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

Name Of Project: Buies Creek Fire Department

Address: 112 Marshbanks Street Lillington, NC 27546

Owner Or Authorized Agent: Jeff Walker Phone 910-890-1268 E mail jlw08@centurylink,net

Owned By: ☒ City / County ☐ Private ☐ State

Code Enforcement Jurisdiction: ☐ City ☒ County ☐ State

CONTACT: Robert J. Bracken, Jr. - P.E.

DESIGNER:	FIRM	NAME	LICENSE#	TELEPHONE#	E-MAIL
Engineer	RJB PE PA	RJ Bracken	NC 7291	(919) 774-6074	bjbracken@windstream.net
Civil					
Electrical					
Fire Alarm					
Plumbing					
Mechanical					
Sprinkler - Standpipe					
Structural					
Retaining Wall > 5' High					
Other					

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

2018 NC CODE BUILDING CODE: ☒ New Building ☐ Addition ☐ Renovation

☐ 1st Time Interior Completion

☐ Shell / Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

☐ Phased Construction - Shell / Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 EXISTING BUILDING CODE: EXISTING: ☐ Prescriptive ☐ Repair ☐ Chapter 14

Alteration: ☐ Level I ☐ Level II ☐ Level III

☐ Historic Property ☐ Change Of Use

CONSTRUCTION: (Date) _____ CURRENT OCCUPANCY (S) (CH. 3): _____

RENOVATED: (Date) _____ PROPOSED OCCUPANCY (S) (Ch.3): _____

OCCUPANCY CATEGORY (Table 1604.5) Current: ☐ I ☒ II ☐ III ☐ IV
Proposed: ☐ I ☐ II ☐ III ☐ IV

BASIC BUILDING DATA

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ V-A
☐ I-B ☐ II - B ☒ III-B ☐ V-B

Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

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

Fire District: ☒ No ☐ Yes Flood Hazard Area: ☒ No ☐ Yes

Special Inspections Required: ☒ No ☐ Yes (Contact the local inspections jurisdiction for additional procedures and requirements)

FLOOR	Existing (SQ. FT.)	NEW (SQ. FT.)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor		2,250	2,250
Basement			
TOTAL			2,250

ALLOWABLE AREA

Primary Occupancy (s): Select One

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 Deflagate ☐ H-3 Combat ☐ H-4 Health ☐ H-5 HPM

Institutional ☐ I-1 Condition ☐ 1 ☐ 2
☐ I - 2 Condition ☐ 1 ☐ 2
☐ I - 3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ I - 4

Mercantile ☐

Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4

Storage ☒ S-1 Moderate ☐ S-2 Low ☐ High Piled 17,500 ft²
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage

Utility and Miscellaneous ☐

Accessory Occupancy Classification (s): _____

Incidental Uses (Table 509): _____

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

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

Mixed Occupancy: (No) Yes Separation: ____Hr. Exception: _____

Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

Separated Use (509.4) - 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.

$$\frac{\text{Actual Area Of Occupancy A}}{\text{Allowable Area Of Occupancy A}} + \frac{\text{Actual Area Of Occupancy B}}{\text{Allowable Area Of Occupancy B}} \leq 1.00$$

$$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad} \leq 1.00$$

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

[1] Frontage area increase 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 = 100 (F/P − 0.25) x W / 30 = _____(%)

[2] Unlimited area applicable under conditions of Section 507.

[3] Maximum Building Area = total number of stories in building x D (maximum 3 stories) 506.2

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

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

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	55'	18'-2"	T 504.3
Building Height in Stories (Table 504.4)	2	1	T 504.4

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

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQD	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							
Bearing walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing walls and partitions Exterior Walls							
North							
East							
West							
South							
Interior walls & partitions							
Floor construction Including supporting beams & joist							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof construction including supporting beams & joist							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Seperation							
Occupancy / Fire Barrier Separation							
Party / Fire Wall Separation							
Smoke Partition							
Tenant / Dwelling Unit							
Sleeping Unit Separation							
Incidental Use Separation							

