Finance
Purchasing Division
929 N Front St., 10th Floor
Post Office Box 1810
Wilmington, NC 28402-1810

910 341-7830
910 341-7842 fax
wilmingtonnc.gov
Dial 711 TTY/Voice

ADDENDUM NUMBER 1
Parks Maintenance Facility
PB-ESSE-0725
May 27, 2025

To all holders of Bid Documents, please be advised to the following:

1. **Revised Bid Form (Please use Bid Form Attached)**
2. **Revised Drawings (Please Use Revised Drawings)**

Acknowledge receipt of this Addendum in the space provided in the Proposal. Failure to do so may disqualify the Bidder.

All other terms and conditions remain unchanged.

Daryle L. Parker, Purchasing Manager
Purchasing Division
END OF ADDENDUM ONE

LUMP SUM BASE BID: $_____

LUMP SUM BID IN WORDS: _____

_____

ALLOWANCES

The lump sum Contract Base Bid Price shall include the allowance quantity and amount for each item provided in the table below. Reference Section 01 2100 Allowances for a detailed description of each lump sum and unit cost allowance. Unused allowance amounts will be credited to the Owner by change order at the end of the project.

Lump Sum Allowance

Item	Item Description	Units	Unit Price	Acknowledge Inclusion in Bid (state YES below)
A	Relocation of unforeseen utilities	Dollars ($)	$10,000	
B	Owners Allowance	Dollars ($)	$50,000	

The lump sum Contract Base Bid Price shall include the unit cost allowances for each item provided in the table below and described in detail in Section 01 2100.

Unit Cost Allowances

Item	Item Description	Allowance Quantity	Units	Allowance Cost (state cost below)
No. 1	Excavation, removal, disposal and replacement of unsuitable soils	500	C.Y.	
No. 2	Excavation, removal, disposal and replacement of unsuitable soils in footings, trenches and pits	50	C.Y.	
No. 3	Excavation, removal, disposal and replacement of open rock	50	C.Y.	
No. 4	Excavation removal, disposal, and replacement of rock in footings, trenches and pits	10	C.Y.	

UNIT PRICES

Unit prices are complete for labor, equipment, material, overhead and profit. Base bid includes the stipulated allowance quantity of specified Unit Prices under Allowances section above. Refer to Section 01 2200 Unit Prices for detailed descriptions of each Unit Price.

Description	**Unit Price (state price below)**	**Unit Measure**	**Unit Quantity Included in Unit Price**
No. 1: Excavation, removal, disposal and replacement of unsuitable soils		C.Y.	50
No. 2: Excavation, removal, disposal and replacement of unsuitable soils in footings, trenches and pits		C.Y.	20
No. 3: Excavation, removal, disposal and replacement of open rock		C.Y.	20
No. 4: Excavation removal, disposal, and replacement of rock in footings, trenches and pits		C.Y.	10
No. 5: 20 Amp Electrical Duplex Receptacle and Circuit		Per Each	1
No. 6: New Photoelectric Smoke Detector		Per Each	1
No. 7: New Heat Detector		Per Each	1
No. 8: New Pull Station		Per Each	1
No. 9: New Fire Alarm Horn/Strobe		Per Each	1
No. 10: New Fire Alarm Strobe		Per Each	1
No. 11: New Exit Sign		Per Each	1
No. 12: Sprinkler Head		Per Each	1

ALTERNATES:

The bid alternates provided below represent certain work that may be added to the Contract Base Bid amount if the Owner decides to accept one or more of the alternates. Refer to Section 01 2300 Alternates for detailed description of each Alternate.

Bid Alternates

Alternate	**Description**	**Cost (state cost below)**
No. 1	Add Alternate: Sectional Doors Operation	
No. 2-A	Add Alternate: Maintenance Yard Paving – Heavy Duty Asphalt	
No. 2-B	Add Alternate: Maintenance Yard Paving – Heavy Duty Concrete	
No. 3	Add Alternate: Loose Appliances	
No. 4	Add Alternate: Greenhouse Concrete Slab – Third Bay	
No. 5	Add Alternate: Material Storage Bid Shed Roof	
No. 6	Add Alternate: Sunshades/Light Shelves at Administration Building	
No. 7	Add Alternate: Rooftop Photo Voltaics	

Preferred Brand Alternates

The preferred brand alternates provided below are described in detail in Section 01 2300 and represent certain work that is advantageous to the Owner to match existing systems they have in place.

Alternate	**Description**	**Cost (state cost below)**
1	Electrical Vehicle Charging Stations by Cyber Switching	
2	Door Hardware Cores by Sargent	

Major Subcontractor's list (to be completed and submitted with bid):

Plumbing Subcontractor: _____

HVAC Subcontractor: _____

Electrical Subcontractor: _____

ADDENDA

The undersigned acknowledges receipt of the following addenda issued during the time of bidding and includes the changes therein in this Proposal:

Addendum No. _____, Dated _____

Addendum No. _____, Dated _____

Addendum No. _____, Dated _____

Addendum No. _____, Dated _____

If awarded the work, I/we agree to begin work as soon as given the notice to proceed and complete the work ready for occupancy within the time limits specified.

This Proposal is submitted by:

_____
Company Name

Signed by: _____
Authorized Person's Signature

_____
Type or Print Name of Person Signing Above

Title: _____

Address: _____

_____ Zip_____

Phone: _____

Email: _____

Date: _____

North Carolina Contractor's License Number: _____

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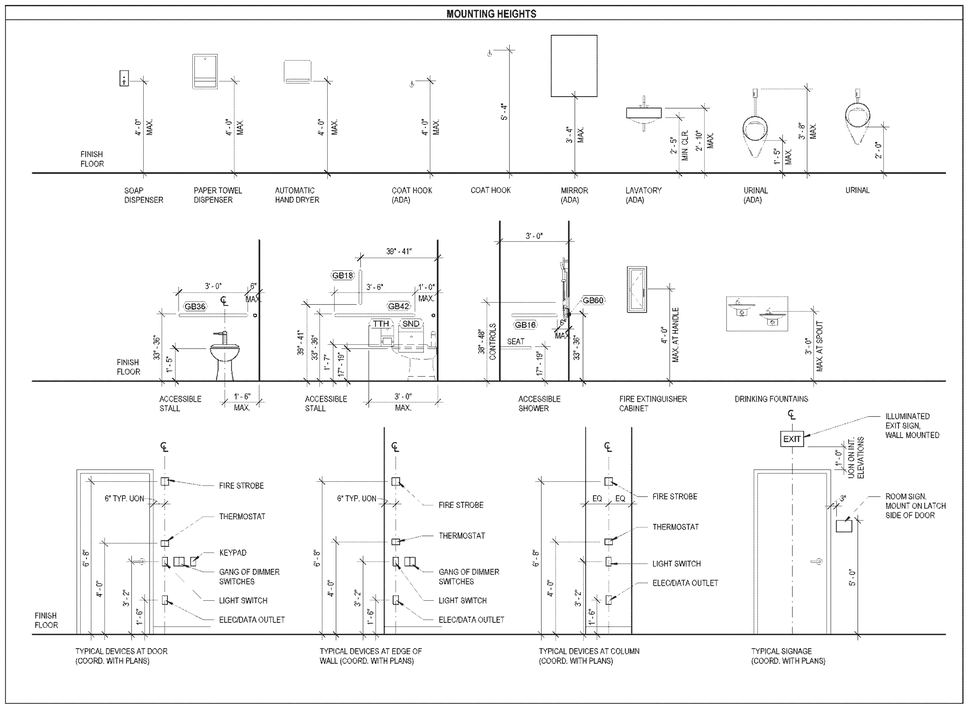
AREA MAP

ABBREVIATIONS	
ABBR.	FULL DESCRIPTION
@	AT
A/C	AIR CONDITIONER(ER)(ING)
AB	AIR BARRIER
ACC	ACCESSIBLE
ACM	ALUMINUM COMPOSITE MATERIAL
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AL	ALUMINUM
ALT	ALTERNATE
ARCH	ARCHITECT(URAL)
BD	BOARD
BFF	BELOW FINISH FLOOR
BLDG	BUILDING
BLKG	BLOCKING
BOS	BOTTOM OF STEEL
BRG	BEARING
CG	CORNERGUARD
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR/CLEARANCE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CPT	CARPET
CW	CURTAIN WALL
DEMO	DEMOL(ISH)(ITION)
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
EA	EACH
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
ELEC	ELECTRICAL
EOD	EDGE OF DECK
EOS	EDGE OF STEEL
EQ	EQUAL
EWC	ELECTRIC WATER COOLER
EXST	EXISTING
EXT	EXTERIOR
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FIN	FINISH
FLR	FLOOR
FPRF	FIREPROOFING
FRT	FIRE RETARDANT TREATED
FT	FOOT/FEET
FV	FIELD VERIFY

