

THREE-BAY SALT STORAGE BUILDINGS

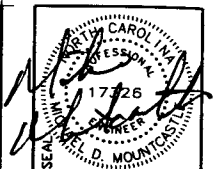
HIGHWAY DIVISION 13, NCDOT

BUNCOMBE COUNTY, NC

SCO ID# 11-09291-01A

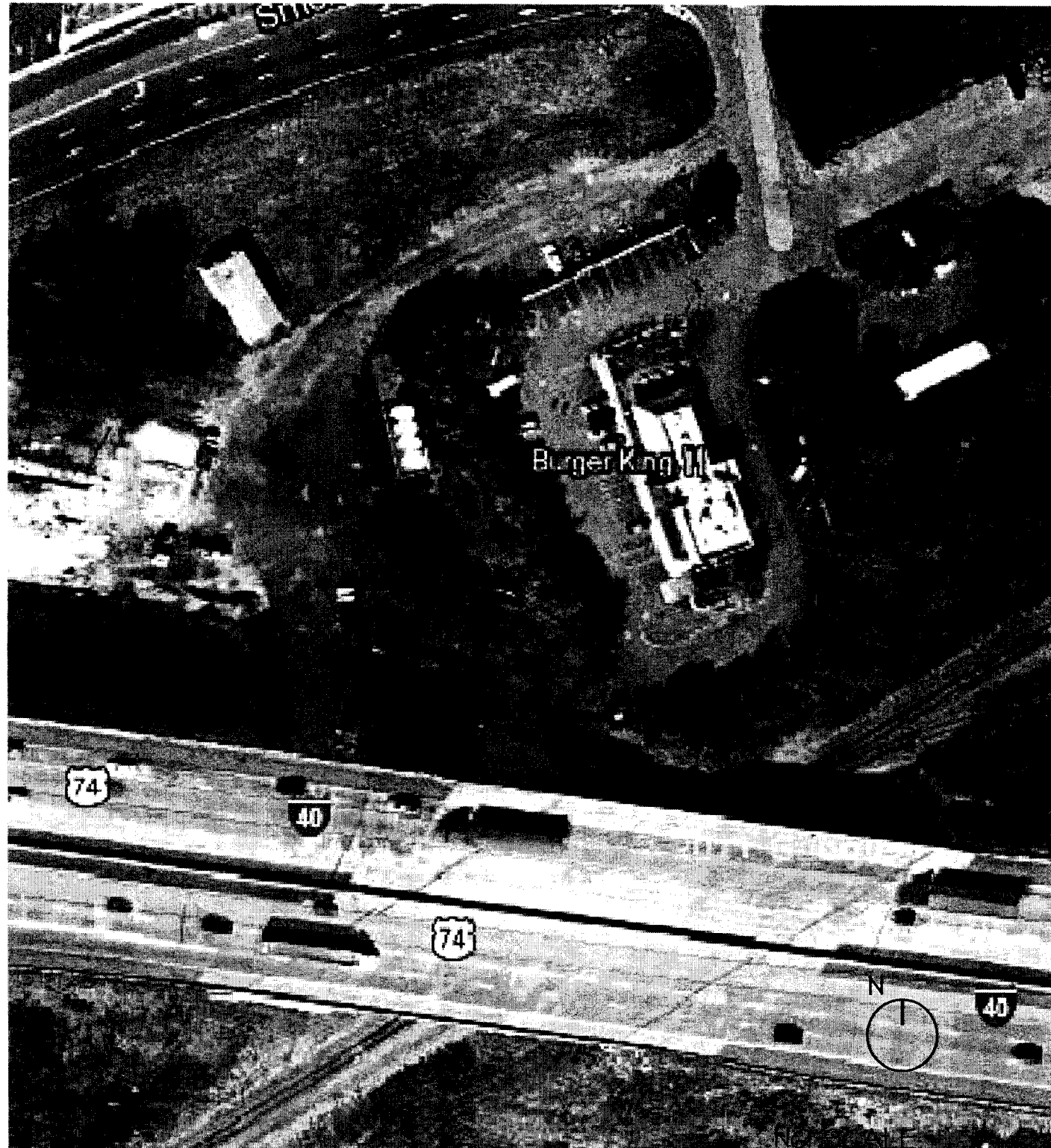
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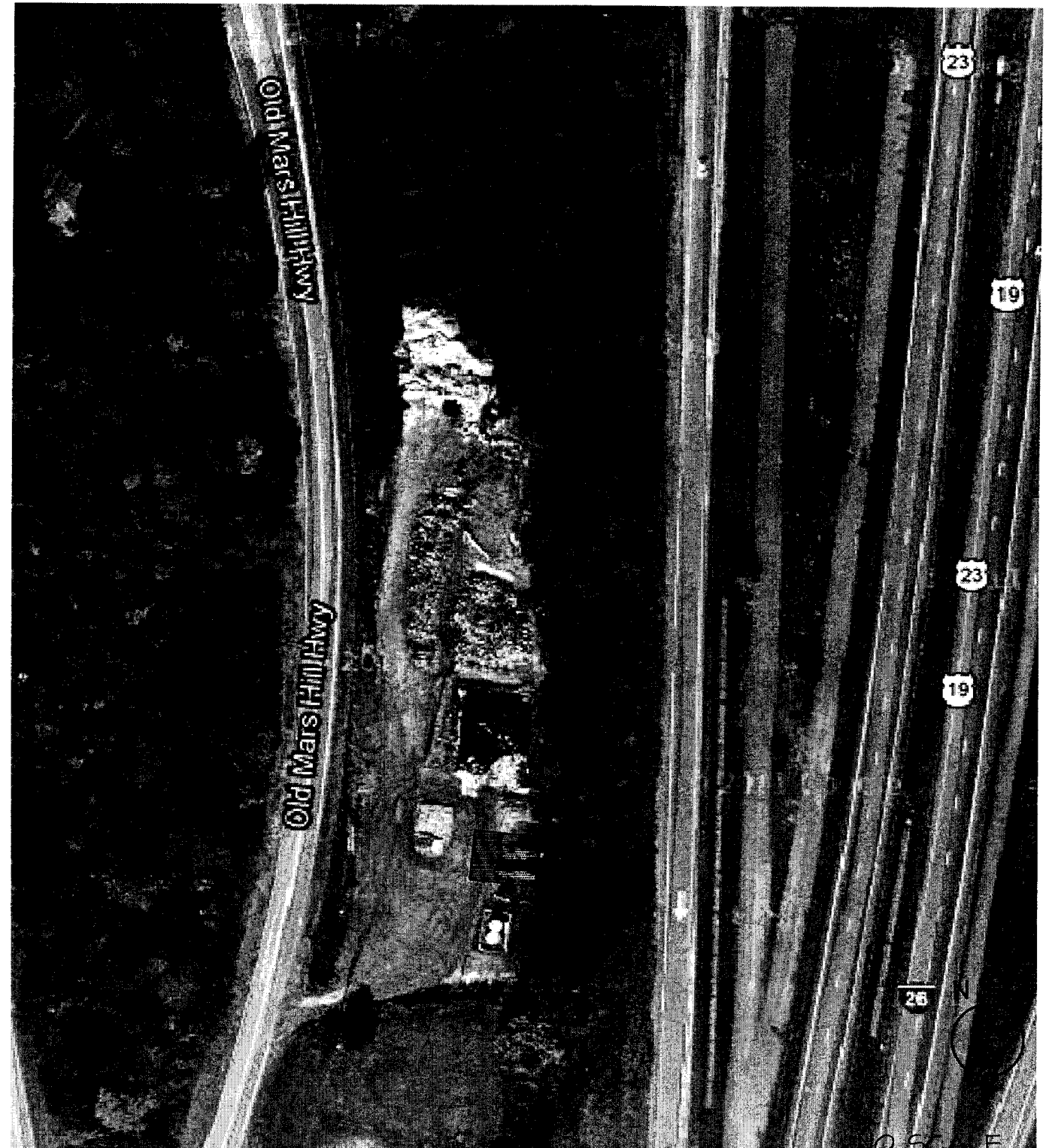


