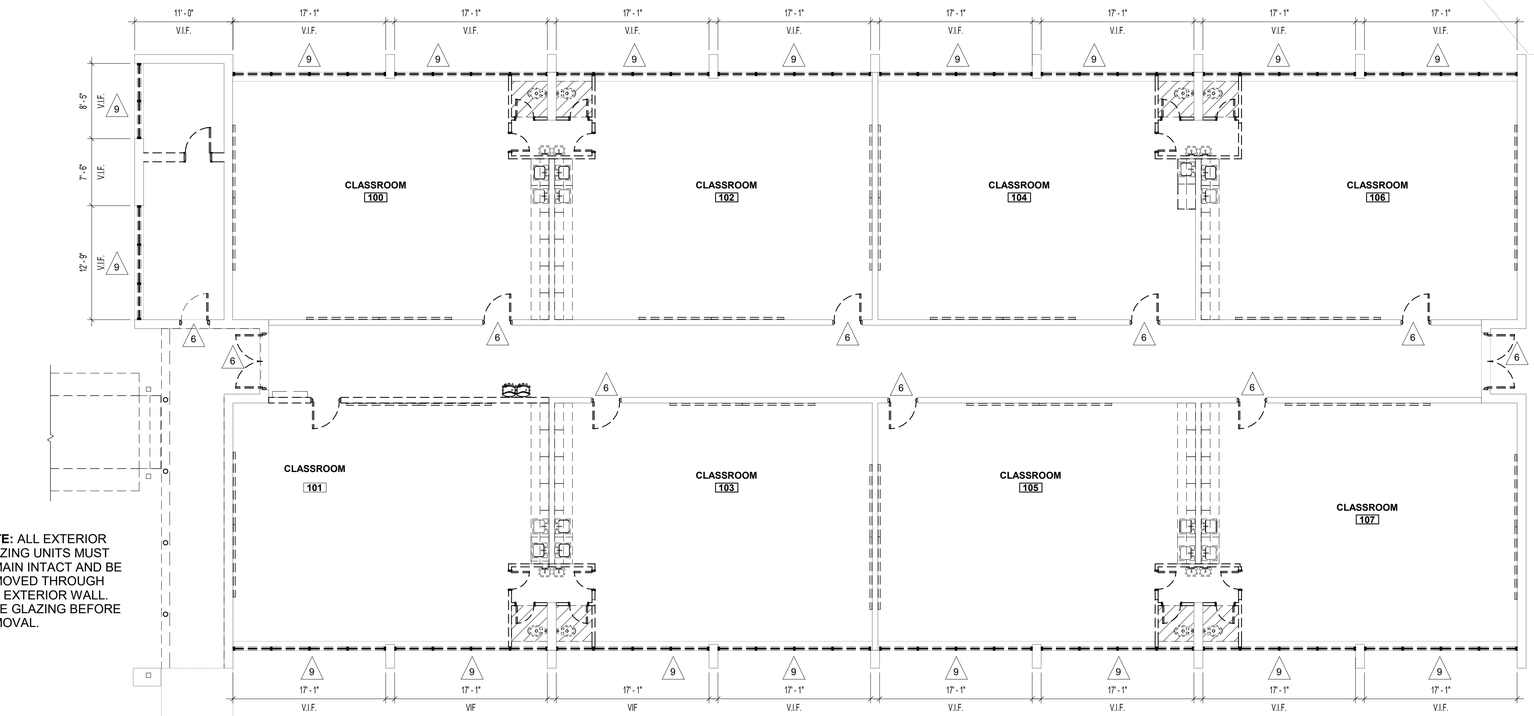
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
#	DEMOLITION KEYED NOTE	- - - - - - - -	EXISTING TO BE REMOVED DURING DEMOLITION
————	EXISTING TO REMAIN		

NOTES:

1. ALL INTERIOR WALL TYPES TO BE 'S4UA' UNLESS OTHERWISE NOTED.
2. WALL DIMENSIONS ARE TO FACE OF METAL STUD, FACE OF CONCRETE MASONRY UNIT (CMU), OR CENTERLINE OF COLUMN.
3. ALL METAL STUD WALLS TERMINATING AT BOTTOM OF DECK ARE TO PROVIDE A DEFLECTION TRACK SECURED TO THE UNDERSIDE OF THE DECKING, NEST TOP TRACK BUT DO NOT ATTACH TO DEFLECTION TRACK. FILL FLUTE IN METAL DECK WHERE REQUIRED.
4. ALL WALLS EXTEND TO DECK AND ARE BRACED TO DECK AT HEAD ON ALTERNATE STUDS OR 32" OC FOR CMU WALLS, UNLESS OTHERWISE NOTED.
5. CONTROL JOINTS SHALL BE AS SHOWN ON PLANS AND ELEVATIONS OR SPACED AT A MINIMUM OF 20'-0" OC AND A MAXIMUM OF 32'-0" OC WITH ONE CONTROL JOINT LOCATED WITHIN 3'-4" OF ANY CORNER. FOR INTERIOR GYPSUM WALL CONTROL JOINTS SEE DETAIL
6. SEE FINISH SCHEDULE FOR WALL, FLOOR, BASE, AND CEILING TYPES AND FINISHES.
7. REFER TO STRUCTURAL DRAWINGS FOR LOCATION OF REINFORCING, BOND BEAMS, BRACING, ETC.
8. ALL EXTERIOR SIDEWALKS SHALL SLOPE AWAY FROM THE BUILDING AT 1/4" PER FOOT, MINIMUM.
9. ALL EXTERIOR WINDOWS TO HAVE ROLLER SHADE BLINDS UNLESS OTHERWISE NOTED, REFER TO SPECIFICATIONS.
10. FURNITURE AND EQUIPMENT SHOWN DASHED ON PLANS IS NOT IN CONTRACT (NIC). GC TO PROVIDE WOOD BLOCKING FOR ALL WALL/CEILING MOUNTED ACCESSORIES.
11. FIELD VERIFY FINAL ROOM DIMENSIONS PRIOR TO CASEWORK FABRICATION.
12. NOT USED
13. ALL CERAMIC TILE TO HAVE CONTROL JOINTS THAT ALIGN WITH CONTROL JOINTS IN CONCRETE SLAB.
14. THERE SHALL BE NO PENETRATIONS IN THROUGH WALL FLASHING.
15. DOOR JAMB FROM INTERSECTING WALLS: STUD - 4" UNLESS OTHERWISE NOTED



2 A9-01 **FIRST FLOOR PLAN - ALT 2**
1/8" = 1'-0"



NOTE: ALL EXTERIOR GLAZING UNITS MUST REMAIN INTACT AND BE REMOVED THROUGH THE EXTERIOR WALL. TAPE GLAZING BEFORE REMOVAL.

1 A9-01 **DEMO PLAN - ALT 2**
1/8" = 1'-0"

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Smith Sinnett Architecture, P.A. 2023

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TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: AC
CHECKED BY: CWT

FLOOR PLANS (ALTERNATE 2)

2022017 20 Feb 2023

A9-01

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GENERAL DEMOLITION NOTES:

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   ASBESTOS - REFER TO ASBESTOS REMOVAL DESIGN AND SPECIFICATIONS
   LEAD - REFER TO LEAD CLEANING DESIGN AND SPECIFICATIONS
   BULBS - FLUORESCENT, MERCURY VAPOR, SODIUM, ETC. BULBS WILL BE HANDLED AS UNIVERSAL WASTE. UPON REMOVAL FROM LIGHTING DEVICES, THEY IMMEDIATELY MUST BE PUT INTO APPROPRIATE CONTAINERS AND LABELED ASUSED LAMPS. A UNIVERSAL WASTE LABEL WILL BE ATTACHED AND ACCUMULATION DATE FILLED IN ON THE LABEL. BOX MUST BE CLOSED AND TAPED SHUT AT ALL TIMES UNLESS BULBS ARE BEING ADDED. BULBS UNLESS BROKEN SHALL BE RECYCLED. ANY BROKEN OR DAMAGED BULBS WILL BE CONTAINERIZED IN PLASTIC OR METAL CONTAINERS FOR DISPOSAL AS HAZARDOUS WASTE
   BALLAST - ALL BALLAST WILL BE CONTAINERIZED AND RECYCLED

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5. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING SURFACES TO REMAIN AND MATERIALS EXPOSED TO VIEW WHERE OTHER ITEMS OR MATERIALS HAVE BEEN REMOVED.

6. REFER TO PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL AND COMPLETE SCOPE OF DEMOLITION THAT MAY OR MAY NOT BE NOTED ON THE ARCHITECTURAL DEMOLITION PLAN AND NOTES.

7. CONTRACTOR SHALL REMOVE ALL WALL MOUNTED FIXTURES OR ITEMS UNLESS OTHERWISE NOTED. ALL WALLS SHALL BE REPAIRED, AND VOIDS FILLED AFTER FIXTURE REMOVAL. ALL FINISHES SHALL MATCH ADJACENT SURFACES. REMOVE ALL FOREIGN MATTER, SHELVING, LOOSE DEBRIS INCLUDING TAPE, ADHESIVE, NAILS, SCREWS, ETC. FROM WALLS. SCRAPE, WIRE BRUSH, AND SAND SMOOTH. WASH ALL PAINTED SURFACES TO REMOVE ANY "FILM OR RESIDUE". PREPARE SURFACES TO PROVIDE A MAXIMUM DEGREE OF NEW PAINT ADHESION. PATCH AND REPAIR ALL VOIDS IN PREPARATION FOR NEW FINISHES.

8. ALL FIXTURES, WALLS AND PORTIONS OF WALLS SHOWN AS DASHED LINES OR LABELED SHALL BE DEMOLISHED UNLESS ELEMENTS REMOVED OR REPLACED. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING AND IS RESPONSIBLE FOR ANY FAILURE DUE TO LACK OF PROPER BRACING.

9. DURING THE BIDDING PROCESS, CONTRACTORS SHALL TAKE NOTE OF EXISTING PLUMBING MECHANICAL, AND ELECTRICAL ITEMS IN AREAS TO BE RENOVATED. ITEMS INCLUDE BUT ARE NOT LIMITED TO WIRES, CONDUITS, PIPES, THERMOSTATS, FIRE ALARM DEVICES, PANEL CANS, ETC. THESE HAVE BEEN IDENTIFIED IN THE DEMOLITION DRAWINGS FOR ARCHITETURE, PLUMBING, MECHANICAL, AND/OR ELECTRICAL. FOR ITEMS NOT SHOWN, CONTRACTOR SHALL WORK WITH THE ARCHITECT AND OWNER TO DETERMINE IF THE ITEM IS STILL IN USE ITEMS WHICH ARE NOTED TO BE REMOVED AND STORED FOR LATER REINSTALLATION SHALL BE TAGGED AND LISTED ON AN ITEMIZED LIST GIVEN TO THE OWNER AND ARCHITECT.

10. THE GENERAL CONTRACTOR SHALL COORDINATE THE DEMOLITION OF THE EXISTING BUILDING AREAS WITH THE ARCHITECT AND OWNER. THE CONTRACTOR SHALL COORDINATE AFTER HOURS WORK AND OBTAIN WRITTEN OWNER PERMISSION FOR NIGHT AND WEEKEND WORK.

11. CONTRACTOR SHALL ENSURE WATER-TIGHT INTEGRITY OF THE TEMPORARY ENCLOSURE SYSTEMS AND MAINTAIN THEM THROUGH THE ENTIRETY OF CONSTRUCTION TO PREVENT THE INTRUSION OF WATER AND THE ELEMENTS INTO THE BUILDING.

12. ALL EXISTING FIRE EXTINGUISHER AND BRACKETS SHALL REMAIN AND BE INSTALLED IN THEIR CURRENT LOCATION UNLESS SHOWN ON THE PLANS TO RELOCATE.

13. CONTRACTOR SHALL PATCH AND FILL IN ANY VOIDS LEFT FROM THE DEMOLITION OF ANY PLUMBING, MECHANICAL, OR ELECTRICAL ITEMS. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR COMPLETE SCOPE OF DEMOLITION.

DEMOLITION SPECIFIC AREA NOTES:

7	REMOVE EXISTING CEILING TILE, GRID, HANGERS AND ASSOCIATED PARTS IN ITS ENTIRETY, INCLUDING SECONDARY CEILING WHERE APPLICABLE. PREP AREA TO RECIEVE NEW CEILING.
10	REMOVE EXISTING WINDOW, GLAZING, FRAME AND ITS ASSOCIATED PARTS IN ITS ENTIRETY. PREP EXISTING WALL TO BE INFILLED WITH STUD WALL.
13	REMOVE ALL EXISTING LIGHTING FIXTURES, CEILING FANS, AND ALL ASSOCIATED PARTS IN ITS ENTIRETY, INCLUDING BUT NOT LIMITED TO CONNECTING CONDUIT. RETURN CEILING FANS TO OWNER . REFER TO ELECTRICAL FOR COMPLETE SCOPE OF DEMOLITION. REFER TO GENERAL DEMO NOTES FOR REQUIREMENTS ON BULB AND BALLAST DISPOSAL.

DEMOLITION LEGEND:

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
#	DEMOLITION KEYED NOTE	- - - - - -	EXISTING TO BE REMOVED DURING DEMOLITION
————	EXISTING TO REMAIN		

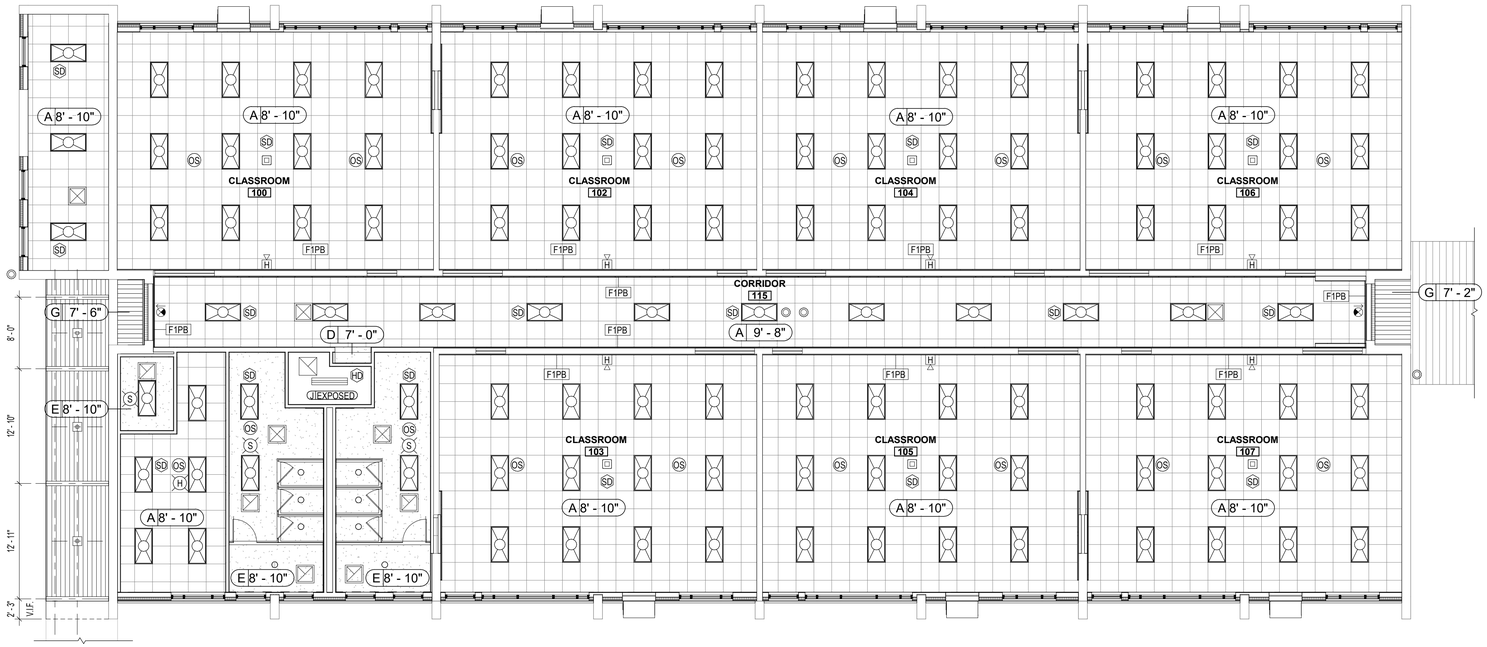
REFLECTED CEILING LEGEND AND NOTES

CEILING TYPE
A 10'-0" — CEILING HEIGHT

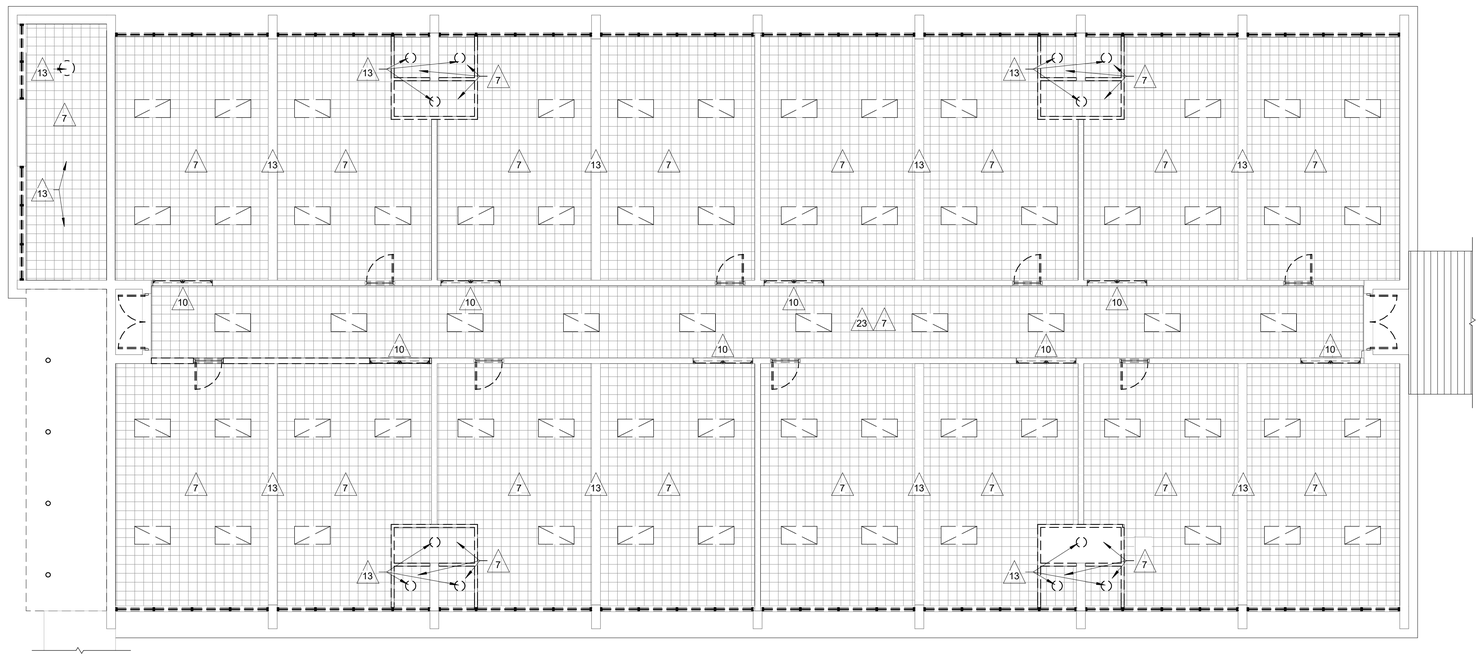
SYMBOL	TYPE	DESCRIPTION
	A	ACT-1, 2x2 CEILING TILE, WHITE FINISH
	B	NOT USED
	C	NOT USED
	D	GYPSUM WALLBOARD CEILING SYSTEM
	E	MOISTURE RESISTANT GYP WALLBOARD
	F	NOT USED
	G	METAL SOFFIT PANEL - PERFORATED
	H	NOT USED
	J	EXPOSED

SYMBOL	DESCRIPTION
	2 X 4 LED FIXTURE
	CAN STYLE FIXTURE
	EXHAUST AIR GRILLE
	SUPPLY AIR DIFFUSER
	HANGING LED FIXTURE
OS	OCCUPANCY SENSOR
	WIRELESS ACCESS POINT
	EXIT SIGN - CEILING MOUNTED
	CAMERA
SD HD	CEILING MOUNTED SMOKE/HEAT DETECTOR
S	FIRE ALARM WITH STROBE ONLY
H	FIRE ALARM WITH HORN AND STROBE
H	WALL MOUNTED FIRE ALARM WITH HORN AND STROBE

1. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR COMPLETE SCOPE OF CEILING PENETRATIONS AND FIXUTRES.
2. REFER TO PROJECT SPECIFICATIONS FOR COMPLETE DESCRIPTION OF CEILING MATERIAL



2 / A9-02 1ST FLOOR REFLECTED CEILING PLAN - ALT 2
1/8" = 1'-0"



1 / A9-02 DEMO FIRST FLOOR REFLECTED CEILING PLAN - ALT 2
1/8" = 1'-0"

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REFLECTED CEILING PLANS (ALTERNATE 2)

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A9-02

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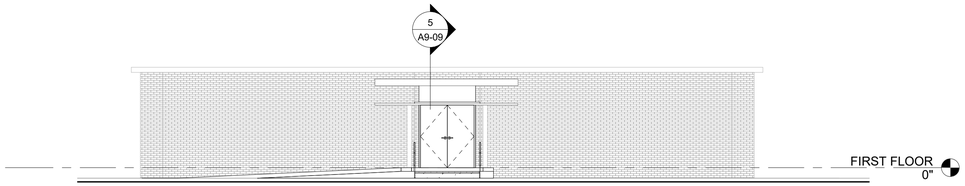
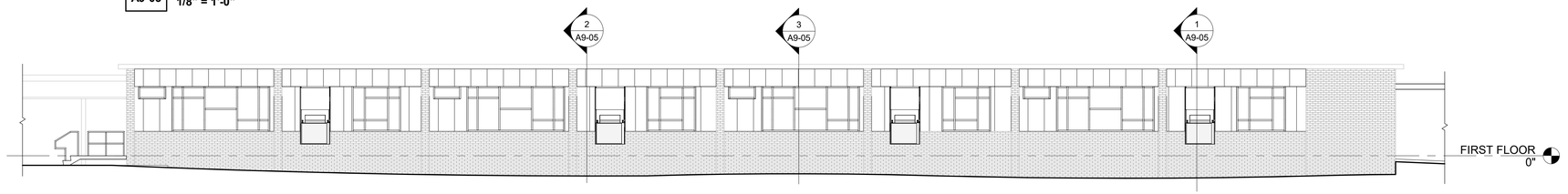
NOTES:

1. ALL INTERIOR WALL TYPES TO BE 'S4UA' UNLESS OTHERWISE NOTED.
2. WALL DIMENSIONS ARE TO FACE OF METAL STUD, FACE OF CONCRETE MASONRY UNIT (CMU), OR CENTERLINE OF COLUMN.
3. ALL METAL STUD WALLS TERMINATING AT BOTTOM OF DECK ARE TO PROVIDE A DEFLECTION TRACK SECURED TO THE UNDERSIDE OF THE DECKING, NEST TOP TRACK BUT DO NOT ATTACH TO DEFLECTION TRACK. FILL FLUTE IN METAL DECK WHERE REQUIRED.
4. ALL WALLS EXTEND TO DECK AND ARE BRACED TO DECK AT HEAD ON ALTERNATE STUDS OR 32" OC FOR CMU WALLS, UNLESS OTHERWISE NOTED.
5. CONTROL JOINTS SHALL BE AS SHOWN ON PLANS AND ELEVATIONS OR SPACED AT A MINIMUM OF 20'-0" OC AND A MAXIMUM OF 32'-0" OC WITH ONE CONTROL JOINT LOCATED WITHIN 3'-4" OF ANY CORNER. FOR INTERIOR GYPSUM WALL CONTROL JOINTS SEE DETAIL
6. SEE FINISH SCHEDULE FOR WALL, FLOOR, BASE, AND CEILING TYPES AND FINISHES.
7. REFER TO STRUCTURAL DRAWINGS FOR LOCATION OF REINFORCING, BOND BEAMS, BRACING, ETC.
8. ALL EXTERIOR SIDEWALKS SHALL SLOPE AWAY FROM THE BUILDING AT 1/4" PER FOOT, MINIMUM.
9. ALL EXTERIOR WINDOWS TO HAVE ROLLER SHADE BLINDS UNLESS OTHERWISE NOTED, REFER TO SPECIFICATIONS.
10. FURNITURE AND EQUIPMENT SHOWN DASHED ON PLANS IS NOT IN CONTRACT (NIC). GC TO PROVIDE WOOD BLOCKING FOR ALL WALL/CEILING MOUNTED ACCESSORIES.
11. FIELD VERIFY FINAL ROOM DIMENSIONS PRIOR TO CASEWORK FABRICATION.
12. NOT USED
13. ALL CERAMIC TILE TO HAVE CONTROL JOINTS THAT ALIGN WITH CONTROL JOINTS IN CONCRETE SLAB.
14. THERE SHALL BE NO PENETRATIONS IN THROUGH WALL FLASHING.
15. DOOR JAMB FROM INTERSECTING WALLS: STUD - 4" UNLESS OTHERWISE NOTED



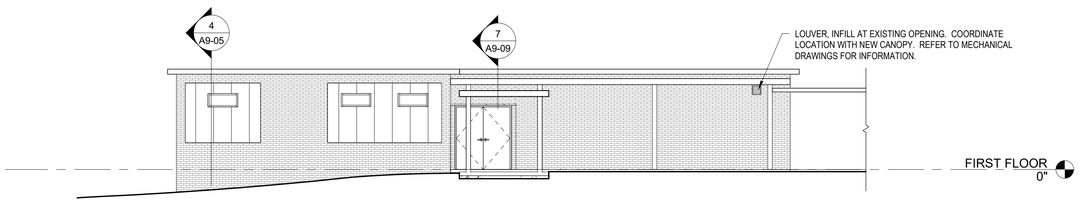
4 A9-03 EAST ELEVATION - ALT 2

1/8" = 1'-0"



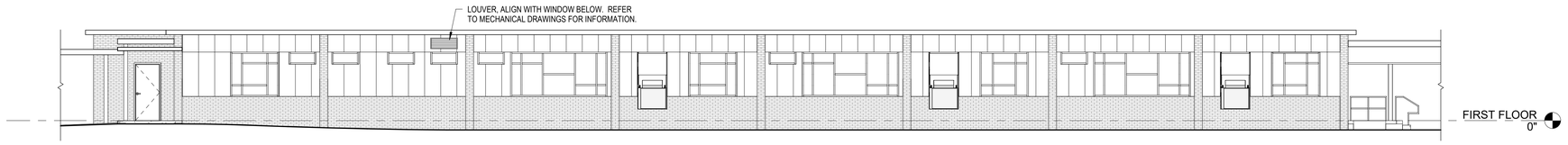
3 A9-03 NORTH ELEVATION - ALT 2

1/8" = 1'-0"



2 A9-03 WEST ELEVATION - ALT 2

1/8" = 1'-0"



1 A9-03 SOUTH ELEVATION - ALT 2

1/8" = 1'-0"

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EXTERIOR BUILDING ELEVATIONS (ALTERNATE 2)

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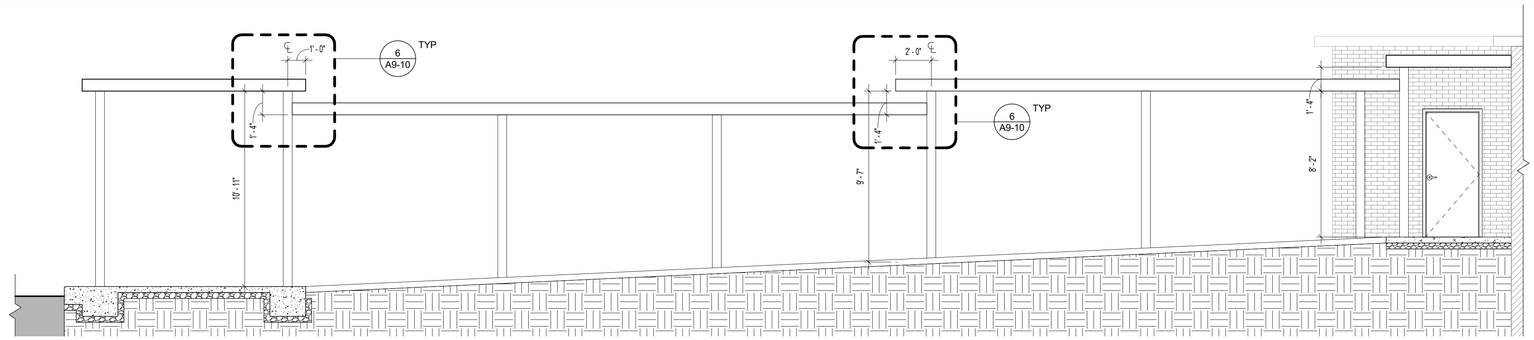
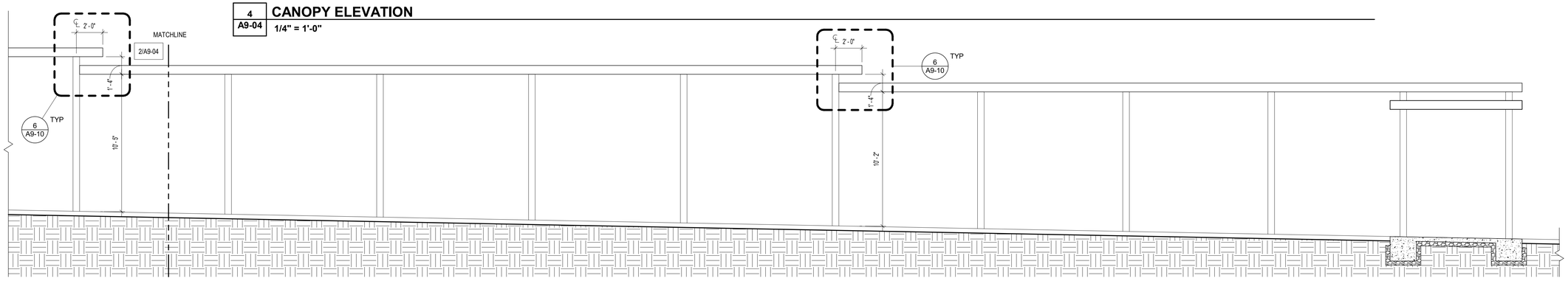
A9-03



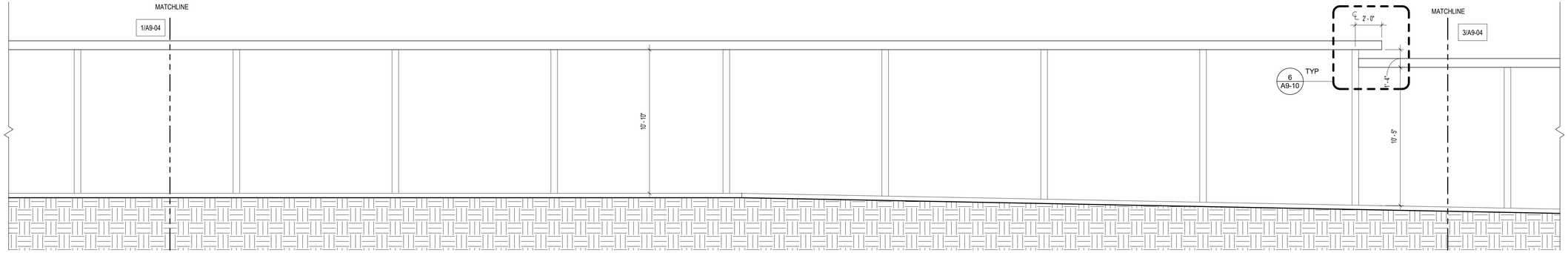
4 A9-04 **CANOPY ELEVATION**

1/4" = 1'-0"



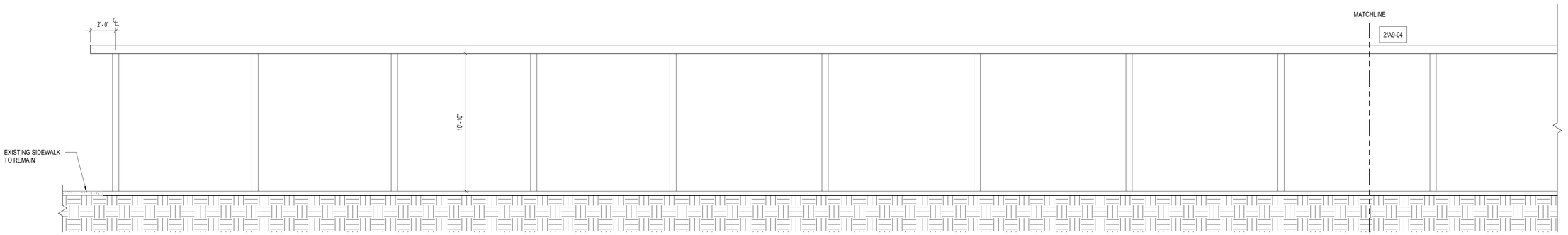
3 A9-04 **CANOPY ELEVATION**

1/4" = 1'-0"



2 A9-04 **CANOPY ELEVATION**

1/4" = 1'-0"



1 A9-04 **CANOPY ELEVATION**

1/4" = 1'-0"

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EXTERIOR CANOPY ELEVATIONS (ALTERNATE 3)

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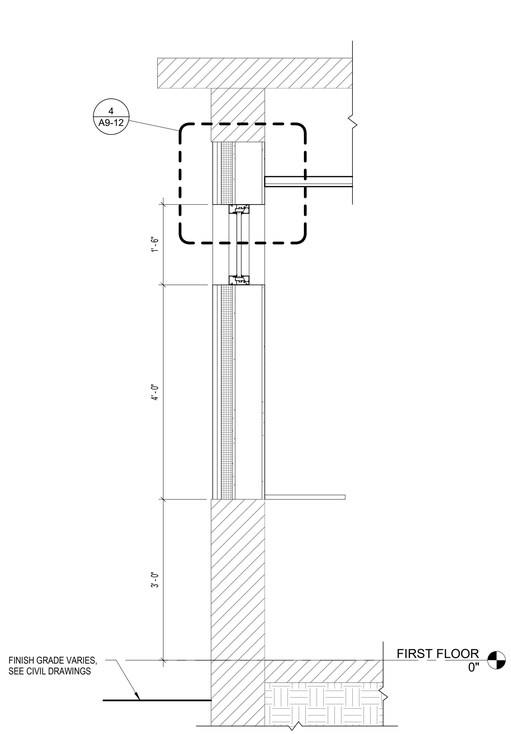
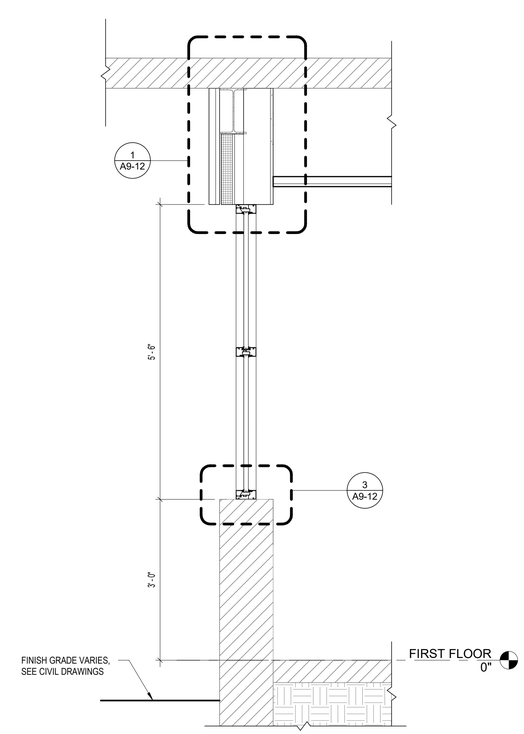
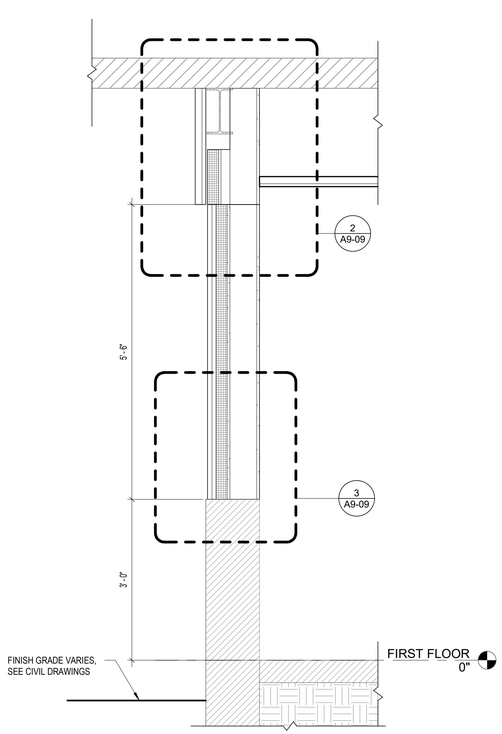
A9-04



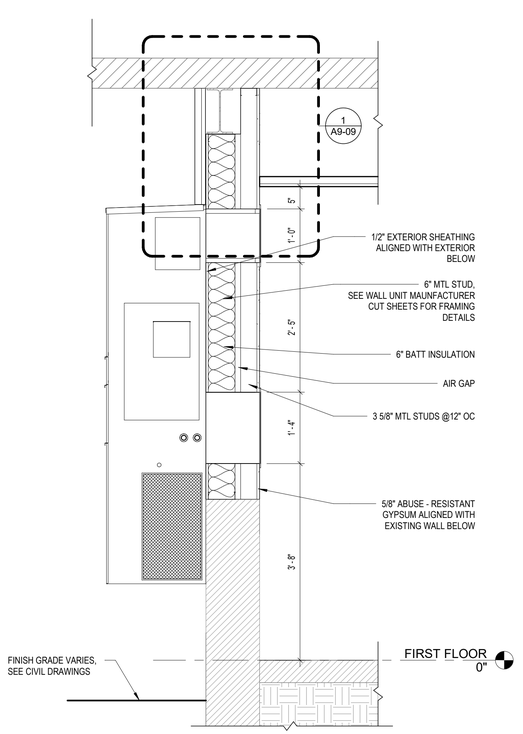
4 A9-05 EXT. RECESSED WALL SECTION
3/4" = 1'-0"



3 A9-05 EXT. WINDOW SECTION
3/4" = 1'-0"



2 A9-05 EXTERIOR WALL SECTION
3/4" = 1'-0"



1 A9-05 EXT. WALL BARD UNIT SECTION
3/4" = 1'-0"

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WALL SECTIONS (ALTERNATE 2)

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A9-05

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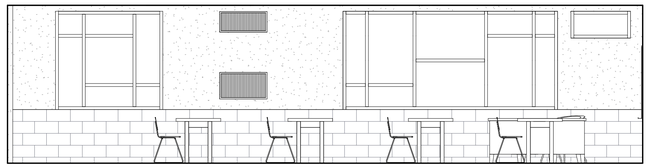
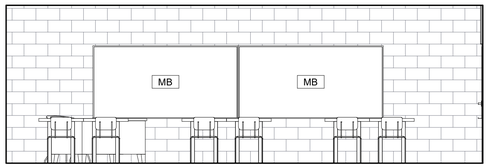


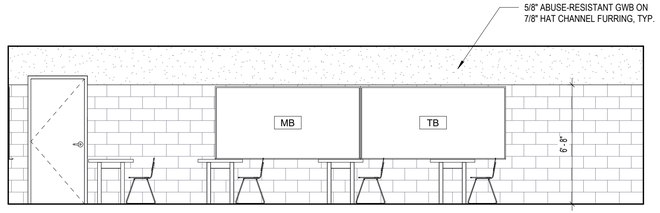
8 A9-06 **INTERIOR CLASSROOM ELEVATION**

1/4" = 1'-0"



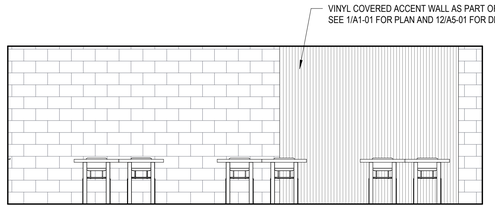
7 A9-06 **INTERIOR CLASSROOM ELEVATION**

1/4" = 1'-0"



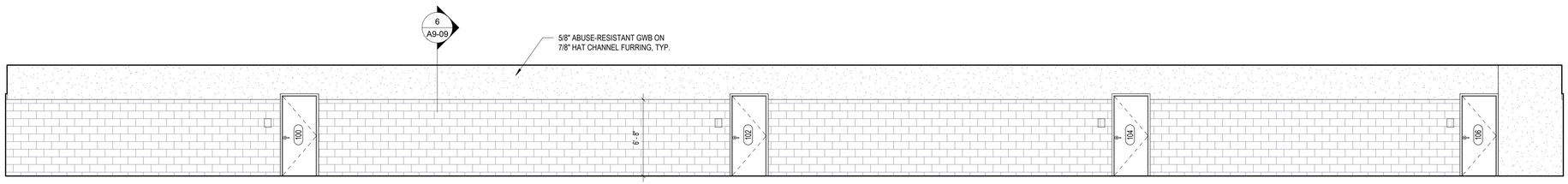
6 A9-06 **INTERIOR CLASSROOM ELEVATION**

1/4" = 1'-0"



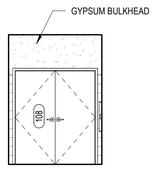
5 A9-06 **INTERIOR CLASSROOM ELEVATION**

1/4" = 1'-0"



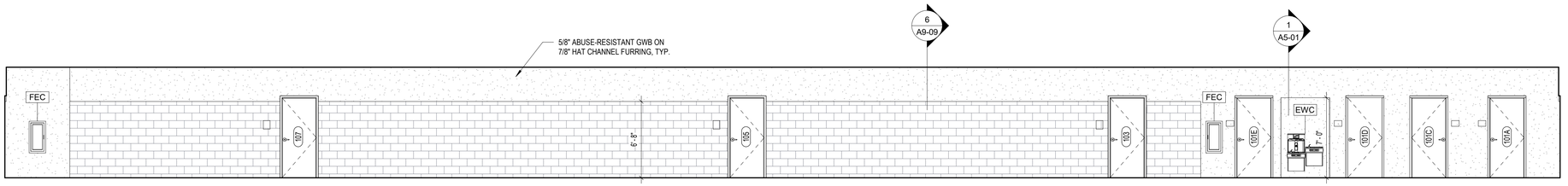
4 A9-06 **CORRIDOR - NORTH**

3/16" = 1'-0"



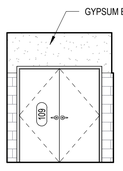
3 A9-06 **CORRIDOR - EAST**

3/16" = 1'-0"



2 A9-06 **CORRIDOR - SOUTH**

3/16" = 1'-0"



1 A9-06 **CORRIDOR - WEST**

3/16" = 1'-0"

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INTERIOR ELEVATIONS (ALTERNATE 2)

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A9-06

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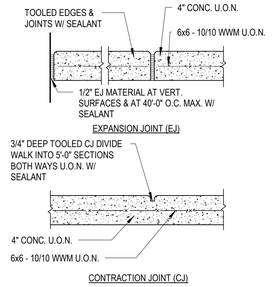
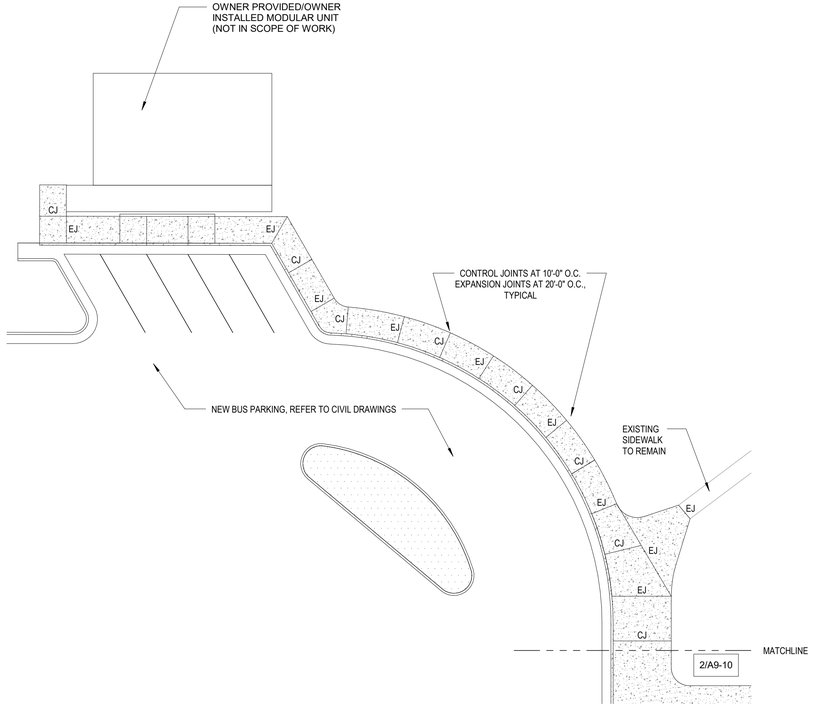
SIDEWALK/PAVING NOTES:

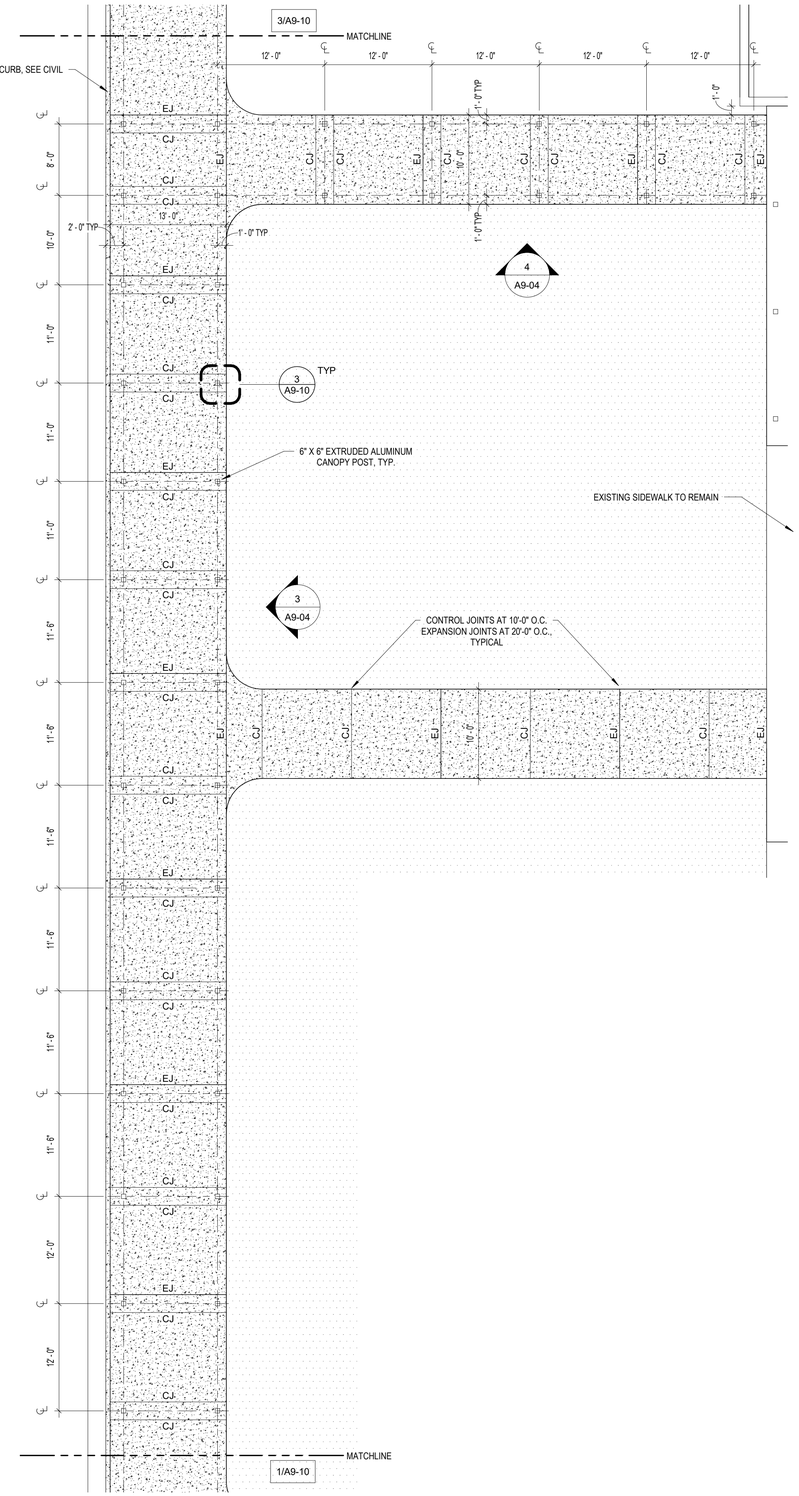
1. ALL CONCRETE SIDEWALKS TO BE MINIMUM 4" THICK WITH WWF AT ALL LOCATIONS, U.O.N.
2. CONTROLS JOINTS AT 10'-0" O.C., TYPICAL, U.O.N.
3. EXPANSION JOINTS AT 20'-0" O.C., TYPICAL, U.O.N.
4. NEW CONCRETE SIDEWALKS IN THE AREA TO MATCH EXISTING SIDEWALK DIMENSIONS WHERE THEY MEET, TYPICAL, U.O.N.
5. SIDEWALK AT THE WEST BUILDING EXIT SHALL BE PLACED 1/4" BELOW DOOR THRESHOLD AND SLOPE 1/4" PER FOOT AWAY FROM THE DOOR UP TO THE EXISTING SIDEWALK, WHERE SIDEWALKS SHALL MEET IN A FLUSH CONDITION.
6. SIDEWALK AT THE EAST BUILDING EXIT SHALL BE PLACED 1/4" BELOW DOOR THRESHOLD AND SLOPE 1/4" PER FOOT AWAY FROM THE DOOR UP TO THE SLOPED SIDEWALK, WHERE SIDEWALKS SHALL MEET IN A FLUSH CONDITION.