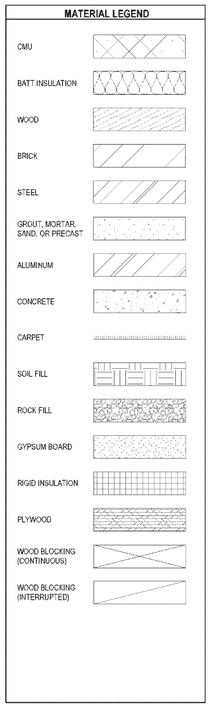
ABBREVIATIONS	
ABBR.	FULL DESCRIPTION
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GFRC	GLASS FIBER REINFORCED CONCRETE
GL	GLASS
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
HGT	HEIGHT
HM	HOLLOW METAL
HR	HOUR
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
INFO	INFORMATION
INT	INTERIOR
JT	JOINT
LAV	LAVATORY
LB	POUND
LH	LEFT HAND
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NC	NON-COMBUSTIBLE
NCSBC	NORTH CAROLINA STATE BUILDING CODE
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OM	ORNAMENTAL METAL
OPP	OPPOSITE
PL	PLATE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PME	PLUMBING/MECHANICAL/ELECTRICAL
PT	PRESSURE-TREATED
PVC	POLYVINYL CHLORIDE
PWD	PLYWOOD
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
REF	REFRIGERATOR
REINF	REINFORCE(D)(ING)(MENT)
REQ	REQUIRED
RH	RIGHT HAND
RM	ROOM
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
SCW	SOLID CORE WOOD
SF	SQUARE FOOT/FEET
SIM	SIMILAR

ABBREVIATIONS	
ABBR.	FULL DESCRIPTION
SPEC	SPECIFICATION
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STFR	STOREFRONT
STL	STEEL
SUSP	SUSPENDED
T&G	TONGUE AND GROOVE
THRU	THROUGH
TLT	TOILET
TOBB	TOP OF BOND BEAM
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOS	TOP OF STEEL
TSTAT	THERMOSTAT
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VIF	VERIFY IN FIELD
W	WITH
WI	WITHIN
WO	WITHOUT
WC	WATER CLOSET
WD	WOOD
WT	WEIGHT
WWF	WELDED WIRE FABRIC

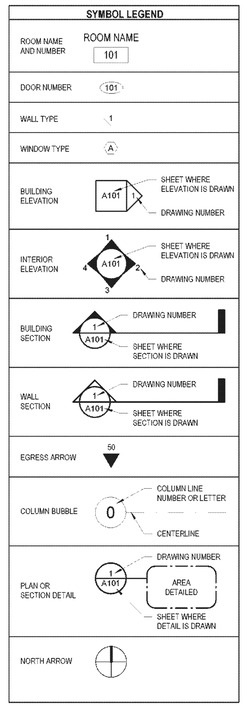
MOUNTING HEIGHTS



MATERIAL LEGEND



SYMBOL LEGEND



GENERAL NOTES

1. GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR PERMITS AND INSPECTIONS REQUIRED BY PUBLIC AUTHORITIES GOVERNING THE WORK.
2. REVIEW DOCUMENTS AND VERIFY DIMENSIONS AND FIELD CONDITIONS. REPORT ANY CONFLICTS OR OMISSIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK IN QUESTION.
3. CONTRACTOR TO NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND CONSULTANT DRAWINGS AND SHALL OBTAIN WRITTEN CLARIFICATION FROM ARCHITECT BEFORE PROCEEDING WITH THE WORK IN QUESTION OR RELATED WORK.
4. SUBMIT REQUESTS FOR SUBSTITUTIONS, REVISIONS, OR CHANGES TO ARCHITECT FOR REVIEW PRIOR TO PURCHASE, FABRICATION, OR INSTALLATION.
5. OWNER WILL PROVIDE WORK NOTED "BY OWNER," "BY OTHERS" OR "NIC" UNDER SEPARATE CONTRACT. INCLUDE SCHEDULE REQUIREMENTS IN CONSTRUCTION PROGRESS SCHEDULE AND COORDINATE TO ASSURE ORDERLY SEQUENCE OF INSTALLATION, UNLESS OTHERWISE DIRECTED. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES WITH NIC ITEMS.
6. COORDINATE TELECOMMUNICATIONS, DATA, AND SECURITY SYSTEM INSTALLATIONS.
7. DO NOT SCALE DRAWINGS; WRITTEN DIMENSIONS GOVERN. IN CASE OF CONFLICT, CONSULT THE ARCHITECT.
8. PROVIDE A PORTABLE FIRE EXTINGUISHER WITHIN 75 FOOT TRAVEL DISTANCE TO ALL PORTIONS OF THE BUILDING ON EACH FLOOR, AND ADDITIONAL FIRE EXTINGUISHERS AS REQUIRED BY FIRE OR BUILDING FIELD INSPECTORS.
9. PROVIDE ILLUMINATED EXIT SIGN OVER REQUIRED EXITS, WHERE SHOWN ON DRAWINGS, AND ADDITIONAL SIGNS AS REQUIRED BY FIRE OR BUILDING FIELD INSPECTORS. CONNECT EXIT SIGNS TO EMERGENCY POWER CIRCUITS.
10. PRIOR TO CORING SLAB FOR FLOOR POWER OR DATA, REVIEW LOCATIONS WITH ARCHITECT AND OWNER.
11. GANG ADJACENT LIGHT SWITCHES AND COVER WITH A SINGLE PLATE - SEE MOUNTING HEIGHTS PER LEGEND.
12. MAINTAIN INTEGRITY OF FIRE RESISTANCE RATING OF ALL RATED SHAFT ENCLOSURES AND RATED PARTITIONS BEHIND RECESSED WALL ACCESSORIES, SUCH AS FIRE EXTINGUISHER CABINETS, TOILET ACCESSORIES, AND ELECTRICAL BOXES.
13. NO EXPOSED CONDUIT, WIRING, PIPING, OR BOXES IS PERMITTED WITHOUT ARCHITECT APPROVAL, UNLESS SPECIFICALLY NOTED OTHERWISE.
14. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATION BETWEEN THE TRADES PROVIDING SYSTEMS IN OPEN CEILING CONDITIONS. COORDINATION DRAWINGS AND ANY CONFLICTS ARE TO BE REVIEWED WITH THE ARCHITECT PRIOR TO INSTALLATION.
15. REFER TO THE PROJECT MANUAL FOR COMPLETE GENERAL REQUIREMENTS AND CONDITIONS OF THE CONTRACT. THE PROJECT MANUAL SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES IN THE EVENT OF A CONFLICT.
16. IF PROVIDED, REFER TO ENLARGED PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
17. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED AT ALL APPROPRIATE LOCATIONS WHETHER OR NOT SPECIFICALLY REFERENCED AT EACH LOCATION.
18. IN AREAS OF HARD CEILING, BUILDING SYSTEMS SHALL BE CONFIGURED TO AVOID OR MINIMIZE ABOVE-CEILING ACCESS. THE LOCATION OF ALL ACCESS DOORS MUST BE COORDINATED WITH AND APPROVED BY ARCHITECT PRIOR TO THE INSTALLATION OF ANY ABOVE-CEILING EQUIPMENT, DAMPERS, VALVES, JUNCTION BOXES, ETC. ANY ACCESS DOORS OR PANELS REQUIRED IN WALLS MUST ALSO BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF THE EQUIPMENT REQUIRING ACCESS.
19. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY OF HIS MEASUREMENTS AND TAKE-OFFS FOR MATERIAL ORDERS.
20. VARIATIONS IN FLOOR LEVEL IN EXCESS OF 1/8" FOR EVERY 10'-0" (U.O.N.) SHALL BE LEVELED BY CONTRACTOR.
21. CONTRACTOR IS RESPONSIBLE FOR COMPLETE DRAWING SET AND PROJECT SCOPE. TAKE CARE SEPARATING THE DRAWING SET FOR DISTRIBUTION TO SEPARATE TRADES.
22. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ROOF, ROOF PENETRATIONS, AND PV ARRAY. CONTRACTOR IS RESPONSIBLE FOR COORDINATING BETWEEN ROOFING AND PV CONTRACTORS. PROVIDE SHOP DRAWING SUBMITTALS FOR THESE CONCURRENTLY. SCHEDULE A PRECONSTRUCTION MEETING TO INCLUDE THESE CONTRACTORS, THE ARCHITECT, AND THE ENGINEER.
23. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING TRADES IN EXPOSED CEILINGS. CONTRACTOR TO SCHEDULE A PRE-CONSTRUCTION MEETING TO COORDINATE TRADES IN EXPOSED CEILINGS PRIOR TO INSTALLATION OF ANY EXPOSED PIPING, CONDUIT, DUCT WORK OR SPRINKLER LINES. INCLUDE ARCHITECT AND ENGINEER IN MEETING.