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CANDLER



JUPITER



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ARCHITECTS & ENGINEERS
 GENERAL SERVICES DIVISION, NCDOT
 1 SOUTH WILMINGTON STREET
 RALEIGH, NORTH CAROLINA 27601



THREE BAY SALT STORAGE
 HIGHWAY DIVISION 13, NCDOT
 CANDLER & JUPITER, NC
 SCO ID# 11-09291-01A

PROJECT:

REVISIONS NO.	DATE

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T1

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2012 APPENDIX B
BUILDING CODE SUMMARY

Name of Project: THREE BAY SALT STORAGE BUILDING, CANDLER & JUPITER, NC
 Address: SMOKEY PARK HWY, CANDLER, NC & MARS HILL HWY, JUPITER, NC
 Proposed Use: STORAGE
 Owner or Authorized Agent: HIGHWAY DIVISION 13 Phone # 919-707-4551
 Owned By: STATE OF NORTH CAROLINA City/County Private State
 Code Enforcement Jurisdiction: City County

LEAD DESIGN PROFESSIONAL:
 DESIGNER FIRM NAME LICENSE # TELEPHONE # E-MAIL
 Architectural FACILITIES DESIGN, NCDOT
 SITE "Civil"
 Electrical
 Plumbing
 Mechanical
 Sprinkler-Standpipe
 Structural NCDOT MIKE MOUNTCASTLE 17326 (919) 707-4547 mdmountcastle@ncdot.gov

2012 EDITION OF NC CODE FOR: New Construction Addition Upfit
 EXISTING: Reconstruction Alteration Repair
 CONSTRUCTED ORIGINAL USE RENOVATED CURRENT USE

BUILDING DATA NOTE: BUILDING DATA SHOWN IS FOR EACH OF TWO BUILDINGS
 Construction Type: I-A II-A III-A IV V-A
 I-B II-B III-B V-B
 Mixed construction: No Yes Types
 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
 Building Height: Feet 25'-0" Number of Stories 1
 Mezzanine: No Yes
 Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
1st Floor		2400	2400
TOTAL		2400	2400

ALLOWABLE AREA

Primary 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
 Utility and Miscellaneous Parking Garage Open Enclosed Repair Garage
 Secondary Occupancy: N/A
 Mixed Occupancy: No Yes Separation: _____ Hr. Exception: _____

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA	(C) AREA FOR OPEN SPACE INCREASE	(D) AREA FOR SPRINKLER INCREASE	(E) ALLOWABLE AREA OR UNLIMITED	(F) MAXIMUM BUILDING AREA
1	Storage(S-1)	2400	9000	NOT USED	NOT USED	9000	9000

ALLOWABLE HEIGHT

TYPE:	II-B	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Building height in feet	Feet <u>40</u>	Feet=H+20' = <u>N/A</u>	Feet <u>20'-1"</u>	503	
Building Height in Stories	Stories <u>1</u>	Stories+1 = <u>N/A</u>	Stories <u>1</u>	503	

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL & SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
		REQ'D	PROVIDED W/ REDUCT				
Structural frame, including columns, girders, & trusses	10	0	0	-	-	-	-
Exterior walls	-	0	0	-	-	-	-
Interior Walls and partitions	-	0	0	-	-	-	-
Roof construction	10	0	0	-	-	-	-

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

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

EXIT REQUIREMENTS N/A

STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors: Wind (I_w) 1.0 Live Loads: Roof 20 psf
 Snow (I_s) 1.0 Mezzanine N/A psf
 Seismic (I_e) 1.0 Floor 800 psf
 Snow Load: 15 psf
 Wind Load: Basic Wind Speed 90 mph (ASCE-7-05)
 Exposure Category B
 Wind Base Shears (for MWFRS) $V_x =$ _____ $V_y =$ _____

SEISMIC DESIGN:

Compliance with Section 1616.4 only? YES NO
 SEISMIC DESIGN CATEGORY A B C D
 Provide the following Seismic Design Parameters:
 Occupancy Category: I II III IV
 Spectral Response Acceleration S_s 40.0 %g S_1 11.0 %g
 Site Classification D Field Test Presumptive
 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 $V_x =$ _____ $V_y =$ _____
 Analysis Procedure Simplified _____ Equivalent Lateral Force _____ Modal
 Architectural, Mechanical, Components anchored? N/A

LATERAL DESIGN CONTROL: Earthquake _____ Wind X _____ Special Inspection Required?

SOIL BEARING CAPACITIES: _____ Yes No
 Field Test (presumptive) 1500 psf

PLUMBING, ENERGY, ELECTRICAL, & MECHANICAL SUMMARIES - NOT APPLICABLE



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 RALEIGH, NORTH CAROLINA 27601
 919.715-0400 FAX: 919.715-0399



PROJECT:
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 HIGHWAY DIVISION 13, NCDOT
 CANDLER & JUPITER, NC
 SCO ID# 11-09291-01A

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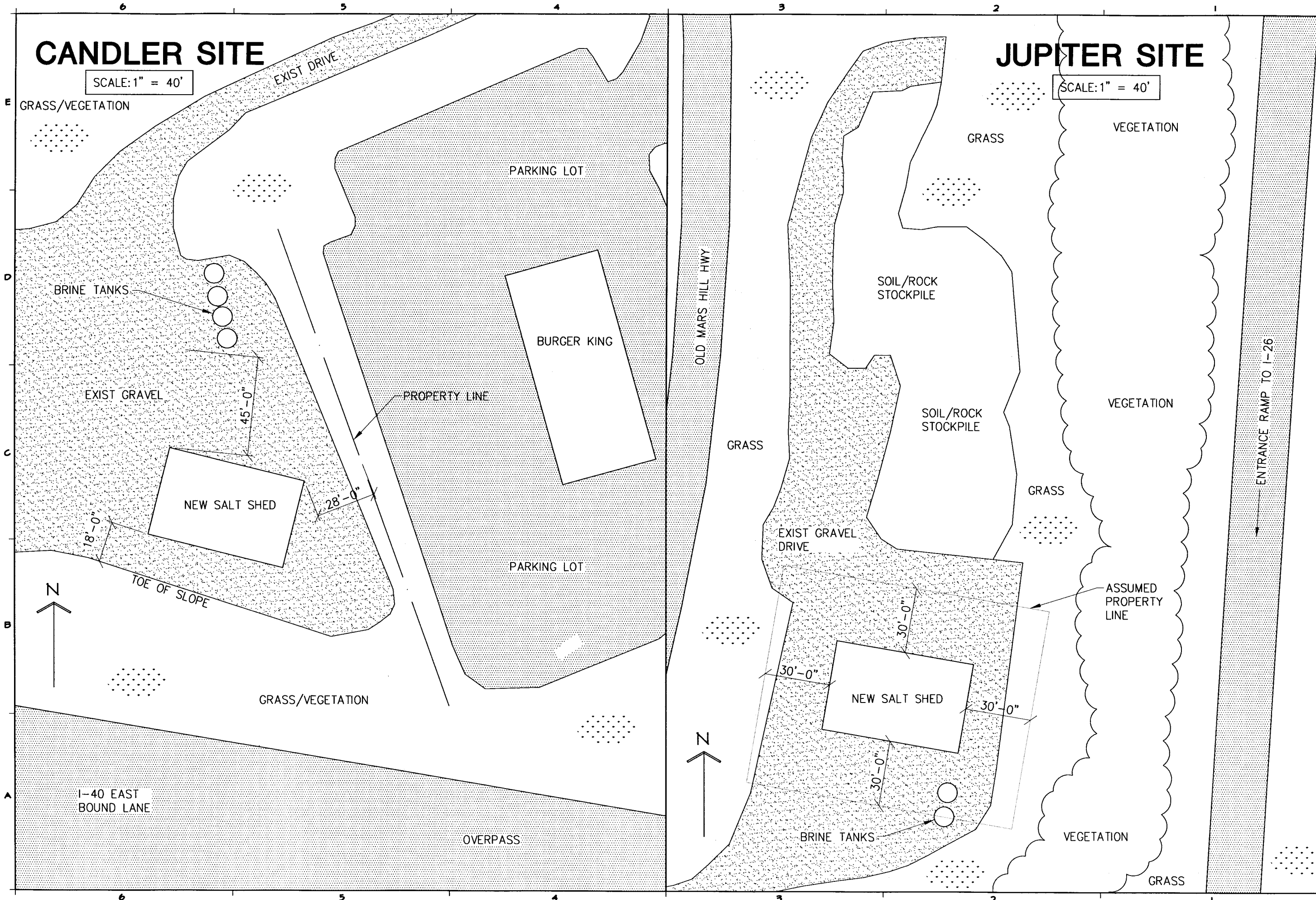
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CANDLER SITE

