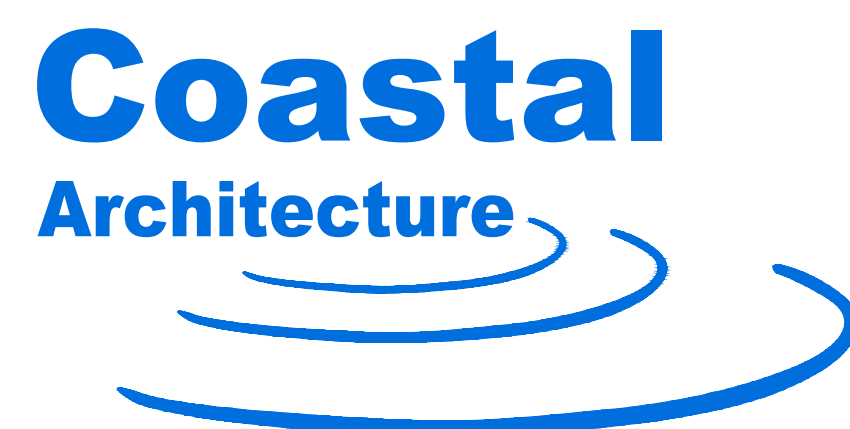


PINE KNOLL SHORES PUBLIC SERVICE BUILDING

PINE KNOLL SHORES, NORTH CAROLINA

DRAWING LIST

CS-1	COVER SHEET
G-1	GENERAL DATA
G-2	LIFE SAFETY PLAN
SHEET 1 OF 2	EXISTING CONDITIONS AND DEMOLITION PLAN
SHEET 2 OF 2	SITE GRADING DRAINAGE PLAN
A-1	FLOOR PLAN
A-1.1	ROOF PLAN
A-2	NOT USED
A-3	DOOR AND ROOM FINISH SCHEDULE
A-4	EXTERIOR ELEVATIONS
A-5	BUILDING SECTIONS
A-5.1	WALL SECTION
SK1.1	FEMB FOOTINGS
M-1	HVAC FLOOR PLAN NOTES, SPECS, & SCHEDULES
M-2	LP GAS PLAN
E-1	ELECTRICAL PLAN
E-2	FLOOR PLANS AND PANEL/RISER



Coastal Architecture, Drawings, Specifications and Other Documents
 The Drawings, Specifications and other documents prepared by Coastal Architecture, the Designer, for this project are instruments of service for use solely with respect to this project and, unless otherwise provided, the Designer shall be deemed the author of these documents and shall retain all common law, statutory and other reserved rights, including copyright protection. The Owner shall be permitted to retain copies of the Designer's drawings, Specifications, and other documents for information and reference in connection with the Owner's use and occupancy of this project. No portions in part or in whole of the Drawings, Specifications and other documents shall be duplicated or used by the Owner or others for additions to this Project, completion of this Project by others, or on other Projects without written consent by the Designer.



- Architectural Design
- Planning
- Interiors



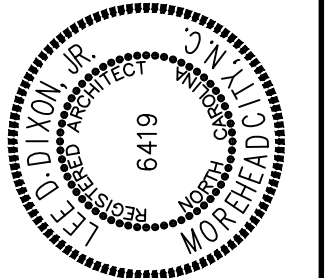
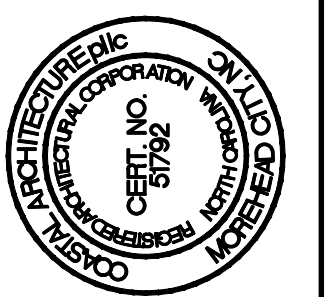
Member of the American Institute of Architects

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 252-247-2127
 lee@coastalarchitecture.net

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 Morehead City, NC 28557

www.CoastalArchitecture.net

PINE KNOLL SHORES
 PUBLIC SERVICES BUILDING
 PINE KNOLL SHORES, NORTH CAROLINA



COVER SHEET

23019

ISSUED: 10/18/23
 DWG BY: DLY
 CKD BY: LDD

REVISIONS	

SHEET NO.
CS-1
 OF

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

Name of Project: PINE KNOLL SHORES PUBLIC SERVICES BUILDING
 Address: 100 MUNICIPAL CIR PINE KNOLL SHORES, NORTH CAROLINA Zip Code 28512
 Owner/Authorized Agent: LEE DIXON Phone # (252) 241-2127 E-Mail LEE@COASTALARCHITECTURE.NET
 Owned By: City/County Private State
 Code Enforcement Jurisdiction: City PINE KNOLL SHORES County State

CONTACT:
 DESIGNER: FIRM Coastal Architecture NAME Lee Dixon LICENSE # 6419 TELEPHONE # (252) 241-2127 E-MAIL lee@coastalarchitecture.net
 Architectural: Lee Dixon
 Civil: The Cullipier Group PA Chase Cullipier 031919 (252) 713-0030 chase@cggps.com
 Electrical: Burke Design Group Ben Burke 22038 (919) 711-1916 benburke@ncrr.com
 Fire Alarm: Burke Design Group Ben Burke 22038 (919) 711-1916 benburke@ncrr.com
 Plumbing: Burke Design Group Ben Burke 22038 (919) 711-1916 benburke@ncrr.com
 Mechanical: Burke Design Group Ben Burke 22038 (919) 711-1916 benburke@ncrr.com
 Sprinkler-Standpipe: FDR Engineers Heath Hendrick - (919) 957-5100 hendrick@fdr-eng.com
 Structural: FDR Engineers Heath Hendrick - (919) 957-5100 hendrick@fdr-eng.com
 Retaining Walls > 5 feet High: -
 Other: -

2018 NC BUILDING CODE: New Building Shell/Core 1st Time Interior Completions
 Addition Phased Construction—Shell Core
 2018 NC EXISTING BUILDING CODE: Prescriptive Alteration Level I Historic Property
 Repair Alteration Level II Change of Use
 Chapter 14 Alteration Level III

CONSTRUCTED: (date) _____ CURRENT USE(S) (Ch. 3): _____
 RENOVATED: (date) _____ PROPOSED USE(S) (Ch. 3): _____
 OCCUPANCY CATEGORY (Table 1604.5): Current: _____ Proposed: II

BASIC BUILDING DATA

Construction Type: I-A I-A I-A IV V-A
 II-B II-B II-B V-B
 Sprinklers: No Partial NFPA 13 NFPA 13R NFPA 13D
 Standpipes: No Class II III Wet Dry
 Primary Fire District: No Yes Flood Hazard Area: No Yes
 Special Inspections Required: No Yes

GROSS BUILDING AREA TABLE

Floor	Existing (sq ft)	New (sq ft)	Subtotal
1st Floor		<u>3280</u>	<u>3280</u>
TOTAL		<u>3280</u>	<u>3280</u>

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 versus the 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: _____
 U-Value of total assembly: _____
 R-Value of insulation: R-25
 Skylights in each assembly: _____
 U-Value of skylight: _____
 total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: R-13
 Openings (windows or doors with glazing)
 U-Value of assembly: _____
 Solar heat gain coefficient: _____
 projection factor: _____
 Door R-Values: _____

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

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

Floors slab on grade
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____
 Horizontal/vertical requirement: N/A
 slab heated: _____

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 Detonate H-3 Combust H-4 Health H-5 HPM
 Institutional I-1 I-2 I-3 I-4
 I-3 Condition I-1 I-2
 I-2 Condition I-1 I-2
 I-3 Condition I-1 I-2 I-3 I-4 I-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): _____
 This separation is not exempt as a Nonseparated Use (see exceptions).

Special Uses (Chapter 4 – List Code Sections):
Special Provisions: (Chapter 5 – List Code Sections): _____
Mixed Occupancy: No Yes Separation: No separation Hi Exception: _____
 Non-separated Use (508.3) required per 508.3.3
 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.

Select one
 Actual Area of Occupancy A + Actual Area of Occupancy B
 Allowable Area of Occupancy A + Allowable Area of Occupancy B \leq 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 504.24 AREA	(C) AREA FOR FRONTAGE INCREASES ¹	(D) ALLOWABLE AREA PER STORY OR INCREASES ²
1	UTILITY	3280	5500	4125	9625

- 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) I = $[F/P - 0.25] W/30$
 b. Total Building Perimeter = _____ (P) I = $[1 - 0.25] 30/30$
 c. Ratio (F/P) = _____ (F/P) I = .75
 d. W = Minimum width of public way = _____ (W)
- Unfired area applicable under conditions of Section 507.
- Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (508.2).
- 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.
- Frontage increase is based on the un sprinklered area value in Table 506.2.

STRUCTURAL DESIGN

DESIGN LOADS:
 Importance Factors: Wind (IW) _____
 Snow (IS) _____
 Seismic (IE) _____

Live Loads: Roof _____ psf
 Mezzanine _____ psf
 Floor _____ psf
 Ground Snow Load: _____ psf

Wind Load: Basic Wind Speed _____ mph (ASCE-7)
SEE STRUCTURAL/PEMB

SEISMIC DESIGN CATEGORY: A B C D

Provide the following Seismic Design Parameters:
 Occupancy Category (Table 1604.5) I II III IV
 Spectral Response Acceleration SS _____ % S1 _____ %
 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 _____

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	40		
Building Height in Stories (Table 504.4)	1	1	T504.4

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)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
		REQD	PROVIDED (IF REDUCTION)				
Structural Frame Including columns, girders, trusses		0	0				
Bearing Walls							
Exterior							
North							
East							
West							
South							
Nonbearing walls and partitions							
Exterior walls		0	0				
North		0	0				
East		0	0				
West		0	0				
South		0	0				
Interior walls and partitions							
Floor Construction Including supporting beams and joists		0	0				
Floor Ceiling Assembly		0	0				
Columns Supporting Floors							
Roof Construction, including supporting beams and joists		0	0				
Roof Ceiling Assembly							
Columns Supporting Roof		0	0				
Shaft Enclosures—Exit							
Shaft Enclosures—Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/Sleeping Unit Separation							
Incidental Use Separation							

* Indicate section number permitting reduction

MECHANICAL DESIGN

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: _____
 cooling medium: _____
 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: _____

ELECTRICAL DESIGN

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 _____
 ballast type used _____
 number of ballasts in fixture _____
 total wattage per fixture _____
 total interior wattage specified versus allowed (whole building or space by space) _____
 total exterior wattage specified versus allowed _____

Additional Prescriptive Compliance
 506.2.1 More Efficient Mechanical Equipment
 506.2.2 Reduced Lighting Power Density
 506.2.3 Energy Recovery Ventilation Systems
 506.2.4 Higher Efficiency Service Water Heating
 506.2.5 On-Site Supply of Renewable Energy
 506.2.6 Automatic Daylighting Control Systems

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (feet) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.3)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
NEW	IF, N.S.	N.L.	N.L.
S	IF, N.S.	25%	3%

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Yes No
 Exit Signs: Yes No
 Fire Alarm: Yes No
 Smoke Detection Systems: Yes No
 Carbon Monoxide Detection: Yes No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet # G-2

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

ACCESSIBLE DWELLING UNITS (SECTION 1107)

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

NOT APPLICABLE

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE UNITS PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 8' ACCESSIBLE	132" ACCESSIBLE	8' ACCESSIBLE	
TOTAL						

SEE CIVIL PLANS

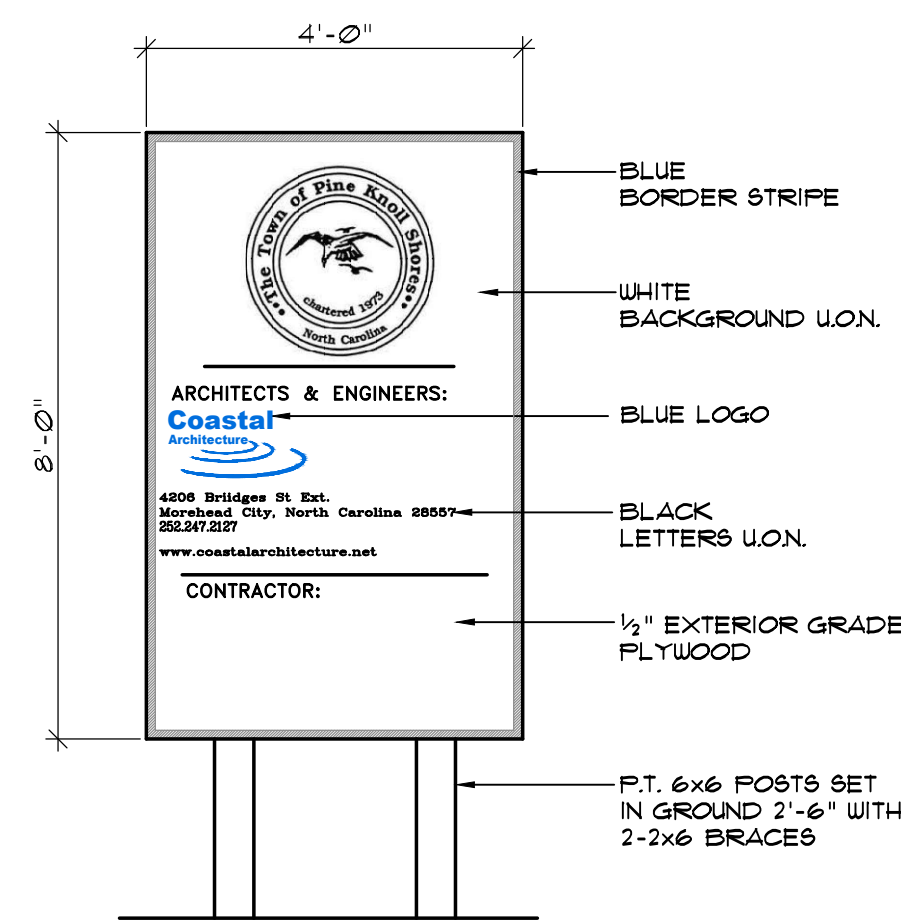
PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATERCLOSETS			URINALS	LAVATORIES			SHOWERS/TUBS	DRINKING FOUNTAINS	
	Male	Female	Unisex		Male	Female	Unisex		Regular	Accessible
EXIST'G										
NEW										
REQD										

NOT REQUIRED

SPECIAL APPROVALS

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



PROJECT SIGN
NOT TO SCALE

NOTE: SUBMIT SHOP DRAWING FOR COORDINATION OF LETTER HEIGHTS SPECIFIC SIGN COLORS.

NOTE: VERIFY SIGN SIZES AND REQUIREMENTS W/ TOWN

SIGN LOCATION TO BE FIELD VERIFIED W/ ARCHITECT

Coastal Architecture

- Architectural Design
- Planning
- Interiors

AIA
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 lee@coastalarchitecture.net

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PINE KNOLL SHORES
 PUBLIC SERVICES BUILDING
 PINE KNOLL SHORES, NORTH CAROLINA

GENERAL DATA

23019

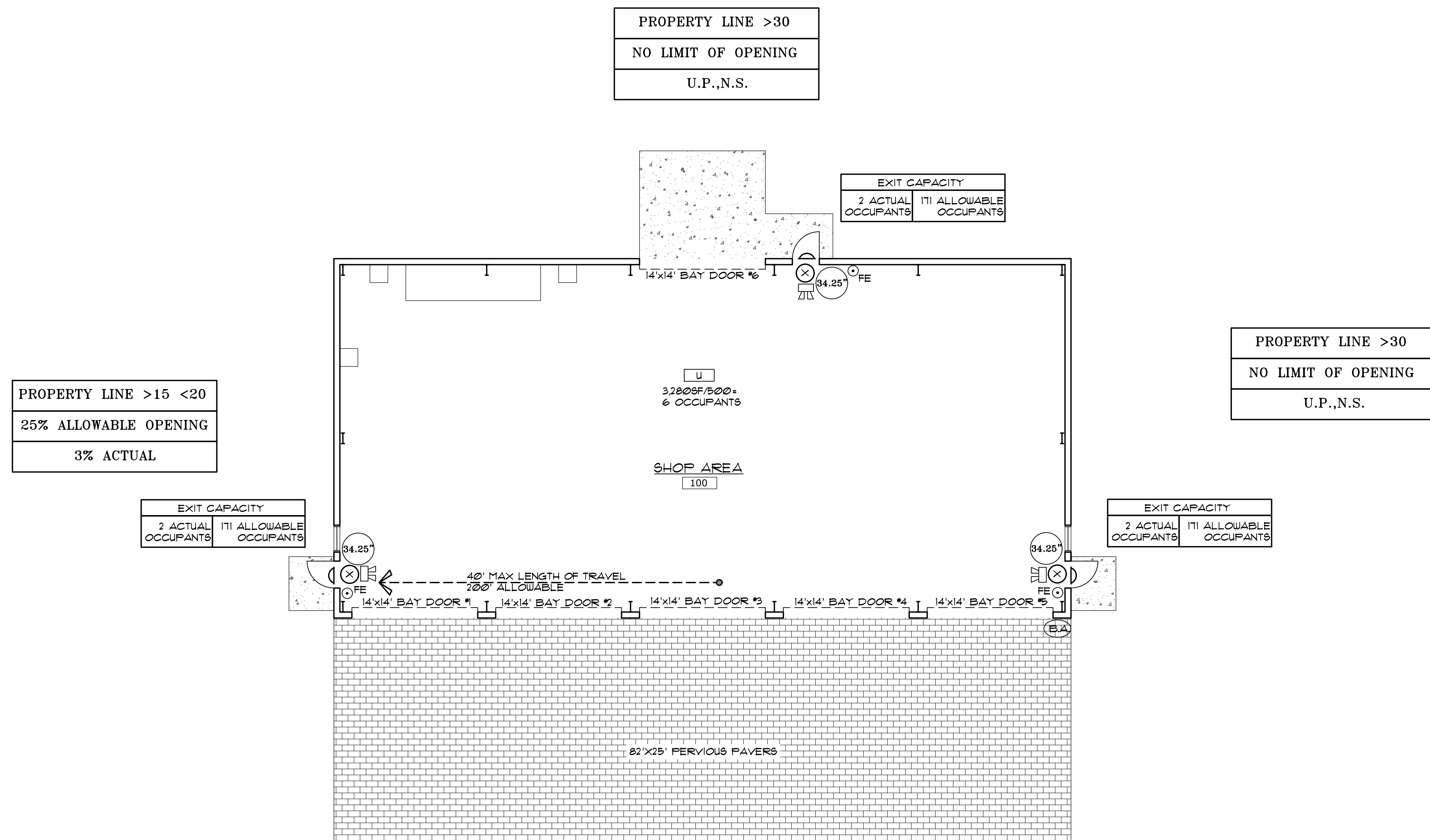
ISSUED: 10/18/23
 DWG BY: DLY
 CKD BY: LDD

REVISIONS

NO.	DESCRIPTION

SHEET NO.
G-1
 OF

**PINE KNOLL SHORES
PUBLIC SERVICES BUILDING
PINE KNOLL SHORES, NORTH CAROLINA**



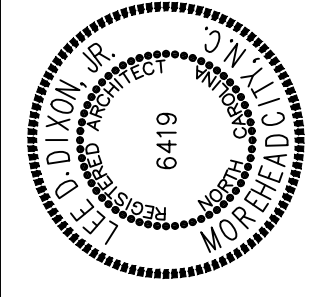
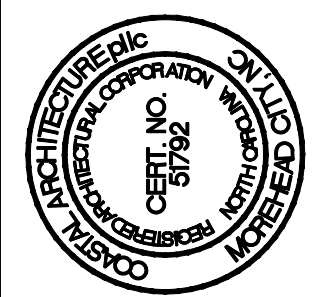
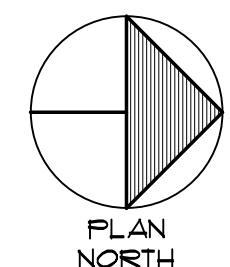
OCCUPANCY/LOAD TYPE KEYING:

U STORAGE OCCUPANCY

LEGEND:

- FE ⊙ = FIRE EXTINGUISHER ON STANDARD HOOK
- (B.A) = BUILDING ADDRESS - 6" MIN. HEIGHT, ON CONTRASTING BACKGROUND, READILY VISIBLE FROM STREET - CONFIRM LOCATION WITH BUILDING INSPECTOR
- (K.B) = KNOX BOX, FIRE DEPARTMENT KEY LOCK BOX CONFIRM LOCATION W/ FIRE DEPARTMENT
- (X) = EXIT SIGN ——— SEE ALSO ELECTRICAL DESIGN BY OTHERS
- ⏏ = EMERGENCY EGRESS FIXTURE
- △ = EGRESS LIGHT
- (34.25") = CLEAR EXIT WIDTH