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

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TIMMONS GROUP
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RALEIGH NC 27607
919-866-4955

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SIGMA ENGINEERED SOLUTIONS
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LYSAGHT & ASSOCIATES
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RALEIGH, NC 27605
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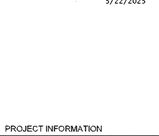
SEALS



5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MDP
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A000

ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES

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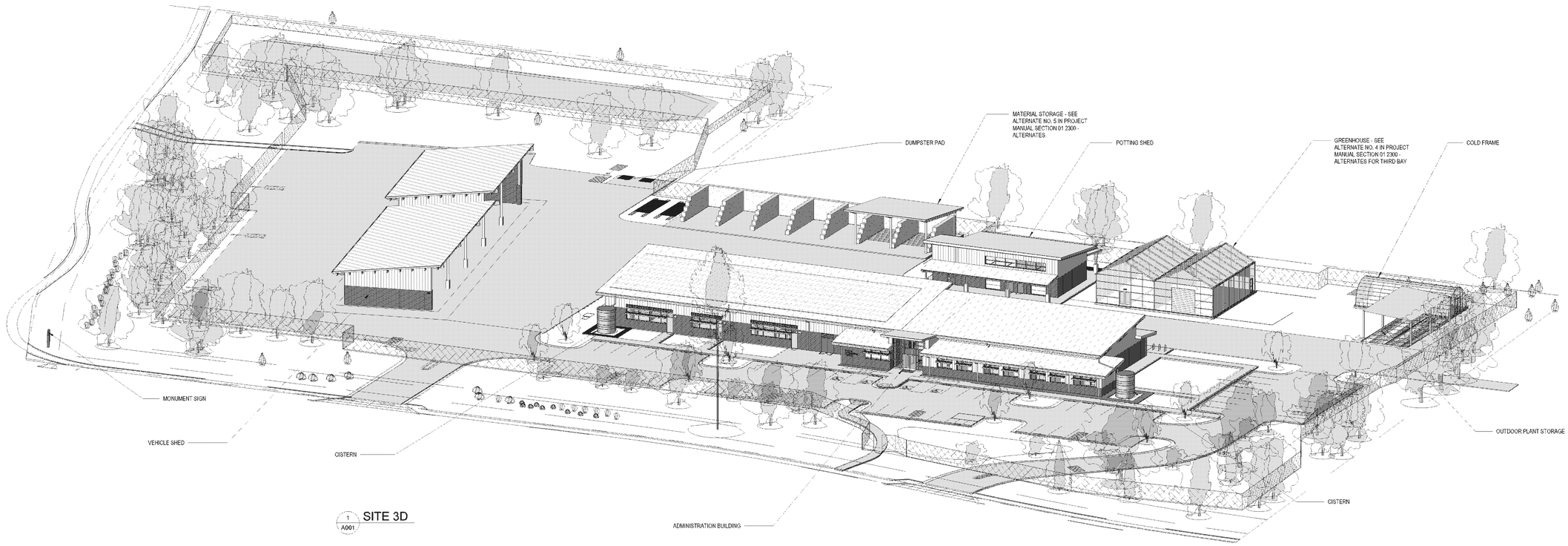

1 A001 SITE 3D

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

Esse Architects, P.A. — Architectural Corporation — 52498 — North Carolina — Raleigh, N C

Melissa Corinne Pistorio — 11693 — Licensed Landscape Architect — Raleigh, N C

5/22/2025

PROJECT INFORMATION

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SHEET INFORMATION

A001
3D VIEWS

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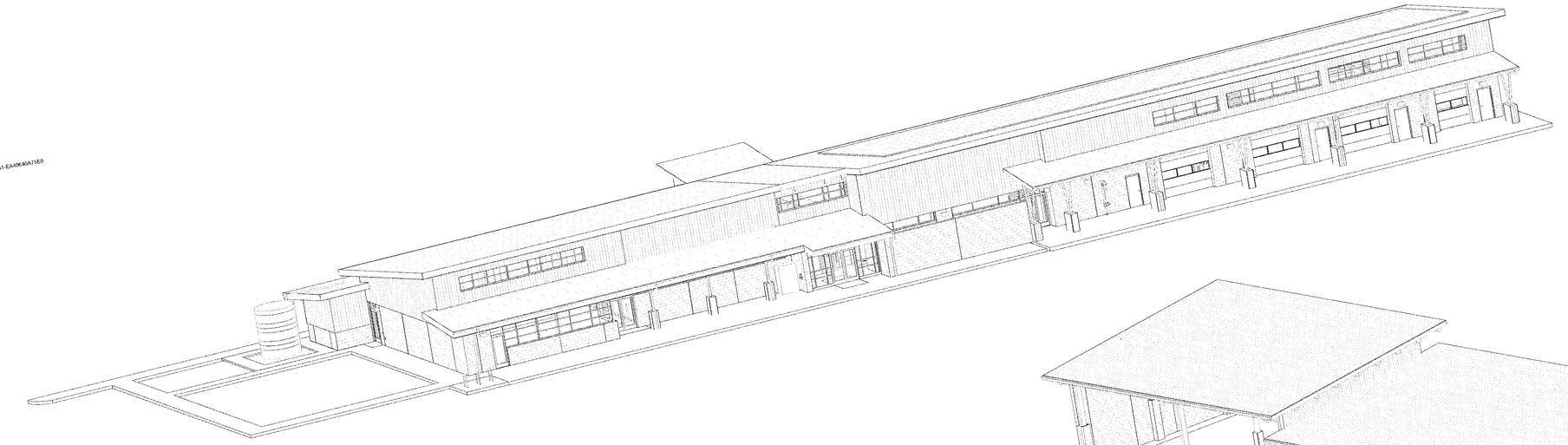
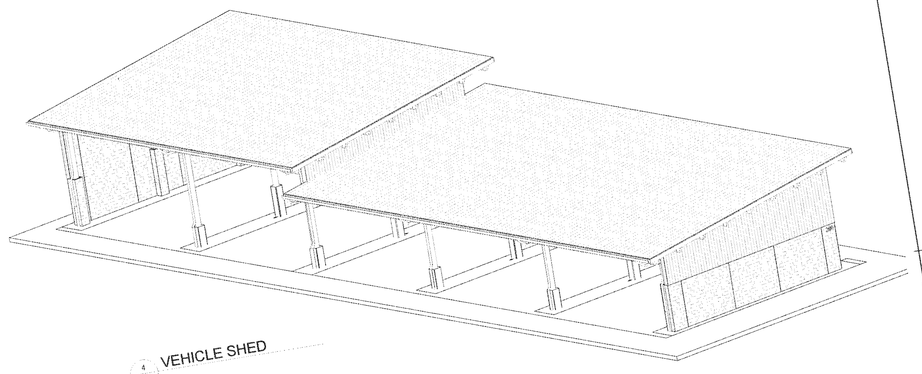
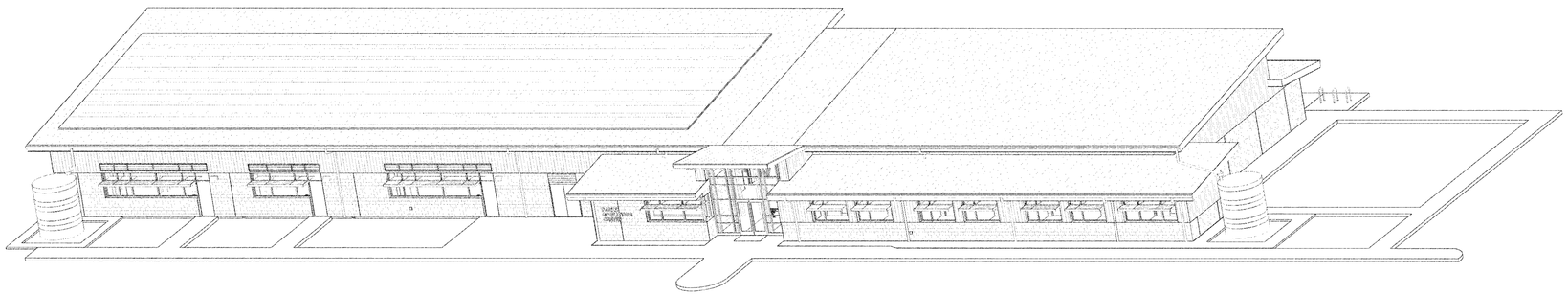


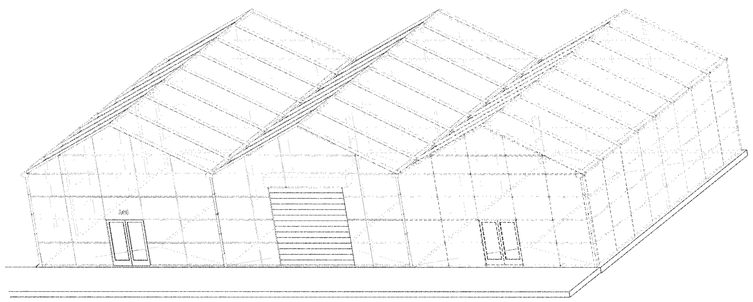
1 A002 ADMINISTRATION BUILDING



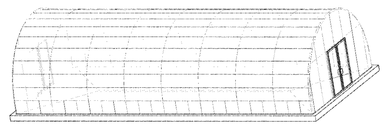
4 A002 VEHICLE SHED

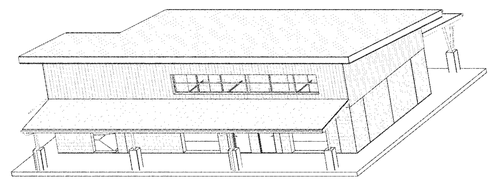


2 A002 ADMINISTRATION BUILDING



5 A002 GREENHOUSE AND COLD FRAME





3 A002 POTTING SHED

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SEALS

Esse Architects P.A. 52498 Raleigh, N.C.