SCALE: 1" = 40'

JUPITER SITE

SCALE: 1" = 40'



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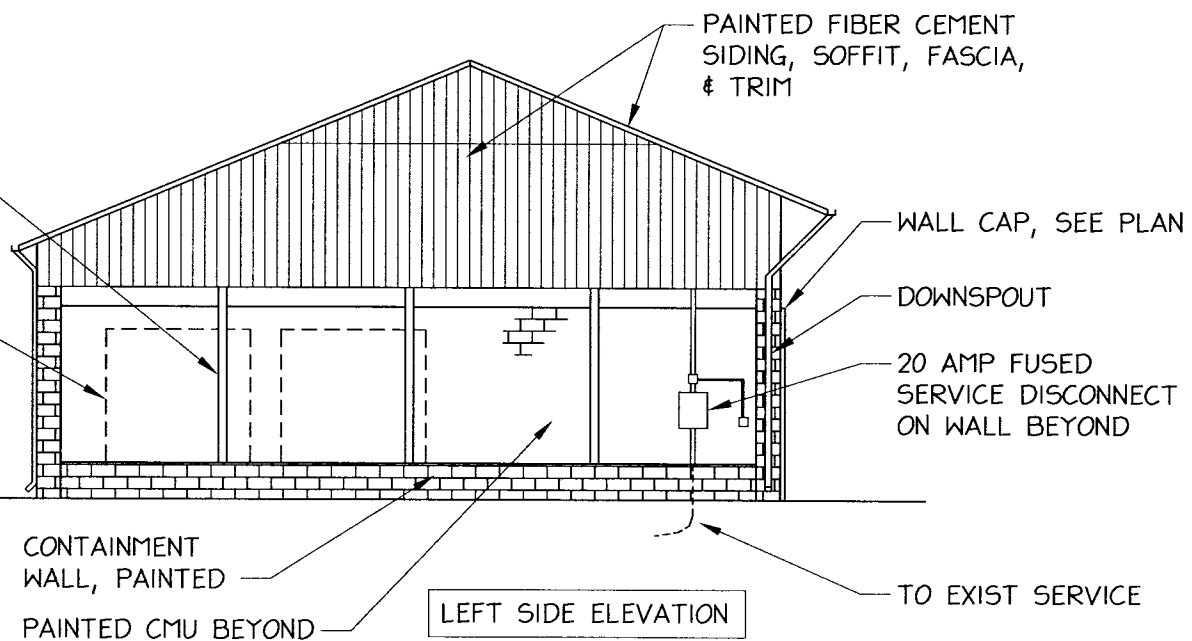
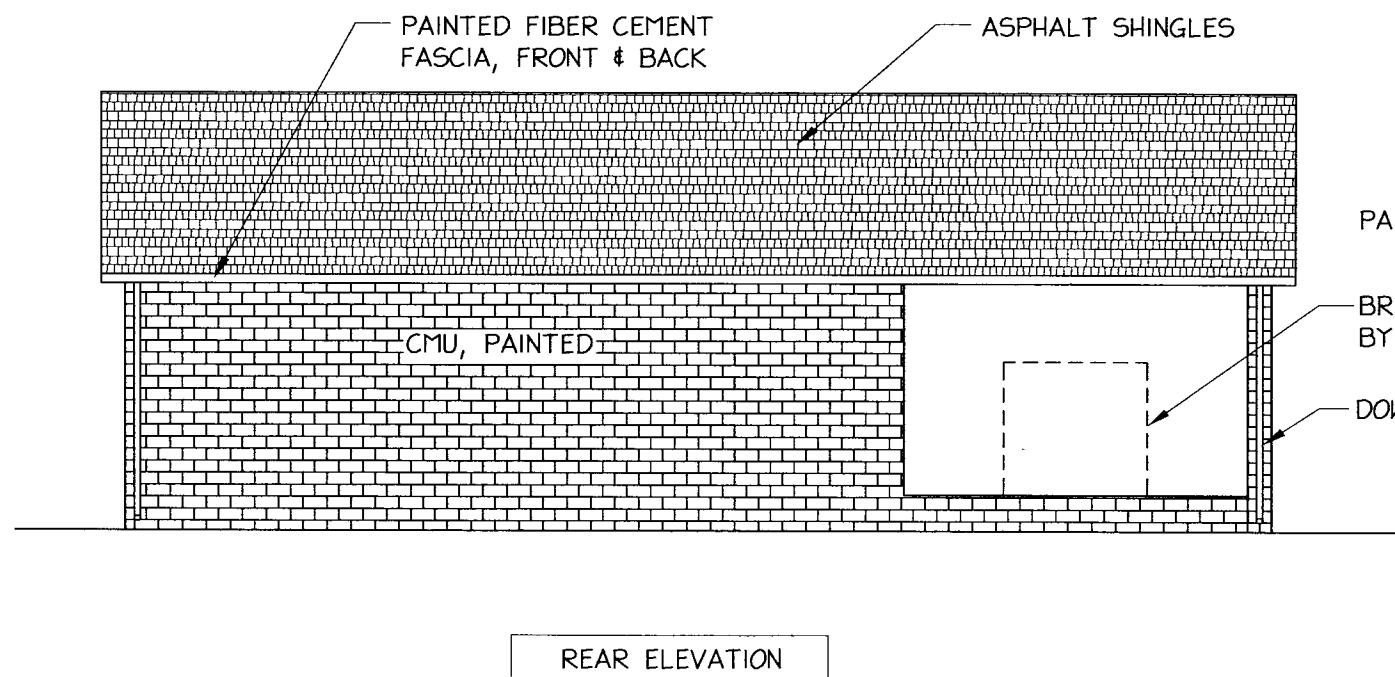
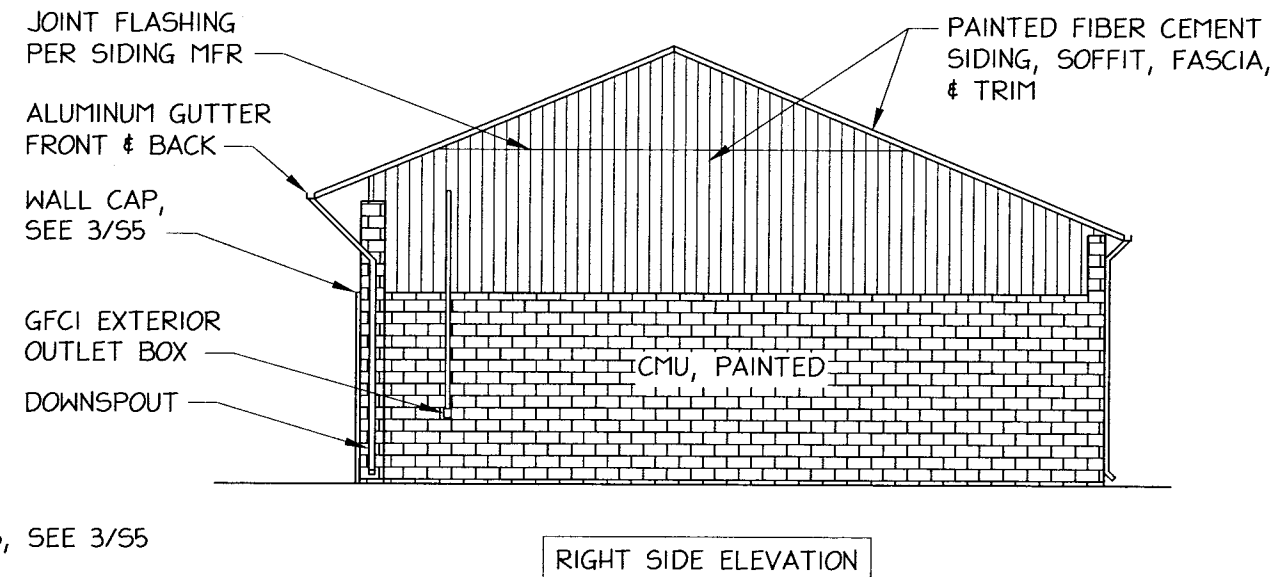
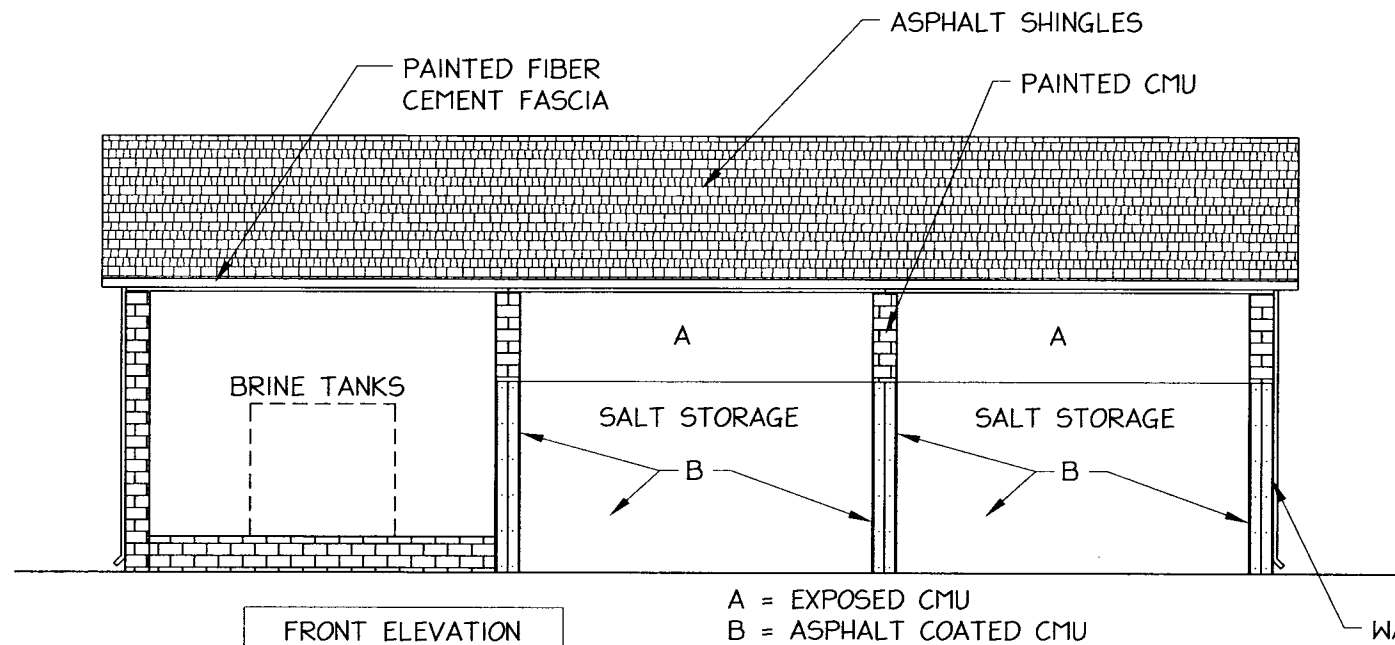
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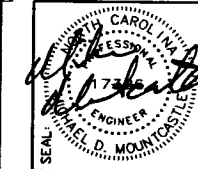
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1. SEE SPECIFICATIONS FOR FURTHER INFORMATION.
2. INSTALL ALL ROOFING, SIDING, & OTHER FINISHES IN ACCORDANCE W/ MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. ALL ELECTRICAL WORK WILL BE FURNISHED & INSTALLED BY THE OWNER. SEE S3 FOR REFERENCE.
4. MAXIMUM BUILDING STORAGE CAPACITY IS APPROXIMATELY 640 TONS OF SALT.



