STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

GRAY MAINTENANCE SALT SHED

SPECIFICATIONS

Design:
-International Building Code 2009
-ACI 318-08

DESIGN LOADING

Live Load ..... Impact of 30,000lb Vehicle
Ground Snow Load 70psf
Wind Velocity 105mph
..... Exposure C, Catagory I

MATERIALS

Reinforcing Steel ..... ASTM A615, Grade 60, Epoxy Coated
Structural Steel:
All Material (U.N.O.) ..... ASTM A709, Grade 36, Galvanized

BASIC DESIGN STRESSES

Concrete ..... f 'c = 4,000 psi
Reinforcing Steel ..... f y = 60,000 psi

LIST OF DRAWINGS

Title Sheet 1
General Site Plan 2
Foundation Plan 3
Foundation Reinforcing Plan 4
North & South Sidewall Dimensional Details 5
North & South Sidewall Reinforcing Details 6
West (Front) Wall Dimensional Details 7
West (Front) Wall Reinforcing Details 8
East (Back) Wall Dimensional Details 9
East (Back) Wall Reinforcing Details 10
Typical Framing Details 11
East & West End Wall Framing Details 12
Electrical Plan 13

PROJECT LOCATION:	28 Portland Road Gray, Maine 04039
PROGRAM AREA:	Highway Maintenance Program
OUTLINE OF WORK:	Construction of Salt Storage Building

WIN 21249.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER: DATE 3/30/16
CHIEF ENGINEER: DATE 3-30-16

STATE OF MAINE
ERIC J. CALDERWOOD
No. 9099
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE
P.E. NUMBER 9099
DATE JANUARY 2016

PROJECT INFORMATION

PROGRAM	HIGHWAY
PROJECT MANAGER	R. GRADIE
DESIGNER	G. MACALISTER
CONSULTANT	CALDERWOOD ENGINEERING
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

GRAY
MAINTENANCE SALT SHED
TITLE SHEET

SHEET NUMBER
1
OF 13

NOTES:

1.) PAVEMENT LIMITS ON EXTERIOR OF SALT SHED ARE AS SHOWN.

2.) EXACT LOCATION OF THE UNDERDRAIN TERMINATION SHALL BE DETERMINED IN THE FIELD BY THE RESIDENT.

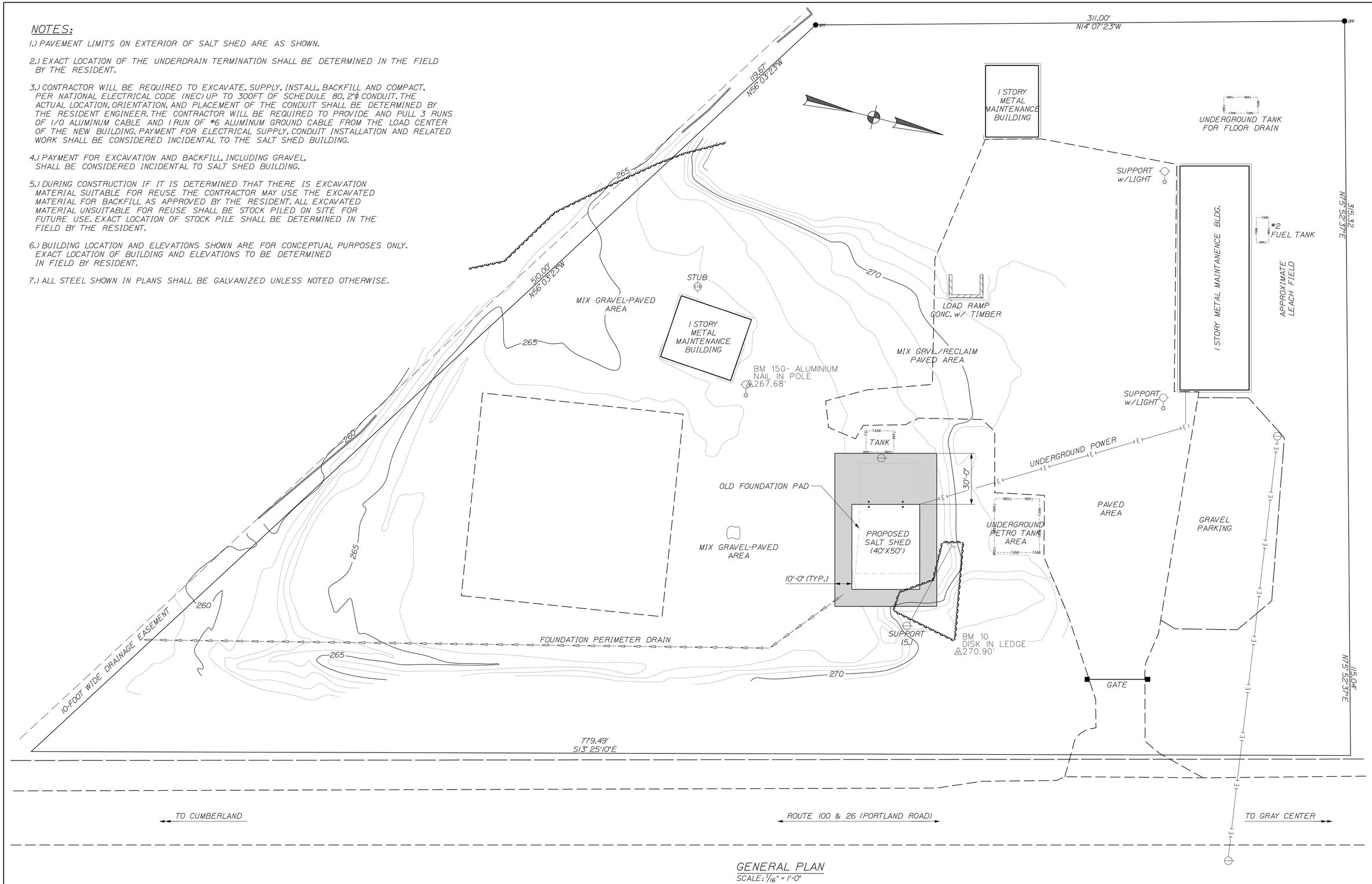
3.) CONTRACTOR WILL BE REQUIRED TO EXCAVATE, SUPPLY, INSTALL, BACKFILL AND COMPACT, PER NATIONAL ELECTRICAL CODE (NEC) UP TO 300FT OF SCHEDULE 80, 2"ϕ CONDUIT. THE ACTUAL LOCATION, ORIENTATION, AND PLACEMENT OF THE CONDUIT SHALL BE DETERMINED BY THE RESIDENT ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE AND PULL 3 RUNS OF 1/0 ALUMINUM CABLE AND 1 RUN OF #6 ALUMINUM GROUND CABLE FROM THE LOAD CENTER OF THE NEW BUILDING. PAYMENT FOR ELECTRICAL SUPPLY, CONDUIT INSTALLATION AND RELATED WORK SHALL BE CONSIDERED INCIDENTAL TO THE SALT SHED BUILDING.

4.) PAYMENT FOR EXCAVATION AND BACKFILL, INCLUDING GRAVEL, SHALL BE CONSIDERED INCIDENTAL TO SALT SHED BUILDING.

5.) DURING CONSTRUCTION IF IT IS DETERMINED THAT THERE IS EXCAVATION MATERIAL SUITABLE FOR REUSE THE CONTRACTOR MAY USE THE EXCAVATED MATERIAL FOR BACKFILL AS APPROVED BY THE RESIDENT. ALL EXCAVATED MATERIAL UNSUITABLE FOR REUSE SHALL BE STOCK PILED ON SITE FOR FUTURE USE. EXACT LOCATION OF STOCK PILE SHALL BE DETERMINED IN THE FIELD BY THE RESIDENT.

6.) BUILDING LOCATION AND ELEVATIONS SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY. EXACT LOCATION OF BUILDING AND ELEVATIONS TO BE DETERMINED IN FIELD BY RESIDENT.

7.) ALL STEEL SHOWN IN PLANS SHALL BE GALVANIZED UNLESS NOTED OTHERWISE.



GENERAL PLAN
SCALE: 1/16" = 1'-0"

CALDERWOOD ENGINEERING, ETC.
STRUCTURAL ENGINEERING • DETAILING SERVICES
222 RIVER RD, RICHMOND, ME 04357 PH/FX (207) 737-2007/(207) 737-2008

PREPARED FOR:
STATE OF MAINE DOT
GRAY, ME SALT SHED
WIN 21249.00

STATE OF MAINE
ERIC N. CALDERWOOD
No. 9099
LICENSED
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P.E. NUMBER
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FIELD CHANGES		