11655 Mark D. Peterson NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT
5/22/2025

PROJECT INFORMATION

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A002
3D VIEWS

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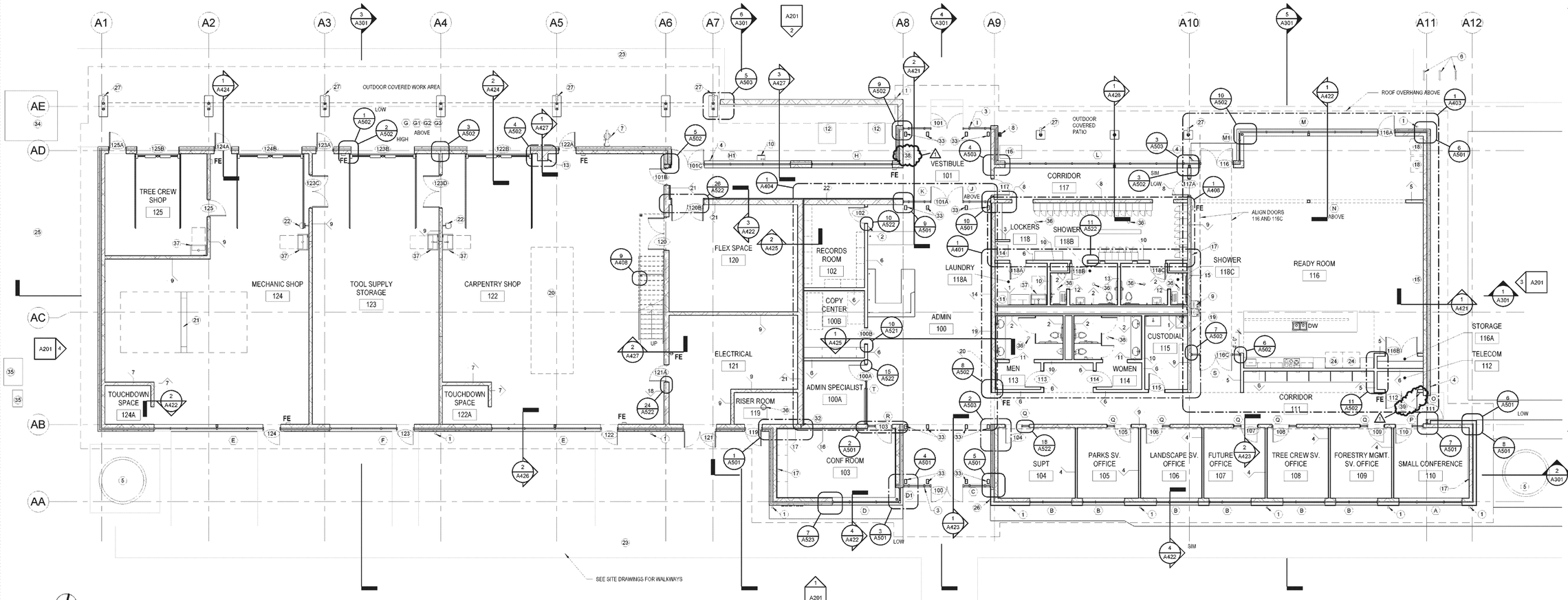
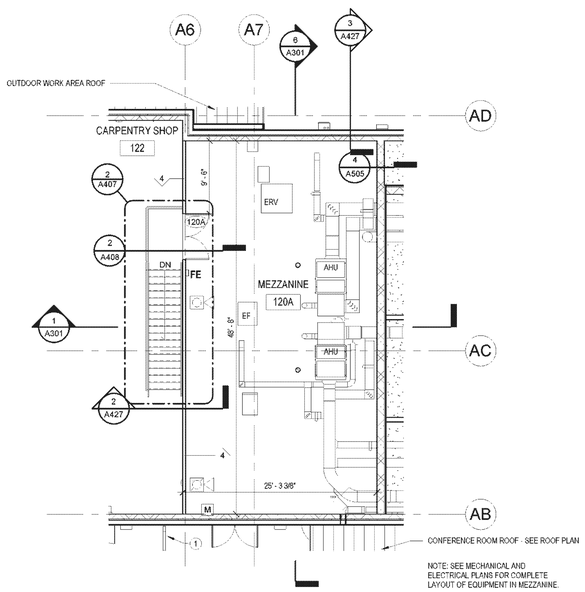


1 A101 FLOOR PLAN - ADMINISTRATION BUILDING
1/8" = 1'-0"



2 A101 FLOOR PLAN - MEZZANINE
1/8" = 1'-0"

WALL SCHEDULE

TYPE	THICKNESS	COMPOSITION	HEIGHT	Fire Rating	COMMENTS
1	0' - 4 1/4"	1 LAYER 5/8" GWB, 3 5/8" METAL STUDS @ 16" O.C	TO DECK		
2	0' - 4 3/4"	1 LAYER TILE, 1 LAYER 5/8" BACKER BOARD, 3 5/8" METAL STUDS @ 16" O.C.	TO DECK		
3	0' - 4 7/8"	1 LAYER 5/8" GWB, 3 5/8" METAL STUDS @ 16" O.C., 1 LAYER 5/8" GWB	9'-4"		
4	0' - 4 7/8"	1 LAYER 5/8 "GWB, 3 5/8" METAL STUDS @ 16" O.C. W/ SOUND BATTS, 1 LAYER 5/8 GWB	TO DECK		
5	0' - 7 1/4"	1 LAYER 5/8" GWB, 6" METAL STUDS @ 16" O.C., 1 LAYER 5/8" GWB	TO DECK		
6	0' - 7 1/4"	1 LAYER 5/8" GWB, 6" METAL STUDS @ 16" O.C. W/ SOUND BATTS, 1 LAYER 5/8" GWB	TO DECK		
7	0' - 7 5/8"	1 LAYER 7 5/8" CMU BLOCK	9'-4"		
8	0' - 7 5/8"	1 LAYER 7 5/8" CMU BLOCK	12'		EXTERIOR WALL ABOVE. SEE 1/A426
9	0' - 7 5/8"	1 LAYER 7 5/8" CMU BLOCK	TO DECK		
10	0' - 7 3/4"	1 LAYER 5/8" GWB, 6" METAL STUDS @ 16" O.C. W/ SOUND BATTS, 1 LAYER 5/8" BACKER BOARD, 1 LAYER TILE	TO DECK		
11	0' - 7 7/8"	1 LAYER 5/8" GWB, 6" METAL STUDS @ 16" O.C., 1 LAYER 5/8" BACKER BOARD, 1 LAYER TILE	6" ABOVE CEILING		
12	0' - 8"	1 LAYER TILE, 1 LAYER 5/8" BACKER BOARD, 6" METAL STUDS @ 16" O.C., 1 LAYER 5/8" BACKER BOARD, 1 LAYER TILE	6" ABOVE CEILING		
13	0' - 8 1/4"	1 LAYER TILE, 1 LAYER 5/8" BACKER BOARD, 6" METAL STUDS @ 16" O.C. W/ SOUND BATTS, 1 LAYER 5/8" BACKER BOARD, 1 LAYER TILE	TO DECK		
14	0' - 9 3/4"	1 LAYER 5/8" GWB, 1 1/2" FURRING , 7 5/8" CMU	TO DECK		
15	0' - 10"	7 5/8" CMU, 1 LAYER 5/8" BACKER BOARD, 1 LAYER TILE	TO DECK		
16	0' - 10 3/8"	1 LAYER 7 5/8" CMU BLOCK, 1 1/2" FURRING, 2 LAYERS 5/8" GWB	TO DECK		
17	0' - 10 3/8"	1 LAYER 7 5/8" CMU BLOCK, 1 1/2" AIR GAP WITH SOUND ISOLATION CLIPS, 1 LAYER 5/8" GWB, 1 LAYER SOUNDPROOFING COMPOUND, 1 LAYER 5/8" GWB	TO DECK		
18	0' - 11 5/8"	1 LAYER 11 5/8" CMU BLOCK	9'-6"		WALL 21 ABOVE. SEE 2/A427.
19	0' - 11 3/4"	1 LAYER 5/8" GWB, 1 1/2" FURRING, 7 5/8" CMU, 1 LAYER 7/8" FURRING, 1 LAYER 5/8" BACKER BOARD, 1 LAYER TILE	TO DECK		
20	0' - 11 7/8"	1 LAYER 5/8" GWB, 1 1/2" FURRING, 7 5/8" CMU, 1 1/2" FURRING, 1 LAYER 5/8" GWB	TO DECK		
21	1' - 2 3/8"	1 LAYER 11 5/8" CMU BLOCK, 1 1/2" AIR GAP WITH SOUND ISOLATION CLIPS, 1 LAYER 3/4" GWB, 1 LAYER SOUNDPROOFING COMPOUND, 1 LAYER 3/4" GWB	TO DECK		
22	1' - 2 3/8"	1 LAYER 7 5/8" CMU BLOCK, 1 1/2" FURRING, 2 LAYERS 5/8" GWB	TO DECK		

FLOOR PLAN NOTES

1. ALL MASONRY WALL DIMENSIONS ARE TO FACE OF MASONRY (FOM). SEE DIMENSION PLAN ON A102.
2. ALL METAL STUD WALL DIMENSIONS ARE TO FINISHED FACE OF WALL.
3. COORDINATE AND PROVIDE BACKING/BLOCKING FOR MILLWORK AND ITEMS ATTACHED OR MOUNTED TO WALLS OR CEILINGS.
4. SEE CONTROL JOINT PLAN AND ELEVATIONS FOR MASONRY CONTROL JOINT LOCATIONS - NOTED WITH CJ.
5. FINISH WALL TO FLOOR FOR BASE ADHESION.
6. FE = FIRE EXTINGUISHER LOCATION.
7. REFER TO WALL SCHEDULE ON A101.
8. SEE A131 FINISH PLAN FOR MORE WALL FINISH INFORMATION.

