

# BUILDING PLANS

## *FOOD LION DISTRIBUTION EMPLOYEE SHELTER*

301 HIGHWAY  
DUNN NORTH CAROLINA

### PREPARED FOR

Mark Davis  
% RLT CONSTRUCTION  
TASHA LANE  
FUQUAY VARINA, NC  
TELEPHONE 919-612-8843

### ENGINEER

GREG BAGLEY  
805 COKESBURY ROAD  
FUQUAY VARINA, NC  
PHONE: (919) 609-0300

### SHEET INDEX

000....COVER SHEET  
001.... APPENDIX B / BUILDING CODE SUMMARY  
002.... FLOOR PLAN  
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**2012 APPENDIX B  
BUILDING CODE SUMMARY  
FOR ALL COMMERCIAL PROJECTS  
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**  
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: THE DIRT BAG BREWERY GRILL  
Address: CORPORATION DRIVE Zip Code 28312  
Proposed Use: BREWERY  
Owner/Authorized Agent: GREG BAGLEY Phone # ( 919 ) 609 - 0300 E-Mail GDB.GREG@GMAIL.COM  
Owned By:  City/County  Private  State  
Code Enforcement Jurisdiction:  City  County  State  
FAYETTEVILLE, NORTH CAROLINA

**LEAD DESIGN PROFESSIONAL:**

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural					
Civil	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Electrical	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Fire Alarm	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Plumbing	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Mechanical	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Sprinkler-Standpipe					
Structural	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Retaining Walls >5' High					
Other					

**2012 EDITION OF NC CODE FOR:**  New Construction  Addition  Upfit  
 Reconstruction  Alteration  Repair  Renovation  
**EXISTING:**  Reconstruction  Alteration  Repair  Renovation  
**CONSTRUCTED:** (date) VACANT **ORIGINAL USE(S)** (Ch. 3):  
**RENOVATED:** (date) VACANT **CURRENT USE(S)** (Ch. 3):  
**PROPOSED USE(S)** (Ch. 3): EMPLOYEE SHELTER

**BASIC BUILDING DATA**  
Construction Type:  I-A  II-A  III-A  IV  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 (Primary) **Flood Hazard Area:**  No  Yes  
Building Height: (feet) \_\_\_\_\_  
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6 <sup>th</sup> Floor			
5 <sup>th</sup> Floor			
4 <sup>th</sup> Floor			
3 <sup>rd</sup> Floor			
2 <sup>nd</sup> Floor			
Mezzanine			
1 <sup>st</sup> Floor		500	500
Basement			
TOTAL			500

**ALLOWABLE AREA**

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

**Accessory Occupancies:**  
Assembly  A-1  A-2  A-3  A-4  A-5  
Business  Educational  Factory  F-1 Moderate  F-2 Low  Hazardous  H-1 Detonate  H-2 Deflagrate  H-3 Combust  H-4 Health  H-5 HPM  
Institutional  I-1  I-2  I-3  I-4  
I-3 Condition  1  2  3  4  5  
Mercantile  Residential  R-1  R-2  R-3  R-4  
Storage  S-1 Moderate  S-2 Low  High-piled  
 Parking Garage  Open  Enclosed  Repair Garage  
Utility and Miscellaneous

**Incidental Uses (Table 508.2.5):**  
 Furnace room where any piece of equipment is over 400,000 Btu per hour input  
 Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower  
 Refrigerant machine room  
 Hydrogen cutoff rooms, not classified as Group H  
 Incinerator rooms  
 Paint shops, not classified as Group H, located in occupancies other than Group F  
 Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy  
 Laundry rooms over 100 square feet  
 Group I-3 cells equipped with padded surfaces  
 Group I-2 waste and linen collection rooms  
 Waste and linen collection rooms over 100 square feet  
 Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies  
 Rooms containing fire pumps  
 Group I-2 storage rooms over 100 square feet  
 Group I-2 commercial kitchens  
 Group I-2 laundries equal to or less than 100 square feet  
 Group I-2 rooms or spaces that contain fuel-fired heating equipment

**Special Uses:**  402  403  404  405  406  407  408  409  410  411  412  413  414  415  416  417  418  419  420  421  422  423  424  425  426  427  
**Special Provisions:**  509.2  509.3  509.4  509.5  509.6  509.7  509.8  509.9  
**Mixed Occupancy:**  No  Yes Separation: \_\_\_\_\_ Hr. Exception: \_\_\_\_\_  
 Incidental Use Separation (508.2.5)  
This separation is not exempt as a Non-Separated Use (see exceptions).

This separation is not exempt as a Non-Separated Use (see exceptions).  
 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 (508.4) - See below for area calculations  
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

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

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 <sup>1</sup> AREA	(C) AREA FOR FRONTAGE INCREASE <sup>2</sup>	(D) AREA FOR SPRINKLER INCREASE <sup>2</sup>	(E) ALLOWABLE AREA OR UNLIMITED <sup>3</sup>	(F) MAXIMUM BUILDING AREA <sup>4</sup>
1	SHELTER	500	6000	4500	0		10500

<sup>1</sup> 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 = 280 (F)  
b. Total Building Perimeter = 280 (P)  
c. Ratio (F/P) = 1 (F/P)  
d. W = Minimum width of public way = 40 (W)  
e. Percent of frontage increase  $I_1 = 100 [F/P - 0.25] \times W/30 = \underline{.75}$  (%)  
<sup>2</sup> The sprinkler increase per Section 506.3 is as follows:  
a. Multi-story building  $I_2 = 200$  percent  
b. Single story building  $I_2 = 300$  percent  
<sup>3</sup> Unlimited area applicable under conditions of Section 507.  
<sup>4</sup> Maximum Building Area = total number of stories in the building x E (506.4).  
<sup>5</sup> The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.1.2.