1
G-2 **LIFE SAFETY PLAN**
SCALE: 1/8" = 1'-0"



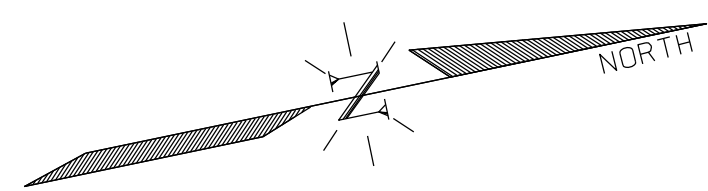
LIFE SAFETY PLAN

23019

ISSUED: 10/18/23
DWG BY: MSG
CKD BY: LDD

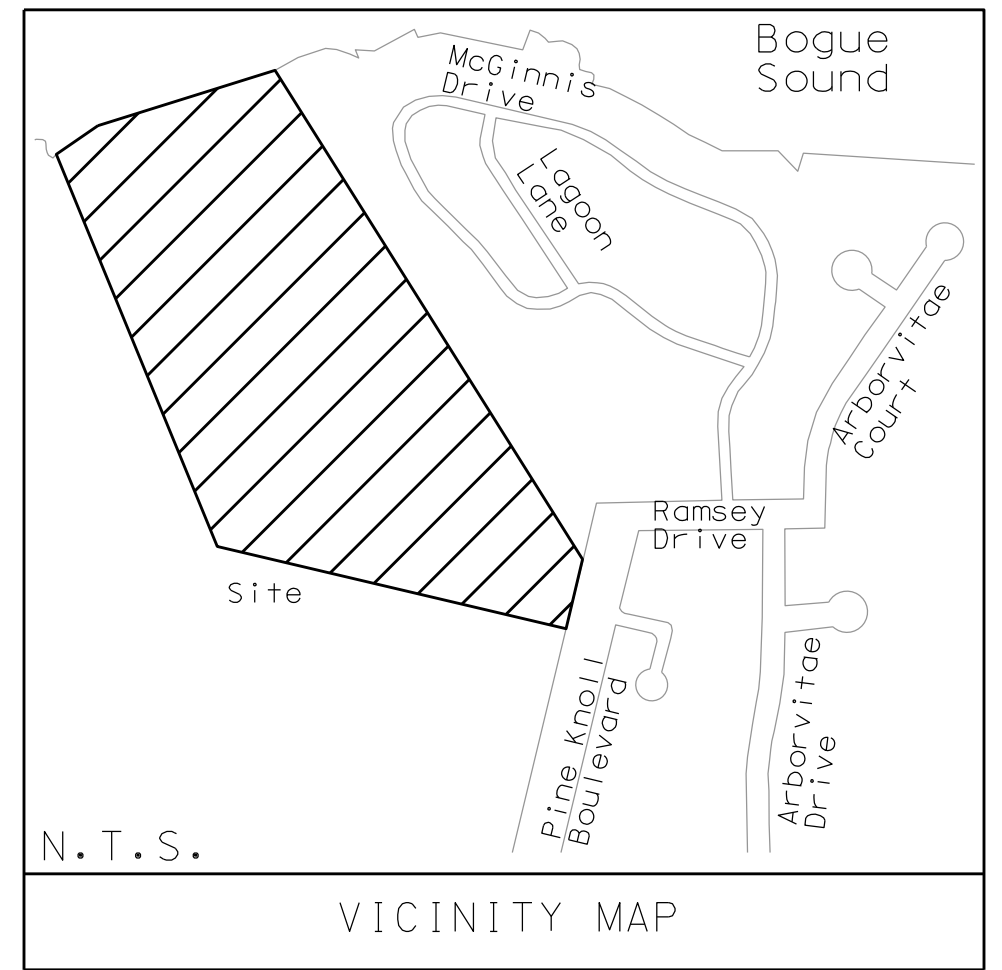
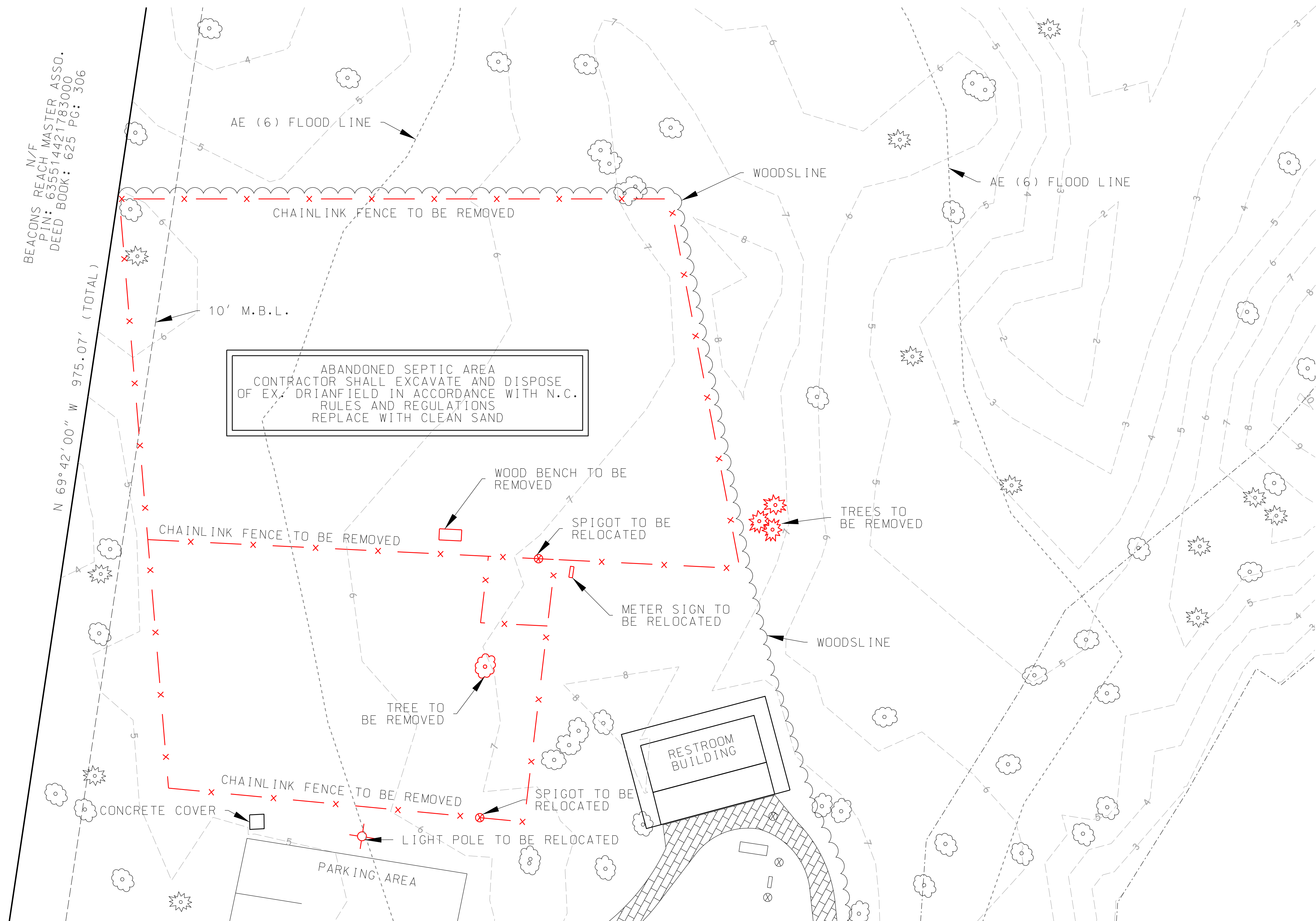
NO.	REVISIONS

SHEET NO.
G-2
OF



BEACONS REACH MASTER ASSO.
 PIN: 635514421783000
 DEED BOOK: 625 PG: 306

N 69°42'00" W 975.07' (TOTAL)



NOTES
 AREAS/ITEMS SHOWN IN RED ARE TO BE REMOVED/RELOCATED.
 ALL OTHER AREAS/ITEMS NOT SHOWN IN RED ARE TO REMAIN.

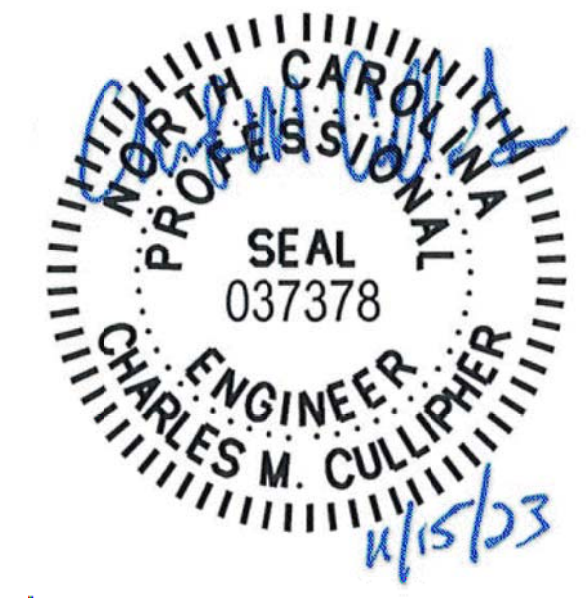
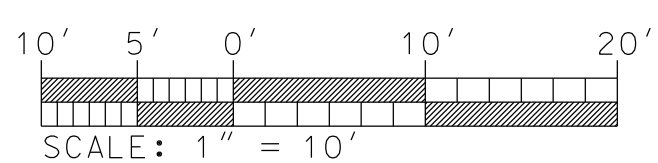
SITE DATA
 PROPERTY OWNER:
 TOWN OF PINE KNOLL SHORES
 PIN: 635514431489000
 DEED:
 BOOK: 364 PG: 466
 TRACT AREA = 25.68 AC
 TRACT IS LOCATED IN AN AE6 FLOOD ZONE.

LEGEND

EX. CONTOURS	--- 6 ---
TREES	☉ ☼
FENCE	-X-X-
WOODSLINE	~~~~~

REVISIONS:

No.	BY	DATE	DESCRIPTION



EXISTING CONDITIONS AND DEMOLITION PLAN

**TOWN OF PINE KNOLL SHORES
 PUBLIC WORKS BUILDING**

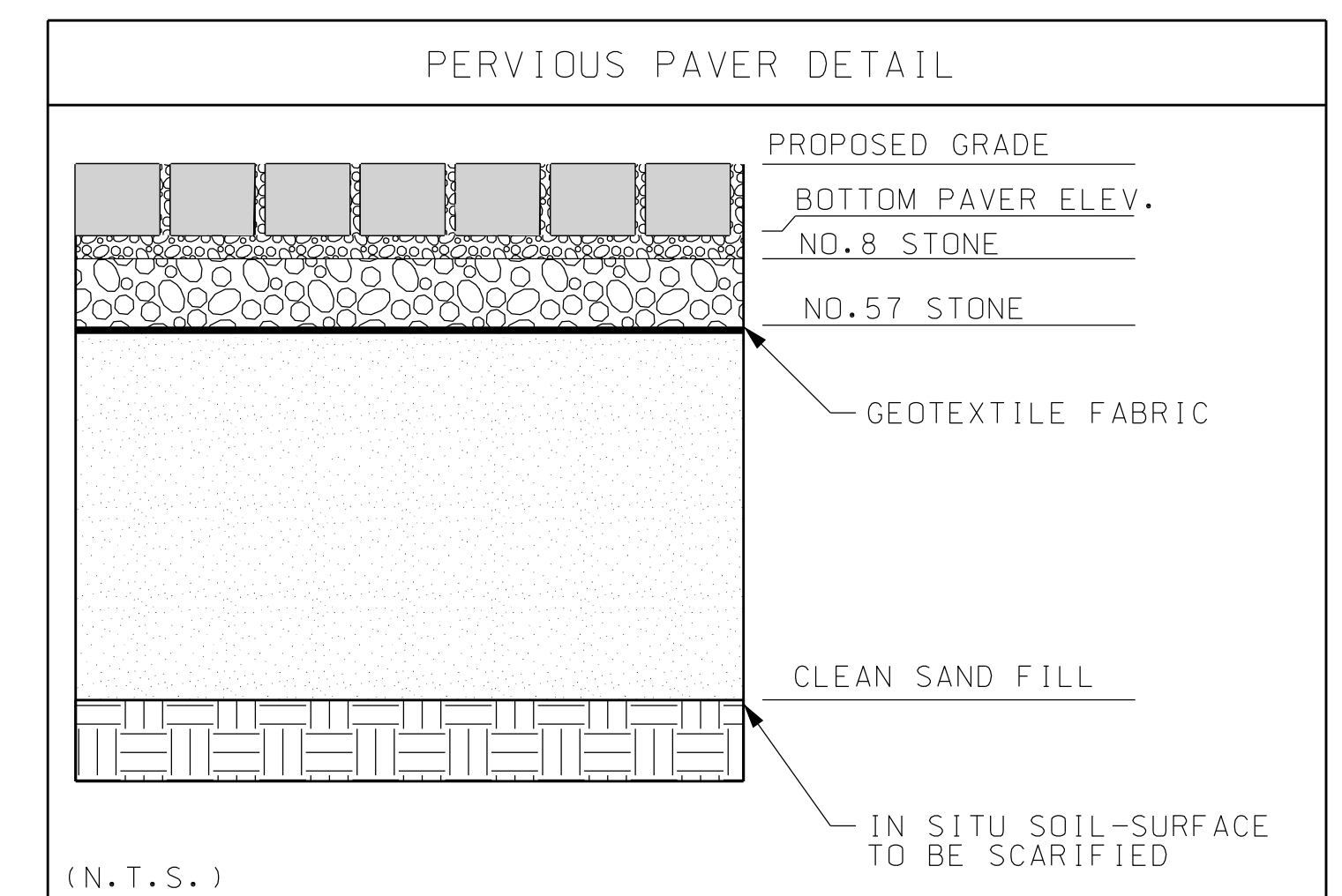
PINE KNOLL SHORES TOWNSHIP CARTERET COUNTY NORTH CAROLINA

CLIENT: TOWN OF PINE KNOLL SHORES	SURVEYED: TIDEWATER
ADDRESS: 311 SALTER PATH ROAD PINE KNOLL SHORES, NC 28512	DRAWN: HPD
PHONE: (910) 554-7653	CHECKED: CMC
THE CULLIPHER GROUP, P.A. ENGINEERING & SURVEYING SERVICES 151A HIGHWAY 24 MORRISVILLE, N.C. 28557 (252) 773-0090 LICENSE NO. C-4482	APPROVED: CMC
DATE: 11/15/2023	SCALE: 1" = 10'

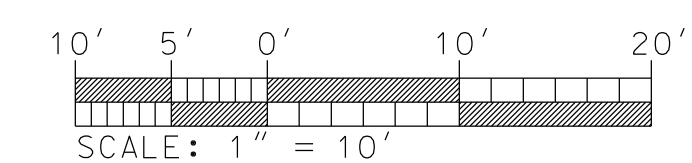
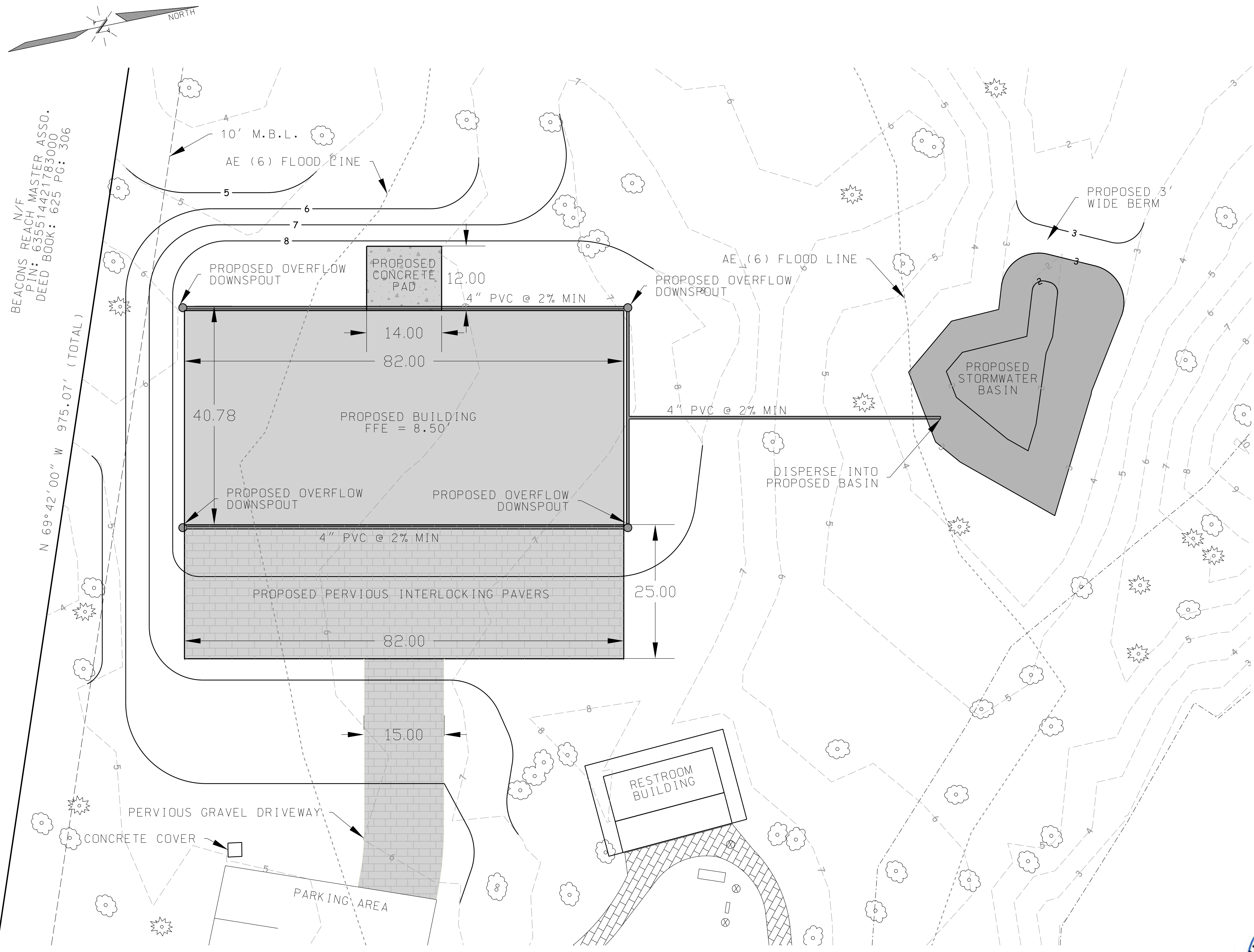
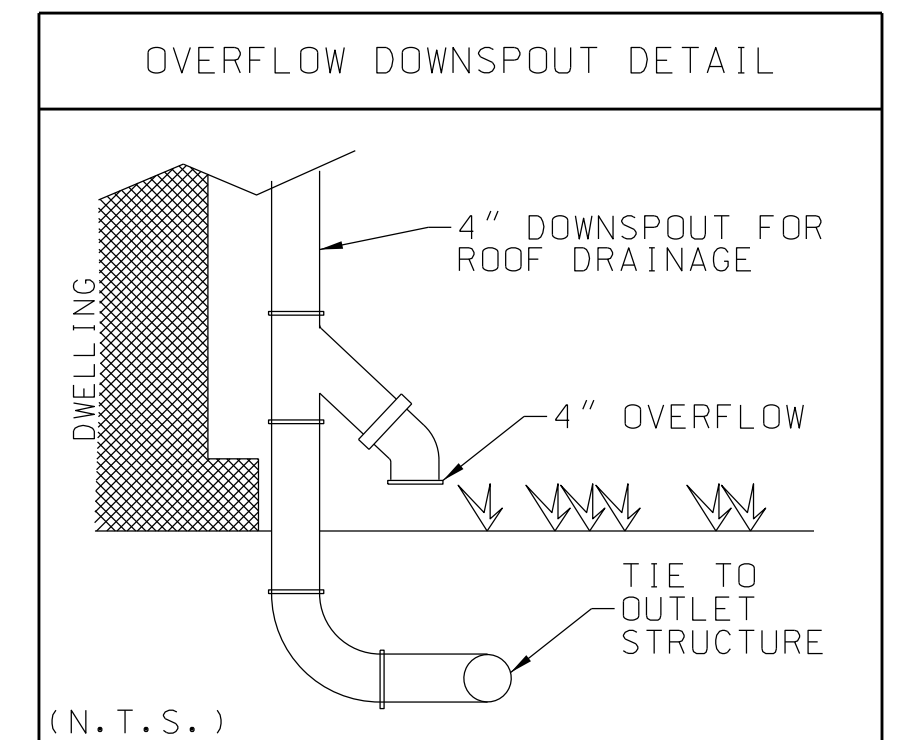
CHARLES M. CULLIPHER, P.E.

TOWN OF PINE KNOLL SHORES IMPERVIOUS AREA AND RUNOFF CONTAINMENT CALCULATIONS	
TOTAL LOT AREA =	1,118,621 SF
	25.68 AC
ALLOWABLE PERCENTAGE OF IMPERVIOUS AREA =	35%
ALLOWABLE IMPERVIOUS AREA =	391,517 SF
PROPOSED IMPERVIOUS AREA =	3,448 SF
PROPOSED IMPERVIOUS AREA (%) =	0.3%
NOTE: DRIVEWAY AND DECKING SHALL BE MADE OF PERVIOUS MATERIAL	
RAINFALL CONTAINMENT REQUIREMENT =	2.00 IN.
RUNOFF FROM PROPOSED IMPERVIOUS AREA CONTAINMENT REQUIREMENT =	575 CF
BASIN PROVIDED VOLUME =	737 CF

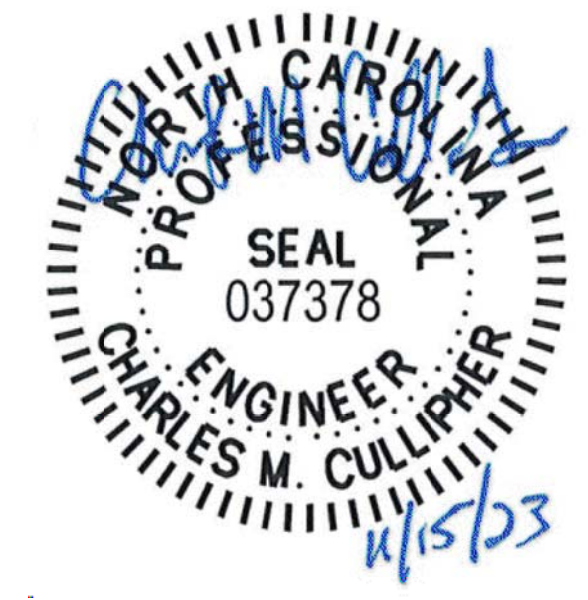
STORAGE CALCULATIONS					
ELEVATION	SECTION	SA (SF)	AVG. SA	HT. (FT)	VOL. (CF)
4	TOP OF BASIN	1169			
			736.5	1	736.5
3	BOTTOM OF BASIN	304			
			736.5	TOTAL VOL.	736.5