KEY NOTES

KEY	DESCRIPTION
1	ALUMINUM DOWNSPOUT - SEE ROOF PLAN FOR SIZE
2	CARD READER ON STUD WALL WITH GWB - BY OWNER
3	CARD READER ON MULLION - BY OWNER
4	CARD READER ON CMU WALL - BY OWNER
5	CISTERN - SEE SITE AND STRUCTURAL DRAWINGS
6	BIKE RACKS - SEE SITE DRAWINGS
7	EMERGENCY SHOWER AND EYEWASH - SEE PLUMBING DRAWINGS
8	POT FILLER - SEE PLUMBING DRAWINGS
9	WATER FOUNTAIN WITH BOTTLE FILL - SEE PLUMBING DRAWINGS
10	WATER HEATER - SEE PLUMBING DRAWINGS
11	STACKED WASHER AND DRYER - SEE ALTERNATE NO. 3
12	MECHANICAL EQUIPMENT - SEE MECHANICAL DRAWINGS
13	PILASTER - SEE STRUCTURAL
14	OWNER PROVIDED LAUNDRY BIN - NIC
15	OWNER PROVIDED PROJECTION SCREEN - NIC
16	OWNER PROVIDED BAGGED ICE BIN - NIC
17	OWNER PROVIDED AND INSTALLED TV - NIC
18	OWNER PROVIDED VENDING MACHINES - NIC
19	OWNER PROVIDED TIME CLOCK - NIC
20	OWNER PROVIDED WORK BENCHES - NIC
21	OWNER PROVIDED MOWER LIFT - NIC
22	EMERGENCY EYEWASH - SEE PLUMBING DRAWINGS
23	SIDEWALKS - SEE SITE/CIVIL DRAWINGS
24	REFRIGERATOR - SEE ALTERNATE NO. 3
25	GENERATOR- SEE ELECTRICAL DRAWINGS
26	RECESSED KNOX BOX - CONFIRM LOCATION AND HEIGHT WITH LOCAL FIRE AUTHORITY BEFORE INSTALLATION
27	ALUMINUM DOWNSPOUT AT FACE OF COLUMN - SEE ROOF PLAN FOR SIZE
28	SUMP PIT UNDER COUNTER
29	SLOPE SLAB 1/4:12 TO SUMP PIT
30	2" TALL ROUNDED CONTAMINENT CURB AT OPENING
31	EV CHARGING STATION MOUNTED ON FACE OF COLUMN SURROUND - SEE ELECTRICAL DRAWINGS
32	WALL TYPE CHANGES AT CONTROL JOINT
33	GLULAM COLUMNS - SEE STRUCTURAL
34	TRANSFORMER - SEE ELECTRICAL DRAWINGS
35	ELECTRICAL EQUIPMENT - SEE ELECTRICAL DRAWINGS
36	FLOOR DRAIN - SEE PLUMBING DRAWINGS
37	UTILITY SINK - SEE PLUMBING DRAWINGS
38	OWNER PROVIDED SURFACE MOUNTED DEFIBRILLATOR CABINET - COORDINATE FINAL LOCATION WITH OWNER DURING CONSTRUCTION
39	SECURITY ALARM KEYPAD PROVIDED BY OWNER'S SECURITY VENDOR

NOTE:
1. LOOSE APPLIANCES: BASE BID: OWNER PROVIDED, GC INSTALLED, ADD ALTERNATE NO. 3: GC PROVIDED AND INSTALLED.
2. BUILT IN APPLIANCES: GC PROVIDED AND INSTALLED IN BASE BID AND IN ALTERNATE NO. 3.
3. SEE SPEC SECTION 01 2300 ALTERNATES FOR LIST OF APPLIANCES INCLUDED IN ALTERNATE NO. 3.
4. CARD READERS TO BE INSTALLED BY OWNER'S SECURITY VENDOR. GC TO INSTALL INFRASTRUCTURE TO CARD READER LOCATIONS.

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Registered Landscape Architect 11093 Regina Dunlap Anthony North Carolina Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
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DRAWN BY: MDP, ADF
CHECKED BY: MDP

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1	PRE BID MODIFICATIONS/PERMIT REVIEW	03.10.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A101

ADMINISTRATION BUILDING - FLOOR PLAN

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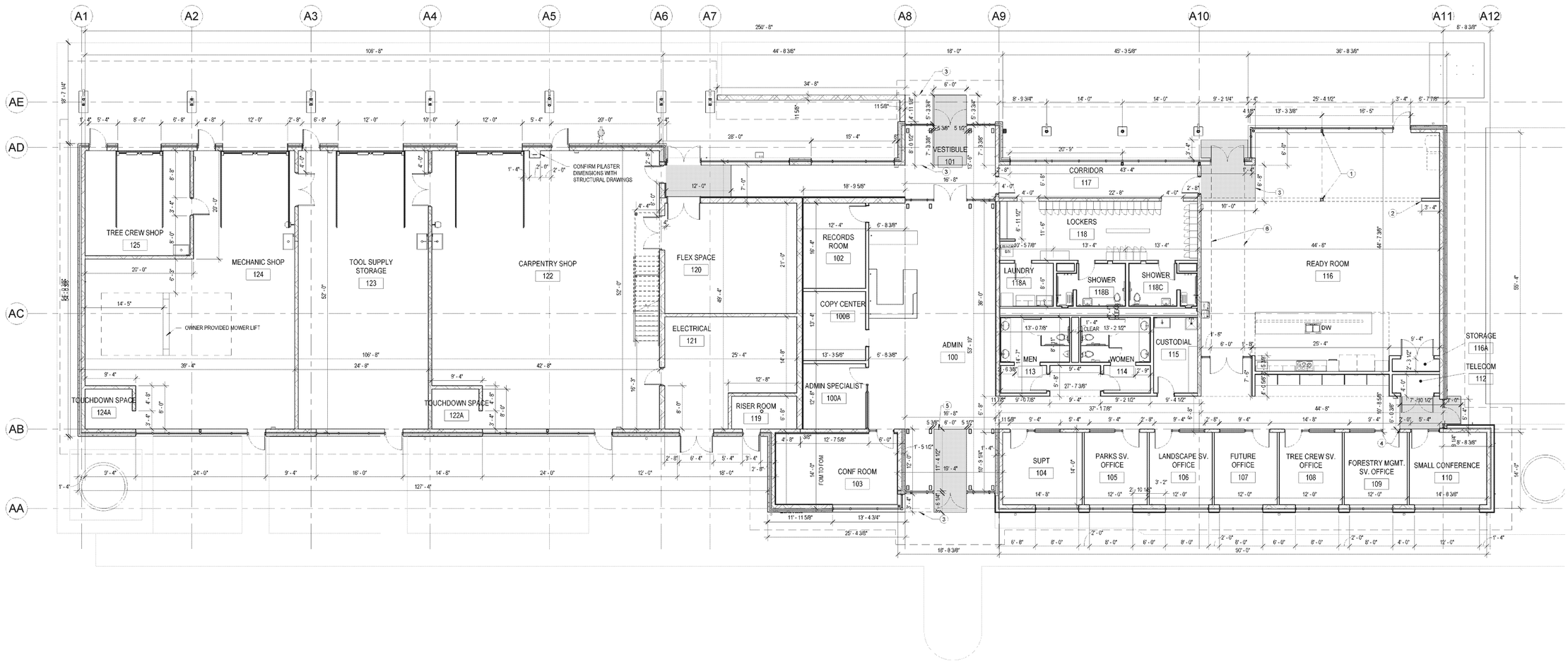

1 A102 FLOOR PLAN - DIMENSIONED ADMINISTRATION BUILDING
1/8" = 1'-0"

#	DIMENSION PLAN KEY NOTES
KEY	DESCRIPTION
1	ALIGN CENTER OF COLUMNS
2	ALIGN WITH WALL ABOVE
3	ALIGN WALK OFF GRID WITH WALL
4	ALIGN WALK OFF GRID WITH OPENING
5	ALIGN WALK OFF GRID WITH GLULAM COLUMN
6	ALIGN DOORS

FLOOR PLAN NOTES

1. ALL MASONRY WALL DIMENSIONS ARE TO FACE OF MASONRY (FOM). SEE DIMENSION PLAN ON A102.
2. ALL METAL STUD WALL DIMENSIONS ARE TO FINISHED FACE OF WALL.
3. COORDINATE AND PROVIDE BACKING/BLOCKING FOR MILLWORK AND ITEMS ATTACHED OR MOUNTED TO WALLS OR CEILINGS.
4. SEE CONTROL JOINT PLAN AND ELEVATIONS FOR MASONRY CONTROL JOINT LOCATIONS - NOTED WITH CJ.
5. FINISH WALL TO FLOOR FOR BASE ADHESION.
6. FE = FIRE EXTINGUISHER LOCATION.
7. REFER TO WALL SCHEDULE ON A101.
8. SEE A131 FINISH PLAN FOR MORE WALL FINISH INFORMATION.