GRAY MAINTENANCE SALT SHED

GENERAL SITE PLAN

SHEET NUMBER
2
OF 13

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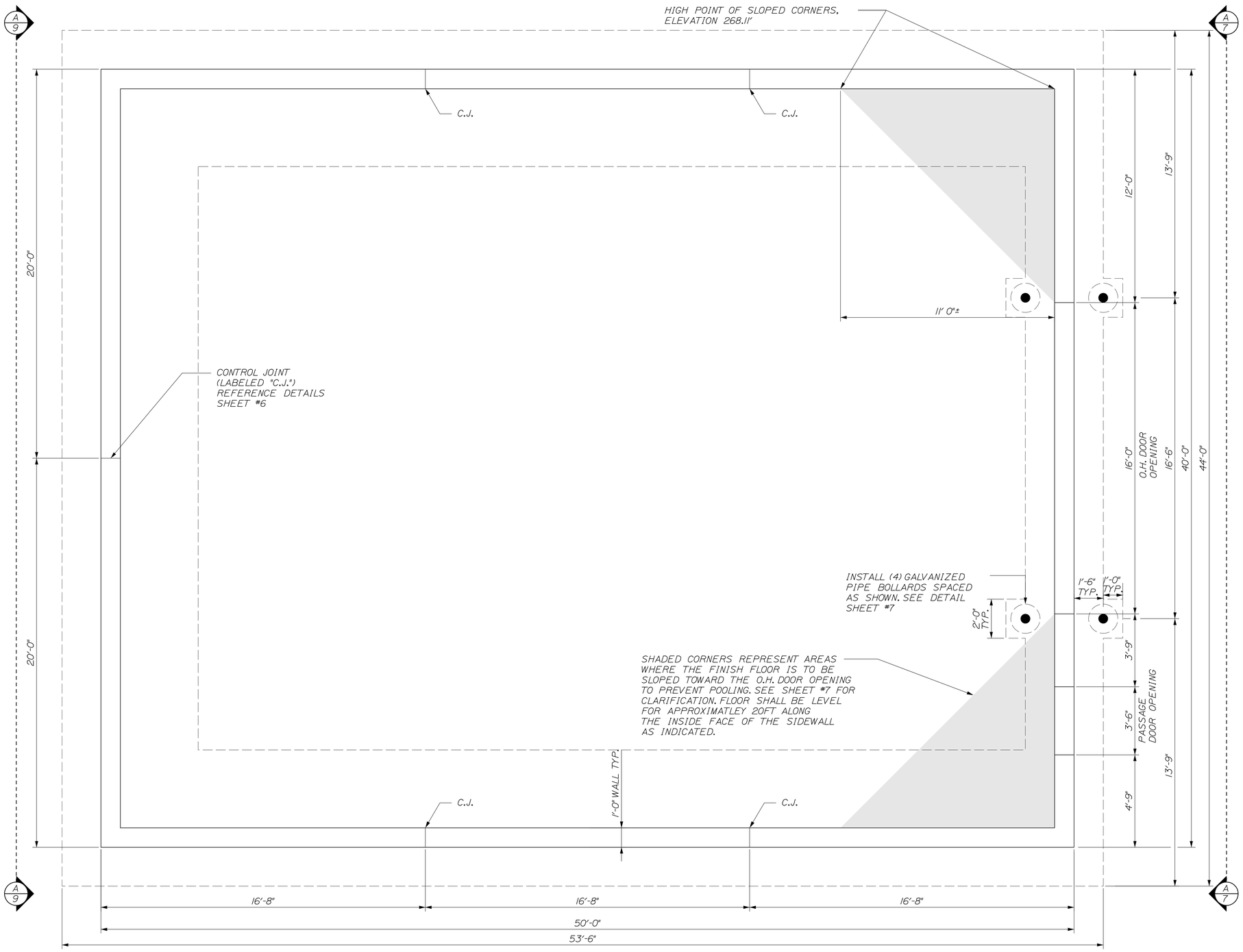

FOUNDATION PLAN
3/8" = 1'-0"

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GRAY MAINTENANCE SALT SHED
FOUNDATION PLAN

SHEET NUMBER
3
OF 13

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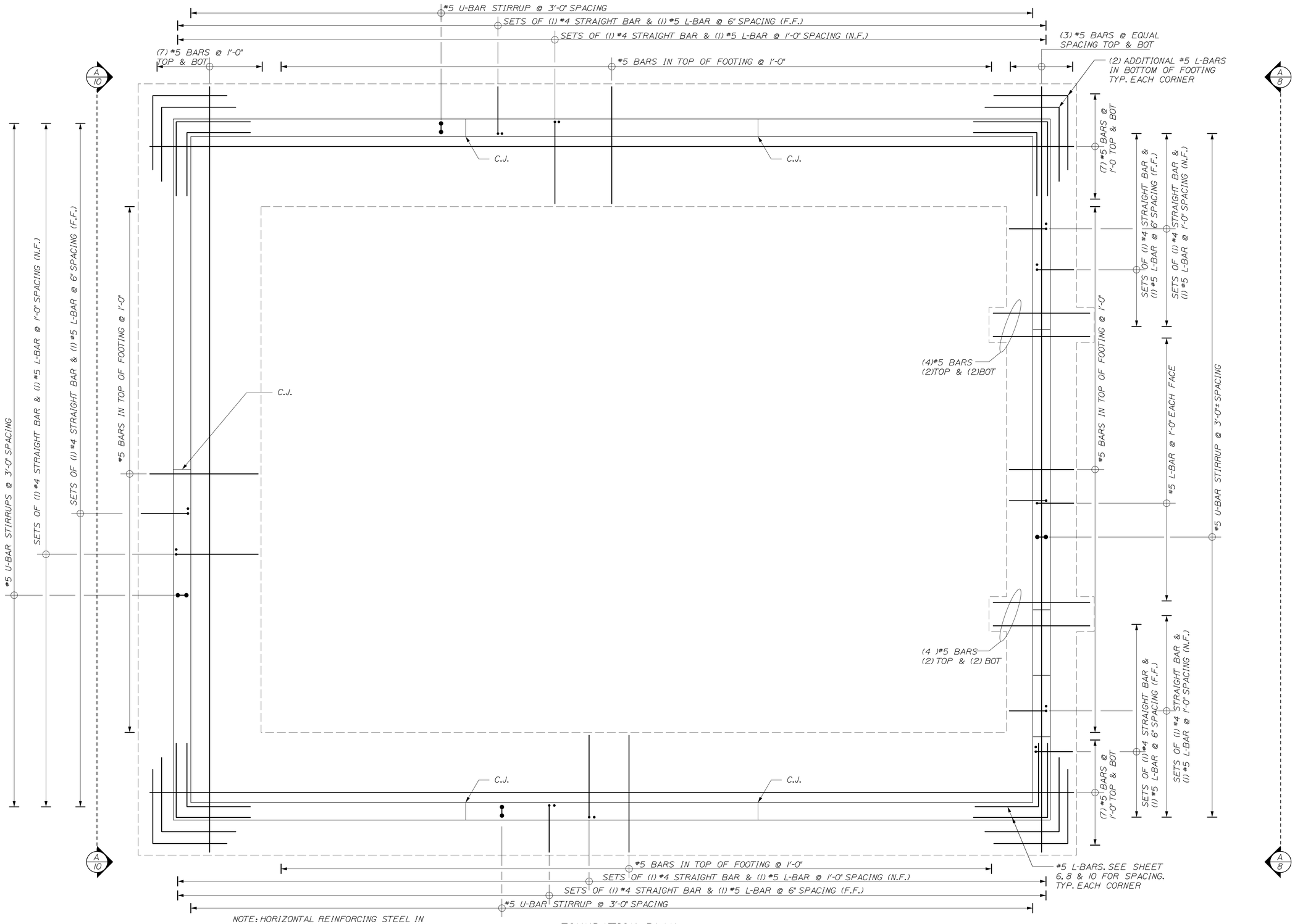

NOTE: HORIZONTAL REINFORCING STEEL IN FOUNDATION WALL NOT SHOWN. SEE SHEETS 6, 8, & 10 FOR DETAILS NOT SHOWN HERE

FOUNDATION PLAN

3/8" = 1'-0"