* Indicates ssection number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

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

LIFE SAFETY SYSTEM REQUIREMENTS

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

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet # _____

☐ Fire and / or smoke rated walls locations (Chapter 7)
☐ Assumed and real property line locations. (If not on site plan)
☐ Exterior wall opening area with respect to distance to assumed property line (705.8)
☐ Occupancy Use for each area as it relates to occupant load calculations (Table 1004.1.2)
☐ Occupant loads for each area.
☐ Exit access travel distance (1017)
☐ Common path of travel distances ((Tables 1006.2.1 & 1006.3.2.(1))
☐ Dead end lengths (1020.4)
☐ Clear exit widths for each door.
☐ Maximum calculations 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 structures provided for purpose 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-3 (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

ACCESSIBLE PARKING
(Section 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED				TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	# ACCESS AISLE		

PLUMBING FIXTURE REQUIREMENTS
(Table 2902.1)

USE		Water Closets Male	Water Closets Female	Water Closets Unisex	Urinals	Lavatories Male	Lavatories Female	Lavatories Unisex	Showers/ Tubs	Drinking Fountains Regular	Drinking Fountains Accessible
SPACE	Existing										
	New										
	Required										

SPECIAL APPROVALS
Special Approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc. described below)

NONE

ENERGY SUMARRY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute 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: ☐ No ☐ Yes (The remainder of this is not applicable)
Exempt Building: ☐ No ☐ Yes (Provide code or statutory reference): _____
Climate Zone: ☐ 3A ☐ 4A ☐ 5A
Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive
(If "Other" specify source here) _____

THERMAL ENVELOPE (Prescriptive method only)
Roof / Ceiling (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylights:
total square footage of skylights in each assembly: _____
Exterior Walls (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (windows or doors with glazing)
U-Value of assembly: _____
Solar heat gain coefficient: _____
Projection factor: _____
Door R-Value: _____
Wall below grade (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R - Value of insulation: _____
Floors over unconditional space (each assembly)
Description of assembly: _____
U - Value of total assembly: _____
R - Value of insulation: _____
Floor slab on grade
Description of assembly: _____
U - Value of total assembly: _____
R - Value of insulation: _____
Horizontal / vertical requirement: _____
Slab heated: _____

STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:
Importance Factor: Snow (I_s) 1.2
Seismic (I_E) 1.5

Live Loads: Roof 20 psf
Mezzanine ____psf
Floor 100 psf

Ground Snow Load: 15.0 psf

Wind Load: Basic Wind Speed 125 mph (ASCE-7)
Exposure Category C

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☐ C ☒ D
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) ☐ I ☒ II ☐ III ☐ IV
Special Response Acceleration S_s =.197 %g S_1 =.139 %g
Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F
Data Source: ☐ Field Test ☐ Presumptive ☐ Historical Data
Basic structural system ☐ Bearing Wall ☐ Dual w/ Special Moment Frame
☐ Building Frame ☐ Dual w/ Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☒

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) _____psf
Presumptive Bearing capacity 2,000 psf
Pile size, type, and capacity _____

MECHANICAL SUMMARY
(PROVIDE IN THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SYSTEMS, SERVICES 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: _____

ELECTRICITY SUMMARY
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SYSTEM AND EQUIPMENT
Method of Compliance: Energy Code: ☐ Performance ☐ Prescriptive
ASHREA 90.1 ☐ Performance ☐ Prescriptive

Lighting schedule (Each fixture type)
lamp type required in fixture:
number of lamps in ficture:
ballast type used in the fixture:
number of ballast 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 NCEC; not required for ASHREA 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 Systems
☐ C406.7 Reduced Energy Use in Service Water Heating

REVISIONS	
NO.	DATE

BUIES CREEK FIRE DEPARTMENT
112 Marshbanks St.
Lillington, NC 27546

RJB, PE, PA
C-0269
Robert J. Bracken
ENGINEERING • SURVEYING
3768 Carbonton Road • Sanford, NC 27330

SCALE: 1/4" = 1'-0"
DRAWN BY: WRJ
DATE:
CHECKED BY: RJB
DWG. NUMBER:
JOB NUMBER:

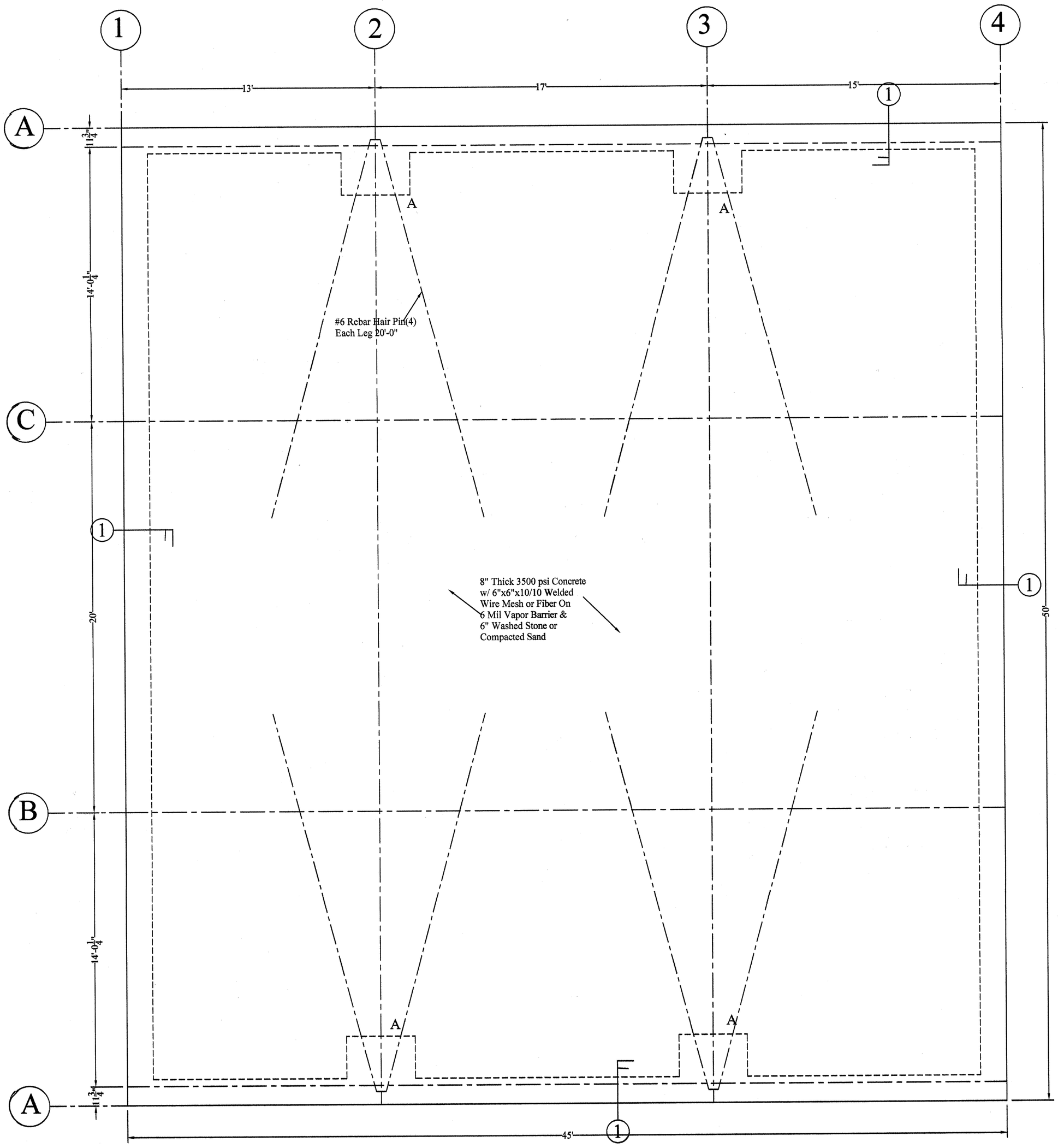
SHEET NO:

APPENDIX
'B'