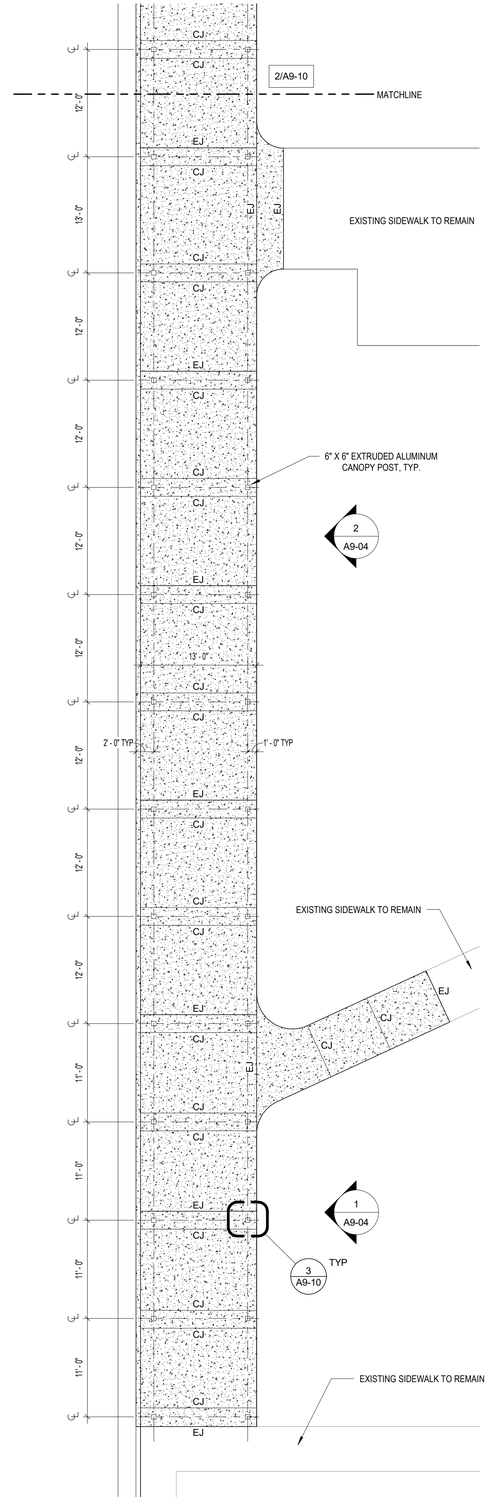
4 / A9-07 TYPICAL SIDEWALK
1 1/2" = 1'-0"



3 / A9-07 CANOPY AND SIDEWALK PLAN (ALTERNATE 3)
1/16" = 1'-0"



2 / A9-07 CANOPY AND SIDEWALK PLAN (ALTERNATE 3)
1/8" = 1'-0"



1 / A9-07 CANOPY AND SIDEWALK PLAN (ALTERNATE 3)
1/8" = 1'-0"

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SMITH SINNETT ARCHITECTURE, PA CERT. NO. 50172 RALEIGH NORTH CAROLINA

CHARLES WHITMAN TENNANT REGISTERED ARCHITECT 13798 NORTH CAROLINA RALEIGH

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ENLARGED SITE PLANS (ALTERNATE 3)

2022017 20 Feb 2023

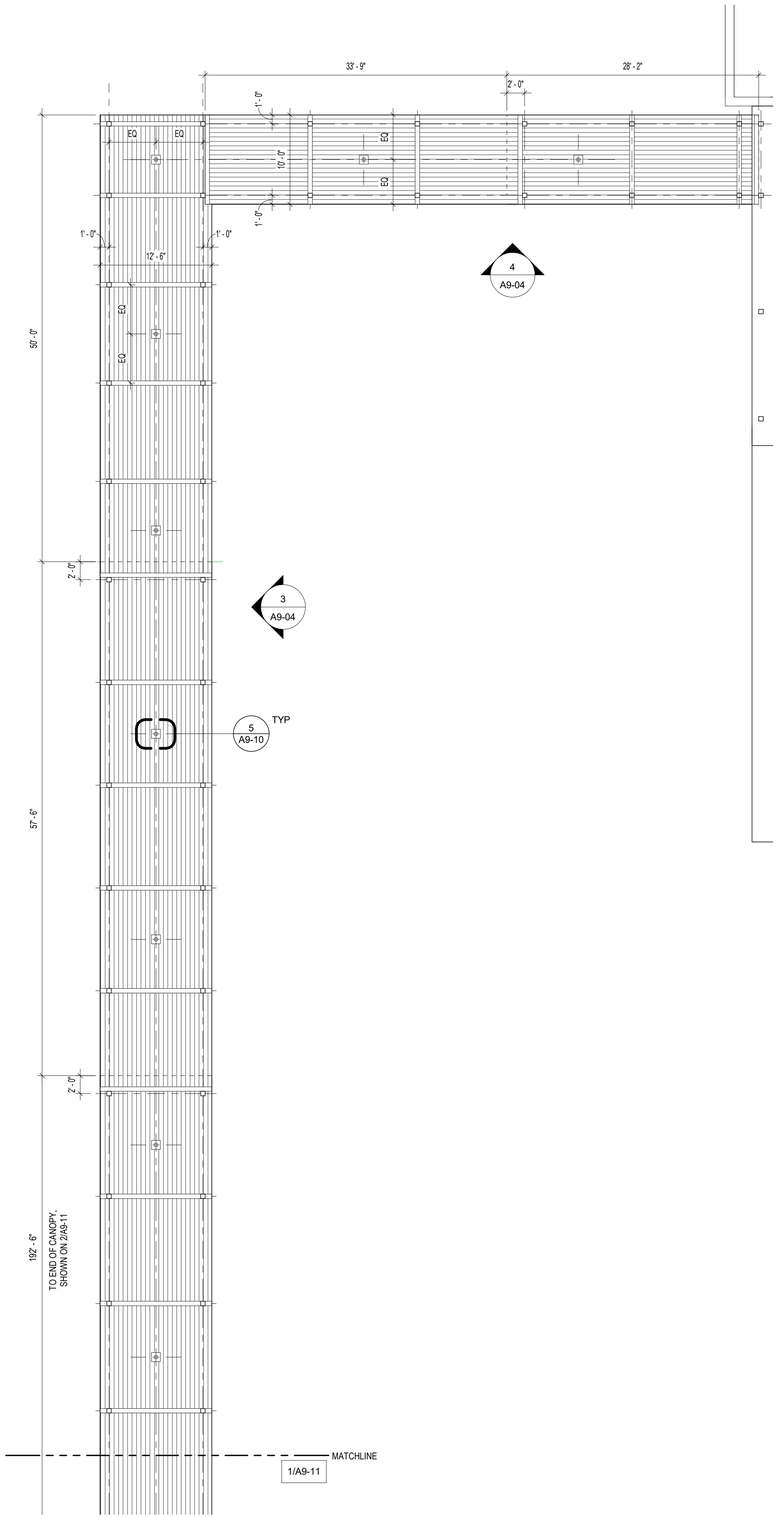
A9-07

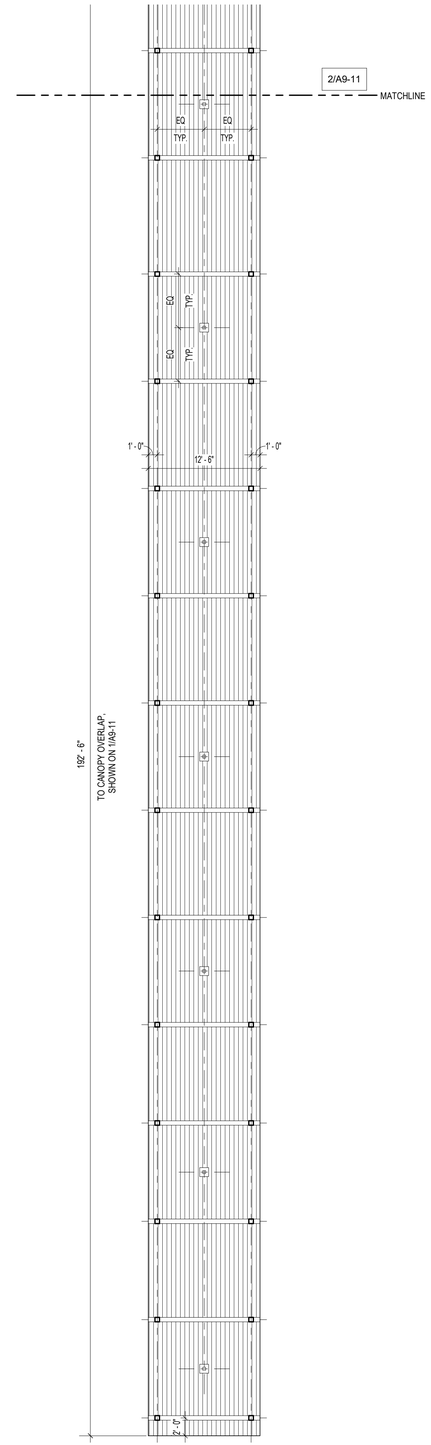
REFLECTED CEILING LEGEND AND NOTES

CEILING TYPE
A 10'-0" — CEILING HEIGHT

SYMBOL	DESCRIPTION
	EXTRUDED ALUMINUM DECK
⊡	SURFACE MOUNTED FIXTURE

1. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR COMPLETE SCOPE OF CEILING PENETRATIONS AND FIXUTRES.
2. REFER TO PROJECT SPECIFICATIONS FOR COMPLETE DESCRIPTION OF CEILING MATERIAL





2 A9-08 CANOPY LIGHTING PLAN (ALTERNATE 3)
1/8" = 1'-0"

1 A9-08 CANOPY LIGHTING PLAN (ALTERNATE 3)
1/8" = 1'-0"

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REGISTERED ARCHITECT — CHARLES WHITMAN TENNANT — 13798 — NORTH CAROLINA — RALEIGH

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ENLARGED SITE PLANS - CANOPY LIGHTING (ALTERNATE 3)

2022017 — 20 Feb 2023

A9-08

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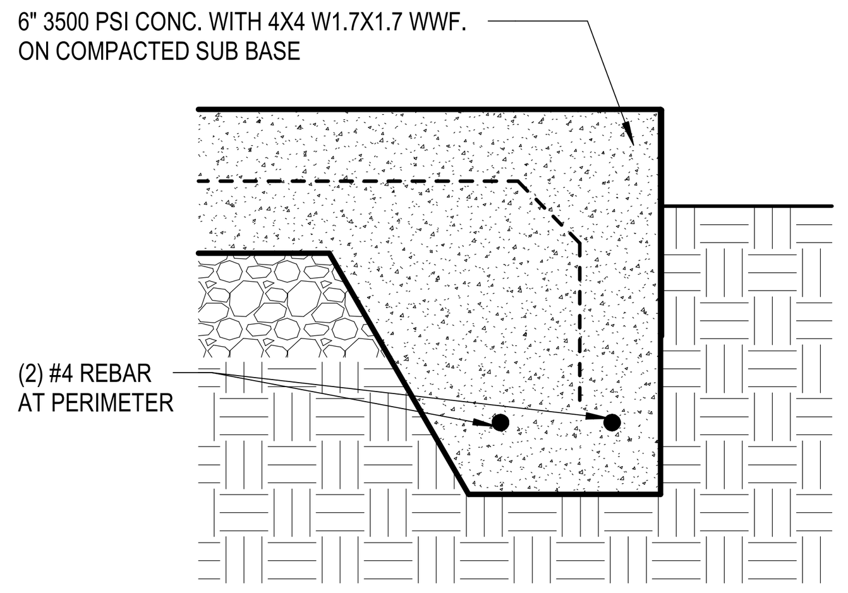
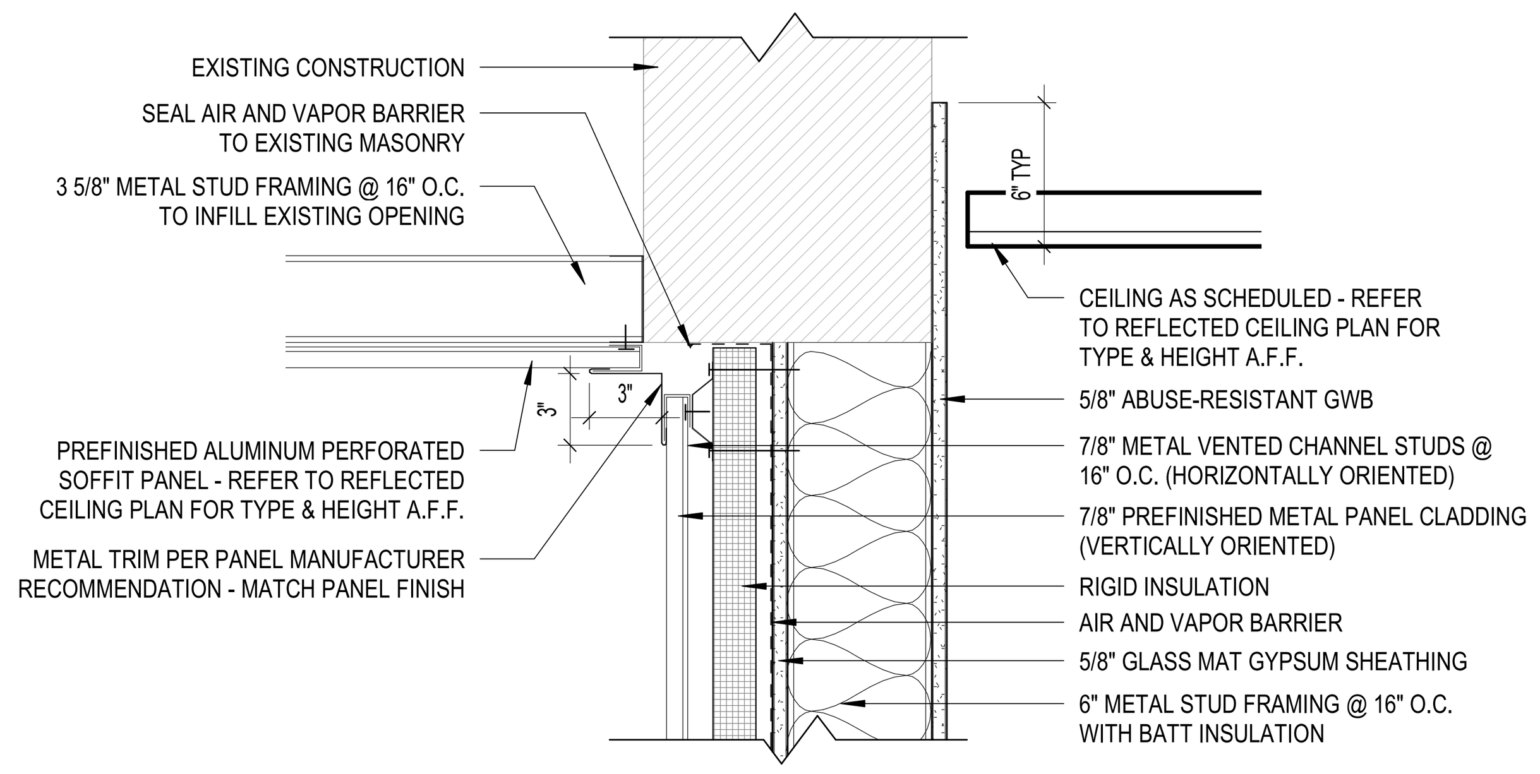
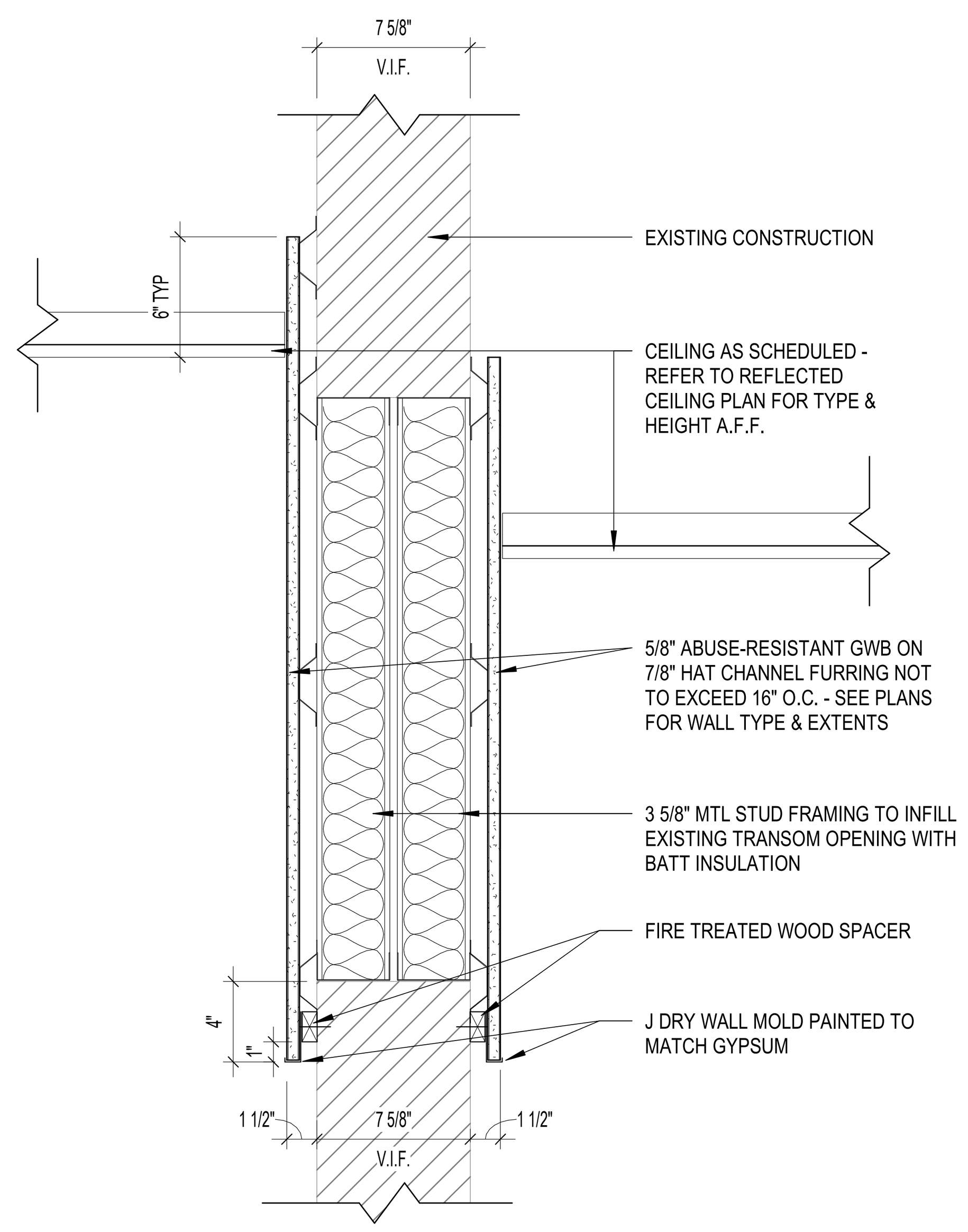


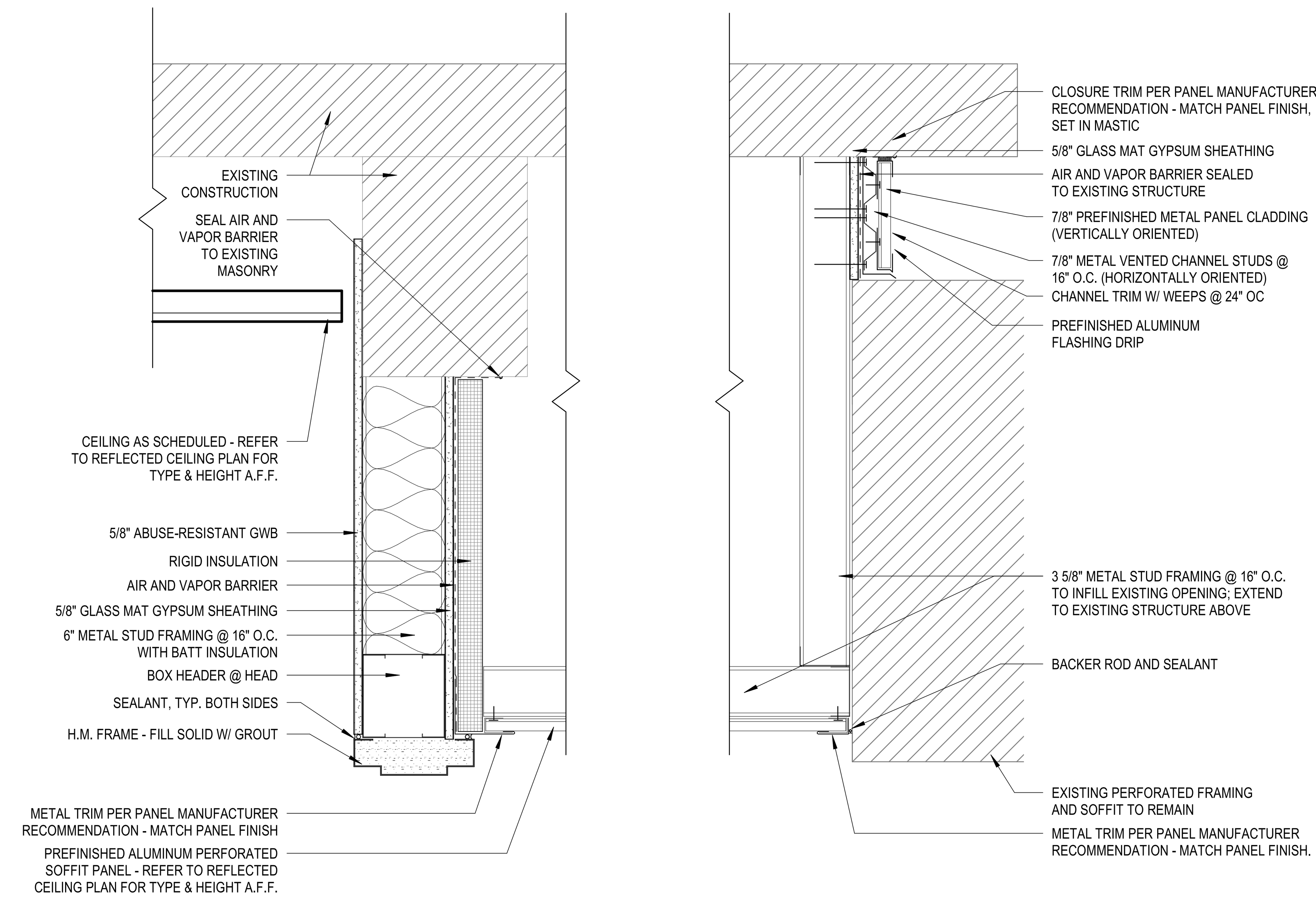
8 | A9-09
TYPICAL SECTION @ CONCRETE PAD
1 1/2" = 1'-0"



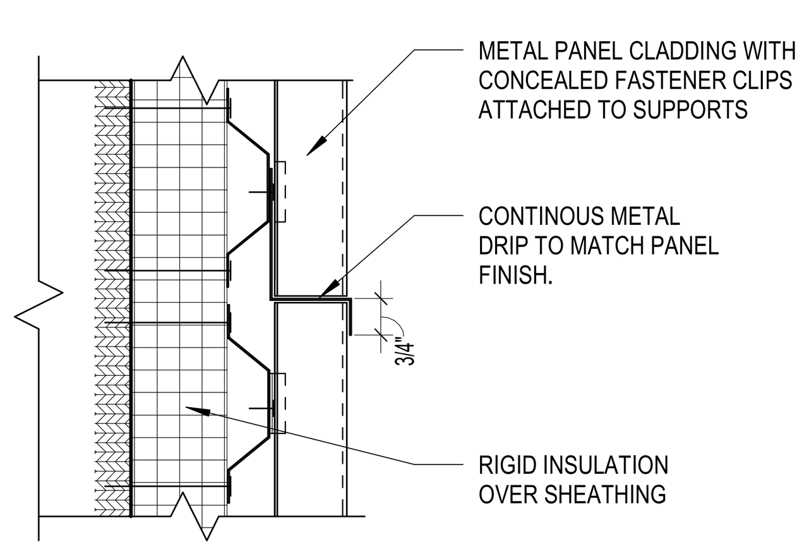
7 | A9-09
WEST EXTERIOR DOOR SECTION
1 1/2" = 1'-0"



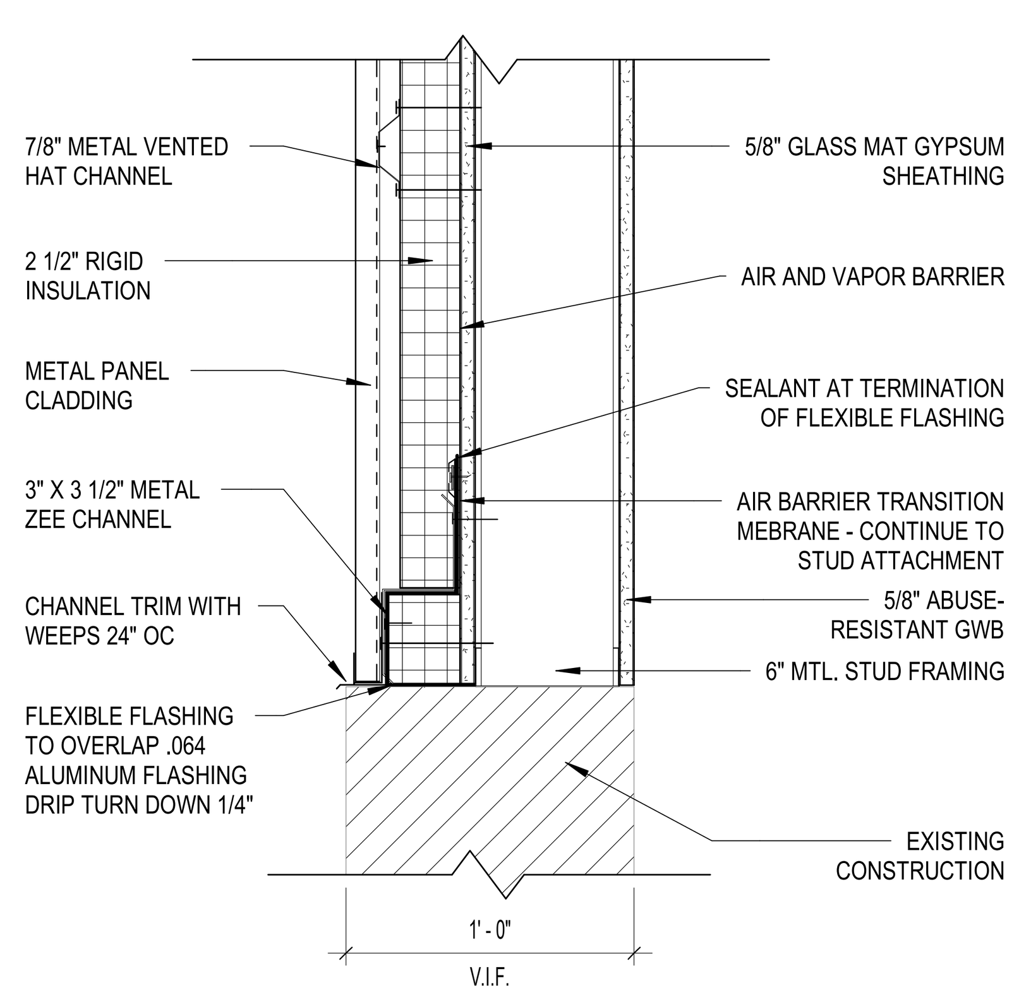
6 | A9-09
TYPICAL CORRIDOR INFILL
1 1/2" = 1'-0"



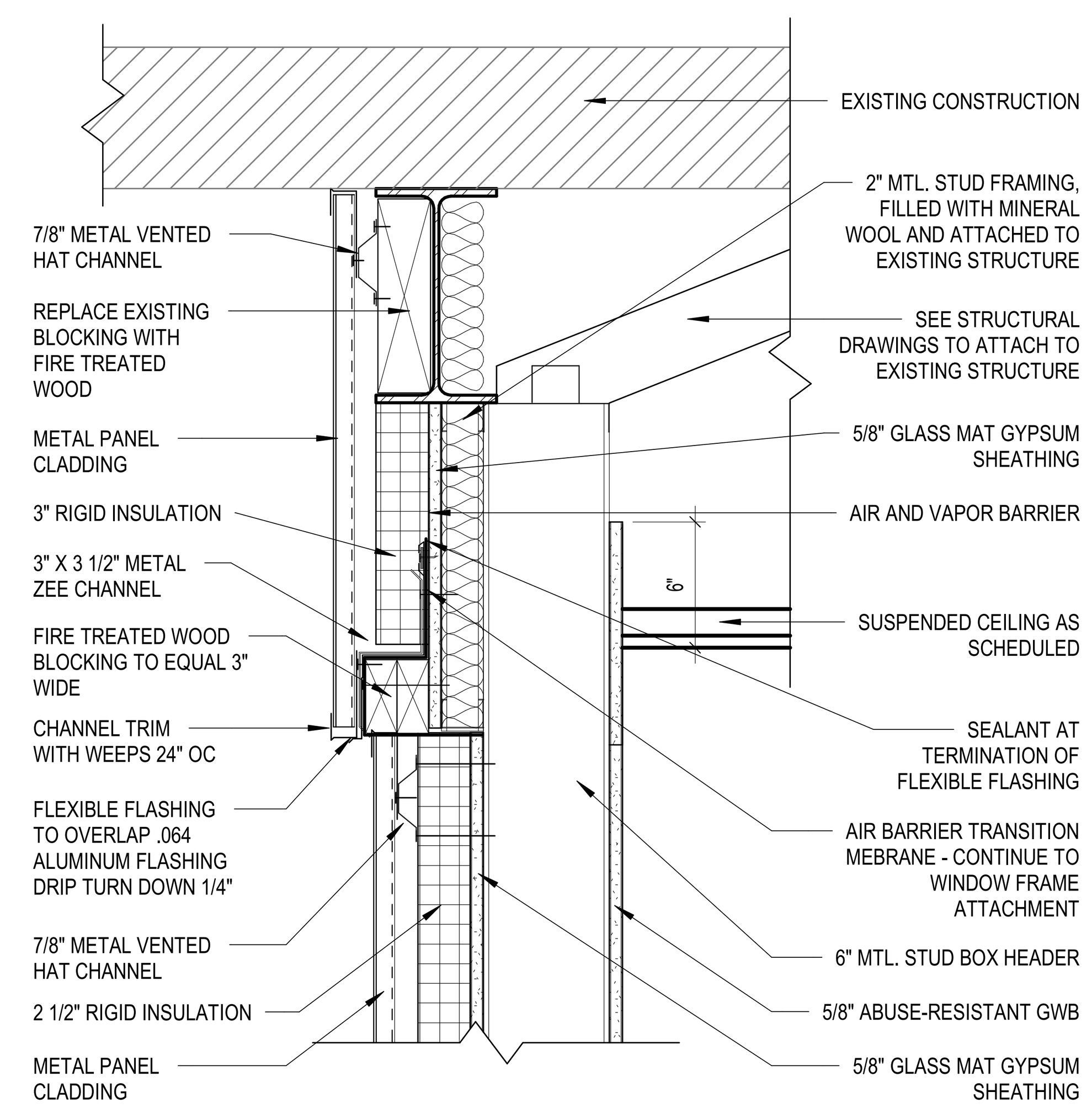
5 | A9-09
EAST EXTERIOR DOOR SECTION
1 1/2" = 1'-0"



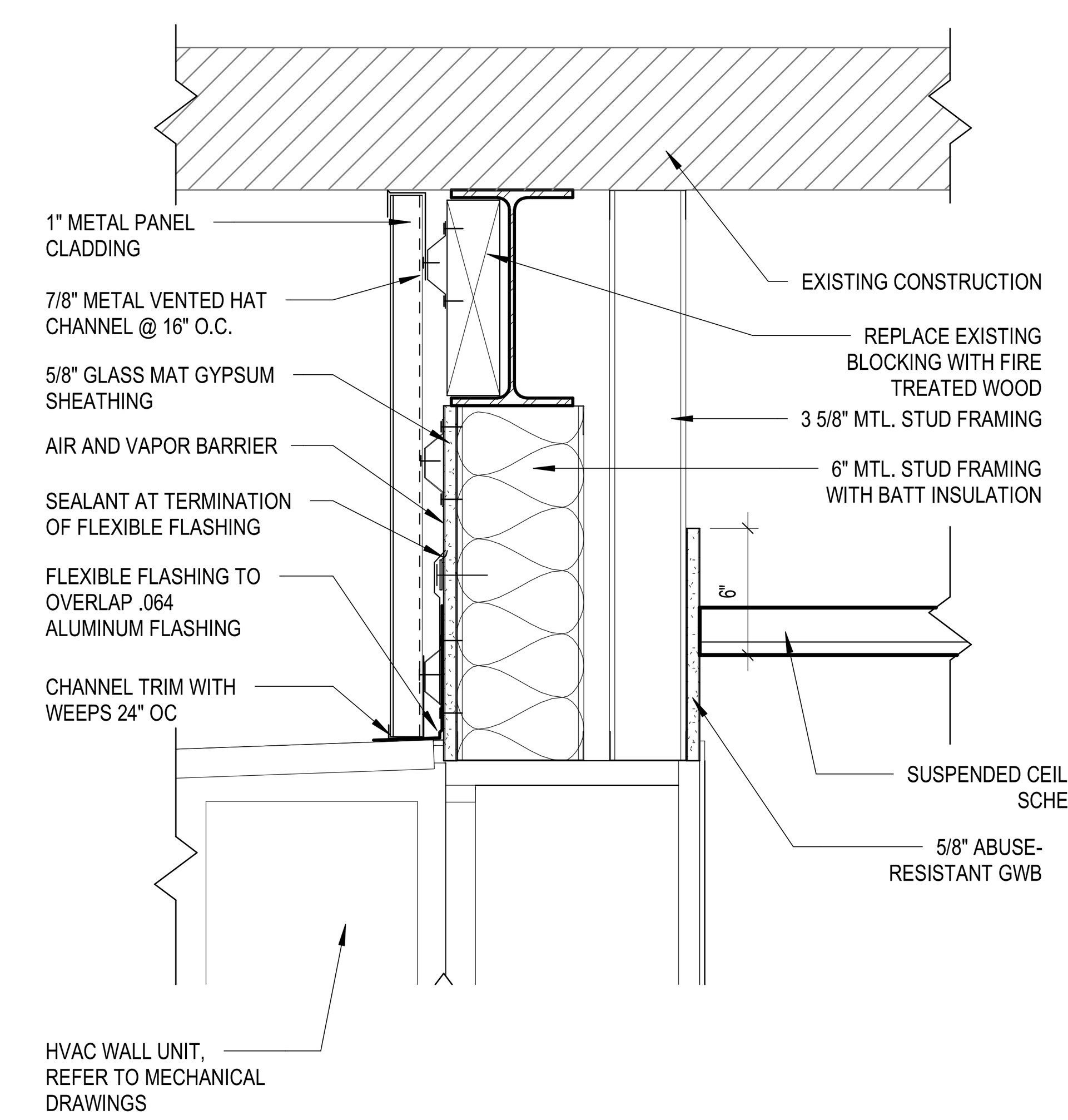
4 | A9-09
MTL PANEL - HORZ. ACCENT
3" = 1'-0"



3 | A9-09
EXT. WALL - NEW TO EXISTING CONNECTION
1 1/2" = 1'-0"



2 | A9-09
EXT. WALL - STACKED WALL CONNECTION
1 1/2" = 1'-0"



1 | A9-09
EXT. WALL DETAIL @ HVAC WALL UNIT
1 1/2" = 1'-0"

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DETAILS (ALTERNATE 2)

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A9-09

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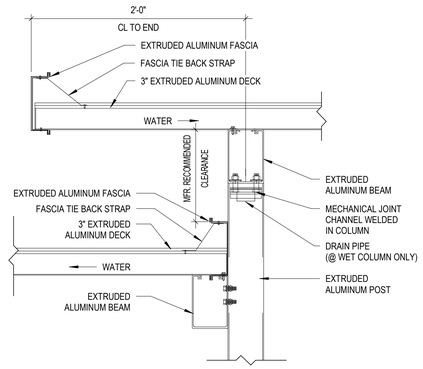
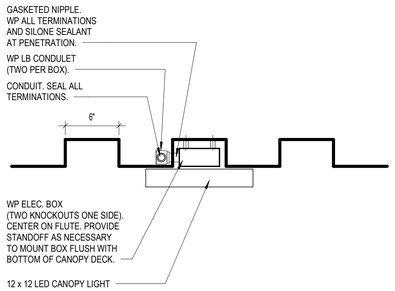
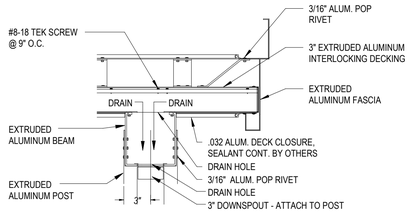


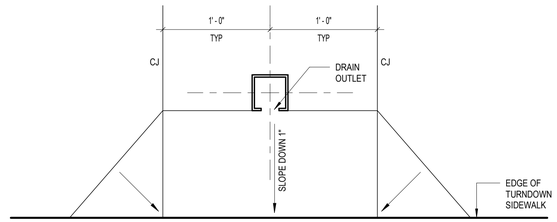
6 / A9-10 — TYPICAL CANOPY STEP DETAIL
1 1/2" = 1'-0"



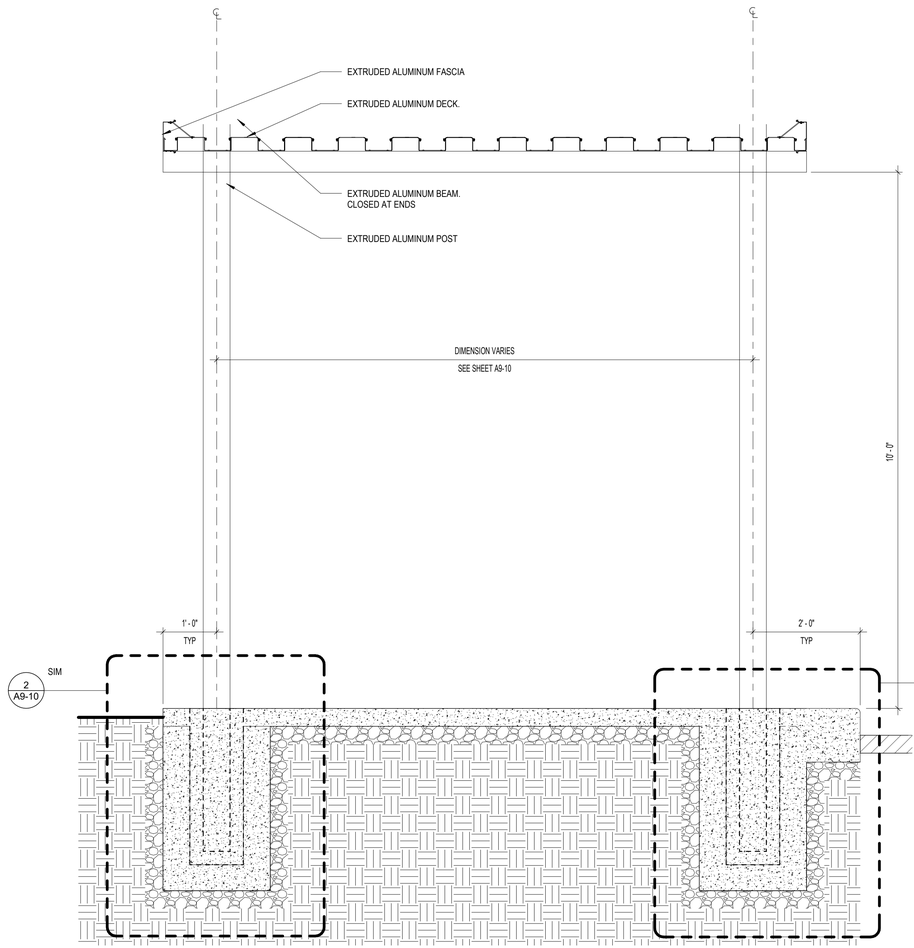
5 / A9-10 — TYPICAL CANOPY LIGHT DETAIL
1 1/2" = 1'-0"



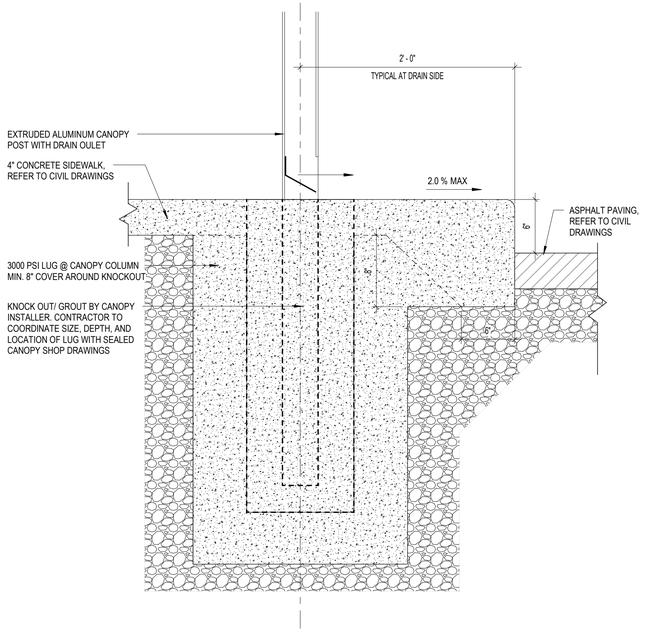
4 / A9-10 — CANOPY EDGE DETAIL
1 1/2" = 1'-0"



3 / A9-10 — TYPICAL PLAN DETAIL - CANOPY DRAIN
1 1/2" = 1'-0"



1 / A9-10 — TYPICAL FREE STANDING CANOPY SECTION (ALTERNATE 2)
3/4" = 1'-0"



2 / A9-10 — SECTION AT CANOPY DRAIN (ALTERNATE) 2
1 1/2" = 1'-0"

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CHARLES WHITMAN TENNANT REGISTERED ARCHITECT 13798 NORTH CAROLINA RALEIGH
4/27/23

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DETAILS - CANOPY (ALTERNATE 3)

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A9-10

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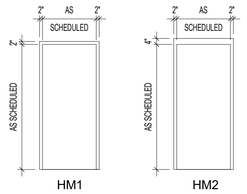
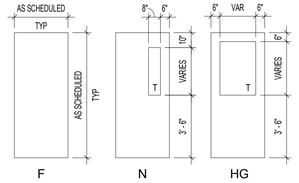


FRAME TYPES - ALT 2

1/4" = 1'-0"

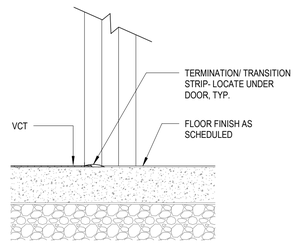


DOOR TYPES - ALT 2

1/4" = 1'-0"

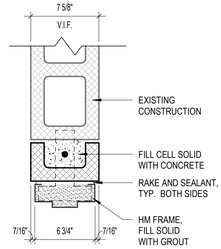
DOOR SCHEDULE - ALT 2

DOOR							FRAME								
	DOOR SIZE								DETAILS						
MARK	WIDTH	HEIGHT	THK	MAT	TYPE	LVS	MAT	TYPE	HEAD	JAMB	THRESH	HARDWARE SET	FIRE RATING	REMARKS	BASE/ALT 2
100	3' - 0"	7' - 0"	1 3/4"	SCWD	N	1	HM	HM1	5/A9-08	6/A9-08	7/A9-08	4	--		ALT 2
102	3' - 0"	7' - 0"	1 3/4"	SCWD	N	1	HM	HM1	5/A9-08	6/A9-08	7/A9-08	4	--		ALT 2
103	3' - 0"	7' - 0"	1 3/4"	SCWD	N	1	HM	HM1	5/A9-08	6/A9-08	7/A9-08	4	--		ALT 2
104	3' - 0"	7' - 0"	1 3/4"	SCWD	N	1	HM	HM1	5/A9-08	6/A9-08	7/A9-08	4	--		ALT 2
105	3' - 0"	7' - 0"	1 3/4"	SCWD	N	1	HM	HM1	5/A9-08	6/A9-08	7/A9-08	4	--		ALT 2
106	3' - 0"	7' - 0"	1 3/4"	SCWD	N	1	HM	HM1	5/A9-08	6/A9-08	7/A9-08	4	--		ALT 2
107	3' - 0"	7' - 0"	1 3/4"	SCWD	N	1	HM	HM1	5/A9-08	6/A9-08	7/A9-08	4	--		ALT 2
108	6' - 0"	7' - 0"	1 3/4"	HM	HG	2	HM	HM1	1/A9-08	2/A9-08	3/A9-08	8	--		ALT 2
109	6' - 0"	7' - 0"	1 3/4"	HM	HG	2	HM	HM1	1/A9-08	2/A9-08	3/A6-08	8	--		ALT 2
110	3' - 0"	7' - 0"	1 3/4"	HM	F	1	HM	HM1	4/A9-08	2/A9-08	3/A6-08	6	--		ALT 2



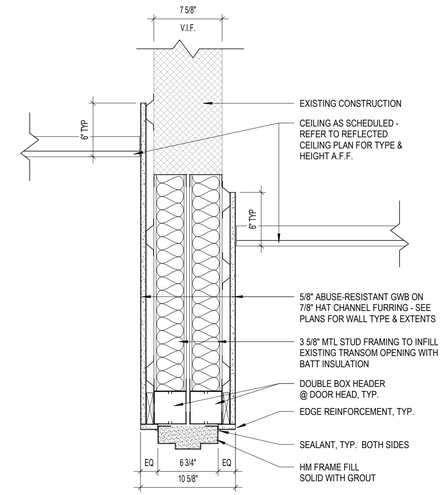
7 A9-11 HM DOOR THRESHOLD AT INTERIOR

1 1/2" = 1'-0"



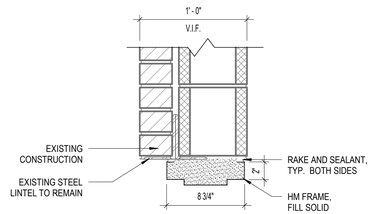
6 A9-11 HM JAMB AT 8" CMU

1 1/2" = 1'-0"



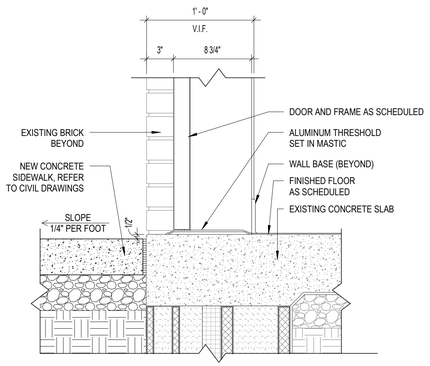
5 A9-11 HM HEAD AT STUD WALL

1 1/2" = 1'-0"



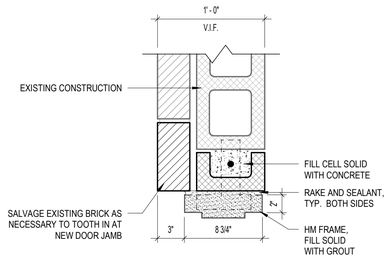
4 A9-11 HM DOOR HEAD AT EXTERIOR STORAGE ROOM

1 1/2" = 1'-0"



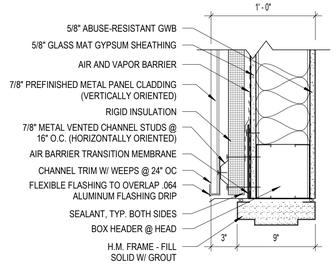
3 A9-11 HM DOOR THRESHOLD AT EXTERIOR

1 1/2" = 1'-0"



2 A9-11 HM DOOR JAMB AT EXTERIOR

1 1/2" = 1'-0"



1 A9-11 HM DOOR HEAD AT EXTERIOR

1 1/2" = 1'-0"

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CHARLES WHITMAN TENNANT REGISTERED ARCHITECT 13798 NORTH CAROLINA RALEIGH, NC 10/27

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DOOR SCHEDULE AND FRAME ELEVATIONS (ALTERNATE 2)

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A9-11

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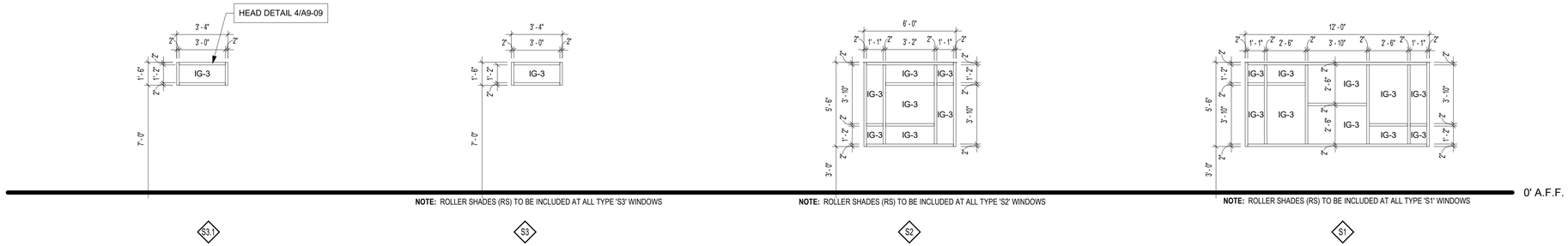


NOTE: ROLLER SHADES (RS) TO BE INCLUDED AT ALL TYPE 'S3' WINDOWS

NOTE: ROLLER SHADES (RS) TO BE INCLUDED AT ALL TYPE 'S2' WINDOWS

NOTE: ROLLER SHADES (RS) TO BE INCLUDED AT ALL TYPE 'S1' WINDOWS

LEGEND:

W__ - HM FRAME DESIGNATION

S__ - ALUMINUM STOREFRONT

GLAZING:

IG: INSULATED GLASS
DP: DOUBLE PANE

IG - 1: CLEAR
IG - 2: CLEAR TEMPERED
IG - 3: TINTED

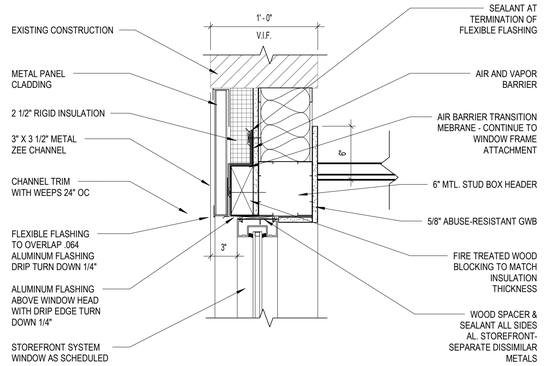
NOTES

FINISH: PAINTED METAL
REFER TO THE FOLLOWING DETAILS U.O.N.