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GRAY MAINTENANCE SALT SHED

FOUNDATION PLAN REINFORCEMENT

SHEET NUMBER

4

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CALDERWOOD ENGINEERING
ERIC N. CALDERWOOD
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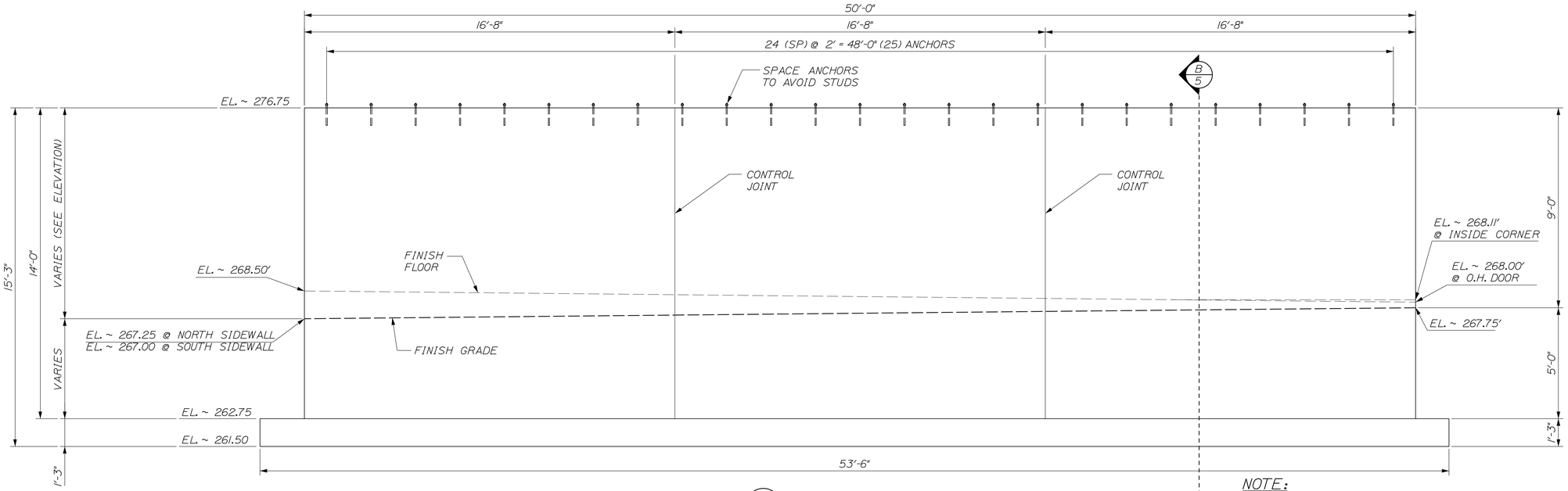
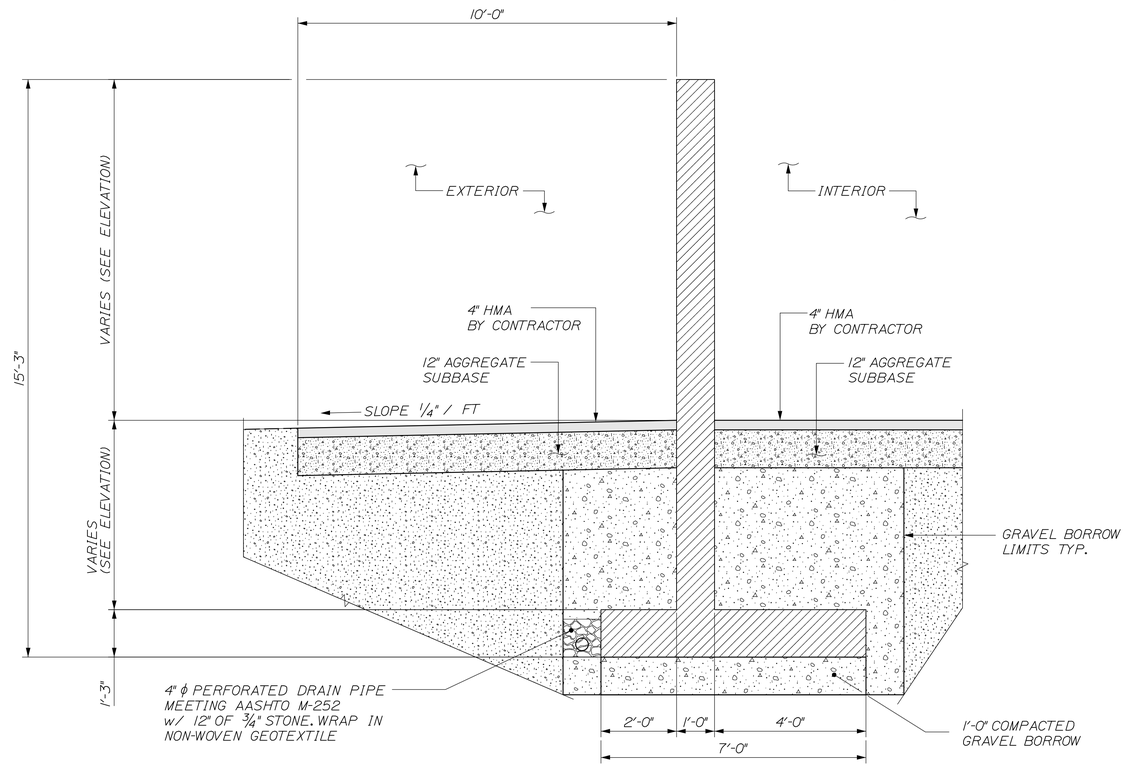


A 5 SIDEWALL ELEVATION
3/8"=1'-0"

B 5

NOTE:
ACTUAL ANCHOR BOLT LAYOUT TO BE COORDINATED WITH LAYOUT OF TRUSSES. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ANCHORS DO NOT INTERFERE WITH WALL STUDS.



B 5 SIDEWALL SECTION
1/2" = 1'-0"

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GRAY MAINTENANCE SALT SHED

NORTH & SOUTH SIDEWALL DIMENSIONAL DETAILS

SHEET NUMBER
5
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CALDERWOOD ENGINEERING
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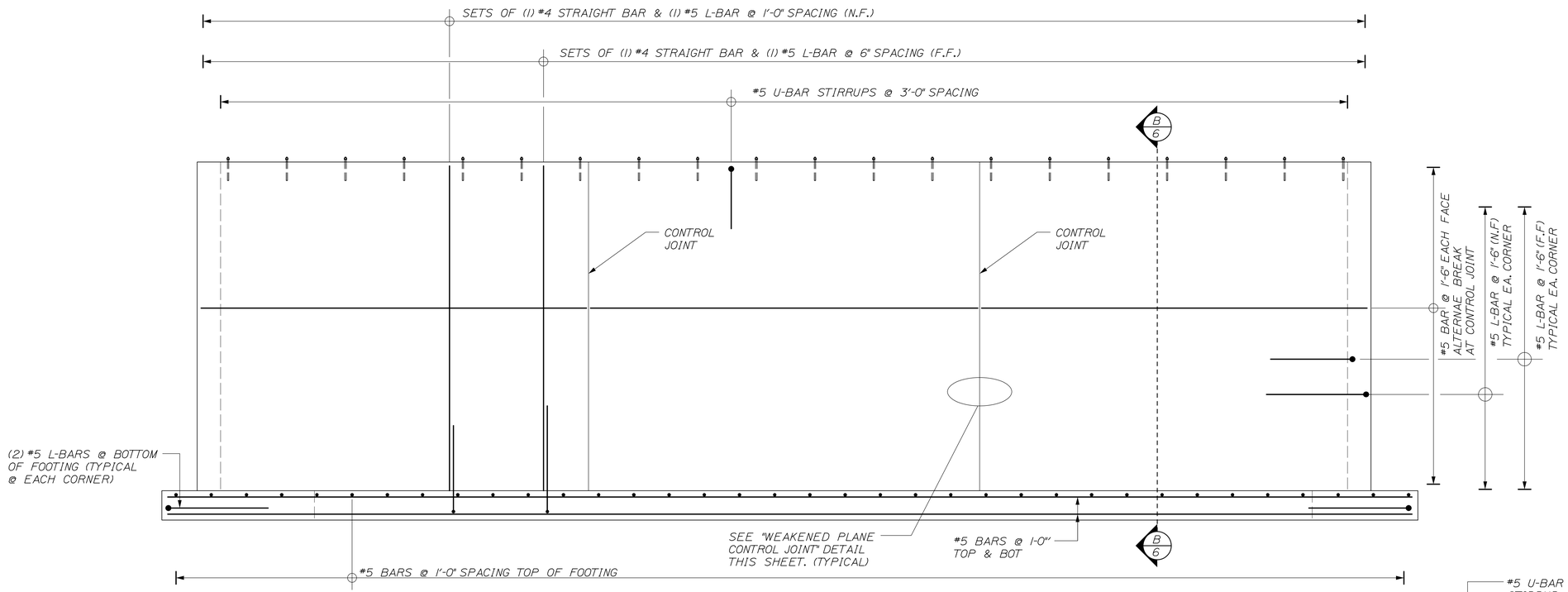
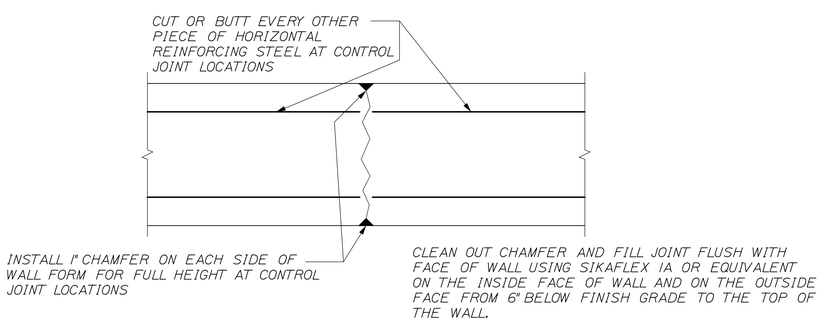
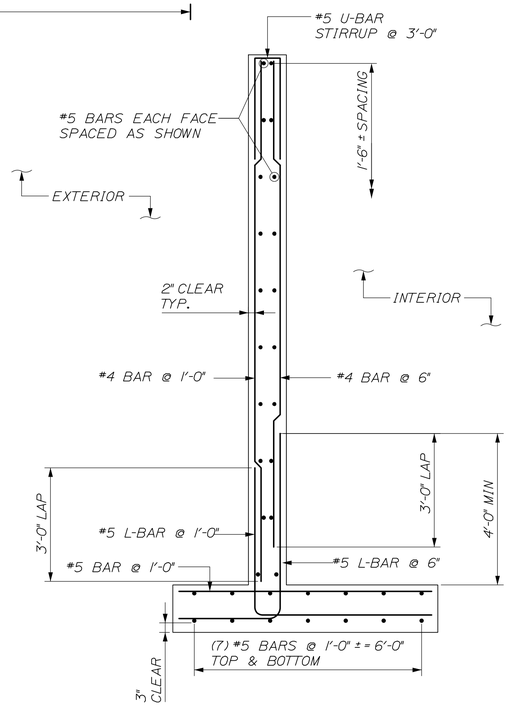


A 6 SIDEWALL REINFORCING
3/8" = 1'-0"



WEAKENED PLANE CONTROL JOINT
SCALE: 1 1/2" = 1'-0"



B 6 SIDEWALL SECTION
1/2" = 1'-0"