SEAL

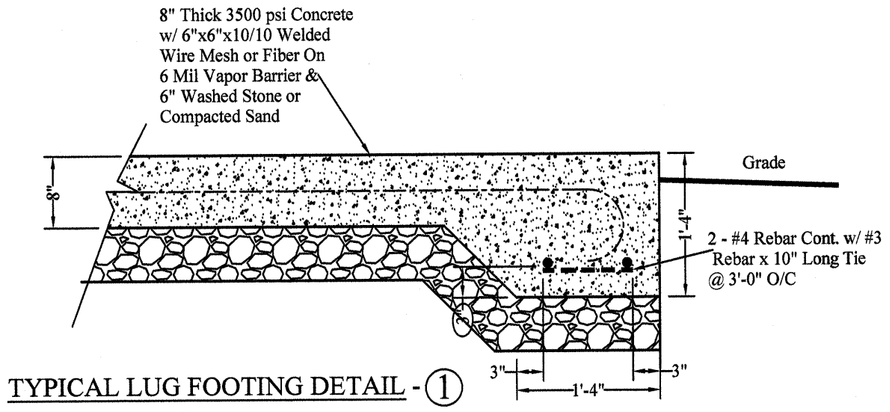
NORTH CAROLINA PROFESSIONAL SEAL 7291 ENGINEER ROBERT J. BRACKEN

12/7/22



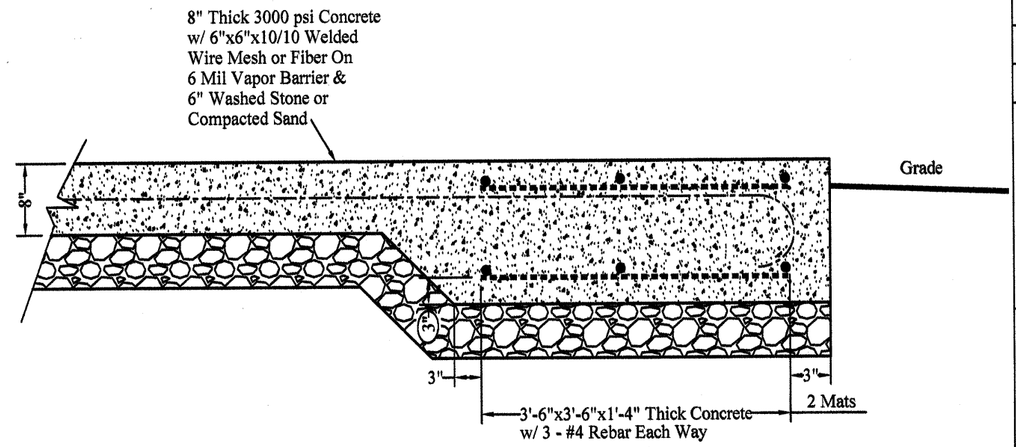
GENERAL FOUNDATION NOTES

1. ALL FOUNDATION SAW CUTS, EXPANSION JOINTS & CONSTRUCTION JOINTS BY GENERAL CONTRACTOR, INSTALLED @ MAX. OF 18'-0" O/C. ALTERNATE SAW CUT & CONSTRUCTION JOINTS.
2. ALL FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SUPPORTING A DESIGN BEARING OF 2000 PSF.
3. ELEVATIONS OF TOP OF ALL FOOTINGS SHALL BE SHOWN ON THE FOUNDATION PLAN. THESE ELEVATIONS ARE A MAX. AND SHALL BE LOWERED AS REQUIRED TO OBTAIN THE REQUIRED TO OBTAIN THE REQUIRED DESIGN PRESSURE. ANY UNUSUAL SOIL CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. ALL CONCRETE INCLUDING SLAB-ON-GRADE SHALL OBTAIN A COMPRESSIVE STRENGTH OF 3000 PSI AT AN AGE OF 28 DAYS.
5. ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE ASTM-615 GRADE 60.
6. CONCRETE PROTECTION FOR REINFORCING STEEL AND OTHER GENERAL REQUIREMENTS FOR FABRICATION & PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE BUILDING CODE. (ACI 318-LATEST EDITION)
7. ALL REINFORCING MARKED CONTINOUS (CONT.) ON THE PLANS AND DETAILS SHALL BE LAPPED 30 BAR DIAMETERS (MIN.), UNLESS NOTED OTHERWISE (U.N.O.)
8. NO BACK FILL SHALL BE DONE AGAINST MASONRY WALLS UNLESS ALL SLABS ARE POURED AND / OR SECURELY BRACED AGAINST OVERTURNING.
9. ALL MASONRY UNITS SHALL BE IN ACCORDANCE WITH ASTN C-90 TYPE I GRADE N-1 (FM-1350 PSI).
10. GROUT FOR MASONRY WALLS SHALL BE ASTM C-476 AND SHALL BE PROPORTIONED TO OBTAIN A 28 DAY COMPRESSION STRENGTH OF 2500 PSI. ALL MORTAR SHALL BE ASTM C-270 TYPE M OR S.
11. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY CONTRACTOR.
12. ALL DEVIATIONS FROM WORKING DRAWINGS (EXISTING AND NEW) SHALL BE FORWARDED TO THE ENGINEER.
13. ALL WORK SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE NORTH CAROLINA BUILDING CODE.
14. REBAR DETAILING SHALL MEET CRSI RECOMMENDATIONS.