LEGEND	
PERVIOUS PAVERS	
PROPOSED AREAS	
PROPOSED CONTOUR	- 6 -
EXISTING CONTOUR	- 6 - -



REVISIONS:			
No.	BY	DATE	DESCRIPTION



SITE GRADING DRAINAGE PLAN

TOWN OF PINE KNOLL SHORES PUBLIC WORKS BUILDING

PINE KNOLL SHORES TOWNSHIP CARTERET COUNTY NORTH CAROLINA

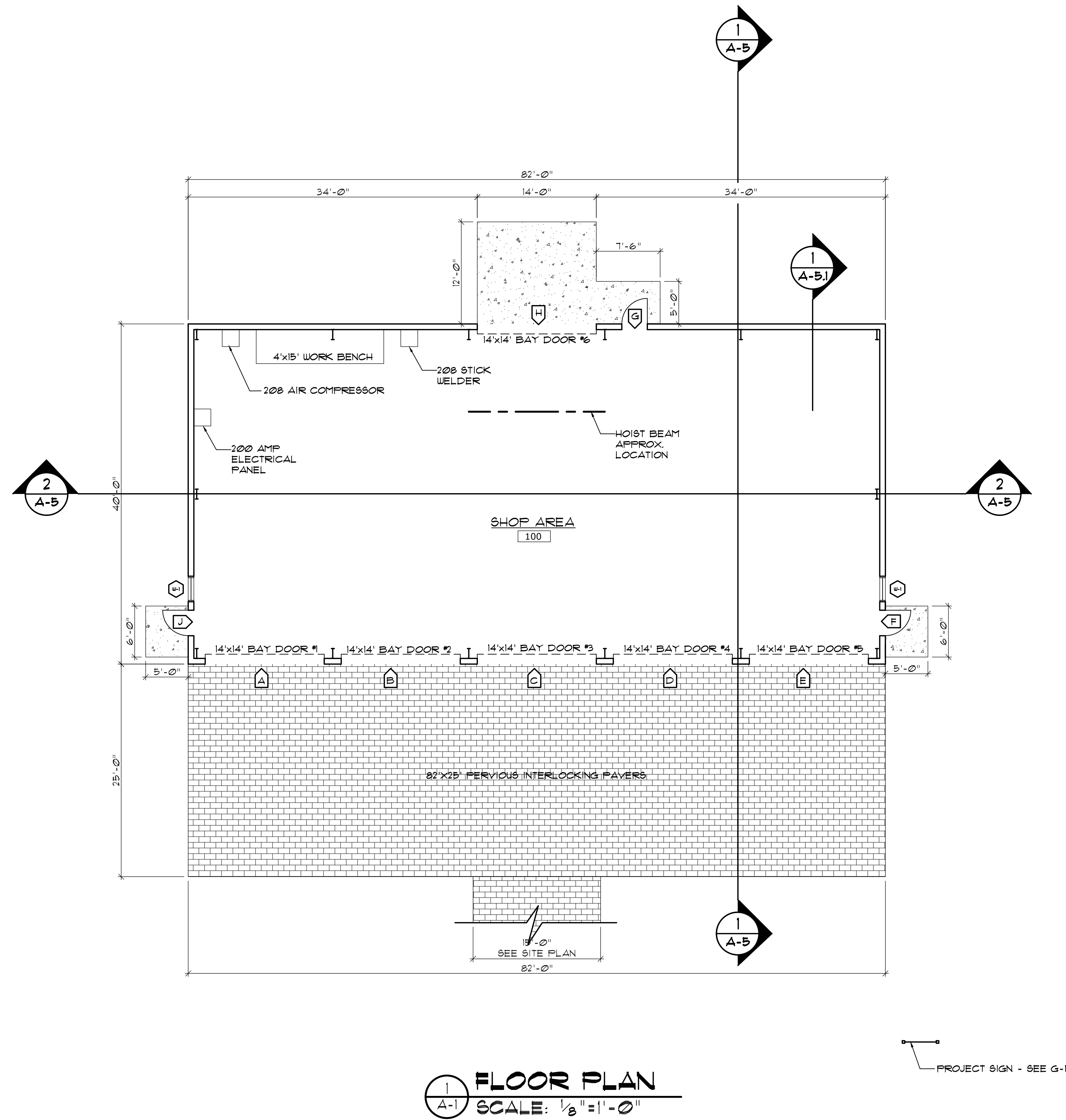
CLIENT: TOWN OF PINE KNOLL SHORES SURVEYED: TIDEWATER
 ADDRESS: 311 SALTER PATH ROAD DRAWN: HPD
 PINE KNOLL SHORES, NC 28512
 PHONE: (910) 554-7653 CHECKED: CMC

THE CULLIPHER GROUP, P.A. APPROVED: CMC
 ENGINEERING & SURVEYING SERVICES
 151A HIGHWAY 24
 MORRISVILLE, N.C. 28557
 (252) 773-0090 LICENSE NO. C-4482

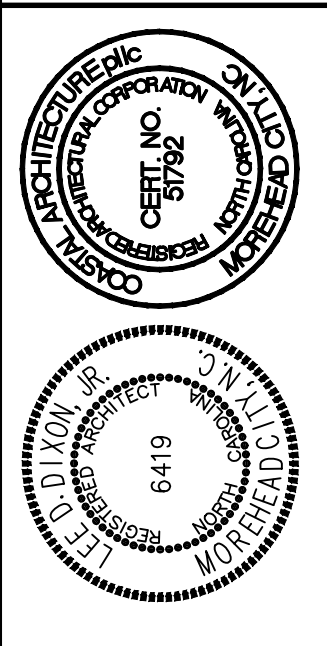
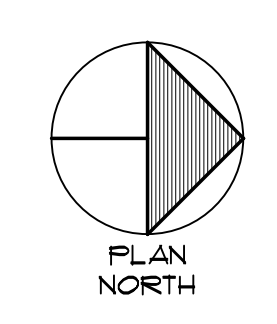
DATE: 11/15/2023
 SCALE: 1" = 10'

CHARLES M. CULLIPHER, P.E.

**PINE KNOLL SHORES
PUBLIC SERVICES BUILDING
PINE KNOLL SHORES, NORTH CAROLINA**



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



FLOOR PLAN

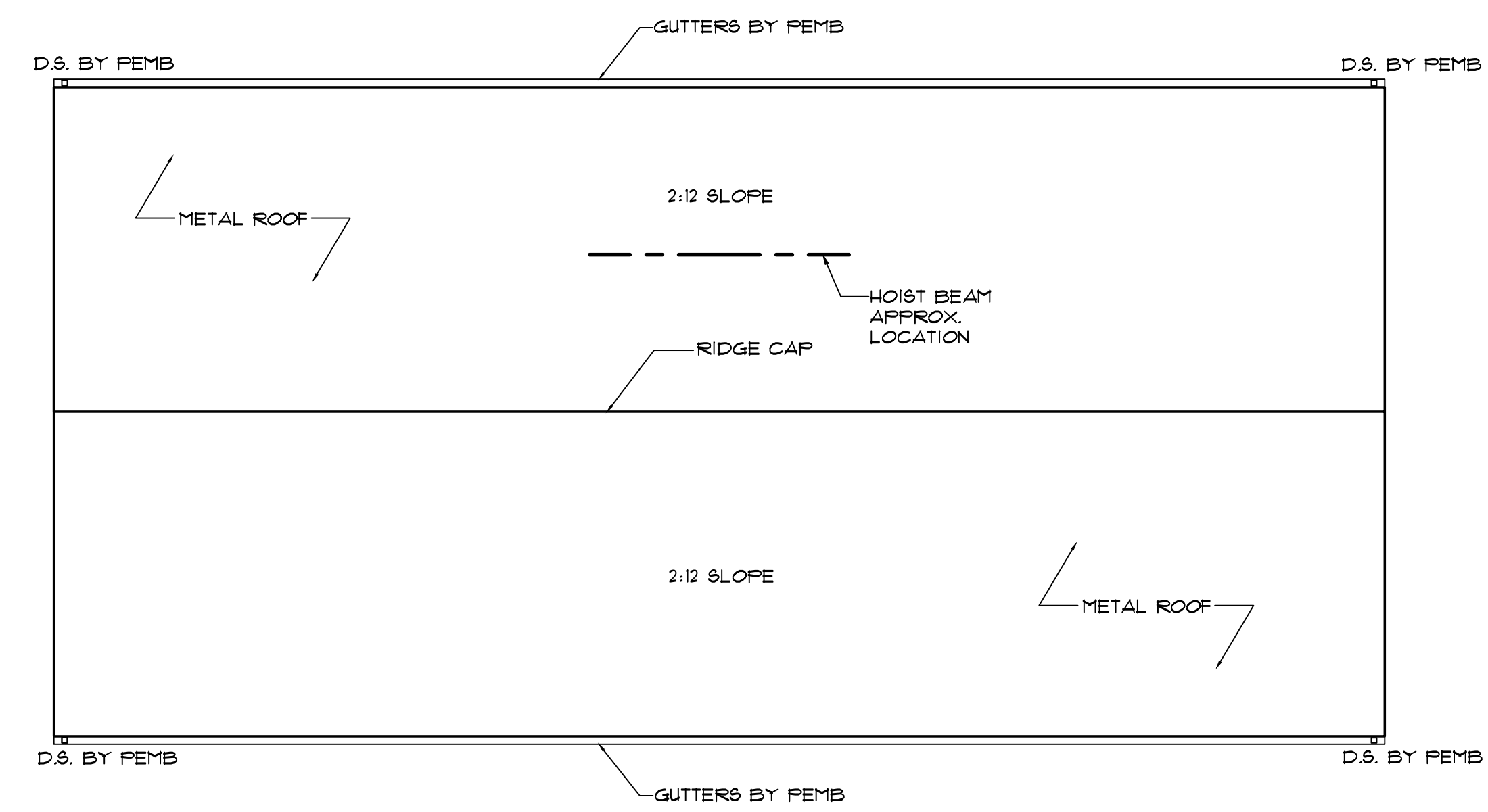
23019

ISSUED: 10/18/23
DWG BY: DLY
CKD BY: LDD

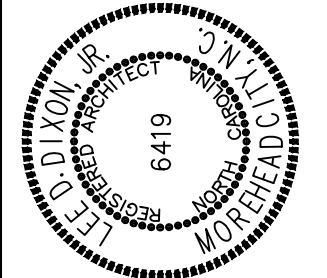
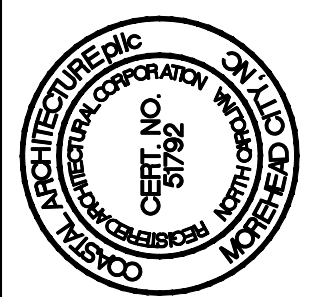
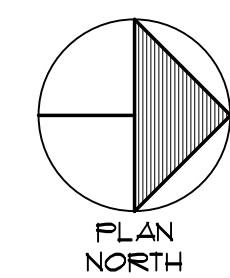
REVISIONS

SHEET NO.
A-1
OF

**PINE KNOLL SHORES
PUBLIC SERVICES BUILDING
PINE KNOLL SHORES, NORTH CAROLINA**



1
ROOF PLAN
A-11 SCALE: 1/8" = 1'-0"



ROOF PLAN

23019

ISSUED: 10/18/23

DWG BY: DLY

CKD BY: LDD

REVISIONS

SHEET NO.

A-11

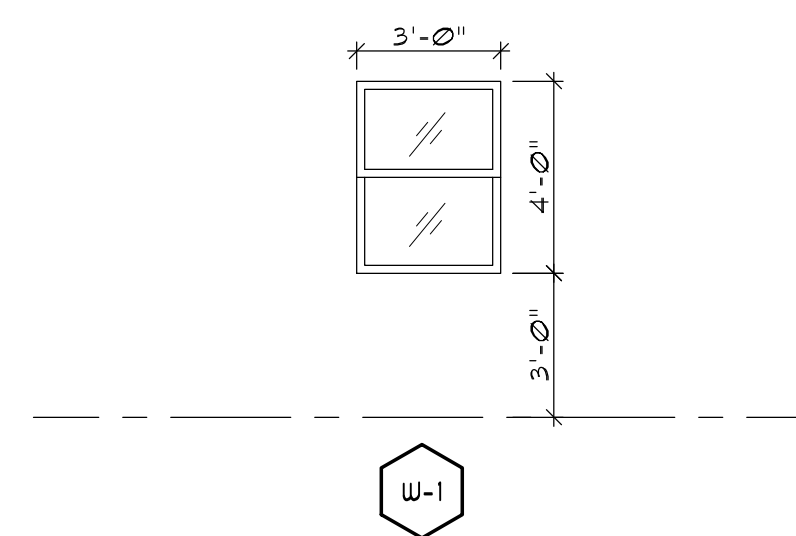
OF

WINDOW SCHEDULE				
MARK	TYPE	SIZE (NOMINAL)	MODEL	REMARKS
W-1	SINGLE HUNG	3'-0" W x 4'-0" H	BY PEMB	MEET REQ'D WIND LOAD
NOTES:				

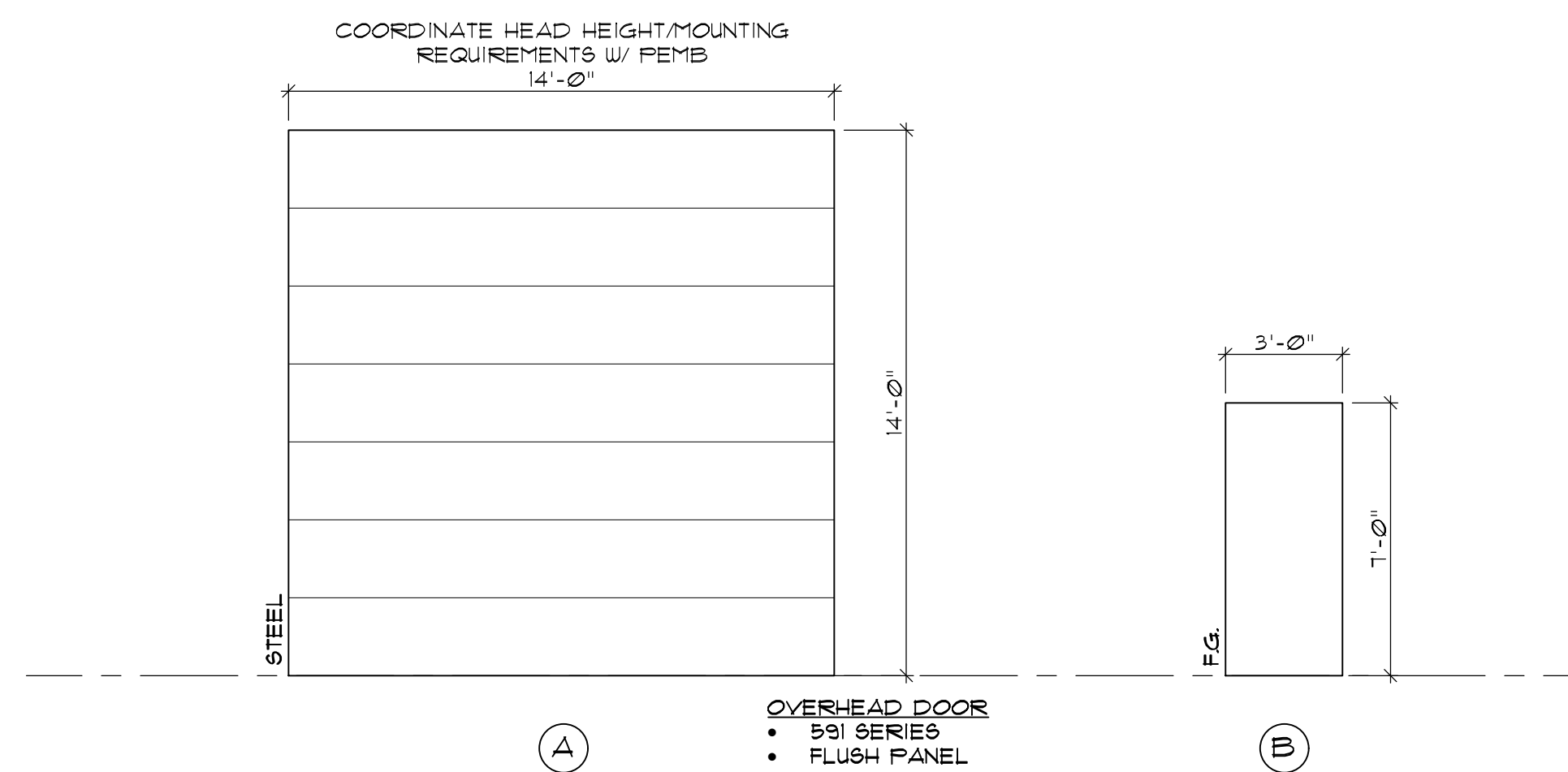
DOOR SCHEDULE						
DOOR NO.	SIZE	DOOR		FRAME		REMARKS
		MAT.	TYPE	MAT.	TYPE	
100A	14'-0" X 14'-0"	STEEL	A			(1)
100B	14'-0" X 14'-0"	STEEL	A			(1)
100C	14'-0" X 14'-0"	STEEL	A			(1)
100D	14'-0" X 14'-0"	STEEL	A			(1)
100E	14'-0" X 14'-0"	STEEL	A			(1)
100F	3'-0" X 7'-0"	F.G.	B	F.G.	1	
100G	3'-0" X 7'-0"	F.G.	B	F.G.	1	
100H	14'-0" X 14'-0"	STEEL	A			(1)
100J	3'-0" X 7'-0"	F.G.	B	F.G.	1	

(1) COORDINATE SIZE AND MOUNTING REQUIREMENTS W/ PEMB

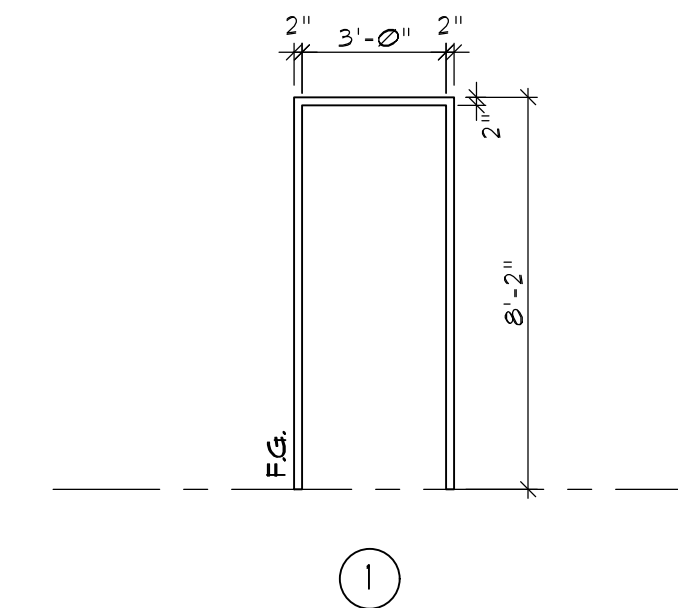
ROOM FINISH SCHEDULE							
ROOM NUMBERS	ROOM	FLOORS	BASE	WALLS	CEILINGS	HEIGHT (NOMINAL)	REMARKS
100	SHOP AREA	CONC.	-	EXPOSED	EXPOSED	-	
ROOM FINISH SCHEDULE REMARKS							



3 WINDOW ELEVATION
A-3 SCALE: 1/4" = 1'-0"



2 DOOR ELEVATIONS
A-3 SCALE: 1/4" = 1'-0"



1 DOOR FRAME ELEVATION
A-3 SCALE: 1/4" = 1'-0"

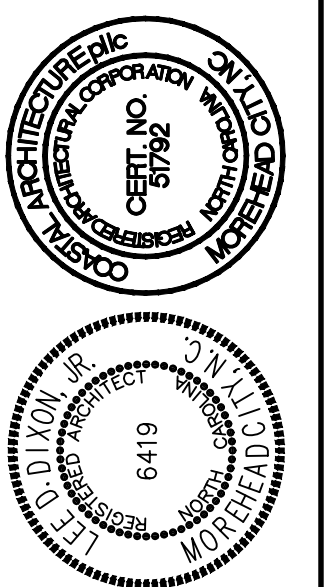
Coastal Architecture
 • Architectural Design
 • Planning
 • Interiors

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PINE KNOLL SHORES
 PUBLIC SERVICES BUILDING
 PINE KNOLL SHORES, NORTH CAROLINA



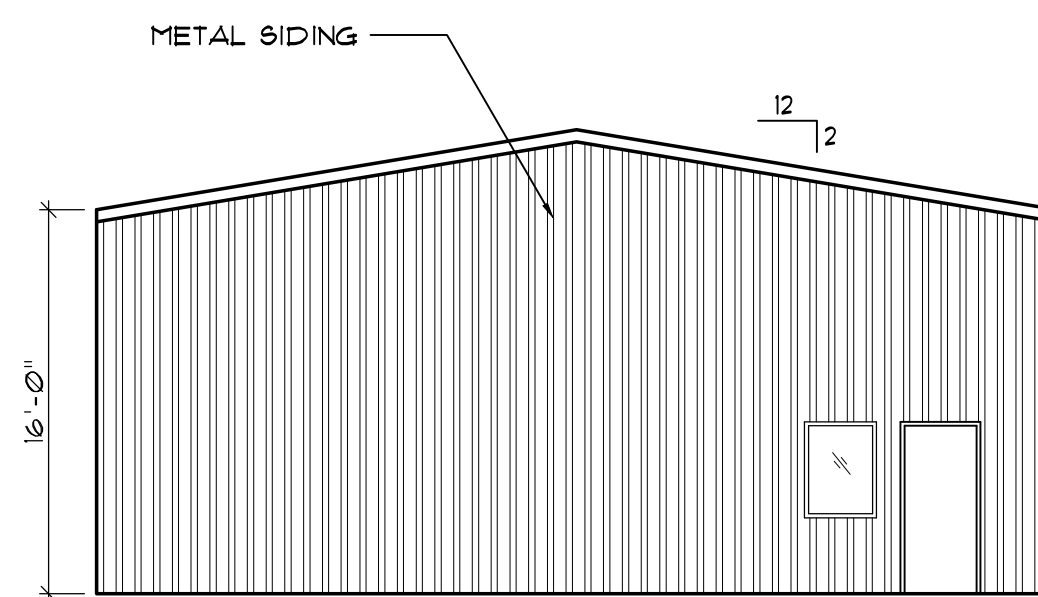
DOOR AND ROOM FINISH SCHEDULES

23019

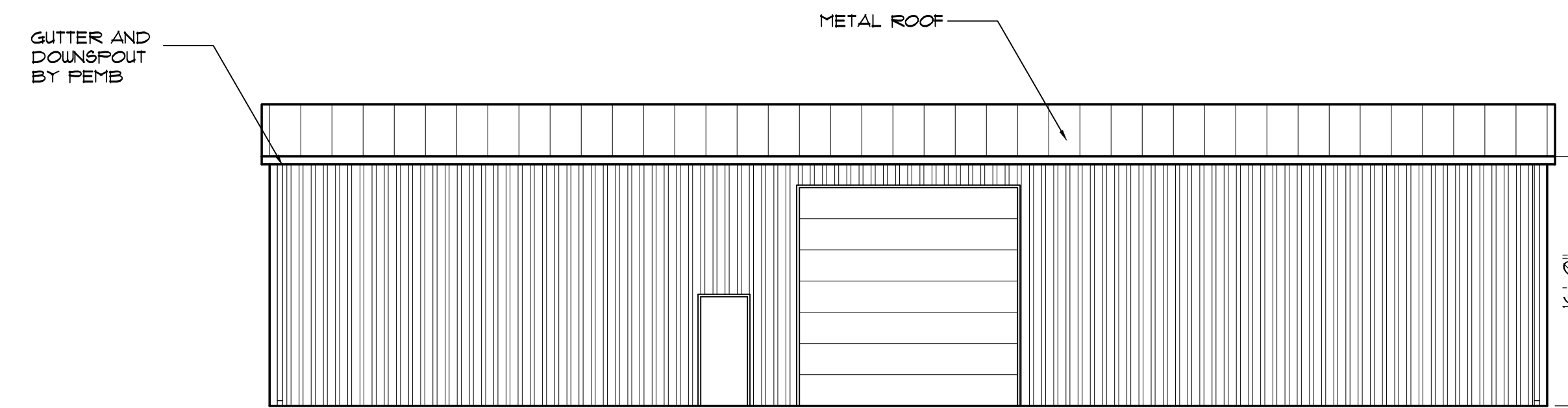
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 DWG BY: DLY/MSG
 CKD BY: LDD