1 BUILDING ELEVATIONS
S1 SCALE: 3/32" = 1'-0"



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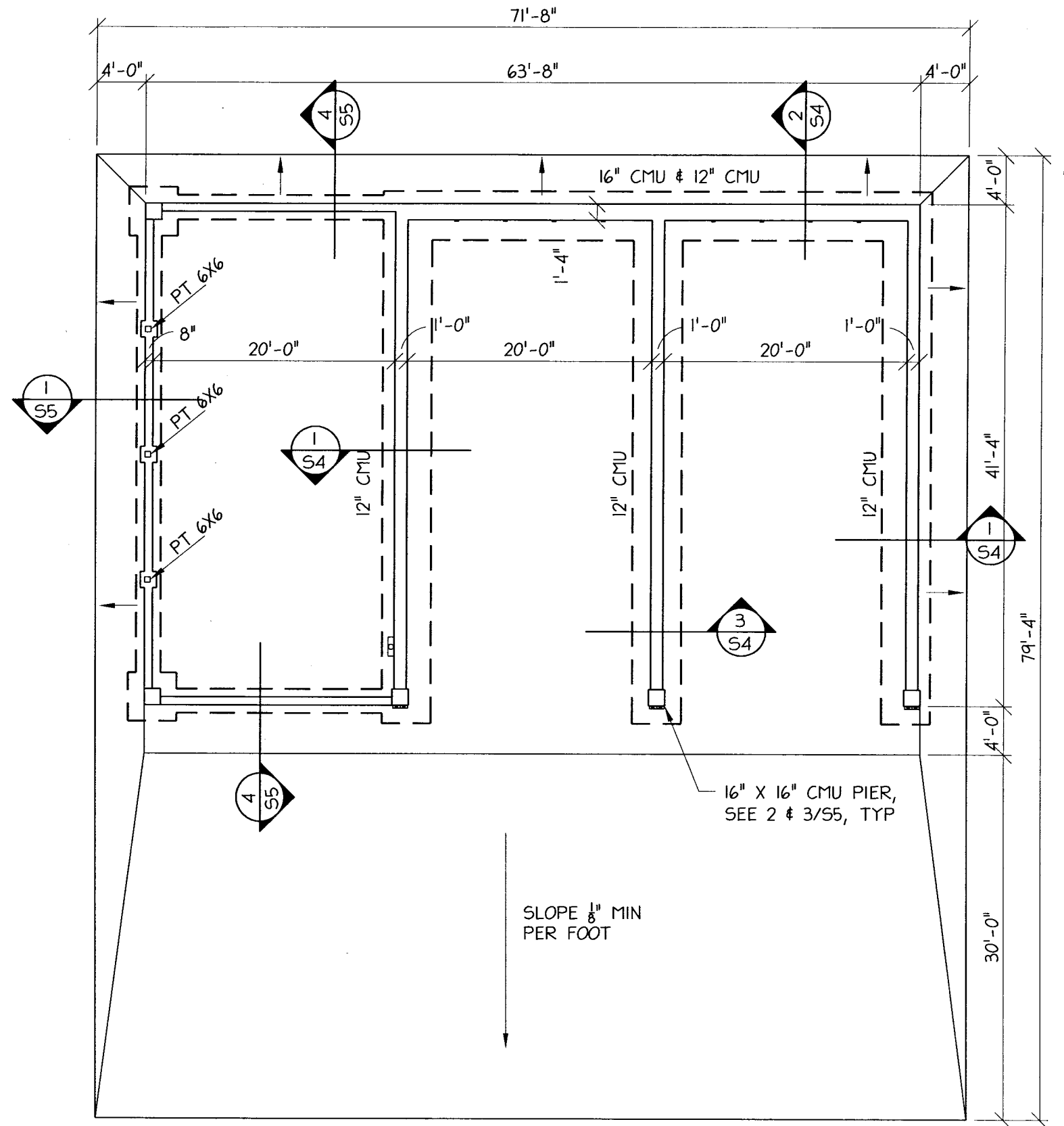
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1. ALL 12" & 16" CMU SHALL BE IVARY BLOCK IN THICKNESS SHOWN ON PLAN, W/ COMPRESSIVE STRENGTH = 3000 PSI.
2. 8" CMU SHALL BE STANDARD UNITS W/ 1900 PSI COMPRESSIVE STRENGTH.
3. GROUT ALL WALLS SOLID W/ 3000 PSI, ASTM C476 GROUT.
4. ALL REINF STEEL SHALL BE ASTM A 615, GR 60. LAP ALL SPLICES 48 X BAR DIAMETER.
5. WOOD STUD WALL SHEATHING SHALL BE 1/2" OSB OR PLYWOOD ON BOTH SIDES, ATTACHED W/ 8D NAILS @ 6" O.C. ON PANEL EDGES & 8" O.C. AT INTERIOR, UON. PANELS SHALL BE APA RATED SHEATHING, EXPOSURE 1. PROVIDE BLOCKING AT ALL PANEL EDGES ON EXTERIOR WALLS.
6. ALL WOOD NOTED AS PT SHALL BE PRESSURE TREATED IN ACCORDANCE W/ AWPA STANDARDS.
7. PROVIDE CONT 2X4 OR PAINTED STRIPE AS DIRECTED BY OWNER AT +10'-0" TO INDICATE MAX DEPTH OF SALT AGAINST WALL.
8. COORDINATE LOCATION & INSTALLATION OF ELECTRICAL WORK W/ OWNER.