8160 ALLOWABLE HEIGHT		8160	
ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type <u>V-B</u>	Type <u>V-B</u>	
Building Height in Feet	12'	Feet = H + 20' = <u>32'</u>	
Building Height in Stories	1	Stories + 1 = <u>2</u>	

**FIRE PROTECTION REQUIREMENTS** NR = Not Required

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	REQ'D (W/REDUCTION)	RATING PROVIDED (+ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR PENETRATION	DESIGN # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses	10	0		0002	NR		
Bearing Walls		0		0002	NR		
Exterior		0		0002	NR		
North		0		0002	NR		
East		0		0002	NR		
West		0		0002	NR		
South		0		0002	NR		
Interior							
Nonbearing Walls and Partitions		0		0002	NR		
Exterior walls		0		0002	NR		
North		0		0002	NR		
East		0		0002	NR		
West		0		0002	NR		
South		0		0002	NR		
Interior walls and partitions							
Floor Construction							
Including supporting beams and joists		0		0002	NR		
Roof Construction							
Including supporting beams and joists		0		0002	NR		
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy Separation							
Party/Fire Wall Separation		0		0	NR		
Smoke Barrier Separation							
Tenant Separation							
Incidental Use Separation							

**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 #: CODE SHEET  
 Fire and/or smoke rated wall locations (Chapter 7)  
 Assumed and real property line locations  
 Exterior wall opening area with respect to distance to assumed property lines (705.8)  
 Existing structures within 30' of the proposed building  
 Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)  
 Occupant loads for each area  
 Exit access travel distances (1016)  
 Common path of travel distances (1014.3 & 1028.8)  
 Dead end lengths (1018.4)  
 Clear exit widths for each exit door  
 Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)  
 Actual occupant load for each exit door

OCCUPANCY LOADS			
A-2 GATHERING AREA	UNCONCENTRATED TABLES AND CHAIRS	15 NET	500/15 = 33 OCC.

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 (1008.1.10)  
 Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)  
 Location of doors with electromagnetically egress locks (1008.1.9.8)  
 Location of doors equipped with hold-open devices  
 Location of emergency escape walkways (1029)  
 The square footage of each fire area (902)  
 The square footage of each smoke compartment (407.4)  
 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
0							

**ACCESSIBLE PARKING** (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	PROVIDED	# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
			REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	9' ACCESS AISLE	
Main Parking	8	8	1		1	1
TOTAL						

**STRUCTURAL DESIGN**

**DESIGN LOADS:**  
**Importance Factors:** Wind (I<sub>w</sub>) .87  
Snow (I<sub>s</sub>) .8  
Seismic (I<sub>e</sub>) 1  
**Live Loads:** Roof 20 psf  
Mezzanine psf  
Floor 125 psf  
**Ground Snow Load:** 10 psf  
**Wind Load:** Basic Wind Speed 120 mph (ASCE-7)  
Exposure Category C  
Wind Base Shears (for MWFRS) V<sub>x</sub> = -8.77 V<sub>y</sub> = -7.38

**SEISMIC DESIGN CATEGORY:**  A  B  C  D

Provide the following Seismic Design Parameters:  
**Occupancy Category** (Table 1604.5)  I  II  III  IV  
**Spectral Response Acceleration** S<sub>1</sub> 2.7 %g S<sub>s</sub> 3.7 %g  
**Site Classification** (Table 1612.5.2)  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  
**Seismic base shear:** V<sub>s</sub> = \_\_\_\_\_ V<sub>y</sub> = \_\_\_\_\_  
**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 2000 psf  
Pile size, type, and capacity \_\_\_\_\_  
**SPECIAL INSPECTIONS REQUIRED:**  Yes  No

**PLUMBING FIXTURE REQUIREMENTS** (TABLE 2902.1)

SPACE	EXISTING	WATERCLOSETS		URINALS		LAVATORIES		SHOWERS/TUBS	DRAINING FOUNTAINS	
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE		REGULAR	ACCESSIBLE
NEW	1	UNISEX	0	1	UNISEX				0	
REQUIRED	1			1						

**SPECIAL APPROVALS**

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

Exterior wall opening area with respect to distance to assumed property lines (705.8)  
 Existing structures within 30' of the proposed building  
 Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)  
 Occupant loads for each area  
 Exit access travel distances (1016)  
 Common path of travel distances (1014.3 & 1028.8)  
 Dead end lengths (1018.4)  
 Clear exit widths for each exit door  
 Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)  
 Actual occupant load for each exit door

**ENERGY REQUIREMENTS:** ENERGY SUMMARY

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

**Climate Zone:**  3  4  5

**Method of Compliance:**  
 Prescriptive (Energy Code)  
 Performance (Energy Code)  
 Prescriptive (ASHRAE 90.1)  
 Performance (ASHRAE 90.1)

**THERMAL ENVELOPE**

**Roof/Ceiling Assembly** (each assembly)  
Description of assembly: \_\_\_\_\_  
U-Value of total assembly: METAL  
R-Value of insulation: \_\_\_\_\_  
Skylights in each assembly: \_\_\_\_\_  
U-Value of skylight: \_\_\_\_\_  
total square footage of skylights in each assembly: \_\_\_\_\_