REVISIONS

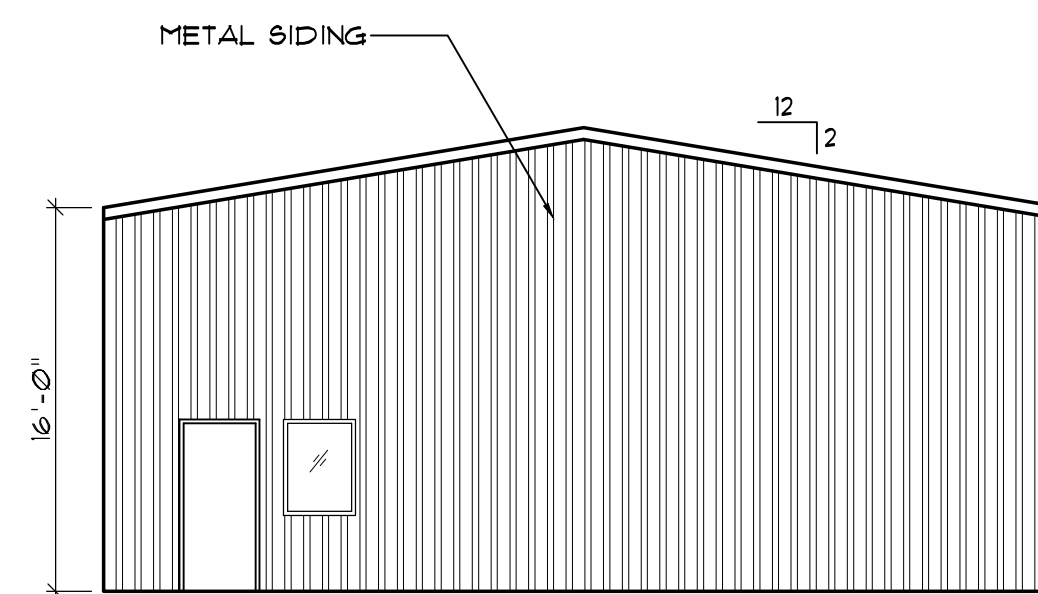
SHEET NO.
A-3
 OF



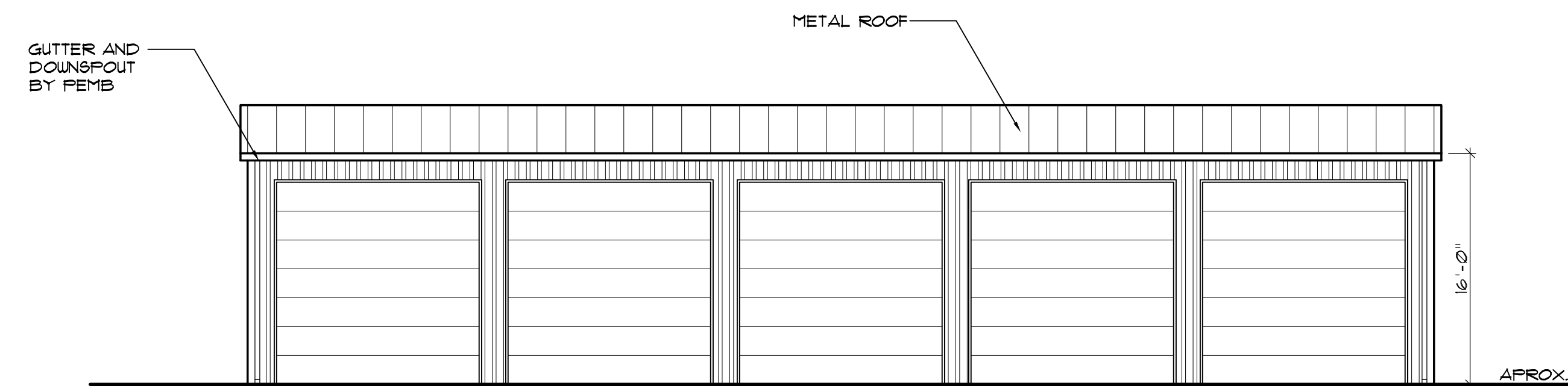
4 LEFT SIDE ELEVATION
A-4 SCALE: 1/8" = 1'-0"



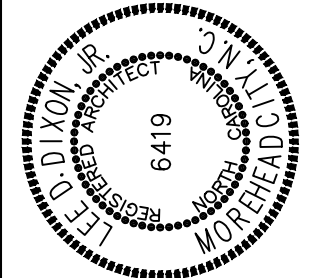
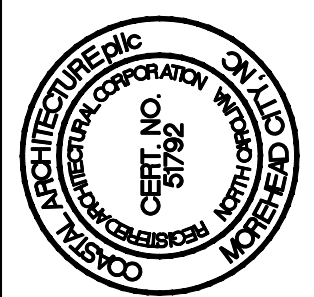
3 REAR ELEVATION
A-4 SCALE: 1/8" = 1'-0"



2 RIGHT SIDE ELEVATION
A-4 SCALE: 1/8" = 1'-0"



1 FRONT ELEVATION
A-4 SCALE: 1/8" = 1'-0"



ELEVATIONS
RENOVATION PLAN -
TENANT C

23019

ISSUED: 10/18/23

DWG BY: DLY

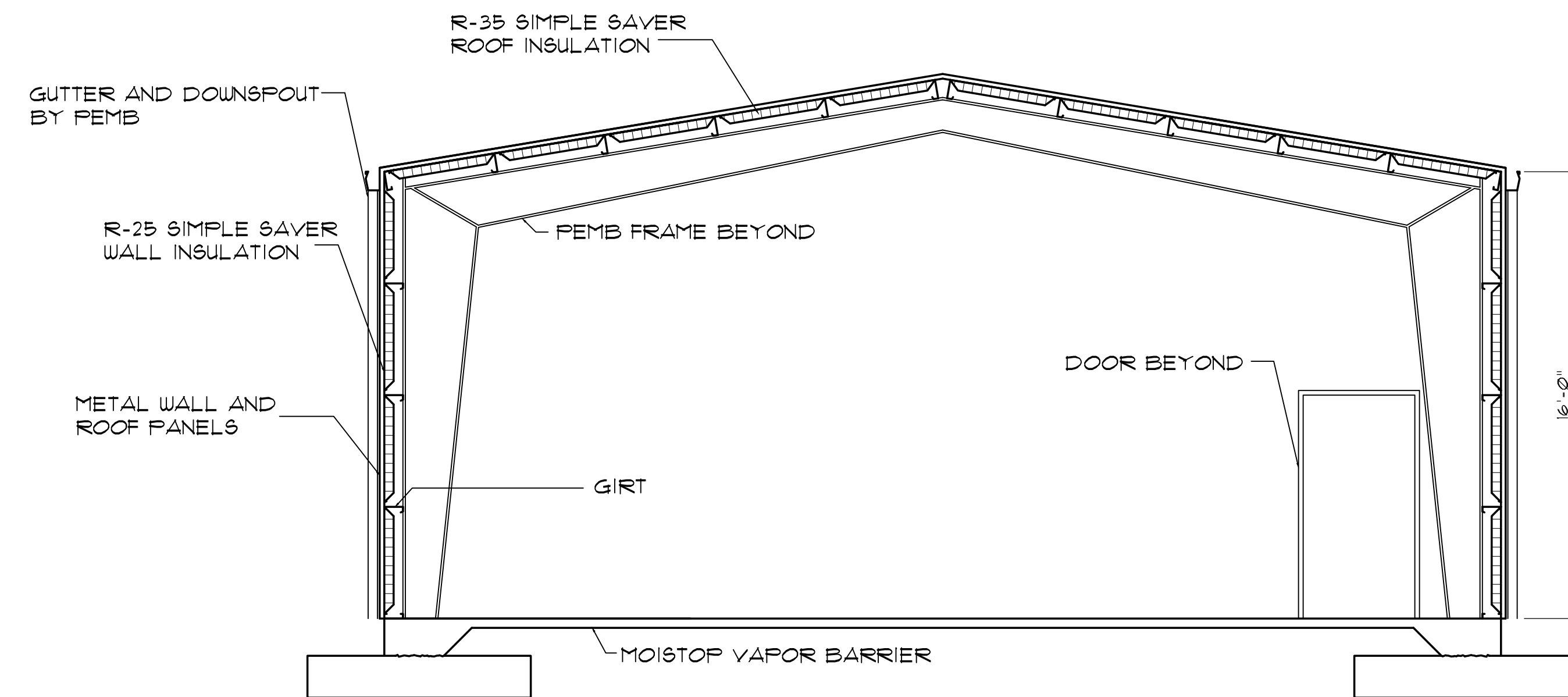
CKD BY: LDD

REVISIONS

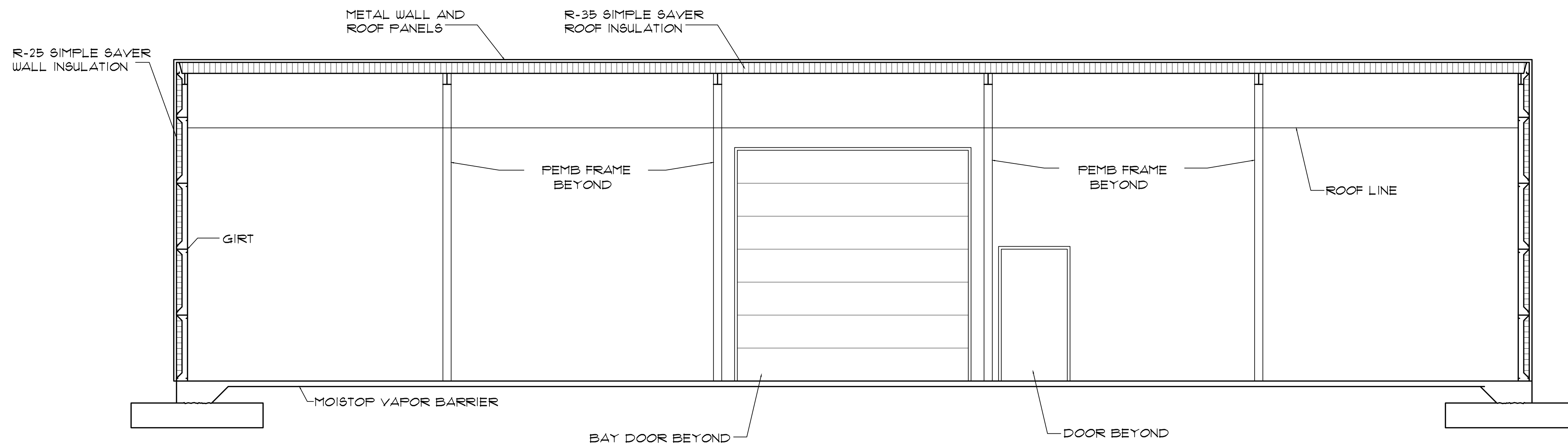
NO.	DESCRIPTION

SHEET NO.

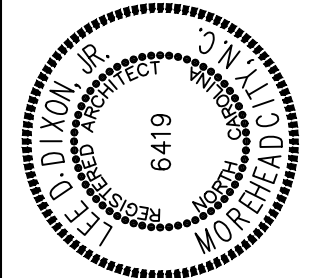
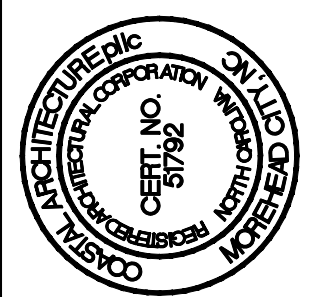
A-4
OF



2 BUILDING SECTION
A-5 SCALE: 1/4"=1'-0"



1 BUILDING SECTION
A-5 SCALE: 1/4"=1'-0"



BUILDING SECTIONS

23019

ISSUED: 10/18/23

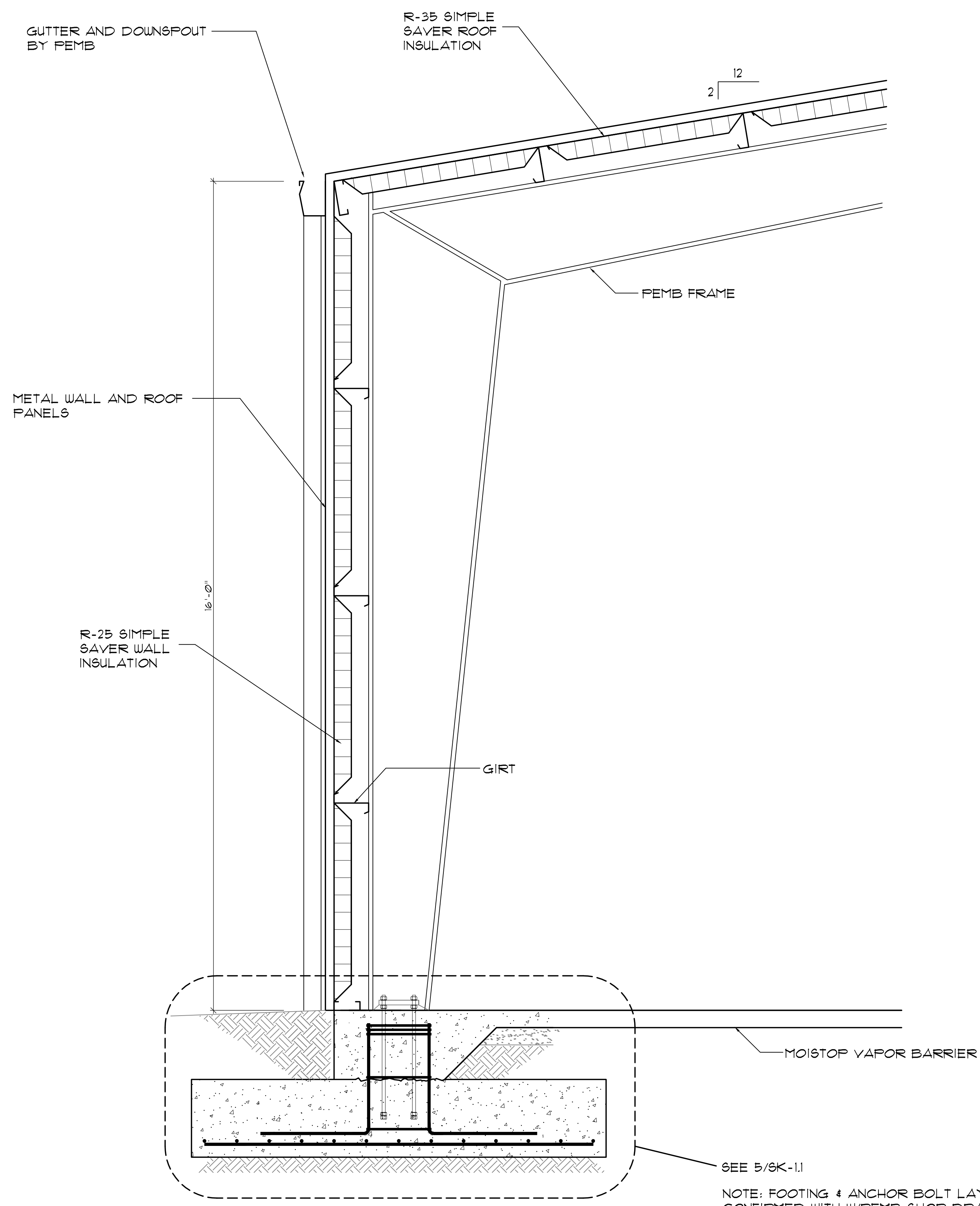
DWG BY: DLY

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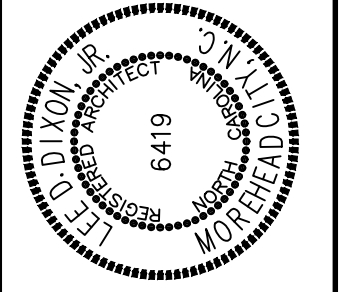
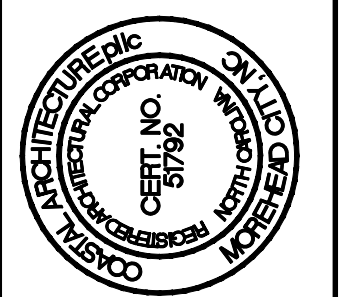
SHEET NO.

A-5
OF



1 WALL SECTION
 A-51 SCALE: 3/4" = 1'-0"

PINE KNOLL SHORES
 PUBLIC SERVICES BUILDING
 PINE KNOLL SHORES, NORTH CAROLINA



ELEVATIONS
 RENOVATION PLAN -
 TENANT C

23019

ISSUED: 10/18/23
 DWG BY: DLY
 CKD BY: LDD

NO.	DESCRIPTION

SHEET NO.
A-5.1
 OF

GENERAL NOTES:

- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
- ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING (AND ACCOMPANYING FOOTINGS), GUYS OR TIEDOWNS.

DESIGN CODES:

2018 NORTH CAROLINA STATE BUILDING CODE.

ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.

DESIGN LOADS:

THE FOUNDATION SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED WITH THE FOLLOWING SUPERIMPOSED LOADINGS:

COLUMN REACTIONS PROVIDED BY PEMB MANUFACTURER (SHEET F3 of 3)

WIND:
BASIC WIND SPEED (3 SEC GUST) 144 mph
EXPOSURE CATEGORY D
RISK CATEGORY II

COMPONENT & CLADDING:
ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY, IMPORTANCE FACTOR AND EXPOSURE LISTED ABOVE.

FOUNDATIONS:

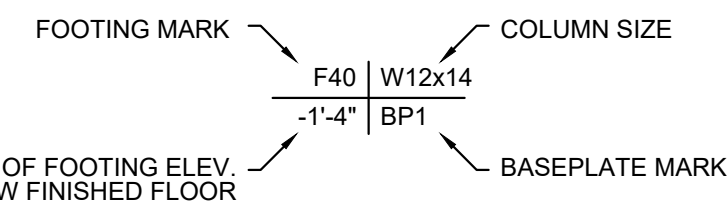
FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 psf. ON EXISTING SOILS. BEFORE CONSTRUCTION COMMENCES, SOIL BEARING CAPACITY SHALL BE VERIFIED BY A SUBSURFACE INVESTIGATION, A CERTIFIED TESTING LABORATORY, WHOSE REPORT SHALL INCLUDE ANALYSIS AND RECOMMENDATIONS FOR SITE PREPARATION IN ORDER TO BEAR THE FOUNDATION LOADS. ABOVE REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE FOUNDATION CONSTRUCTION BEGINS.

CONCRETE MATERIAL SPECIFICATIONS:

CONCRETE COMPRESSIVE STRENGTH: 4000 psi (28 DAY STRENGTH)
CEMENT: TYPE III
AIR ENTRAINMENT: 5% - 7% IF EXPOSED TO WEATHER OR EARTH
REINFORCING STEEL: ASTM A615, GRADE 60
WELDED WIRE FABRIC: ASTM A185
ANCHOR BOLTS: GRADE A36
CLASS B SPLICE LENGTH: GREATER OF 48 BAR DIAMETERS OR 24 INCHES