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GRAY
MAINTENANCE SALT SHED

NORTH & SOUTH SIDEWALL
REINFORCEMENT DETAILS

SHEET NUMBER
6
OF 13

CALDERWOOD ENGINEERING
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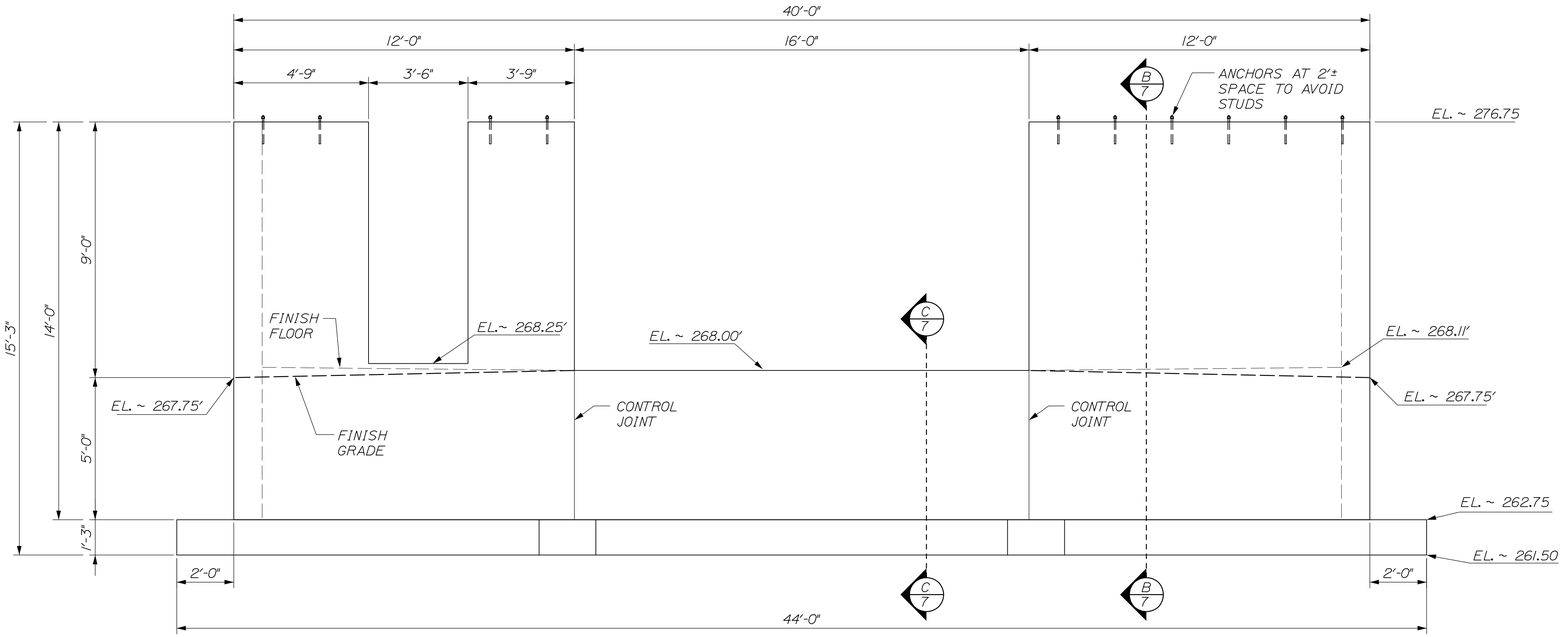
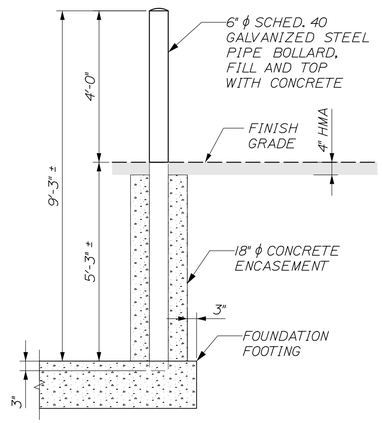
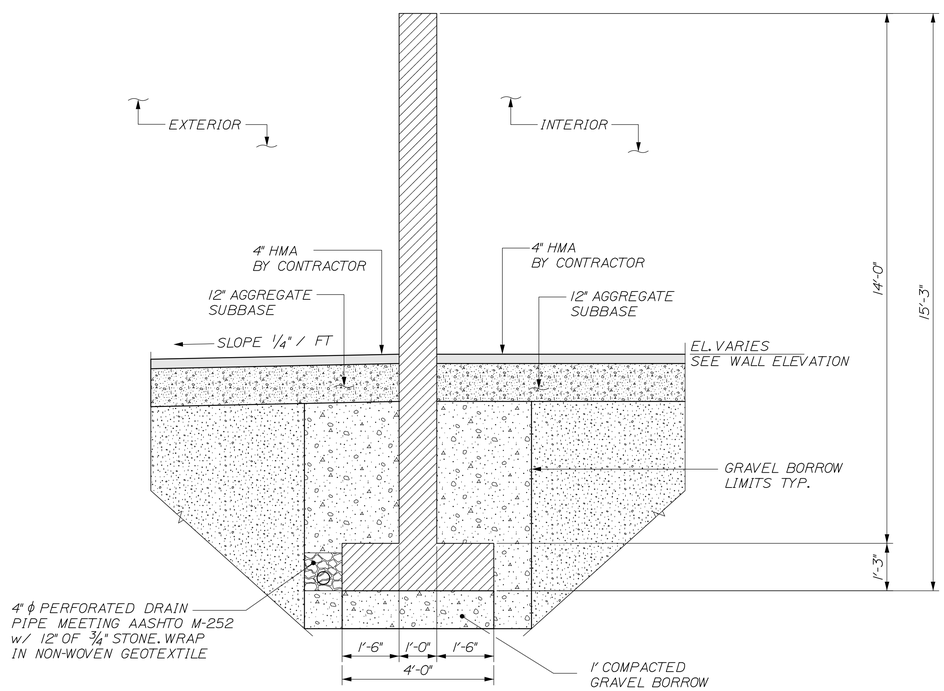


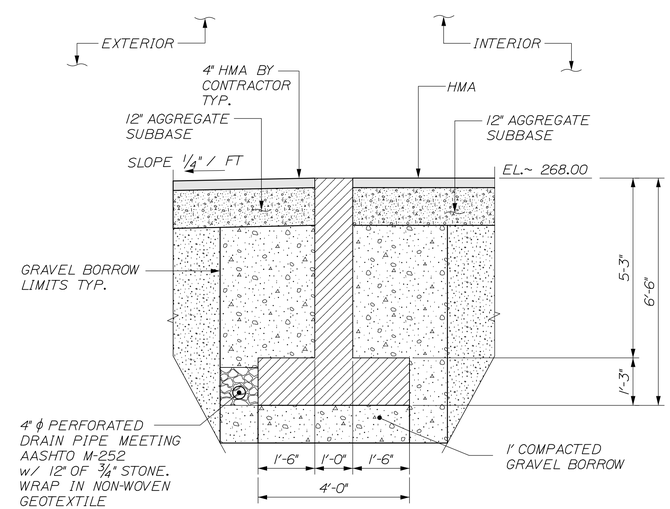
A/7 FRONT WALL ELEVATION
3/8"=1'-0"



PIPE BOLLARD DETAIL
SCALE: 1/2" = 1'-0"



B/7 FRONT WALL SECTION
1/2" = 1'-0"



C/7 SECTION @ OVERHEAD DOOR
1/2" = 1'-0"