TYPICAL LUG FOOTING DETAIL - (1)

Scale: 3/4" = 1'-0" x3



COLUMN FOOTING DETAIL - (A)

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

REVISIONS	
NO.	DATE

BUIES CREEK FIRE DEPARTMENT
112 Marshbanks St.
Lillington, NC 27546

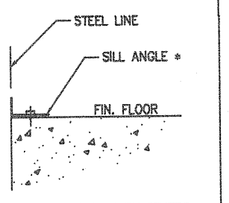
RJB, PE, PA
C-0269
Robert J. Bracken
ENGINEERING • SURVEYING
3768 Carbonton Road • Sanford, NC 27330

SCALE:	1/4" = 1'-0"
DRAWN BY:	WRJ
DATE:	
CHECKED BY:	RJB
DWG. NUMBER:	
JOB NUMBER:	
SHEET NO:	S - 1

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 7291 ENGINEER ROBERT J. BRACKEN

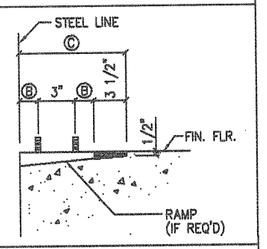
12/7/22



* ATTACHMENT TO CONCRETE BY OTHERS

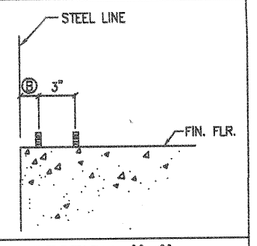
SECTION "A"

BASE SECTION



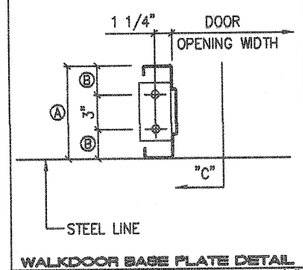
SECTION "B"