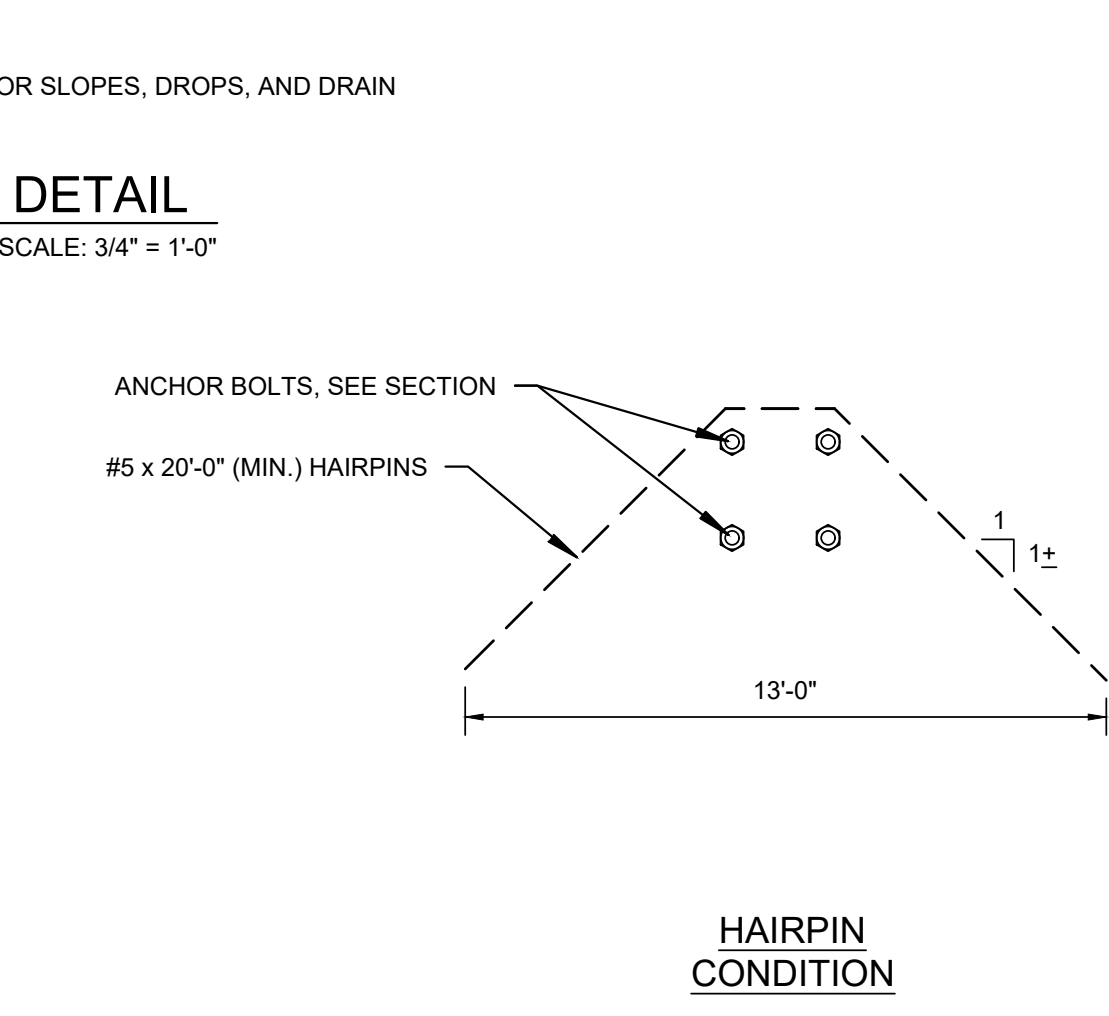
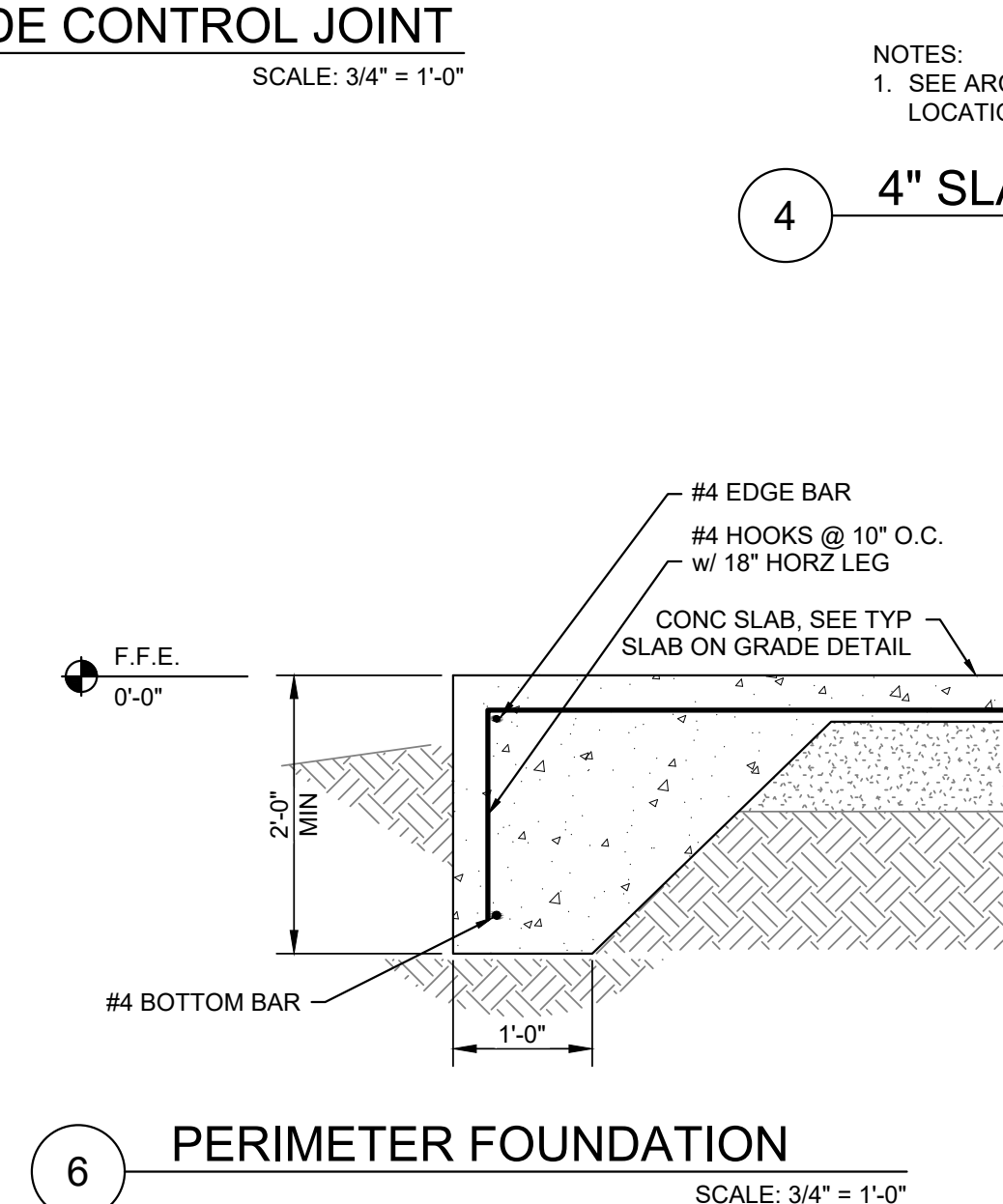
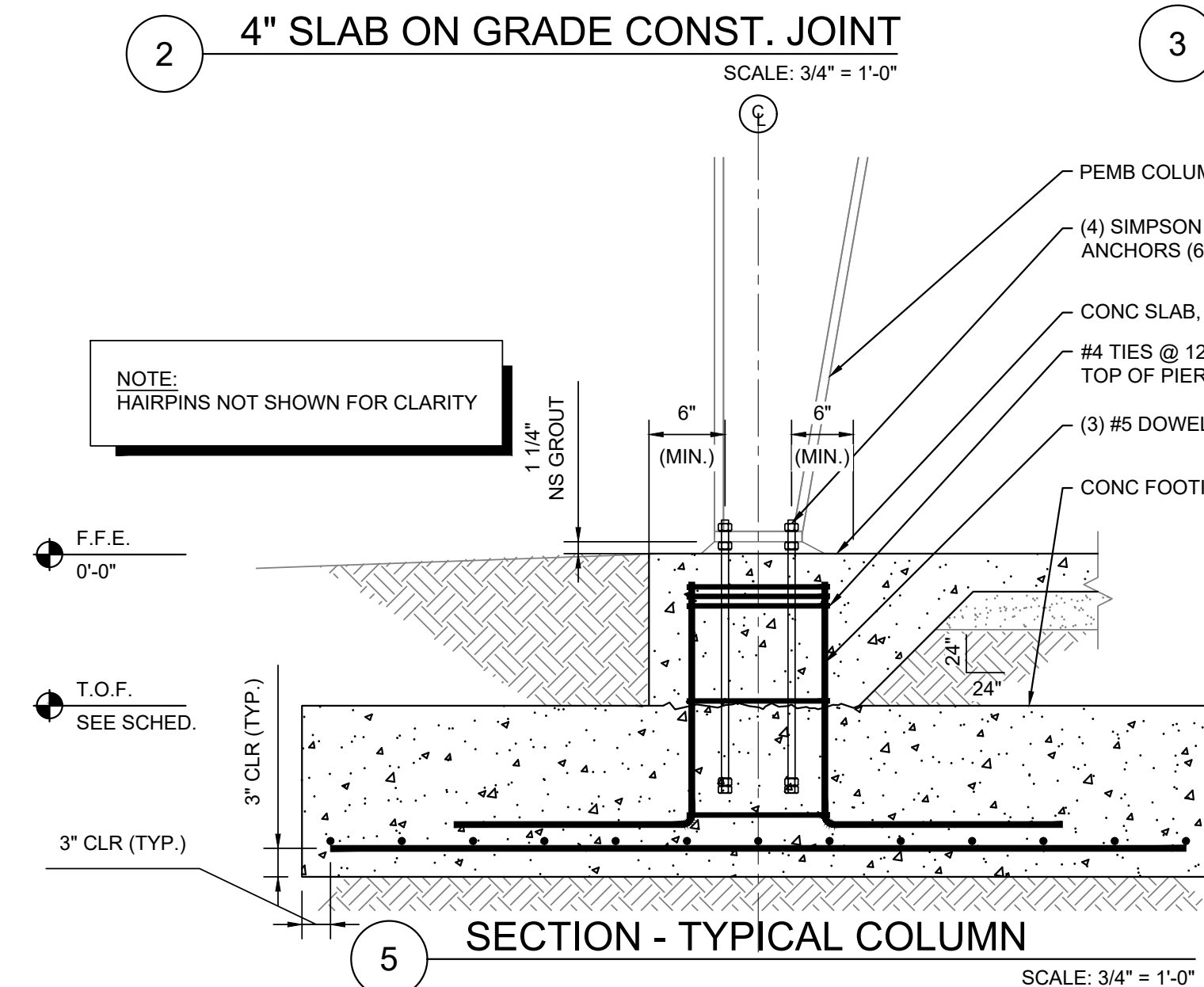
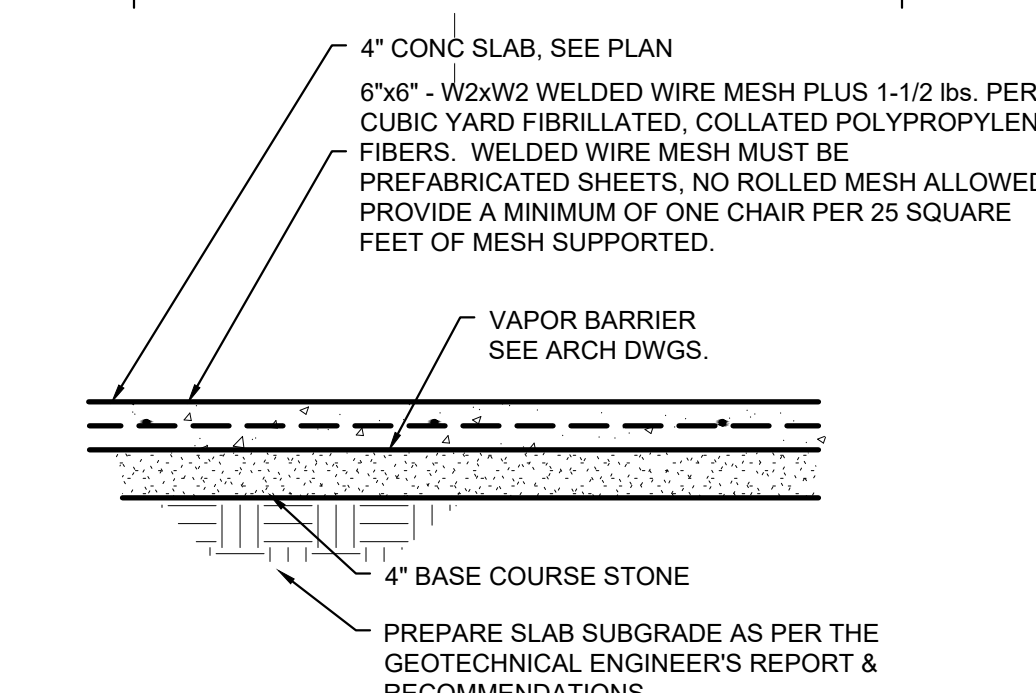
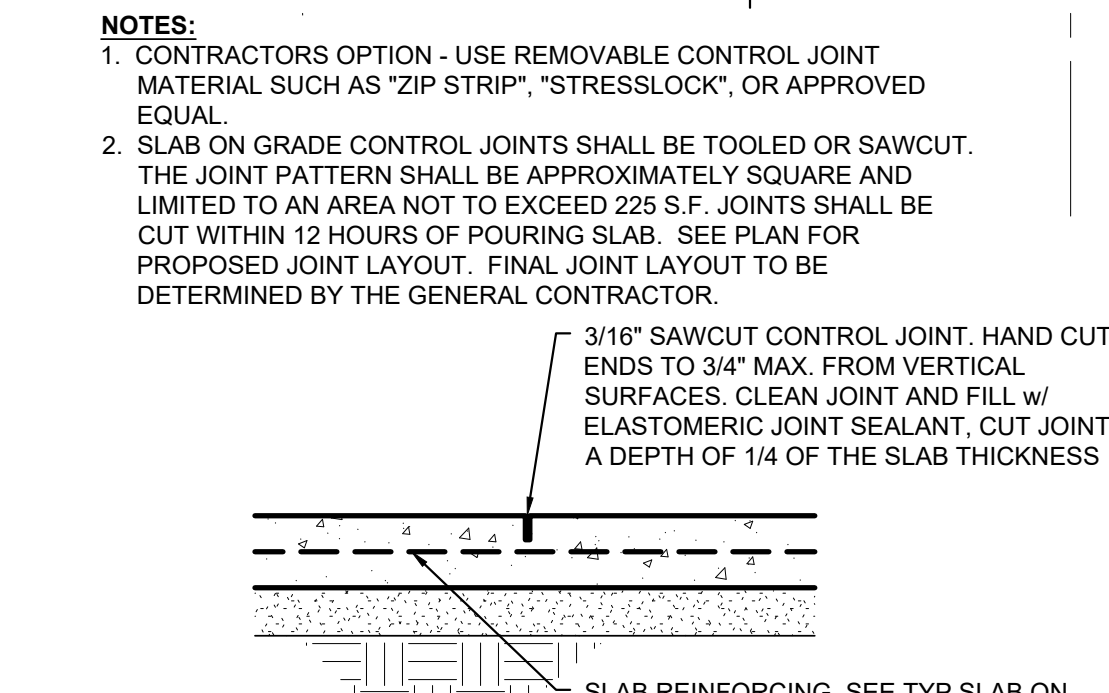
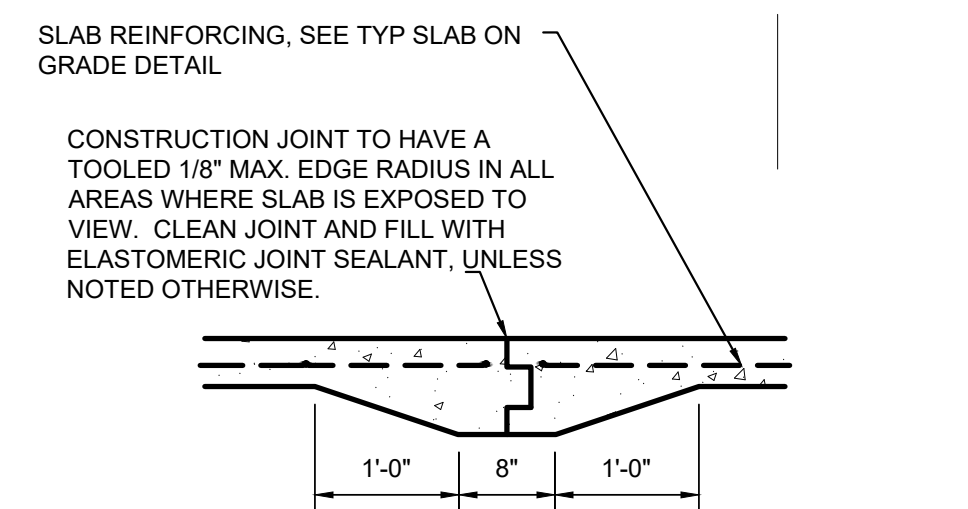
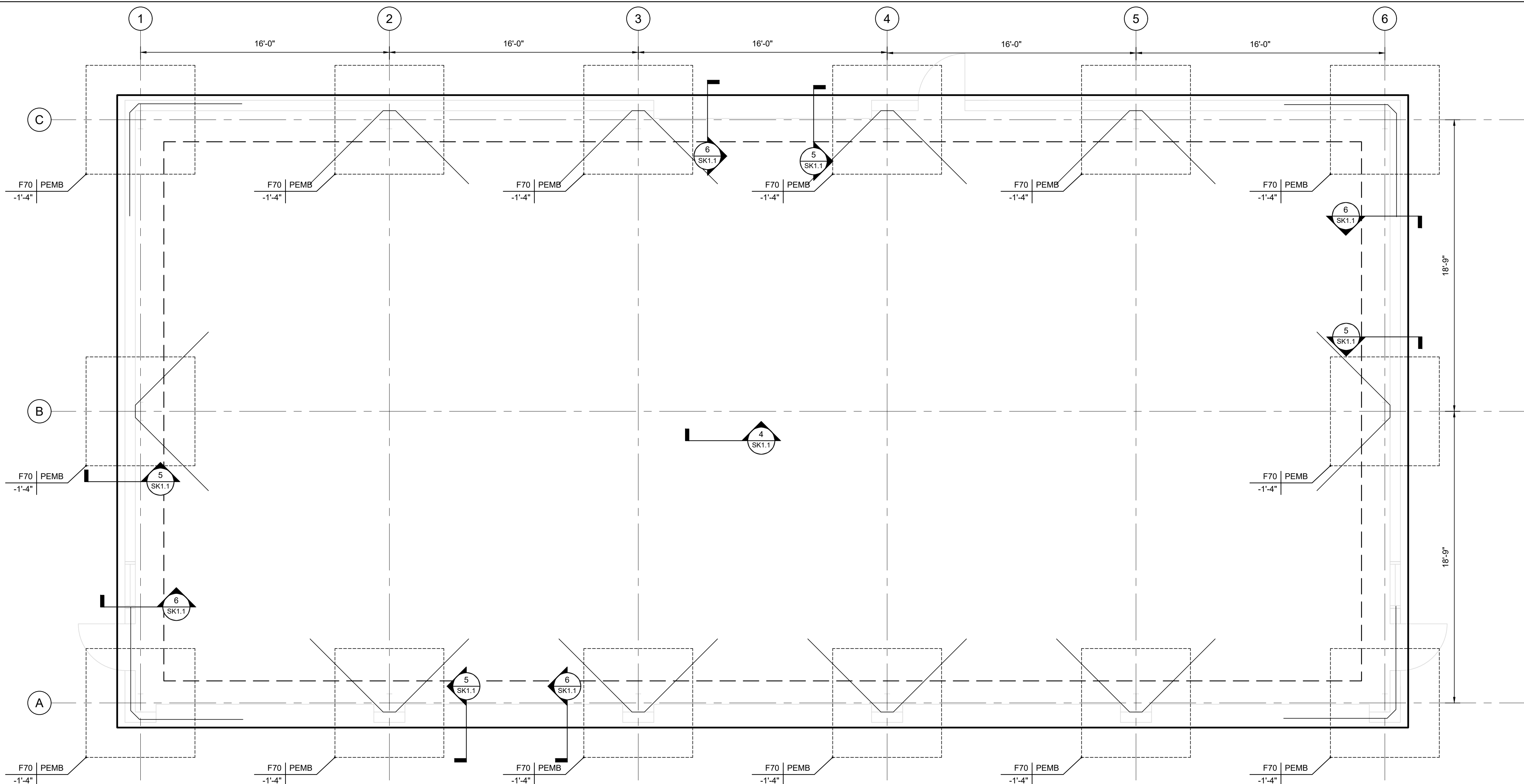
KEYED NOTES & LEGEND

- WALL & COLUMN FOOTING EXTENTS
- TURNED DOWN SLAB BASE
- EDGE OF SLAB
- STRUCTURE BY OTHERS



SPREAD FOOTING SCHEDULE

MARK	SIZE	REINFORCING
F70	7'-0"x7'-0"x12"	(9)-#4 E.W. TOP & BOT



- NOTES:**
- CONTRACTORS OPTION - USE REMOVABLE CONTROL JOINT MATERIAL SUCH AS "ZIP STRIP", "STRESSLOCK", OR APPROVED EQUAL.
 - SLAB ON GRADE CONTROL JOINTS SHALL BE TOOLED OR SAWCUT. THE JOINT PATTERN SHALL BE APPROXIMATELY SQUARE AND LIMITED TO AN AREA NOT TO EXCEED 225 S.F. JOINTS SHALL BE CUT WITHIN 12 HOURS OF POURING SLAB. SEE PLAN FOR PROPOSED JOINT LAYOUT. FINAL JOINT LAYOUT TO BE DETERMINED BY THE GENERAL CONTRACTOR.

- NOTES:**
- SEE ARCHITECTURAL DRAWINGS FOR SLOPES, DROPS, AND DRAIN LOCATIONS IN FLOOR SLABS.

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RALEIGH, NC 27613
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www.fdr-eng.com
jfejar@fdr-eng.com



Project Name
**PINE KNOLL SHORES PUBLIC SERVICE BLDG.
PRE-ENGINEERED METAL BUILDING FOOTINGS**

PINE KNOLL SHORES, NC

Sheet Title
PEMB FOOTINGS

Sheet
SK1.1

DESIGNED BY:	AJI	
DRAWN BY:	AJI	
APPROVED BY:	HMH	
PROJECT #:		
DATE:	11/20/2023	
No.	Revision	Date

FOR PERMIT

DIVISION 15 B - HEATING, VENTILATING AND AIR CONDITIONING

1.1 DESCRIPTION OF THE WORK

- A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
 1. Heating, ventilation, and air conditioning equipment.
 2. Ductwork.
 3. Grilles and diffusers.
 4. Controls and control wiring.
 5. Condensate piping.

- B. All work under this contract shall be installed in compliance with the latest edition of the following codes and standards insofar as they apply:
 1. ASHRAE Guide
 2. National Electric Code.
 3. 2018 NC State Building Code: Mech. Code.
 4. The Electrical Specifications for this project.
 5. SMACNA HVAC Duct Construction Standards.
 6. All local codes and ordinances.
 7. ARI rating.
 8. 2018 NC State Building Code: Energy Conservation Code.

- C. These codes are minimum standards. If codes require a more stringent method of construction than the specifications require, the codes shall govern.

- D. The HVAC Contractor shall be licensed in North Carolina and have all local licenses required for the work.

1.2 INTENT

- A. The intent of these specifications and the accompanying drawing is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The HVAC Contractor shall take this into consideration and include in his bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

- A. Coordinate work with other contractors. Notify Owner of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Owner for a decision before resuming operations.

- B. Locations shown are approximate. The HVAC Contractor shall verify with owner, the placement of equipment, fixtures, outlets, etc. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required.

- C. Changes in duct or piping design caused by obstructions shall be submitted to Engineer in sketch form for study and comment prior to execution. Additional cost will not be allowed for this type of work.

1.4 SHOP DRAWINGS

- A. Shop drawings shall be submitted for all major items of equipment. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified. Shop drawings shall include but are not limited to the following:
 1. All equipment and accessories.
 2. Grilles and diffusers.
 3. Unit sizes and requirements.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. All air handling devices must have the manufacturer's recommended filter rack, for 1" thick filters.

2.2 PIPING

- A. Condensate drain piping shall be PVC pipe. Provide tee and plug at changes in direction. Route pipe to proper termination point. All condensate piping shall be insulated with flexible elastomeric insulation. Provide copper piping in plenum areas.

2.3 DUCTWORK

- A. Ductwork shall be built in accordance with SMACNA HVAC Duct construction standards. Furnish and install all supply, return, and ventilation ductwork shown, together with splitters, deflectors, dampers, etc. This work shall be constructed of new galvanized prime grade steel sheets. The gauges of metal to be used and the construction and bracing of joints shall be in accordance with the SMACNA recommendations.

- B. Seal all sheet metal joints with fiber impregnated mastic.

- C. Support from building structure on strap hangers not over 8 feet apart.

- D. Use manufactured turning vanes in each elbow where required or where indicated on drawings.

- E. Flexible connectors shall be 3 inches wide, of fireproof material and used to isolate noise between equipment and ductwork on supply and return side of all units.

- F. Round runouts, where used, shall be built in accordance with the above standards, and each runout shall also have manufactured side take-off, adjustable quadrant damper at all accessible locations and shall be of Owens Corning INL-25 flexible duct with UL label. Flex duct lengths allowed up to 14 feet. Duct must be supported with sufficient hangers in order to prevent sags. Serpentine routing will not be permitted. Quadrant damper to be 22 gauge equal adjustable manually with exterior handle (similar to H&C Kwik-set) and is not to be mounted in side take-off.

2.4 DUCT INSULATION (LOW PRESSURE)

- A. All insulation, linings, coverings and adhesives shall have a flame spread classification of 25 or less and a smoke developed rating of not more than 50, exposed exterior piping.
- B. All duct insulation shall comply with Section 064, of the N. C. Building Code: Mechanical Code.

- C. All supply and return ductwork shall be completely insulated, either internally or externally.

- D. Rectangular ductwork shall be lined with two-inch thick, 1.5 lb. per cubic foot density, duct liner, Armstrong, CSG Ultraliner, Johns Manville or approved equal.

- E. As an alternative to duct liner rectangular duct may be wrapped with Glass I - 2", 3/4" lb. density (R-6.5) thick reinforced foil back fiberglass insulation, Owens-Corning Series ED or equal. Tape shall be Kraft reinforced foil tape or equal.

- F. Exhaust air duct does not require insulation, unless otherwise noted on the plans.

- G. Insulation shall be held in place with adhesive and welding pins 16" on center.

- H. Duct dimensions shown on the drawings are Net Inside Dimensions

2.5 THERMOSTATS

- A. Provide programmable electronic thermostats.
- B. Submit proposed thermostats for approval.

2.6 ROOF PENETRATIONS

- A. Provide pre-manufactured roof flashings compatible with equipment served.
- B. Coordinate roof work with roof system used. Provide proper flashing as required.
- C. Provide 1 year warranty on all roof work performed.