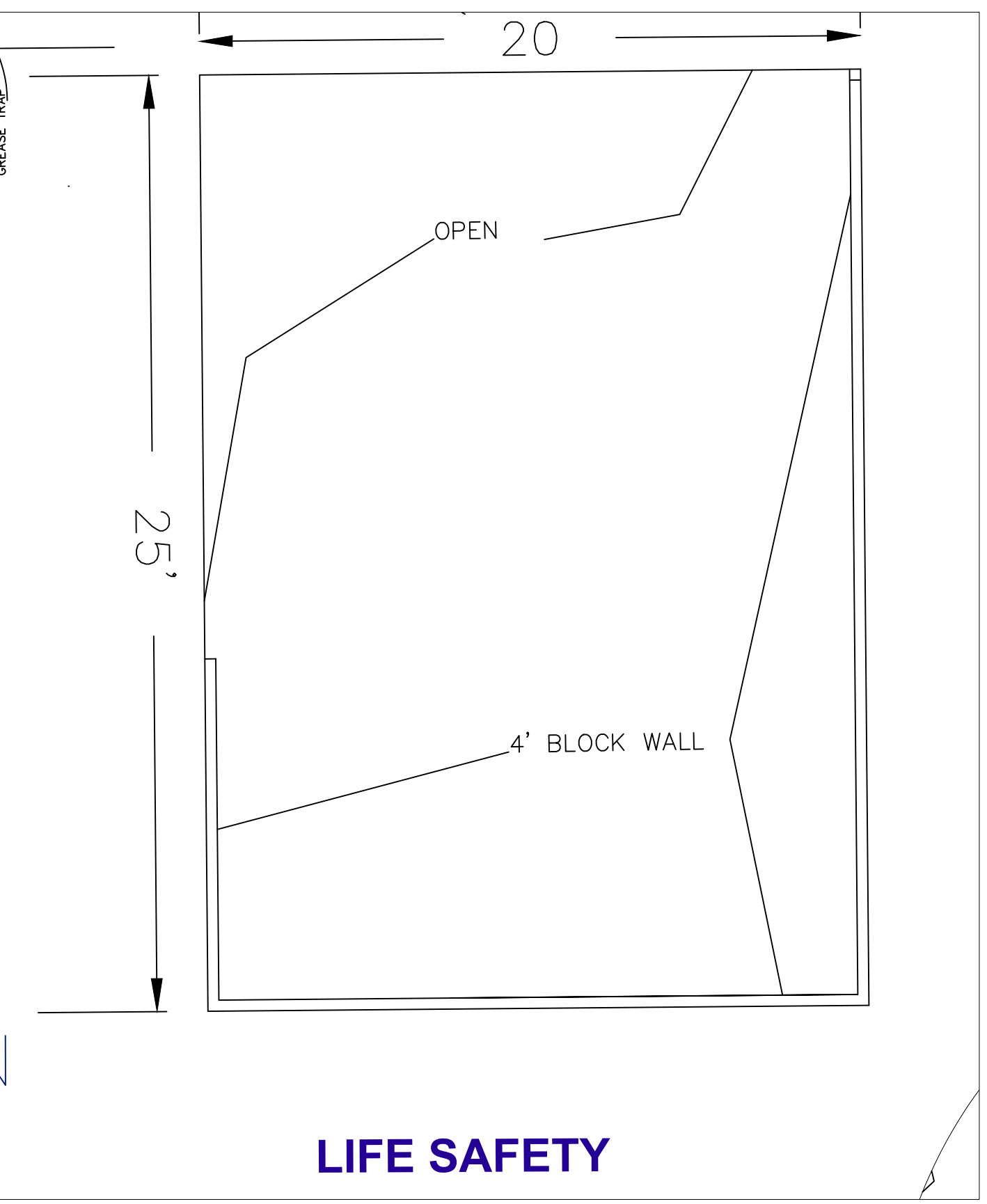
**Exterior Walls** (each assembly)  
Description of assembly: 4' CONCRETE WALLS ON TWO SIDES  
U-Value of total assembly: N/A  
R-Value of insulation: R-15  
Openings (windows or doors with glazing)  
U-Value of assembly: N/A  
Solar heat gain coefficient: \_\_\_\_\_  
projection factor: \_\_\_\_\_  
Door R-Values: N/A

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

**Floors over unconditioned space** (each assembly)  
Description of assembly: CONCRETE 3000 LB  
U-Value of total assembly: \_\_\_\_\_  
R-Value of insulation: \_\_\_\_\_  
Horizontal/vertical requirement: \_\_\_\_\_  
slab heated: \_\_\_\_\_

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

Fire SEPERATION IS 1 HR AS SHOWN ON TABLE 508.4 OF CODE BETWEEN F-2 AND A-2



**MECHANICAL SUMMARY** MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

**Thermal Zone**  
winter dry bulb: 20 F  
summer dry bulb: 95 F

**Interior design conditions**  
winter dry bulb: 70 F  
summer dry bulb: 74 F  
relative humidity: 63%

**Building heating load:** 24000  
**Building cooling load:** 24000

**Mechanical Spacing Conditioning System**  
Unitary  
description of unit: DUCTLESS SYSTEM  
heating efficiency: 14 SEER  
cooling efficiency: 14 SEER  
size category of unit: 24000  
Boiler  
Size category. If oversized, state reason: \_\_\_\_\_  
Chiller  
Size category. If oversized, state reason: \_\_\_\_\_

**List equipment efficiencies:** 63%

**ELECTRICAL SUMMARY** ELECTRICAL SYSTEM AND EQUIPMENT

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

**Lighting schedule** (each fixture type)  
1-8 lamp type required in fixture  
4 number of lamps in fixture  
F9678 ballast type used in the fixture  
1 number of ballasts in fixture  
40-60 total wattage per fixture  
.48 vs. .40 total interior wattage specified vs. allowed (whole building or space by space)  
250 total exterior wattage specified vs. allowed