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A102
ADMINISTRATION BUILDING - DIMENSIONED FLOOR PLAN

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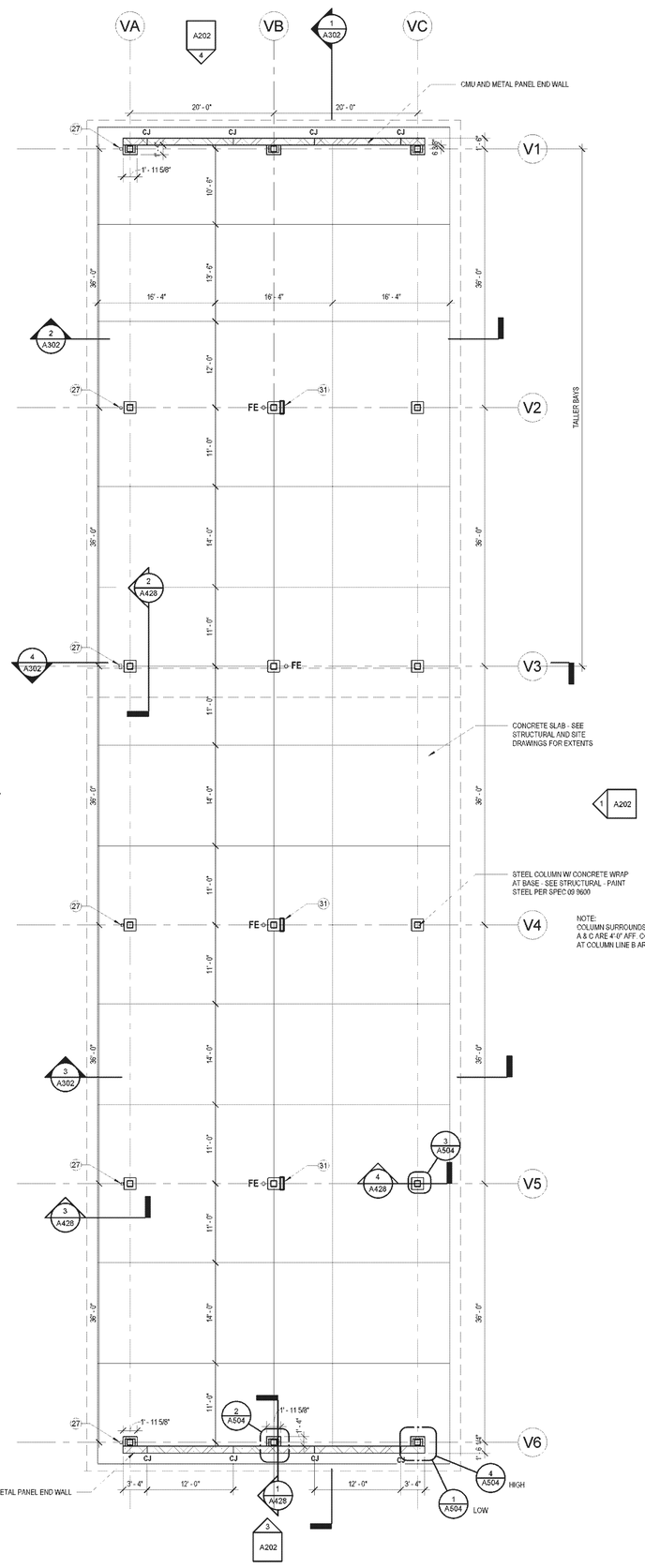
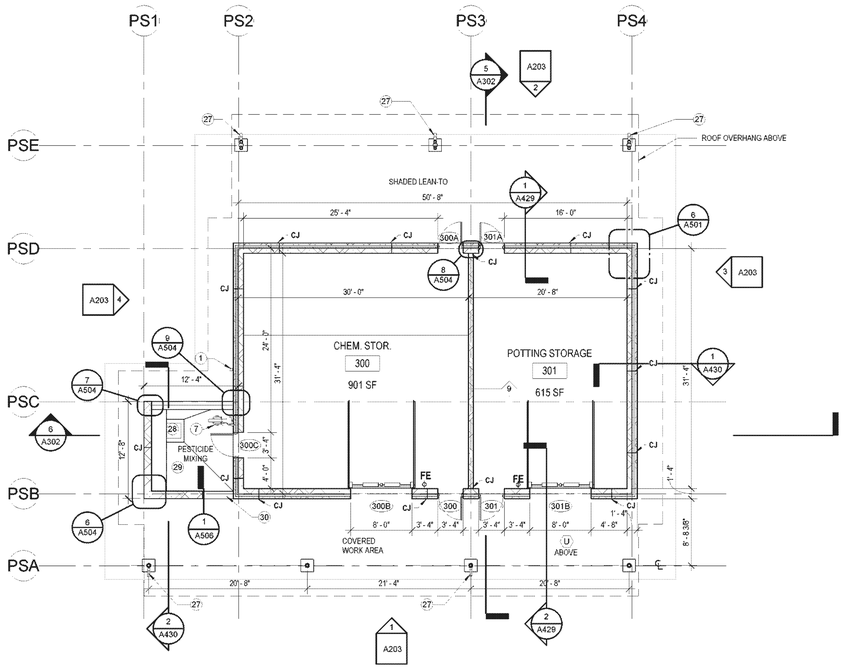


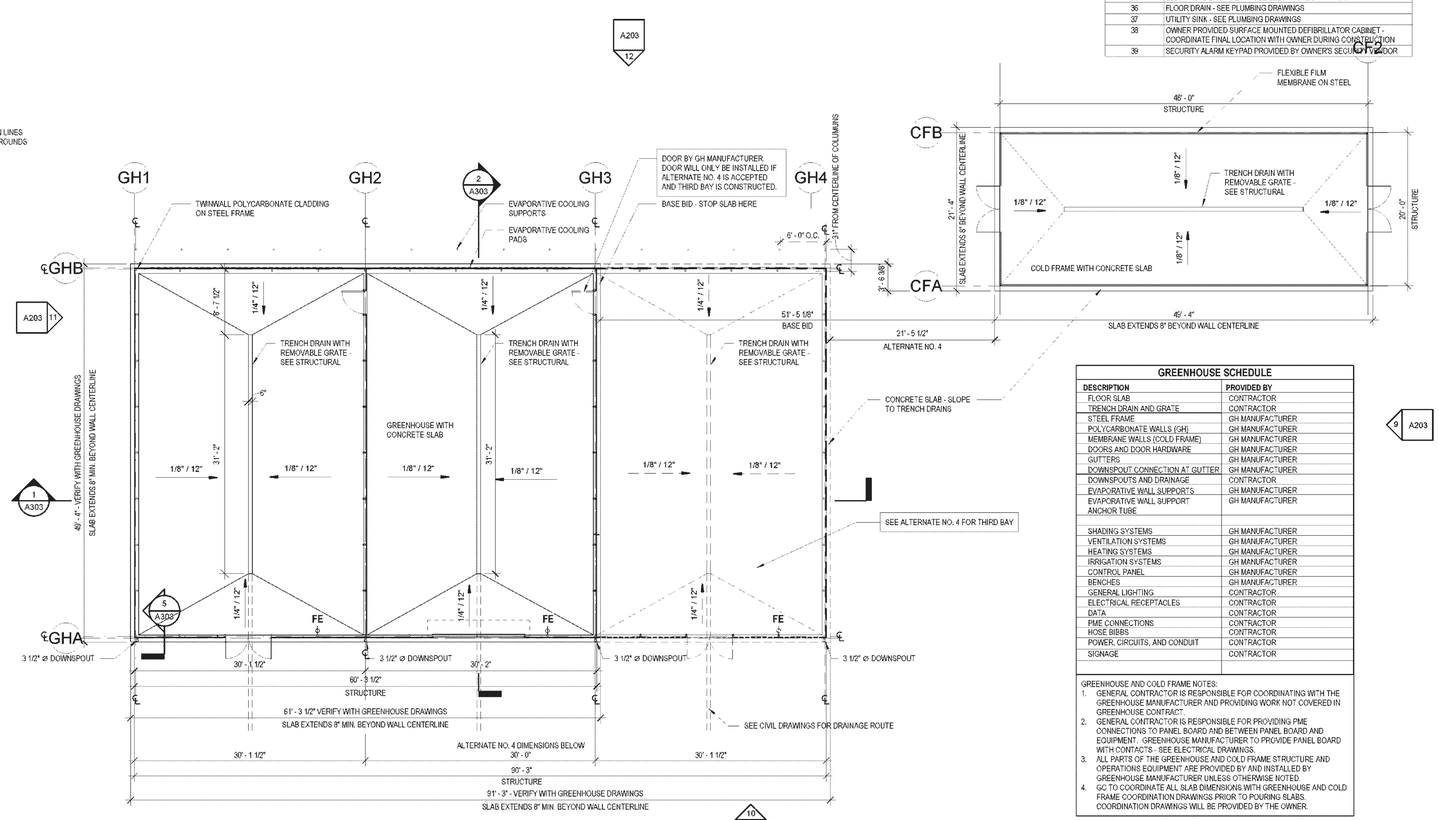
1 A103 FLOOR PLAN - VEHICLE SHED
1/8" = 1'-0"



2 A103 FLOOR PLAN - POTTING SHED
1/8" = 1'-0"

FLOOR PLAN NOTES
1. ALL MASONRY WALL DIMENSIONS ARE TO FACE OF MASONRY (FOM). SEE DIMENSION PLAN ON A102.
2. ALL METAL STUD WALL DIMENSIONS ARE TO FINISHED FACE OF WALL.
3. COORDINATE AND PROVIDE BACKING/BLOCKING FOR MILLWORK AND ITEMS ATTACHED OR MOUNTED TO WALLS OR CEILINGS.
4. SEE CONTROL JOINT PLAN AND ELEVATIONS FOR MASONRY CONTROL JOINT LOCATIONS - NOTED WITH CJ.
5. FINISH WALL TO FLOOR FOR BASE ADHESION.
6. FE = FIRE EXTINGUISHER LOCATION.
7. REFER TO WALL SCHEDULE ON A101.
8. SEE A131 FINISH PLAN FOR MORE WALL FINISH INFORMATION.