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WIN 21249.00

STATE OF MAINE ERIC CALDERWOOD No. 9099 LICENSED PROFESSIONAL ENGINEER

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GRAY MAINTENANCE SALT SHED

WEST FRONT WALL DIMENSIONAL DETAILS

SHEET NUMBER

7

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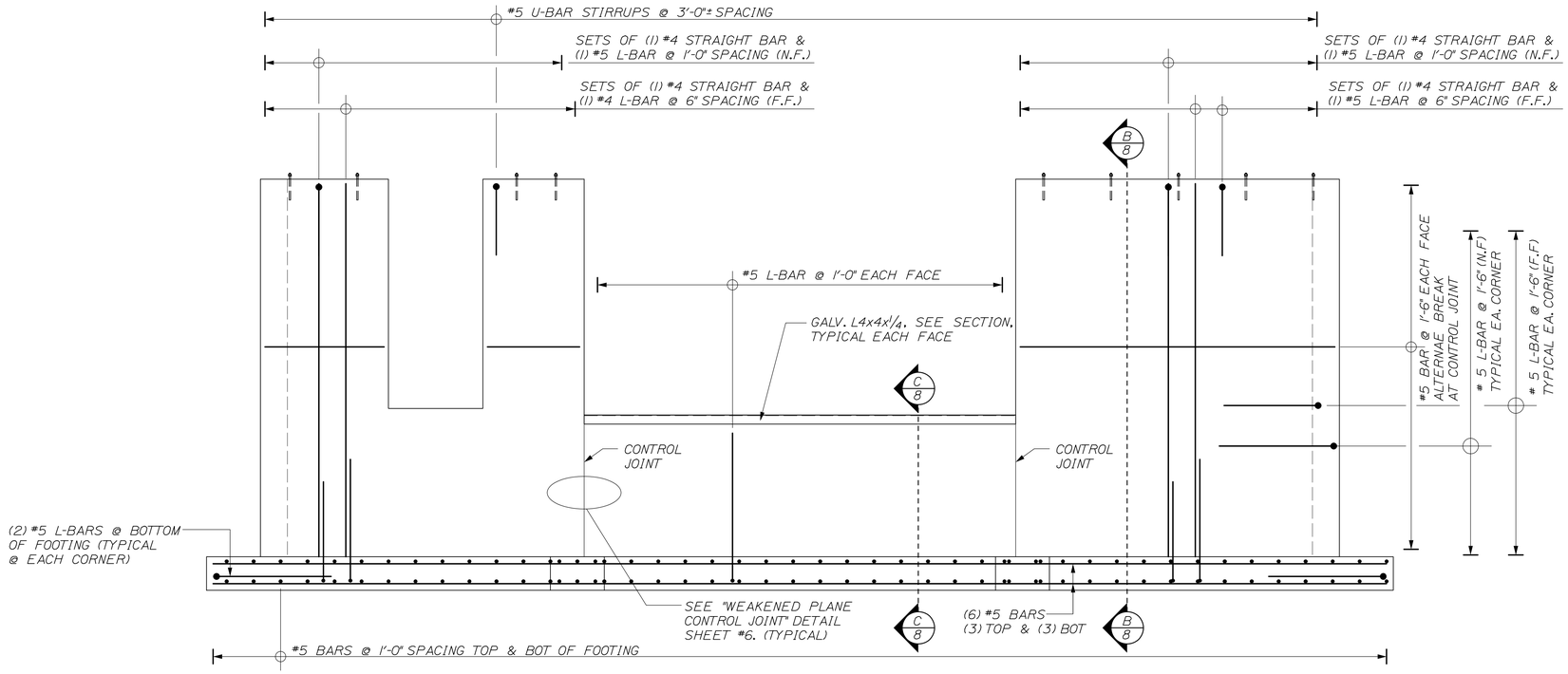
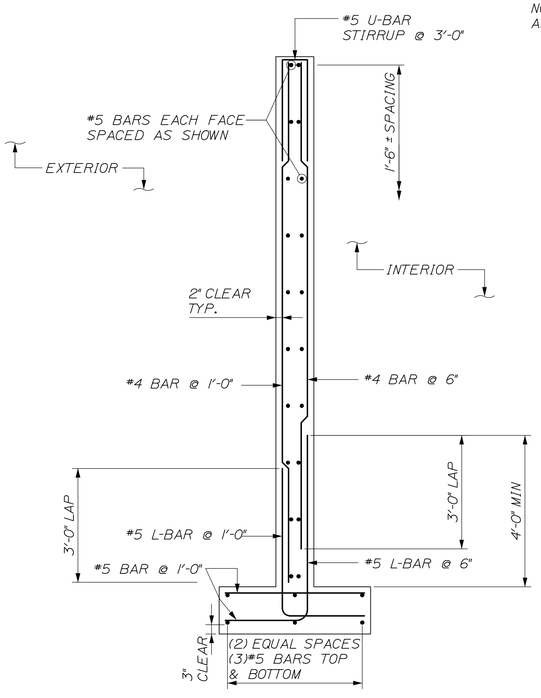
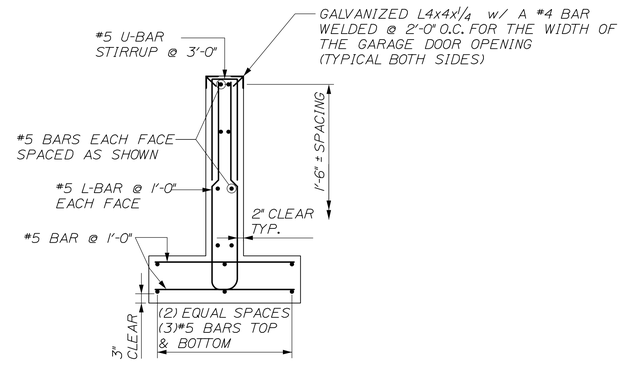


NOTE: ADJUST LENGTH OF STRAIGHT BARS AS REQUIRED AROUND DOOR OPENINGS

A/8 FRONT WALL REINFORCING
3/8"=1'-0"



B/8 FRONT WALL SECTION
1/2" = 1'-0"



C/8 SECTION @ OVERHEAD DOOR
1/2" = 1'-0"

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GRAY MAINTENANCE SALT SHED

WEST FRONT WALL REINFORCEMENT DETAILS

SHEET NUMBER

8

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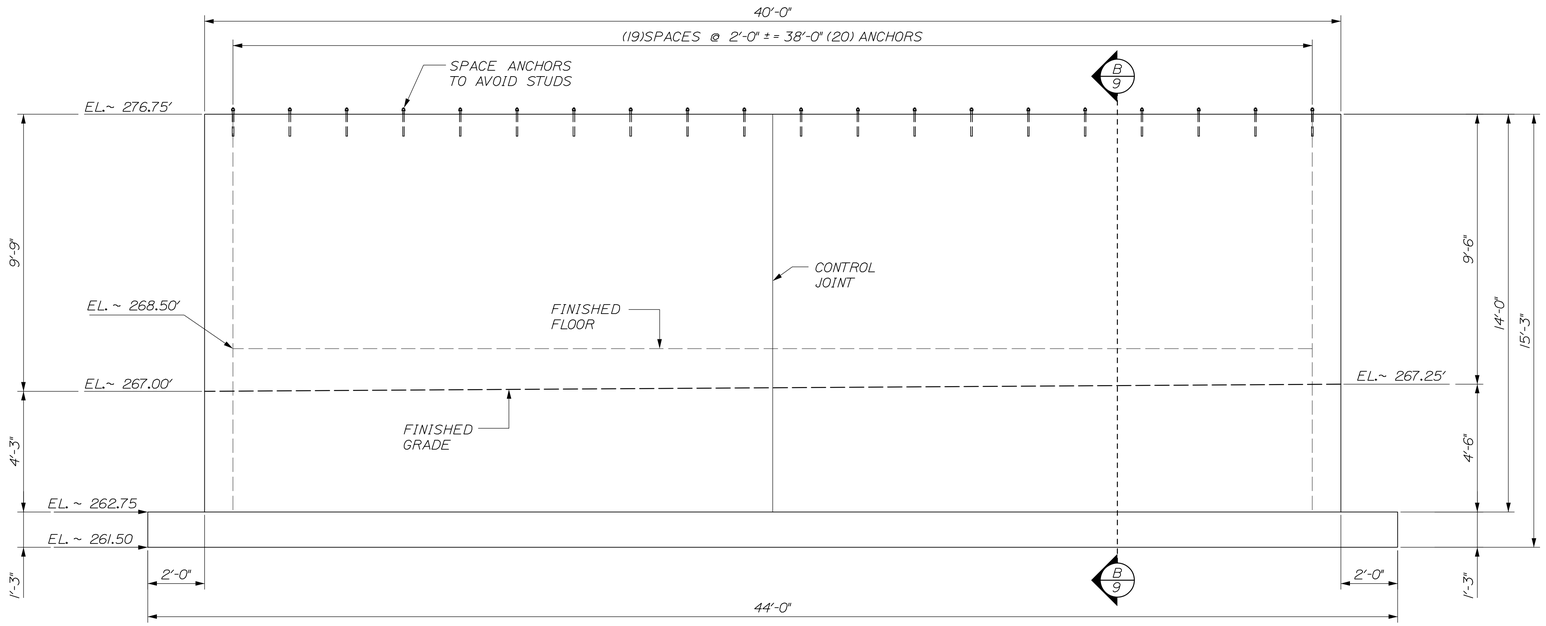
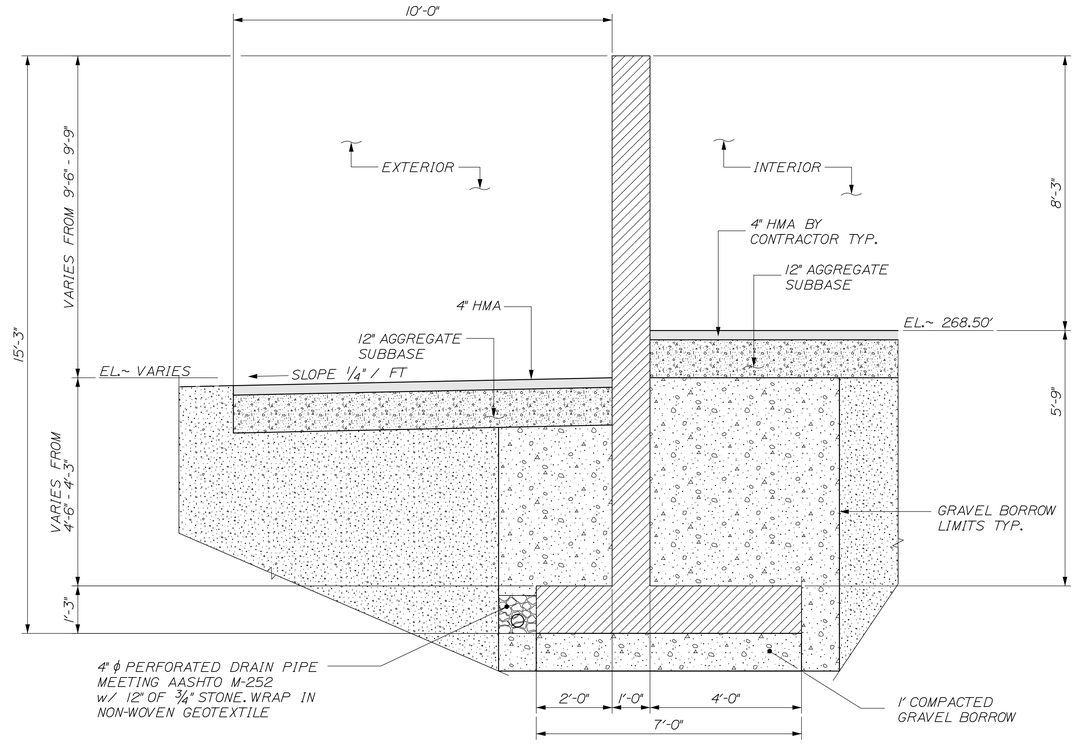