2.7 DUCT SMOKE DETECTORS

- A. Duct detectors are not required since units air flows are 2000 cfm or less per NCSBC: Mechanical Code, Section 606.2.

PART 3 - EXECUTION

3.1 PIPING

- A. The HVAC Contractor shall coordinate such routing with others, to line his work true to adjacent spaces and in a workmanlike manner and to use only short radius 90 degree elbows. Where required, piping to be sturdily supported and separated in a manner satisfactory to the Engineer.

- B. The HVAC Contractor shall point all exterior refrigerant piping, with UV resistant paint as recommended by the closed cell insulation manufacturer.

- C. Insulate all condensate lines for their entire length with 1/2" closed cell insulation. Install insulation per the manufacturers recommendations.

3.2 ELECTRICAL WORK

- A. The electrical contractor shall provide all switches, starters, wire conduit for the air conditioning, heating and ventilation equipment. Control wiring shall be by the heating and air conditioning contractor.

- B. HVAC Contractor is responsible for verifying that power terminals have been properly grounded prior to operating equipment and must find connections to all equipment including control wiring.

- C. All materials and workmanship shall be in accordance with the electrical specifications for the project. All wiring shall be color coded, and one-built wiring diagram prepared showing all connections and colors of wiring and delivered to the Owner.

- D. Furnish certification for acceptance of control wiring from local electrical inspector prior to acceptance.

3.3 CLEAN UP

- A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

- B. Furnish one box of clean filters, for each size required, at the time of final inspection to the owner.

3.4 OPERATOR'S MANUAL AND DIAGRAM

- A. The HVAC Contractor shall prepare in one copy a manual describing the proper maintenance and operation of the systems. This manual shall not consist of standard factory instructions (although these may be included) but shall be prepared to describe this particular job.

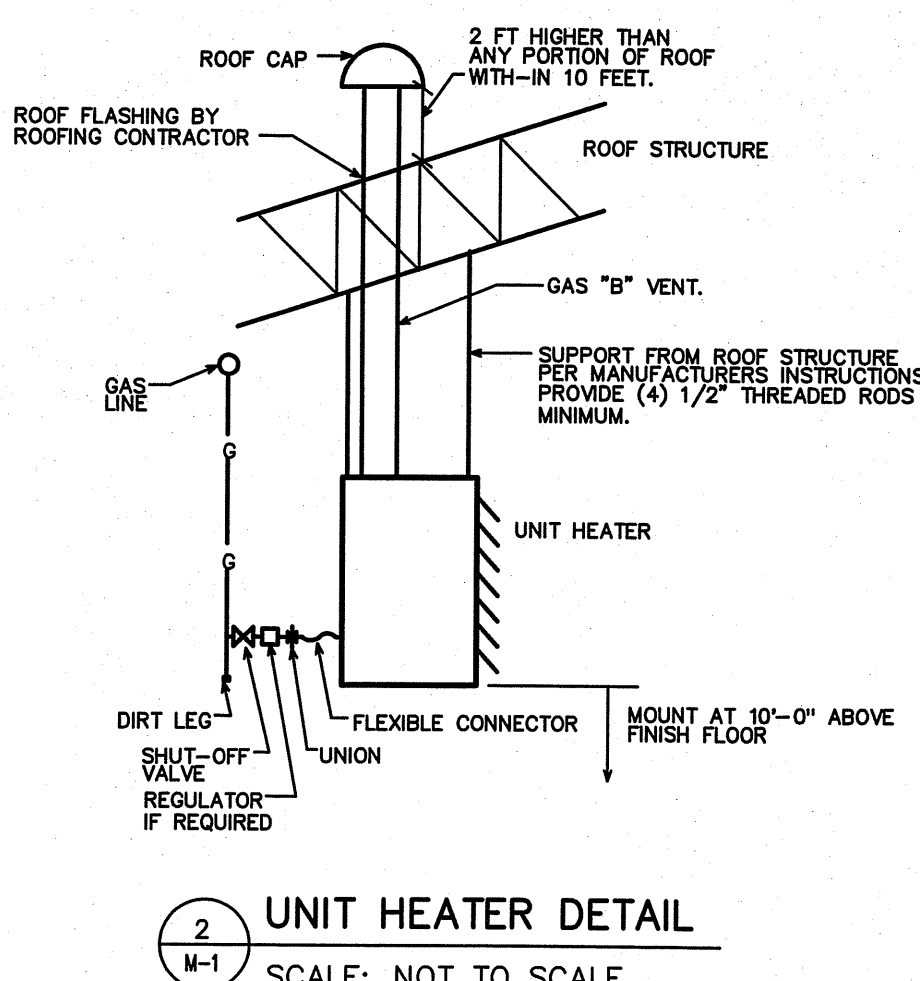
- B. The manual shall be bound, indexed, dated and signed by the HVAC Contractor.

- C. Qualified representative of the HVAC contractor shall meet with the designated representatives of the Owner and the Owner's representative shall be instructed in the proper operation and maintenance of the control system and other systems.

3.5 GUARANTEE

- A. Guarantee all materials and labor included in the HVAC work for a period of one year from date of final acceptance by the owner. In addition, motor compressors shall be a nonprorated five year warranty. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the owner or tenant.

- B. All air flows must be measured and balanced to within 10% of design airflows. All equipment used must have a current certification. Provide two copies of the balance report to the owner at closeout. The HVAC contractor shall return and re-balance to occupant comfort after 90 days from close-out. Provide all balance dampers needed for satisfactory operation regardless if shown on the drawings or not, and shift location of thermostats if required for occupancy comfort.



UNIT HEATER 45,000 BTUH (UH-1)	* STERLING MODEL# GG45 LP GAS FIRED UNIT HEATER, WITH AUTOMATIC SPARK IGNITION, 45,000 BTUH INPUT, 850 CFM, 1/2 GAS INLET, 4" FLUE, 1/20 HP, 120 VOLT, 3.7 AMP. PROVIDE AIR SWITCH, GAS SHUT-OFF VALVE, UNION, DIRT LEG, AND FLEXIBLE CONNECTION TO UNIT. PROVIDE TYPE "B" EXHAUST VENT THROUGH THE ROOF. PROVIDE ALL FLASHING AS REQUIRED.
UNIT HEATER 45,000 BTUH (UH-2)	* STERLING MODEL# GG45 LP GAS FIRED UNIT HEATER, WITH AUTOMATIC SPARK IGNITION, 45,000 BTUH INPUT, 850 CFM, 1/2 GAS INLET, 4" FLUE, 1/20 HP, 120 VOLT, 3.7 AMP. PROVIDE AIR SWITCH, GAS SHUT-OFF VALVE, UNION, DIRT LEG, AND FLEXIBLE CONNECTION TO UNIT. PROVIDE TYPE "B" EXHAUST VENT THROUGH THE ROOF. PROVIDE ALL FLASHING AS REQUIRED.

* OR APPROVED EQUAL BY REZNOR OR MODINE

EF-1 & EF-2	
EXHAUST FAN #1 & 2 (EF-1 & EF-2)	* CARNES MODEL# LMBL24-M1 SIDEWALL PROPELLER EXHAUST FAN, 1/3 HP, 775 RPM, 3100 CFM AT 0.22" SP. PROVIDE WALL BOX WITH MOTORISED GUARD. PROVIDE BACKDRAFT DAMPER ON EXTERIOR SIDE OF FAN. BELT DRIVE MOTOR, 115 VOLT SINGLE PHASE. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. INTERLOCK FAN CONTROLS WITH INTAKE LOUVER DAMPER TO OPEN WHEN FANS ARE RUNNING AND TO CLOSE WHEN FANS ARE OFF.

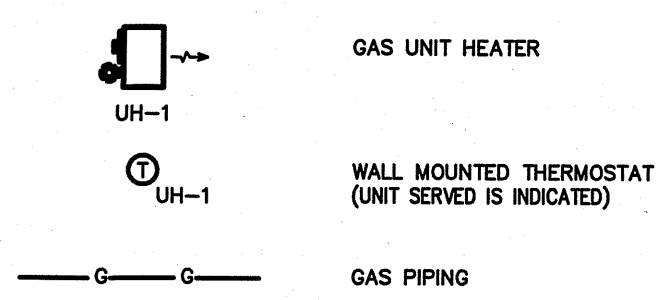
* OR APPROVED EQUAL

GENERAL NOTES - MECHANICAL

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AND ALL LOCAL AND OTHER APPLICABLE CODES.
2. ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR (MC).
3. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE MC SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC) AND OTHER TRADES.
4. THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES.
5. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS REFER TO THE ARCHITECTURAL PLANS.
6. THE MC SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS INTERLOCKS, CONTROL WIRING CONDUIT AND POWER WIRING FROM DISCONNECTS TO HIS EQUIPMENT, USING A LICENSED ELECTRICIAN.
7. THE MC SHALL USE FIRE DAMPERS FOR PROTECTION OF THE OPENING IN ACCORDANCE WITH STATE AND LOCAL CODES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND FLOORS OCCUR. SEE ARCHITECTURAL PLANS FOR RATED WALL AND FLOOR LOCATIONS. PROVIDE ACCESS DOORS AT ALL DAMPER LOCATIONS. LOCATE DOORS FOR EASY ACCESS.
8. INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AHU. ALL MECHANICAL EQUIPMENT SHALL OPERATE FREE OF OBJECTIONAL NOISE AND VIBRATION.
9. INSTALL TURNING VANES IN SUPPLY DUCTS AT ALL ELBOWS AND SPLITTER DAMPERS. PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE SHOWN OR REQUIRED FOR SYSTEM BALANCING.
10. DUCT DIMENSIONS ARE SHOWN INSIDE CLEAR.
11. THE MC SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF HIS WORK. HE SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN HIS CONTRACT.
12. PROVIDE ALL REQUIRED ROOF PENETRATIONS FOR THE INSTALLATION OF THE NEW EQUIPMENT. ALL FLASHINGS ARE BY THE MECHANICAL CONTRACTOR. ALL ROOFING WORK SHALL BE DONE BY A LICENSED ROOFING CONTRACTOR SO AS TO MAINTAIN ORIGINAL WARRANTY.
13. THE M.C. SHALL COORDINATE WITH AND PROVIDE EQUIPMENT SPEC. SHEETS TO THE GENERAL AND ELECTRICAL CONTRACTORS FOR REVIEW PRIOR TO ORDERING EQUIPMENT.
14. PROPERLY SUPPORT ALL DUCT WORK, AND EQUIP FROM STRUCTURE. PROVIDE ALL STRUCTURAL SUPPORTS FOR THE LOADS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

NOTE:
MOTOR VEHICLES IN THE SERVICE SHOP AREA WILL HAVE THEIR ENGINES RUNNING ONLY FOR THE DURATION REQUIRED TO MOVE THE MOTOR VEHICLE IN AND OUT OF THE BUILDING. THEREFORE MECHANICAL VENTILATION AND SOURCE CAPTURE EXHAUST ARE NOT REQUIRED PER NCSBC: MECHANICAL CODE SECTION 502.14, EXCEPTION NO. 3.

LEGEND - MECHANICAL



APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

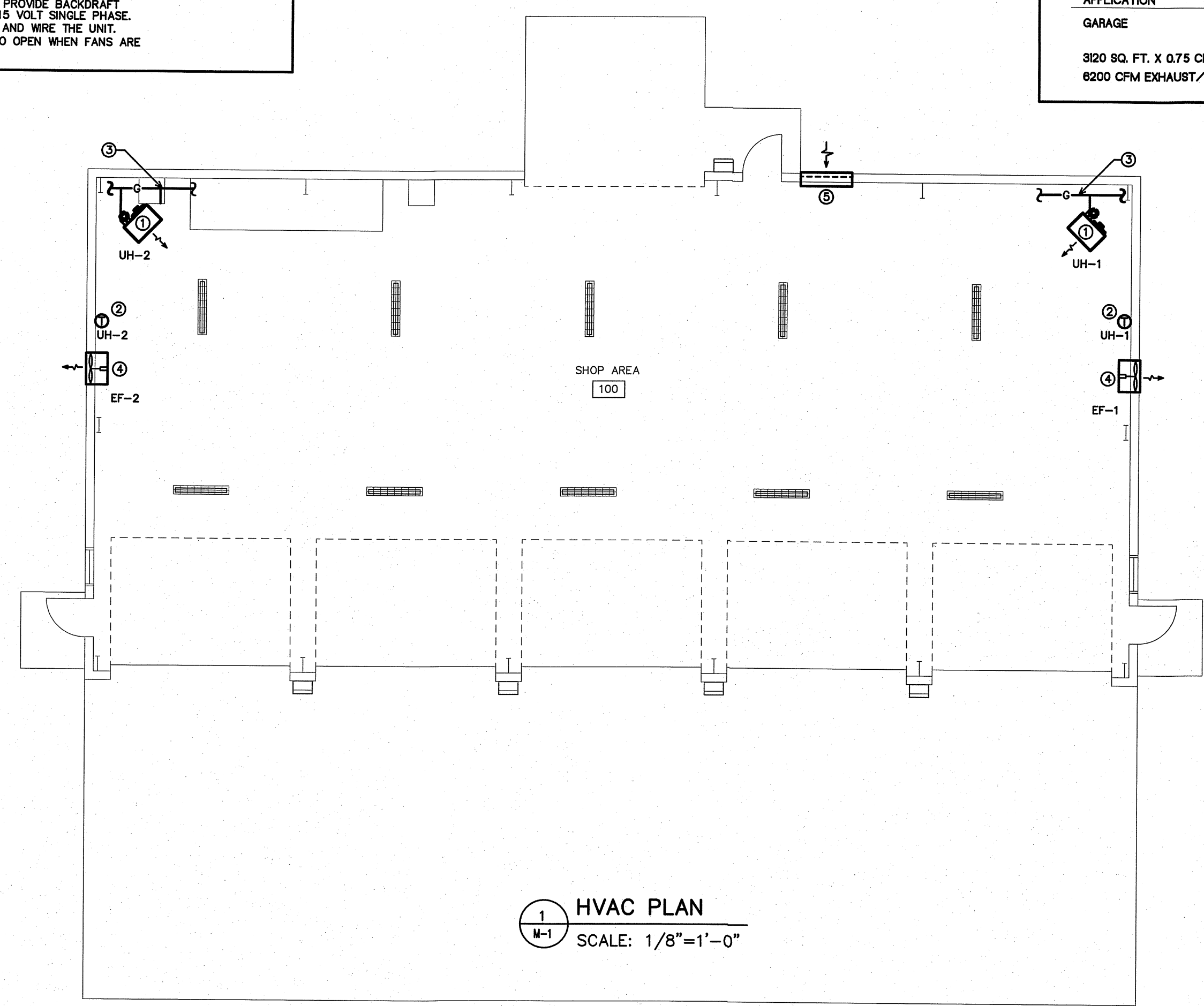
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)
MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEM AND EQUIPMENT

Thermal Zone	
winter dry bulb	16F
summer dry bulb	93F
Interior Design Conditions	
winter dry bulb	72F
summer dry bulb	75F
relative humidity	50%
Building Heating Load (Tenant space only)	50,300 BTU/hr
Building Cooling Load (Tenant space only)	--- BTU/hr
Mechanical Spacing Conditioning System	
Unitary -	The tenant space is served the following systems: (2) New 45K BTU Gas unit heaters
Boiler -	Not applicable to this project.
Chiller -	Not applicable to this project.
Equipment efficiencies	
Efficiencies and outputs are listed on equipment schedules - See drawings.	

OUTDOOR AIR CALCULATIONS

APPLICATION	CFM PER SQ. FT.
GARAGE	0.75 CFM PER SQ. FT.
320 SQ. FT. X 0.75 CFM PER SQ.FT. = 2340 CFM	
6200 CFM EXHAUST/OUTSIDE PROVIDED BY TWO EXHAUST FAN & ONE INTAKE LOUVERS	



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

- KEYNOTES FOR M1:
1. NEW GAS UNIT HEATER. SEE DETAIL 2/M1.
 2. NEW THERMOSTAT, MOUNT AT 48" AFF.
 3. NEW GAS LINE. SEE GAS PLAN FOR GAS LINE LOCATION AND SIZE.
 4. SIDE WALL PROPELLER EXHAUST FAN WITH BOTTOM MOUNTED AT 10'-0" AFF. INTERLOCK FAN CONTROLS WITH DAMPER IN INTAKE LOUVER SO THAT DAMPER OPENS WHEN FANS ARE RUNNING AND CLOSES WHEN FANS ARE OFF.
 5. SIDE WALL MOUNTED OUTDOOR INTAKE LOUVER WITH BOTTOM MOUNTED AT 36" AFF. LOUVER SHALL BE EQUAL TO CARNES MODEL FRDC. LOUVER SHALL HAVE MOTORIZED DAMPER ON INTERIOR SIDE. DAMPER CONTROLS SHALL BE INTERLOCKED WHEN EXHAUST FAN EF-1 AND EF-2 CONTROLS SO THAT DAMPER OPENS WHEN FANS ARE RUNNING AND CLOSES WHEN FANS ARE OFF.

Coastal Architecture
Architectural Design
Planning
Interiors

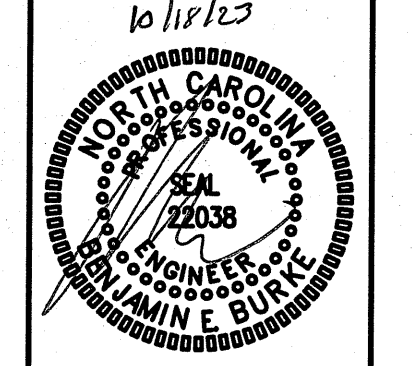
ATA

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PINE KNOLL SHORES PUBLIC SERVICES BUILDING PINE KNOLL SHORES, NORTH CAROLINA



HVAC FLOOR PLAN
NOTES, SPEC., SCHED

23019
ISSUED: 10/18/2023
DWG BY: CLS
CKD BY: BEB
REVISIONS

SHEET NO.
M-1

ENGINEER

BURKE DESIGN GROUP
3305-109 DURHAM DRIVE
RALEIGH, NC 27603
PHONE: (919) 771-1916
FAX: (919) 779-0826
email: ben@bdg-nc.com
Corp. License # C-2852

DIVISION 15A

1.1 DESCRIPTION OF THE WORK

- A. Work under this section may include, but is not necessarily limited to, furnishing and installing the following:
 1. Natural gas equipment, HVAC units, and any other equipment necessary.
 2. Natural gas piping.
 3. Connection of all equipment; natural gas.
- B. All work under this contract shall be installed in compliance with the latest edition of the following codes and standards insofar as they apply.
 1. The National Electrical Code.
 2. 2018 N.C. Building Code - Fuel Gas Edition.
 3. American Society of Sanitary Engineering Standard 1010.
 4. All local codes and ordinances.
- C. These codes are minimum standards. If codes require a more stringent method of construction than the specifications require, the codes shall govern.
- D. The Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.
- E. Obtain all permits, licenses, inspections, etc., required for the work, and pay for the same.

1.2 INTENT

- A. The intent of these specifications and accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

- A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

- B. Locations shown are approximate. The Contractor shall refer to the architectural drawings for placement of equipment, fixtures, etc. Where locations are not clear, the Contractor shall obtain the exact locations from the Architect.

1.4 SHOP DRAWINGS

- A. Shop drawings shall be submitted for fixtures and for pipe. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 - PRODUCTS

2.1 FIXTURES

- A. Each fixture shall be properly supported from the building structure as required to the end effect that all fixtures and accessories will be held rigidly in place. Gas pipes supplying the fixtures must also be properly mounted.

2.2 PIPING

- A. Natural gas piping shall be black steel pipe with screwed or welded joints. Support all piping as required by code. Use commercial style hangers, pipe strapping will not be allowed. Provide dirtleg, union, shut-off valve and flexible connection to all equipment. Pressure test all piping prior to putting into use. Verify size requirements prior to installation. Coordinate requirements with local gas company prior to submitting bid. Provide all components necessary for a complete operation system.

PART 3 - EXECUTION

3.1 CONNECTIONS

- A. This contract includes complete connection of natural gas and vent piping as required. All fittings, valves, accessories, cutoffs, etc., required to complete such connections shall be included.

3.2 ROUTING OF PIPING

- A. Coordinate routing of piping with others, line up work true to or at right angle to adjacent surfaces and in a workmanlike manner. Support all interior piping from building structure to prevent vibration, and to secure piping place.
- B. Space pipe hangers 8'-0" on center for one inch and smaller pipe, 4'-0" on center for 1-1/4 inch and larger pipes. Provide expansion loops as required.

3.3 INSPECTIONS AND TESTS

- A. Before being concealed, all natural gas and vent piping shall be tested to determine if they are air-tight.
- B. Prior to placing into service, entire system shall be tested for leaks in strict accordance with state and local codes.

3.4 CLEAN UP

- A. During construction, keep the site clear of debris and upon completion, and before final inspection, clean up the premises to remove all evidence of his work. In addition, upon completion of construction, clean, wash, and/or polish all fixtures, equipment and exposed material and leave them bright and clean.

4.0 GUARANTEES

- A. Guarantee all materials and labor included in the installation work for a period of one year from date of final acceptance by the Owner.
- B. Any defects in the system which become evident during the guarantee period shall be corrected without cost to the Owner. This shall include the replacing of defective materials where required, and the repair of damage caused by leaking pipes, etc., and damage to building surfaces caused in making repairs.