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

REVISIONS BY

**GREG BAGLEY ENGINEER**  
Engineering / Planning / Surveying  
805 COKEBURY ROAD  
FUQUAY VARINA, NC 27526  
Office (919) 609-0300  
Email: gbg.greg@gmail.com

Professional Engineer Seal: GREG BAGLEY, License No. 12276, State of North Carolina

**ELEVATIONS**

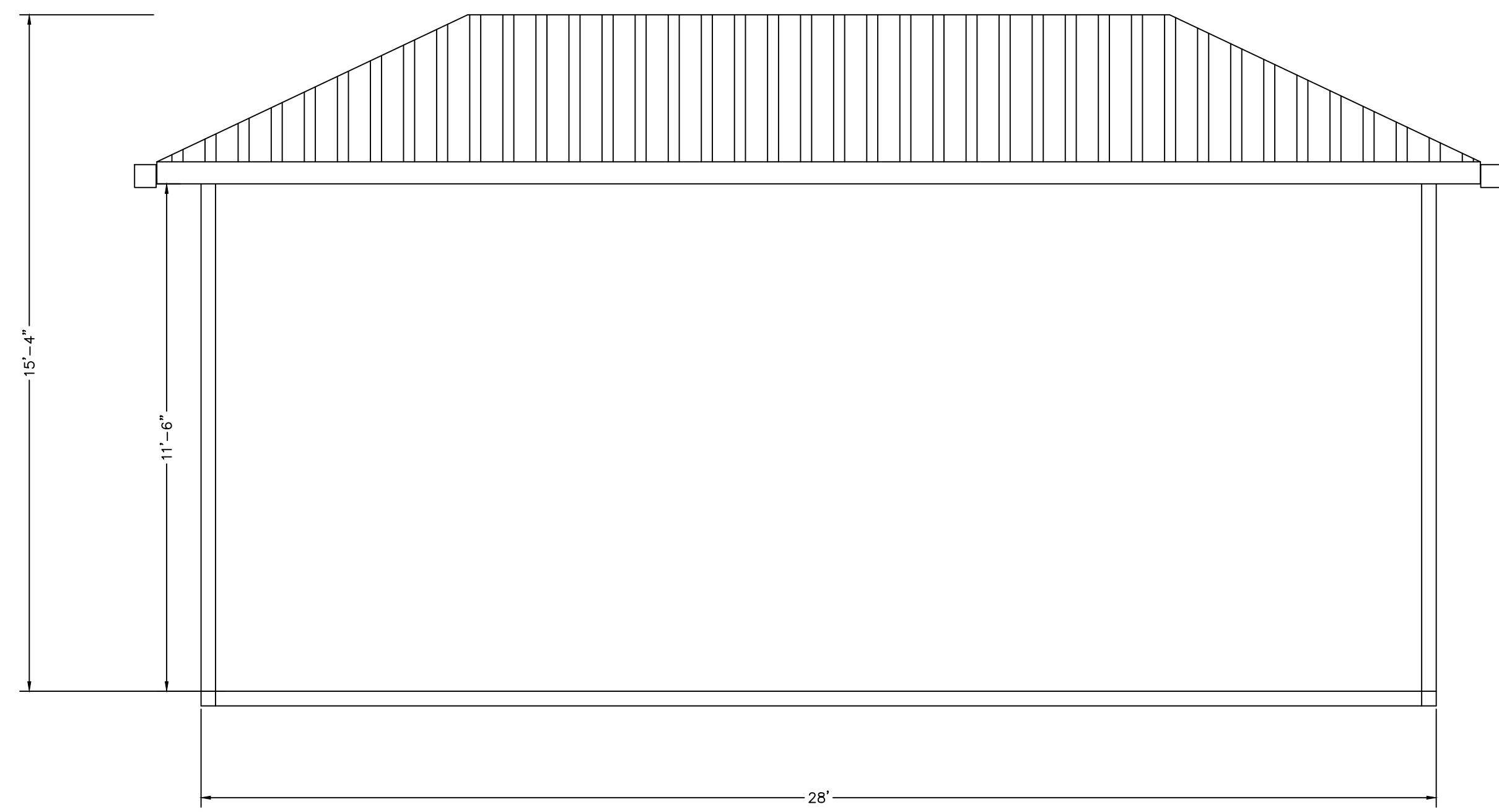
**FOOD LION DISTRIBUTION CENTER**  
DEVELOPED FOR  
**MARK DAVIS**  
**HARNETT COUNTY N.C.**