A 9 BACK WALL ELEVATION
3/8"=1'-0"



B 9 BACKWALL SECTION
1/2" = 1'-0"

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GRAY MAINTENANCE SALT SHED

EAST END WALL DIMENSIONAL DETAILS

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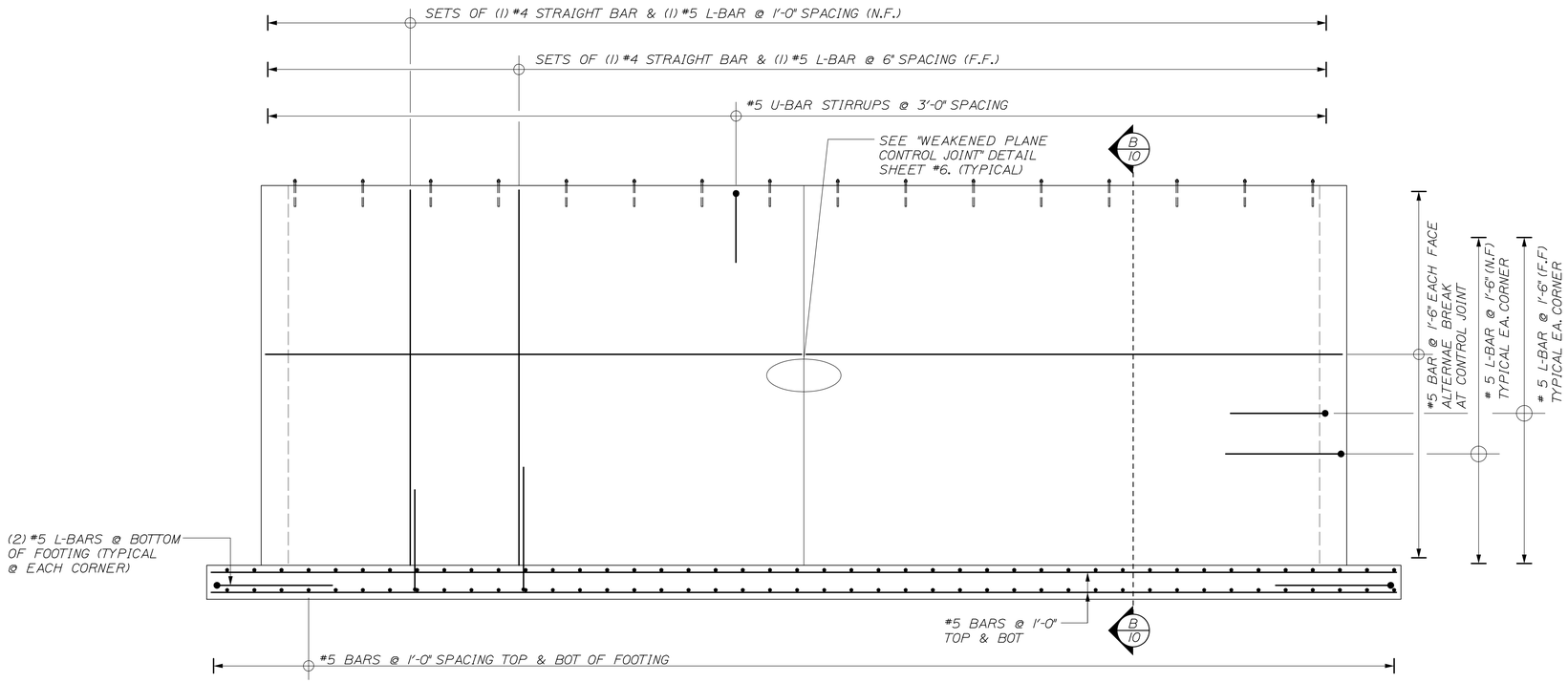
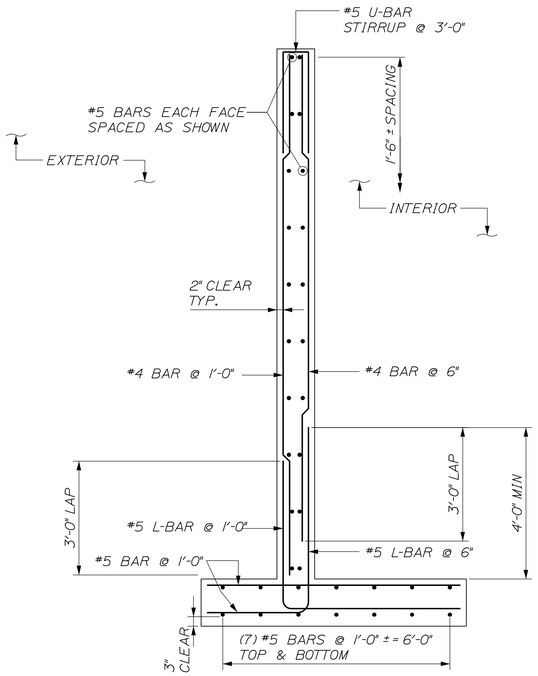


A/10 BACK WALL REINFORCING
3/8"=1'-0"



B/10 BACKWALL SECTION
1/2" = 1'-0"

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GRAY MAINTENANCE SALT SHED

EAST END WALL REINFORCEMENT DETAILS

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10
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CALDERWOOD ENGINEERING
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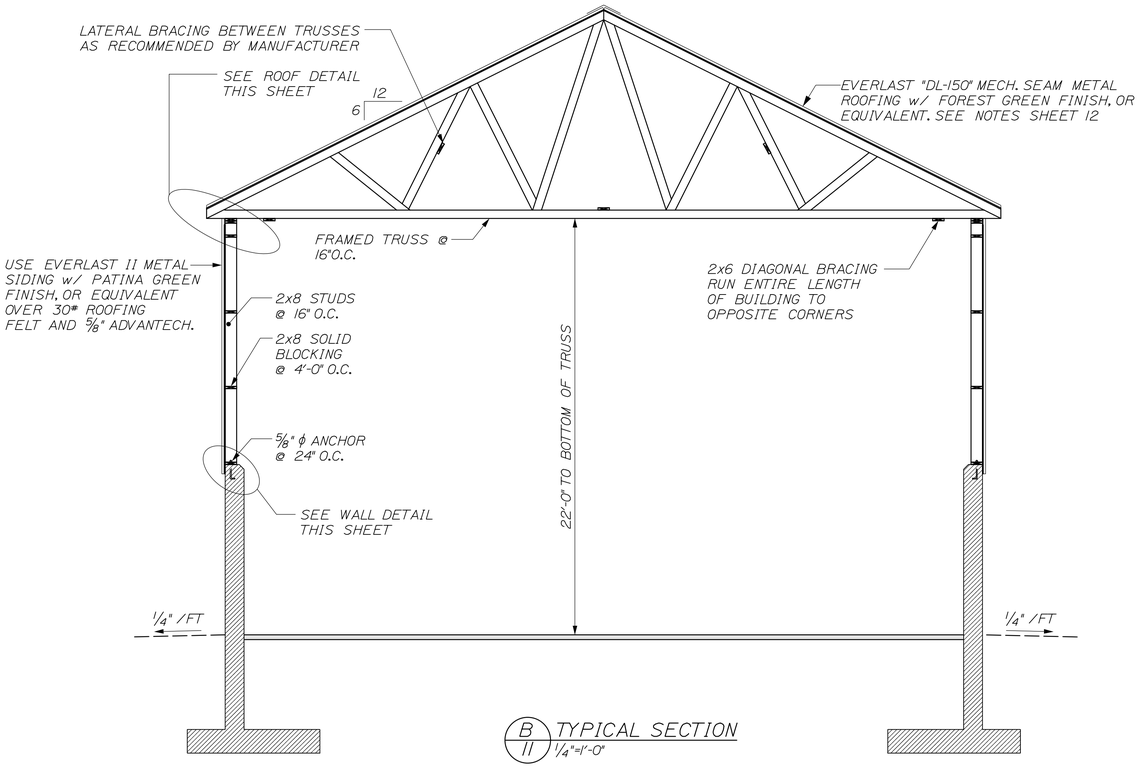
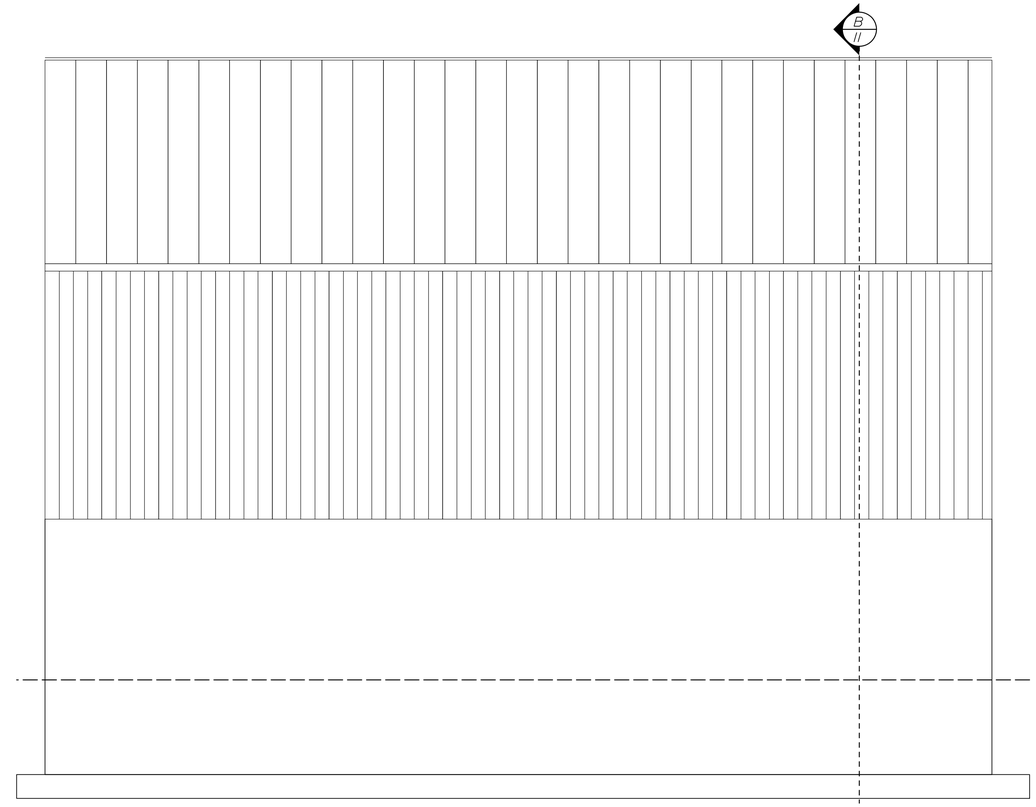
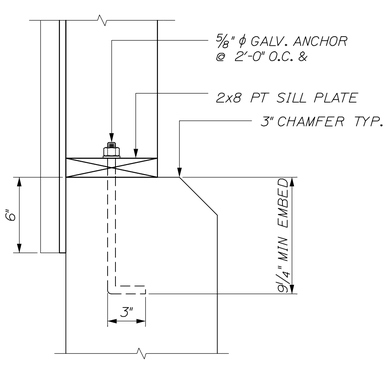