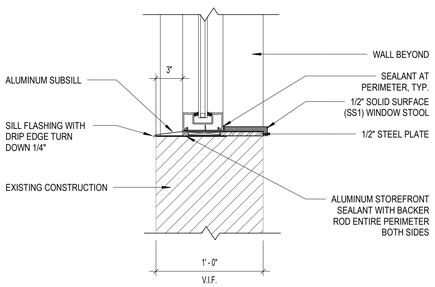
HEAD: 1/A9-09

JAMB: 2/A9-09

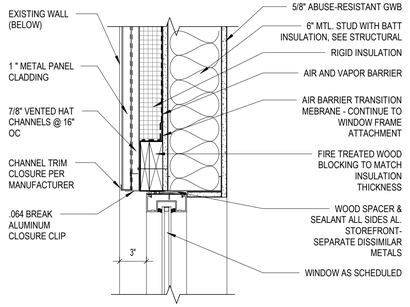
THRESHOLD: 3/A9-09



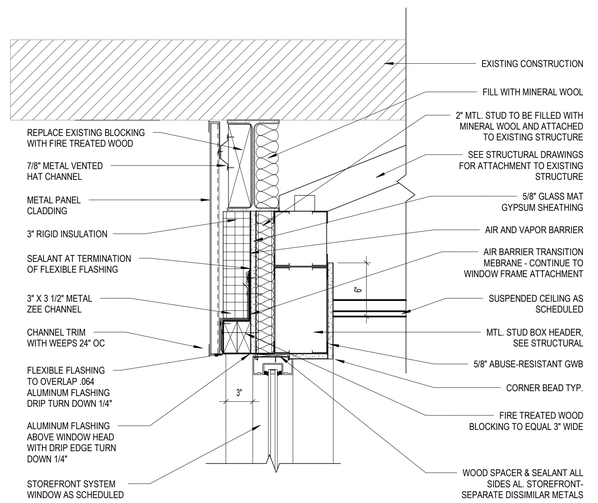
4 / A9-12 TYP. STOREFRONT HEAD @ MTL. PANEL WALL
1 1/2" = 1'-0"



3 / A9-12 TYP. STOREFRONT SILL - @ CMU/BRICK WALL
1 1/2" = 1'-0"



2 / A9-12 TYP. STOREFRONT JAMB
1 1/2" = 1'-0"



1 / A9-12 TYP. STOREFRONT HEAD @ MTL. PANEL WALL
1 1/2" = 1'-0"

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WINDOW AND FRAME ELEVATIONS (ALTERNATE 2)

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A9-12

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FIXTURE SCHEDULE

REFER TO SPECIFICATION SECTION 22 42 00 FOR A LIST OF APPROVED EQUALS

MARK	DESCRIPTION	REMARKS
WC-1	WATER CLOSET (STANDARD) AMERICAN STANDARD MADERA MODEL NO. 2234.001 FLOOR MOUNTED, BOTTOM OUTLET, 1-1/2" TOP SPUD, VITREOUS CHINA, HIGH EFFICIENCY TOILET WITH ELONGATED BOWL, 1.28 GAL/FLUSH SIPHON JET OPERATION, AND BOLTS AND CAPS, WITH SLOAN ROYAL MODEL NO. 111-1.28 FLUSH VALVE, PROVIDE WITH CHURCH PRODUCTS NO. 9500SSCT, EXTRA HEAVY DUTY SOLID PLASTIC, OPEN FRONT, ELONGATED SEAT WITH STAINLESS STEEL POSTS, STAINLESS STEEL SELF-SUSTAINING CHECK HINGES, AND STA-TITE FASTENING NUTS	15" AFF TO RIM
WC-2	WATER CLOSET (ACCESSIBLE) AMERICAN STANDARD MADERA MODEL NO. 3043.001 FLOOR MOUNTED, BOTTOM OUTLET, 1-1/2" TOP SPUD, VITREOUS CHINA, HIGH EFFICIENCY TOILET WITH ELONGATED BOWL, 1.28 GAL/FLUSH SIPHON JET OPERATION, AND BOLTS AND CAPS, WITH SLOAN ROYAL MODEL NO. 111-1.28 FLUSH VALVE, PROVIDE WITH CHURCH PRODUCTS NO. 9500SSCT, EXTRA HEAVY DUTY SOLID PLASTIC, OPEN FRONT, ELONGATED SEAT WITH STAINLESS STEEL POSTS, STAINLESS STEEL SELF-SUSTAINING CHECK HINGES, AND STA-TITE FASTENING NUTS	17" AFF TO RIM COORDINATE VALVE INSTALLATION WITH GRAB BARS PRIOR TO START OF WORK
L-1	LAVATORY (STANDARD) - STUDENT AMERICAN STANDARD REGALYN MODEL NO. 4867.004 ENAMELED CAST IRON, WALL HUNG, 4" CENTERS, 19" x 17" LAVATORY WITH CHICAGO FAUCETS MODEL NO. 3300-ABCP METERING FAUCET, 4" CENTERS, 0.5 GPM VANDAL PROOF NON-AERATING SPRAY, ADJUSTABLE AUTO-TIMED METERING CARTRIDGE, CHROME PLATED SOLID CAST BRASS FAUCET MEETING LOW-LEAD REQUIREMENTS PROVIDE McGUIRE NO. LF170LKC LOOSE-KEY SUPPLIES WITH ESCUTCHEONS, McGUIRE NO. 155A DRAIN AND TAILPIECE WITH PERFORATED STRAINER, AND McGUIRE NO. 8912C P-TRAP AND McGUIRE PROWRAP COVERS ON TRAP AND SUPPLIES. PROVIDE ZURN CARRIER MODEL NO. Z1224 TO FIT INSTALLATION REQUIREMENTS. TAILPIECE ON SUPPLIES SHALL BE COMPATIBLE WITH TAILPIECE ON FAUCET.	31" AFF TO RIM
S-1	SINGLE SINK (ACCESSIBLE) - KITCHENETTE JUST, SINGLE BOWL, MODEL NO. SL-ADA-2131-A-GR, 18 GAUGE, TYPE 304 STAINLESS STEEL SELF-RIMMING, SATIN FINISH, FULLY COATED UNDERSIDE SOUND DEADENED, 21" x 31" x 4 1/2" WITH 16" x 28" BOWLS, 3-HOLE PUNCHED, 4" CENTERS, CENTER BACK OUTLET, PROVIDED WITH INTEGRAL DRAIN/CUP STRAINERS AND TAILPIECE, PROVIDE CHICAGO FAUCETS MODEL NO. 1100-GN8AE35-317AB CAST BRASS FAUCET, 8" RIGID/SWING GOOSENECK SPOUT, 4" WRIST BLADE HANDLES, QUATURN COMPRESSION CARTRIDGES, 1.5 GPM AERATOR, PROVIDE McGUIRE NO. LF170 SUPPLIES WITH ESCUTCHEONS, McGUIRE NO. 151 CRUMB CUP STRAINERS, McGUIRE 8912C P-TRAP, AND McGUIRE 111C16G17 CONTINUOUS WASTE. SUPPLIES SHALL BE COMPATIBLE WITH TAILPIECE ON FAUCET, PROVIDE McGUIRE PLUMBEREX HANDY-SHILED COVERS ON TRAP AND SUPPLIES	SEE ARCHITECTURE DRAWINGS FOR COUNTER HEIGHT
MR-1	MOP RECEPTOR FLORESTONE MODEL 82 36" x 36" x 12" ONE-PIECE PRECAST TERRAZZO MOP RECEPTOR WITH ST STL INTEGRAL CAST PROTECTIVE CAP ON ALL SIDES AND TWO ST STL INTEGRAL CAST TILING FLANGES. DRAIN BODY SHALL BE BRASS, CAST INTEGRAL WITH A NON-CAULKED CONNECTION NOT LESS THAN 1" DEEP TO A 3" PIPE AND 18 GAUGE ST STL STRAINER, FLORESTONE NO. MR-371 SERVICE SINK FAUCET WITH INTEGRAL STOPS, VACUUM BREAKER, SPOUT, AND PAIL HOOK WALL BRACE, AND FLORESTONE NO. MR-370 5'-LONG HOSE AND HOSE BRACKET. PROVIDE FLOOR DRAIN (FD-1) WITH 3" DRAIN BODY AND ASSOC. PIPING	36" AFF TO FAUCET CONTROLS, 18" AFF TO HOSE BRACKET PROVIDE TILING FLANGE ORIENTATION TO MATCH PLAN
EWC-1	ELECTRIC WATER COOLER WITH BOTTLE-FILLER (BI-LEVEL ACCESSIBLE) ELKAY MODEL NO. EZSTL8WSLK BARRIER-FREE BI-LEVEL WATER COOLER WITH BOTTLE-FILLER, FILTER, EASY-TOUCH, SELF-CLOSING VANDAL RESISTANT TOUCH PADS, FLEXIBLE GUARD BUBBLERS, STAINLESS STEEL ANTI-SPLASH TOP DESIGN, PROVIDE ELKAY CARRIER MODEL NO. MLP200 TO SUIT INSTALLATION REQUIREMENTS, PROVIDE ELKAY ACCESSORY CANE DETECTION APRON MODEL NO. LKAPREZL AT UPPER LEVEL, PROVIDE ELKAY FILTER MODEL NO. 51300C FOR INSTALLATION AT COOLER AND EXTRA 3-PACK MODEL NO. 51300C_3PK FOR OWNER'S SPARES, PROVIDE MCGUIRE NO. LF170 SUPPLY AND MODEL NO. 8912C P-TRAP AND FULL-PORT BALL VALVE ON COLD WATER LINE WITHIN CABINET	+42" AFF TO UPPER SPOUT +36" AFF TO LOWER SPOUT ALTERNATE 1-3 REFER TO ARCHITECTS SPECIFICATIONS ON BIDDING ALTERNATES
FD-1	FLOOR DRAIN ZURN MODEL NO. ZN415B DURA-COATED CAST IRON DRAIN WITH BOTTOM OUTLET, COMBINATION INVERTABLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS, "TYPE B" POLISHED NICKEL BRONZE LIGHT-DUTY STRAINER.	
H-1	WALL HYDRANT - EXTERIOR/ENCASED/FREEZE-PROOF ZURN Z1300 ENCASED ECOLOTROL ANTI-SIPHON AUTOMATIC DRAINING WALL HYDRANT FOR FLUSH INSTALLATION, NON-FREEZE INTEGRAL BACKFLOW PREVENTER, BRONZE CASING, ALL BRONZE INTERNAL PARTS, NON-TURNING OPERATING RODS WITH FREE-FLOATING COMPRESSION CLOSURE VALVES, REPLACEABLE BRONZE SEAT AND SEAT WASHER, AND COMBINATION 3/4" FEMALE OR 1" MALE STRAIGHT IP INLET, NICKEL BRONZE BOX AND HINGED COVER WITH OPERATING KEY LOCK AND "WATER" CAST ONTO COVER	MOUNT 24" AFG
H-2	WALL HYDRANT - INTERIOR/ENCASED ZURN Z1350 ENCASED MODERATE CLIMATE WALL HYDRANT FOR FLUSH INSTALLATION IN NARROW WALL, BRONZE BODY, ALL BRONZE INTERNAL PARTS, REPLACEABLE SEAT WASHER, SCREWDRIVER OPERATED STOP VALVE IN SUPPLY KEY OPERATED CONTROL VALVE, 3/4" IP FEMALE INLET, 3/4" MALE HOSE CONNECTION, ADJUSTABLE ST STL BOX AND HINGED COVER WITH CYLINDER LOCK AND "WATER" STAMPED ONTO COVER	MOUNT 12" AFF
CO-1	CLEANOUT - FLOOR ZURN MODEL NO. ZN1400-BP WITH NICKEL BRONZE TOP AND BRONZE PLUG, PROVIDE -CM CARPET CLEANOUT MARKER WHERE IN CARPET	
CO-2	CLEANOUT - WALL ZURN MODEL NO. Z1441-BP-VP WALL CLEANOUT OR Z1446-BP-VP WALL CLEANOUT TEE TO SUIT APPLICATION, VANDAL PROOF SECURED TOP, SMOOTH ST STL ROUND ACCESS COVER	
CO-3	CLEANOUT - EXTERIOR GRADE/PAVING ZURN MODEL NO. Z1449-BP CLEANOUT FERRULE WITH BRONZE PLUG AT GRADE, WHERE IN PAVING PROVIDE WITH ZURN MODEL NO. ZN1474-G-VP HEAVY DUTY CLEANOUT HOUSING WITH INTEGRAL ANCHOR FLANGE, SECURED SCORIATED NICKEL BRONZE COVER WITH LIFTING DEVICE AND VANDAL-PROOF SCREW	

GENERAL NOTES

1. BE RESPONSIBLE FOR ALL PERMITS AND FEES.
2. MAKE A COMPLETE REVIEW OF THE PLUMBING PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE PLUMBING SYSTEM, AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE ENGINEER.
3. THE PLUMBING CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING AND FAMILIARIZE THEMSELF WITH THE EXISTING CONDITIONS.
4. REFER TO THE ARCHITECTURAL PLANS FOR ALL FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE PLANS.
5. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO INSURE THAT ITEMS TO BE FURNISHED UNDER HIS CONTRACT SHALL FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS AND SERVICE REQUIREMENTS, AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT AND MEANING OF THE DRAWINGS AND SPECIFICATIONS.
6. EACH CONTRACTOR SHALL PROVIDE AND INSTALL THEIR OWN SUPPORT DEVICES. ALL LOCATIONS SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER AND OTHER TRADES PRIOR TO INSTALLATION.
7. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL OPENINGS IN WALLS AND FLOORS UNLESS NOTED OTHERWISE. THEY SHALL VERIFY LOCATION AND SIZE OF ALL OPENINGS REQUIRED UNDER THIS CONTRACT WITH THE CONSTRUCTION MANAGER AND OTHER TRADES.
8. THE PLUMBING CONTRACTOR SHALL SEAL ALL PENETRATIONS OF FIRE RATED WALLS USING U.L. METHODS AS SHOWN ON THESE PLANS.
9. INSTALL INSULATED WATER PIPING IN EXTERIOR WALLS ON THE INTERIOR SIDE OF THE WALL INSULATION. SEE SPECIFICATIONS FOR SIZE AND TYPE INSULATION TO BE USED.
10. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING FLOOR DRAIN STRAINERS AND CLEANOUT TOPS FLUSH WITH THE FINISHED FLOOR ELEVATION. A RAISED OR LOWERED STRAINER OR CLEANOUT TOP WILL NOT BE ACCEPTABLE.
11. INSTALL ALL THREADED CLEANOUT PLUGS WITH PIPE DOPE TO ALLOW FOR EASY REMOVAL IN THE FUTURE.
12. ALL PLUMBING FIXTURES SHALL BE NEATLY CAULKED WITH SILICONE CAULKING COMPOUND WHERE THE FIXTURE MEETS THE WALL, COUNTERTOP, OR FLOOR UNLESS OTHERWISE NOTED. NOTE: DO NOT CAULK AT WATER COOLERS LOCATED ON GYPSUM BOARD WALLS.
13. WHERE VALVES ON WATER LINES ARE LOCATED ABOVE CEILING, LOCATE THEM 8" ABOVE CEILING.
14. THE PLUMBING CONTRACTOR SHALL COORDINATE EXACT FLOOR DRAIN LOCATIONS IN THE MECHANICAL ROOMS WITH THE MECHANICAL CONTRACTOR FOR THE TYPE OF MECHANICAL EQUIPMENT TO BE INSTALLED.
15. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES, THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT. PRIOR TO THE INSTALLATION, IN ORDER TO AVOID CONFLICT WITH OTHERS. IF AN ALTERNATE METHOD OF INSTALLATION IS REQUIRED, IT SHALL BE COORDINATED WITH THE ENGINEER OR ARCHITECT PRIOR TO START OF THE NEW WORK.
16. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL AND CONTROL CONNECTIONS TO THE EQUIPMENT PROVIDED UNDER THIS CONTRACT. REFER TO THE ELECTRICAL PLANS FOR LOCATIONS OF JUNCTION BOXES, DISCONNECTS, AND CIRCUIT BREAKERS (PANELBOARDS). TYPE, SIZE, AND NUMBER OF CONDUCTORS AND CONDUITS TO EQUIPMENT SHALL BE EQUAL TO THE CONDUCTORS AND CONDUITS PROVIDED BY THE ELECTRICAL CONTRACTOR TO THE JUNCTION BOXES AND DISCONNECT SWITCHES. IN CASE OF PLUMBING EQUIPMENT CONNECTION TO A CIRCUIT BREAKER, THE NUMBER AND SIZE OF THE CONDUCTORS AND CONDUITS SHALL CONFORM TO THE LATEST NATIONAL ELECTRICAL CODE REGULATIONS. ALL MOTOR STARTERS, SWITCHES, CONTROL DEVICES, ETC. PROVIDED BY THIS CONTRACTOR SHALL BE RECESSED IN THE WALLS, EXCEPT WHERE THESE ITEMS ARE LOCATED IN THE MECHANICAL ROOMS. PROVIDE A NAMEPLATE FOR ALL EQUIPMENT, SWITCHES, CONTROL DEVICES, ETC. THE WATER HEATER SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE.
17. IT IS THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND UTILITIES, STORM DRAINS, ETC., WHICH MAY OR MAY NOT BE SHOWN ON THESE PLANS, AND TO AVOID CONFLICT OF THEIR INSTALLATION WITH SAME. REPAIR OF DAMAGE TO THESE UTILITIES, STORM DRAINS, ETC. SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
18. ALL NEW UNDERGROUND WATER PIPING SHALL BE INSTALLED A MINIMUM OF 30" BELOW FINISHED GRADE TO PIPE CROWN.
19. ALL UNDERGROUND PIPING ON THE EXTERIOR OF THE BUILDING SHALL BE IDENTIFIED BY UNDERGROUND LINE MARKING TAPE LOCATED DIRECTLY ABOVE THE PIPING AT 6 TO 8 INCHES BELOW FINISHED GRADE. TAPE SHALL CONFORM TO ANSI/ASTM 13.1 AND SHALL BE 6" WIDE, 7.0 MILS MINIMUM THICKNESS, NON-DISTORTING, COLORFAST, ULTRAVIOLET LIGHT FAST, NO-STRETCH, 600 POUND TENSILE STRENGTH PER 6" WIDTH. MESSAGE MUST REPEAT WITHIN A MAXIMUM OF 40 INCHES. PRINTED LEGEND SHALL BE INDICATIVE OF TYPE OF UNDERGROUND LINE.

    PAINT AND COLOR CODE ALL EXPOSED PIPING IN MECHANICAL ROOMS. ABOVE CEILING PIPING SHALL HAVE FLOW ARROWS AND LABELS LOCATED AT 10 FOOT INTERVALS, AT ALL TURNS, AND AT EACH FLOOR OR WALL PENETRATION, AND SHALL BE COLOR CODED AS FOLLOWS:

    COLD WATER - DARK BLUE
    HOT WATER - DARK RED
20. THE FLASHING AND COUNTERFLASHING FOR ALL VENTS THROUGH THE ROOF SHALL BE PROVIDED AND INSTALLED BY THE ROOFING CONTRACTOR. THE PLUMBING CONTRACTOR SHALL COORDINATE ALL LOCATIONS OF THE VENTS THROUGH THE ROOF WITH THE ROOFING CONTRACTOR AND THE MECHANICAL CONTRACTOR.

    NO THROUGH THE ROOF SEWER VENT PIPE SHALL BE WITHIN 10' OF AN OUTSIDE AIR INTAKE.
21. ALL MATERIALS IN PLENUM SPACES MUST BE NON-COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84E.
22. AT MECHANICAL ROOMS WITH GYPSUM BOARD CEILINGS, PLUMBING CONTRACTOR SHALL INSTALL HANGER RODS BEFORE CEILING IS INSTALLED, AND SHALL COMPLETE PIPING INSTALLATION AFTER THE CEILING HAS BEEN INSTALLED.
23. PLUMBING CONTRACTOR SHALL PROVIDE ALL ACCESS DOORS AS REQUIRED FOR CODE COMPLIANCE AND TO ACCESS ANY INSTALLATION THAT WILL REQUIRE FUTURE MAINTENANCE. THESE DOORS SHALL BE 20"x20". EACH ROOM WITH A DRYWALL CEILING SHALL HAVE A MINIMUM OF ONE ACCESS DOOR PROVIDED BY THE PLUMBING CONTRACTOR. THE DRYWALL CONTRACTOR SHALL PROVIDE THE REQUIRED FRAMED OPENING AND INSTALL THE ACCESS DOORS.
24. PROVIDE BALL VALVE IN BRANCH PIPING TO ALL EXTERIOR HOSE BIBBS.
25. USE OF RUBBER SLEEVE COUPLINGS (I.E. FERNCO) IS PROHIBITED. TYPE 304 STAINLESS STEEL JACKETED RUBBER CLAMPS AS SPECIFIED SHALL BE USED.
26. PLUMBING CONTRACTOR TO REVIEW THOROUGHLY ARCHITECTURE AND STRUCTURE DRAWINGS AND TO NOTE LOCATIONS AND DEPTHS OF ALL DEPRESSED SLABS AND PREPARE WASTE PIPING, FLOOR DRAINS, OR ANY OTHER PLUMBING FIXTURES OR FITTINGS ACCORDINGLY IN THOSE AREAS. PLUMBING CONTRACTOR TO COORDINATE WITH CONCRETE SUBCONTRACTOR PRIOR TO ANY PLACEMENT OF CONCRETE IN ANY AREA WHERE FLOOR DRAINS, ROOF DRAINS, PIPE SLEEVES, OR ANY OTHER AFFECTED ITEM WITHIN THE PLUMBING CONTRACTOR'S SCOPE IS REQUIRED.
27. IN ADDITION TO THE LOCATIONS REQUIRED IN THESE DRAWINGS, LEAD-FREE, TWO-PIECE, FULL-PORT BRONZE BALL VALVES/SHUTOFFS SHALL BE PROVIDED AS REQUIRED BY THE LATEST CURRENT VERSION OF THE NC PLUMBING CODE SECTION 606
28. THE CONTRACT DOCUMENTS ARE COMLIMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE BINDING AS IF REQUIRED BY ALL - IN THE CASE OF CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY AND/OR GREATER QUANTITY OF WORK
29. PROVIDE CHROME ESCUTCHEON RINGS AT CEILING AND WALL PIPE PENETRATIONS AT ALL EXPOSED TO VIEW PIPING

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	WASTE PIPING
	VENT PIPING
FM	FORCE MAIN PIPING
OS	WASTE PIPING TO OIL SEPARATOR
C	CONDENSATE DRAIN PIPING
	COLD WATER PIPING
110	110°F HOT WATER PIPING
110R HWR	110°F HOT WATER RETURN PIPING
G	LIQUID PROPANE GAS 7" W.C.
	BALL VALVE
	GLOBE VALVE
	CHECK VALVE
	GAS COCK
	ELECTRIC SOLENOID VALVE
	UNION
	BUTTERFLY VALVE
	CIRCUIT SETTER/BALANCING VALVE
	HYDRANT
	PIPE TURNS UP
	PIPE TURNS DOWN
	CLEANOUT AT WALL OR IN CEILING
	CLEANOUT AT FINISHED FLOOR/FINISHED GRADE
A	WATER HAMMER ARRESTOR WITH PDI SIZE (REFER TO WATER HAMMER SCHEDULE)
	HOT WATER RECIRCULATION PUMP
	POINT OF CONNECTION
	ENDPOINT OF DEMOLITION
VTR	VENT THROUGH ROOF
FFE	FINISH FLOOR ELEVATION
BFF	BELOW FINISH FLOOR
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
INV	INVERT OF PIPING
VIF	VERIFY IN FIELD
℄	CENTERLINE
ROW	RIGHT OF WAY
(E)	EXISTING
(N)	NEW
ST STL	STAINLESS STEEL
UON / UNO	UNLESS OTHERWISE NOTED / UNLESS NOTED OTHERWISE

LOAD SUMMARY

WASTE DEMAND IN FIXTURE UNITS	WATER DEMAND IN FIXTURE UNITS	WATER DEMAND IN G.P.M.	LP GAS DEMAND IN BTU PER HOUR
-	-	-	N/A

WATER HAMMER ARRESTORS

PDI DESIGNATION	JAY R. SMITH 5000 SERIES HYDROTROL	ZURN Z-1700 SERIES SHOKTROL	WADE SHOKSTOPS	MAX FU
A	#5005	#100	#W-5	11
B	#5010	#200	#W-10	32
C	#5020	#300	#W-20	60
D	#5030	#400	#W-50	113
E	#5040	#500	#W-75	154
F	#5050	#600	#W-100	330

PLUMBING CONNECTION SCHEDULE

	WASTE	COLD WATER	HOT WATER
WATER CLOSET (FLUSH VALVE)	4"	1"	-
URINAL (FLUSH VALVE)	2"	3/4"	-
LAVATORY	2"	1/2"	1/2"
SINK	2"	1/2"	1/2"
MOP RECEPTOR	3"	3/4"	3/4"
ELECTRIC WATER COOLER	2"	1/2"	-
HYDRANT / HOSE BIB	-	3/4"	-

SHEET INDEX - PLUMBING

Sheet Number	Sheet Name
P0-00	LEAD SHEET
P0-01	DEMOLITION PLAN
P1-01	WASTE AND VENT PLAN
P2-01	DOMESTIC WATER PLAN
P4-01	RISERS
P5-01	DETAILS

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ONSLOW COUNTY SCHOOLS

TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS

112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: DJL
CHECKED BY: SWC

LEAD SHEET

2022017 20 FEB 2023

P0-00

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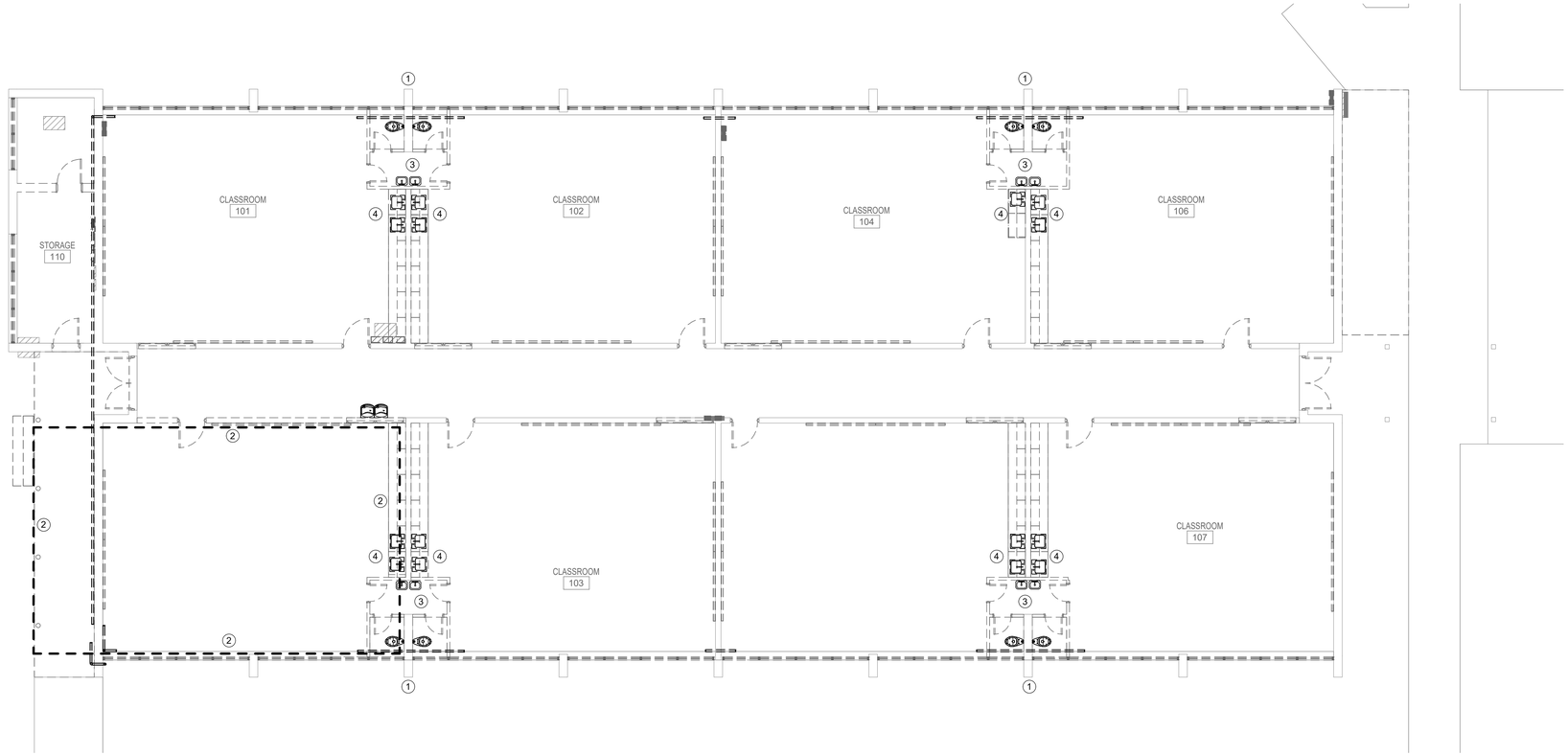

1 Plumbing Demolition Plan

0 4' 8' 16'

1/8" = 1'-0"

GENERAL NOTES:

A. ALL EXISTING ABOVE SLAB WASTE & WATER PIPING SHALL BE REMOVED IN ITS ENTIRETY. ALL FIXTURES SHALL BE REMOVED

KEYNOTES:

1. EXISTING WASTE PIPING TO BE CAPPED AT EXTERIOR. PROVIDE A NEW CLEANOUT.
2. SAW CUT EXISTING SLAB. DASHED LINE REPRESENTS EXTENTS OFF SLAB CUT. NOTIFY ENGINEER/ARCHITECT IMMEDIATELY IF EXTENT OF SLAB CUT NEEDS TO BE EXTENDED BEYOND THOSE LIMITS.
3. REMOVE TOILETS AND LAVATORIES AND APPURTENANCES. REMOVE SANITARY AND VENT PIPING IN ITS ENTIRETY. cap any water supply below slab and abandon
4. REMOVE CLASSROOM SINKS AND APPURTENANCES.

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ID	DATE	DESCRIPTION

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DEMOLITION PLAN

2022017 20 FEB 2023

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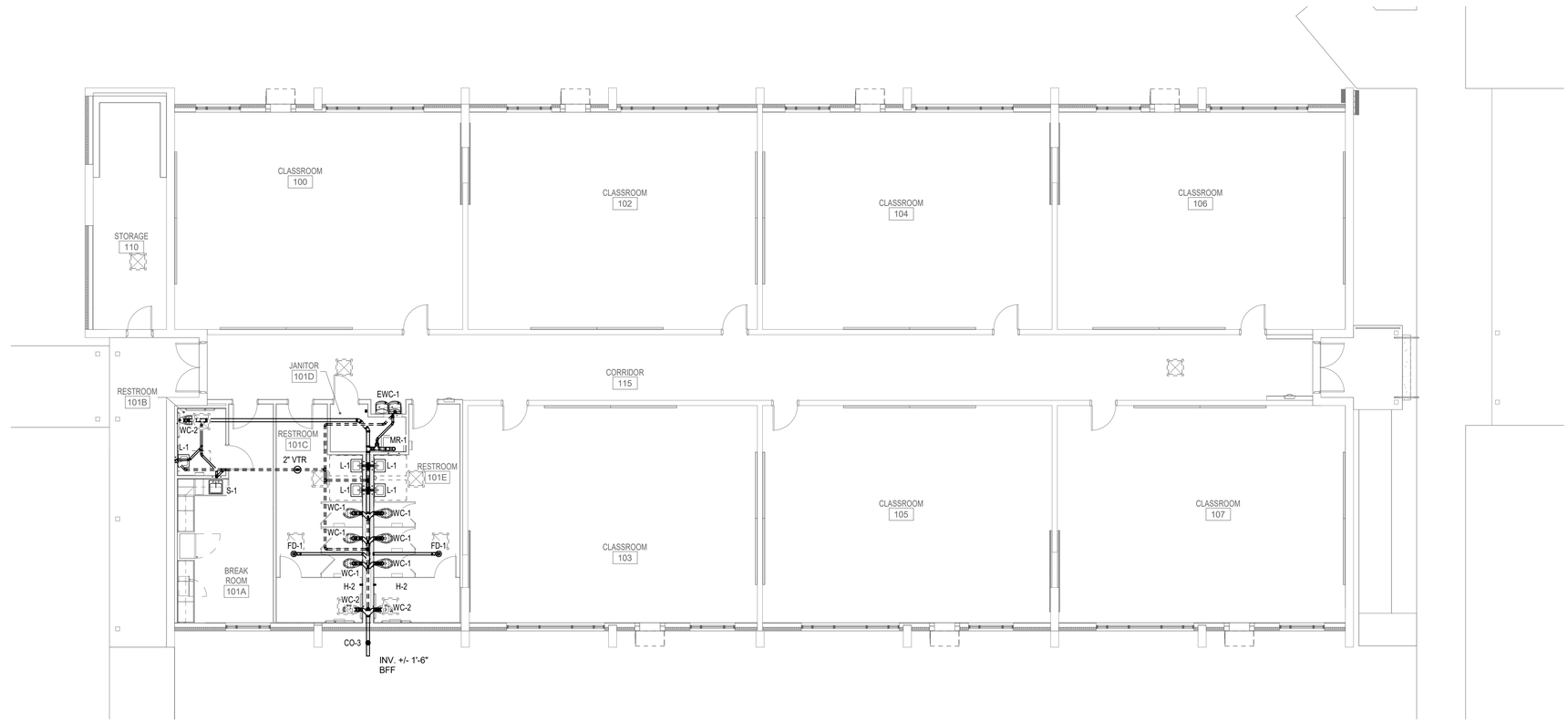

1 Waste and Vent Plan

0 4' 8' 16'

1/8" = 1'-0"

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112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: DJL
CHECKED BY: SWC

WASTE AND VENT PLAN

2022017 20 FEB 2023

P1-01

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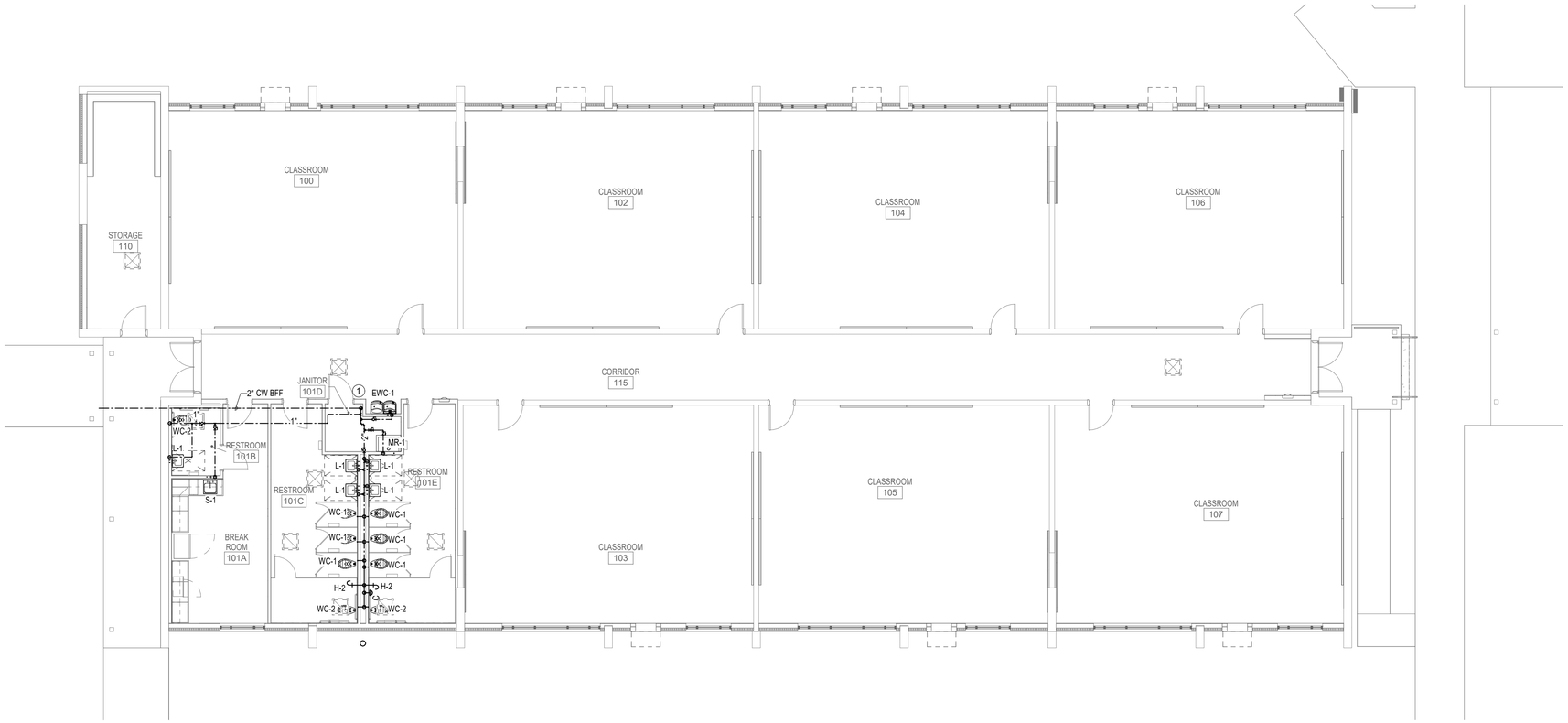

1 Domestic Water Plan

0 4' 8' 16'

1/8" = 1'-0"

KEYNOTES:

1. DOMESTIC WATER RISER WITH SHUTOFF AND HOSE-BIBB DRAIN WITH VACUUM BREAKER IN RISE

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: DJL
CHECKED BY: SWC

DOMESTIC WATER PLAN

2022017 20 FEB 2023

P2-01

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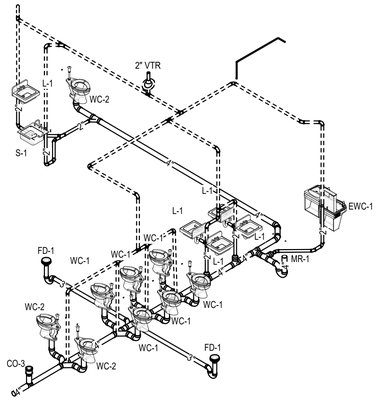
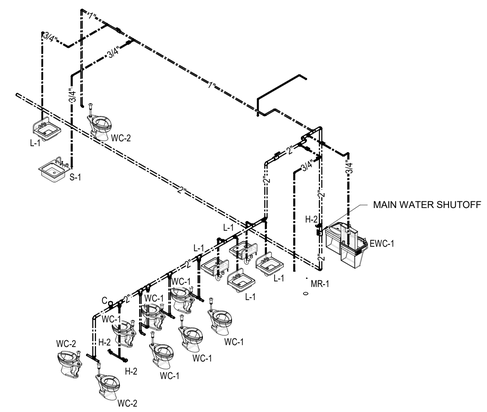


2 WASTE AND VENT RISER
NOT TO SCALE



1 DOMESTIC WATER RISER
NOT TO SCALE

smith sinnett ARCHITECTURE

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PDC #21007

NORTH CAROLINA PROFESSIONAL SEAL 025020 ENGINEER STEVE W. CAMPBELL

02/17/2023

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RISERS

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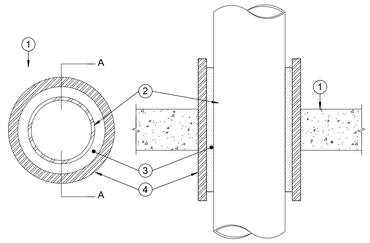
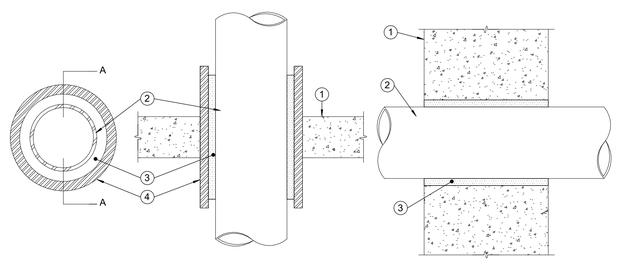


SECTION A-A

1. NON-RATED FLOOR
2. THROUGH PENETRANT: INSULATED PIPE
3. FILL, VOID, OR CAVITY MATERIAL: SILICONE CAULK
4. STEEL PIPE SLEEVE - MIN. 1" LIP AFF

9 DETAIL - NON-RATED FLOOR PIPE PENETRATION
NOT TO SCALE

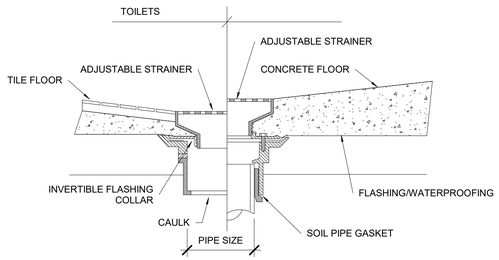


SECTION A-A

SECTION A-A

1. NON-RATED FLOOR/WALL
2. THROUGH PENETRANT: INSULATED PIPE
3. FILL, VOID, OR CAVITY MATERIAL: SILICONE CAULK
4. STEEL PIPE SLEEVE - MIN. 1" LIP AFF

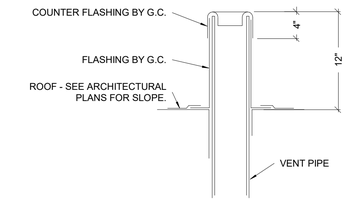
8 DETAIL - NON-RATED FLOOR/WALL PIPE PENETRATION
NOT TO SCALE



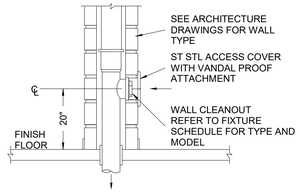
NOTES:

1. THE PLUMBING CONTRACTOR IS TO COORDINATE WITH THE GENERAL CONTRACTOR THE DRAIN LOCATIONS AND SETTING HEIGHTS.
2. SEE ARCHITECTURAL PLANS FOR ALL FLOOR FINISHES AND THICKNESSES.