**DUNN**

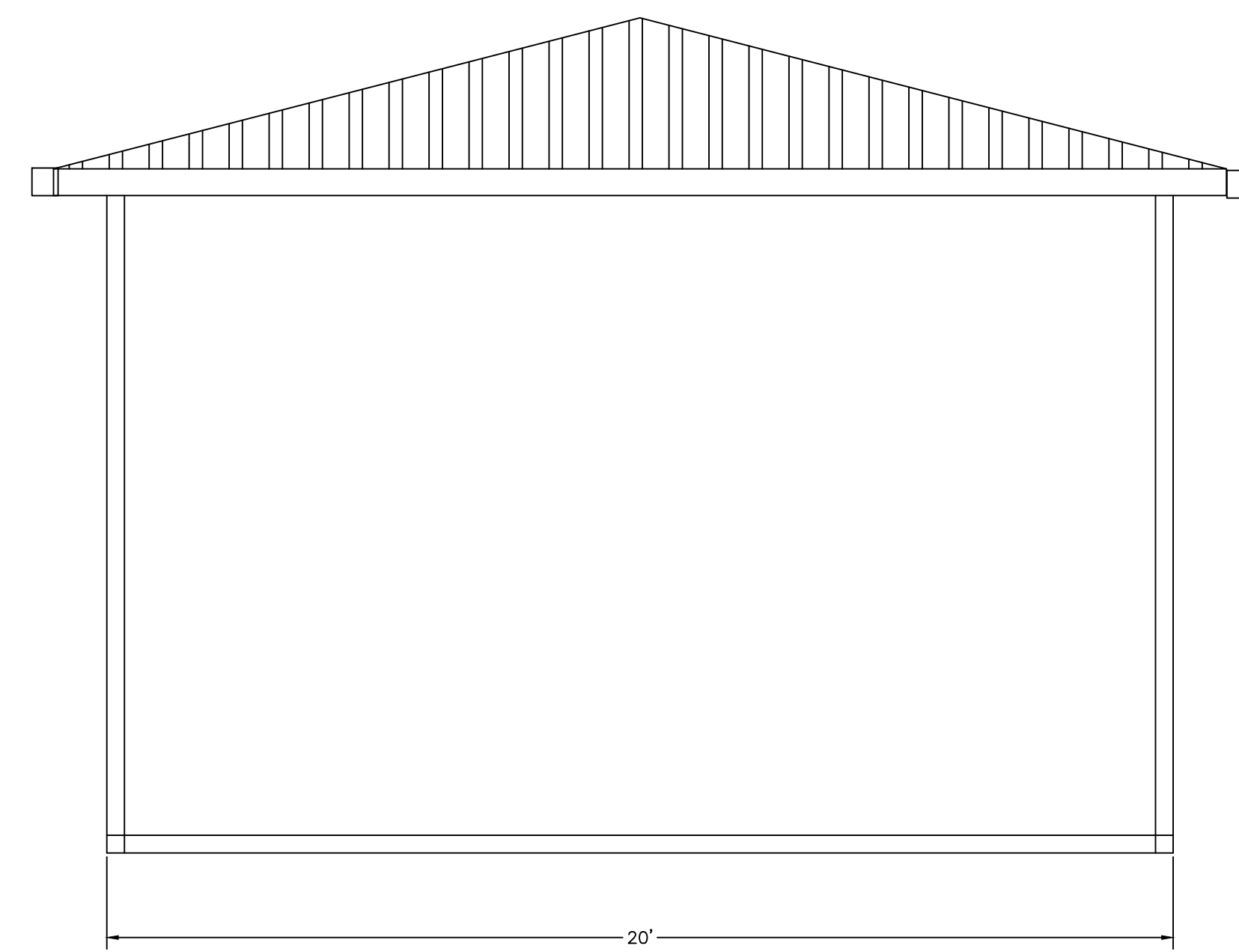
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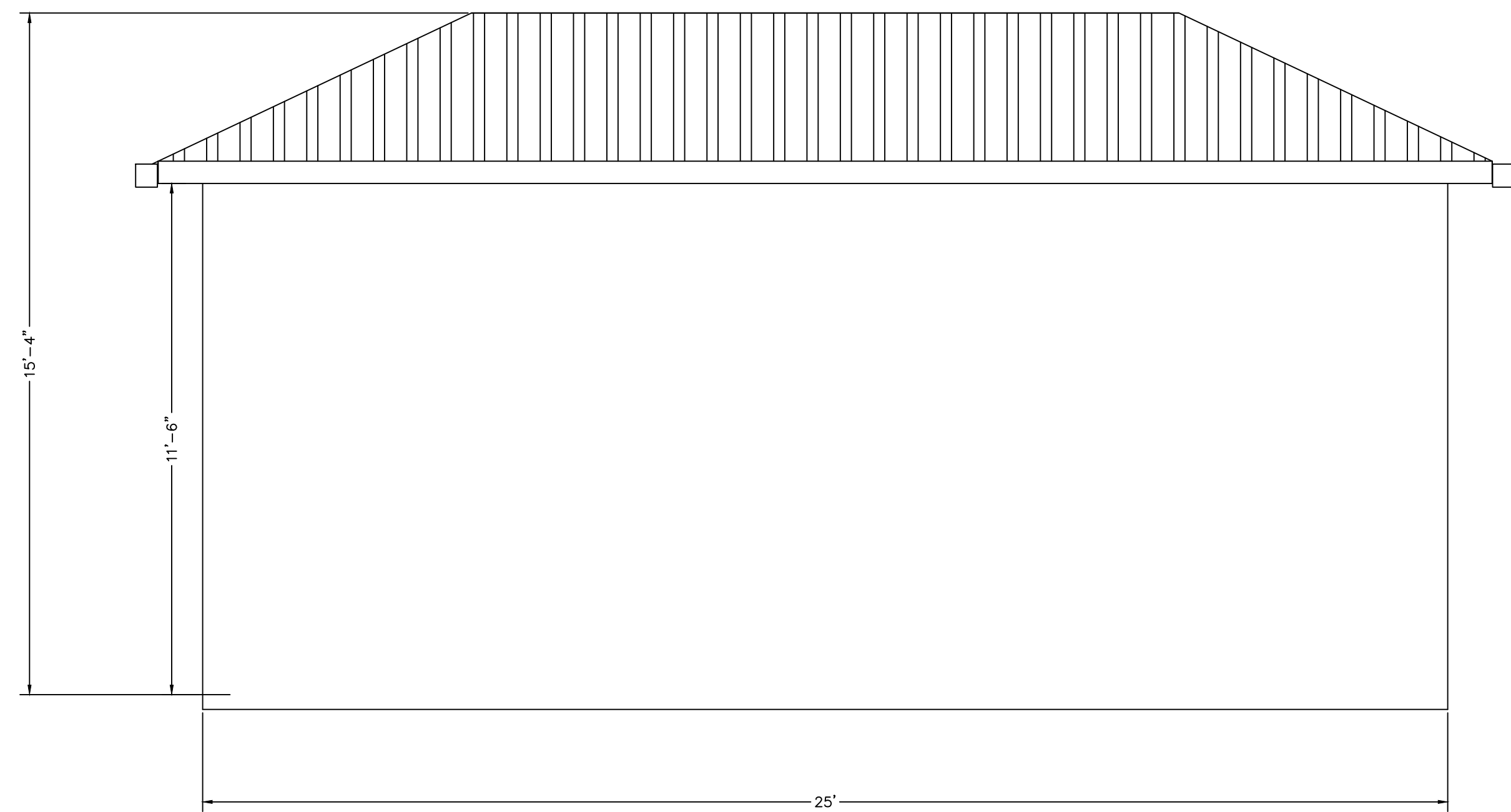