GENERAL NOTES

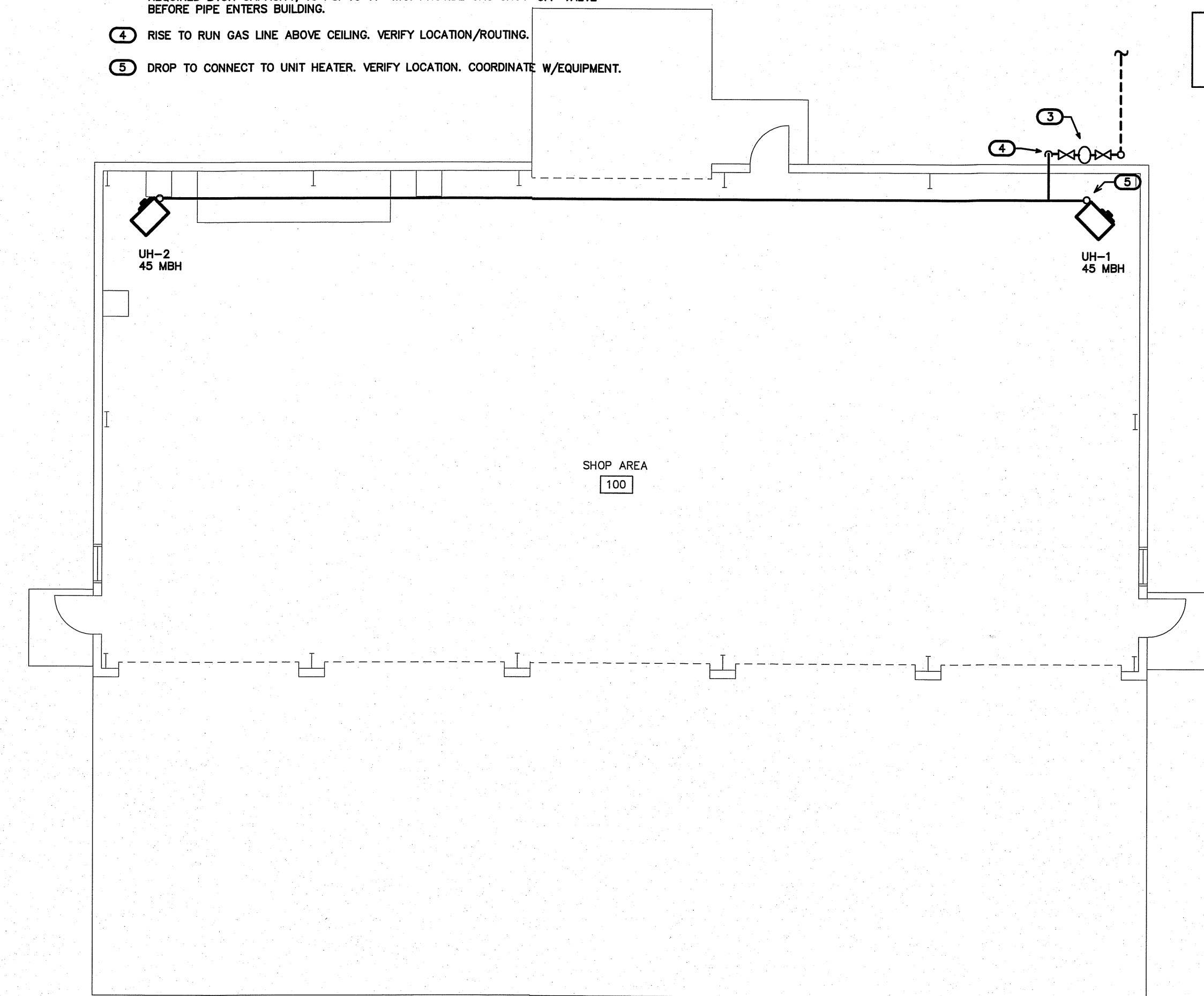
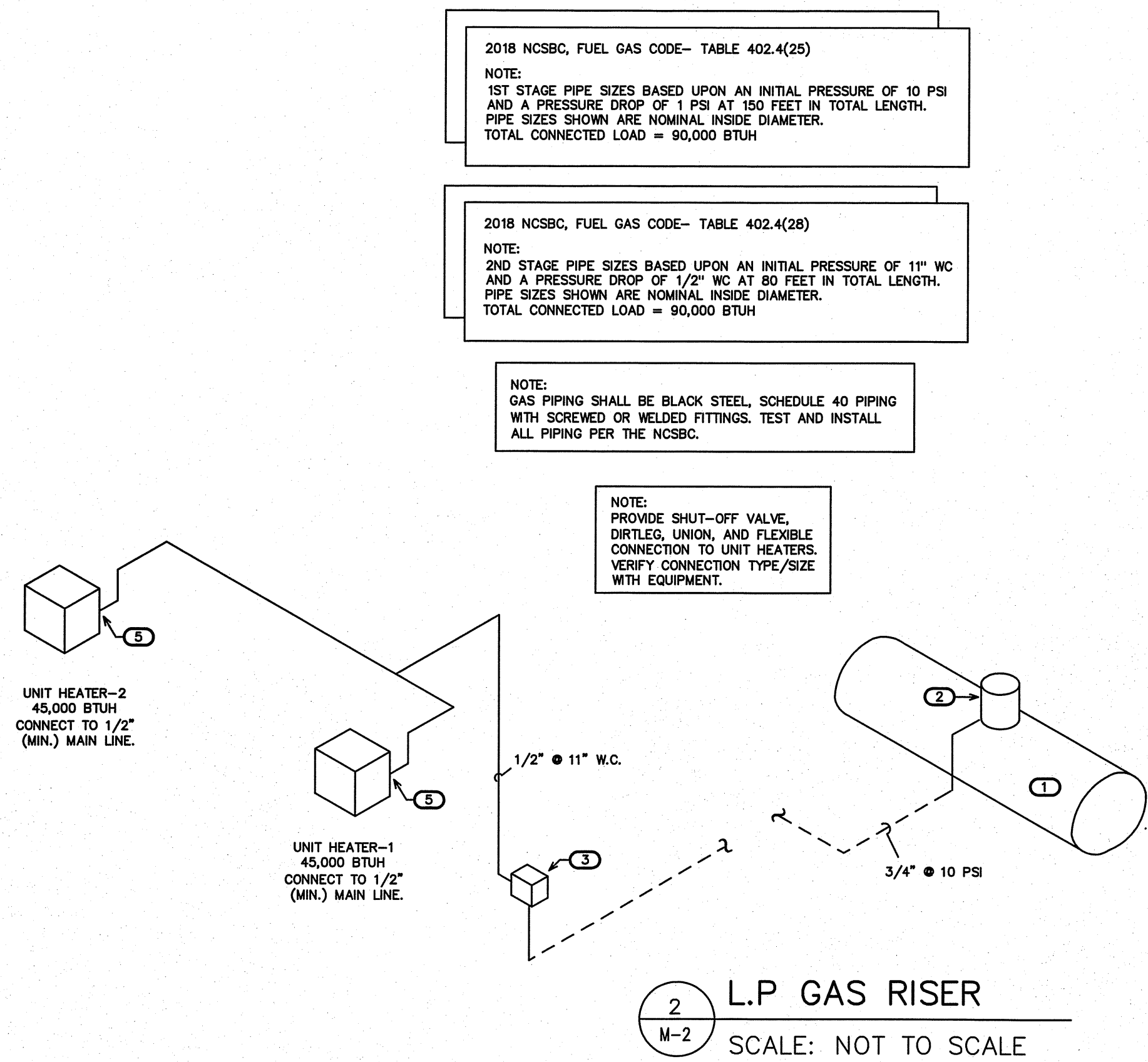
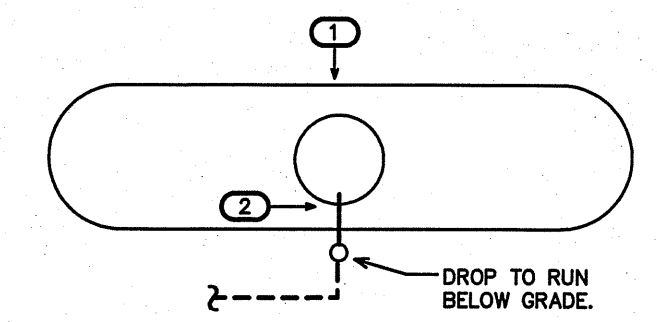
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES.
2. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE PLUMBING CONTRACTOR (PC) SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC).
3. THE DESIGN PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION AND ALL DISCREPANCIES OR INTERFERENCES BROUGHT TO THE ENGINEERS ATTENTION.
4. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. THE PC SHALL PROVIDE ALL MISC. ITEMS NEEDED FOR A COMPLETE SYSTEM REGARDLESS IF NOTED ON THE DRAWINGS OR NOT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FLOORPLAN LAYOUTS. DO NOT USE ENGINEERING DRAWINGS FOR ROUGH-INS.
5. THE GC SHALL PROVIDE ALL WALL, FLOOR AND ROOF OPENINGS OF THE SIZE AND LOCATION REQUIRED BY THE PC AND SHALL BE RESPONSIBLE FOR PAINTING AND FLOOR FINISHES. THE PC SHALL PROPERLY SEAL ALL PENETRATIONS AND PROVIDE ESCUTCHEON PLATES AT ALL FINISHED LOCATIONS.

SYMBOL LEGEND

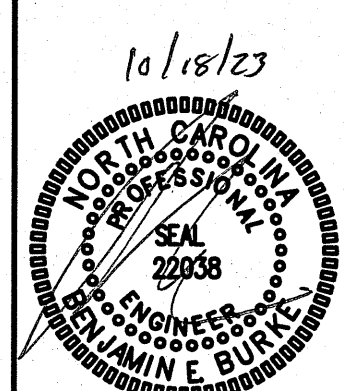
SYMBOL	DESCRIPTION (U.O.N.)
	NATURAL GAS PIPING (G)
	SHUT-OFF VALVE
U.O.N.	UNLESS OTHERWISE NOTED
A.F.F.	ABOVE FINISHED FLOOR

KEY NOTES FOR SHEET P-2

- 1 LP TANK (BY OTHERS). VERIFY LOCATION. MAINTAIN PROPER CLEARANCES PER NFPA 58 PER SIZE OF TANK- MIN. DISTANCE FROM BUILDING/IGNITION SOURCE, ETC.
- 2 CONNECT TO FIRST STAGE GAS REGULATOR ON LP GAS TANK. ROUTE PIPING AS REQUIRED TO SECOND STAGE REGULATOR. VERIFY LOCATION, COORDINATE WITH BLDG. OWNER FOR PATH AND DISTANCE.
- 3 PROVIDE SECOND STAGE REGULATOR ABOVE GRADE. VERIFY LOCATION, VERIFY REQUIRED BTUH CAPACITY, 10 PSI TO 11" W.C. PROVIDE GAS SHUT-OFF VALVE BEFORE PIPE ENTERS BUILDING.
- 4 RISE TO RUN GAS LINE ABOVE CEILING. VERIFY LOCATION/ROUTING.
- 5 DROP TO CONNECT TO UNIT HEATER. VERIFY LOCATION. COORDINATE W/EQUIPMENT.



NOTE:
 COORDINATE W/G.C FOR PROVIDING GUARD BOLLARDS FOR TANK AND 2ND STAGE REGULATOR/SERVICE LINE ON EXTERIOR OF BUILDING.



LP GAS PLAN

23019

ISSUED: 10/18/2023
 DWG BY: MW
 CKD BY: BEB
 REVISIONS

DIVISION 16 – ELECTRICAL

PART 1 – GENERAL

1.1 DESCRIPTION OF THE WORK

- A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
1. Electrical service and service equipment.
 2. Lighting and power distribution system.
 3. Provide lighting fixtures selected by owner with lamps to match.
 4. Wiring devices, boxes, cover plates, etc.
 5. Source of power for all items of equipment.
 6. Grounding.
 7. Other requirements and/or systems where shown.
- B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct operation.
- C. All work under this contract shall be installed in accordance with the latest edition of the following codes and standards insofar as they apply:
1. The 2020 National Electrical Code.
 2. The National Electrical Safety Code.
 3. Underwriter's Laboratories, Inc., Standards and approved listings.
 4. Electrical Testing Laboratories standards.
 5. North Carolina Building Code, Latest Edition and Revisions.
 6. All local codes and ordinances.
- D. The Electrical Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.
- E. Obtain all permits, licenses, inspections, etc., required for the work and pay for the same. Furnish final certificate of inspection and approval from the electrical Inspector having jurisdiction prior to acceptance of the work.
- F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete.

1.2 INTENT

- A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Electrical Contractor shall take this into consideration and include in his bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

- A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.
- B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough-in.

1.4 SHOP DRAWINGS

- A. Shop drawings shall be submitted for panels and service equipment, lighting, wiring devices, and cover plates. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 – PRODUCTS AND MATERIALS

2.1 GENERAL

- A. All material shall be new and shall bear the manufacturer's name, trade name, and UL label where such standard has been established for the particular material. Materials shall be the standard products of manufacturer's regularly engaged in the manufacturer of the required type of equipment and the manufacturer's latest approved design.

1. Boxes installed in concealed locations shall be set flush with the finished surfaces.
2. Provide rated boxes in all fire barriers & walls installed per code.

2.2 NOT USED

2.3 CONDUCTORS

- A. Conductors shall be color coded, sizes #8 and larger may be color taped on the job. Color coding shall be: Standard Practice.
- B. Conductors shall be manufactured by Dodge, Southwire or approved equal. Conductors shall meet the latest requirements of NEMA and IPSEA and shall be UL approved.
- C. Metallic sheathed "MC" cable may be used where allowed by N.E.C.
- D. Conductors shall be spliced and taped as follows:
1. Size #10 and #12, use Ideal "Wing Nuts" or TAB "Piggy" connectors. Connectors shall be rated for 150 degrees C for use in recessed lighting fixtures.
 2. Size #8 and larger shall be solderless screw and screw-clamping type, smoothly covered and shaped with rubber gum type with final cover vinyl plastic electrical type. In lieu of rubber gum and vinyl plastic type, factory fabricated approved preformed insulating covers may be used. All connectors shall be UL approved.
 3. No split-bolt type connectors may be used.
- E. All branch wire and connections shall be copper and sized per National Electric Code.
- F. All conductors shall be continuous without splice between Junction, outlet, device boxes, etc. No splicing will be permitted in panelboard cabinets, safety switches, etc.
- G. All wiring in mechanical spaces shall be plenum rated.
- H. Provide GFI protection within 6'-0" of any sink.
- I. All multi-wire branch circuits shall comply with 2020 NEC, 210.4(B).
- J. All wiring at medical facilities shall comply with 2020 NEC, 517.1.

2.4 PANELBOARDS, SAFETY SWITCHES

- A. Panelboards shall comply with NEMA Standard PB 1 – Latest Edition and as manufactured by Square D or ITE-Siemens.
- B. The contractor shall be responsible for correctly phasing the circuits in the panelboards.
- C. Safety switches shall be general duty type, size and rating as required for load service. Safety switches shall be fused or unfused as shown and/or as required. Safety switches serving motor loads shall be horsepower rated for load served.

2.5 NOT USED

2.6 WRING DEVICES

- A. Wiring devices shall be commercial grade by Bryant, Leviton, or approved equal. With matching cover. Color by Architect.
- B. Wiring devices installed under a Kitchen Hood shall have stainless steel covers.
- C. Wiring devices installed over counters shall comply with ANSI A117.1.

2.7 NOT USED

2.8 CONDUIT

- A. PVC conduit will be allowed where N.E.C. approved.
- B. All service conduit shall be rigid where exposed below 8'-0" AFF or exposed to the elements or hazardous conditions.

PART 3 – EXECUTION

3.1 CIRCUIT GROUNDING

- A. All circuits shall contain an insulated, green, copper grounding conductor, sized in accordance with Table 250-95 of the NEC. Grounding conductors shall be connected to equipment grounding bus in panelboard and securely attached and grounded to the device or enclosure at the other end.

3.2 GROUNDING TYPE CONVENIENCE OUTLETS AND SWITCHES

- A. Outlets and switches shall be solidly grounded to equipment grounding system with a green colored insulated conductor. Electrical connections shall be continuous from equipment ground bus in panelboard to the hex nut on the convenience outlet or switch.

3.3 MOTORS

- A. All motors shall be connected to conduit system with short length (minimum length 24" and maximum length 36") of flexible liquidtight conduit.

3.4 NOT USED

3.5 EQUIPMENT LABELING

- A. Provide permanent name plates for all panelboards, safety switches, wiring troughs, etc. for identification of equipment controlled, services, etc. Nameplates shall be securely and permanently attached to equipment with stainless steel screws. Nameplates shall include the name of the equipment and where it is fed from.
- B. All switch plates, receptacle plates and outlet covers shall be labeled with machine printed vinyl labels identifying the circuit(s) within.
- C. All empty conduit runs shall be identified and indicated where they terminate.
- D. Provide typewritten directory in each panelboard to clearly identify each circuit, service, etc.

3.6 NOT USED

3.7 NOT USED

3.8 JUNCTION AND/OR PULL BOXES

- A. Boxes shall be installed where necessary to avoid excessive runs and/or too many bends between outlets.

3.9 PULL WIRE

- A. Leave pull wire in each empty conduit run.

3.10 NOT USED

3.11 GROUNDING

- A. All grounding shall be in accordance with Article 250 of the NEC. In addition, the following requirements shall be met:
1. Grounding conductors shall be installed as to permit the shortest and most direct path from equipment to ground. All connections to grounding conductors shall be accessible.
 2. Equipment ground continuity shall be maintained through flexible metal conduit.
 3. All wiring devices equipped with grounding connection shall be solidly grounded to ground system with grounding conductors.
 4. The frame of all lighting fixtures shall be securely grounded to the equipment ground system with grounding conductors.
 5. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.
 6. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.

3.12 ELECTRICAL WORK IN CONNECTION WITH OTHER WORK

- A. **PLUMBING WORK:** The Electrical Contractor shall furnish and install switches and devices as shown and electrically connect electric water heaters, etc. All other electrical work required will be performed by the PLUMBING CONTRACTOR.
- B. **HEATING AND AIR CONDITIONING WORK:** The Electrical Contractor shall provide all disconnect switches, starters, and associated hardware for the equipment furnished including all line and load side wiring and conduit. Final connections to the equipment will be by the HVAC contractor. All control wiring will be accomplished by the HVAC contractor. Coordinate all work associated with the HVAC contractor.

3.13 CLEAN UP

- A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

3.14 GUARANTEE

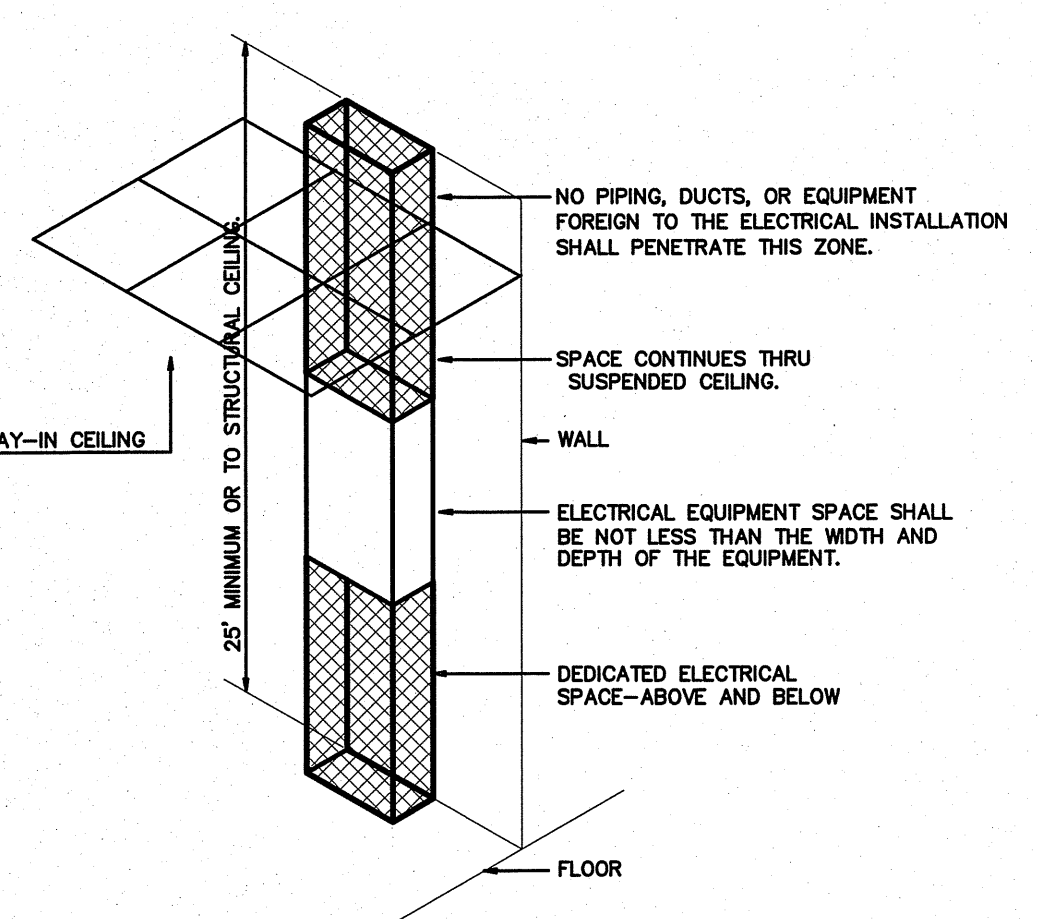
- A. Guarantee all materials and labor included in the electrical work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES HAVING JURISDICTION.
2. ALL BRANCH CIRCUIT CONDUCTORS TO BE COPPER (SERVICE CONDUCTORS MAY BE ALUMINUM WITH SAME AMPACITY AS COPPER CONDUCTORS. RE-SIZE CONDUCTORS AND CONDUIT PER NEC.)
3. ALL CIRCUITS TO BE 2 #12, 1 #12 GND IN 1/2" EMT CONDUIT AS A MINIMUM. PROVIDE WIRING FOR LARGER CIRCUITS AS REQUIRED BY NEC. RIGID CONDUIT IS REQUIRED WHERE EXPOSED BELOW 8'-0" A.F.F.
4. ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH A PULL WIRE OR FISH TAPE/CORD.
5. CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.
6. ALL BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL BE INCREASED TO THE NEXT LARGER SIZE WHERE THE LENGTH OF THE HOME RUN EXCEEDS 120 FEET ON 120V AND 208V CIRCUITS.
7. THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON DRAWINGS OR NOT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS.
9. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE TYPE OF CEILING SYSTEM WITH THE GENERAL CONTRACTOR TO INSURE THAT ALL LIGHTING FIXTURES ARE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED. LIGHTING FIXTURES SHOULD NOT BE ORDERED UNTIL TYPE OF CEILING HAS BEEN VERIFIED.
10. ELECTRICAL REQUIREMENTS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.
11. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT BREAKER REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO ORDERING PANEL. ADJUST BREAKER AND WIRE SIZES AS REQUIRED.
12. PROVIDE BOXES, JACKS, WIRING AND CONDUIT FROM LOCATIONS SHOWN TO MTP LOCATION. VERIFY EXACT REQUIREMENTS WITH OWNER.
13. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS FOR MECHANICAL & PLUMBING EQUIPMENT. DISCONNECTS SHALL BE PER MANUFACTURERS RECOMMENDATIONS AND FUSED PER NAME PLATE. PROVIDE NEMA 3R ENCLOSURES ON EXTERIOR. COORDINATE FUSE SIZES.
14. THE EC SHALL MEET WITH THE ARCHITECT AND TENANT PRIOR TO INSTALLING OUTLET BOXES TO VERIFY LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES AND TELEPHONE OUTLETS.