OVERHEAD DOOR BASE SECTION



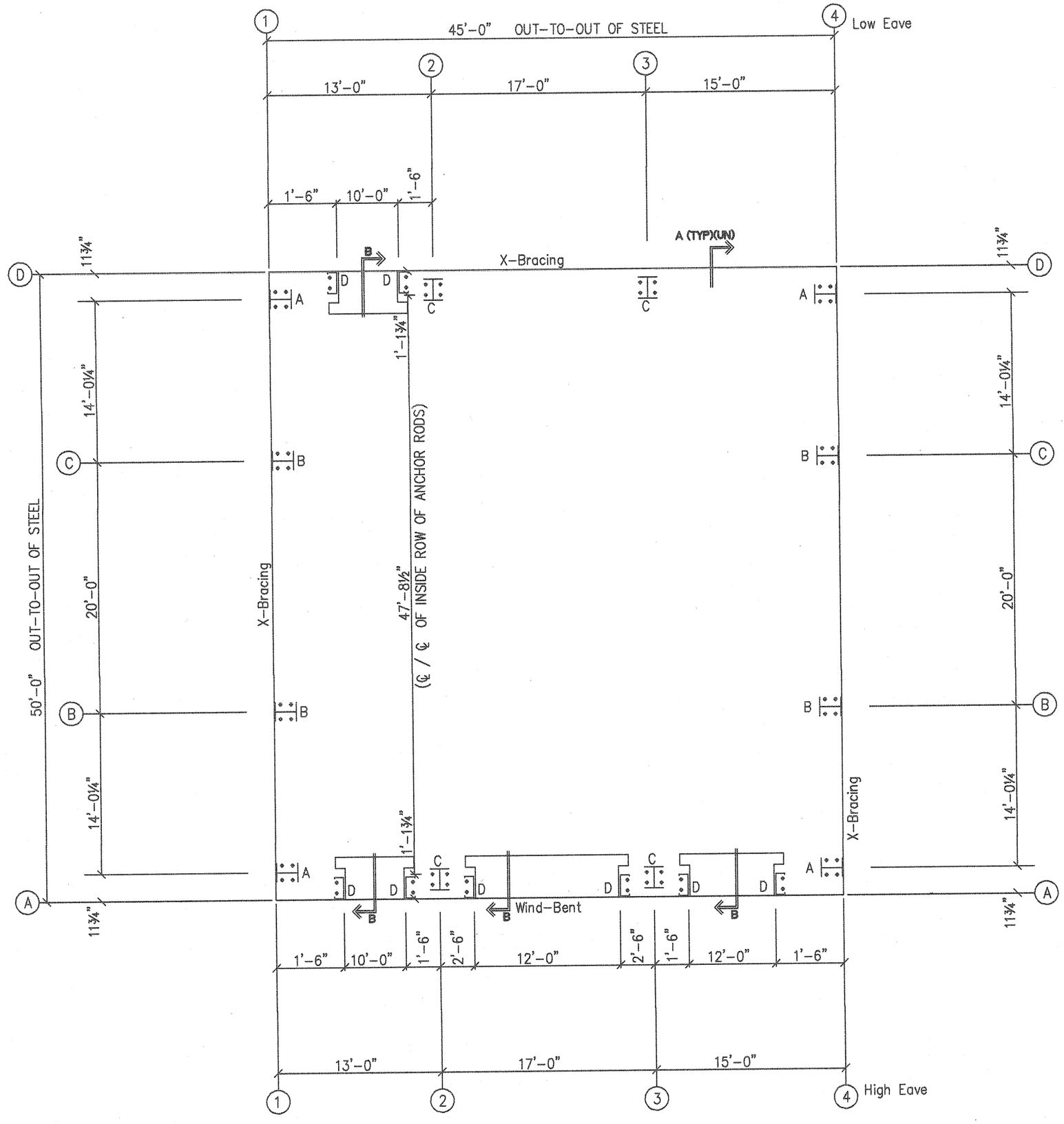
SECTION "C"

F.O. JAMB BASE SECTION



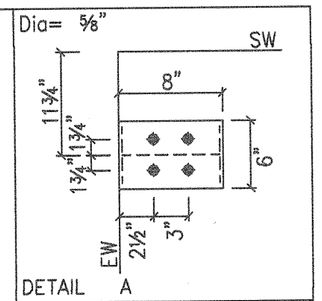
WALKDOOR BASE PLATE DETAIL

A. RODS 1/2"Ø		BASE & THK. 1/4"	
Girt Width	Walk Door Frame Ⓐ	Dim. Ⓑ	Ramp Width Ⓒ
8"	8"	2 1/2"	11 1/2"
10"	10"	3 1/2"	1'-1 1/2"
12"	12"	4 1/2"	1'-3 1/2"

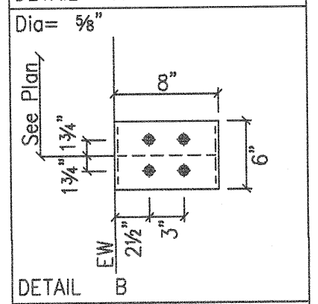


ANCHOR ROD PLAN

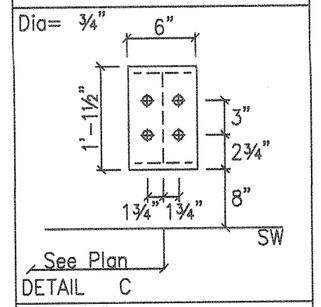
NOTE: All Base Plates @ 100'-0" (FINISH FLOOR)(UNLESS NOTED)



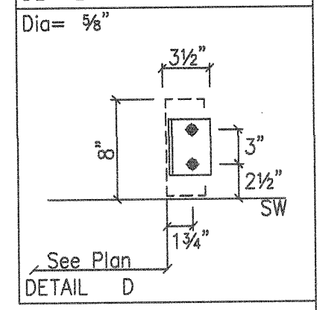
DETAIL A



DETAIL B



DETAIL C



DETAIL D

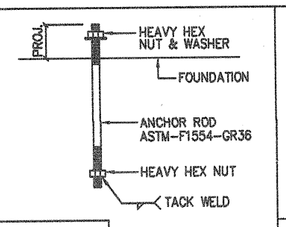
NOTE:
SAME BASE □
FOR 3'-4" X 7'-2"
FIELD LOCATED F.O.