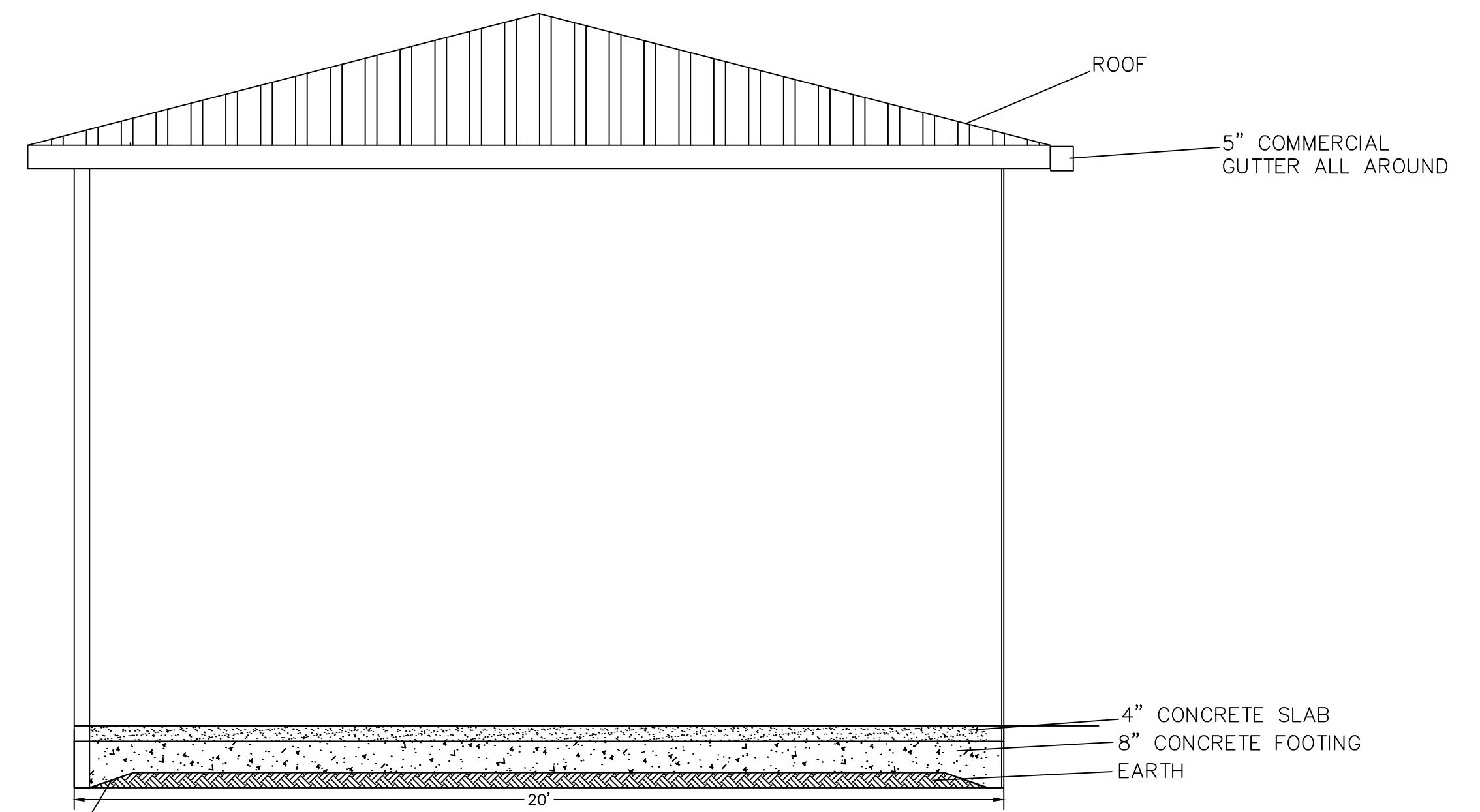
FRONT



LEFT SIDE



REAR



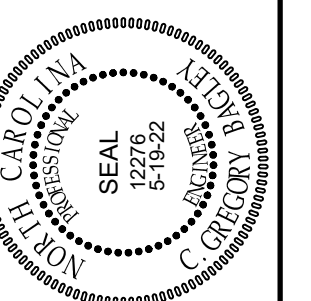
RGHT SIDE

10"x10" x 1/2" BASE PLATE  
3/4"x18" J BOLTS CONNECTED  
TO 2'x2'x16" FOOTER.