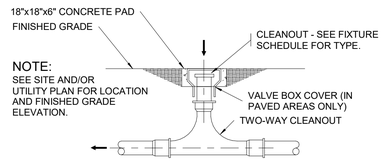
7 FLOOR DRAIN
NOT TO SCALE



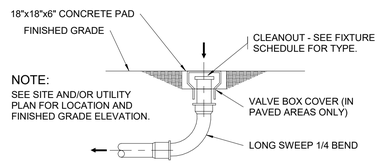
6 VENT THRU ROOF
NOT TO SCALE



5 CLEANOUT AT WALL
NOT TO SCALE

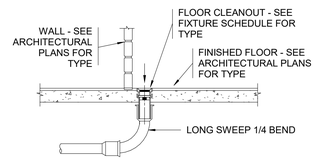


CLEANOUT AT FINISHED GRADE

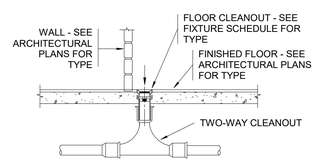


CLEANOUT AT FINISHED GRADE

4 CLEANOUT AT FINISHED GRADE
NOT TO SCALE

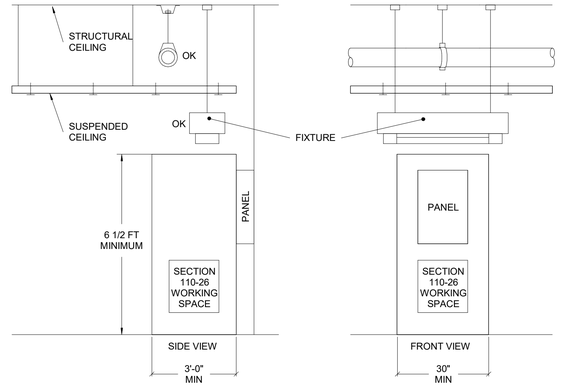


CLEANOUT AT FINISHED FLOOR

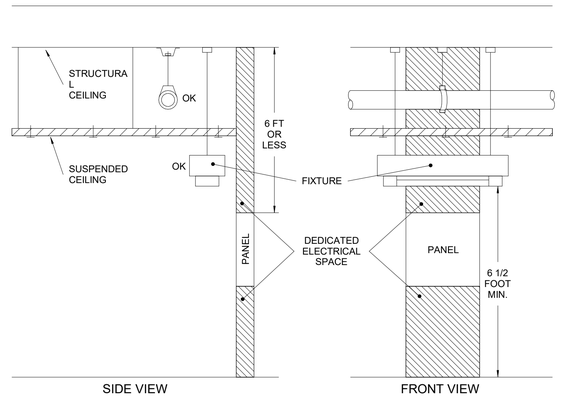


CLEANOUT AT FINISHED FLOOR

3 DETAIL - CLEANOUT AT FINISHED FLOOR
NOT TO SCALE



2 DETAIL - ELECTRICAL EQUIPMENT WORKING CLEARANCE
NOT TO SCALE



1 DETAIL - ELECTRICAL EQUIPMENT DEDICATED SPACE
NOT TO SCALE

smith sinnett ARCHITECTURE

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PDC #21007

NORTH CAROLINA PROFESSIONAL SEAL 025020 ENGINEER STEVE W. CAMPBELL

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ABBREVIATIONS

MECHANICAL ABBREVIATIONS		MECHANICAL ABBREVIATIONS	
ACCU	AIR COOLED CONDENSING UNIT	HZ	HERTZ
ACU	AIR CONDITIONING UNIT		
AD	ACCESS DOOR	IF	INJECTION FAN
AF	AIR FILTER	IN	INCHES
AFF	ABOVE FINISHED FLOOR	INSUL	INSULATION
AHU	AIR HANDLING UNIT	ISDL	ISOLATION
ALUM	ALUMINUM		
AMP	AMPERE	KE	KITCHEN EXHAUST
AP	ACCESS PANEL	KW	KILOWATT
ARCH	ARCHITECTURAL		
AVG	AVERAGE	LAT	LEAVING AIR TEMPERATURE
CC	AIR COLLED CONDENSER	LBS	POUNDS
		LF	LINEAR FEET
B	BOILER	LLC	LIQUID LEVEL CONTROLLER
B.I.	BLACK IRON	LWT	LEAVING WATER TEMPERATURE
BB	BASEBOARD RADIATION		
BDD	BACKDRAFT DAMPER	MAT	MIXED AIR TEMPERATURE
BHP	BRAKE HORSEPOWER	MAX	MAXIMUM
BO	BLANK OFF	MIN	MINIMUM
BTU	BRITISH THERMAL UNIT		
BTUH	BRITISH THERMAL UNITS PER HOUR	N.C.	NORMALLY CLOSED
		N.O.	NORMALLY OPEN
CA	COMPRESSED AIR	NC	NOISE CRITERIA
CAP	CAPACITY	NIC	NOT IN CONTRACT
CAU	COMPRESSED AIR	NK	NECK
CC	COOLING COIL	NPSH	NET POSITIVE SUCTION HEAT
CFM	CUBIC FEET PER MINUTE	NTS	NOT TO SCALE
CH	CHILLER		
CI	CAST IRON	OA	OUTSIDE AIR
CL	CENTER LINE	OAI	OUTSIDE AIR INTAKE
CO	CARBON MONOXIDE	OBD	OPPOSED BLADE DAMPER
CO	CLEAN OUT	OD	OUTSIDE DAMPER
CONC	CONCRETE	OV	OUTLET VELOCITY
CT	COOLI NG TOWER		
CU	CONDENSING UNIT	P	PUMP
CUH	CABINET UNIT HEATER	PD	PRESSURE DROP
CV	CONSTANT VOLUME	PH	PHASE
CY	CYCLE	PRESS	PRESSURE
		PRV	PRESSURE REDUCING VALVE
DB	DRY BULB TEMPERATURE	PSIG	POUNDS PER SQUARE INCH
DELF	DEFLECTION	ΔP	PRESSURE DIFFERENTIAL
DIFF	DIFFUSER		
DN	DOWN	RA	RETURN AIR
DWG	DRAWING	REFRIG	REFRIGERANT
DX	DIRECT EXPANSION	REG	REGISTER
		RET	RETURN
EA	EACH	RF	RELIEF / RETURN FAN
EAT	ENTERING AIR TEMPERATURE	RH	RELATIVE HUMIDITY
EF	EXHAUST FAN	RM	ROOM
EFF	EFFICIENCY	RO	REVERSE OSMOSIS
EHC	ELECTRIC HEAT COIL	RPM	REVOLUTIONS PER MINUTE
ESP	EXTERNAL STATIC PRESSURE	RTU	ROOFTOP UNIT
ET	EXPANSION TANK		
EUH	ELECTRIC UNIT HEATER	SA	SUPPLY AIR
EWT	ENTERING WATER TEMPERATURE	SD	SMOKE DAMPER
EXH	EXHAUST	SF	SUPPLY FAN
		SM	SHEET METAL
F.D.	FLOOR DRAIN	SP	STATIC PRESSURE
FA	FREE AREA	SQ. FT.	SQUARE FEET
FCU	FAN COIL UNIT	SS	STAINLESS STEEL
FD	FIRE DAMPER	ST	SOUND TRAP
FLEX	FLEXIBLE		
FM	FLOW METER	T	TANK
FP	FAN POWERED BOX	TC	TEMPERATURE CONTROL
FPM	FEET PER MINUTE	TE	TOILET EXHAUST
FT	FEET	TG	TRANSFER GRILLE
FT2	SQUARE FEET	TSP	TOTAL STATIC PRESSURE
FT3	CUBIC FEET	TYP	TYPICAL
°F	DEGREES FARENHEIT	ΔT	TEMPERATURE DIFFERENTIAL
GA	GAUGE	UH	UNIT HEATER
GC	GENERAL CONTRACTOR		
GE	GENERAL EXHAUST	V	VOLTAGE
GPM	GALLONS PER MINUTE	VAV	VARIABLE AIR VOLUME
GR	GRILLE	VD	VOLUME DAMPER
		VEL	VELOCITY
*H	ENTHAPLY DIFFERENCE	VFD	VARIABLE FREQUENCY DRIVE
HC	HEATING COIL	VIB	VIBRATION
HORIZ	HORIZONTAL		
HP	HORSEPOWER	W	WATT
HR	HOUR	WB	WET BULB TEMPERATURE
HU	HUMIDIFIER	WC	WATER COLUMN
HVAC	HEATING VENTILATION & AIR CONDITIONING	WMS	WIRE MESH SCREEN
		WP	WORKING PRESSURE
HX	HEAT EXCHANGER		

SHEET INDEX - MECHANICAL

Sheet Number	Sheet Name	Current Revision	Current Revision Date
M0-00	LEAD SHEET		
M0-01	DEMOLITION PLAN		
M1-01	DUCTWORK PLAN		
M2-01	PIPING PLAN		
M5-01	DETAILS		
M5-02	DETAILS		
M5-03	UL DETAILS		
M6-01	VPHP CONTROLS		
M6-02	VRF CONTROLS		
M7-01	MECHANICAL SCHEDULES		

GENERAL NOTES

1. THE CONTRACT DOCUMENTS ARE COMPLIMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.
2. COORDINATE ALL WORK WITH THAT OF THE OTHER DISCIPLINES PRIOR TO THE INSTALLATION OF ANY PIPING, DUCTWORK, OR EQUIPMENT.
3. PERFORM A COMPLETE REVIEW OF THE CONTRACT DOCUMENTS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS WITH THE ENGINEER.
4. DURING THE CONSTRUCTION PROCESS, PROTECT ALL EQUIPMENT, DEVICES, DUCTWORK, PIPING, AND APPURTENANCES FROM DIRT, DEBRIS, AND RAIN. STORE IN A COVERED LOCATION OFF OF THE FLOOR AND ABOVE STANDING WATER. ITEMS FOUND LYING IN STANDING WATER ON THE JOB SITE WILL NOT BE ACCEPTED FOR INSTALLATION.
5. ENSURE THAT ITEMS TO BE FURNISHED OR PROVIDED WILL FIT IN THE SPACE AVAILABLE. MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS, AND PROVIDE SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS. PROVIDE THE ENGINEER WITH SCALED COORDINATION DRAWINGS OF ALL MECHANICAL SPACES AND ABOVE CEILING INSTALLATIONS.
6. LOCATE ALL EQUIPMENT TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE.
7. PROVIDE ALL ELECTRICAL AND CONTROL CONNECTIONS TO THE EQUIPMENT PROVIDED. REFER TO THE ELECTRICAL DRAWINGS FOR LOCATIONS OF JUNCTION BOXES, DISCONNECTS, CIRCUIT BREAKERS (PANELBOARDS). TYPE, SIZE, AND NUMBER OF CONDUCTORS AND CONDUITS TO EQUIPMENT SHALL BE EQUIVALENT TO THE CONDUCTORS AND CONDUITS PROVIDED BY DIVISION 26. IN CASE OF MECHANICAL EQUIPMENT CONNECTION TO A CIRCUIT BREAKER, THE NUMBER AND SIZE OF THE CONDUCTORS AND CONDUITS SHALL CONFORM TO THE LATEST NATIONAL ELECTRICAL CODE REGULATIONS. ALL MOTOR STARTERS, SWITCHES, CONTROL DEVICES, ETC., PROVIDED BY DIVISION 23 SHALL BE RECESSED IN THE WALLS, EXCEPT WHEN THESE ITEMS ARE LOCATED IN MECHANICAL SPACES. PROVIDE A NAMEPLATE FOR ALL EQUIPMENT, SWITCHES, CONTROL DEVICES, ETC. REFER TO THE GENERAL PROVISIONS SECTION OF THE DIVISION 23 SPECIFICATIONS.
8. PROVIDE ALL SUPPORT DEVICES NECESSARY FOR THE WORK. COORDINATE ALL LOCATIONS WITH OTHER DISCIPLINES PRIOR TO INSTALLATION.
9. REFER TO THE ARCHITECTURAL DRAWINGS FOR FLOOR PLAN DIMENSIONS AND ELEVATIONS. DO NOT SCALE THESE DRAWINGS.
10. PROVIDE ALL PENETRATIONS PERTAINING TO THE WORK THROUGH THE ROOF, WALLS, AND FLOORS. PROVIDE THE WATERPROOFING AROUND THE OPENINGS.
11. COORDINATE THE SIZE AND LOCATION OF ALL PENETRATIONS THROUGH THE ROOF WITH DIVISION 07 AND OTHER DISCIPLINES.
12. FIRE SEAL ALL FLOOR AND FIRE WALL PIPE AND CONDUIT PENETRATIONS WITH A UL APPROVED METHOD.
13. PROVIDE ALL CUTTING AND PATCHING OF FLOORS AND WALLS FOR THE WORK UNLESS OTHERWISE INDICATED.
14. ALL WALL AND FLOOR PENETRATIONS SHALL BE SEALED. SEAL ALL RATED FLOOR AND WALL PENETRATIONS WITH A UL APPOVED METHOD. FOR NON-RATE WALLS AND FLOORS, THE ANNULAR SPACE SHALL BE PACKED WITH MINERAL WOOL, OR ANOTHER SUITABLE NON-COMBUSTIBLE MATERIAL, AND CAULKED AIR RIGHT.
15. CONDENSATE DRAINS SHALL BE A MINIMUM OF 1"∅ COPPER, INSULATED WITH A 25/50 RATED CLOSED CELL RUBBER TUBING HAVING A NOMINAL WALL THICKNESS OF 1". PROVIDE A P-TRAP WITH VENT AND CLEANOUT PLUG AT THE UNIT. ALL CONDENSATE LINES SHALL BE ROUTED TO A FLOOR DRAIN OR AS INDICATED ON THE DRAWINGS.
16. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR UNLESS OTHERWISE INDICATED.
17. PROVIDE FLEXIBLE DUCT CONNECTORS AT SUPPLY, RETURN, AND EXHAUST DUCTWORK CONNECTIONS TO ALL AIR HANDLING UNITS AND FANS.
18. PROVIDE SHEET METAL COLLAR AT ALL LOCATIONS WHERE DUCTS PENETRATE WALLS. COLLARS SHALL BE OF A GAGE EQUIVALENT TO THE DUCTWORK.
19. PROVIDE FIRE DAMPERS AT DUCT PENETRATIONS THROUGH THE FIRE RATED PARTITIONS, BARRIERS, AND WALLS AS INDICATED ON THE DRAWINGS. INSTALL PER MANUFACTURER'S INSTRUCTIONS. PENETRATIONS THROUGH FIRE RATED WALLS OF 3 HOURS OR MORE SHALL BE PROTECTED BY A LISTED FIRE DOOR, SATISFACTORY FOR CLASS A OPENINGS, ON BOTH SIDES OF THE WALL.
20. ALL ACCESS DOORS IN THE DUCTWORK SHALL BE LOCATED TO EASILY ACCESS FIRE DAMPERS. COORDINATE CEILING ACCESS PANEL LOCATIONS WITH ALL OTHER DISCIPLINES. ALL ACCESS DOORS IN DUCTWORK FOR FIRE DAMPERS, DUCT-MOUNTED COILS, CONTROL DAMPERS, HUMIDIFIERS, DUCT SMOKE DETECTORS, AND OTHER DEVICES SHALL CONFORM TO THE FOLLOWING SCHEDULE:

DUCT WIDTH	ACCESS DOOR SIZE
UP TO 17" WIDE	16"x12" (OR AS LARGE AS POSSIBLE)
18" TO 22"	16"x16"
22" AND LARGER	18"x18"

21. PROVIDE BALANCING DAMPERS IN ALL LOW PRESSURE DUCTS FOR SYSTEM BALANCING.
22. PROVIDE ADJUSTABLE CONTROL DEFLECTION DEVICES AT ALL BRANCH DUCT TAKE-OFFS.
23. ALL ELBOWS IN DUCTWORK SHALL BE 1-1/2W RADIUS ELBOWS, UNLESS INDICATED OTHERWISE. WHERE RECTANGULAR ELBOWS ARE INDICATED, INSTALL DOUBLE WIDTH TURNING VANES.
24. WHERE INDICATED, INSTALL SMOKE DETECTORS (FURNISHED AND WIRED BY DIVISION 26) IN THE RETURN AIR DUCT OF EACH AIR HANDLING UNIT.
25. INSTALL THERMOSTATS, SENSORS, AND OTHER CONTROLS 48" ABOVE FINISHED FLOOR OR AS INDICATED ON THE DRAWINGS. COORDINATE WITH OTHER DISCIPLINES TO ALIGN EXACTLY WITH ADJACENT DEVICES SUCH AS LIGHT SWITCHES AND CONTROLS.
26. PROVIDE ALL THERMOSTATS, SENSORS, CONTROLS, WIRING, AND CONDUIT.
27. WHERE DUCTWORK CONNECTS TO EXTERIOR LOUVERS, PRIME AND PAINT DUCTWORK BLACK TO PREVENT DUCTWORK FROM BEING VISIBLE THROUGH THE LOUVER.
28. ALL DUCT LAYOUT AND LOCATIONS INDICATED ARE DIAGRAMMATIC. VISIT THE SITE, BECOME FAMILIAR WITH THE EXISTING CONDITIONS, AND COORDINATE THE DUCT LAYOUT WITH ALL DISCIPLINES PRIOR TO INSTALLATION.
29. SUPPORT ALL DUCTWORK, PIPING, EQUIPMENT, AND APPURTENANCES FROM THE BUILDING STRUCTURE AND NOT THE ROOF DECK.
30. ALL HANGER RODS SHALL BE CUT TO WITHIN 1" OF THE BOTTOM NUT. IN MECHANICAL ROOMS, ALL HANGERS OR OTHER EQUIPMENT BELOW 7'-4" SHALL BE WRAPPED WITH FOAM INSULATION FOR PERSONNEL PROTECTION.
31. INSULATE ALL SUPPLY DIFFUSERS AND DUCTED RETURN DIFFUSERS WITH 2" - 1# R.6 DUCT WRAP. CUT DIFFUSERS SO THERE IS A FOLDED 2" LAP ON ALL FOUR SIDES. TAPE WITH FSK TAPE WHERE INSULATED FLEX MEETS DUCT INSULATION, AND SO THERE ARE NO RAW EDGES OF FIBERGLASS.
32. EQUIPMENT SHALL MEET OR EXCEED ALL REQUIREMENTS IN THE 2013 VERSION OF ASHRAE STANDARD 90.1 AND THE INTERNATIONAL ENERGY CONSERVATION CODE WITH NORTH CAROLINA AMENDMENTS.
33. COORDINATE THE ROUGH-IN OF PIPING WITH THE GENERAL CONTRACTOR AND OTHER TRADES.
34. DO NOT INSTALL PIPING OR DUCTWORK OVER ANY ELECTRICAL PANEL OR SWITCHGEAR.
35. PROVIDE EQUIPMENT SUPPORT PAD (WHERE NOT EXISTING) FOR ALL BASE MOUNTED EQUIPMENT. PAD SHALL BE 4" HIGH FOR ALL OTHER MECHANICAL EQUIPMENT. 8" MINIMUM FROM EQUIPMENT TO END OF PAD ON ALL SIDES.
36. ZIP TIES WILL NOT BE PERMITTED FOR USE AS CABLE SUPPORTS. WHERE NOT REQUIRED TO BE INSTALLED IN RACEWAY BY THE SPECIFICATION, PROVIDE J-HOOK SUPPORTS AND BRIDLE RINGS. CABLE SHALL BE INDEPENDENTLY SUPPORTED AND SHALL NOT BE SUPPORTED OF THE WORK OF OTHER TRADES.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
x	SUPPLY DUCT
x	RETURN DUCT
x	OUTSIDE AIR INTAKE
	BALANCING DAMPER
#T	TEMPERATURE SENSOR. LABEL INDICATES UNIT CONTROLLED.
R R	REFRIGERANT PIPING
C C	CONDENSATE PIPING
SD	DUCT SMOKE DETECTOR
MD	MOTORIZED DAMPER, PARALLEL BLADE FOR SHUT-OFF, OPPOSED BLADE FOR MODULATING, 24V ACTUATOR.
VD	MANUAL BALANCING DAMPER, OPPOSED BLADE, DOUBLE FLANGED. PROVIDE FACTORY SLEEVE, AND MANUAL HAND QUADRANT WITH INSULATION EXTENSION. AIR PERFORMANCE TESTED IN ACCORDANCE WITH AMCA. LEAKAGE CLASS 1, 8 CFM/SF AT 4 in w.g.
FD	FIRE DAMPER. 1.5 HOUR FOR 1 HR AND 2HR CONSTRUCTION. 3 HOUR FOR 3 HR CONSTRUCTION. TYPE B WITH BLADES OUT OF AIR STREAM. UL 555 LISTED. PROVIDE FACTORY SLEEVE. PROVIDE MULTI-SECTION ASSEMBLY AS REQUIRED FOR DUCT DIMENSIONS. PROVIDE THIN-LINE MODEL OR OUT OF WALL MODEL WHERE APPROPRIATE.
	POINT OF DISCONNECTION / DEMOLITION
	POINT OF CONNECTION

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

CODE
2018 NC ENERGY CODE: PRESCRIPTIVE ___X___ PERFORMANCE _____
ASHRAE 90.1-2013: PRESCRIPTIVE _____ PERFORMANCE _____

ADDITIONAL PRESCRIPTIVE COMPLIANCE: N/A

_____ 506.2.1 MORE EFFICIENT MECHANICAL EQUIPMENT
_____ 506.2.2 REDUCED LIGHTING POWER DENSITY
_____ 506.2.3 ENERGY RECOVERY VENTILATION SYSTEMS
_____ 506.2.4 HIGHER EFFICIENCY SERVICE WATER HEATING
_____ 506.2.5 ON-SITE SUPPLY OF RENEWABLE ENERGY
_____ 506.2.6 AUTOMATIC DAYLIGHTING CONTROLS

THERMAL ZONE: 3A
WINTER DRY BULB: 20.0 DEGREES F
SUMMER DRY BULB: 94.6 DEGREES F
SUMMER WET BULB: 74.3 DEGREES F
SUMMER HR/MCDB: 129.5 / 81.2 DEGREES F

INTERIOR DESIGN CONDITIONS
WINTER DRY BULB: 70 DEGREES F
SUMMER DRY BULB: 75 DEGREES F
RELATIVE HUMIDITY: 55 %

BUILDING HEATING LOAD: EXISTING

BUILDING COOLING LOAD: EXISTING

MECHANICAL SPACING CONDITIONING SYSTEM

UNITARY
DESCRIPTION OF UNIT: REFER TO SCHEDULE ON DRAWINGS
HEATING EFFICIENCY: REFER TO SCHEDULE ON DRAWINGS
COOLING EFFICIENCY: REFER TO SCHEDULE ON DRAWINGS
SIZE CATEGORY OF UNIT: REFER TO SCHEDULE ON DRAWINGS

BOILER: TOTAL BOILER OUTPUT. IF OVERSIZED, STATE REASON. N/A

CHILLER: TOTAL CHILLER CAPACITY. IF OVERSIZED, STATE REASON. N/A

REFER TO EQUIPMENT SCHEDULES FOR UNIT EFFICIENCIES.

DESIGNER 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 STATE ENERGY CODE

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PDC #21007

NORTH CAROLINA PROFESSIONAL SEAL 025020 ENGINEER STEVE W. CAMPBELL

02/17/2023 BID/PERMIT SET

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CHECKED BY: SWC

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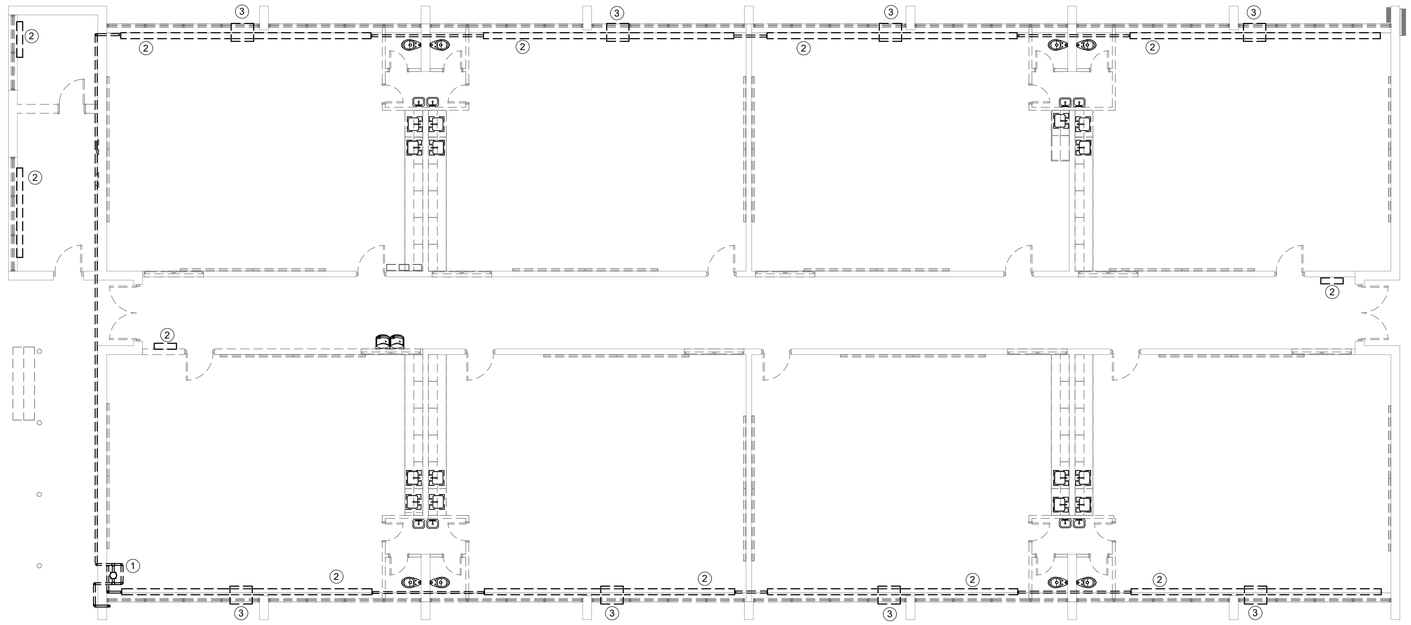

1 DEMOLITION PLAN

0 4" 8" 16"

1/8" = 1'-0"

MECHANICAL WORK IS LINKED TO ALTERNATE NO. 2-1

KEYNOTES:

1. DISCONNECT AND REMOVE ALL EXISTING INACTIVE STEAM AND CONDENSATE PIPING. REMOVE ALL STEAM TRAPS AND END OF MAIN DRIPS.
2. DISCONNECT AND REMOVE EXISTING RADIATOR. REMOVE ALL ABOVE GROUND PIPING. REMOVE PIPING TO BELOW SLAB, CAP AND ABANDON.
3. DISCONNECT AND REMOVE EXISTING WINDOW UNIT.

GENERAL NOTES:

A. WHERE EXISTING EQUIPMENT, DUCT, AND PIPING IS BEING REMOVED, REMOVE ALL EXISTING HANGERS, RODS, AND SUPPORTING HARDWARE.

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DEMOLITION PLAN

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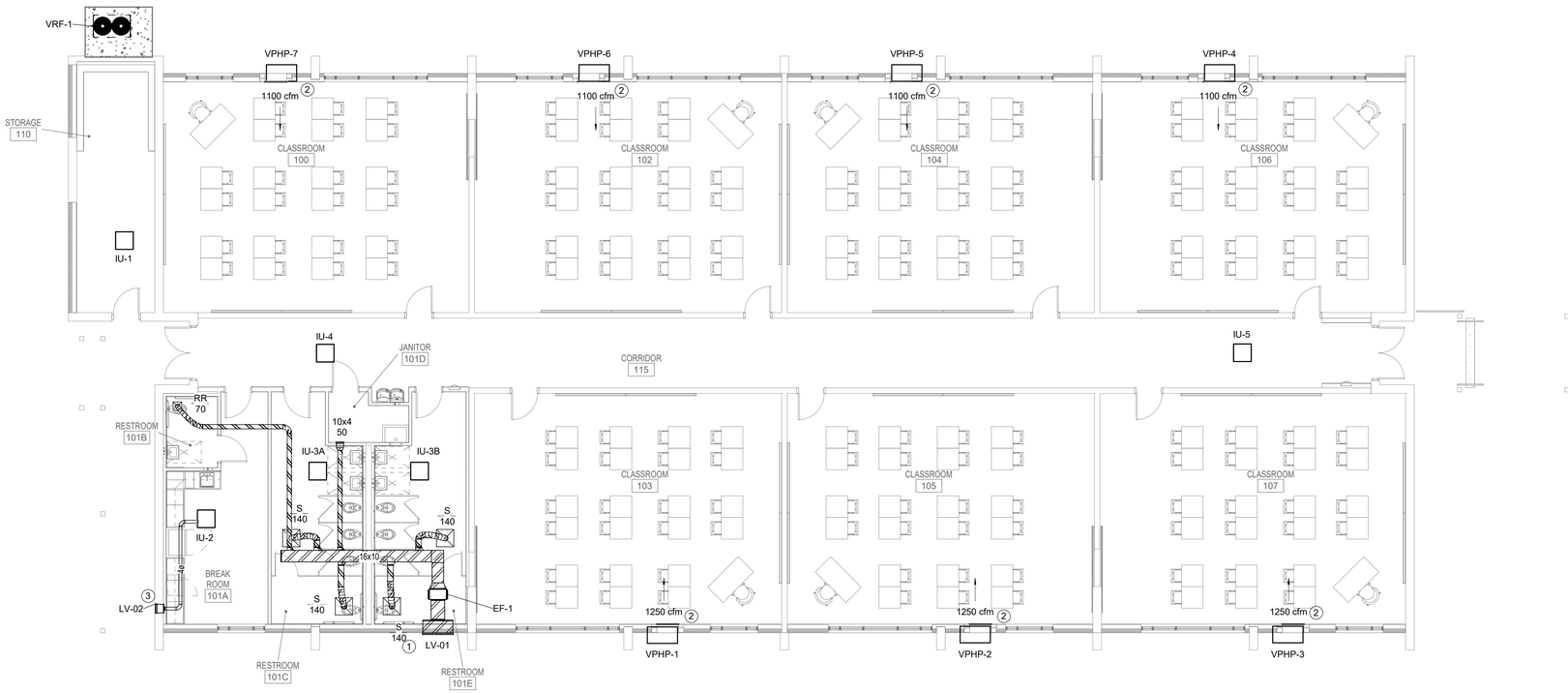

1 DUCTWORK PLAN

1/8" = 1'-0"

MECHANICAL WORK IS LINKED TO ALTERNATE NO. 2-1

KEYNOTES:

1. COORDINATE LOCATION OF LOUVER WITH ARCHITECTURAL ELEVATIONS.
2. COORDINATE FRAMING AND OPENING FOR UNIT WITH ARCHITECTURAL DRAWINGS. SUPPLY AND RETURN GRILLE ARE PROVIDED WITH THE UNIT.
3. BALANCE OUTSIDE AIR TO 30 CFM.

GENERAL NOTES:

A. PROVIDE BALANCING DAMPERS ON ALL LOW PRESSURE SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS AND RUNOUTS. FOR SIDE WALL DIFFUERS AND GRILLES, OR DIFFUSERS MOUNTED DIRECTLY ON DUCTWORK, PROVIDE OPPOSED BLADE DAMPER WITH GRILLES, REGISTERS, AND DIFFUSERS. ALL BALANCING DAMPERS SHALL BE EASILY ACCESSIBLE.

B. ALL DUCT DIMENSIONS ARE INSIDE CLEAR.

C. ALL CEILING MOUNTED DEVICES SHALL BE COORDINATED WITH THE ARCHITECT'S REFLECTED CEILING PLAN. WHEN CONFLICTS ARISE, ARCHITECT'S PLAN SHALL SUPERSEDE. CONTRACTOR SHALL PROVIDE ALL ACCESS DOORS REQUIRED FOR SERVICE OR PER CODE IN HARD CEILINGS. COORDINATE WITH OTHER TRADES.

D. PROVIDE ACCESS PANELS IN HARD CEILINGS AT RESTROOMS. COORDINATE LOCATION WITH ARCHITECT.

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DUCTWORK PLAN

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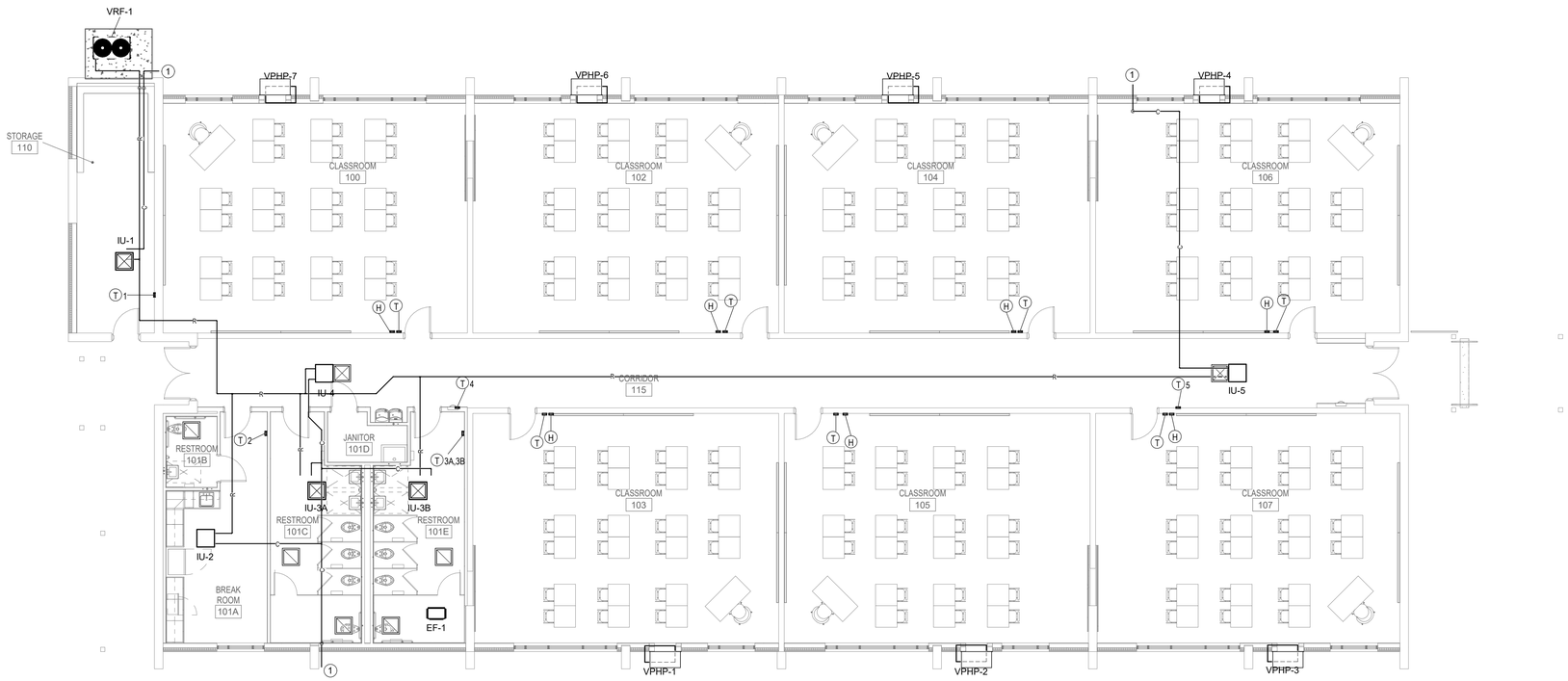

1 PIPING PLAN

1/8" = 1'-0"

MECHANICAL WORK IS LINKED TO ALTERNATE NO. 2-1

KEY NOTES:

1. PROVIDE SPLASH BLOCK AND TERMINATE CONDENSATE AT SAME.

GENERAL NOTES:

A. PROVIDE DRYWELL AT EACH VERTICAL HEAT PUMP UNIT. EXTEND CONDENSATE DOWN WALL AND TERMINATE AT DRYWELL.

B. TEMPERATURE AND HUMIDITY SENSORS SHOWN SEPARATELY, BUT SHALL BE ONE DEVICE ON WALL WITH BUILT IN CO2 SENSOR.

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PIPING PLAN

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M2-01

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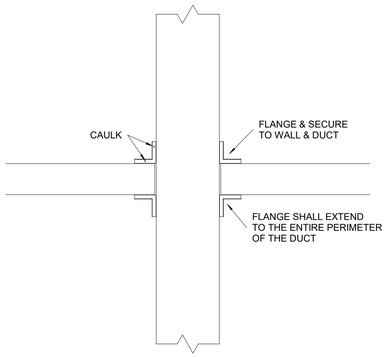
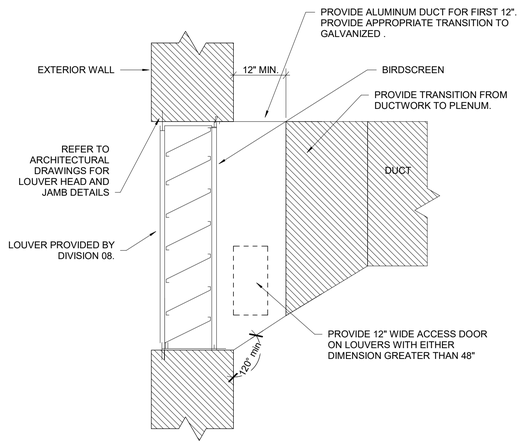


(PLAN VIEW)

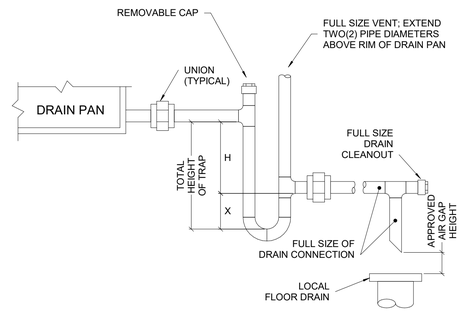
7 DETAIL - NON-RATED DUCT PENETRATION

NOT TO SCALE



8 DETAIL - OUTSIDE AIR/EXHAUST LOUVER

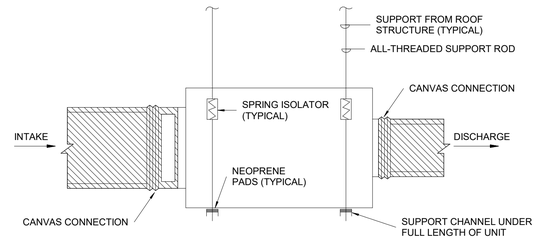
NOT TO SCALE



BLOW THROUGH	DRAW THROUGH
X = MINIMUM 1" PLUS CASING STATIC PRESSURE H = MINIMUM 1"	X = 1/2 "H" H = MINIMUM 1" PLUS CASING STATIC PRESSURE

4 DETAIL - CONDENSATE DRAIN DETAIL

NOT TO SCALE

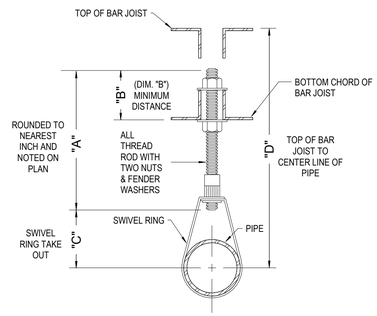


NOTE:

WRAP FAN WITH 2" 1.5 LB DENSITY FIBERGLASS INSULATION FOR SOUND CONTROL. LEAVE DISCONNECT AND SERVICE PANEL UNCOVERED.

5 DETAIL - IN-LINE FAN SUPPORT

NOT TO SCALE



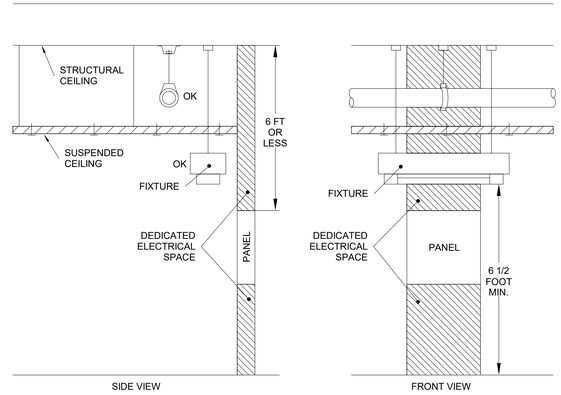
NOTE ON PLAN: HANGER NUMBER AND "A" DIMENSION

PIPE SIZE	ROD SIZE	'B' DIM.	MIN 'C' DIM.	MAX 'C' DIM.
3/4"	3/8"	SIZE OF ANGLE IRON ON BOTTOM CHORD OF BAR JOIST PLUS 1-1/2"	1/2"	1-5/8"
1"			5/8	1-3/4"
1-1/4"			13/16"	1-7/8"
1-1/2"			15/16"	2"
2"			1-3/16	2-3/8
2-1/2"			1-7/16"	2-3/4"
3"			1-3/4"	3-1/4"
3-1/2"			2"	3-5/8"
4"			2-1/4"	3-7/8"
5"	1/2"		2-3/4"	4-3/4"
6"			3-5/16"	5-1/2"
8"			4-5/16"	6-3/4"

BAR JOIST HANGER
WITH NUTS AND WASHERS

6 HANGERS

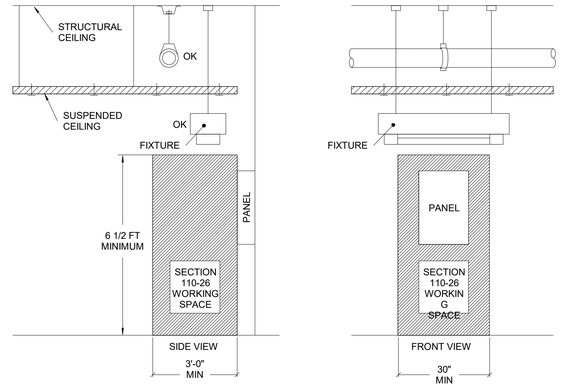
NOT TO SCALE



N.E.C ARTICLE 110-26(F)(1)

1 DETAIL - DEDICATED SPACE FOR ELECTRICAL EQUIPMENT

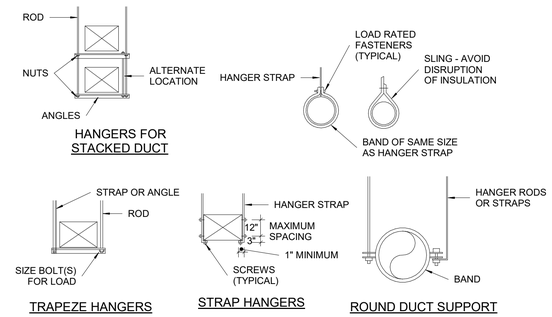
NOT TO SCALE



N.E.C ARTICLE 110-26

2 DETAIL - WORKING CLEARANCE FOR ELECTRICAL EQUIPMENT1

NOT TO SCALE



NOTES:

1. REINFORCEMENT MAY BE USED FOR ATTACHMENT IF IT QUALIFIES FOR BOTH DUTIES.
2. DO NOT EXCEED LOAD RATINGS FOR METHOD USED. FROM SMACNA DUCT STANDARDS

3 DETAIL - TYPICAL DUCT HANGERS

NOT TO SCALE

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DETAILS

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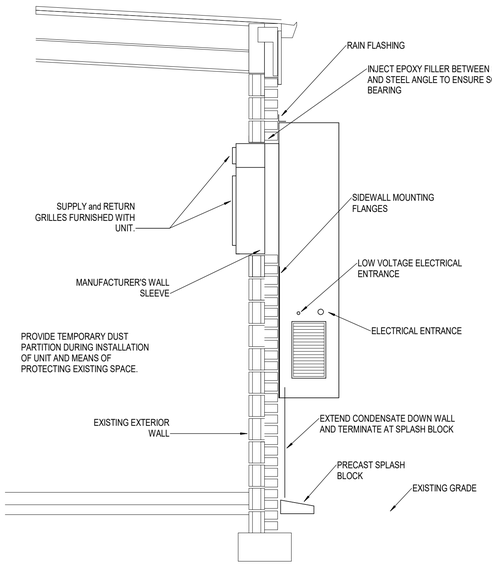


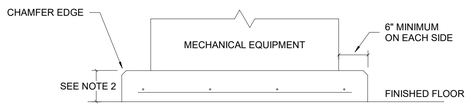
3 DETAIL - TYPICAL EXTERIOR VPHP DETAIL

NOT TO SCALE

NOTE:
DRY WELL TO BE A MINIMUM OF 24" BELOW FINISHED GRADE. SLOPE OF CONDENSATE DRAIN LINE TO DETERMINE DEPTH OF DRY WELL.

4 DETAIL - DRY WELL

NOT TO SCALE

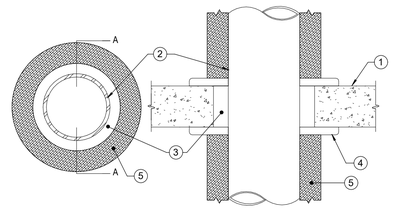


NOTES:

1. ACTUAL PAD SIZE TO BE DETERMINED AFTER ALL EQUIPMENT HAS BEEN SUBMITTED AND REVIEWED.
2. 3000 PSI CONCRETE WITH W.W.F. 6x6 - W4xW4.
3. TYPICAL FOR PUMPS AND TANKS. 4" HIGH MINIMUM.

1 DETAIL - MECH EQUIP. INTERIOR HOUSEKEEPING PAD

NOT TO SCALE



SECTION A-A

NOTES: (AS INDICATED ON THIS DETAIL BY A NUMBER IN A ◯)

1. NON-RATED FLOOR OR WALL.
2. THROUGH PENETRATIONS - ONE PIPE, OR CONDUIT.
3. FILL, VOID, OR CAVITY MATERIAL: MINERAL WOOL AND SILICON CAULK. FOR CMU WALLS, USE NON-SHRINK GROUT.
4. ESCUTCHEON PLATE ON EITHER SIDE OF WALL PENETRATION.
5. PIPE INSULATION PER SPECIFICATIONS.

2 NON-RATED WALL PIPE PENETRATION

NOT TO SCALE

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System No. W-L-5001

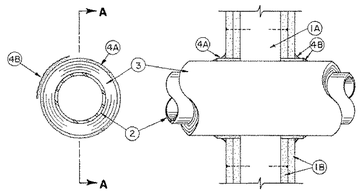
May 19, 2005

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 3/4, 1 and 1-1/2 Hr (See Item 3)

L Rating At Ambient — 2 CFM/sq ft

L Rating At 400 F — less than 1 CFM/sq ft



SECTION A-A

1. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. **Gypsum Board* —** Nom 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Design in the UL Fire Resistance Directory. Max diam of opening is 14-1/2 (368mm) in for wood stud walls and 18 in. (457 mm) for steel stud walls.

The hourly F Rating of the firestop system is 1 hr when installed in a 1 hr fire rated wall and 2 hr when installed in a 2 hr fire rated wall.