9. COORDINATE BRINE TANK PLUMBING & EQUIPMENT PLACEMENT W/ OWNER.
10. UNLESS OTHERWISE NOTED, ASPHALT IS BY GC & INCLUDES 8" COMPACTED ABC, 4" BASE COURSE, & 2" WEARING COURSE.



1 FDN & PAVING PLAN
 S2 SCALE: 3/32" = 1'-0"

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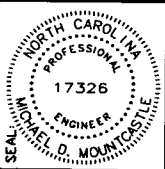
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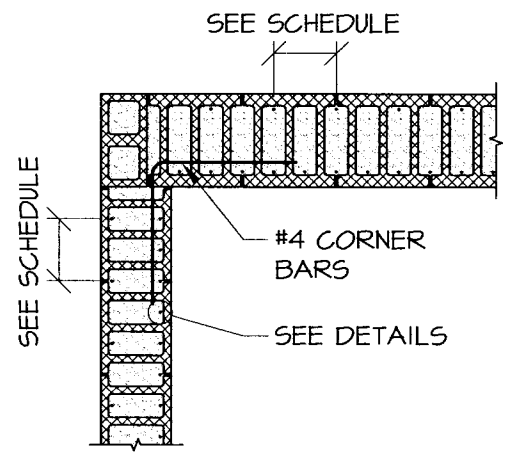
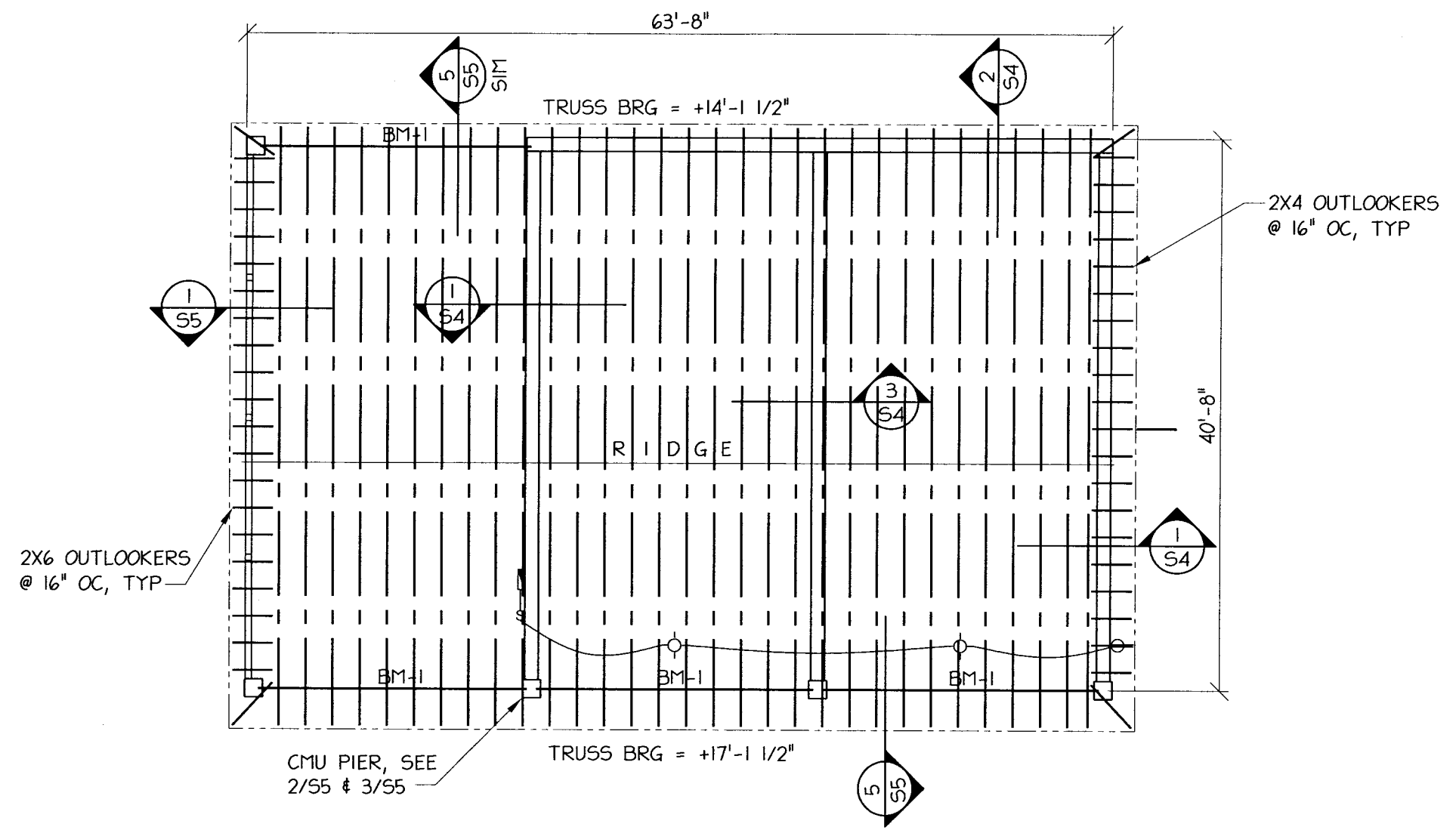
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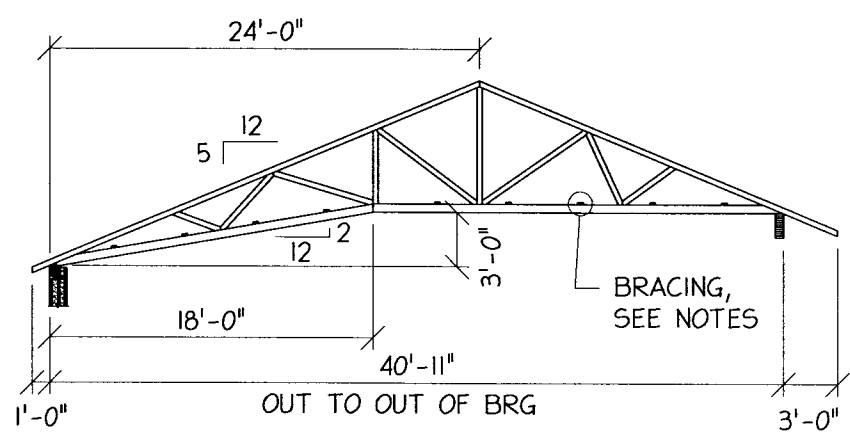
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- E. PROVIDE TRUSS SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NC, SHOWING TRUSS LAYOUT, TRUSS DESIGNS, & REQUIRED BRACING.
2. INSTALL 2X4 BOTT CHORD BRACING AT SPACING PER TRUSS MFR DESIGN.
3. ROOF SHEATHING SHALL BE 5/8" OSB OR PLYWOOD, ATTACHED W/ 10D NAILS @ 6" O.C. ON PANEL EDGES, & @ 8" O.C. AT INTERIOR.
- D. 4. SIDING, VENTED SOFFIT, & FASCIA SHALL BE PAINTED FIBER-CEMENT BOARD, COLOR SELECTION BY OWNER.
5. BM-1 = 5" X 16" GLULAM, 24F-V4, BALANCED.