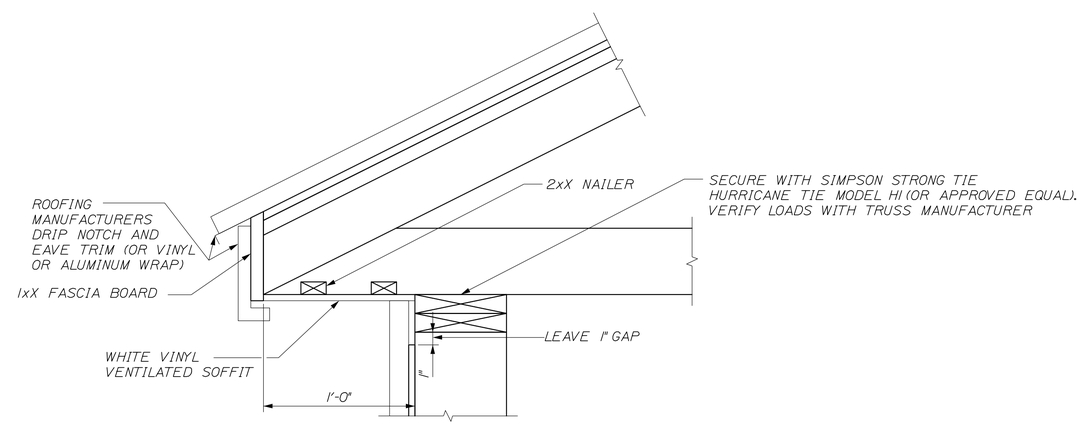
B/11 TYPICAL SECTION
1/4"=1'-0"



A/11 SIDE ELEVATION
1/4"=1'-0"



WALL DETAIL
2" = 1'-0"



ROOF DETAIL
2" = 1'-0"

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GRAY
MAINTENANCE SALT SHED

TYPICAL
FRAMING DETAILS

SHEET NUMBER
11
OF 13

CALDERWOOD ENGINEERING
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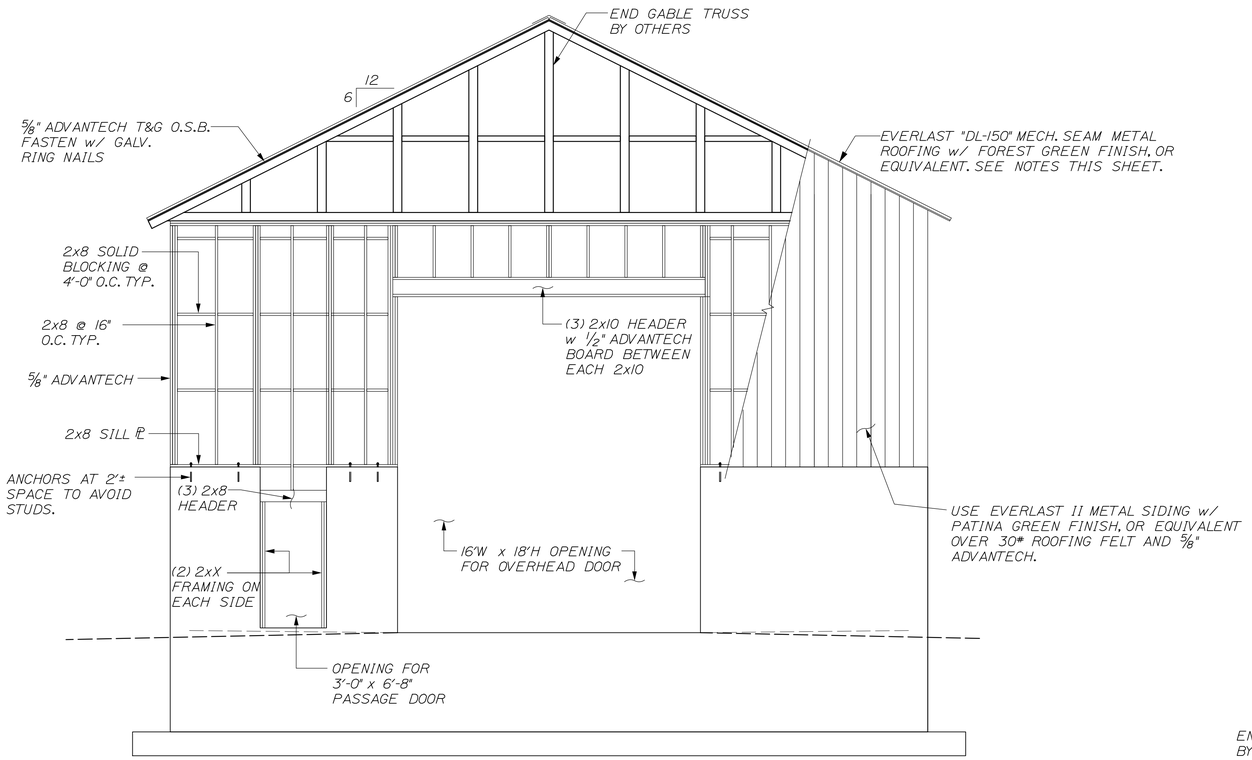
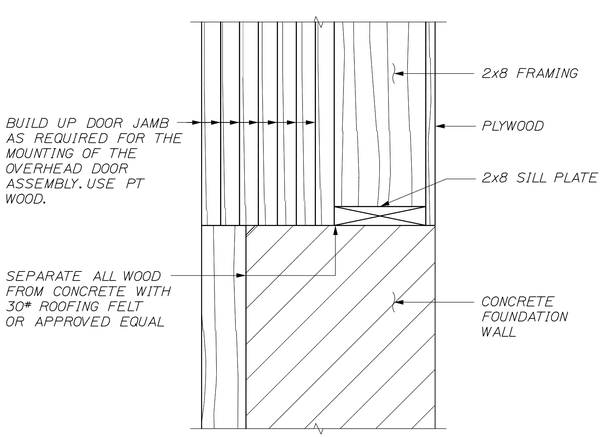


FRONT (WEST) WALL FRAMING
1/4" = 1'-0"



DOOR JAMB DETAIL
2" = 1'-0"

METAL ROOFING NOTES:

1. THE SALT SHED IS TO BE ROOFED WITH THE EVERLAST DL-150 PRODUCT. OR AN EQUIVALENT PRODUCT. THIS PRODUCT USES DOUBLE-LOCK STANDING SEAM ROOF PANELS.

2. PANELS TO HAVE A FOREST GREEN FINISH OR A COLOR APPROVED BY THE DEPARTMENT..

3. THE PANELS ARE TO BE DELIVERED TO THE JOB SITE BY THE SUPPLIER IN STRAIGHT, UNFORMED PANELS. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE ADDITIONAL MAN-POWER TO THE SUPPLIER TO AID IN MOVING THE PANELS.

4. NO BUTT SEAMS WILL BE ALLOWED ON THE ROOF. THE PANELS WILL BE FORMED FROM 1 PIECE THAT BEGINS AT THE BOTTOM OF THE ROOF AND CONTINUES ALL THE WAY TO THE RIDGE.