2. **Through Penetrants —** One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:

A. **Steel Pipe —** Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Copper Tubing —** Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

C. **Copper Pipe —** Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. **Pipe Covering* —** Nom 1 or 2 in. (25 or 51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m^3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints sealed with metal fasteners or with butt strip tape supplied with the product. When nom 1 in. (25 mm) thick pipe covering is used, the annular space between the pipe covering and the circular cutout in the gypsum wallboard layers on each side of the wall shall be min 1/4 in. (6 mm) to max 3/8 in. (10 mm) When nom 2 in. (51 mm) thick pipe covering is used, the annular space between the pipe covering and the circular cutout in the gypsum board layers on each side of the wall shall be min 1/2 in. (13 mm) to max 3/4 in. (19 mm)

See **Pipe and Equipment Covering Materials** (BRGU) category in Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

The hourly T Rating of the firestop system is 3/4 hr when nom 1 in. (25 mm) thick pipe covering is used. The hourly T Rating of the firestop system is 1 hr and 1-1/2 hr when nom 2 in. (52 mm) thick pipe covering is used with 1 hr and 2 hr fire rated walls, respectively.

4. **Firestop System —** Installed symmetrically on both sides of wall assembly. The details of the firestop system shall be as follows:

A. **Fill, Void or Cavity Materials* — Wrap Strip —** Nom 1/4 in. (6 mm) thick intumescent elastomeric material faced on one side with aluminum foil, supplied in 2 in. (51 mm) wide strips. Nom 2 in. (51 mm) wide strip tightly wrapped around pipe covering (foil side out) with seam butted. Wrap strip layer securely bound with steel wire or aluminum foil tape and slid into annular space approx 1-1/4 in. (32 mm) such that approx 3/4 in. (19 mm) of the wrap strip width protrudes from the wall surface. One layer of wrap strip is required when nom 1 in. (25 mm) thick pipe covering is used. Two layers of wrap strip are required when nom 2 in. (51 mm) thick pipe covering is used.

3M COMPANY — FS-195+

B. **Fill, Void or Cavity Materials* — Caulk or Sealant —** Min 1/4 in. (6 mm) diam continuous bead applied to the wrap strip/wall interface and to the exposed edge of the wrap strip layer approx 3/4 in. (19 mm) from the wall surface.

3M COMPANY — CP 25WB+, 1C 15WB+, FireDam 150+ caulk or FB-3000 WT sealant

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Last Updated on 2005-05-19

System No. C-AJ-5001

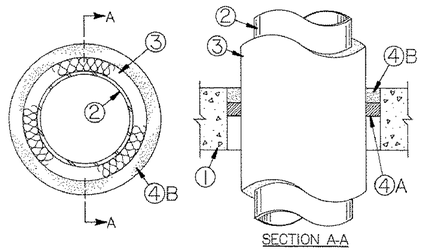
March 05, 2007

F Ratings — 1-1/2, 2 and 3 Hr (See Item 4)

T Ratings — 0, 1/2, 3/4 and 1 Hr (See Items 1A and 4)

L Rating At Ambient — 2 CFM per sq ft

L Rating At 400 F — less than 1 CFM per sq ft



SECTION A-A

1. **Floor or Wall Assembly —** Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/-m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 18 in. (457 mm)

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

1A. **Steel Sleeve —** (Optional, not shown) — Nom 10 in. (254 mm) (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Sleeve may extend a max of 2 in. (51 mm) above top of floor or beyond either surface of wall. As an alternate, nom 10 in. (254 mm) diam (or smaller) sleeve fabricated from nom 0.019 in. (0.48 mm) thick galv steel cast or grouted into floor or wall assembly flush with floor or wall surfaces. **T Rating is 0 Hr when sleeve is used.**

2. **Through Penetrant —** Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper pipe, nom 12 in. (305 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. (305 mm) diam (or smaller) Class 50 (or heavier) ductile iron pressure pipe or nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe centered in the opening and rigidly supported on both sides of the floor or wall assembly.

3. **Pipe Covering* —** Nom 1/2 to 2 in. (13 to 51 mm) thick hollow cylindrical heavy density (min. 3.5 pcf or 56 kg/m^3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt strip tape supplied with the product.

See **Pipe and Equipment Covering — Materials*** (BRGU) category in Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

4. **Firestop System —** The details of the firestop system shall be as follows:

A. **Packing Material —** Min 1 in. (25 mm) thickness of firmly packed mineral wool batt insulation used as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall as required to accommodate the required thickness of caulk fill material (Item B).

B. **Fill, Void or Cavity Material* — Caulk or Sealant —** Applied to fill the annular space flush with the top surface of the floor or sleeve or flush with both surfaces of wall. When nom pipe covering thickness is 2 in. (51 mm), min thickness of caulk fill material is 2 in. (51 mm). When nom pipe covering thickness is 1-1/2 in. (38 mm) or less, min thickness of caulk fill material is 1 in. (25 mm). The hourly F and T Ratings of the firestop system are dependent upon the thickness of the floor or wall, the size of pipe, the thickness of pipe covering material and the size of the annular space (between the pipe covering material and the edge of the circular through opening), as shown in the following table:

Min Floor or Wall Thkns, In. (mm)	Max Pipe Diam, In. (mm)	Nom Pipe Covering Thkns, In. (mm)	Annular Space, In. (mm)	F Rating Hr	T Rating Hr
2-1/2 (64)	4 (102)	1 or 1-1/2 (25 or 38)	1/2 to 2-3/8 (13 to 60)	2	1
4-1/2 (114)	4 (102)	2 (51)	1/4 to 3-5/8 (6 to 92)	2	1-1/2
2-1/2 (64)	12 (305)	1 (25)	1/2 to 1-1/2 (13 to 38)	2	1/2
4-1/2 (114)	12 (305)	1 (25)	1/2 to 2-3/8 (13 to 60)	3	1
2-1/2 (64)	12 (305)	1/2 (13)	1/2 to 2-3/8 (13 to 60)	2	0

3M COMPANY — CP 25WB+ or FB-3000 WT

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Last Updated on 2007-03-05

System No. W-L-1001

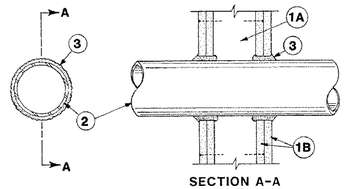
June 15, 2005

F Ratings — 1, 2, 3 and 4 Hr (See Items 2 and 3)

T Ratings — 0, 1, 2, 3, and 4 Hr (See Item 3)

L Rating At Ambient — less than 1 CFM/sq ft

L Rating At 400 F — less than 1 CFM/sq ft



SECTION A-A

1. **Wall Assembly —** The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. **Gypsum Board* —** Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. **Through-Penetrant —** One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in / (0 mm). (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe —** Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. **Conduit —** Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing

D. **Copper Tubing —** Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing

E. **Copper Pipe —** Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

F. **Through Penetrating Product* —** Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

GASTITE, DIV OF TITEFLEX

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG L L C

3. **Fill, Void or Cavity Material* — Caulk or Sealant —** Min 5/8 , 1-1/4,1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam In (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+When copper pipe is used, T Rating is 0 h.

3M COMPANY — CP 25WB+ or FB-3000 WT.

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Last Updated on 2007-06-15

System No. C-AJ-1044

March 15, 2007

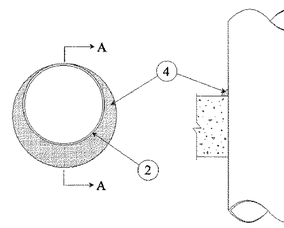
F Ratings — 2, 3, and 4 Hr (See Items 2A and 4)

T Rating — 0 Hr

L Rating At Ambient — 2 CFM/sq ft

L Rating At 400 F — less than 1 CFM/sq ft

W Rating — Class 1 (See Item 4)



SECTION A-A

1. **Floor or Wall Assembly —** Lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Except as noted in table under Item 4, min thickness of solid concrete floor or wall assembly is 4-1/2 in. (114 mm). Floor may also be constructed of any min 6 in.(152 mm) thick UL Classified hollow core **Precast Concrete Units***. When floor is constructed of hollow core precast concrete units, packing material (Item 3) and caulk fill material (Item 4) to be installed symmetrically on both sides of floor, flush with floor surface. Wall assembly may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening in solid lightweight or normal weight concrete floor is 32 in. (813 mm). Max diam of opening in floor constructed of hollow-core precast concrete units is 7 in. (178 mm)

See **Concrete Blocks** (CAZT) and **Precast Concrete Units** (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

1A. **Steel Sleeve —** (Optional, Not Shown) - Nom 16 in. (406 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Sleeve may extend a max of 2 in. (51 mm) above top of floor or beyond either surface of wall. As an alternate, nom 16 in. (406 mm) diam (or smaller) min 0.028 (0.71 mm) thick galvanized sheet steel sleeve cast or grouted into floor or wall assembly flush with floor or wall surfaces.

2. **Through Penetrants —** One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Max annular space between pipe, conduit or tubing and edge of through opening or sleeve is dependent on the parameters shown in Item 4. Min annular space between pipe or conduit and edge of through opening is 0 in. (point contact). Max annular space to be as shown in the table in Item 4. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe —** Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.

C. **Conduit —** Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.

D. **Conduit —** Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.

E. **Copper Tubing —** Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tube.

F. **Copper Pipe —** Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. **Packing Material —** Polyethylene backer rod or nom 1 in. (25 mm) thickness of tightly-packed mineral wool batt or glass fiber insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of caulk fill material (Item 4).

3A. **Forming Material* —** As an alternate to the packing material in Item 3, nom 4 in. (102 mm) wide strips of min 1/2 in (13 mm) thick compressible mat to be stacked to a thickness greater than the width of the annular space and compression-fitted, edge-first, to fill the annular space to a min 4 in. (102 mm) depth. As an option, the strips of min 1/2 in. (13mm) thick compressible mat may be folded in half, lengthwise, and stacked to a thickness greater than the width of the annular space and compression-fitted, edge-first, to fill the annular space to a min 2 in. (51 mm) depth. Top of forming material to be recessed from top surface of floor or from both surfaces of wall as necessary to accommodate the required thickness of caulk fill material.

3M COMPANY — Fire Barrier Packing Material

4. **Fill, Void or Cavity Material* — Caulk, Sealant —** Applied to fill the annular space flush with top surface of floor. In wall assemblies, required caulk thickness to be installed symmetrically on both sides of wall, flush with wall surface. At point contact location between penetrant and sleeve or between penetrant and concrete, a min 1/4 in. (6 mm) diam bead of caulk shall be applied at top surface of floor and at both surfaces of wall. The hourly F Ratings and the min required caulk thicknesses are dependent upon a number of parameters, as shown in the following table:

Min Floor or Wall Thkns In.	Nom Pipe Tube or Conduit Diam In.	Max Annular Space In.	Min Caulk Thkns In.	F Rating Hr
2-1/2 (64)	1/2-12 (13-305)	1-3/8 (35)	1/2 (13)	2
2-1/2 (64)	1/2-12 (13-305)	3-1/4 (83)	1 (25)	2
4-1/2 (114)	1/2-6 (13-152)	1-3/8 (35)	1/4 (6) (a)	2
4-1/2 (114)	1/2-12 (13-305)	1-1/4 (32)	1/2 (13)	3
4-1/2 (114)	1/2-20 (13-508)	2 (51)	1 (25)	3
4-1/2 (114)	1/2-20 (13-508)	2 (51)	1 (25)	3
4-1/2 (114)	1/2-12 (13-305)	3-1/4 (83)	1 (25)	3
4-1/2 (114)	22-30 (558-762)	2 (51)	2 (51)	3
5-1/2 (140)	1/2-6 (13-152)	1-3/8 (35)	1 (25) (b)	4

(a)Min 2 in (51 mm) thickness of mineral wool batt insulation or forming material (Item 3A) required in annular space.

(b)Min 1 in. (25 mm) thickness of mineral wool batt insulation required in annular space on both sides of floor or wall assembly. Min 1 in.(25 mm) thickness of caulk to be installed flush with each surface of floor or wall assembly.

3M COMPANY — CP 25WB+ or FB-3000 WT.

(Note - W Rating applies only when FB-3000 WT is used.)

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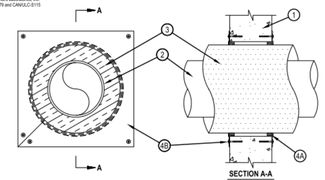
Last Updated on 2007-03-15

System No. W-J-5058
F Rating – 2 Hr
T Rating – 0 and 1-1/2 Hr (See Item 3)

WJ-5058

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



SECTION A-A

1. Wall Assembly – Min 7-5/8 in. thick wall assembly constructed of any UL Classified Concrete Blocks*. Max diam of opening is 18 in.
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe on tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
A. Steel Pipe – Nom 10 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
B. Iron Pipe – Nom 10 in. diam (or smaller) cast on ductile iron pipe.
C. Copper Tube – Nom 4 in. diam (or smaller) Type L (or heavier) copper tube.
D. Copper Pipe – Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.
3. Pipe Covering* – Max 3 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space shall be min 1/2 in. to max 3/4 in.
See Pipe and Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used. When pipe covering thickness is less than 3 in. T Rating is 0 Hr.
4. Firestop System — The firestop system shall consist of the following:
A. Fill, Void or Cavity Material* – Wrap Strip – Nom 3/16 in. thick by 1 in. wide intumescent wrap strip. The wrap strip is continuously wrapped around the outer circumference of the pipe covering three times and slid into annular space 7/8 in. such that 1/8 in. of the wrap strip protrudes from the wall surface. When multiple wrap strips are used to achieve the required total length, the ends are to be butted end-to-end and held in place with tape. Wrap strips are installed on each side of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC – CP648-E W25/1" Wrap Strip
B. Steel Cover Plate – Min 0.021 in. thick (No 25 MSG) galv steel cover plates installed on both surfaces of wall and extending a min of 2 in. beyond the periphery of the opening. The steel cover plate is to be placed over the wrap strips and tightly fitted around the pipe covering. Seam of steel cover plate cut from one corner to the center of the plate. Seam of steel cover plate tightly butted together and secured to surfaces of wall by means of 1/8 in. diam by 3 in. long toggle bolts in conjunction with 3/16 in. by 3/4 in. and 1/4 in. by 1-1/4 in. steel fender washers.

*Bearing the UL Classification Mark

Hilti Firestop Systems

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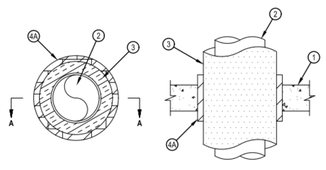
April 25, 2005

System No. C-AJ-5432
F Rating - 2 Hr
T Rating - 2 Hr

CAJ 5432

Classified by Underwriters Laboratories, Inc. to UL 1479



SECTION A-A

Hilti Firestop Systems

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October 01, 2020

Page: 1 of 2

System No. C-AJ-5432

CAJ 5432

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 18 in. (457 mm).
See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Through-Penetrants — One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:
A. Polypropylene (PP-R) Pipe — Nom 12 in. (315 mm OD) diam Aquatherm Blueppo MF SDR 9 or 11 PP-R pipe for use in closed (process or supply) piping systems.
B. Polypropylene (PP-RTC) Pipe — Nom 12 in. (315 mm OD) diam SDR 7.3 Niron Multi Climа pipe for use in closed (process or supply) piping systems.
3. Pipe Covering* — Max 2 in. (51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between insulated pipe and periphery of opening shall be min 1/2 in. (13 mm) to max 1-1/8 in. (127 mm).
See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
3A. Pipe Covering Materials* — As an alternate to Item 3, max 2 in. (51 mm) thick unfaced mineral fiber pipe insulation having a min density of 3.5 pcf (56 kg/m3) and sized to the outside diam of the pipe. Used in conjunction with Item 3B. The annular space between insulated pipe and periphery of opening shall be min 1/2 in. (13 mm) to max 1-1/8 in. (127 mm).
INDUSTRIAL INSULATION GROUP L L C — High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT and High Temperature Pipe Insulation Thermaloc
3B. Sheathing Material* — Use in conjunction with Item 3B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal and transverse joints sealed with metal fasteners or butt tape.
See Sheathing Materials (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. Firestop System — The firestop system shall consist of the following:
A. Fill, Void or Cavity Materials* — Fire blocks installed with long dimension passed through the opening (centered) within floor or wall opening. Fire blocks firmly packed to fill entire annular space between insulated penetrant and periphery of opening.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-BL Firestop Block
B. Fill, Void or Cavity Material* — Sealant (Not Shown) — Fill material applied to the maximum extent possible to fill any voids within the annular space around the penetrant, at top or bottom surface of floor or either surface of wall assembly.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

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

Hilti Firestop Systems

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October 01, 2020

Page: 2 of 2

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02/17/2023

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Smith Sinnett Architecture, P.A. 2019

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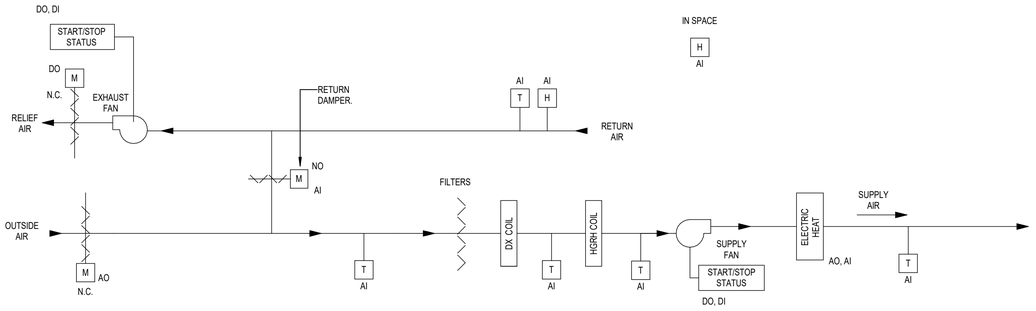
INTEGRATION POINTS LIST

INTEGRATE POINTS BELOW FROM EACH UNIT

SUPPLY AIR TEMPERATURE	AI	CURRENT VALUE OF SUPPLY AIR TEMPERATURE
SUPPLY AIR SETPOINT	AI	CURRENT SAT COOLING OR HEATING SETPOINT, CALCULATED WITH RESET SOURCE
CONTROLLING COIL TEMP SETPOINT	AI	CURRENT CALCULATED COIL SECTION TEMPERATURE TARGET DURING DEHUM MODE
SPACE TEMPERATURE	AI	CURRENT VALUE OF SPACE TEMPERATURE SENSOR
SPACE HUMIDITY	AI	CURRENTL VALUE OF SPACE HUMIDITY
ECONOMIZER SIGNAL	AI	
ECONOMIZER FEEDBACK POSITION	AI	
RETURN AIR DAMPER POSITION	AI	
MODULATING HOT GAS REHEAT VALVE POSITION	AI	
MODULATING GAS HEAT VALVE POSITION	AI	
COMPRESSOR SIGNAL	AI	TYPICAL FOR EACH COMPRESSOR
COMPRESSOR SUCTION PRESSURE	AI	"
COMPRESSOR HEAD PRESSURE	AI	"
COMPRESSOR COIL SATURATION TEMPERATURE	AI	"
COMPRESSOR SUCTION LINE TEMPERATURE	AI	"
COMPRESSOR DISCHARGE TEMPERATURE	AI	"
CONDENSER SIGNAL	AI	TYPICAL FOR EACH CONDENSER
EXPANSION VALVE POSITION	AI	TYPICAL FOR EACH
SUPPLY AIR COOLING SETPOINT	AO	
SUPPLY AIR HEATING SETPOINT	AO	
MAX SAT COOLING SETPOINT RESET LIMIT	AO	
MAX SAT HEATING SETPOINT RESET LIMIT	AO	
WARM-UP TARGET TEMPERATURE	AO	
WARM-UP MODE SAT SETPOINT	AO	
COOL-DOWN MODE SAT SETPOINT	AO	
OCCUPIED COOLING SETPOINT	AO	
OCCUPIED HEATING SETPOINT	AO	
UNOCCUPIED COOLING SETPOINT	AO	
UNOCCUPIED HEATING SETPOINT	AO	
CONTROL TEMPERATURE LOW ALARM OFFSET	AO	
CONTROL TEMPERATURE HIGH ALARM OFFSET	AO	
INDOOR HUMIDITY SETPOINT LOW RESET LIMIT	AO	
INDOOR HUMIDITY SETPOINT HIGH RESET LIMITE	AO	
REMOTE FORCED OCCUPIED STATUS	AO	
REMOTE FORCED COOLING STATUS	AO	
REMOTE FOCED HEATING STATUS	AO	
HIGH SUPPLY TEMP CUTOFF	AO	
LOW SUPPLY TEMP CUTOFF	AO	
MECHANICAL COOLING ALARM	DI	
EMERGENCY SHUTDOWN ALARM	DI	
ALARM STATUS	AI	
WHEEL STATUS	DI	
WHEEL COMMAND	DO	



VERTICAL PACKAGE HEAT PUMP

SEQUENCE OF OPERATION (VERTICAL PACKAGE HEAT PUMP)

THE UNIT MANUFACTURER'S FACTORY SUPPLIED CONTROLLER SHALL CONTROL THE GENERAL OPERATION OF THE UNIT. THE UNIT SHALL OPERATE AS A SINGLE-ZONE UNIT.

THE UNIT SHALL BE STARTED UP AND COMMISSIONED BY THE MECHANICAL AND CONTROLS CONTRACTORS IN COORDINATION WITH THE AUTHORIZED FACTORY REPRESENTATIVE.

THE BAS SHALL SEND OCCUPIED AND UNOCCUPIED SIGNALS TO THE UNIT BASED ON THE USER DEFINED SCHEDULE. THE BAS SHALL MONITOR THE ASSOCIATED POINTS AND BE ABLE TO WRITE TO CERTAIN POINTS, INCLUDING SET POINTS, OCCUPIED AND UNOCCUPIED, ETC. THE BAS SHALL MONITOR THE ALARMS AND BACNET INTEGRATION POINTS LISTED AND DISPLAY ON THE BAS GRAPHICS.

THE CONTROLS CONTRACTOR SHALL COORDINATE BACNET INTEROPERABILITY BUILDING BLOCKS WITH THE EQUIPMENT MANUFACTURER.

ON A CALL FOR COOLING, THE UNIT'S CONTROLLER SHALL STAGE COOLING CAPACITY VIA THE UNIT'S COMPRESSORS AND SUPPLY FAN.

ON A CALL FOR HEATING, THE UNIT'S CONTROLLER SHALL STAGE HEATING CAPACITY. THE HEAT PUMP SHALL BE THE FIRST STAGE OF HEATING. AUXILIARY ELECTRIC HEAT SHALL BE THE SECOND STAGE OF HEATING. THE AUXILIARY ELECTRIC HEAT SHALL BE LOCKED OUT ABOVE 40 DEG F (ADJ).

GENERAL ZONING/SCHEDULING

EACH UNIT IS A ZONE THAT CAN BE INDIVIDUALLY ASSIGNED AN OPERATION SCHEDULE OR OPERATE IN CONJUNCTION WITH OTHER ZONES AS DEFINED BY THE OWNER.

EXCEPT WHERE INDICATED AS STAINLESS STEEL BLANK PLATE SENSORS, ALL THERMOSTATS SHALL HAVE SETPOINT ADJUSTMENT AND OVERRIDE BUTTON. IF AN OVERRIDE BUTTON ASSOCIATED WITH THE UNIT IS PUSHED DURING NORMALLY OCCUPIED TIMES, NO CHANGE IN OPERATION WILL OCCUR. IF AN OVERRIDE BUTTON IS PUSHED DURING NORMALLY UNOCCUPIED TIMES, THE UNIT SHALL TURN ON AND OPERATE IN THE OCCUPIED MODE FOR THE PROGRAMMED TIME DURATION (SET DEFAULT FOR TWO HOURS).

SCHEDULING
REGULAR SCHEDULING: EACH ZONE SHALL HAVE REGULAR, DAY-TO-DAY SCHEDULE OF OCCUPIED HOURS. THE OWNER SHALL BE CONSULTED DURING THE SUBMITTAL PHASE TO ESTABLISH ALL SCHEDULES. AN OPTIMIZED START ALGORITHM SHALL BE USED. THE HVAC EQUIPMENT IN EACH ZONE WILL START EARLY ENOUGH SO THAT THE SPACE TEMPERATURES IN EACH ZONE ARE AT SETPOINT BY THE BEGINNING OF OCCUPIED HOURS. THE START TIME SHALL BE AUTOMATICALLY ADJUSTED WITH CHANGES IN OUTSIDE AIR TEMPERATURE AND OTHER FACTORS.

HOLIDAYS: HOLIDAYS CAN BE SCHEDULED UP TO A YEAR IN ADVANCE. DURING SCHEDULED HOLIDAYS, THE ZONES REMAIN IN UNOCCUPIED MODE. CONSULT THE OWNER ON HOLIDAY SCHEDULING.

SPECIAL EVENT SCHEDULING: SPECIAL EVENTS CAN BE SCHEDULED UP TO A YEAR IN ADVANCE DURING WHICH A ZONE WILL OPERATE IN OCCUPIED MODE REGARDLESS OF THE ZONE'S REGULAR SCHEDULE OR SCHEDULED HOLIDAYS.

ECONOMIZER MODE

IF THE OUTSIDE AIR TEMPERATURE IS BELOW THE RETURN AIR TEMPERATURE AND THE OUTSIDE AIR ENTHALPY IS LESS THAN 28 BTU/LB (ADJ), THE UNIT SHALL ENTER ECONOMIZER MODE. IN ECONOMIZER MODE, THE WHEEL SHALL BE BYPASSED AND THE OUTSIDE AIR VOLUME SHALL BE ALLOWED TO GO UP TO 100% AS NEEDED TO MEET THE COOLING LOAD. ONCE ECONOMIZER MODE IS ENABLED, IT SHALL RUN FOR 15 MINUTES MINIMUM.

IN MORNING WARMUP / COOL DOWN, THE OUTSIDE AIR DAMPER SHALL BE CLOSED AND THE RETURN AIR DAMPER SHALL BE FULLY OPEN.

DEHUMIDIFICATION

IF A SPACE RELATIVE HUMIDITY SENSOR ASSOCIATED WITH THE UNIT REACHES 65%, THE AHU SHALL ENTER DEHUMIDIFICATION MODE.

IN DEHUMIDIFICATION MODE, THE UNIT SHALL EXIT CURRENT OPERATING MODE AND THE COOLING COIL LEAVING AIR TEMPERATURE SHALL BE RESET TO 53 DEG F (ADJ). THE HOT GAS REHEAT SHALL BE ENABLED AND MODULATE TO AVOID OVERCOOLING THE SPACE. ONCE THE HUMIDITY DROPS BELOW 60% (ADJ), THE UNIT SHALL EXIT DEHUMIDIFICATION MODE AND RETURN TO PREVIOUS CONTROL.

SETPOINTS
THE BAS CONTRACTOR SHALL COORDINATE THE DEFAULT SETPOINTS (HEATING, COOLING, AND DEHUMIDIFICATION) WITH THE OWNER DURING THE SHOP DRAWING PHASE. PROVIDE MINIMUM 5 DEGREE DEADBAND BETWEEN HEATING AND COOLING SETPOINT. SUGGESTED SETPOINTS TO START ARE AS FOLLOWS:

OCCUPIED COOLING:	74 DEG F
OCCUPIED HEATING:	69 DEG F
UNOCCUPIED COOLING:	80 DEG F
UNOCCUPIED HEATING:	65 DEG G
DEHUMIDIFICATION:	65% RH MAX

ALARMS
MAINTENANCE INTERVAL ALARM WHEN FAN HAS OPERATED FOR MORE THAN 1,500 HOURS. RESET INTERVAL COUNTER WHEN ALARM IS ACKNOWLEDGED. FAN ALARM IS INDICATED BY THE STATUS BEING DIFFERENT FROM THE COMMAND FOR A PERIOD OF 15 SECONDS.

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02/17/2023

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Smith Sinnett Architecture, P.A. 2019

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: JAV
CHECKED BY: SWC

VPHP CONTROLS

2022017 20 FEB 2023

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VRF HEAT RECOVERY SYSTEM SEQUENCE OF OPERATIONS

A PROGRAMMABLE CENTRAL CONTROLLER, SUPPLIED BY THE VRF SYSTEM MANUFACTURER, CAPABLE OF STAND-ALONE OPERATION WILL CONTROL THE VRF SYSTEM. THE CONTROLLER SHALL HAVE BACNET CAPABILITY AND SHALL BE FULLY INTEGRATED INTO THE BAS FRONT END GRAPHICS VIA BACNET. THE OWNER SHALL HAVE THE ABILITY TO ADJUST ALL SETPOINTS FOR ALL INDOOR UNITS VIA THE BAS FRONT END. THE OWNER SHALL HAVE THE ABILITY TO SET SCHEDULES FOR EACH INDOOR UNIT VIA THE BAS FRONT END.

THE UNITS SHALL BE STARTED VIA A PRE-DETERMINED SCHEDULE FROM THE BAS VIA THE CENTRAL CONTROLLER. THE UNITS WILL BE DE-ENERGIZED IN ACCORDANCE WITH TIME OF DAY SCHEDULES AND 365 DAY CALENDAR THROUGH THE BAS. THE OWNER SHALL BE CONSULTED DURING THE SUBMITTAL PHASE TO ESTABLISH ALL SCHEDULES. AN OPTIMIZED START ALGORITHM SHALL BE USED. THE HVAC EQUIPMENT IN EACH ZONE WILL START EARLY ENOUGH SO THAT THE SPACE TEMPERATURES IN EACH ZONE ARE AT SETPOINT BY THE BEGINNING OF OCCUPIED HOURS. THE START TIME SHALL BE AUTOMATICALLY ADJUSTED WITH CHANGES IN OUTSIDE AIR TEMPERATURE AND OTHER FACTORS. (NOTE: IN SOME CASES, THE OCCUPIED AND UNOCCUPIED SET POINTS MAY BE THE SAME).

HOLIDAYS: HOLIDAYS CAN BE SCHEDULED UP TO A YEAR IN ADVANCE. DURING SCHEDULED HOLIDAYS, THE ZONES REMAIN IN UNOCCUPIED MODE. CONSULT THE OWNER ON HOLIDAY SCHEDULING.

SPECIAL EVENT SCHEDULING: SPECIAL EVENTS CAN BE SCHEDULED UP TO A YEAR IN ADVANCE DURING WHICH A ZONE WILL OPERATE IN OCCUPIED MODE REGARDLESS OF THE ZONE'S REGULAR SCHEDULE OR SCHEDULED HOLIDAYS.

BAS OPERATOR OVERRIDES: THE BAS OPERATOR SHALL BE ABLE TO OVERRIDE INDIVIDUAL SYSTEMS OR THE ENTIRE BUILDING EITHER ON OR OFF AT SINGLE POINTS IN THE OPERATOR FRONT END.

1. GENERAL: THESE UNITS ARE CONSTANT AIR VOLUME UNITS WITH A SUPPLY FAN AND DX REFRIGERANT COIL FOR COOLING AND HEATING. THE OUTSIDE UNIT IS A HEAT RECOVERY VRF CONDENSING UNIT, MEANING INDOOR UNITS IN DIFFERENT ZONES CONNECTED TO THE SAME OUTDOOR UNIT CAN BE IN SIMULTANEOUS HEATING AND COOLING MODES.

2. FAN CONTROL (GENERAL): THE VRF INDOOR UNIT SUPPLY AIR FANS SHALL BE COMMANDED TO RUN BASED ON A USER DEFINED TIME OF DAY SCHEDULE.

3. IN ADDITION TO THE TEMPERATURE SENSOR/WALL CONTROLLER FURNISHED WITH THE VRF INDOOR UNIT, THE CONTROLS CONTRACTOR SHALL PROVIDE A COMBINATION TEMPERATURE/HUMIDITY SENSOR IN EACH PATIENT ROOM AS INDICATED ON THE PLANS TO MONITOR TEMPERATURE AND RELATIVE HUMIDITY. THESE SENSORS SHALL BE USED TO CONTROL THE DOAS UNIT DEWPOINT AND DISCHARGE TEMPERATURE SETPOINTS.

4. THE DOAS UNIT ASSOCIATED WITH THE VRF SYSTEM SHALL RUN AND DELIVER OUTSIDE AIR TO THE SPACE TO THE SPACE AND EXHAUST AIR FROM THE RESTROOMS AND OTHER EXHAUSTED ROOMS CONTINUOUSLY. THE DOAS UNIT SHALL BE THE FIRST STAGE OF HEATING AND COOLING.

5. NIGHT SETBACK MODE: IN NIGHT SETBACK MODE, THE SUPPLY AIR FAN SHALL BE INDEXED OFF AND SHALL REMAIN OFF UNTIL THE START OF AN OCCUPIED CYCLE OR NIGHT HIGH OR NIGHT LOW LIMIT CYCLE. ON A RISE IN SPACE TEMPERATURE ABOVE THE NIGHT HIGH LIMIT SETPOINT (NHL, 75°F ADJ.) THE CENTRAL CONTROLLER SHALL ENABLE THE CENTRAL OUTSIDE UNIT AND THE BRANCH CONTROLLER SHALL METER REFRIGERANT AS REQUIRED TO PROVIDE COOLING TO THAT ZONE'S INDOOR UNIT. THE INDOOR UNITS SHALL BE ENABLED. ON A DROP IN SPACE TEMPERATURE, THE REVERSE SHALL OCCUR. ON A DROP IN SPACE TEMPERATURE BELOW THE NIGHT LOW LIMIT SETPOINT (NLL, 70°F ADJ.) THE CENTRAL CONTROLLER SHALL ENABLE THE CENTRAL OUTSIDE UNIT AND THE BRANCH CONTROLLER SHALL METER REFRIGERANT AS REQUIRED TO PROVIDE HEATING CAPACITY TO THAT ZONE'S INDOOR UNIT. THE INDOOR UNITS SHALL BE ENABLED. ON A RISE IN SPACE TEMPERATURE, THE REVERSE SHALL OCCUR. IN NIGHT SETBACK MODE, A ZONE MAY BE TEMPORARILY OVERRIDDEN AT THE ZONE SENSOR BY AN OCCUPANT. THE ZONE WILL ENTER OCCUPIED MODE FOR TWO HOURS. AFTER TWO HOURS EXPIRE, THE ZONE SHALL RETURN TO NIGHT SETBACK MODE UNLESS THE OCCUPANT INTERVENES AGAIN.

6. OCCUPIED MODE: IN OCCUPIED MODE, THE SUPPLY FANS SHALL RUN CONTINUOUSLY. HEATING OR COOLING CAPACITY SHALL BE PROVIDED BY THE CENTRAL CONDENSING UNIT VIA THE BRANCH CONTROLLER TO MEET LOAD REQUIREMENTS AND MAINTAIN SETPOINT IN EACH ZONE. FAN SPEED AND DISCHARGE AIR TEMPERATURE SHALL BE ALLOWED TO MODULATE TO MAINTAIN SPACE TEMPERATURE AS REQUIRED.

7. TEMPERATURE CONTROL: DURING OCCUPIED MODE, ON A RISE IN ZONE SPACE TEMPERATURE ABOVE SETPOINT (75° F, ADJ.), THE CENTRAL OUTSIDE UNIT SHALL BE ENABLED AND THE BRANCH CONTROLLER SHALL METER THE REFRIGERANT TO THAT ZONE'S INDOOR UNIT TO PROVIDE COOLING. ON A DROP IN SPACE TEMPERATURE BELOW COOLING SETPOINT (PLUS DEADBAND), THE REVERSE SHALL OCCUR. ON A DROP IN ZONE SPACE TEMPERATURE BELOW HEATING SETPOINT (70°F, ADJ), THE CENTRAL OUTSIDE UNIT SHALL BE ENABLED AND THE BRANCH CONTROLLER SHALL METER THE REFRIGERANT TO THAT ZONE TO PROVIDE HEATING. ON A RISE IN SPACE TEMPERATURE ABOVE THE HEATING SETPOINT (PLUS DEADBAND), THE REVERSE SHALL OCCUR. THE CENTRAL OUTSIDE UNIT CAN PROVIDE SIMULTANEOUS HEATING AND COOLING CAPACITY TO DIFFERENT INDOOR UNITS.

8. UPON A SIGNAL FROM ANY SMOKE DETECTOR ASSOCIATED WITH THE UNIT THE SUPPLY FAN SHALL BE DE-ENERGIZED VIA THE FACP RELAY MODULE (HARDWIRED INTERLOCK).

VRF BACNET INTERGRATION POINTS LIST FOR TYPICAL INDOOR AND OUTDOOR UNIT

BACnet Point List

The BACnet point list varies depending on which [BACnet point provision type] is selected in the [System Settings] menu.
There are two BACnet point provision types:

(1) Basic: Reflects the default points.
(2) Advanced: Reflects updated points.
For details, refer to the point list below.

Indoor Unit [Basic]

Single indoor unit has following point list.

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Indoor Temperature	AI	AC_RoomTemp_xx_xxxxxx	℃				
2	Set temperature	AV	AC_Temp_Set_xx_xxxxxx	℃				
3	Setting lower temperature limit	AV	AC_Cool_LimitTemp_xx_xxxxxx	℃				
4	Setting upper temperature limit	AV	AC_Heat_LimitTemp_xx_xxxxxx	℃				
5	The power value of an indoor unit after the basic date	AI	AC_Baseline_kWh_xx_xxxxxx	kWh				
6	The number of hours usage of an indoor unit after the basic date	AI	AC_Baseline_Minute_xx_xxxxxx	Minute				
7	Power value within period	AI	AC_Period_kWh_xx_xxxxxx	kWh				
8	The number of hours usage of an indoor unit within period	AI	AC_Period_Minute_xx_xxxxxx	Minute				
**9	Power On/Off	BV	AC_Power_xx_xxxxxx	Off	On			
10	Applying lower temperature limit setting	BV	AC_Cool_Limit_set_xx_xxxxxx	FALSE	TRUE			
11	Applying upper temperature limit setting	BV	AC_Heat_Limit_set_xx_xxxxxx	FALSE	TRUE			
**12	Filter sign status	BI	AC_FilterSign_xx_xxxxxx	FALSE	TRUE			
**13	Filter sign reset	BO	AC_FilterSign_Reset_xx_xxxxxx	FALSE	TRUE			
**14	Operation mode status	MV	AC_Operation_Mode_xx_xxxxxx	Auto	Cool	Heat	Fan	Dry
*15	Fan speed status	MV	AC_FanSpeed_xx_xxxxxx	Auto	Low	Mid	High	Turbo
*16	Air flow direction status	MV	AC_FanFlow_xx_xxxxxx	1: None, 2: Vertical, 3: Horizon, 4: All, 5: Spot, 6: Mid, 7: Wide, 8: Swing				
**17	Operation mode limit status	MV	AC_Mode_Limit_xx_xxxxxx	No Limit	Cool Only	Heat Only		
**18	Remote controller limit status	MV	AC_Remocon_Limit_xx_xxxxxx	Enable RC	Disable RC	Conditional RC		
**19	Integrated error code of both indoor unit and outdoor unit	AI	AC_Error_Code_xx_xxxxxx	Refer to list of error code				
* 20	SPI setting	BV	AC_SPI_xx_xxxxxx	FALSE	TRUE			
* 21	HumanSensor setting	BV	AC_MDS_xx_xxxxxx	FALSE	TRUE			
* 22	Discharge cooling set temperature	AV	AC_DisCoolTemp_Set_xx_xxxxxx	℃(℉)				
* 23	Discharge heating set temperatrue	AV	AC_DisHeatTemp_Set_xx_xxxxxx	℃(℉)				
* 24	Discharge current temperature	AI	AC_DisCurrentTemp_xx_xxxxxx	℃(℉)				
**25	AC Indoor Notify	NC	AC_Notify_xx_xxxxxx	When the error occurred, send event to list of destination in the recipient_list. (Max : 8)				

Interface Module (Outdoor Unit) [Basic]

Single Interface Module (Outdoor Unit) has following point list.

Instance Number	Object	Object Type	Object Name	Unit	Status value			
				Inactive	Active			
				Text-1	Text-2	Text-3	Text-4	Text-5
1	Outside temperature	AI	ODU_Outside_Temp_xx_xxxx	℃				
* 2	Cool capacity compensation	AV	ODU_Cool_Compensation_xx_xxxx	0 : 5~7 ℃ / 1 : 7~9 ℃ / 2 : 9~11 ℃ / 3 : 10~12 ℃ / 4 : 11~13 ℃ / 5 : 12~14 ℃ / 6 : 13~15 ℃ / 14 : Auto control (from ODU)				
* 3	Heat capacity compensation	AV	ODU_Heat_Compensation_xx_xxxx	0 : 25 kg/cm² / 1 : 26 kg/cm² / 2 : 27 kg/cm² / 3 : 28 kg/cm² / 4 : 29 kg/cm² / 5 : 30 kg/cm² / 6 : 31 kg/cm² / 7 : 32 kg/cm² / 8 : 33 kg/cm² / 14 : Auto control (from ODU)				
4	Compressor status	BI	ODU_Comp_Status_xx_xxxx	FALSE	TRUE			
5	Interface Module (Outdoor Unit) error code	AI	Repeater_Error_Code_xx_xxxx	Refer to the list of the integrated error code				
6	Interface Module (Outdoor Unit) notify	NC	IM_Notify_xx_xxxx	When the error occurred, send event to list of destination in the recipient_list. (Max : 8)				

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02/17/2023

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ID	DATE	DESCRIPTION

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VRF CONTROLS

2022017 20 FEB 2023

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LOUVER SCHEDULE

MARK	PURPOSE	DESCRIPTION	CFM	MAX APD (in wg)	MIN. FREE AREA (sf)	WxH	REMARKS
LV-01	EXHAUST	TOILET EXHAUST	610	0.05	4.67	42x16	
LV-02	INTAKE	OUTSIDE AIR	35	0.05	0.28	12x12	

GENERAL NOTES:

A. PROVIDE KYNAR FINISH. ARCHITECT TO SELECT COLOR FROM MANUFACTURER'S FULL RANGE.
B. PROVIDE BIRDSCREEN
C. ALL LOUVERS SHALL BEAR AMCA SEAL
D. LOUVER SHALL BE AMCA 540 AND AMCA 550 CERTIFIED

VERTICAL PACKAGE HEAT PUMP SCHEDULE

MARK	MANUFACTURER	MODEL	OUTSIDE AIR (CFM)	SUPPLY FAN					COOLING COIL							COMPRESSOR		HEATING (HEAT PUMP)			HOT GAS REHEAT		ELECTRICAL				WEIGHT (LBS)	REMARKS
				CFM	ESP IN. WG	QTY	HP	BHP	EER	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	TOTAL (MBH)	SENSIBLE (MBH)	QTY	RLA	EDB (°F)	LDB (°F)	AUX HEAT (kW)	TOTAL (MBH)	LAT (°F)	V	PH	MCA	MFS		
VPHP-1	BARD	T42S1DB09	225	1250	0.2	1	0.75	0.60	11.0	80	67	58.0	57.0	39.8	29.7	1	17.1	70.0	84.3	9.0	16.2	70.0	208	3	53	60	575	
VPHP-2	BARD	T42S1DB09	225	1250	0.2	1	0.75	0.60	11.0	80	67	58.0	57.0	39.8	29.7	1	17.1	70.0	84.3	9.0	16.2	70.0	208	3	53	60	575	
VPHP-3	BARD	T42S1DB09	225	1250	0.2	1	0.75	0.60	11.0	80	67	58.0	57.0	39.8	29.7	1	17.1	70.0	84.3	9.0	16.2	70.0	208	3	53	60	575	
VPHP-4	BARD	T36S1DB09	225	1100	0.2	1	0.5	0.35	11.0	80	67	57.9	57.4	33.8	26.2	1	13.1	70.0	85.3	9.0	15.5	70.0	208	3	50	60	560	
VPHP-5	BARD	T36S1DB09	225	1100	0.2	1	0.5	0.35	11.0	80	67	57.9	57.4	33.8	26.2	1	13.1	70.0	85.3	9.0	15.5	70.0	208	3	50	60	560	
VPHP-6	BARD	T36S1DB09	225	1100	0.2	1	0.5	0.35	11.0	80	67	57.9	57.4	33.8	26.2	1	13.1	70.0	85.3	9.0	15.5	70.0	208	3	50	60	560	
VPHP-7	BARD	T36S1DB09	225	1100	0.2	1	0.5	0.35	11.0	80	67	57.9	57.4	33.8	26.2	1	13.1	70.0	85.3	9.0	15.5	70.0	208	3	50	60	560	

GENERAL NOTES:

A. SELECTIONS BASED ON BARD EQUIPMENT. EQUIVALENTS BY MARVAIR, MODINE, OR AS LISTED IN THE SPECIFICATIONS
B. UNITS SHALL BE SUITABLE FOR OUTDOOR INSTALLATION WITH THROUGH THE WALL DIFFUSER AND GRILLE
C. PROVIDE ACTIVE DEHUMIDIFICATION WITH HOT GAS REHEAT
D. PROVIDE AUXILIARY ELECTRIC HEAT. PROVIDE OUTDOOR TEMPERATURE SENSOR AND SET TO LOCK OUT AUX. HEAT ABOVE 40°F
E. PROVIDE FULL FLOW ECONOMIZER OPTION WITH ENTHALPY CONTROLS
F. PROVIDE 2 INCH MERV 8 FILTERS
G. PROVIDE LOW AMBIENT CONTROL AND COMPRESSOR SAFETIES
H. PROVIDE FACTORY CIRCUIT BREAKER DISCONNECT
I. UNITS SHALL BE AHRI 390 CERTIFIED
J. UNITS SHALL BE UL OR ETL LISTED
K. UNITS SHALL USE R410A REFRIGERANT
L. PROVIDE FACTORY STARTUP
M. PROVIDE RETURN AIR GRILLE WITH BLADES FIXED AT 30 DEGREE ANGLE AND SIDEWALL SUPPLY DIFFUSER WITH 2 SETS OF INDIVIDUALLY ADJUSTABLE BLADES
N. PROVIDE VENSTAR EXPLORER WI-FI THERMOSTAT T4950SCH-IAQ FOR EACH UNIT. SENSOR SHALL MEASURE CO2 AND IAQ. PROVIDE OUTDOOR SENSOR FOR AUX HEAT LOCKOUT

REFER TO ALTERNATE 1-1 FOR PREFERRED BRAND FOR VPHPs

REFER TO ALTERNATE 1-4 FOR PREFERRED BRAND FOR THERMOSTATS

FAN SCHEDULE

MARK	MANUFACTURER	MODEL	CFM	ESP	HP/ WATTS	RPM	MAX RPM	SONES	ELECTRICAL		WEIGHT	REMARKS
									V	PH		
EF-1	GREENHECK	CSP-A700-VG	610	0.4	113w	1115	1200	1.5	115	1	40	

GENERAL NOTES:

A. PROVIDE ALL DUCT TRANSITIONS FOR FANS.
B. ALL FANS TO BE U.L. LISTED.
C. PROVIDE WITH PLUG TYPE DISCONNECT.
D. PROVIDE OVERLOAD PROTECTION FOR ALL FANS, COORDINATE WITH DIVISION 26.
E. PROVIDE SPEED CONTROLLERS FOR ALL DIRECT DRIVE FANS.
F. BASIS OF DESIGN IS GREENHECK, EQUIVALENTS BY TWIN CITY, LOREN COOKE, PENNBARRY OR APPROVED EQUAL
G. PROVIDE HANGING VIBRATION ISOLATORS FOR ALL INLINE AND CEILING MOUNTED FANS

REMARKS:

1. PROVIDE SWITCH, NEMA-1 INDOORS, NEMA 3R OUTDOORS, TOGGLE, MOUNTED AND WIRED.
2. PROVIDE GRAVITY BACKDRAFT DAMPER.
3. CONTROL FAN WITH DDC SYSTEM.