KEY NOTES	
KEY	DESCRIPTION
1	ALUMINUM DOWNSPOUT - SEE ROOF PLAN FOR SIZE
2	CARD READER ON STUD WALL WITH QWB - BY OWNER
3	CARD READER ON MULLION - BY OWNER
4	CARD READER ON CMU WALL - BY OWNER
5	CISTERN - SEE SITE AND STRUCTURAL DRAWINGS
6	BIKE RACKS - SEE SITE DRAWINGS
7	EMERGENCY SHOWER AND EYEWASH - SEE PLUMBING DRAWINGS
8	POT FILLER - SEE PLUMBING DRAWINGS
9	WATER FOUNTAIN WITH BOTTLE FILL - SEE PLUMBING DRAWINGS
10	WATER HEATER - SEE PLUMBING DRAWINGS
11	STACKED WASHER AND DRYER - SEE ALTERNATE NO. 3
12	MECHANICAL EQUIPMENT - SEE MECHANICAL DRAWINGS
13	PLASTER - SEE STRUCTURAL
14	OWNER PROVIDED LAUNDRY BIN - NIC
15	OWNER PROVIDED PROJECTION SCREEN - NIC
16	OWNER PROVIDED BAGGED ICE BIN - NIC
17	OWNER PROVIDED AND INSTALLED TV - NIC
18	OWNER PROVIDED VENDING MACHINES - NIC
19	OWNER PROVIDED TIME CLOCK - NIC
20	OWNER PROVIDED WORK BENCHES - NIC
21	OWNER PROVIDED MOWER LIFT - NIC
22	EMERGENCY EYEWASH - SEE PLUMBING DRAWINGS
23	SIDEWALKS - SEE SITE/CIVIL DRAWINGS
24	REFRIGERATOR - SEE ALTERNATE NO. 3
25	GENERATOR- SEE ELECTRICAL DRAWINGS
26	RECESSED KNOX BOX - CONFIRM LOCATION AND HEIGHT WITH LOCAL FIRE AUTHORITY BEFORE INSTALLATION
27	ALUMINUM DOWNSPOUT AT FACE OF COLUMN - SEE ROOF PLAN FOR SIZE
28	SUMP PIT UNDER COUNTER
29	SLOPE SLAB 1/4:12 TO SUMP PIT
30	2" TALL ROUNDED CONTAINMENT CURB AT OPENING
31	EV CHARGING STATION MOUNTED ON FACE OF COLUMN SURROUND - SEE ELECTRICAL DRAWINGS
32	WALL TYPE CHANGES AT CONTROL JOINT
33	GLULAM COLUMNS - SEE STRUCTURAL
34	TRANSFORMER - SEE ELECTRICAL DRAWINGS
35	ELECTRICAL EQUIPMENT - SEE ELECTRICAL DRAWINGS
36	FLOOR DRAIN - SEE PLUMBING DRAWINGS
37	UTILITY SINK - SEE PLUMBING DRAWINGS
38	OWNER PROVIDED SURFACE MOUNTED DEFIBRILLATOR CABINET - COORDINATE FINAL LOCATION WITH OWNER DURING CONSTRUCTION
39	SECURITY ALARM KEYPAD PROVIDED BY OWNERS SECURITY VENDOR



4 A103 FLOOR PLAN - GREENHOUSE AND COLD FRAME
1/8" = 1'-0"

GREENHOUSE SCHEDULE	
DESCRIPTION	PROVIDED BY
FLOOR SLAB	CONTRACTOR
TRENCH DRAIN AND GRATE	CONTRACTOR
STEEL FRAME	GH MANUFACTURER
POLYCARBONATE WALLS (GH)	GH MANUFACTURER
MEMBRANE WALLS (COLD FRAME)	GH MANUFACTURER
DOORS AND DOOR HARDWARE	GH MANUFACTURER
GUTTERS	GH MANUFACTURER
DOWNSPOUT CONNECTION AT GUTTER	GH MANUFACTURER
DOWNSPOUTS AND DRAINAGE	CONTRACTOR
EVAPORATIVE WALL SUPPORTS	GH MANUFACTURER
EVAPORATIVE WALL SUPPORT ANCHOR TUBE	GH MANUFACTURER
SHADING SYSTEMS	GH MANUFACTURER
VENTILATION SYSTEMS	GH MANUFACTURER
HEATING SYSTEMS	GH MANUFACTURER
IRRIGATION SYSTEMS	GH MANUFACTURER
CONTROL PANEL	GH MANUFACTURER
BENCHES	GH MANUFACTURER
GENERAL LIGHTING	CONTRACTOR
ELECTRICAL RECEPTACLES	CONTRACTOR
DATA	CONTRACTOR
PME CONNECTIONS	CONTRACTOR
HOSE BIBBS	CONTRACTOR
POWER, CIRCUITS, AND CONDUIT	CONTRACTOR
SIGNAGE	CONTRACTOR

GREENHOUSE AND COLD FRAME NOTES:
1. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE GREENHOUSE MANUFACTURER AND PROVIDING WORK NOT COVERED IN GREENHOUSE CONTRACT.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING PME CONNECTIONS TO PANEL BOARD AND BETWEEN PANEL BOARD AND EQUIPMENT. GREENHOUSE MANUFACTURER TO PROVIDE PANEL BOARD WITH CONTACTS - SEE ELECTRICAL DRAWINGS.
3. ALL PARTS OF THE GREENHOUSE AND COLD FRAME STRUCTURE AND OPERATIONS EQUIPMENT ARE PROVIDED BY AND INSTALLED BY GREENHOUSE MANUFACTURER UNLESS OTHERWISE NOTED.
4. GC TO COORDINATE ALL SLAB DIMENSIONS WITH GREENHOUSE AND COLD FRAME COORDINATION DRAWINGS PRIOR TO POURING SLABS. COORDINATION DRAWINGS WILL BE PROVIDED BY THE OWNER.

THIRD BAY OF GREENHOUSE IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 4 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

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A103

AUXILIARY BUILDINGS - FLOOR PLANS

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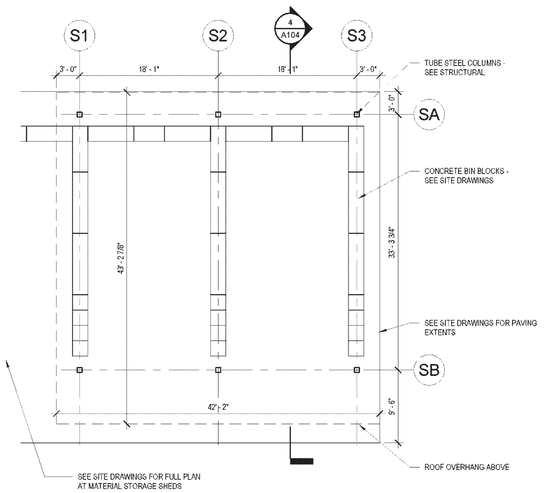
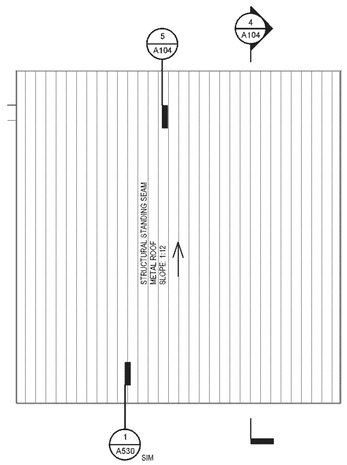
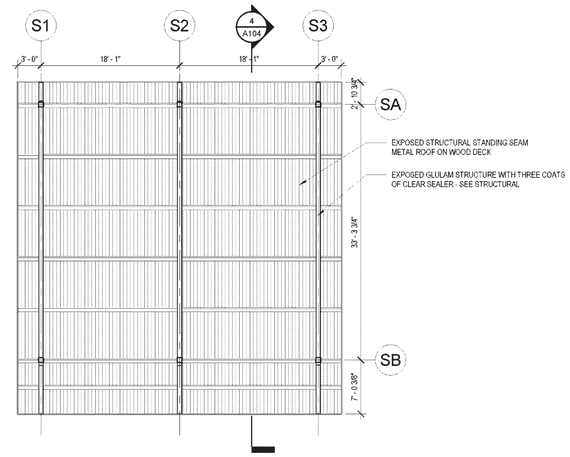