SPACING SCHEDULE	
WIND SPEED	BAR SPACING
90 MPH	24" OC
110 MPH	16" OC
130 MPH	8" OC

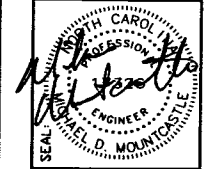
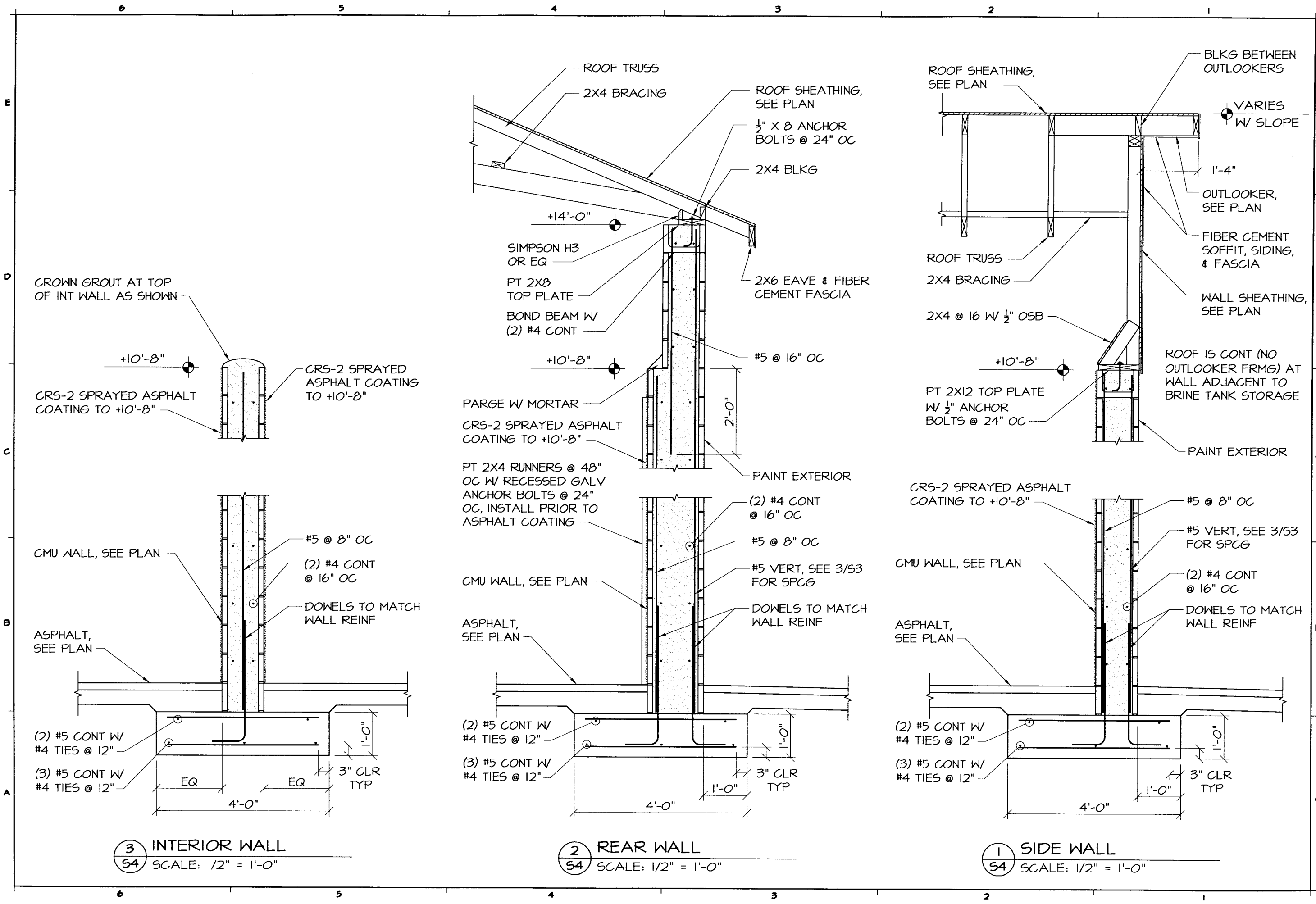


1 ROOF FRMG PLAN
 S3 SCALE: 3/32" = 1'-0"

2 TRUSS PROFILE
 S3 SCALE: 3/32" = 1'-0"

3 REINF DETAILS
 S3 SCALE: 3/8" = 1'-0"

- ELECTRICAL NOTES:**
1. ELECTRICAL WORK WILL BE PROVIDED BY OWNER.
 2. PROVIDE FUSED SERVICE DISCONNECT. ALL WIRING TO BE ENCASED IN PVC. PROVIDE EXTERIOR GFCI OUTLET.
 3. LIGHTS SHALL BE 50W HIGH PRESSURE SODIUM, MODEL HPCT-50, 120V-LL-U, BY LUMARK LIGHTING, OR EQUAL.
 4. MINIMUM LIGHTING SHOWN, ACTUAL WORK MAY VARY.
 5. COORDINATE ALL ELECTRICAL WORK W/ THE STATE CONSTRUCTION OFFICE, 919-807-4127.