VRF INDOOR UNIT SCHEDULE

TAG	MANUFACTURER	MODEL	STYLE	CFM	ESP (IN. WG)	TOTAL COOLING (MBH)	SENSIBLE (MBH)	HEATING (MBH)	MCA	MOCP	V	PH	REMARKS
IU-1	SAMSUNG	AM020NNNDCH/AA	4-WAY CASSETTE	430	-	18.6	13.0	19.0	0.4	15	208	1	
IU-2	SAMSUNG	AM018NNNDCH/AA	4-WAY CASSETTE	390	-	16.3	11.4	16.6	0.4	15	208	1	
IU-3A	SAMSUNG	AM007NNNDCH/AA	4-WAY CASSETTE	275	-	6.9	4.9	7.7	0.2	15	208	1	
IU-3B	SAMSUNG	AM007NNNDCH/AA	4-WAY CASSETTE	275	-	6.9	4.9	7.7	0.2	15	208	1	
IU-4	SAMSUNG	AM012NNNDCH/AA	4-WAY CASSETTE	335	-	11.0	7.8	11.8	0.3	15	208	1	
IU-5	SAMSUNG	AM012NNNDCH/AA	4-WAY CASSETTE	335	-	11.0	7.8	11.8	0.3	15	208	1	

GENERAL NOTES (VRF INDOOR UNITS):

A. PROVIDE CONDENSATE PUMP INTEGRAL TO EACH INDOOR UNIT AND POWERED OFF SAME TERMINALS.
B. UNITS TO BE TESTED PER AHRI 1230.
C. PROVIDE DECORATIVE PANELS FOR ALL CEILING CASSETTE UNITS.
D. PROVIDE ALL REQUIRED DUCT TRANSITIONS FROM DUCTED UNIT FAN OUTLETS.
E. PROVIDE GALVANIZED STEEL AUXILIARY DRAIN PAN WITH FLOAT SWITCH UNDER ALL DUCTED UNITS.
F. CAPACITY RATINGS ARE AT INDOOR 64°F-WB/75°F-DB AND OUTDOOR 95°F; AND 68°F INDOOR AND 17°F OUTDOOR. CAPACITIES INCLUDE EFFECTS OF LINE LENGTHS AND CONNECTED DIVERSITY. RATINGS ASSUME SIMULTANEOUS HEATING AND COOLING OPERATION.
G. COORDINATE LOCATION OF UNITS WITH ELECTRICAL TRADE TO AVOID CONFLICTS WITH LIGHTS AND OTHER DEVICES.
H. SELECTIONS BASED ON SAMSUNG EQUIPMENT. EQUIVALENTS BY DAIKIN, MITSUBISHI, OR AS LISTED IN THE SPECIFICATION.
I. THE MECHANICAL CONTRACTOR SHALL SUBMIT A CERTIFICATION OF TRAINING AND QUALIFICATIONS FOR INSTALLATION OF THE VRF SYSTEM BY THE VRF EQUIPMENT MANUFACTURER.
J. PROVIDE WIRED CONTROLLER WITH LCD SCREEN AND SET POINT ADJUSTMENT.
K. CONTRACTOR SHALL PROVIDE TEMPORARY FILTER MEDIA AND FINAL FILTER MEDIA FOR ALL UNITS. FINAL FILTER MEDIA SHALL BE INSTALLED JUST PRIOR TO TAB.

AIR DISTRIBUTION SCHEDULE

MARK	MANUFACTURER	MODEL	PURPOSE	MIN CFM	MAX CFM	FACE SIZE	INLET SIZE	REMARKS
10x4	PRICE	630	RETURN/EXHAUST	20	95	10x4	10x4	1
RR	PRICE	APDDR	RETURN/EXHAUST	30	95	12x12	6	1,2,3,4
S	PRICE	APDDR	RETURN/EXHAUST	105	225	24x24	8	1,2,3,4

GENERAL NOTES:

A. BASIS OF DESIGN IS PRICE. EQUIVALENTS BY TITUS, KRUEGER, TUTTLE AND BAILEY, NAILOR, OR AS LISTED IN SPECIFICATIONS
B. PROVIDE VOLUME DAMPERS AT TAKE-OFF FOR EACH GRILLE
C. ALL AIR DISTRIBUTION DEVICES SHALL BE ALUMINUM
D. THE PRICE MODELS SCHEDULED HERE ARE BASIS OF DESIGN, INCLUDING GENERATED NOISE. PROPOSED SUBSTITUTIONS WILL BE JUDGED BY THOSE CRITERIA ALSO
E. WHERE LOCATED IN HARD CEILINGS, PROVIDE ALUMINUM MOUNT FRAME/PLASTER FRAME FOR HARD CEILING THAT ALLOWS DIFFUSER/GRILLE WITH FLEX CONNECTION TO BE LIFTED OUT OF FRAME TO ACCESS CEILING SPACE. TYPICAL OF ALL HARD CEILING LOCATIONS. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN
F. FOR SIDE WALL GRILLES, PROVIDE REMOTE CABLE OPERATED, GEAR DRIVEN BALANCING DAMPER OPERABLE FROM FACE OF DIFFUSER

REMARKS:

1. PROVIDE WITH OFF-WHITE ENAMEL FINISH
2. PROVIDE WITH TRIM TO MATCH CEILING TYPE. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILINGS
3. PROVIDE DIFFUSER/GRILLE WITH ROUND NECK OR PROVIDE SQUARE TO ROUND TRANSITION
4. ALL CEILING MOUNTED RETURN GRILLES SHALL BE FULL FACED. NO LAY-IN PANELS ALLOWED

VRF HEAT RECOVERY UNIT SCHEDULE

TAG	TOTAL COOLING (MBH)	HEATING CAPACITY (MBH)	COMPRESSOR/ RLA	FANS/ FLA	ELECTRICAL DATA									MANUFACTURER	MODEL NUMBER	WEIGHT	REMARKS
					MODULE 1		MODULE 2		IEER	EER	SCHE	REF CHARGE (LBS)	VOLTAGE/PH				
					MCA	FUSE	MCA	FUSE									
VRF-1	69.0	77.0	1/14.3	1/4.0	28	35	-	-	29.7	13.0	24.7	12.1	208/3	SAMSUNG	AM072FXVAFR2AA	420	

GENERAL NOTES:

A. SELECTIONS BASED ON SAMSUNG EQUIPMENT. EQUALS BY DAIKIN, MITSUBISHI OR AS LISTED IN THE SPECIFICATION.
B. PROVIDE ALL REQUIRED ACCESSORIES FOR A COMPLETE WORKING SYSTEM.
C. UNITS TO BE RATED AND CERTIFIED IN ACCORDANCE WITH AHRI 1230.
D. CAPACITY RATINGS ARE AT INDOOR 64°F-WB/75°F-DB AND OUTDOOR 95°F; AND 68°F INDOOR AND 47°F OUTDOOR. CAPACITIES INCLUDE EFFECTS OF LINE LENGTHS AND CONNECTED DIVERSITY. PROVIDE OUTDOOR TWINNING KITS AS REQUIRED.
E. PROVIDE CENTRALIZED CONTROLLER.
F. PROVIDE WEB BASED MONITORING SOFTWARE.
G. PROVIDE HAIL GUARD KITS FOR OUTDOOR UNITS.
H. REFRIGERANT CHARGE LISTED IS THE FACTORY CHARGE OF THE UNIT ONLY. PROVIDE REFRIGERANT CHARGE FOR WHOLE SYSTEM WITH SUBMITTALS/SHOP DRAWINGS TO SHOW COMPLIANCE WITH MAXIMUM SYSTEM CHARGES LISTED ON NEXT PAGE.

MECHANICAL WORK IS LINKED TO ALTERNATE NO. 2-1

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02/17/2023

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: JAV
CHECKED BY: SWC

MECHANICAL SCHEDULES

2022017 20 FEB 2023

M7-01

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GENERAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO THE INSTALLATION OF HIS EQUIPMENT SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE.
2. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING SYSTEM. REFER TO THE SPECIFICATIONS FOR MORE DETAILED INFORMATION.
3. USE OF THE CONDUIT SYSTEM FOR EQUIPMENT GROUNDING SHALL NOT BE ACCEPTABLE. A SEPARATE GREEN GROUND WIRE SHALL RUN WITH THE CIRCUIT CONDUCTORS IN EACH CIRCUIT.
4. ALL FUSES, DISCONNECT SWITCHES, AND BREAKER SIZES SHOWN FOR MECHANICL EQUIPMENT SHALL BE VERIFIED BEFORE THE PURCHASE OR INSTALLATION OF SAID EQUIPMENT, WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR.
5. ALL WORK AND MATERIAL SHALL BE PROVIDED IN ACCORDANCE WITH STATE, LOCAL AND NATIONAL CODES AND ORDINANCES.
6. THE NEW FIRE ALARM EQUIPMENT SHOWN SHALL BE PROVIDED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. PROVIDE ALL WIRING AS REQUIRED FOR A COMPLETE SYSTEM.
7. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL CEILING TYPES AND FINISHES BEFORE PURCHASE OF ANY LIGHT FIXTURES SO THAT THE PROPER TRIM WILL BE PROVIDED FOR THE CEILING TO BE INSTALLED. ANY DIFFERENCES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
8. EACH CONTRACTOR SHALL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIM AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
9. ALL JUNCTION BOXES AND CONDUIT RUNS (WITH OR WITHOUT WIRES) SHALL BE COLOR CODED WITH PAINT, IN ACCORDANCE WITH ELECTRICAL GENERAL PROVISIONS.
10. ALL WIRE AND CONDUIT SIZES ARE BASED ON 75°C THHN OR THWN WIRE UNLESS OTHERWISE NOTED.
11. THE LOCATION OF ALL WALL MOUNTED DEVICES, INCLUDING MOUNTING HEIGHTS, SHALL BE FIELD VERIFIED WITH THE ARCHITECT PRIOR TO INSTALLATION.
12. WHERE MULTIPLE SWITCHES ARE SHOWN IN THE SAME LOCATION THEY SHALL BE GANGED TOGETHER IN ONE MULTIPLE GANG BOX WITH MATCHING COVER AND PARTITION (IF REQUIRED). THE ELECTRICAL CONTRACTOR SHALL LOOK AT BOTH POWER AND LIGHTING PLAN TO DETERMINE WHICH SWITCH IS APPLICABLE.
13. WHERE ELECTRICAL EQUIPMENT PENETRATES EXTERIOR WALLS OR THE ROOF, THEY SHALL BE PROPERLY SEALED WITH METHODS APPROVED BY THE ENGINEER. SUBMIT DETAIL OF PROPOSED SEALING METHODS.
14. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CHAIN HUNG FIXTURES LOCATED IN MECHANICAL OR OTHER SPACES WITH OTHER TRADES, SO AS NOT TO CONFLICT WITH OTHER EQUIPMENT.
15. WHERE CONDUIT OR OUTLET BOXES CANNOT BE INSTALLED IN EXISTING WALLS FOR NEW DEVICES, THEN PROVIDE AND INSTALL SURFACE MOUNTED WIREMOLD RACEWAYS. CONFIRM ALL WIREMOLD WITH ARCHITECT PRIOR TO INSTALLATION.
16. OUTLET BOXES ON OPPOSITE SIDES OF THE FIRE RESISTANT WALL OR SHAFT ENCLOSURE RATED TWO HOURS OR LESS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24" AS REQUIRED BY NCSBC VOL 1 PARAGRAPH 705.4.3.
17. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ACCESS PANELS AS REQUIRED FOR ELECTRICAL CODE COMPLIANCE AND TO ACCESS ANY INSTALLATION THAT WILL REQUIRE FUTURE MAINTENANCE. THESE DOORS SHALL BE 20" X 20". EACH ROOM WITH A DRYWALL CEILING SHALL HAVE A MINIMUM OF ONE ACCESS DOOR PROVIDED BY THE ELECTRICAL CONTRACTOR. THE DRYWALL SUBCONTRACTOR WILL PROVIDE THE REQUIRED FRAMED OPENING AND INSTALL THE ACCESS DOORS.
18. CONDUCTORS FOR BRANCH CIRCUITS SHALL BE SIZED TO PREVENT VOLTAGE DROP EXCEEDING 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 5%.

    A. WHERE THE CONDUCTOR LENGTH FROM THE PANEL TO THE FIRST OUTLET ON A 120V CIRCUIT EXCEED 50'-0" THE BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL NOT BE SMALLER THAN #10AWG. INCREASE THE BRANCH CIRCUIT CONDUCTOR SIZE AN ADDITIONAL WIRE SIZE FOR EACH ADDITIONAL 125' FOR THE ENTIRE CIRCUIT. THE GROUND CONDUCTOR SIZE SHALL BE INCREASED PROPORTIONALLY TO THE INCREASED PHASE CONDUCTORS AS PER NEC 2011 250.122 (B).

    B. WHERE THE CONDUCTOR LENGTH FROM THE PANEL TO THE FIRST OUTLET ON A 277V CIRCUIT EXCEEDS 125'-0", THE BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL NOT BE SMALLER THAN #10 AWG. CONDUCTOR SIZE OF REMAINING BRANCH CIRCUIT SHALL INCREASE AS NEEDED TO MEET ABOVE VOLTAGE DROP LIMITATIONS. THE GROUND CONDUCTOR SIZE SHALL BE INCREASED PROPORTIONALLY TO THE INCREASED PHASE CONDUCTORS AS PER NEC 2017 250.122(B).
19. ELECTRICAL CONTRACTOR SHALL VISIT SITE PRIOR TO BID. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ELECTRICAL WORK (IE RELOCATING/MOVING CONDUITS/WIRING, LIGHT FIXTURES, ETC.) TO ACCOMODATE THE REPLACEMENT OF MECHANCIAL EQUIPMENT AND PIPING. CLOSE COORDINATION WITH MECHANCIAL CONTRACTOR IS REQUIRED.

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE:

ENERGY CODE: PRESCRIPTIVE__X__ PERFORMANCE_____
ASHRAE 90.1: PRESCRIPTIVE_____ PERFORMANCE_____

LIGHTING SCHEDULE

Lamp type required in fixture - See Fixture Schedule.
Number of lamps in fixture - See Fixture Schedule.
Ballast type used in the fixture - See Specifications.
Number of ballasts in fixture - See Specifications.
Total wattage per fixture - Varies - See Fixture Schedule
Total interior wattage specified versus allowed: 5200 watts versus 12600 watts (whole building)
Total exterior wattage specified versus allowed: 1500 watts versus 3000 watts

ADDITIONAL PRESCRIPTIVE COMPLIANCE

___ 406.2 More Efficient HVAC Performance
_X_ 406.3 Reduced Lighting Power Density
___ 406.4 Enhanced Lighting Controls
___ 406.5 On-Site Supply of Renewable Energy
___ 406.6 Provision of Dedicated Outdoor HVAC Air System
___ 406.7 High Efficiency Service Water Heating

DESIGNER STATEMENT:
To the best of my knowledge and belief, the design of this building complies with the electrical system and equipment requirements of the 2018 North Carolina State Building Code, Energy Conservation Code.

SYMBOL LEGEND (CONTINUED)

SYMBOL	DESCRIPTION	REMARKS
	4' X 4' X 3/4" FIRE RETARDANT PLYWOOD EQUIPMENT BACKBOARD COORDINATE LOCATION, PLACEMENT WITH OWNER.	
●	CONDUIT UP OR DOWN AS INDICATED ON PLANS	
○ PT	RECESS ACTIVATED FIRE RATED POKE-THROUGH FLOOR BOX	
⊙	FACELESS GFI FOR UNDERCOUNTER REFRIGERATOR - MOUNT AT +42" AFF.	
DDC	DIGITAL DIRECT CONTROLS FOR HVAC BY HVAC CONTRACTOR	
	SIMPLEX RECEPTACLE FOR SUMP PUMP	
VFD	VARIABLE FREQUENCY DRIVE FOR HVAC EQUIPMENT FURNISHED BY MECHANICAL CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR.	
——	CONDUIT SLEEVES - SIZE AND QUANTITY AS SHOWN ON PLANS	
J	JUNCTION BOX WITH REMOVABLE COVER - SIZE PER NATIONAL ELECTRICAL CODE	
	VIDEO SURVEILLANCE CAMERA	
D	DATA RACK PROVIDED AND INSTALLED BY OWNER/OTHERS	
TMGB	MDF ROOM MAIN GROUND BAR. REFER TO SPECIFICATIONS AND REFER TO DETAILS.	
TGB	IDF ROOM GROUND BAR. REFER TO SPECIFICATIONS AND REFER TO DETAILS.	
MGB	MAIN GROUND BAR. REFER TO SPECIFICATIONS AND REFER TO DETAILS.	
KP	NUMERICAL REMOTE SECURITY KEYPAD. LOCATE AT 60" AFF.	
CR	SECURITY CARD READER. LOCATE +48" TO TOP OF OUTLET.	
	120/208 VOLT PANELBOARD WITH NEUTRAL AND GROUND BUS ACCESSORIES.	
SPD	SURGE PROTECTIVE DEVICE	
TX	DRY TYPE STEP DOWN TRANSFORMER 480-120/208 3 PHASE.	
	DISCONNECT SWITCH, HEAVY DUTY	
	WIRING AND CONDUIT INSTALLED CONCEALED IN WALL SPACE OR ABOVE FINISHED CEILING	
— —	UNSWITCHED WIRING AND CONDUIT LEG ON LIGHTING PLANS. UNDER FLOOR WIRING AND CONDUIT ON POWER PLANS. UNDER GROUND WIRING AND CONDUIT ON SITE PLANS.	
→	HOME RUN CIRCUIT TO PANELBOARD	

SYMBOL LEGEND

SYMBOL	DESCRIPTION	REMARKS
OR	LUMINAIRE - LETTER DESIGNATES TYPE	SEE FIXTURE SCHEDULE
OR	NIGHT LIGHT / EMERGENCY LIGHT FIXTURE - LETTER DESIGNATES TYPE	SEE FIXTURE SCHEDULE
	LIGHT FIXTURE - LETTER DESIGNATES TYPE	SEE FIXTURE SCHEDULE
	EMERGENCY LIGHT FIXTURE - LETTER DESIGNATES TYPE	SEE FIXTURE SCHEDULE
	BATTERY POWERED EMERGENCY FIXTURE - WALL MOUNTED	SEE FIXTURE SCHEDULE
	EXIT LIGHT - ARROW INDICATES DIRECTION & SHADING INDICATES ILLUMINATED FACE(S).	SEE FIXTURE SCHEDULE
LC#	MECHANICALLY HELD LIGHTING CONTACTOR. # INDICATES CONTACTOR NUMBER. PROVIDE NUMBER OF CONTACTS AS REQUIRED. PROVIDE HAND OFF AUTO SWITCH FOR EACH LIGHTING CONTACTOR.	SQUARE D CLXGXXXX PROVIDE # CONTACTS AS NEEDED
OS	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH ISOLATED RELAY AND WIDE ANGLE LENS. TIME DELAYS OF NO LESS THAN 15 MINUTES. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.	WATTSTOPPER DT200 OR APPROVED EQUAL BY P&S OR LEVITON.
OS	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH ISOLATED RELAY AND WIDE ANGLE LENS. TIME DELAYS OF NO LESS THAN 15 MINUTES. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.	WATTSTOPPER DT300 OR APPROVED EQUAL BY P&S OR LEVITON.
OS_U	CEILING MOUNTED ULTRASONIC OCCUPANCY SENSOR WITH 1100 SQ. FT.,, 360°, TWO SIDED COVERAGE. IN GANG TOILETS, MOUNT CENTRAL TO THE STALL AREA WITH RECEIVER AIMED TOWARD THE ENTRANCE. TIME DELAYS OF NO LESS THAN 15 MINUTES. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.	WATTSTOPPER WT1105 OR APPROVED EQUAL BY P&S OR LEVITON.
S_{OS}	DUAL TECHNOLOGY WALL SWITCH SENSOR - COVERAGE: MAJOR MOTION 35'x30', MINOR MOTION 20'x15'. TIME DELAYS OF NO LESS THAN 15 MINUTES. MOUNT AT +48" TO TOP OF OUTLET BOX. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.	WATTSTOPPER DSW-301 OR APPROVED EQUAL BY P&S OR LEVITON.
S	SINGLE POLE TOGGLE SWITCH - 48" ABOVE FINISHED FLOOR TO TOP OF OUTLET, UNLESS OTHERWISE NOTED.	
S_3	3-WAY SWITCH - INSTALL AT 48" ABOVE FINISHED FLOOR TO TOP OF OUTLET. SWITCH COLOR SELECTED BY ARCHITECT.	
S_4	4-WAY SWITCH - INSTALL AT 48" ABOVE FINISHED FLOOR TO TOP OF OUTLET SWITCH COLOR SELECTED BY ARCHITECT.	
S_D	SLIDE TYPE DIMMER SWITCH FOR 0-10V LED AS NEEDED. VERIFY WITH FIXTURE PROVIDER FOR COMPATIBLE SWITCH TYPES.	
S_T	DIGITAL TIMER SWITCH WITH AUDIO/VISUAL CAPABILITY TO MEET 2018 NCSBC ENERGY CODE	
WP S_M	120 VOLT MOTOR RATED TOGGLE DISCONNECT SWITCH WITH JUNCTION BOX. WP INDICATES TO PROVIDE NEMA-3R SWITCH.	
	DUPLEX GROUNDING TYPE RECEPTACLE - AT 16" ABOVE FINISHED FLOOR TO BOTTOM OF OUTLET, UNLESS OTHERWISE NOTED	HUBBELL 5362-X WITH 97101 COVER
GFI	DUPLEX RECEPTACLE - GROUND FAULT INTERRUPTION TYPE - INSTALL AT 16" ABOVE FINISHED FLOOR TO BOTTOM OF OUTLET, UNLESS OTHERWISE NOTED.	HUBBELL GF-5362-X WITH STAINLESS STEEL S26 WALLPLATE
GFI WP	WEATHERPROOF DUPLEX GROUNDING TYPE RECEPTACLE - +16" ABOVE GRADE TO BOTTOM OF OUTLET BOX, UNLESS OTHERWISE NOTED.	HUBBELL GF-5362-X WITH TAYMAC HEAVY DUTY IN-USE COVER
	QUADRUPLEX GROUNDING TYPE RECEPTACLES IN A DOUBLE GANG BOX. MOUNT AT 16" AFF TO BOTTOM OF OUTLET UNLESS OTHERWISE NOTED.	HUBBELL 5362-X WITH 97101 COVER
	SPECIAL PURPOSE RECEPTACLE - SIZE TO MATCH EQUIPMENT FURNISHED - NEMA CONFIGURATION TO MATCH EQUIPMENT FURNISHED - REFER TO PLANS - VERIFY WITH EQUIPMENT MANUFACTURER. MOUNT AT 16" ABOVE FINISHED FLOOR TO BOTTOM OF OUTLET UNLESS OTHERWISE NOTED.	PASS & SEYMORE - PROVIDE TO MATCH EQUIPMENT WITH COVER EQUALS: HUBBLE, LEVITON
TV	TELEVISION OUTLET AND DUPLEX RECEPTACLE - REFER TO DETAIL E003-07. CONFIRM LOCATION AND MOUNTING HEIGHT WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.	
#	DATA OUTLET - TWO GANG OUTLET WITH SINGLE GANG PLASTER FLANGE WITH 1 1/4" CONDUIT TO ABOVE ACCESSIBLE CEILING.	
R	FIRE ALARM RELAY FOR HVAC EQUIPMENT SHUTDOWN	
H #CD	WALL MOUNTED FIRE ALARM HORN/STROBE - #CD INDICATES CANDELA RATING OF STROBE	
H #CD	CEILING MOUNTED FIRE ALARM HORN/STROBE - #CD INDICATES CANDELA RATING OF STROBE	
F	WALL MOUNTED FIRE ALARM PULL STATION - MOUNT AT +4'-0" TO TOP OF OUTLET BOX. PROVIDE LEXAN STOPPER II COVER.	
RM	FIRE ALARM RELAY MODULE	
MM	FIRE ALARM MONITOR MODULE	
S #CD	CEILING MOUNTED FIRE ALARM STROBE ONLY - #CD INDICATES CANDELA RATING OF STROBE	
S #CD	WALL MOUNTED FIRE ALARM STROBE ONLY - #CD INDICATES CANDELA RATING OF STROBE	
SD	CEILING MOUNTED FIRE ALARM SMOKE DETECTOR	
HD	CEILING MOUNTED FIRE ALARM HEAT DETECTOR	
CO	CARBON MONOXIDE DETECTOR	
FACP	FIRE ALARM CONTROL PANEL	
RACP	REMOTE FIRE ALARM CONTROL PANEL	
	FIRE ALARM NAC PANEL	
	REMOTE ALARM INDICATOR - MOUNT 88" AFF.	
TP	FIRE ALARM TAMPER SWITCH	
FS	FIRE ALARM WATER FLOW SWITCH	

SHEET INDEX - ELECTRICAL

Sheet Number	Sheet Name	Current Revision	Current Revision Date
E0-00	ELECTRICAL LEAD SHEET		
E0-01	DEMOLITION PLAN - BASE BID		
E0-02	DEMOLITION PLAN - ALTERNATES 2-1 - 2-3		
E1-01	LIGHTING PLAN - BASE BID		
E1-02	LIGHTING PLAN ALTERNATE BIDS 2-1 - 2-3		
E2-01	POWER PLAN - BASE BID		
E2-02	POWER PLAN - ALTERNATE BIDS 2-1 THROUGH 2-3		
E4-01	FIRE ALARM/SECURITY PLAN - BASE BID		
E4-02	FIRE ALARM/SECURITY PLAN - ALTERNATE BIDS		
E5-01	PANEL SCHEDULES AND RISER DIAGRAM		
E5-02	PANEL SCHEDULES AND DETAILS		
E6-01	DETAILS		
E6-02	DETAILS		
E6-03	DETAILS		
E6-04	DETAILS		
E6-05	ELECTRICAL SITE PLAN - ALTERNATE BIDS 3-1 & 3-2		

ABBREVIATIONS

ABBREV.	DEFINITION
A	AMPS, AMPERE, AMPERAGE
AC	ABOVE COUNTER
A/C	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CURRENT
AL	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
ATSC	AUTOMATIC TRANSFER SWITCH CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
A/V	AUDIO/VISUAL
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUOTMATION SYSTEM
BFC	BELOW FINISHED CEILING
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
CU	COPPER
D	DIMMING OR DIMMER
DB	DISTRIBUTION BOARD
DC	DIRECT CURRENT
DL	DAY-LIGHTING
DISC	DISCONNECT SWITCH
E	EMERGENCY
ECB	ENCLOSED CIRCUIT BREAKER
EWC	ELECTRIC WATER COOLER
EX	EXISTING
FUT	FUTURE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FDR	FEEDER
GAA	GENERATOR ALARM ANNUNCIATOR
GAP	GENERATOR ALARM PANEL
GEN	GENERATOR
GEC	GROUNDING ELECTRODE CONDUCTOR
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFEP	GROUND FAULT EQUIPMENT PROTECTION
GFP	GROUND FAULT PROTECTION
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HH	HAND HOLE
HOA	HAND-OFF AUTOMATIC
HP	HORSEPOWER
IEEE	INSTITUE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IG	ISOLATED GROUND
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMPS
KW	KILOWATT
KWH	KILOWATT HOURS
LC	LIGHTING CONTACTOR
LS	LOUD SPEAKER
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT PROTECTION
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MIN	MINIMUM
MH	MAN HOLE
MLO	MAIN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
N or NEUT	NEUTRAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
O/H	OVER HEAD
P	POLE
PA	PUBLIC ADDRESS
PB	PULL BOX
PC	PHOTOCELL
PH	PHASE POTENTIAL TRANSFORMER
PT	POTENTIAL TRANSFORMER
RC	RECEPTACLE CONTACTOR
RSC	RIGID STEEL CONDUIT
SEC	SECURITY
SPD	SURGE PROTECTIVE DEVICE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TIME CLOCK
TEMP	TEMPORARY
TGB	TECHNOLOGY GROUND BAR
TGMB	TECHNOLOGY MAIN GROUND BAR
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP.	TYPICAL
U/C	UNDER COUNTER
U/G	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UL	UNDERWRITERS' LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTABLE POWER SUPPLY
V	VOLTS, VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
WG	WIRE GUARD
WP	WEATHERPROOF
XFER	TRANSFER
XFMR	TRANSFORMER

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02/17/2023 BID/PERMIT SET

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: GS
CHECKED BY: JTB

ELECTRICAL LEAD SHEET

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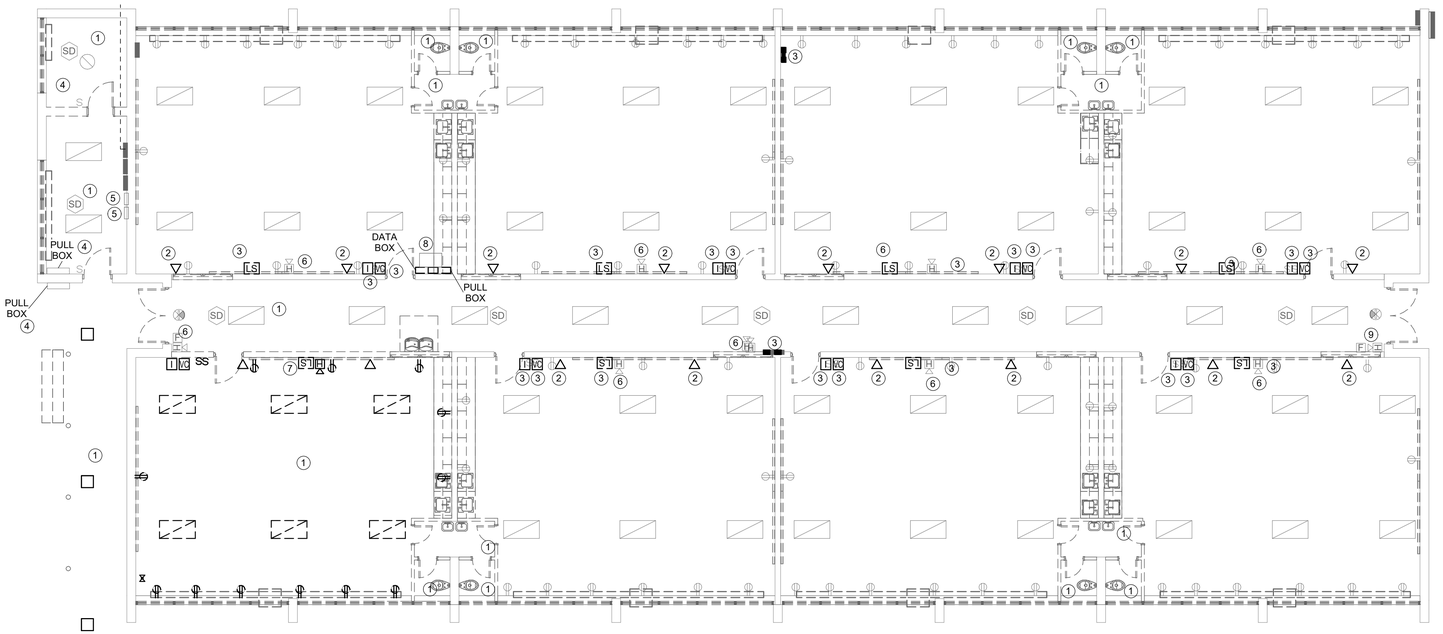
KEY NOTES:

1. DISCONNECT ALL LIGHTS, SWITCHES, RECEPTACLES, DATA OUTLETS, AND ANY OTHER DEVICES FROM THIS AREA. REMOVE ALL WIRING BACK TO SOURCE, AND DEMOLISH ALL CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
2. DISCONNECT AND DEMOLISH EXISTING DATA DEVICE. REMOVE CONDUIT AND CABLING BACK TO SOURCE.
3. DISCONNECT AND DEMOLISH EXISTING INTERCOM SYSTEM DEVICE. REMOVE CONDUIT AND CABLING BACK TO SOURCE.
4. EXISTING PULL BOX FOR DATA AND FIRE ALARM TO REMAIN IN PLACE. RETAIN ALL CONDUIT AND CABLING INCOMING TO BUILDING AT THESE POINTS.
5. FIRE ALARM TERMINAL CABINET AND PULL BOX ARE EXISTING TO REMAIN.
6. ALL FIRE ALARM DEVICES AND WIRING/CONDUIT IS TO REMAIN IN PLACE. PROTECT EXISTING DEVICES DURING DEMOLITION. REMOVE DEVICES IF REQUIRED FOR PAINTING OR DEMOLITION OF OTHER ITEMS AND PLACE TO THE SIDE FOR REINSTALLATION DURING NEW WORK PHASE.
7. EXISTING FIRE ALARM DEVICE IS TO BE REMOVED. REWORK EXISTING BOX AND CONDUIT AND WIRING FOR NEW LOCATION IN NEW RESTOOMS.
8. EXISTING WALL MOUNTED DATA RACK TO BE DISCONNECTED AND RELOCATED TO NEW LOCATION IN STORAGE 110. RE-ROUTE EXISTING DATA CABLING FROM PULL BOX HEAD-IN TO NEW LOCATION AND PREPARE FOR RECONNECTION.
9. DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE AND PULL STATION AND SET ASIDE. PREPARE FOR REINSTALLATION IN FURRED OUT WALL UNDER NEW CONSTRUCTION.



1 Electrical Demolition Plan

1/8" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 024651 ENGINEER JAMES T. BUTKOVICH

02/17/2023

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: GS
CHECKED BY: JTB

DEMOLITION PLAN - BASE BID

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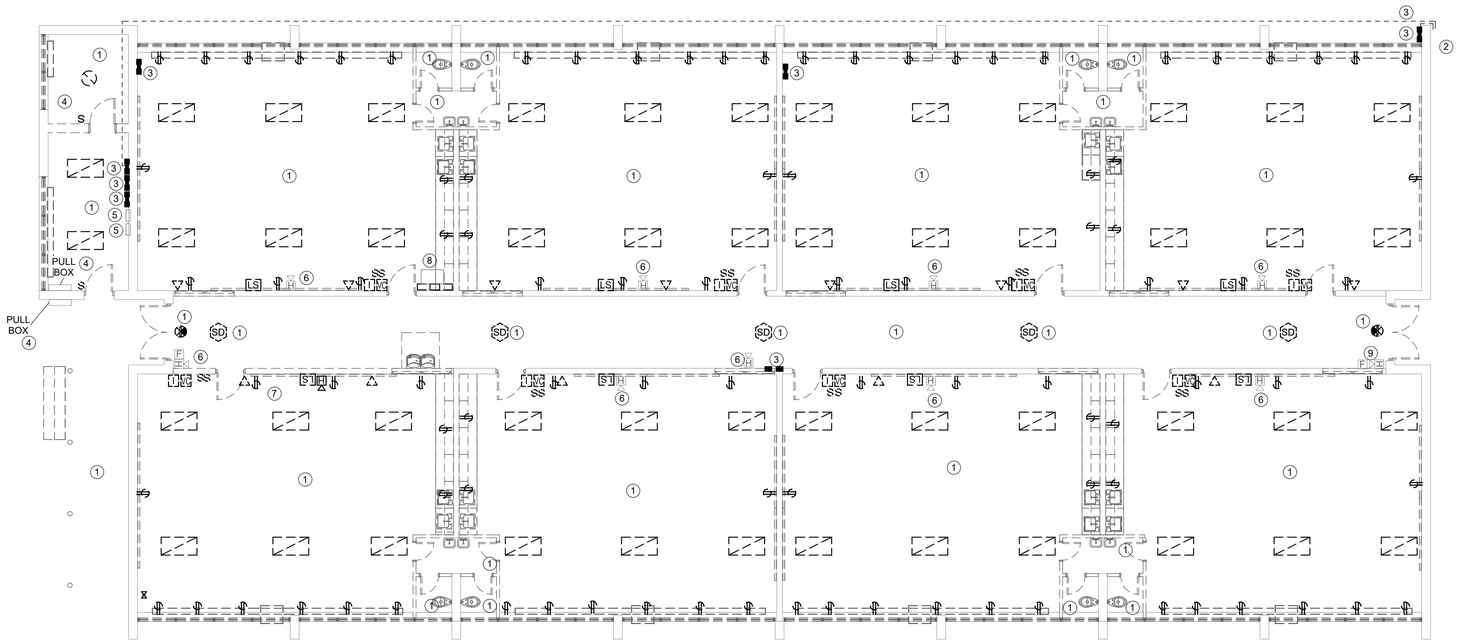
GENERAL NOTES:

A. ALL DEVICES IN BUILDING UNLESS OTHERWISE NOTED ARE BEING DEMOLISHED. DEVICE COUNTS SHOWN ARE AN APPROXIMATION.

KEY NOTES:

1. DISCONNECT ALL LIGHTS, SWITCHES, RECEPTACLES, DATA OUTLETS, AND ANY OTHER DEVICES FROM THIS AREA. REMOVE ALL WIRING BACK TO SOURCE, AND DEMOLISH ALL CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
2. EXISTING EXTERIOR MDP TO BE DEMOLISHED. REMOVE WIRING AND CONDUIT BACK TO TRANSFORMER SECONDARY AND PREPARE FOR NEW SERVICE SECONDARIES OFF OF EXISTING UTILITY TRANSFORMER.
3. REMOVE EXISTING PANEL AND ALL FEEDERS/CONDUIT BACK TO SOURCE.
4. EXISTING PULL BOX FOR DATA AND FIRE ALARM TO REMAIN IN PLACE. RETAIN ALL CONDUIT AND CABLING INCOMING TO BUILDING AT THESE POINTS.
5. FIRE ALARM TERMINAL CABINET AND PULL BOX ARE EXISTING TO REMAIN.
6. ALL FIRE ALARM DEVICES AND WIRING/CONDUIT IS TO REMAIN IN PLACE. PROTECT EXISTING DIEVICES DURING DEMOLITION. REMOVE DEVICES IF REQUIRED FOR PAINTING OR DEMOLITION OF OTHER ITEMS AND PLACE TO THE SIDE FOR REINSTALLATION DURING NEW WORK PHASE.
7. EXISTING FIRE ALARM DEVICE IS TO BE REMOVED. REWORK EXISTING BOX AND CONDUIT AND WIRING FOR NEW LOCATION IN NEW RESTOOMS.
8. EXISTING WALL MOUNTED DATA RACK TO BE DISCONNECTED AND RELOCATED TO NEW LOCATION IN STORAGE 110. RE-ROUTE EXISTING DATA CABLING FROM PULL BOX HEAD-IN TO NEW LOCATION AND PREPARE FOR RECONNECTION.
9. DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE AND PULL STATION AND SET ASIDE. PREPARE FOR REINSTALLATION IN FURRED OUT WALL UNDER NEW CONSTRUCTION.



1 Electrical Demolition Plan Alternates 2-1,2-2,2-3

0 4' 8' 16'

1/8" = 1'-0"

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DEMOLITION PLAN - ALTERNATES 2-1 - 2-3

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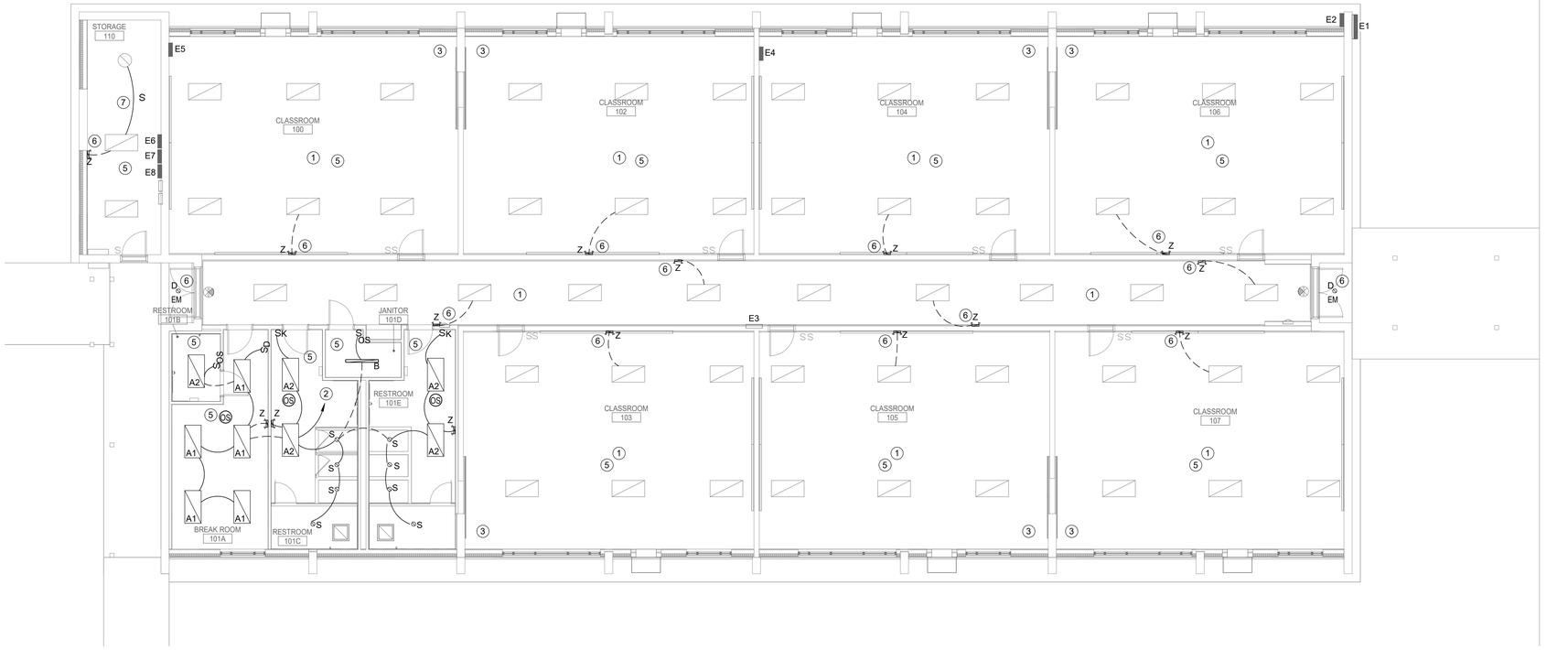
KEYNOTES:

1. CLEAN AND RELAMP EXISTING LIGHTING FIXTURES IN THIS AREA.
2. CONNECT NEW LIGHTING FIXTURES IN THIS AREA TO EXISTING LOCAL LIGHTING CIRCUIT LEFT AS SPARE FROM DEMOLITION.
3. PATCH AND REPAIR CEILING FROM DEMOLITION OF EXISTING BATHROOM WALLS, CEILINGS, AND LIGHTS.
4. ALL NEW EXIT AND EMERGENCY LIGHTING FIXTURES ARE CONNECTED TO LOCAL LIGHTING CIRCUIT UNSWITCHED.
5. ALL NEW CONDUIT IS TO BE RUN SURFACE MOUNTED WITH BOXES SURFACE MOUNTED FOR SWITCHES, ETC..
6. CONNECT NEW EM LIGHTING FIXTURES TO EXISTING LOCAL LIGHTING CIRCUIT UNSWITCHED.
7. REWORK CIRCUIT AND SWITCHING OF LIGHT FIXTURE SHOWN IN STORAGE 110 DUE TO REMOVAL OF EXISTING WALL. FIXTURE SHALL NOW SWITCH ON AND OFF WITH 2X4 FIXTURES AND EXISTING SWITCH LOCATED AT EXTERIOR DOOR.



1 Lighting Floor Plan - Base Bid

0 4' 8' 16'

1/8" = 1'-0"

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LIGHTING PLAN - BASE BID

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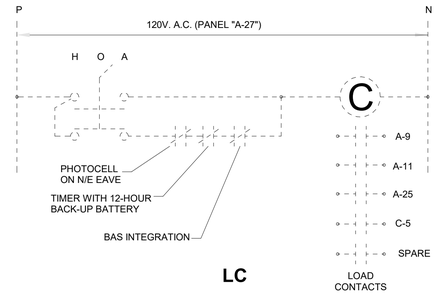
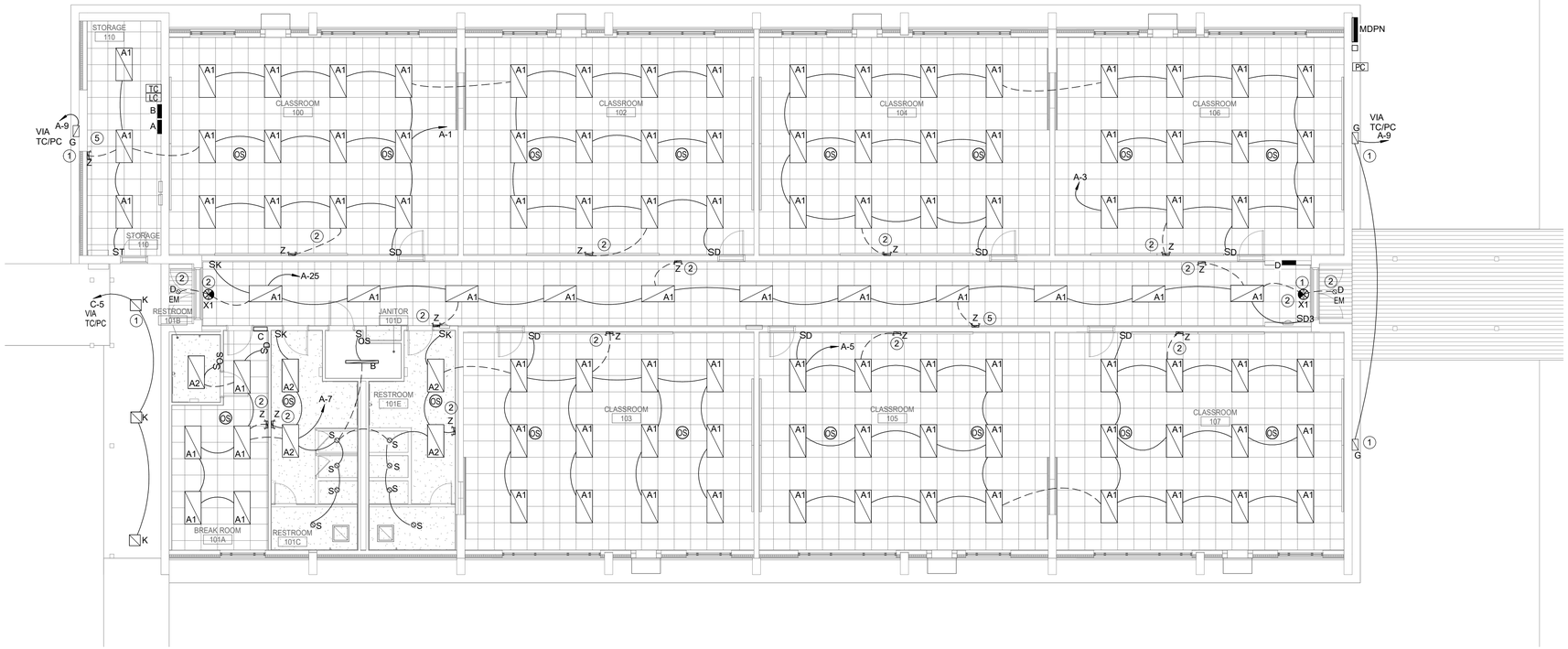


2 LIGHTING CONTACTOR DETAIL

NOT TO SCALE

KEYNOTES:

1. EXTERIOR LIGHTING TO BE CONTROLLED VIA PHOTCELL THROUGH LIGHTING CONTACTOR AND TIME CLOCK AND INTERFACED WITH EXISTING SCHOOL CAMPUS SYSTEMS.
2. ALL NEW EXIT AND EMERGENCY LIGHTING FIXTURES ARE CONNECTED TO LOCAL LIGHTING CIRCUIT UNSWITCHED.
3. ALL NEW CONDUIT IS TO BE RUN SURFACE MOUNTED WITH BOXES SURFACE MOUNTED FOR SWITCHES, ETC..