FILL AROUND 5" COLUMN A 2'x2' FOOTER

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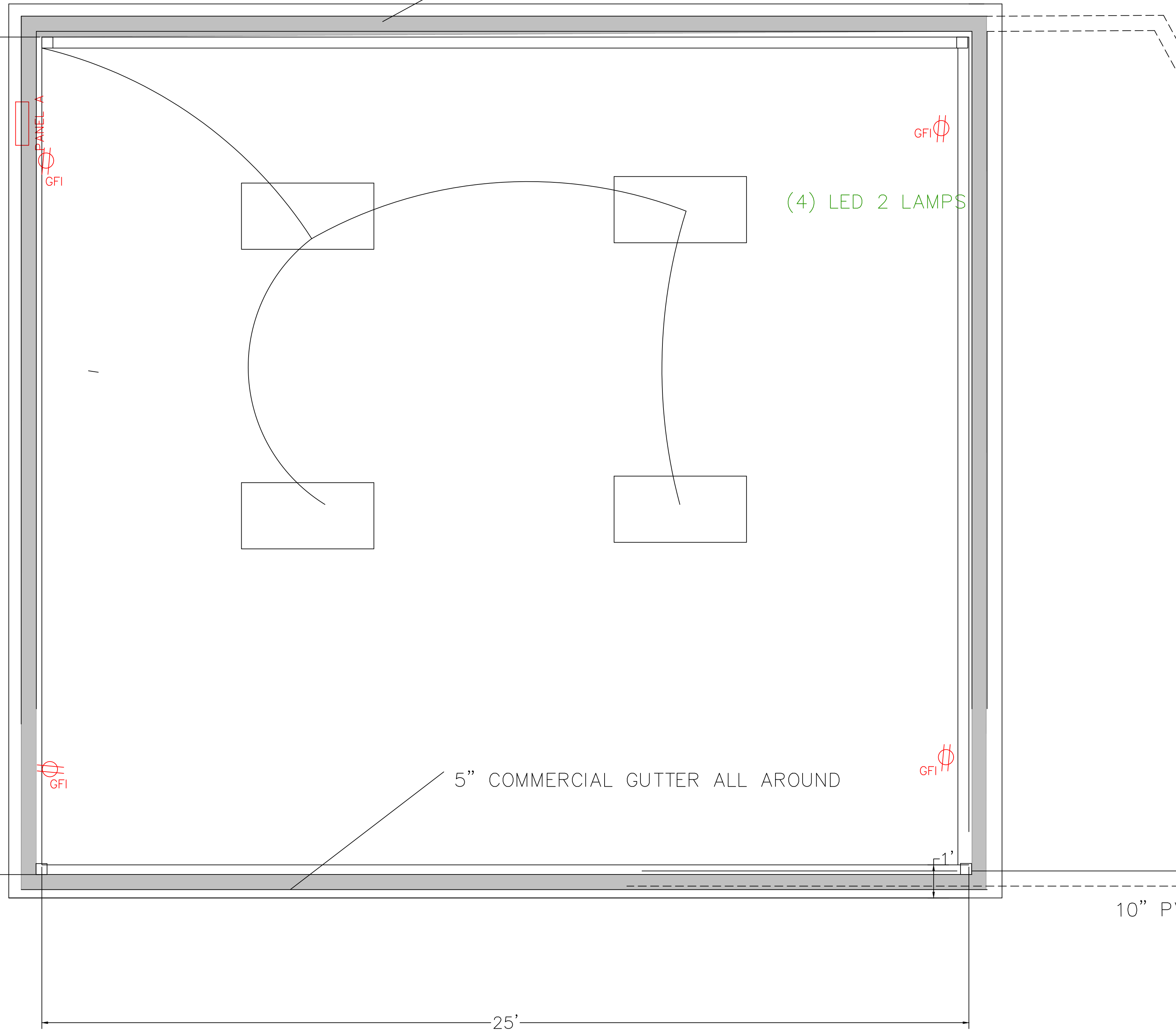