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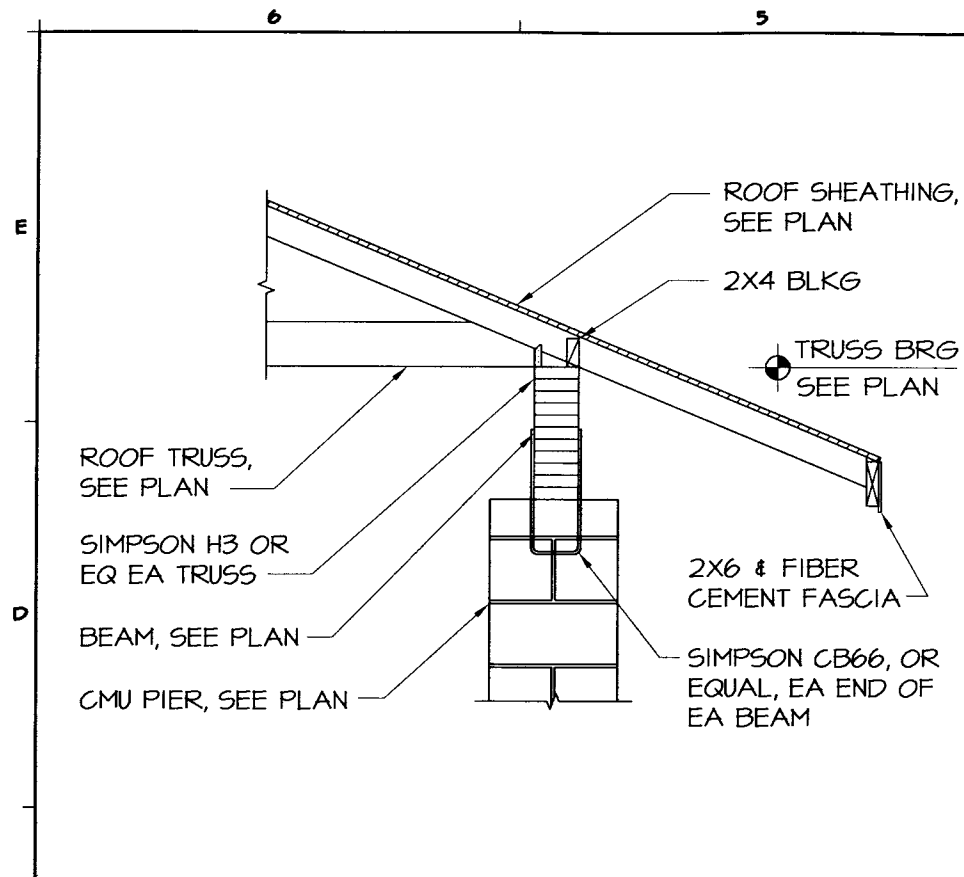
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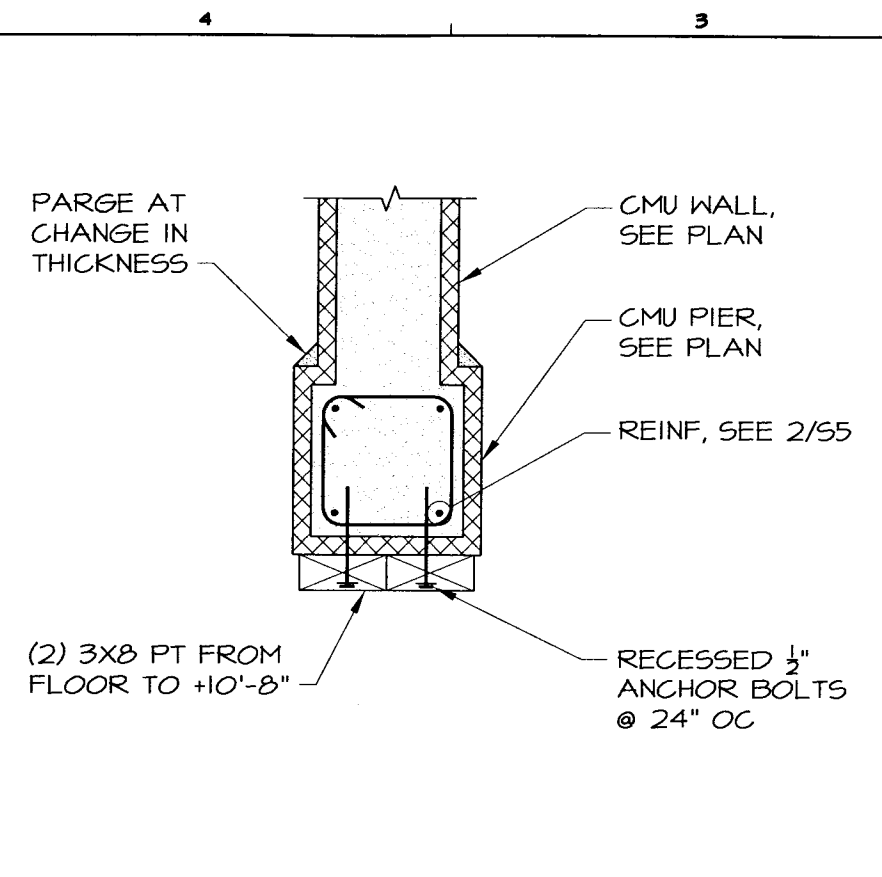
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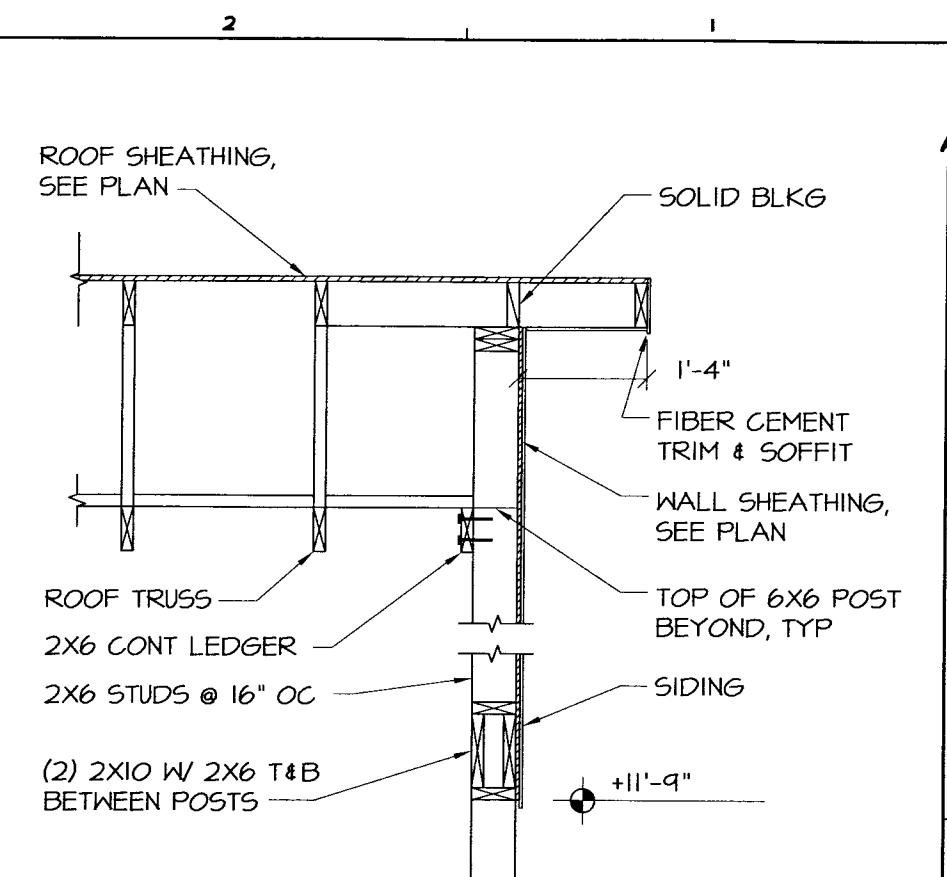
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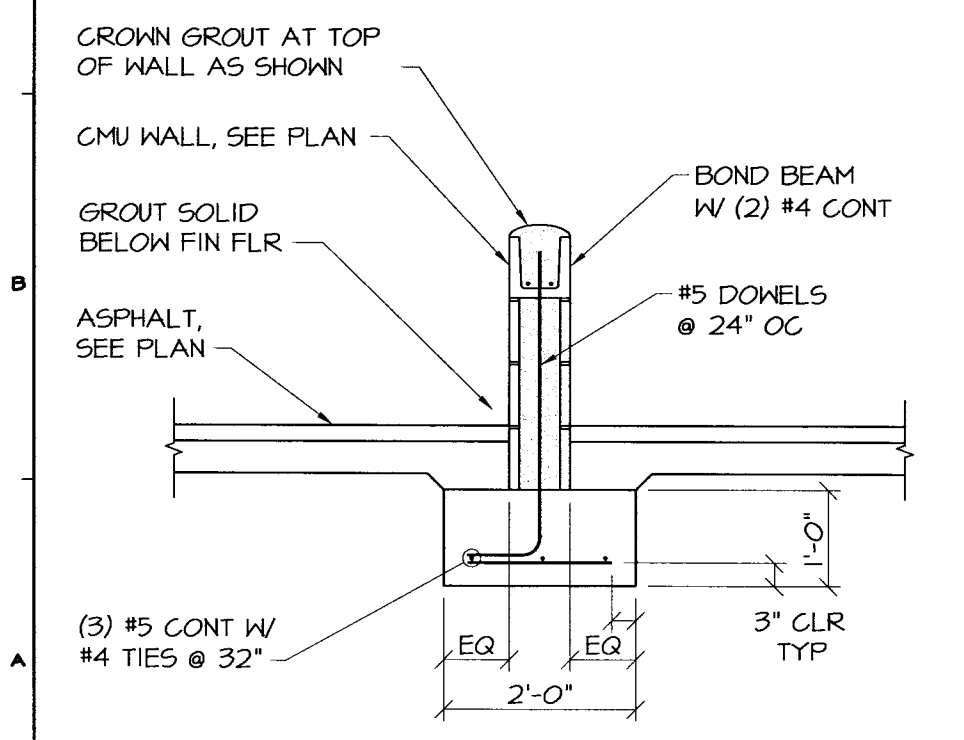
5 TRUSS BRG AT BEAM
55 SCALE: 1/2" = 1'-0"