1 First Floor Lighting Alternate Bids 2-1 - 2-3

1/8" = 1'-0"

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LIGHTING PLAN ALTERNATE BIDS 2-1 - 2-3

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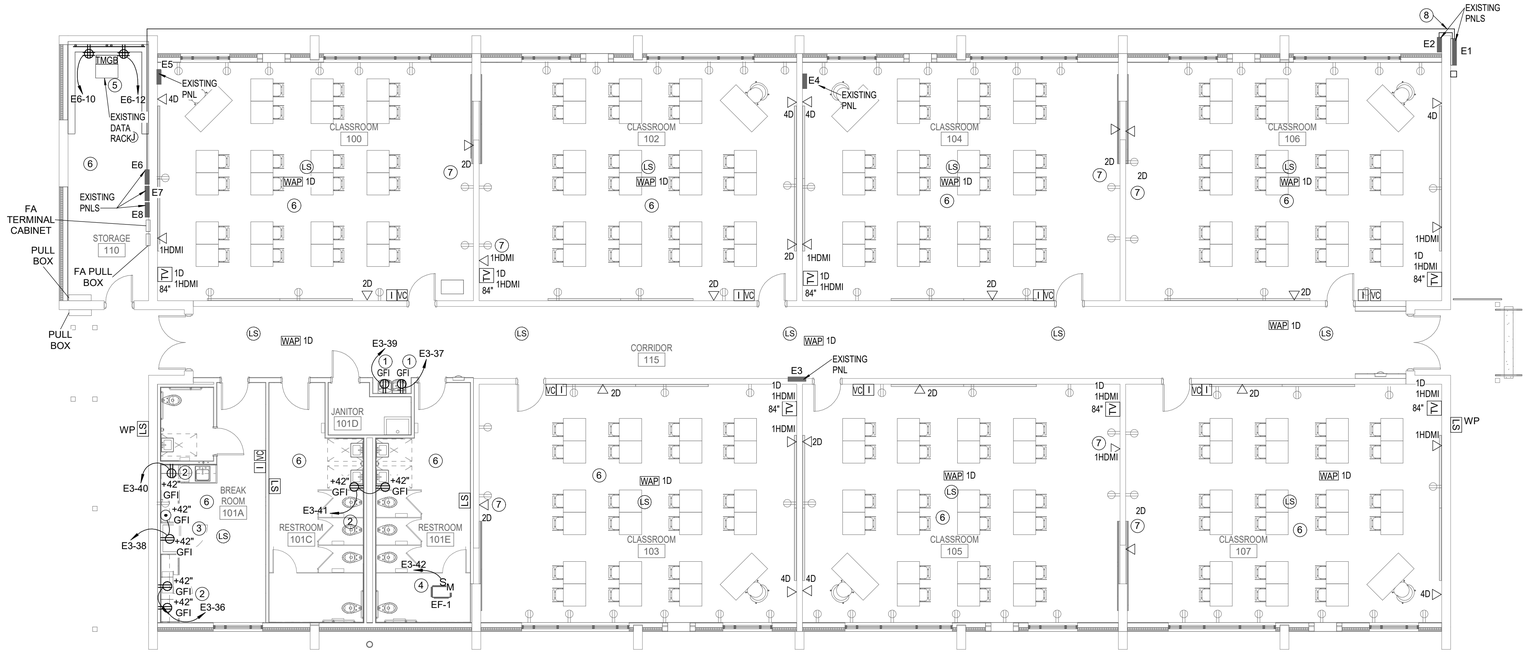
KEYNOTES:

1. PROVIDE NEW 20A, 1P, SQUARE D BREAKER IN EXISTING PANEL FOR NEW WATER COOLER CIRCUIT AND CONNECT TO NEW GFI RECEPTACLE SHOWN. REFER TO PANEL SCHEDULE FOR FEEDER AND CONDUIT SIZING. COORDINATE RECEPTACLE LOCATION WITH EQUIPMENT PRIOR TO ROUGH-IN
2. PROVIDE NEW 20A, 1P, SQUARE D BREAKER IN EXISTING PANEL FOR NEW RECEPTACLE CIRCUIT AND CONNECT TO NEW GFI RECEPTACLE SHOWN. REFER TO PANEL SCHEDULE FOR FEEDER AND CONDUIT SIZING.
3. PROVIDE NEW 20A, 1P, SQUARE D BREAKER IN EXISTING PANEL FOR NEW REFRIGERATOR RECEPTACLE CIRCUIT AND CONNECT TO NEW GFI RECEPTACLE AND REMOTE GFI TRIP SWITCH SHOWN. REFER TO PANEL SCHEDULE FOR FEEDER AND CONDUIT SIZING.
4. PROVIDE 20A, 240V, 1P, MOTOR RATED SWITCH FOR EXHAUST FAN. PROVIDE NEW 20A, 1P, SQUARE D BREAKER IN EXISTING PANEL FOR CONNECTION TO EXHAUST FAN. REFER TO PANEL SCHEDULE FOR FEEDER AND CONDUIT SIZING.
5. RELOCATE EXISTING DATA/COMM RACK AND ASSOCIATED MAIN DATA WIRING FROM ORGINAL LOCATION IN BUILDING TO LOCATION SHOWN. ROUTE NEW DATA WIRING FROM CLASSROOMS BACK TO NEW LOCATION IN EXPOSED CONDUIT AND SURFACE MOUNT BOXES.
6. ALL NEW CONDUIT RUN IN BUILDING IS TO BE SURFACE MOUNTED WITH EXPOSED CONDUIT AND SURFACE MOUNTED BOXES FOR ALL NEW DEVICES
7. MOUNT DATA OUTLET BOX AT SAME HEIGHT AS RECEPTACLES ON THIS WALL.
8. REPAIR CONDUIT BREAK FOR FEEDER FROM EXISTING PANEL E1 TO EXISTING PANEL E6.



1 First Floor Power Plan - Base Bid

0 4' 8' 16'

1/8" = 1'-0"

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ID	DATE	DESCRIPTION

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POWER PLAN - BASE BID

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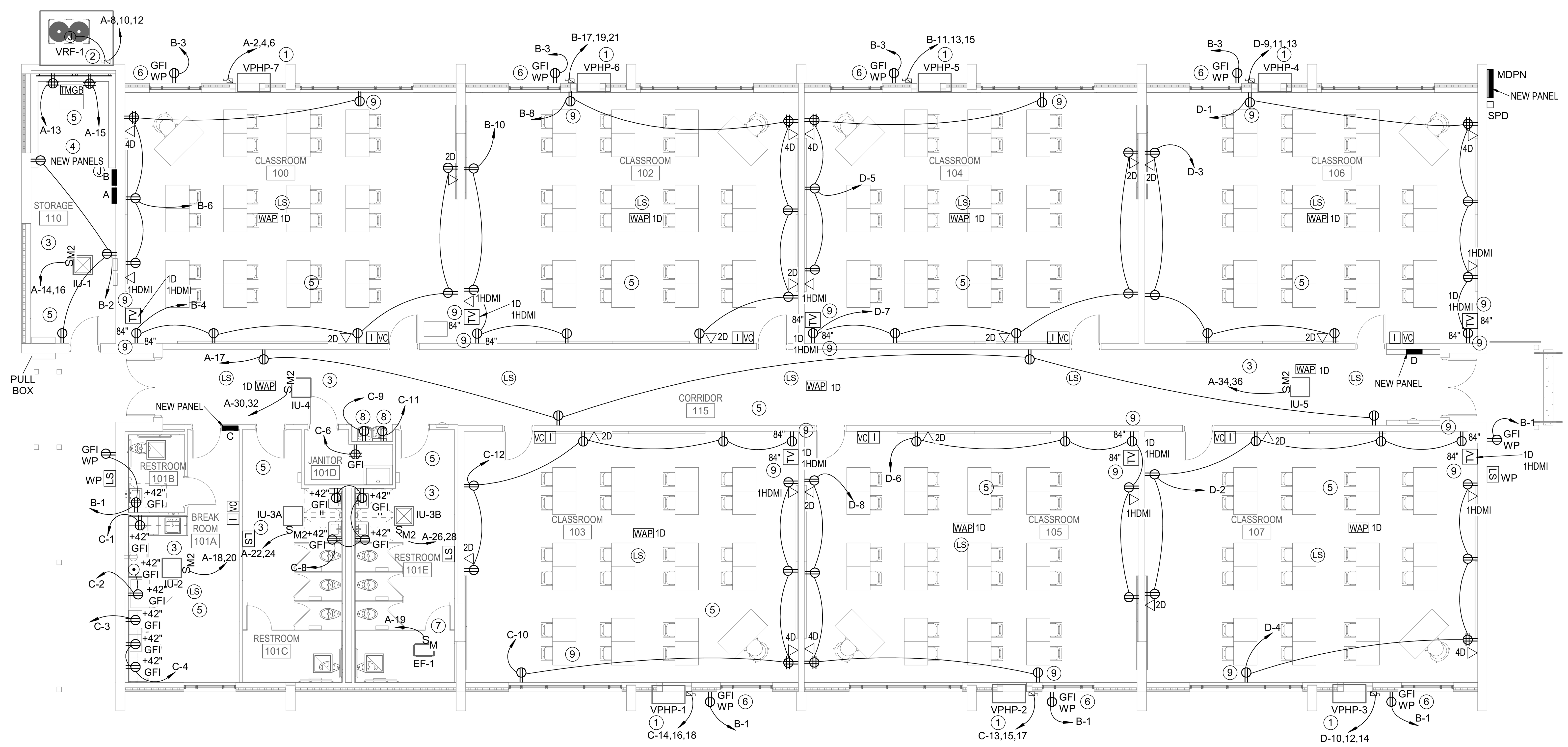

1 First Floor Power Plan Alternate Bids 2-1 - 2-3

0 4' 8' 16'

1/8" = 1'-0"

KEYNOTES:

1. PROVIDE 60A, 240V, 3P, NEMA-3R, FUSED DISCONNECT SWITCH FOR NEW BARD UNIT. SEE PANEL SCHEDULE FOR FEEDER AND CONDUIT SIZING. FUSE PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE 60A, 240V, 3P, NEMA-3R, FUSED DISCONNECT SWITCH FOR NEW VRF UNIT. SEE PANEL SCHEDULE FOR FEEDER AND CONDUIT SIZING. FUSE PER MANUFACTURER'S RECOMMENDATIONS.
3. PROVIDE 20A, 240V, 2P, MOTOR RATED SWITCH FOR INTERIOR VRF UNITS. SEE PANEL SCHEDULE FOR FEEDER AND CONDUIT SIZING.
4. RELOCATE EXISTING DATA/COMM RACK AND ASSOCIATED MAIN DATA WIRING FROM SCHOOL MDF TO LOCATION SHOWN. ROUTE NEW DATA WIRING FROM CLASSROOMS BACK TO NEW LOCATION IN EXPOSED CONDUIT AND SURFACE MOUNT WIREMOLD.
5. ALL NEW CONDUIT RUN IN BUILDING IS TO BE SURFACE MOUNTED WITH WIREMOLD MOUNTED INLINE FOR RECEPTACLES AND DATA USE IN CLASSROOMS, DATA, AND BREAKROOMS AND SURFACE MOUNTED BOXES IN RESTROOMS.
6. PROVIDE WEATHER PROOF GFI RECEPTACLE AT UNIT SHOWN FOR SERVICE RECEPTACLE POWER. SEE PANEL SCHEDULE FOR FEEDER AND WIRE SIZE. CONNECT 120V, 1P CIRCUIT IN PANEL AS SHOWN.
7. PROVIDE 20A, 120V, 1P, MOTOR RATED SWITCH FOR EXHAUST FAN. SEE PANEL SCHEDULE FOR FEEDER AND CONDUIT SIZING.
8. COORDINATE PLACEMENT WITH EQUIPMENT FINAL LOCATION PRIOR TO ROUGH-IN.
9. IN CLASSROOMS ONLY THIS DEVICE IS IN A SURFACE MOUNTED BOX AT THIS LOCATION.

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POWER PLAN - ALTERNATE BIDS 2-1 THROUGH 2-3

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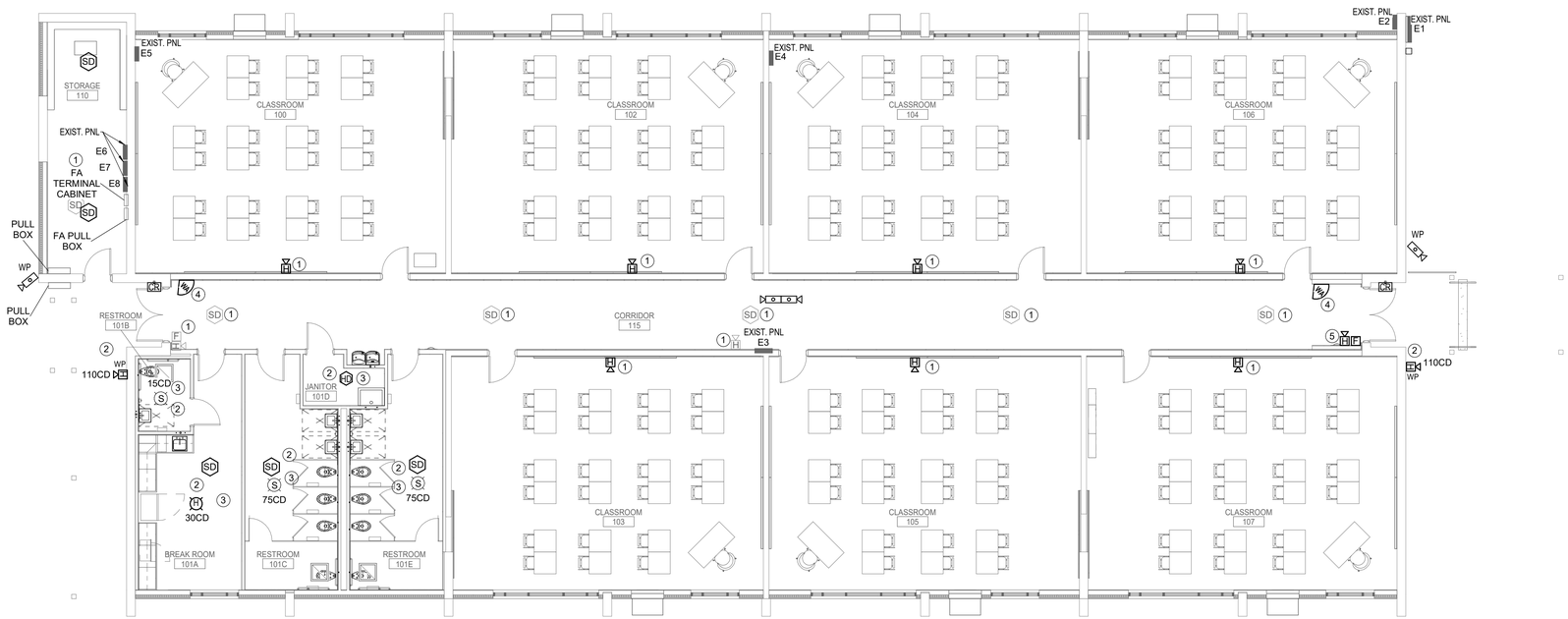
GENERAL NOTES:

A. FIRE ALARM CONTRACTOR IS TO TEST AND VEIRFY ENTIRE SYSTEM IN THIS BUILDING BEFORE TURNOVER TO ONSLOW COUNTY SCHOOLS.

KEY NOTES:

1. EXISTING FIRE ALARM DEVICES ARE TO REMAIN. ANY DEVICE THAT REMAINS WITH A STROBE SHALL BY SYNCRONIZED WITH ALL NEW DEVICES ADDED.
2. ANY NEW DEVICES ADDED TO SYSTEM ARE TO MATCH MANUFACTURER AND STYLE OF EXISTING DEVICES (NOTIFIER 500 BASED SYSTEM LOCATED IN MAIN BUILDING ELECTRICAL ROOM)
3. NEW DEVICES ARE SURFACE MOUNTED WHERE NOTED. ALL CONDUIT IS TO BE SURFACE ROUTED. PROVIDE NEW POWER PACKS TO SUPPORT ALL NEW DEVICES.
4. MOUNT MOTION SENSORS AT 10'-0" AFF TO TOP OF SENSOR.
5. EXISTING FIRE ALARM DEVICES TO BE RELOCATED PER NEW WALL FURR-OUT. MOUNT DEVICES FLUSH IN NEW FURRED OUT WALL AND RECONNECT EXISTING WIRING.



1 BASE BID - FIRE ALARM & SECURITY PLAN

1/8" = 1'-0"

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FIRE ALARM/SECURITY PLAN - BASE BID

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KEY NOTES:

1. EXISTING FIRE ALARM DEVICES ARE TO REMAIN. ANY DEVICE THAT REMAINS WITH A STROBE SHALL BY SYNCRONIZED WITH ALL NEW DEVICES ADDED.
2. ANY NEW DEVICES ADDED TO SYSTEM ARE TO MATCH MANUFACTURER AND STYLE OF EXISTING DEVICES (NOTIFIER 500 BASED SYSTEM LOCATED IN MAIN BUILDING ELECTRICAL ROOM)
3. NEW DEVICES ARE SURFACE MOUNTED WHERE NOTED. ALL CONDUIT IS TO BE SURFACE ROUTED. PROVIDE NEW POWER PACKS TO SUPPORT ALL NEW DEVICES.
4. MOUNT MOTION SENSORS AT 10'-0" AFF TO TOP OF SENSOR.
5. EXISTING FIRE ALARM DEVICES TO BE RELOCATED PER NEW WALL FURR-OUT. MOUNT DEVICES FLUSH IN NEW FURRED OUT WALL AND RECONNECT EXISTING WIRING.

1 ALTERNATE BID - FIRE ALARM & SECURITY PLAN, BIDS 2-1 TRHOUGH 2-3

1/8" = 1'-0"

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FIRE ALARM/SECURITY PLAN - ALTERNATE BIDS

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PANELBOARD: A

STATUS:

LOCATION: STORAGE 110
MOUNTING: Surface
ENCL NEMA: Type 1
MIN AIC: 22,000
NOTES: NEW PANEL UNDER ALTERNATE BID 2-2

MAINS: 200 A
VOLTS: 120/208 Wye
PHASE: 3
WIRES: 4

PANEL RATING: 200 A
MCB RATING: 200 A MLO
FED FROM: MDPN

PANEL NOTES: PROVIDE DOOR WITH LOCK AND HINGED TRIM
PROVIDE COPPER GROUND AND NEUTRAL BUS
PROVIDE FULL SIZE NEUTRAL BUS, U.O.N.

CKT	LOAD TYPE	LOAD DESCRIPTION	WIRE SIZE	CONDUIT	POLES	TRIP AMPS	A		B		C		TRIP AMPS	POLES	CONDUIT	WIRE SIZE	LOAD DESCRIPTION	LOAD TYPE	CKT
1	L	LIGHTING	2#12 & 1#12G	3/4"	1	20 A	1.08	6.01											2
3	L	LIGHTING	2#12 & 1#12G	3/4"	1	20 A			0.96	6.01			60 A	3	1"	4#6 & 1#10G	VPHP-7	HVAC	4
5	L	LIGHTING	2#12 & 1#12G	3/4"	1	20 A					0.96	6.01							6
7	L	LIGHTING	2#12 & 1#12G	3/4"	1	20 A	0.87	3.53											8
9	L	EXTERIOR LIGHTING (PC/TC)	2#12 & 1#12G	3/4"	1	20 A			0.15	3.53			35 A	3	3/4"	4#8 & 1#10G	VRF-1	HVAC	10
11	L	BUS CANOPY LIGHTING (PC/TC)	2#10 & 1#10G	3/4"	1	20 A					0.75	3.53							12
13	R	DATA RACK REC STORAGE 108D	2#12 & 1#12G	3/4"	1	20 A	0.36	0.08					20 A	2	3/4"	3#12 & 1#12G	IU-1 INTERIOR VRF UNIT	HVAC	14
15	R	DATA RACK REC STORAGE 108D	2#12 & 1#12G	3/4"	1	20 A			0.36	0									16
17	R	COORDOR RECEPTACLES	2#12 & 1#12G	3/4"	1	20 A					0.72	0.08	20 A	2	3/4"	3#12 & 1#12G	IU-2 INTERIOR VRF UNIT	HVAC	18
19	M	EF-1	2#12 & 1#12G	3/4"	1	20 A	0.01	0											20
21	R	HOT BOX RECEPTACLE	2#10 & 1#10G	3/4"	1	20 A			0.18	0.04			20 A	2	3/4"	3#12 & 1#12G	IU-3A INTERIOR VRF UNIT	HVAC	22
23	R	HOT BOX RECEPTACLE FOR MOD....	2#10 & 1#10G	3/4"	1	20 A					0.18	0							24
25	L	CORRIDOR LIGHTING	2#12 & 1#12G	3/4"	1	20 A	0.5	0.04					20 A	2	3/4"	3#12 & 1#12G	IU-3B INTERIOR VRF UNIT	HVAC	26
27	L	LIGHTING CONTACTOR	2#12 & 1#12G	3/4"	1	20 A			0.01	0									28
29		SPACE	--		1	--					--	0.06	20 A	2	3/4"	3#12 & 1#12G	IU-4 INTERIOR VRF UNIT	HVAC	30
31		SPACE	--		1	--	--	0											32
33		SPACE	--		1	--			--	0.06			20 A	2	3/4"	3#12 & 1#12G	IU-5 INTERIOR VRF UNIT	HVAC	34
35		SPACE	--		1	--					--	0							36
37		SPACE	--		1	--	--	--					--	1		--	SPACE		38
39		SPACE	--		1	--			--	--			--	1		--	SPACE		40
41		SPACE	--		1	--					--	--	--	1		--	SPACE		42
						TOTAL LOAD:	12.39 kVA		11.25 kVA		12.24 kVA								

BREAKER TYPES: LO - INDICATES "LOCK-ON"... ST - INDICATES SHUNT TRIP DEVICE AFCI - INDICATES ARC FAULT PROTECTED DEVICE
GFCI - INDICATES GROUND FAULT DEVICE GFPE - INDICATES GROUND FAULT FOR EQUIPMENT

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	2 kVA	100.00%	2 kVA		
Motor	0 kVA	0.00%	0 kVA	**Total Connected Load:**	35.88 kVA
HVAC	0 kVA	0.00%	0 kVA	**Total Connected Amps:**	99.60 A
Lighting	5 kVA	125.00%	7 kVA	**Total Estimated Demand:**	37.16 kVA
Equipment	0 kVA	0.00%	0 kVA	**Total Estimated Demand Amps:**	103.16 A
Kitchen Equipment	0 kVA	0.00%	0 kVA		

PANELBOARD: B

STATUS:

LOCATION: STORAGE 110
MOUNTING: Surface
ENCL NEMA: Type 1
MIN AIC: 22,000
NOTES: NEW PANEL UNDER ALTERNATE BID 2-2

MAINS: 200 A
VOLTS: 120/208 Wye
PHASE: 3
WIRES: 4

PANEL RATING: 200 A
MCB RATING: 200 A MLO
FED FROM: MDPN

PANEL NOTES: PROVIDE DOOR WITH LOCK AND HINGED TRIM
PROVIDE COPPER GROUND AND NEUTRAL BUS
PROVIDE FULL SIZE NEUTRAL BUS, U.O.N.

CKT	LOAD TYPE	LOAD DESCRIPTION	WIRE SIZE	CONDUIT	POLES	TRIP AMPS	A		B		C		TRIP AMPS	POLES	CONDUIT	WIRE SIZE	LOAD DESCRIPTION	LOAD TYPE	CKT
1	R	EXTERIOR RECEPTACLES	2#12 & 1#12G	3/4"	1	20 A	1.08	0.54					20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES STORAGE 108D	R	2
3	R	EXTERIOR RECEPTACLES	2#12 & 1#12G	3/4"	1	20 A			0.72	0.9			20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES CLASSROOM 101	R	4
5												0.9	20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES CLASSROOM 101	R	6
7								1.08					20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES 102	R	8
9										0.72			20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES 100A, 102	R	10
11											6.01	0	20 A	1		--	SPARE		12
13	H	VPHP-5	4#6 & 1#10G	1"	3	60 A	6.01	0					20 A	1		--	SPARE		14
15									6.01	0			20 A	1		--	SPARE		16
17											6.01	0	20 A	1		--	SPARE		18
19	H	VPHP-6	4#6 & 1#10G	1"	3	60 A	6.01	0					20 A	1		--	SPARE		20
21									6.01	--			--	1		--	SPACE		22
23		SPACE	--		1	--					--	--	--	1		--	SPACE		24
25		SPACE	--		1	--	--	--					--	1		--	SPACE		26
27		SPACE	--		1	--			--	--			--	1		--	SPACE		28
29		SPACE	--		1	--					--	--	--	1		--	SPACE		30
						TOTAL LOAD:	14.72 kVA		14.36 kVA		12.92 kVA								

BREAKER TYPES: LO - INDICATES "LOCK-ON"... ST - INDICATES SHUNT TRIP DEVICE AFCI - INDICATES ARC FAULT PROTECTED DEVICE
GFCI - INDICATES GROUND FAULT DEVICE GFPE - INDICATES GROUND FAULT FOR EQUIPMENT

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	6 kVA	100.00%	6 kVA		
Motor	0 kVA	0.00%	0 kVA	**Total Connected Load:**	42.00 kVA
HVAC	0 kVA	0.00%	0 kVA	**Total Connected Amps:**	116.58 A
Lighting	0 kVA	0.00%	0 kVA	**Total Estimated Demand:**	42.00 kVA
Equipment	0 kVA	0.00%	0 kVA	**Total Estimated Demand Amps:**	116.58 A
Kitchen Equipment	0 kVA	0.00%	0 kVA		

PANELBOARD: MDPN

STATUS:

LOCATION: BLDG EXTERIOR
MOUNTING: Surface
ENCL NEMA: TYPE 3R
MIN AIC: 22,000
NOTES: NEW PANEL UNDER ALTERNATE BID 2-2

MAINS: 800 A
VOLTS: 120/208 Wye
PHASE: 3
WIRES: 4

PANEL RATING: 800 A
MCB RATING: 800 A MCB
FED FROM: UTILITY TX

PANEL NOTES: PROVIDE DOOR WITH LOCK AND HINGED TRIM
PROVIDE COPPER GROUND AND NEUTRAL BUS
PROVIDE FULL SIZE NEUTRAL BUS, U.O.N.

CKT	LOAD TYPE	LOAD DESCRIPTION	WIRE SIZE	CONDUIT	POLES	TRIP AMPS	A		B		C		TRIP AMPS	POLES	CONDUIT	WIRE SIZE	LOAD DESCRIPTION	LOAD TYPE	CKT
1							12.39	14.72											2
3		NEW PANEL A	4#3/0 & 1#6G	2.5"	3	200 A			11.25	14.36			200 A	3	2.5"	4#3/0 & 1#6G	NEW PANEL B		4
5											12.24	12.92							6
7							14.8	16.15											8
9		NEW PANEL C	4#3/0 & 1#6G	2.5"	3	200 A			14.98	13.99			200 A	3	2.5"	4#3/0 & 1#6G	NEW PANEL D		10
11											14.36	14.17							12
13		NEW PANEL MB (FUTURE MODULAR BUILDING)	4#1/0 & 1#6G (SIZED FOR VOLTAGE...	2"	3	100 A	7	0											14
15									8	0			20 A	3		--	SPARE		16
17											8	0							18
19		SPARE	--		3	20 A	0	--											20
21									0	--			--	3		--	SPACE		22
23											0	--							24
25		SPACE	--		3	--	--	--											26
27									--	--			--	3		--	SPACE		28
29											--	--							30
						TOTAL LOAD:	65.05 kVA		62.58 kVA		61.69 kVA								

BREAKER TYPES: LO - INDICATES "LOCK-ON"... ST - INDICATES SHUNT TRIP DEVICE AFCI - INDICATES ARC FAULT PROTECTED DEVICE
GFCI - INDICATES GROUND FAULT DEVICE GFPE - INDICATES GROUND FAULT FOR EQUIPMENT

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	21 kVA	74.13%	15 kVA		
Motor	0 kVA	0.00%	0 kVA	**Total Connected Load:**	189.31 kVA
HVAC	0 kVA	0.00%	0 kVA	**Total Connected Amps:**	525.48 A
Lighting	5 kVA	125.00%	7 kVA	**Total Estimated Demand:**	185.28 kVA
Equipment	0 kVA	0.00%	0 kVA	**Total Estimated Demand Amps:**	514.28 A
Kitchen Equipment	0 kVA	0.00%	0 kVA		

GENERAL NOTES:

A. ELECTRICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH UTILITY COMPANY PRIOR TO COMMENCING WORK.

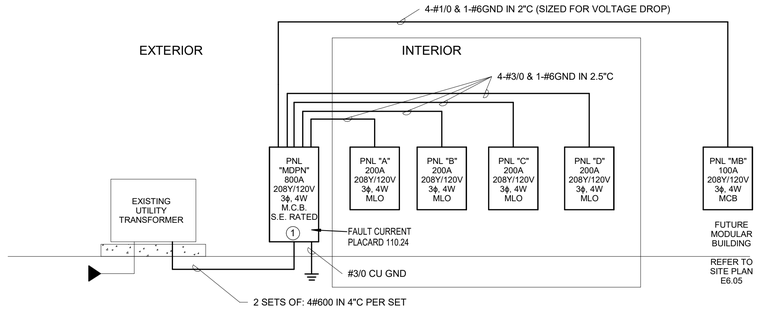
B. NEW WORK SHOWN IN BOLD LINEWEIGHT, EXISTING SHOWN IN HALFTONE/LIGHT LINEWEIGHT.

KEYNOTES:

1. PROVIDE NEW 800A, NEMA-3R 208V I-LINE PANEL TO REPLACE SERVICE ENTRANCE PANEL "MDPN" LOCATED AT BLDG EXTERIOR.

LEGEND

———	EXISTING TO REMAIN
———	NEW
M.C.B.	MAIN CIRCUIT BREAKER
M.L.O.	MAIN LUGS ONLY
GEC	GROUNDING ELECTRODE CONDUCTOR
	RECONNECTION OF EXISTING



1 ALTERNATE BIDS 2-1 - 2-3 POWER RISER
NOT TO SCALE

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pdcengineers.com
PDC #21007

NORTH CAROLINA PROFESSIONAL SEAL 024651 ENGINEER JAMES T. BUTKOVICH
02/17/2023

BID/PERMIT SET

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Smith Sinnett Architecture, P.A. 2019

THIS DRAWING IS FORMATTED TO BE PRINTED ON A 24" X 36" SHEET

ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: GS
CHECKED BY: JTB

PANEL SCHEDULES AND RISER DIAGRAM

2022017 20 FEB 2023

E5-01

C:\Users\dlowry\Documents\21007 Trexler MS_Central_MEP_R22_dlowryPDCBIM.rvt
2/17/2023 11:13:51 AM

PANELBOARD: D

STATUS:

LOCATION: CORRIDOR 115
MOUNTING: Recessed
ENCL NEMA: Type 1
MIN AIC: 22,000
NOTES: NEW PANEL UNDER ALTERNATE BID 2-2

MAINS: 200 A
VOLTS: 120/208 Wye
PHASE: 3
WIRES: 4

PANEL RATING: 200 A
MCB RATING: 200 A MLO
FED FROM: MDPN

PANEL NOTES: PROVIDE DOOR WITH LOCK AND HINGED TRIM
PROVIDE COPPER GROUND AND NEUTRAL BUS
PROVIDE FULL SIZE NEUTRAL BUS, U.O.N.

CKT	LOAD TYPE	LOAD DESCRIPTION	WIRE SIZE	CONDUIT	POLES	TRIP AMPS	A		B		C		TRIP AMPS	POLES	CONDUIT	WIRE SIZE	LOAD DESCRIPTION	LOAD TYPE	CKT
1	R	RECEPTACLES CLASSROOM 106	2#12 & 1#12G	3/4"	1	20 A	1.08	0.9					20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES CLASSROOM 107	R	2
3	R	RECEPTACLES 104A, 106	2#12 & 1#12G	3/4"	1	20 A			0.72	0.9			20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES 107, 108X	R	4
5	R	RECEPTACLES 104	2#12 & 1#12G	3/4"	1	20 A					0.9	0.9	20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES CLASSROOM 100	R	6
7	R	RECEPTACLES CLASSROOM 104	2#12 & 1#12G	3/4"	1	20 A	0.9	0.9					20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES CLASSROOM 100	R	8
9									6.01	6.36									10
11	HVAC	VPHP-4	4#6 & 1#10G	1.25"	3	60 A					6.01	6.36	60 A	3	1.25"	4#6 & 1#10G	VPHP-3	HVAC	12
13							6.01	6.36											14
15		SPARE	--		1	20 A			0	0			20 A	1		--	SPARE		16
17		SPARE	--		1	20 A					0	0	20 A	1		--	SPARE		18
19		SPARE	--		1	20 A	0	0					20 A	1		--	SPARE		20
21		SPARE	--		1	20 A			0	0			20 A	1		--	SPARE		22
23		SPARE	--		1	20 A					0	0	20 A	1		--	SPARE		24
25		SPARE	--		1	20 A	0	0					20 A	1		--	SPARE		26
27		SPACE	--		1	--			--	--			--	1		--	SPACE		28
29		SPACE	--		1	--					--	--	--	1		--	SPACE		30
						TOTAL LOAD:	16.15 kVA		13.99 kVA		14.17 kVA								

BREAKER TYPES: LO - INDICATES "LOCK-ON"... ST - INDICATES SHUNT TRIP DEVICE AFCI - INDICATES ARC FAULT PROTECTED DEVICE
GFCI - INDICATES GROUND FAULT DEVICE GFPE - INDICATES GROUND FAULT FOR EQUIPMENT

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	7 kVA	100.00%	7 kVA		
Motor	0 kVA	0.00%	0 kVA	Total Connected Load:	44.31 kVA
HVAC	0 kVA	0.00%	0 kVA	Total Connected Amps:	122.99 A
Lighting	0 kVA	0.00%	0 kVA	Total Estimated Demand:	44.31 kVA
Equipment	0 kVA	0.00%	0 kVA	Total Estimated Demand Amps:	122.99 A
Kitchen Equipment	0 kVA	0.00%	0 kVA		

PANELBOARD: C

STATUS:

LOCATION: BREAK ROOM 101A
MOUNTING: Recessed
ENCL NEMA: Type 1
MIN AIC: 22,000
NOTES: NEW PANEL UNDER ALTERNATE BID 2-2

MAINS: 200 A
VOLTS: 120/208 Wye
PHASE: 3
WIRES: 4

PANEL RATING: 200 A
MCB RATING: 200 A MLO
FED FROM: MDPN

PANEL NOTES: PROVIDE DOOR WITH LOCK AND HINGED TRIM
PROVIDE COPPER GROUND AND NEUTRAL BUS
PROVIDE FULL SIZE NEUTRAL BUS, U.O.N.

CKT	LOAD TYPE	LOAD DESCRIPTION	WIRE SIZE	CONDUIT	POLES	TRIP AMPS	A		B		C		TRIP AMPS	POLES	CONDUIT	WIRE SIZE	LOAD DESCRIPTION	LOAD TYPE	CKT
1	R	RECEPTACLE BREAK ROOM 105D	2#12 & 1#12G	3/4"	1	20 A	0.18	1.18					20 A	1	3/4"	2#12 & 1#12G	REFRIGERATOR BREAK ROOM 105D	R	2
3	R	MICROWAVE BREAK ROOM 105D	2#12 & 1#12G	3/4"	1	20 A			1	0.18			20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES BREAK ROOM 105D	R	4
5	L	CANOPY LIGHTING (VIA PC/LC)	2#12 & 1#12G	3/4"	1	20 A					0.2	0.36	20 A	1	3/4"	2#12 & 1#12G	RECEPTACLE JANITOR 105C	R	6
7								0.72					20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES RESTROOM 105B	R	8
9	R	EWC/GFI (CORRIDOR)	2#12 & 1#12G	3/4"	1	20 A			0.18	0.9			20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES 101A, 103	R	10
11	R	EWC/GFI (CORRIDOR)	2#12 & 1#12G	3/4"	1	20 A					0.18	0.9	20 A	1	3/4"	2#12 & 1#12G	RECEPTACLES CLASSROOM 103	R	12
13							6.36	6.36											14
15	HVAC	VPHP-2	4#6 & 1#10G	1.25"	3	60 A			6.36	6.36			60 A	3	1.25"	4#6 & 1#10G	VPHP-1	HVAC	16
17											6.36	6.36							18
19		SPARE	--		1	20 A	0	0					20 A	1		--	SPARE		20
21		SPARE	--		1	20 A			0	0			20 A	1		--	SPARE		22
23		SPACE	--		1	--					--	0	20 A	1		--	SPARE		24
25		SPACE	--		1	--	--	0					20 A	1		--	SPARE		26
27		SPACE	--		1	--			--	0			20 A	1		--	SPARE		28
29		SPACE	--		1	--					--	0	20 A	1		--	SPARE		30
						TOTAL LOAD:	14.80 kVA		14.98 kVA		14.36 kVA								

BREAKER TYPES: LO - INDICATES "LOCK-ON"... ST - INDICATES SHUNT TRIP DEVICE AFCI - INDICATES ARC FAULT PROTECTED DEVICE
GFCI - INDICATES GROUND FAULT DEVICE GFPE - INDICATES GROUND FAULT FOR EQUIPMENT

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	6 kVA	100.00%	6 kVA		
Motor	0 kVA	0.00%	0 kVA	Total Connected Load:	44.14 kVA
HVAC	0 kVA	0.00%	0 kVA	Total Connected Amps:	122.52 A
Lighting	0 kVA	125.00%	0 kVA	Total Estimated Demand:	44.19 kVA
Equipment	0 kVA	0.00%	0 kVA	Total Estimated Demand Amps:	122.66 A
Kitchen Equipment	0 kVA	0.00%	0 kVA		

PANELBOARD: E3

STATUS:

LOCATION: CORRIDOR
MOUNTING: Recessed
ENCL NEMA: Type 1
MIN AIC: 22,000
NOTES: EXISTING PANEL TO REMAIN UNDER BASE BID ONLY. ALL LOADS ARE BASED ON AS BUILT DRAWINGS AND FIELD VERIFICATION

MAINS: 200 A MLO
VOLTS: 120/208 Wye
PHASE: 3
WIRES: 4

PANEL RATING: 200 A
MCB RATING:
FED FROM: E6

PANEL NOTES: PROVIDE DOOR WITH LOCK AND HINGED TRIM
PROVIDE COPPER GROUND AND NEUTRAL BUS
PROVIDE FULL SIZE NEUTRAL BUS, U.O.N.

CKT	LOAD TYPE	LOAD DESCRIPTION	WIRE SIZE	CONDUIT	POLES	TRIP AMPS	A		B		C		TRIP AMPS	POLES	CONDUIT	WIRE SIZE	LOAD DESCRIPTION	LOAD TYPE	CKT
1	E	EXISTING LIGHTING	--		1	20 A	1	1					20 A	1		--	EXISTING LIGHTING	E	2
3	E	EXISTING LIGHTING	--		1	20 A			1	1			20 A	1		--	EXISTING LIGHTING	E	4
5	E	EXISTING LIGHTING	--		1	20 A					1	1	20 A	1		--	EXISTING LIGHTING	E	6
7	E	EXISTING LIGHTING	--		1	20 A	1	1					20 A	1		--	EXISTING LIGHTING	E	8
9	E	EXISTING LIGHTING	--		1	20 A			1	1			20 A	1		--	EXISTING LIGHTING	E	10
11	E	EXISTING LIGHTING	--		1	20 A					1	1	20 A	1		--	EXISTING LIGHTING	E	12
13	E	EXSITING RECEPTACLES	--		1	20 A	1	1					20 A	1		--	EXISTING LIGHTING	E	14
15	E	EXSITING RECEPTACLES	--		1	20 A			1	1			20 A	1		--	EXISTING LIGHTING	E	16
17	E	EXISTING LIGHTING	--		1	20 A					1	1	20 A	1		--	EXISTING LIGHTING	E	18
19	E	EXISTING LIGHTING	--		1	20 A	1	1					20 A	1		--	EXISTING RECEPTACLES	E	20
21	E	EXSITING RECEPTACLES	--		1	20 A			1	1			20 A	1		--	EXISTING RECEPTACLES	E	22
23	E	EXSITING RECEPTACLES	--		1	20 A					1	1	20 A	1		--	EXISTING RECEPTACLES	E	24
25	E	EXSITING RECEPTACLES	--		1	20 A	1	1					20 A	1		--	EXISTING RECEPTACLES	E	26
27	E	EXSITING RECEPTACLES	--		1	20 A			1	1			20 A	1		--	EXISTING LIGHTING	E	28
29	E	PANEL E4	--		2	100 A					10	1	20 A	1		--	EXISTING RECEPTACLES	E	30
31							10	0					20 A	1		--	EXISTING RECEPTACLES	E	32
33	E	EXISTING W/H	--		1	20 A			1	1			20 A	1		--	EXISTING RECEPTACLES	E	34
35	E	EXISTING W/H	--		1	20 A					1	0.36	20 A	1	3/4"	2#12 & 1#12G	NEW RECEPTACLE BREAK ROOM...	R	36
37	R	NEW EWC/GFI	2#12 & 1#12G	3/4"	1	20 A	0.9	1					20 A	1	3/4"	2#12 & 1#12G	NEW REFRIGERATOR BREAK ROOM...	R	38
39	R	NEW EWC/GFI	2#12 & 1#12G	3/4"	1	20 A			0.9	0.18			20 A	1	3/4"	2#12 & 1#12G	NEW RECEPTACLE BREAK ROOM...	R	40
41	R	NEW RESTROOM RECEPTACLES	2#12 & 1#12G	3/4"	1	20 A					0.36	0.45	20 A	1	3/4"	2#12 & 1#12G	NEW EF-1, RESTROOM 101E		42
						TOTAL LOAD:	21.90 kVA		13.08 kVA		21.17 kVA								

BREAKER TYPES: LO - INDICATES "LOCK-ON"... ST - INDICATES SHUNT TRIP DEVICE AFCI - INDICATES ARC FAULT PROTECTED DEVICE
GFCI - INDICATES GROUND FAULT DEVICE GFPE - INDICATES GROUND FAULT FOR EQUIPMENT

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	4 kVA	100.00%	4 kVA		
Motor	0 kVA	0.00%	0 kVA	Total Connected Load:	56.15 kVA
HVAC	0 kVA	0.00%	0 kVA	Total Connected Amps:	155.86 A
Lighting	0 kVA	0.00%	0 kVA	Total Estimated Demand:	56.15 kVA
Equipment	0 kVA	0.00%	0 kVA	Total Estimated Demand Amps:	155.86 A
Kitchen Equipment	0 kVA	0.00%	0 kVA		

PANELBOARD: E6

STATUS:

LOCATION: STORAGE 110
MOUNTING: Surface
ENCL NEMA: Type 1
MIN AIC:
NOTES: EXISTING PANEL TO REMAIN UNDER BASE BID ONLY. ALL LOADS ARE BASED ON AS BUILT DRAWINGS AND FIELD VERIFICATION

MAINS: 400A
VOLTS: 120/208 Wye
PHASE: 3
WIRES: 4

PANEL RATING: 400 A
MCB RATING:
FED FROM: E1

PANEL NOTES: PROVIDE DOOR WITH LOCK AND HINGED TRIM
PROVIDE COPPER GROUND AND NEUTRAL BUS
PROVIDE FULL SIZE NEUTRAL BUS, U.O.N.

CKT	LOAD TYPE	LOAD DESCRIPTION	WIRE SIZE	CONDUIT	POLES	TRIP AMPS	A		B		C		TRIP AMPS	POLES	CONDUIT	WIRE SIZE	LOAD DESCRIPTION	LOAD TYPE	CKT
1							21.9	0					60 A	2		--	PANEL E5		2
3		EXISTING PANEL E3			3	200 A			13.08	0									4
5											21.17	0	20 A	2		--	EXISITNG A/C UNIT		6
7							0	0											8
9		PANEL E7	--		2	40 A			0	**0.36**			**20 A**	**1**	**3/4"**	**2#12 $ 1#12G**	**NEW RECEPTACLE - DATA RACK - 110**	**R**	**10**
11		SPARE	--		1	--					--	**0.36**	**20 A**	**1**	**3/4"**	**2#12 $ 1#12G**	**NEW RECEPTACLE - DATA RACK - 110**	**R**	**12**
						TOTAL LOAD:	21.90 kVA		13.44 kVA		21.53 kVA								

BREAKER TYPES: LO - INDICATES "LOCK-ON"... ST - INDICATES SHUNT TRIP DEVICE AFCI - INDICATES ARC FAULT PROTECTED DEVICE
GFCI - INDICATES GROUND FAULT DEVICE GFPE - INDICATES GROUND FAULT FOR EQUIPMENT

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	5 kVA	100.00%	5 kVA		
Motor	0 kVA	0.00%	0 kVA	Total Connected Load:	56.87 kVA
HVAC	0 kVA	0.00%	0 kVA	Total Connected Amps:	157.86 A
Lighting	0 kVA	0.00%	0 kVA	Total Estimated Demand:	56.87 kVA
Equipment	0 kVA	0.00%	0 kVA	Total Estimated Demand Amps:	157.86 A
Kitchen Equipment	0 kVA	0.00%	0 kVA		

GENERAL NOTES:

A. ELECTRICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH UTILITY COMPANY PRIOR TO COMMENCING WORK.

B. NEW WORK SHOWN IN BOLD LINEWEIGHT, EXISTING SHOWN IN HALFTONE/LIGHT LINEWEIGHT.

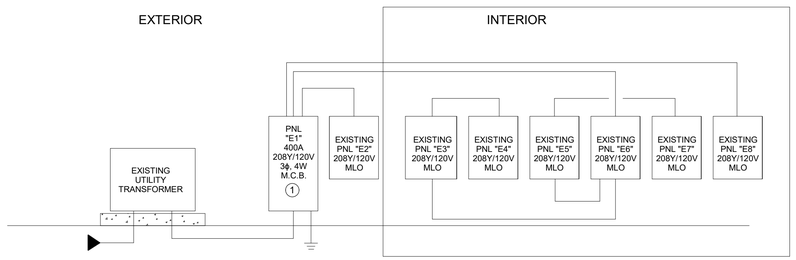
KEYNOTES:

1. EXISTING ELECTRICAL SERVICE TO REMAIN UNDER BASE BID PACKAGE

2. THIS RISER IS DEMOLISHED UNDER ALTERNATE BIDS 2-1 - 2-3.

LEGEND

———	EXISTING TO REMAIN
———	NEW
M.C.B.	MAIN CIRCUIT BREAKER
M.L.O.	MAIN LUGS ONLY
GEC	GROUNDING ELECTRODE CONDUCTOR
	RECONNECTION OF EXISTING



2 BASE BID POWER RISER
NOT TO SCALE

LIGHTING FIXTURE SCHEDULE

SYMBOL	MOUNTING	VOLT	MANUFACTURER AND MODEL NO.	EQUALS	DESCRIPTION	LAMP	WATTS	SYMBOL
A1	RECESSED	MVOLT	LITHONIA EPANL-2X2-2000LMHE-80CRI-40K-MIN10-ZT-MVOLT	SIGNIFY WILLIAMS HUBBELL	2'X2' LED FLAT PANEL FIXTURE WITH DIMING DOWN TO 10%	LED 4000K 2000 LUMENS	20	A1
A2	RECESSED	MVOLT	LITHONIA EPANL-2X4-4000LMHE-80CRI-40K-MIN10-ZT-MVOLT	SIGNIFY WILLIAMS HUBBELL	2'X4' LED FLAT PANEL FIXTURE WITH DIMING DOWN TO 10%	LED 4000K 4000 LUMENS	31	A2
B	SURFACE/ PENDANT	MVOLT	LITHONIA ZL1D-L48-5000LM-FST-MVOLT-40K-80CRI-WH-ZACHV M100	SIGNIFY WILLIAMS HUBBELL	4' LED STRIP LIGHT WITH FROSTED LENS AND ADJUSTABLE AIR CRAFT CABLE HANGERS	LED 4000K 5500 LUMENS	41	B
D	RECESSED	MVOLT	PRESCOLITE LTR-6RD-H-SL10L-DM01-EM/LTR-6RD-T-SL-40K-8-MD-SS-WT-EM	SIGNIFY WILLIAMS HUBBELL	6" LED DOWNLIGHT WITH EMERGENCY BATTERY, FINAL FINISH AND TRIM OPTIONS TO BE SELECTED BY ARCHITECT	LED 4000K 1100 LUMENS	12	D
G	SURFACE	MVOLT	LITHONIA ARC2 LED P3 40K MVOLT PE DDBXD	SIGNIFY WILLIAMS HUBBELL	LED EXTERIOR WALL PACK, ARCHITECT TO SELECT COLOR	LED 4000K 3000 LUMENS	24	G
K	SURFACE	MVOLT	LITHONIA CNY LED P1 40K MVOLT	SIGNIFY WILLIAMS HUBBELL	LED EXTERIOR CANOPY FIXTURE , ARCHITECT TO SELECT COLOR	LED 4000K 4500 LUMENS	12	K
S	RECESSED	MVOLT	PRESCOLITE LTR-6RD-H-SL10L-DM01/LTR-6RD-T-SL-40K-8-XW-SS-WT	SIGNIFY WILLIAMS HUBBELL	6" LED DOWNLIGHT, FINAL FINISH AND TRIM OPTIONS TO BE SELECTED BY ARCHITECT	LED 4000K 1100 LUMENS	12	S
X1	SURFACE	MVOLT	LITHONIA EDG-W-1-RW-EL	SIGNIFY WILLIAMS HUBBELL	LED EDGE LIT SINGLE FACE EXIT SIGN WITH BATTERY BACK OF 90 MINUTES	LED	3.1	X1
Z	SURFACE	MVOLT	LITHONIA ELM2L	SIGNIFY WILLIAMS HUBBELL	LED EM WALL MOUNT FIXTURE WITH BATTERY BACK OF 90 MINUTES	LED	3.1	Z

* ALL INDOOR LIGHT FIXTURES ARE TO BE RATED FOR 2.5KA SURGE PROTECTION MINIMUM.
* ALL EXTERIOR LIGHT FIXTURES ARE TO BE RATED FOR 10KA SURGE PROTECTION MINIMUM.