5. NO EXPOSED FASTENERS WILL BE ALLOWED ON THE ROOF PANELS.

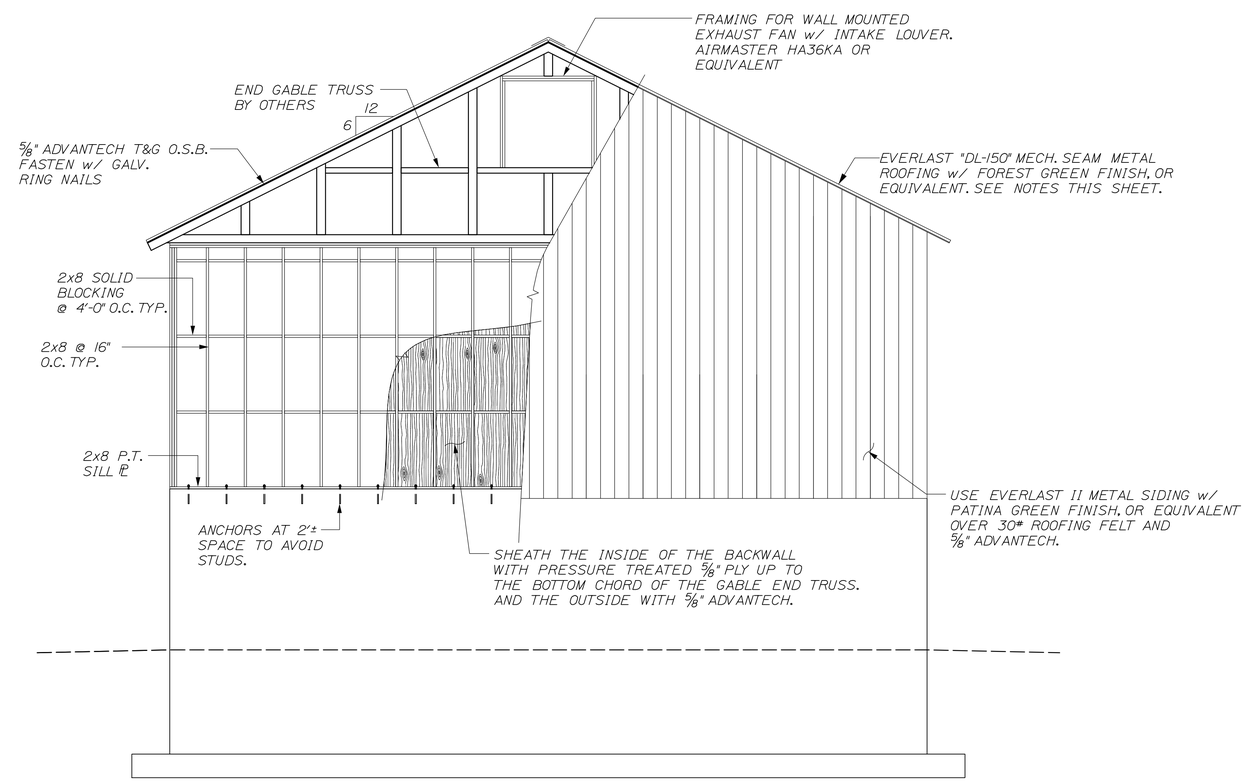
6. PANELS MUST BE INSTALLED IN A SEQUENTIAL PATTERN.

7. A 30# ROOFING FELT OR AN APPROVED EQUAL SHALL BE INSTALLED OVER SUBSTRATE PRIOR TO INSTALLATION OF PANELS AND ALSO BETWEEN THE CONCRETE WALL AND THE GABLE ENDS.

8. PANELS MUST BE LOCKED IN THE FIELD BY A MECHANICAL SEAMER.

9. IF PANELS REQUIRE STORAGE BEFORE BEING INSTALLED, THEY SHOULD BE STORED IN A WELL-VENTILATED, DRY PLACE WHERE NO MOISTURE CAN COME IN CONTACT WITH THEM. IF STORED OUTSIDE, COVER WITH VENTED TARP OR WATERPROOF PAPER COVER (NOT PLASTIC). KEEP MATERIAL OFF THE GROUND.

10. ALL PANELS, RIDGE AND EAVE DETAILS AND ANY RELATED WORK SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.



END (EAST) WALL FRAMING
1/4" = 1'-0"

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PREPARED FOR:
STATE OF MAINE DOT
GRAY, ME SALT SHED
WIN 21249.00

STATE OF MAINE
ERIC A. CALDERWOOD
No. 9099
LICENSED
PROFESSIONAL ENGINEER

P.E. NUMBER
9099

DATE
JANUARY 2016

	BY	DATE
DESIGN-DETAILED	GNM	FEB 2016
CHECKED-REVIEWED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

GRAY MAINTENANCE SALT SHED

EAST AND WEST WALL FRAMING DETAILS

SHEET NUMBER
12
OF 13

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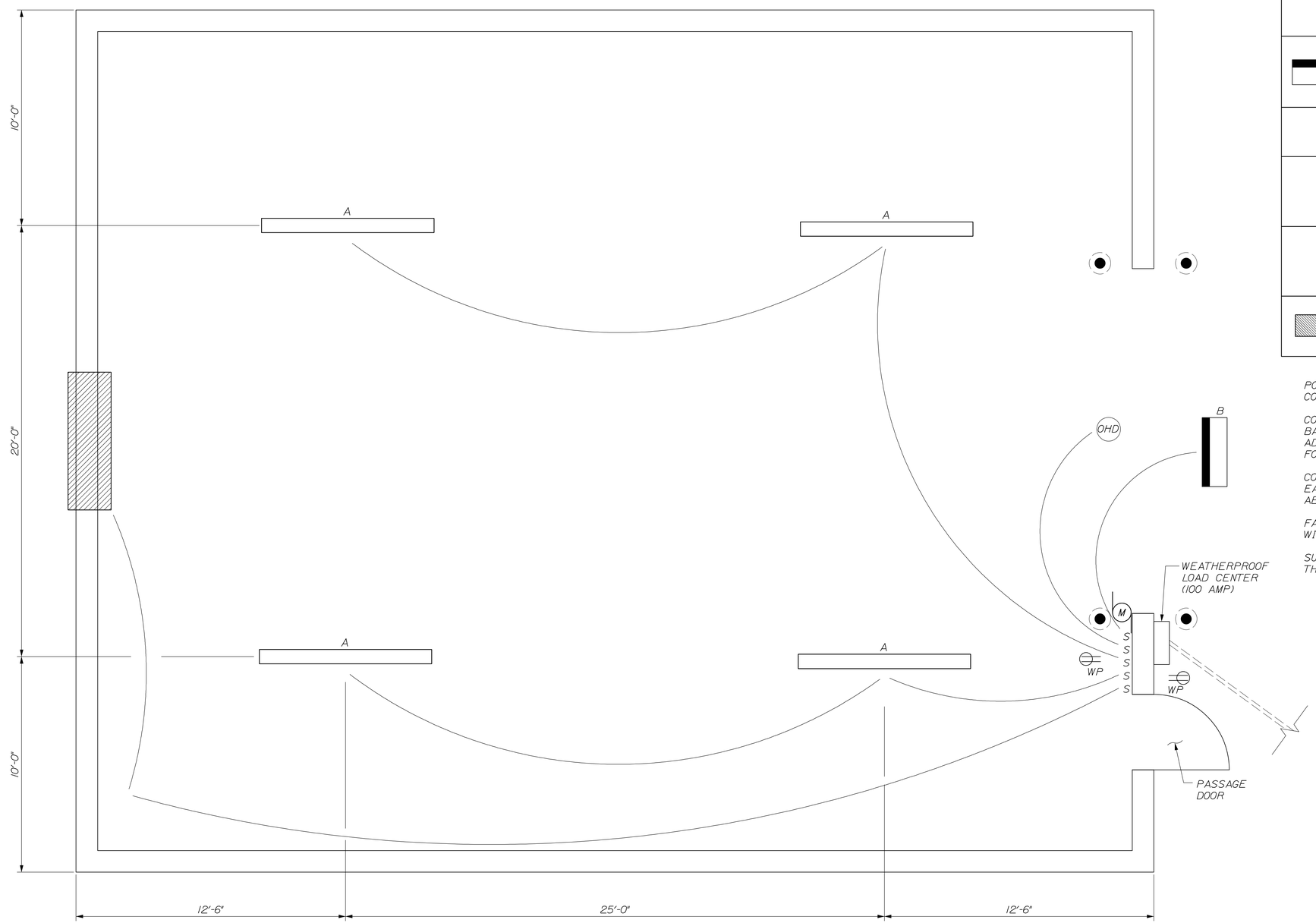

ELECTRICAL FLOOR PLAN
3/8" = 1'-0"

ELECTRICAL LEGEND

A	H.E. WILLIAMS, FULLY ENCLOSED & GASKETED INDUSTRIAL LED LIGHT FIXTURE. MODEL #96-8-L80/830-HIAFR-SSCMB/SS LATCH-DRV-120 w/ OCCUPANCY SENSOR #OCCWS HB350W-L4W-120
B	LED FLOOD LIGHT EQUIV. TO LITHONIA D-SERIES SIZE 3 W/ PHOTOCELL AND SWITCH
S	WEATHERPROOF SWITCH
WP	GFCI RECEPTACLE W/ WEATHERPROOF COVER
M	OVERHEAD DOOR OPERATOR
	EXHAUST FAN

POWER TO BE INSTALLED UNDERGROUND IF POSIBLE. CONTRACTOR SHALL PRICE AS SUCH.

CONTRACTOR WILL BE REQUIRED TO EXCAVATE, SUPPLY, INSTALL, BACKFILL, AND COMPACT, PER NATIONAL ELECTRICAL CODE (NEC) AN ADDITIONAL 300 FT OF 2" UNDERGROUND CONDUIT. SEE SHEET 2 FOR DETAILS

CONDUIT SHALL BE INSTALLED BELOW GRADE. EACH END OF CONDUIT SHALL BE CAPPED AND PROTRUDE ABOVE FINISH GRADE BY 2 FEET.

FAN ON BACKWALL, OHD OPENER AND LIGHTS SHALL BE WIRED AND HOOKED UP FOR POWER AS INDICATED.

SUSPEND ALL INTERIOR LIGHTS A MINIMUM OF 1'-0" BELOW THE BOTTOM CHORD OF THE FRAMED TRUSS

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GRAY MAINTENANCE SALT SHED

ELECTRICAL PLAN

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