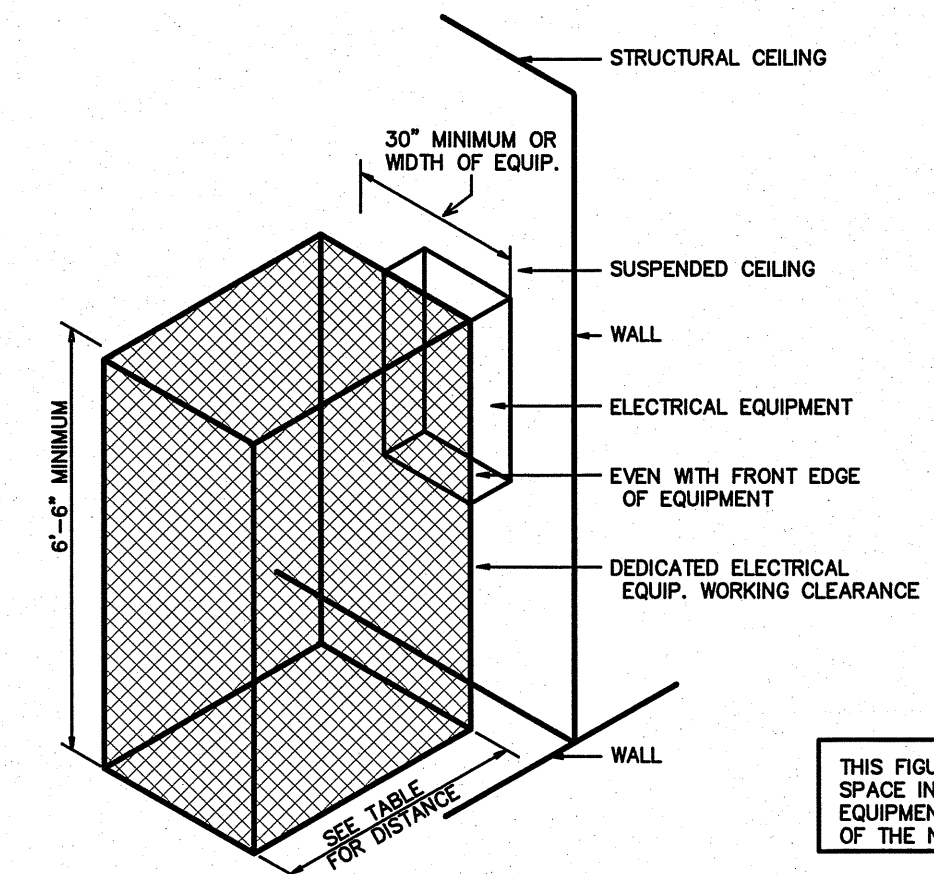
ELECTRICAL LEGEND

- LIGHT FIXTURE: LETTER DENOTES FIXTURE TYPE (REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE). NL = NIGHT LIGHT (NOT SWITCHED/ALWAYS ON)
- DUPLEX RECEPTACLE – 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE; WP INDICATES WEATHER PROOF, GFI INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED. 'U' INDICATES RECEPTACLE WITH (2) USB PORTS.
- QUADRAPLEX RECEPTACLE – 120V
- FLOOR OR CEILING OUTLET (AS NOTED) – 120V
- SPECIAL PURPOSE RECEPTACLE – REFER TO POWER PLAN AND PANEL SCHEDULE
- LIGHT SWITCH
- SWITCH WITH INTEGRAL PIR/US MOTION SENSOR FOR AUTOMATIC SWITCH-OFF WITH UP TO 2 HOUR ADJUSTABLE DELAY.
- DIMMABLE LIGHT SWITCH
- MOTOR RATED SWITCH
- JUNCTION BOX
- TELE/DATA OUTLET – PROVIDE JUNCTION BOX WITH CONDUIT BACK TO MTP. PROVIDE (1) TELEPHONE JACK AND (1) CAT 5 DATA JACK
- SINGLE-POLE HOMERUN TO PANELBOARD
- TWO-POLE OR 3-POLE HOMERUN TO PANELBOARD
- EXIT LIGHT
- EMERGENCY EGRESS FIXTURE
- PHOTOCELL (LED COMPLIANT)
- BRANCH CIRCUIT WIRING
- SWITCH LEG
- GROUND CONNECTION
- DISTRIBUTION PANELBOARD
- DISCONNECTING MEANS AS REQUIRED BY CODE



ELECTRICAL EQUIPMENT DEDICATED SPACE PER ARTICLE 110.26.F.1 OF N.E.C.

1 DEDICATED SPACE
SCALE: NTS



ELECTRICAL EQUIPMENT WORKING CLEARANCE PER ARTICLE 110-26 OF N.E.C.

VOLTAGE TO GROUND NOMINAL	MIN. CLEAR DISTANCE IN FEET		
	CONDITION: 1	2	3
0-150	3	3	3
151-600	3	3-1/2	4

2 ELECTRICAL CLEARANCES
SCALE: NTS

**APPENDIX B
2018 BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS**

(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)
ELECTRICAL DESIGN
ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

- Method of Compliance
- Energy Code: Prescriptive Energy Cost Budget
- ASHRAE 90.1: Prescriptive Energy Cost Budget

- Lighting Schedule
- lamp type required in fixture
number of lamps in fixture
ballast type used in fixture
number of ballasts in fixture
total wattage in fixture
total interior wattage specified vs. allowed 450VA / 1871VA
total exterior wattage specified vs. allowed 125VA / 500VA
- See Light Fixture Schedule

- Additional Prescriptive Compliance
- 506.2.1 More Efficient Mechanical Equipment
 - 506.2.2 Reduced Lighting Power Density
 - 506.2.3 Energy Recovery Ventilation Systems
 - 506.2.4 Higher Efficiency Service Water Heater
 - 506.2.5 On-Site Supply of Renewable Energy
 - 506.2.6 automatic Daylighting Control System

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Architectural Design
Planning
Interiors

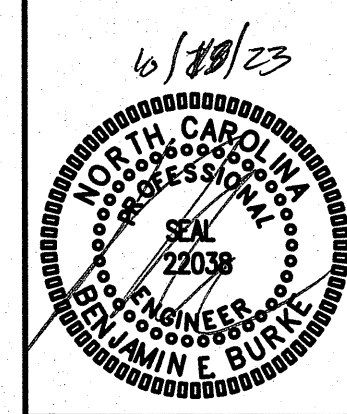
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**PINE KNOLL SHORES
PUBLIC SERVICES BUILDING
PINE KNOLL SHORES, NORTH CAROLINA**



ELECTRICAL SPECIFICATIONS

23019

ISSUED: 10/18/2023
DWG BY: JQ
CKD BY: BEB

REVISIONS

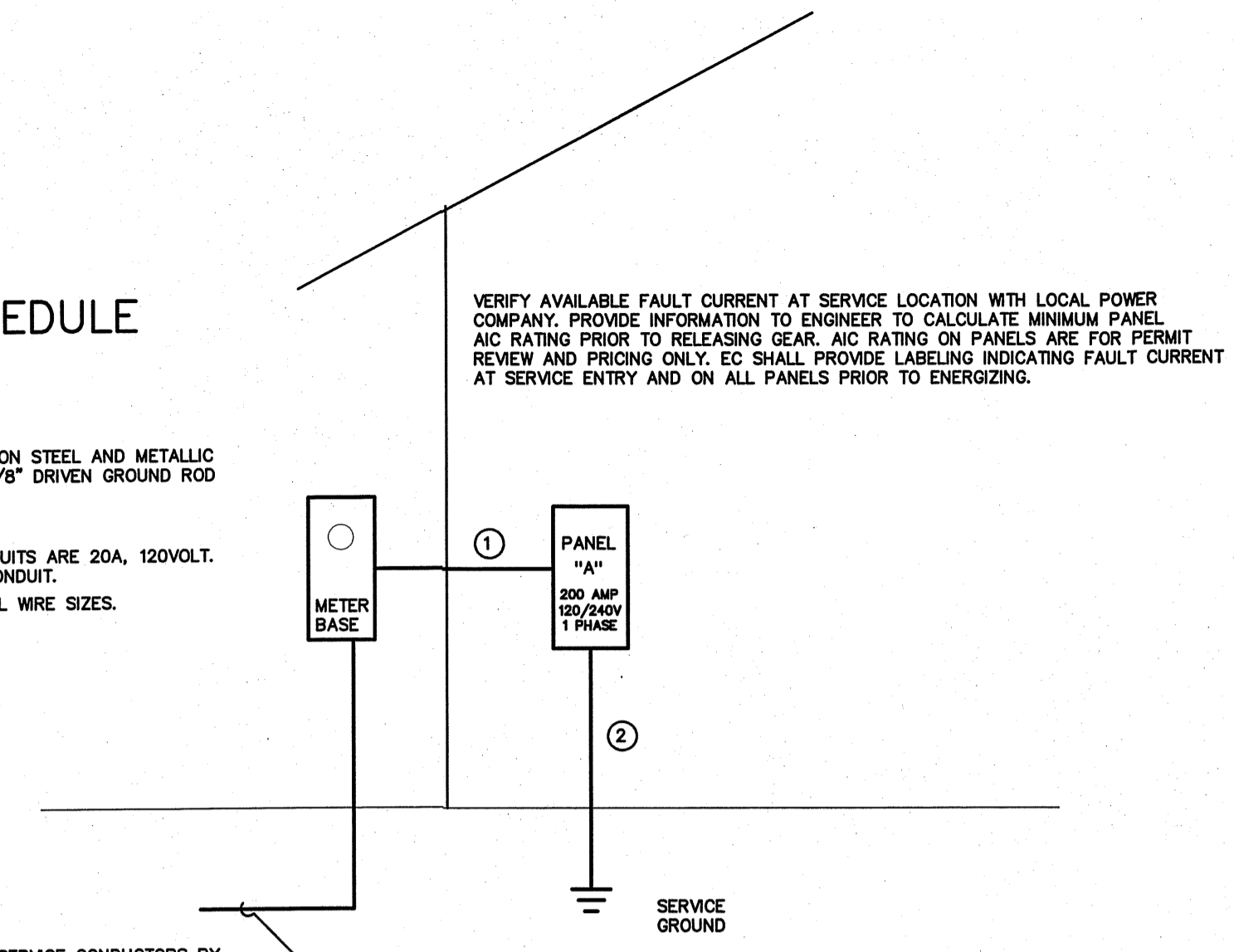
SHEET NO.
E-1

NEW PANEL 'A'		MAKE: EATON		RATING: 120/240V 1 PHASE 3 WIRE		200A MAIN CIRCUIT BREAKER			
TYPE: PRL1g		OR APPROVED EQUAL		MOUNTING: SURFACE		EQUIPMENT GROUND BUS <input type="checkbox"/> YES <input type="checkbox"/> NO			
				MINIMUM AIC: 22,000A		SERVICE ENTRY RATED <input type="checkbox"/> YES <input type="checkbox"/> NO			
LOAD SERVICE	CKT BRKR	WATTS PER PHASE		NEUTRAL		WATTS PER PHASE		CKT BRKR	LOAD SERVICE
LIGHTS	20A	625		1		2	540	20A	REC- SHOP
AIR COMPRESSOR	50A		3500	3		4	360	20A	REC- SHOP
				5		6	360	20A	REC- SHOP
WELDER STICK	30A		2500	7		8	360	20A	REC- SHOP
				9		10	720	20A	REC- SHOP
HEATERS	20A		720	11		12	360	20A	REC- WORKBENCH
STICK WELDER ALTERNATE	50A		3500	13		14	360	20A	REC- WORKBENCH
				15		16	360	20A	REC- EXTERIOR
EF-1; EF-2	20A	1152		17		18	180	20A	REC- EXTERIOR
INTAKE LOUVER	20A		100	19		20	---	20A	SPARE
SPARE	20A			21		22	---	20A	SPARE
SPARE	20A			23		24	---	20A	SPARE
SPARE	20A			25		26	---	20A	SPARE
SPARE	20A			27		28	---	20A	SPARE
SPARE	20A			29		30	---	20A	SPARE
SPARE	20A			31		32	---	20A	SPARE
SPARE	20A			33		34	---	20A	SPARE
SPARE	20A			35		36	---	20A	SPARE
SPARE	20A			37		38	---	20A	SPARE
SPARE	20A			39		40	---	20A	SPARE
SPARE	20A			41		42	---	20A	SPARE
NOTES		SUB-TOTALS 'B'		200A BUS		2180		SUB-TOTALS 'A'	
		11277		10320		1440		SUB-TOTALS 'B'	
				200A LUGS		11277		10320	
				200A FEED		13437		11760	
				VERIFY SIZE		112A		98A	
								GRAND TOTAL	
								AMPS/PHASE	
								TOTAL CONNECTED LOAD	

NEC ALLOWABLE DEMAND FACTORS	DIVERSIFIED LOAD SUMMARY
① DEMAND FACTORS PER NEC 220	LOAD TYPE
② LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD	DEMAND FACTOR
③ NEC TABLE 220.56	A
④ NEC 220.51	B
⑤ NEC 220.43A, 200 VA/LINEAR FT	TOTAL DIVERSIFIED LOAD
⑥ NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED	
	GENERAL LIGHTING ① 125% 781
	TRACK LIGHTING 125% ---
	GENERAL USE RECEPTACLES ② 100% 2180 1440 3600
	MOTORS AND EQUIPMENT ③ 125% 4375 4375 8750
	WATER HEATERS ④ 100% 7152 6900 13852
	KITCHEN EQUIPMENT ⑤ 100% ---
	FIX. ELEC. SPACE HEAT. ⑥ 100% ---
	SHOW WINDOW LIGHTS ⑦ 125% ---
	SIGN ⑧ 100% ---
	MISC ⑨ 100% ---
	PHASE (TOTAL VA) 14468 12615 27083
	TOTAL AMPS 121A 105A 113A

RISER WIRING SCHEDULE

- ① 200A: 3-#3/0 IN 2" CONDUIT
 - ② #4 CU GND TO BUILDING STEEL, FOUNDATION STEEL AND METALLIC WATER MAIN AND #6 CU GND TO 10' X 5/8" DRIVEN GROUND ROD
- NOTE: UNLESS OTHERWISE NOTED ALL OTHER CIRCUITS ARE 20A, 120VOLT. PROVIDE 2-#12, 1-#12 CU GND IN 1/2" CONDUIT. SEE EQUIPMENT SCHEDULES FOR ADDITIONAL WIRE SIZES.



③ ELECTRICAL SERVICE RISER
SCALE: NTS

LIGHTING SCHEDULE *

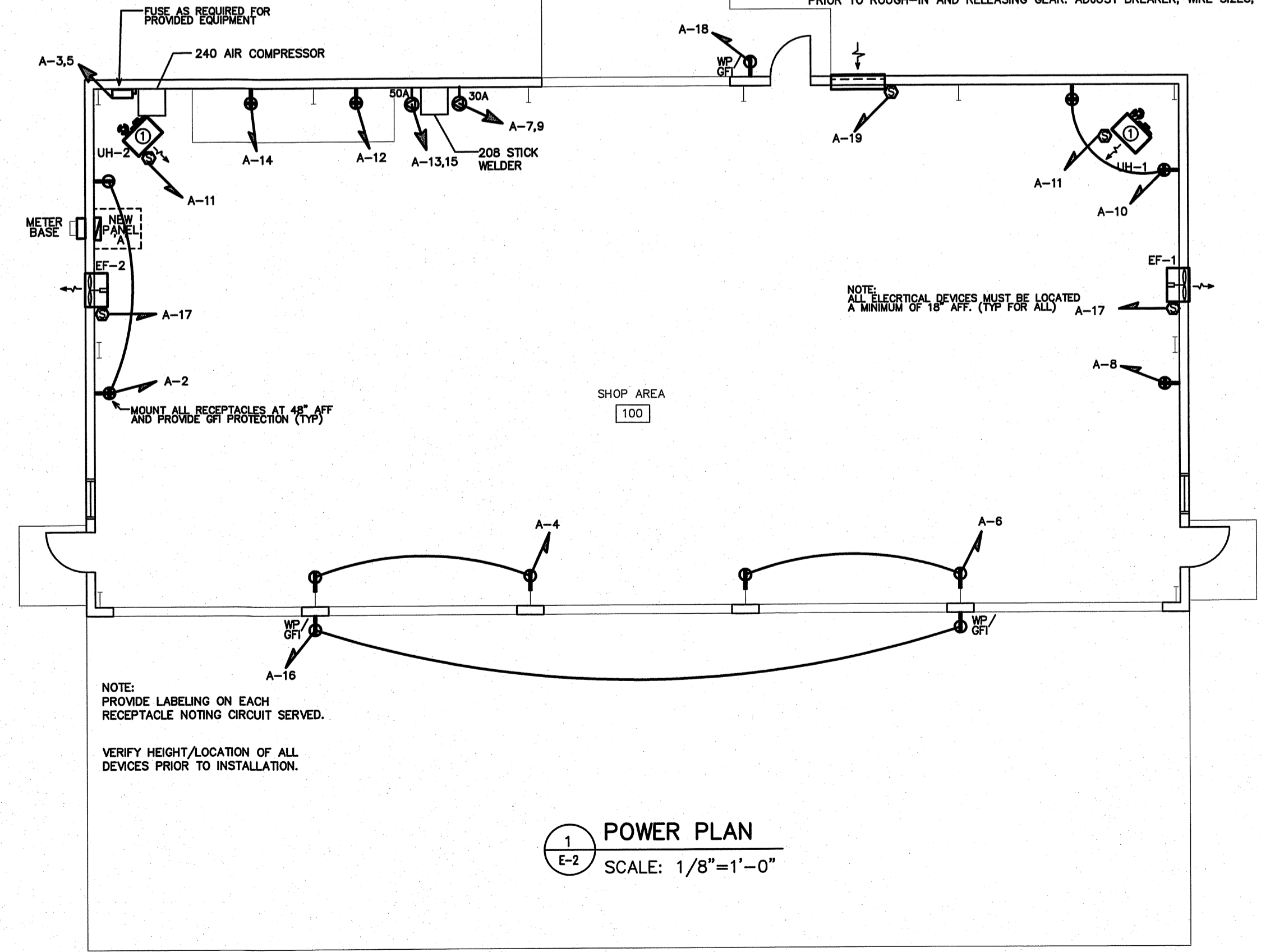
MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO.	BALLAST TYPE	W/FIXTURE	REMARKS
A	COLUMBIA	MPS4-40HL-CW-EDU-MPSW04	120	45	LED	---	4' LINEAR LED STRIP (W/ WIRE GUARD)
B	EXO	PRL-R-LS	120	35	LED	---	EXTERIOR LED WALL PACK
E	COMPASS	CU50	120	17	LED	---	EXTERIOR NORMAL/EMERGENCY LIGHT FIXTURE- COLOR BY ARCH
E	COMPASS	CCR	120	4	LED	---	COMBINATION EMERGENCY (TUNGSTEN)/ EXIT (LED) LIGHT
E	COMPASS	CU2	120	10	LED	---	EMERGENCY LIGHT, BATTERY BACKUP, BATTERY DIAGNOSTICS, COLOR BY ARCH

* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES. CATALOG NUMBERS ARE FOR REFERENCE ONLY, ACTUAL NUMBERS MAY VARY.
THE EMERGENCY LIGHTS AND EXIT SIGNS MUST HAVE INTEGRAL BATTERIES, CHARGERS AND TEST SWITCHES.

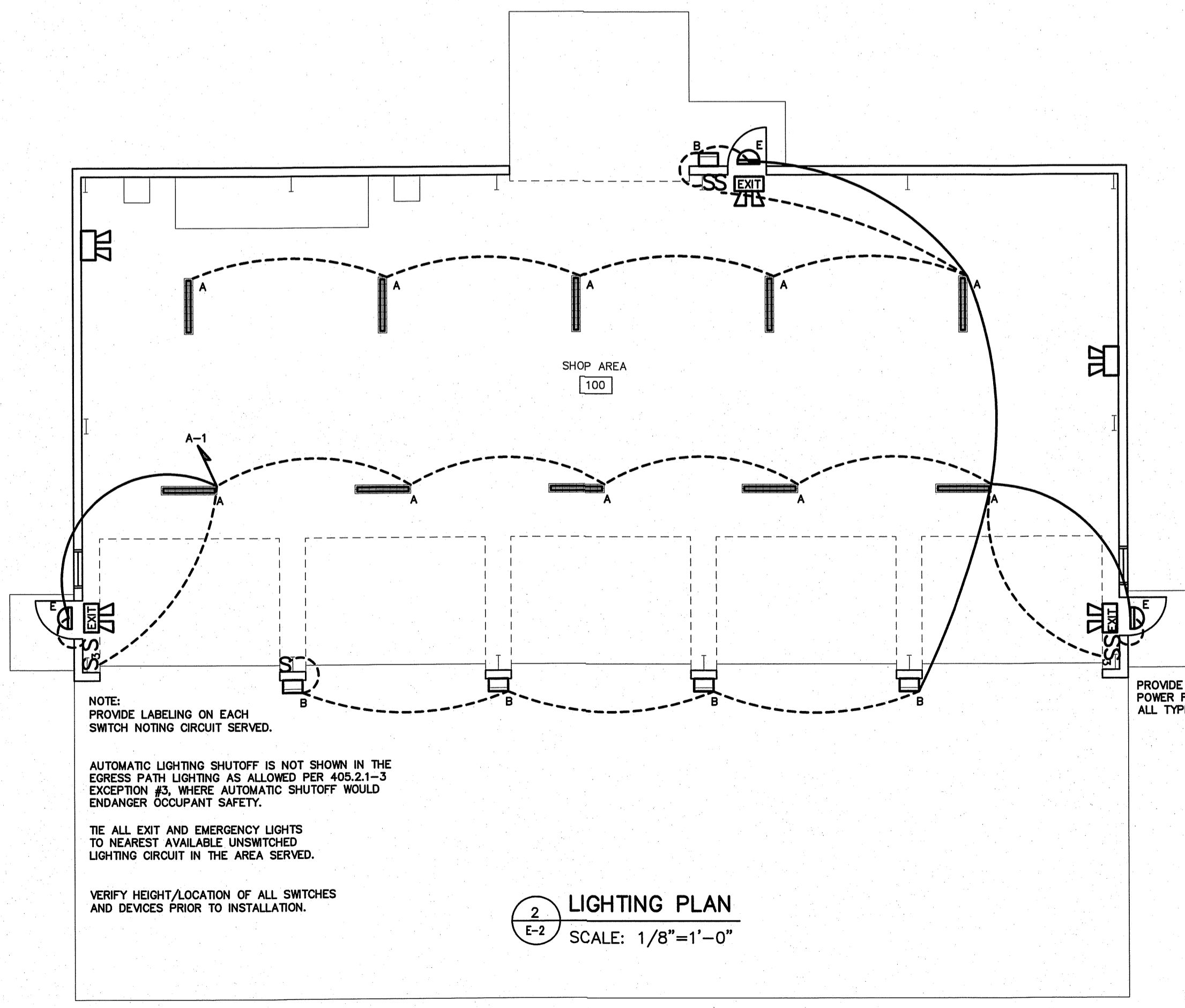
EQUIPMENT WIRING SCHEDULE

EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
AIR COMPRESSOR	---	50A	240V	1	3-#8, 1-#10 GND IN 3/4" CONDUIT
STICK WELDER	---	50A	240V	1	3-#8, 1-#10 GND IN 3/4" CONDUIT
STICK WELDER	---	30A	240V	1	3-#10, 1-#10 GND IN 3/4" CONDUIT

NOTE: THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.



① POWER PLAN
SCALE: 1/8"=1'-0"



② LIGHTING PLAN
SCALE: 1/8"=1'-0"