*THIS FIXTURE SCHEDULE IDENTIFIES A FIXTURE THAT MEETS THE SPECIFIED PERFORMANCE REQUIREMENTS AND A LEVEL OF QUALITY REQUIRED FOR THE PROJECT. MANUFACTURER'S NAMES AND FIXTURE MODEL NUMBERS IN THE SCHEDULE ARE NOT A NAME BRAND SPECIFICATION. EQUIVALENT FIXTURES BY MANUFACTURERS OTHER THAN THOSE LISTED MAY BE SUBMITTED FOR THIS PROJECT.

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02/17/2023

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: GS
CHECKED BY: JTB

PANEL SCHEDULES AND DETAILS

2022017 20 FEB 2023

E5-02

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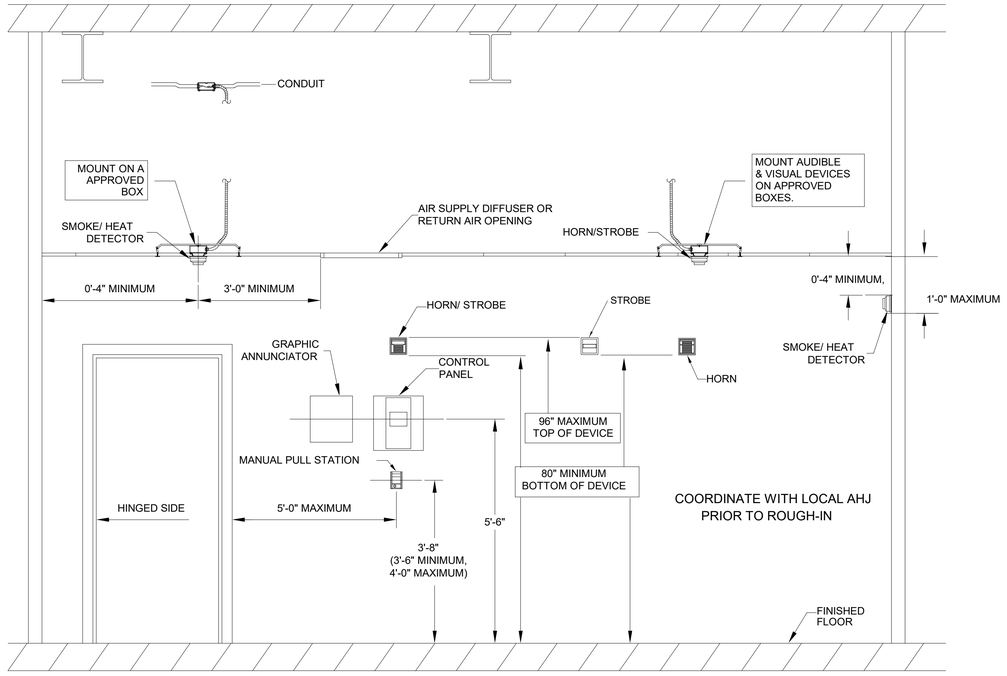
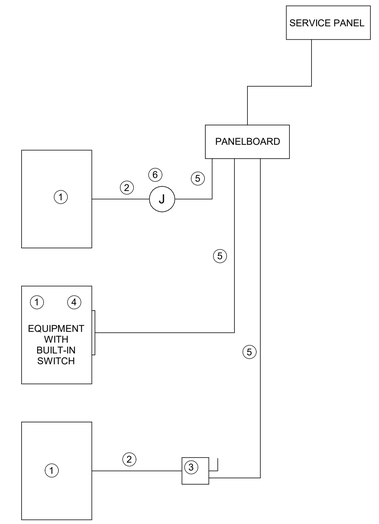
NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS



FIRE ALARM DEVICE MOUNTING

4 F/A DEVICE MOUNTING
NOT TO SCALE



GENERAL NOTES:

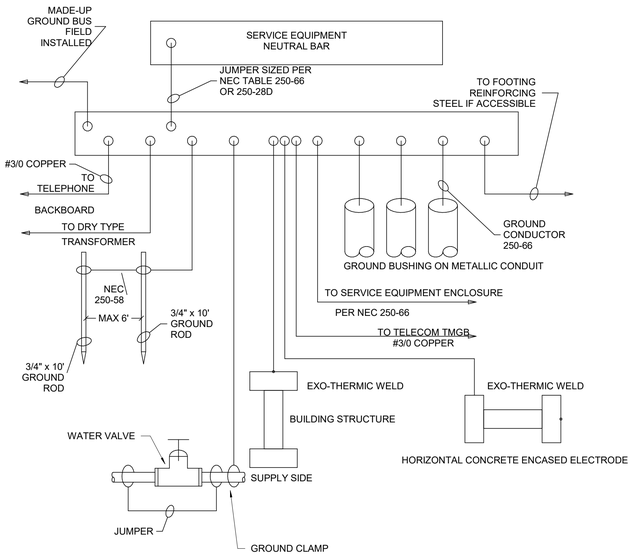
A. IN A SINGLE PRIME CONTRACT IT IS THE RESPONSIBILY OF THE PRIME CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND OTHER TRADES.

B. IN ALL CASES, THE EQUIPMENT CONTRACTOR SHALL MAKE THE FINAL CONNECTIONS, START UP, AND TEST AND COMMISSION THE EQUIPMENT.

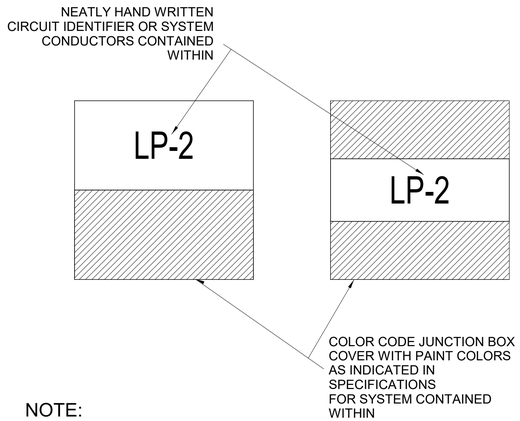
KEYNOTES:

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
2. CONDUIT AND WIRING BY HVAC, PLUMBING CONTRACTOR OR TRADES.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
4. IF THE EQUIPMENT IS NOT PROVIDED WITH A BUILT-IN DISCONNECT SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.
5. FEEDER CIRCUIT WIRING AND CONDUIT PROVIDED IN ELECTRICAL WORK. REFER TO PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
6. JUNCTION BOX MAY BE INDICATED ON THE ELECTRICAL DRAWINGS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS FURNISHED BY THE EQUIPMENT MANUFACTURER, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO THE EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING SHALL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.

1 ELECTRICAL EQUIPMENT CONNECTIONS
NOT TO SCALE



5 SERVICE EQUIPMENT GROUNDING
NOT TO SCALE

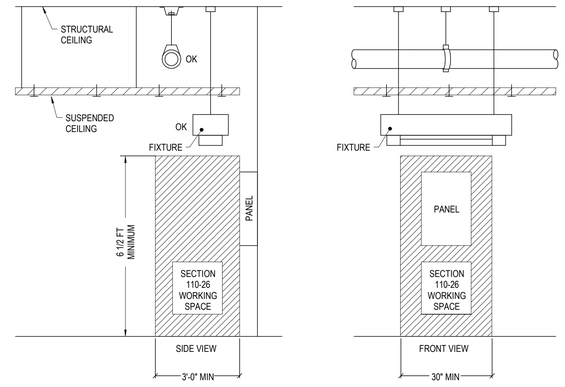


NOTE:

CONTRACTOR SHALL IDENTIFY JUNCTION BOX COVERS WITH ONE OF THE TWO METHODS SHOW ABOVE, BUT NOT BOTH. ALL JUNCTION BOX COVERS SHALL BE CONSISTENTLY IDENTIFIED ACROSS THE ENTIRE PROJECT.

JUNCTION BOX LABELING

3 JUNCTION BOX LABELING
NOT TO SCALE



N.E.C ARTICLE 110-26

2 WORKING CLEARANCE FOR ELECTRICAL EQUIPMENT
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DETAILS

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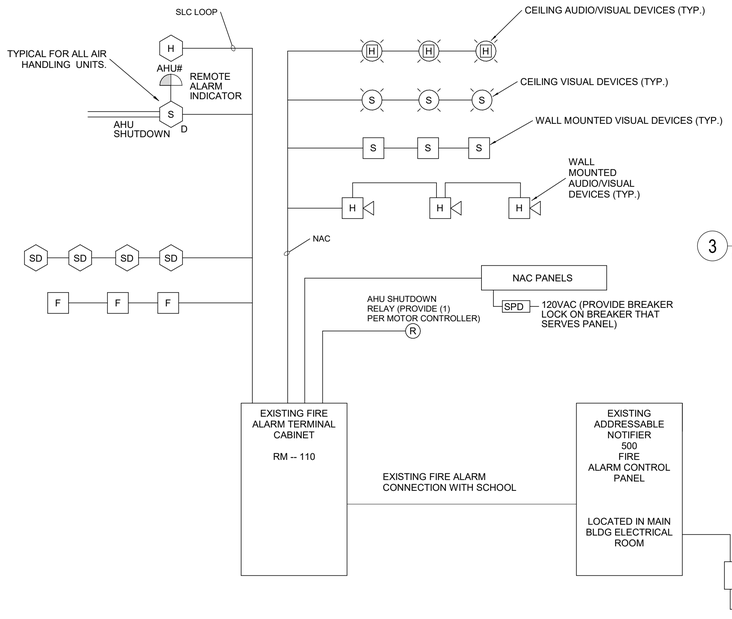
FIRE ALARM SIGNAL LINE CIRCUITS SHALL BE WIRED CLASS "A" AND NOTIFICATION CIRCUITS SHALL BE WIRED CLASS "B" WITH THE END OF LINE RESISTOR CLEARLY AND PERMANENTLY MARKED ON THE LAST DEVICE.



FIRE ALARM SYSTEM AT SCHOOL IS EXISTING TO REMAIN. ALL NEW DEVICES ARE TO BE FED TO EXISTING TERMINAL CABINET AND PROGRAMMING DONE AT SCHOOL MAIN FIRE ALARM CONTROL PANEL

GENERAL FIRE ALARM RISER NOTES:

A. SEE PLANS FOR LOCATIONS AND QUANTITIES OF ALL DEVICES.

B. ALL WIRING SHALL BE IN MINIMUM 3/4" CONDUIT.

C. BATTERY CALCULATIONS ARE REQUIRED WITH ALL SUBMITTALS.

D. TEST RESULTS ARE REQUIRED FOR ALL DEVICES.

E. PROVIDE SHUT-DOWN DEVICES FOR NEW AIR HANDLERS, FAN COIL UNITS AND SUPPLY FANS OF ALL MECHANICAL EQUIPMENT.

F. VERIFY ROOM NUMBERS WITH ARCHITECT PRIOR TO PROGRAMMING SYSTEM.

G. ALL NAC PANELS AND AMPLIFIER PANELS SHALL HAVE A SMOKE DETECTOR MOUNTED WITHIN 15'-0" OF PANEL.

H. A SMOKE DETECTOR SHALL BE MOUNTED WITHIN 15'-0" OF FACP AND NAC PANELS.

I. IF ANY ARCHITECTURAL CHANGES ARE MADE THAT SHALL AFFECT ANY DEVICE PLACEMENT, THIS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO INSTALLATION.

J. THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL BE NICET LEVEL 3 CERTIFIED AND HAVE AT LEAST 2 YEARS OF EXPERIENCE INSTALLING FIRE ALARM SYSTEMS.

K. THE PROJECT MANAGER SHALL BE NICET LEVEL 4 CERTIFIED AND HAVE AT LEAST 5 YEARS OF EXPERIENCE INSTALLING FIRE ALARM SYSTEMS.

L. THE SHOP DRAWINGS SUBMITTALS FOR DEVICE LOCATIONS SHALL BE SUBMITTED TO ENGINEER AND LOCAL (AHJ) FIRE MARSHALL PRIOR TO ANY INSTALLATION/ROUGH-IN FOR FIRE ALARM DEVICES.

M. WIRING DIAGRAMS. LOCATION DRAWINGS, DEVICE CUT SHEETS AND VOLTAGE DROP CALCULATIONS ARE REQUIRED WITH ALL SUBMITTALS.

N. THE FIRE ALARM SYSTEM PROVIDER SHALL PROVIDE ALL DOCUMENTATION AS SPECIFIED IN THE INTERNATIONAL FIRE CODE SECTION 907 REQUIREMENTS AS PART OF HIS SHOP DRAWING SUBMITTALS.

THIS INCLUDES:

1. LOCATION DRAWINGS OF ALARM INITIATING AND NOTIFICATION DEVICES.
2. WIRING DIAGRAMS WITH CONDUCTOR TYPE AND SIZES.
3. LOCATIONS OF ALARM CONTROL AND TROUBLE SIGNALING EQUIPMENT.
4. POWER CONNECTION DETAILS AND WIRING SCHEMATICS.
5. BATTERY CALCULATIONS.
6. VOLTAGE DROP CALCULATIONS.
7. MANUFACTURER'S MODEL NUMBERS, LISTING INFORMATION FOR EQUIPMENT, DEVICES AND MATERIALS.
8. THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.

O. REFER TO DIVISION 28 SPECIFICATIONS.

P. FIRE ALARM SIGNAL LINE CIRCUITS SHALL BE WIRED CLASS "A" AND NOTIFICATION CIRCUITS SHALL BE WIRED CLASS "B" WITH THE END OF LINE RESISTOR CLEARLY AND PERMANENTLY MARKED ON THE LAST DEVICE.

Q. PROVIDE SPARE PARTS AS DEFINED IN SPECIFICATIONS.

R. ALL FIRE ALARM SYSTEM WORK SHALL BE APPROVED BY THE LOCAL FIRE MARSHAL PRIOR TO COMMENCING ANY FIRE ALARM WORK.

S. ALL RACPs SHALL BE SEMI RECESSED WITH INTEGRAL PUSH TO TALK MICROPHONES AND ZONE SELECTION SWITCHES.

T. FIRE ALARM SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH NFPA 72, 2013.

U. COORDINATE WITH THE FIRE PROTECTION CONTRACTOR FOR VOLTAGE, RELAY, ETC. FOR CONNECTIONS OF SPRINKLER BELL. ALL WIRING, CONDUIT, RELAY, AND INTERCONNECTIONS SHALL BE BY THE ELECTRICAL & FIRE ALARM CONTRACTORS.

V. NOTIFICATION APPLANCE CABINETS(NAC) SHALL BE ADDED AS NEEDED. ALL 120VAC POWER FOR CABINET SHALL BE PROVIDED FROM THE NEAREST 120V PANEL. BREAKER HASPS SHALL BE PROVIDED ON BREAKER SERVING CABINET.

W. ELECTRICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH FIRE ALARM SUB-CONTRACTOR FOR ALL 120V AC POWER REQUIRED FOR THIS SYSTEM. IF ANY ADDITIONAL CIRCUITS ARE REQUIRED THAT ARE NOT IDENTIFIED ON PLANS THE ELECTRICAL CONTRACTOR SHALL PROVIDE THAT CIRCUIT FROM THE NEAREST 120V PANEL, AS-BUILTS SHALL BE UPDATED TO REFLECT THE INSTALLED CONDITION. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE PROJECT.

X. THE FIRE ALARM SYSTEM SHALL BE INTERCONNECTED WITH ALL SOUND SYSTEMS SUCH THAT UPON ALARM CONDITION THE SOUND SYSTEM MUTES. REFER TO PLANS FOR SOUND SYSTEM LOCATIONS.

Y. ELECTRICAL CONTRACTORS (FIRE ALARM SUB-CONTRACTOR) SHALL COORDINATE CLOSELY WITH THE HVAC CONTROLS CONTRACTOR.

4 FIRE ALARM NETWORK RISER Copy 1

NOT TO SCALE

GENERAL NOTES:

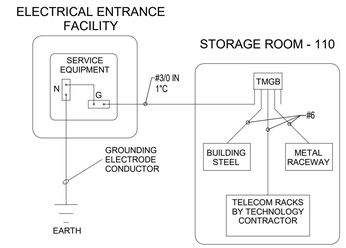
A. VERIFY OPERATION WITH LOCAL AHJ PRIOR TO PROGRAMMING.

SYSTEM INPUTS

		ACTUATE GENERAL ALARM SPEAKERS/STROBES	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE ALL EVACUATION SIGNALS	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	DISPLAY CHANGE OF STATUS AT FACP	SHUTDOWN ALL AIR HANDLING UNITS	TRANSMIT CO TROUBLE SIGNAL TO SUPERVISING STATION	ACTUATE CARBON MONOXIDE TROUBLE SIGNAL	UNLOCK ACCESS CONTROLLED EGRESS DOORS	MUTE ALL SOUND SYSTEMS	RELEASE MAGNETICALLY HELD DOOR OPENS	
		A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	Q	R	
1	MANUAL PULL STATIONS	o	o					o	o			o	o			o	o	o	1
2	SMOKE DETECTORS	o	o					o	o			o	o			o	o	o	2
3	HEAT DETECTORS	o	o					o	o			o	o			o	o	o	3
4																		o	4
5	AHU OVERRIDE SWITCH			o	o						o	o							5
6																			6
7																			7
8																			8
9	FIRE ALARM SYSTEM AC POWER FAILURE					o	o			o		o							9
10	FIRE ALARM SYSTEM LOW BATTERY					o	o			o		o							9
11	NAC PANELS LOW BATTERY					o	o			o		o							10
12	OPEN CIRCUIT					o	o			o		o							11
13	GROUND FAULT					o	o			o		o							12
14	NOTIFICATION APPLIANCE SHORT CIRCUIT					o	o			o		o							13
15																			14
16																			15

3 FIRE ALARM MATRIX

NOT TO SCALE



NOTES:

A. IT IS THE INTENT FOR THE TELECOMMUNICATION GROUNDING SYSTEM TO UTILIZE THE "GROUND ELECTRODE CONDUCTOR (GEC)" ASSOCIATED WITH THE ELECTRICAL SERVICE ENTRANCE TO THE PROJECT SITE.

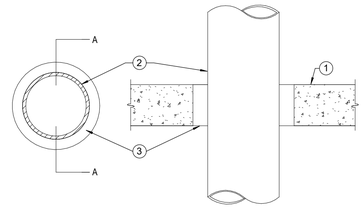
B. FROM THE GEC, THE ELECTRICAL CONTRACTOR WILL INSTALL A BONDING CONDUCTOR WHICH WILL CONNECT THE GEC TO A TELECOMMUNICATIONS MAIN GROUNDING BUS BAR (TMGB) LOCATED IN STORAGE ROOM 110. THE BONDING CONDUCTOR WILL BE BONDED TO THE GEC AND THE TMGB. ADDITIONALLY, THE TMGB WILL BE BONDED TO THE CLOSEST PART OF THE BUILDING STEEL AND STEEL CONDUIT RACEWAY OR CABLE TRAY DESIGNATED FOR TELECOMMUNICATIONS USE.

D. COMPONENTS CRITERIA:
1. BUSBARS
   A. PREDRILLED ELECTROTIN PLATED COPPER BUSBAR PROVIDED WITH STANDARD NEMA BOLT HOLE SIZING AND SPACING FOR TWO HOLE COMPRESSION CONNECTORS OR EXOTHERMIC TYPE WELDED CONNECTORS.
   B. SIZE WILL BE A MINIMUM OF 6mm THICK, 50mm WIDE AND 200mm LONG.
   C. THE BUSBAR WILL BE INSULATED FROM ITS SUPPORT. MINIMUM 50mm SEPARATION IS RECOMMENDED.

TELECOMMUNICATIONS GROUNDING SYSTEM TO BE INSTALLED BY THE ELECTRICAL CONTRACTOR

2 TECHNOLOGY GROUNDING

NOT TO SCALE



SECTION A-A

KEYED NOTES:

1. NON-RATED FLOOR OR WALL.
2. THROUGH PENETRANTS - ONE PIPE, OR CONDUIT.
3. FILL, VOID, OR CAVITY MATERIAL: SILICON CAULK.

1 NON-RATED WALL PIPE PENETRATION

NOT TO SCALE

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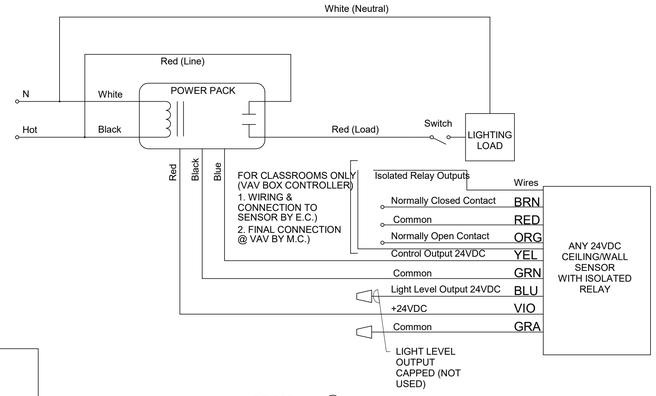
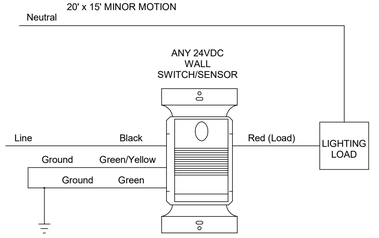
GENERAL NOTES:

1. ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.
2. ULTRASONIC CEILING MOUNTED SENSORS SHALL NOT BE LOCATED WITHIN 6'-0" OF SUPPLY/RETURN GRILLES.
3. CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS, VERIFICATION OF MANUFACTURER'S RECOMMENDED PLACEMENT AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
4. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS.
5. ONE POWER PACK IS REQUIRED FOR EACH CIRCUIT THAT IS TO BE CONTROLLED.
6. MAXIMUM NUMBER OF SENSORS THAT CAN BE WIRED IN PARALLEL TO A SINGLE POWER PACK IS DEPENDENT ON SENSOR MODEL. (SEE INDIVIDUAL DATA SHEETS FOR mA CONSUMPTION.)
7. SENSOR LAYOUT DRAWINGS AND PRODUCT DATA SHEETS ARE REQUIRED AS PART OF SHOP DRAWING SUBMITTALS.
8. ALL OCCUPANCY SENSOR WIRING SHALL BE WIRED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.
9. ALL CLASSROOM OCCUPANCY SENSORS SHALL BE PROVIDED WITH ISOLATION RELAY, THE ISOLATION RELAY SHALL BE CONNECTED TO THE VAV CONTROLLER FOR THAT CLASSROOM, COORDINATE CLOSELY WITH MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL THE WIRING BETWEEN THE SENSOR AND THE VAV CONTROLLER, TERMINATING IN THE SENSOR. THE MECHANICAL CONTRACTOR SHALL MAKE FINAL TERMINATIONS AT THE VAV CONTROLLER.
10. REFER TO SPECIFICATION 260923.
11. ALL EXPPOSED WIRING SHALL BE PLENUM RATED.



PW-100 (S$_{SW}$)

PASSIVE INFRARED WALL SWITCH SENSOR
35' x 30' MAJOR COVERAGE
20' x 15' MINOR MOTION



OCCUPANCY SENSOR SINGLE LEVEL WIRING DIAGRAM
(EQUALS: WATTSTOPPER, HUBBELL, SENSOR SWITCH)

DT-300 (OS)

DUAL TECHNOLOGY OCCUPANCY SENSOR, 2000 SQ. FT. COVERAGE,
WITH ISOLATED RELAY, WIDE ANGLE LENS

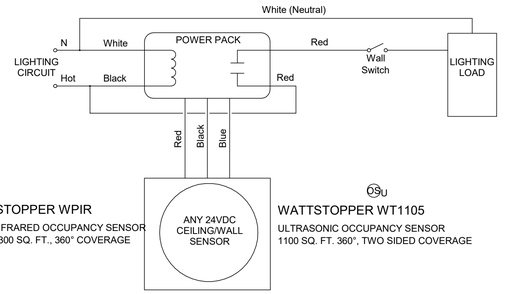
WT1100 (OS)U

ULTRASONIC OCCUPANCY SENSOR
1100 SQ. FT. 360°, TWO SIDED COVERAGE,
WITH ISOLATED REALY, WIDE ANGLE LENS

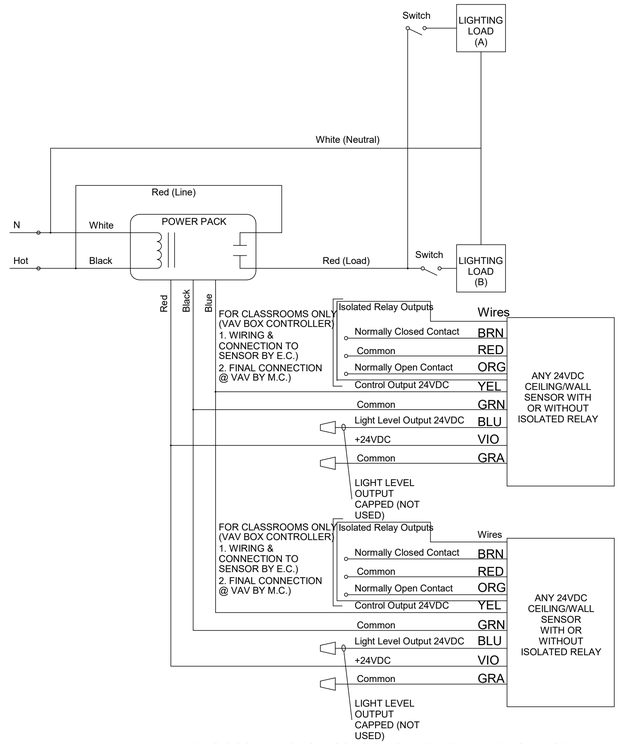
CX-100

PASSIVE INFRARED OCCUPANCY SENSOR, 2000 SQ. FT.
COVERAGE, WITH ISOLATED RELAY, WIDE ANGLE LENS

OCCUPANCY SENSOR WITH ISOLATED RELAY WIRING DIAGRAM
(EQUALS: WATTSTOPPER, HUBBELL, PASS & SEYMOUR, LEVITON)



OCCUPANCY SENSORS WITHOUT ISOLATED RELAY WIRING DIAGRAM
(EQUALS: HUBBELL, SENSOR SWITCH)



TWO OCCUPANCY SENSORS ON ONE CIRCUIT WIRING DIAGRAM
(EQUALS: WATTSTOPPER, HUBBELL, PASS & SEYMOUR)

DT-300 (OS)

DUAL TECHNOLOGY OCCUPANCY SENSOR, 2000 SQ. FT. COVERAGE,
WITH ISOLATED RELAY, WIDE ANGLE LENS

1 DETAIL - OCCUPANCY SENSOR WIRING DIAGRAM
NOT TO SCALE

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PDC #21007

NORTH CAROLINA PROFESSIONAL SEAL 024651 ENGINEER JAMES T. BUTKOVICH

02/17/2023

BID/PERMIT SET

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Smith Sinnett Architecture, P.A. 2019

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ONSLOW COUNTY SCHOOLS
TREXLER MIDDLE SCHOOL RENOVATION & SITE IMPROVEMENTS
112 E FOY STREET RICHLANDS, NC 28574

ID	DATE	DESCRIPTION

DRAWN BY: GS
CHECKED BY: JTB

DETAILS

2022017 20 FEB 2023

E6-03

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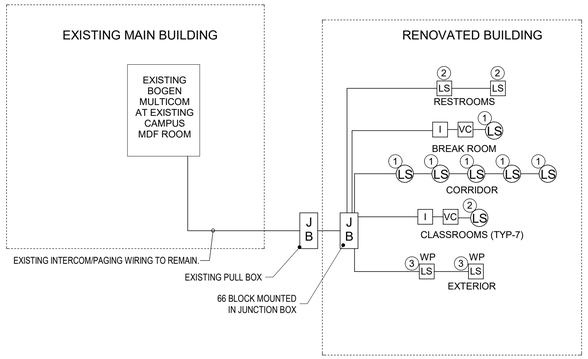


GENERAL NOTES:

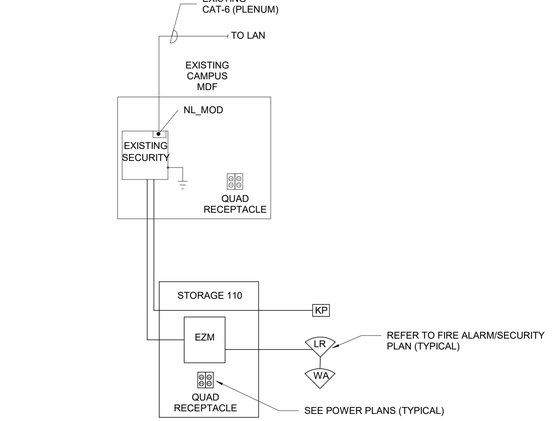
A. REFER TO SPECIFICATION 275113.
B. ALL SPEAKER BACK BOXES AND SUPPORTS SHALL BE PROVIDED AND INSTALLED BY THE PA SYSTEM CONTRACTOR.
C. ALL WIRING SHALL BE PLENUM RATED AND ALL INCLUSIVE FOR A COMPLETE SYSTEM.
D. SEE PLANS FOR QUANTITIES AND LOCATIONS.
E. ALL DEVICES/COMPONENTS THAT ARE LOCATED IN THE PLENUM ENVIRONMENT SHALL BE PLENUM RATED.
F. PAGING/INTERCOM SYSTEM SHALL MUTE UPON ACTIVATION OF FIRE ALARM SYSTEM.
G. ANY WIRING ROUTED EXTERIOR OF BUILDING SHALL HAVE LIGHTNING PROTECTION AT BOTH BUILDING ENTRANCES.

KEYNOTES:

1. CEILING MOUNTED SPEAKERS.
2. WALL MOUNT SURFACE BOX SPEAKERS.
3. EXTERIOR WEATHER PROOF LOUD SPEAKERS.

5 INTERCOM RISER

NOT TO SCALE



PASSIVE INFRA-RED DETECTORS
MED RANGE - ARITECH AP-663
LONG RANGE - ARITECH AP-633
SHORT RANGE- BRAVO 6 DUAL
OR APPROVED EQUALS

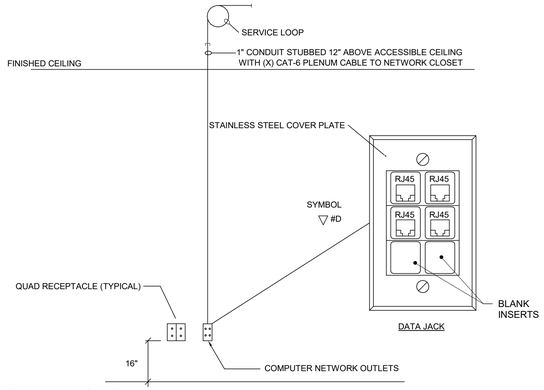
NOTE: SEE PLANS FOR LOCATIONS AND QUANTITIES.

GENERAL NOTES:

A. COMPLY WITH SPECIFICATION 281600.
B. ALL WORK SHALL BE PERFORMED BY A LICENSED SECURITY SYSTEM CONTRACTOR.
C. WHEN COMPLETE, SYSTEM SHALL BE 100% OPERATIONAL AND APPROVED BY JOHNSTON COUNTY PUBLIC SCHOOLS.
D. ALL WIRING AND DEVICE HEIGHT/MOUNTING SHALL BE PER MANUFACTURER'S SPECIFICATIONS.
E. PROVIDE A MINIMUM OF FOUR HOURS OF OWNER TRAINING FOR OPERATION AND MAINTENANCE PROCEDURES.
F. FINAL ZONING OF SYSTEM SHALL BE COORDINATED WITH JCSS SECURITY DEPARTMENT.
G. WALL MOUNT DETECTORS AT CEILING HEIGHT OR 12'-0" MAX.
H. JCSS PREFERRED MANUFACTURER IS NAPCO. REFER TO ARCHITECTS' ALTERNATES SECTION 01 23 00.
I. ALL RECEPTACLE POWER FOR SECURITY COMPONENTS SHALL BE COORDINATED CLOSELY BETWEEN ELECTRICAL AND SECURITY CONTRACTORS PRIOR TO ROUGH-IN.
J. GROUND IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
K. ALL WIRING SHALL BE PLENUM RATED.

4 DETAIL - INTRUSION DETECTION RISER

NOT TO SCALE

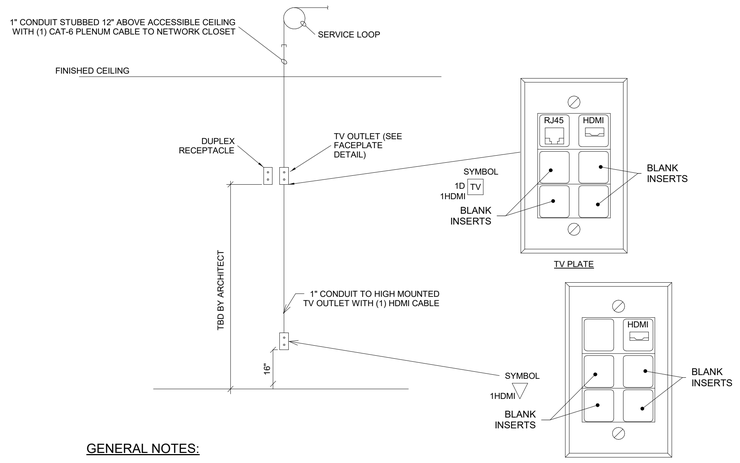


GENERAL NOTES:

A. CONTRACTOR SHALL PROVIDE ALL CONDUIT, BOXES AND RECEPTACLES.
B. CONTRACTOR SHALL PROVIDE ALL CAT-6 WIRING, FACEPLATES AND RJ45 CONNECTORS.
C. CONTRACTOR SHALL UTILIZE CONDUIT AND TRAY SYSTEM FOR EASE OF ROUTING WHERE APPLICABLE. WHERE CONDUIT OR TRAY IS NOT AVAILABLE, CONTRACTOR SHALL PROVIDE J-HOOK SUPPORTS ON 36" CENTERS.
D. CONTRACTOR SHALL VERIFY LOCATIONS OF CASEWORK, CHALK BOARDS AND TACK BOARDS PRIOR TO INSTALLATION.
E. ALL COMPUTER NETWORK OUTLETS SHALL HAVE THE QUANTITY CAT-6 DROPS AS INDICATED WITH THE NUMBER NEXT TO THE DROP. (I.E. 4D▽) WHERE NO QUANTITY IS SHOWN, PROVIDE AN EMPTY CONDUIT WITH BLANK FACEPLATE AND PULL STRING.

3 TYPICAL NETWORK OUTLET

NOT TO SCALE

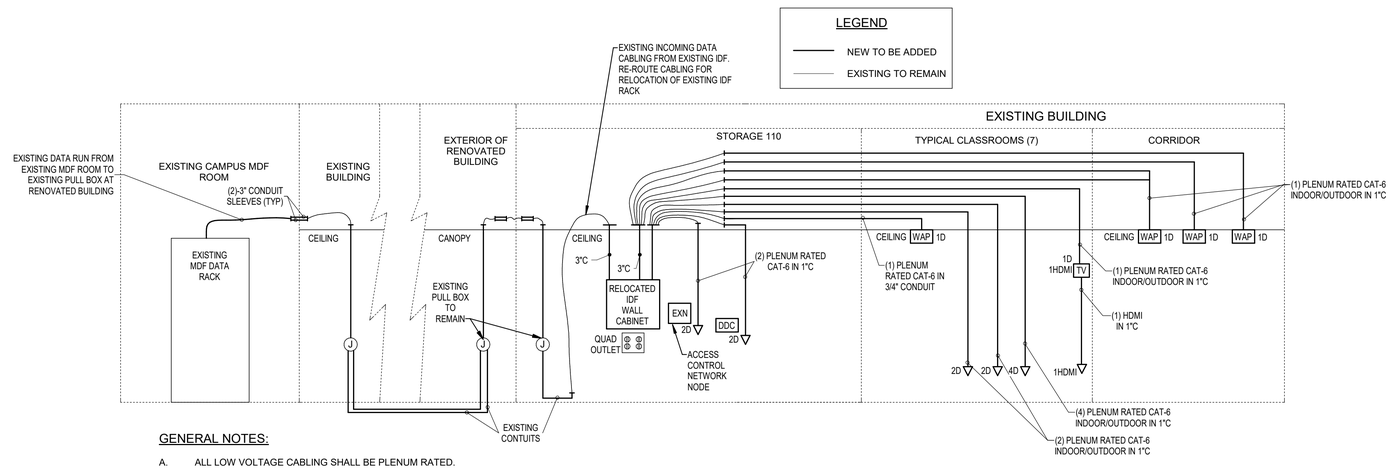


GENERAL NOTES:

A. CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONDUIT, BOXES AND RECEPTACLES.
B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL CAT-6, FACEPLATES AND ASSOCIATED RJ45 CONNECTORS.
C. CONTRACTOR SHALL UTILIZE CONDUIT AND TRAY SYSTEM FOR EASE OF ROUTING, WHERE APPLICABLE. WHERE CONDUIT OR TRAY IS NOT AVAILABLE, CONTRACTOR SHALL PROVIDE J-HOOK SUPPORTS ON 36" CENTERS.
D. CONTRACTOR SHALL VERIFY LOCATIONS OF TVs WITH ARCHITECTURAL PLANS PRIOR TO LOCATING OUTLETS.

2 TV OUTLET LOCATION

NOT TO SCALE



GENERAL NOTES:

A. ALL LOW VOLTAGE CABLING SHALL BE PLENUM RATED.
B. PROVIDE BLUE PLENUM RATED CAT-6 CABLES IN QUANTITY INDICATED AND ASSOCIATED RJ45 CONNECTORS AND FACEPLATES, ALL TERMINATED AT BOTH ENDS. BASE BID ALL DATA OUTLETS ARE TO BE SURFACE MOUNTED BOXES. IN ALTERNATE BID 2-2, ALL DATA OUTLET LOCATIONS ARE TO BE RUN IN SURFACE MOUNTED WIREMOLD WITH RECEPTACLES.
C. ALL CABLING SHALL BE TESTED PER BICSI FOR REQUIREMENTS AND TURNED OVER TO ENGINEER FOR FINAL APPROVAL.
D. COORDINATE WITH OWNER FOR LABELING AND TERMINATION STANDARDS.
E. ALL WORK SHALL BE NEAT. WHERE NO CONDUIT IS UTILIZED, PROVIDE J-HOOK SUPPORTS 36" ON CENTER. IF CABLING IS IN EXPOSED AREAS, CONDUIT SHALL BE UTILIZED. NO J-HOOKS IN OPEN AREAS.
F. PROVIDE FIBER ENCLOSURES AND SC CONNECTIONS AT BOTH ENDS.
G. CONTRACTOR SHALL PERFORM SITE VISIT PRIOR TO BID TO REVIEW EXISTING CONDITIONS.
H. COORDINATE ALL WORK PRIOR TO EQUIPMENT PLACEMENT WITH ENGINEER/ARCHITECT/OWNER.
I. PROVIDE FIRE RATED BACK BOARDS FOR MOUNTING EQUIPMENT IN IDF ROOMS.

1 TELECOMMUNICATIONS RISER

NOT TO SCALE

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02/17/2023

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CHECKED BY: JTB

DETAILS

2022017 20 FEB 2023

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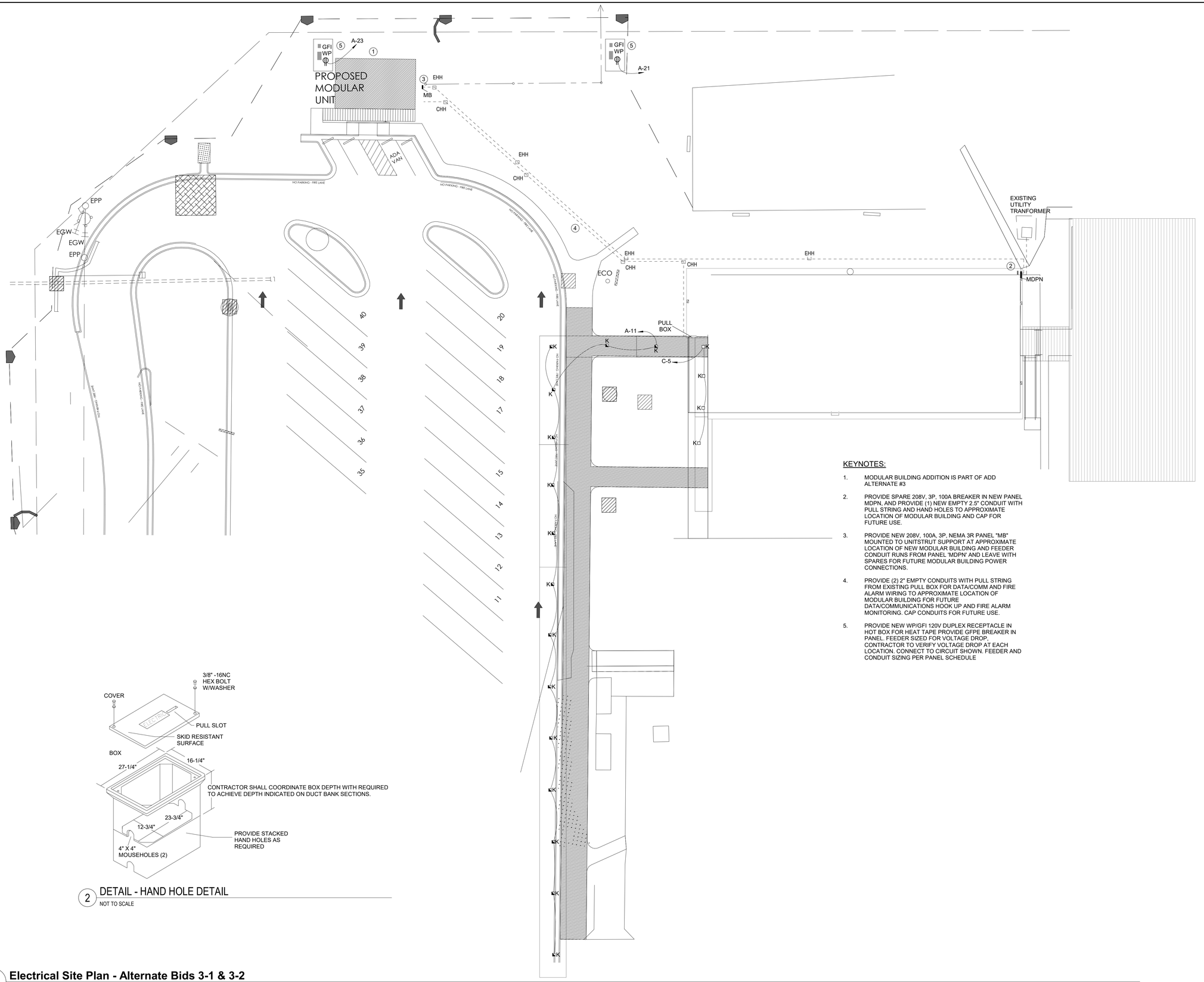

KEYNOTES:

1. MODULAR BUILDING ADDITION IS PART OF ADD ALTERNATE #3
2. PROVIDE SPARE 208V, 3P, 100A BREAKER IN NEW PANEL MDPN, AND PROVIDE (1) NEW EMPTY 2.5" CONDUIT WITH PULL STRING AND HAND HOLES TO APPROXIMATE LOCATION OF MODULAR BUILDING AND CAP FOR FUTURE USE.
3. PROVIDE NEW 208V, 100A, 3P, NEMA 3R PANEL "MB" MOUNTED TO UNITSTRUT SUPPORT AT APPROXIMATE LOCATION OF NEW MODULAR BUILDING AND FEEDER CONDUIT RUNS FROM PANEL 'MDPN' AND LEAVE WITH SPARES FOR FUTURE MODULAR BUILDING POWER CONNECTIONS.
4. PROVIDE (2) 2" EMPTY CONDUITS WITH PULL STRING FROM EXISTING PULL BOX FOR DATA/COMM AND FIRE ALARM WIRING TO APPROXIMATE LOCATION OF MODULAR BUILDING FOR FUTURE DATA/COMMUNICATIONS HOOK UP AND FIRE ALARM MONITORING. CAP CONDUITS FOR FUTURE USE.
5. PROVIDE NEW WP/GFI 120V DUPLEX RECEPTACLE IN HOT BOX FOR HEAT TAPE PROVIDE GFPE BREAKER IN PANEL. FEEDER SIZED FOR VOLTAGE DROP. CONTRACTOR TO VERIFY VOLTAGE DROP AT EACH LOCATION. CONNECT TO CIRCUIT SHOWN. FEEDER AND CONDUIT SIZING PER PANEL SCHEDULE

2 DETAIL - HAND HOLE DETAIL
NOT TO SCALE

1 **Electrical Site Plan - Alternate Bids 3-1 & 3-2**
1" = 20'-0"

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ELECTRICAL SITE PLAN - ALTERNATE BIDS 3-1 & 3-2

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