ANCHOR RODS HAVE BEEN DESIGNED FOR SHEAR AND TENSION LOADS ONLY, PER APPENDIX D OF ACI 318-08.

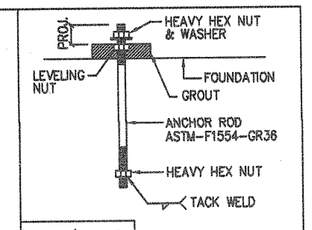
DESIGN OF SHEAR ANGLES, TENSION PLATES, HAIRPINS, AND ANY OTHER EMBEDDED MATERIAL IN THE CONCRETE SHALL BE DETERMINED BY THE FOUNDATION DESIGN ENGINEER AND PROVIDED BY OTHERS.

ANCHOR ROD PROJECTION IS FROM BOTTOM OF BASE PLATE, UNLESS GROUT IS REQUIRED.

DIA.	PROJ.
1/2"	1 1/2"
5/8"	2"
3/4"	2 1/2"
7/8"	3 1/2"
1"	3 1/2"
1 1/4"	3 1/2"



NUT w/o GROUT



NUT w/ GROUT

ANCHOR RODS (BY OTHERS)

DRAWING STATUS

☐ FOR APPROVAL:
THESE DRAWINGS, BEING FOR APPROVAL, ARE BY DEFINITION NOT FINAL AND ARE FOR CONCEPTUAL REPRESENTATION ONLY. THEIR PURPOSE IS TO CONFIRM PROPER INTERPRETATION OF THE PROJECT DOCUMENTS. ONLY DRAWINGS ISSUED "FOR CONSTRUCTION" CAN BE CONSIDERED AS COMPLETE.

☐ FOR PERMIT:
THESE DRAWINGS, BEING FOR PERMIT, ARE BY DEFINITION NOT FINAL IN THAT, AS A MINIMUM, PIECE MARKINGS ARE NOT IDENTIFIED. ONLY DRAWINGS ISSUED "FOR CONSTRUCTION" CAN BE CONSIDERED AS COMPLETE.

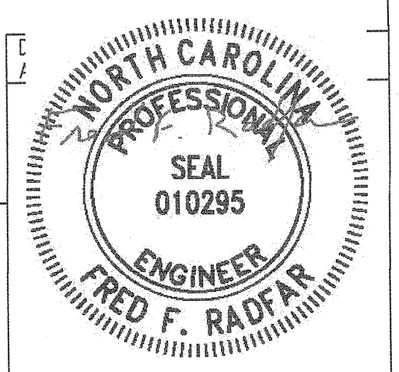
☒ FOR CONSTRUCTION:
FINAL DRAWINGS.

REVISIONS

NO.	DATE	DESCRIPTION	BY	CK'D
0	8/29/22	PERMIT FOR CONSTRUCTION	JS	JS

Fred F. Radfar P.E.
30 Windermere Lane
Houston, TX 77063
(713-784-9008)
fred@radfarpe.com

North Carolina License #010295
Exp. 12/31/2022



09/05/2022

INLAND BUILDINGS
2141 SECOND AVENUE S.W. CULLMAN, AL. 35055
PHONE: 800.438.1606
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DESCRIPTION	ANCHOR ROD PLAN	SIZE	REFER TO C1
OWNER OR PROJECT	Buies Creek Fire Dept	CUSTOMER	SANFORD METAL BUILDING, LLC
JOBSITE LOCATION	112 MARSHBANKS ST LILLINGTON, NC 27546	ADDRESS	P.O. BOX 5231 SANFORD, NC 27331

CAD BY	ENGR BY	DATE	SCALE	JOB NO.	PH	BLDG DESC. (MPH)	SHEET NO.	ISSUE
JS	FR	8/29/22	N.T.S.	183791			F1 of 2	0