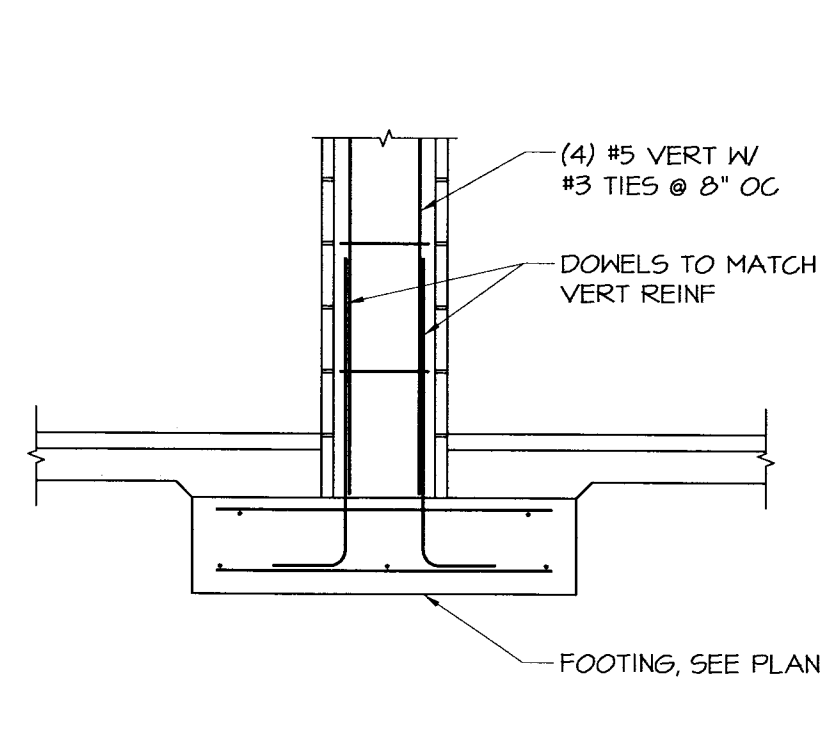
3 CMU PIER, PLAN VIEW
55 SCALE: 3/4" = 1'-0"



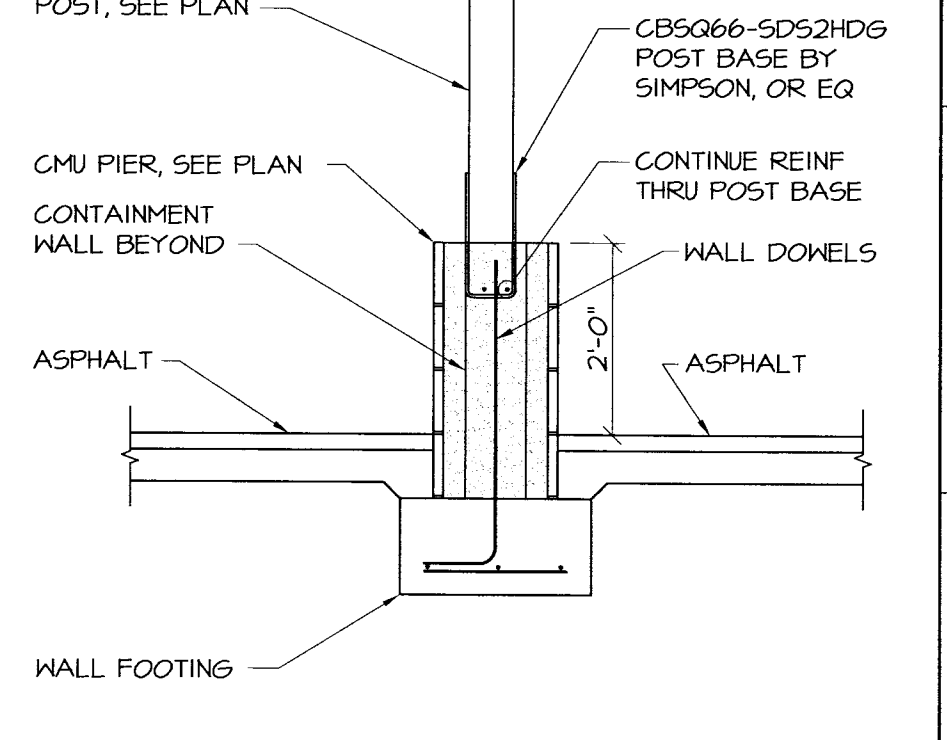
1 SIDE AT BRINE TANK
55 SCALE: 1/2" = 1'-0"



4 CONTAINMENT WALL
55 SCALE: 1/2" = 1'-0"



2 CMU PIER
55 SCALE: 1/2" = 1'-0"



1 SIDE AT BRINE TANK
55 SCALE: 1/2" = 1'-0"

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