ELEVATIONS

FOOD LION DISTRIBUTION CENTER  
DEVELOPED FOR  
**MARK DAVIS**  
HARNETT COUNTY N.C.  
**DUNN**

DATE	2-7-2018
SCALE	3/8"=1'-0"
DESIGNED BY	CGB
DRAWN BY	
SHEET	004 ELEV 1

5" COMMERCIAL GUTTER ALL AROUND



**ELECTRICAL**

**ELECTRICAL**

100 AMP SERVICE PANEL A  
VOLTAGE 208/120V 3 PHASE : 4 WIRE

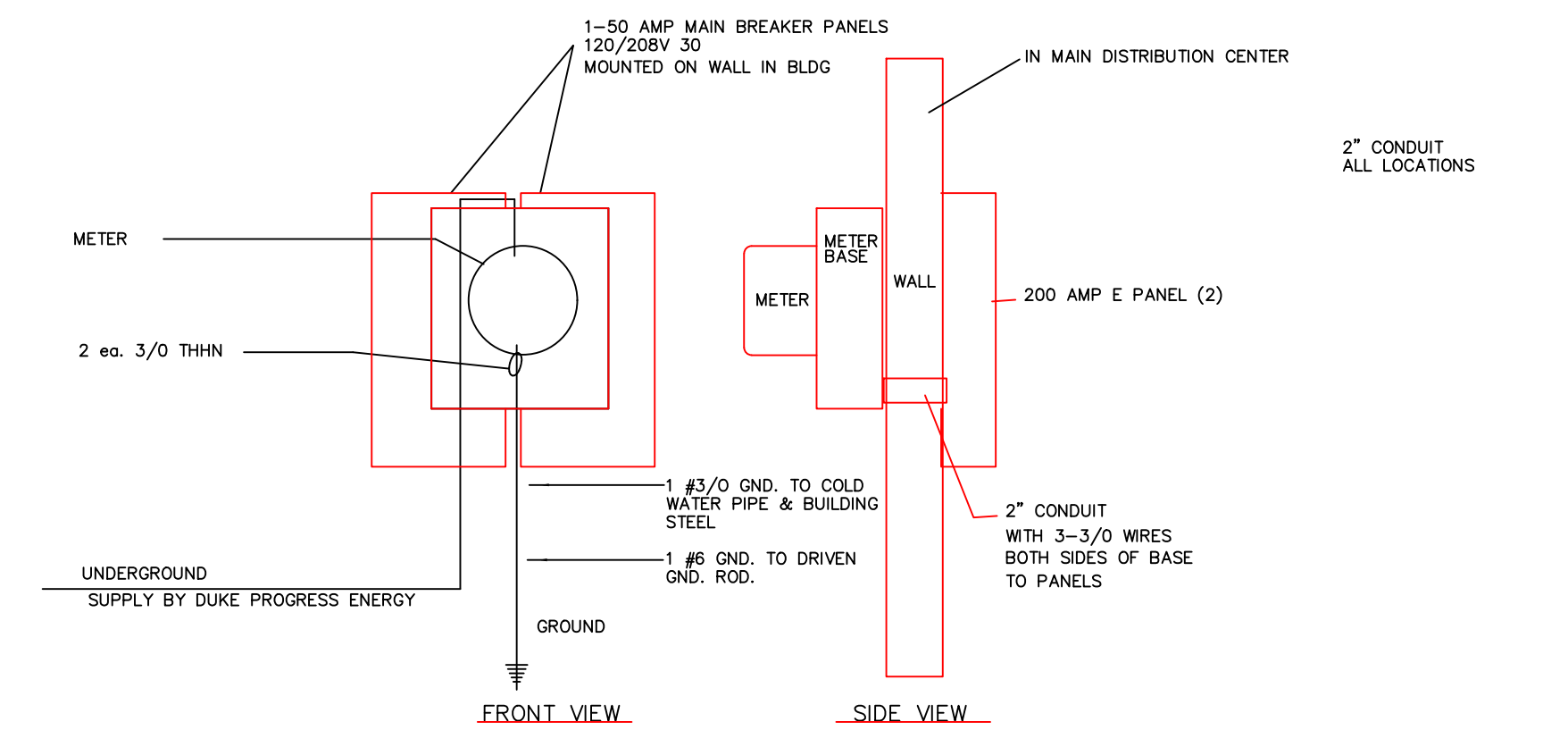
CIRCUIT	DEVICES	BRANCH CIRCUIT	PHASE						BRANCH CIRCUIT	DEVICES					
			1	2	3	4	5	6							
12	20	1	RECEPT		1		10		10		2	RECEPT	1	20	12
12	20	1	RECEPT		3		10		12		4	RECEPT BATH GFI	1	20	12
12	20	1	LIGHTING		5		10		6		8		1	20	12
12	20	2	LIGHTING		7		15		15		8		2	20	12
12	20	2	LIGHTING		9		15		15		10		2	40	8
12	20	1	LIGHTING BATH		11		7		7		12	BATH FAN	1	20	12
12	20	1	EXHAUST FAN/VEN		13		8		15		14	WATER HTR.	2	30	10
12	20	1			15		7		7		16		1	20	12
8	40	1	HVAC		17		8		35		18	HVAC	2	50	8
8	40	1	COOLER		35				35			FREEZER	2	40	8
TOTAL					30		27		33		44			50	32
TOTAL CONNECTED AMPS A -74 B-71 C- 65															

NOTE: ELECTRICAL CONTRACTOR TO PROVIDE AIC RATING PER 2014 NEC

LOAD CALCS.				LIGHTING LOAD CALCS.			
LOAD	CONN (KW)	DEMAND FACTOR	DEMAND LOAD	AREA TABLE 5.5.4 MIN WATTS	50 FT	MAX ALLOWED	PROVIDED
LIGHTING	4.1	125% ****	5.125	OFFICE ENCLOSED	1.11	620	668
RECEPT	8.4	1ST 10 KV - 100% REM -50%	8.4	KITCHEN	1.59	1780	2830
HVAC	38.5	100%	38.5	EXTERIOR	N/A	N/A	1300
SIGN	1.2	125% ****	1.5				
WT	25	125%	31.25				
TOTAL	78.1		84.8				

**ELECTRICAL NOTES**

- ALL RECEPTACLES TO COMPLY WITH NEC 406.14
- AVAILABLE FAULT CURRENT AT PANEL A IS 9,623 A



**ELECTRICAL DIAGRAM**

NO NM CABLE ABOVE CEILING-- CONDUIT ONLY

REVISIONS	BY

**GREG BAGLEY ENGINEER**  
Engineering / Planning / Surveying  
Office (919) 609-0300  
Email: gdb.greg@gmail.com

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**ELECTRICAL**

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DEVELOPED FOR  
**MARK DAVIS**  
HARNETT COUNTY N.C.

**DUNN**

DATE: 2-7-2018  
SCALE: 1/2"=1'-0"  
DESIGNED BY: CGB  
DRAWN BY:  
SHEET: **007 ELEC**