1 A104 FLOOR PLAN - MATERIAL STORAGE
1/8" = 1'-0"



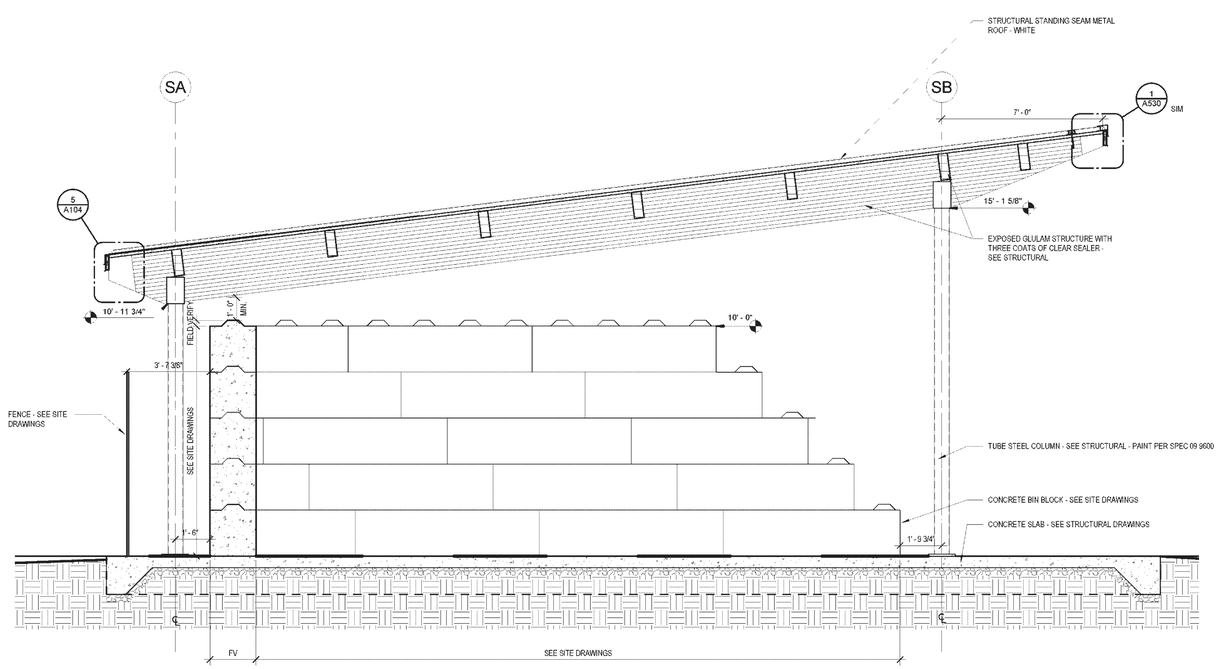
2 A104 ROOF PLAN - MATERIAL STORAGE
1/8" = 1'-0"



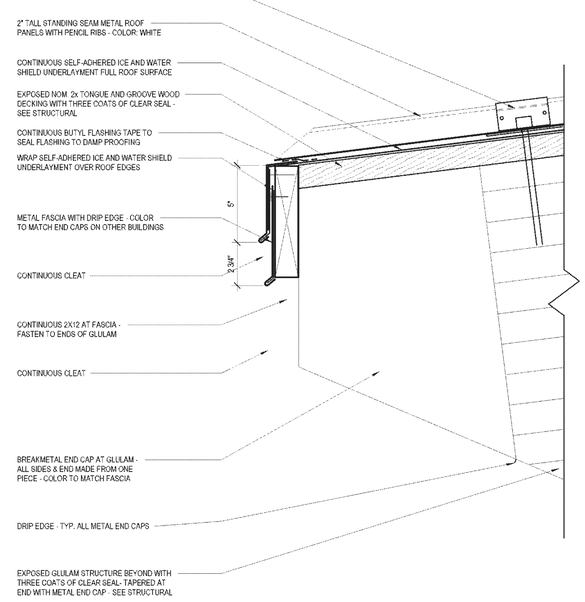
3 A104 REFLECTED CEILING PLAN - MATERIAL STORAGE
1/8" = 1'-0"

MATERIAL STORAGE ROOF STRUCTURE IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 5 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

BASE BID INCLUDES SLAB AND BIN-BLOCK WALLS PER SITE DRAWINGS.



4 A104 SECTION THROUGH MATERIAL STORAGE
3/8" = 1'-0"



5 A104 ROOF DETAIL @ MATERIAL STORAGE LOW ROOF
3" = 1'-0"

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Melinda Coffman Pittman 11993 Raleigh, N.C. 5/22/2025

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A104
MATERIAL STORAGE CANOPY

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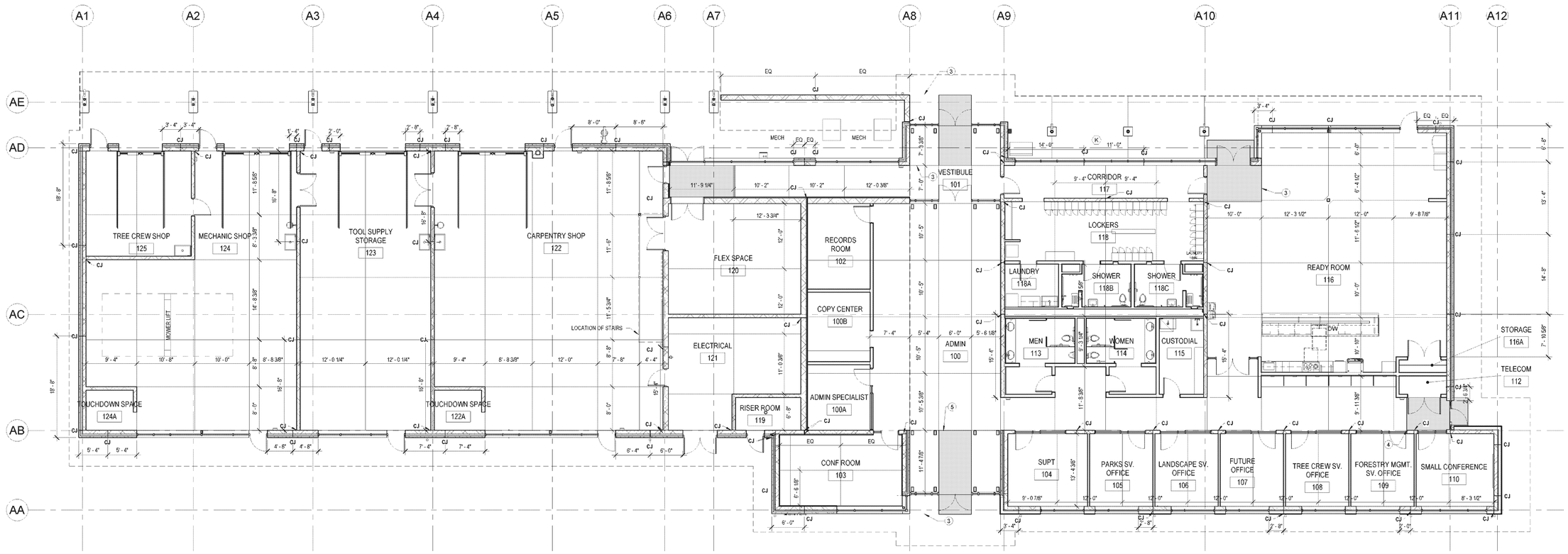
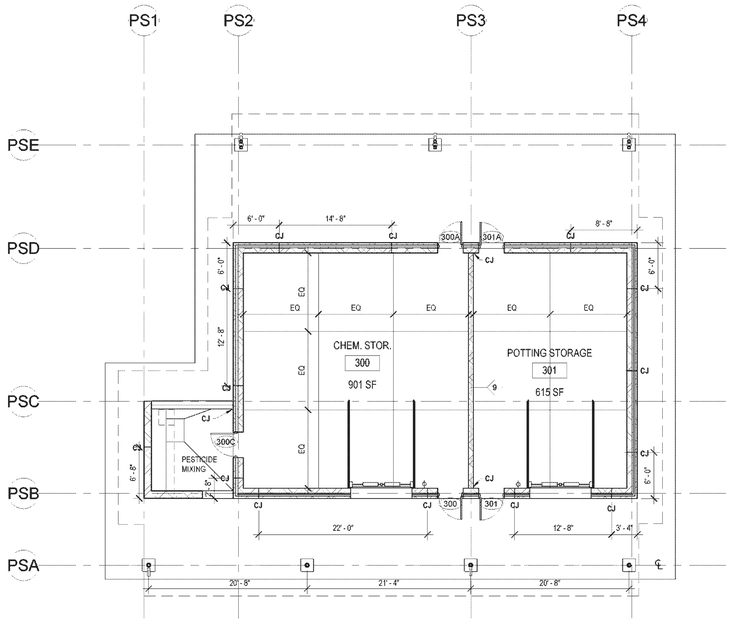


1 A105 FLOOR PLAN -ADMINISTRATION BUILDING CONTROL JOINTS
1/8" = 1'-0"



2 A105 FLOOR PLAN - POTTING SHED - CONTROL JOINTS
1/8" = 1'-0"

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Melissa Corinne Patterson 31693 Registered Landscape Architect North Carolina Raleigh, N.C.
5/22/2025

PROJECT INFORMATION

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A105
CONTROL JOINT LAYOUTS

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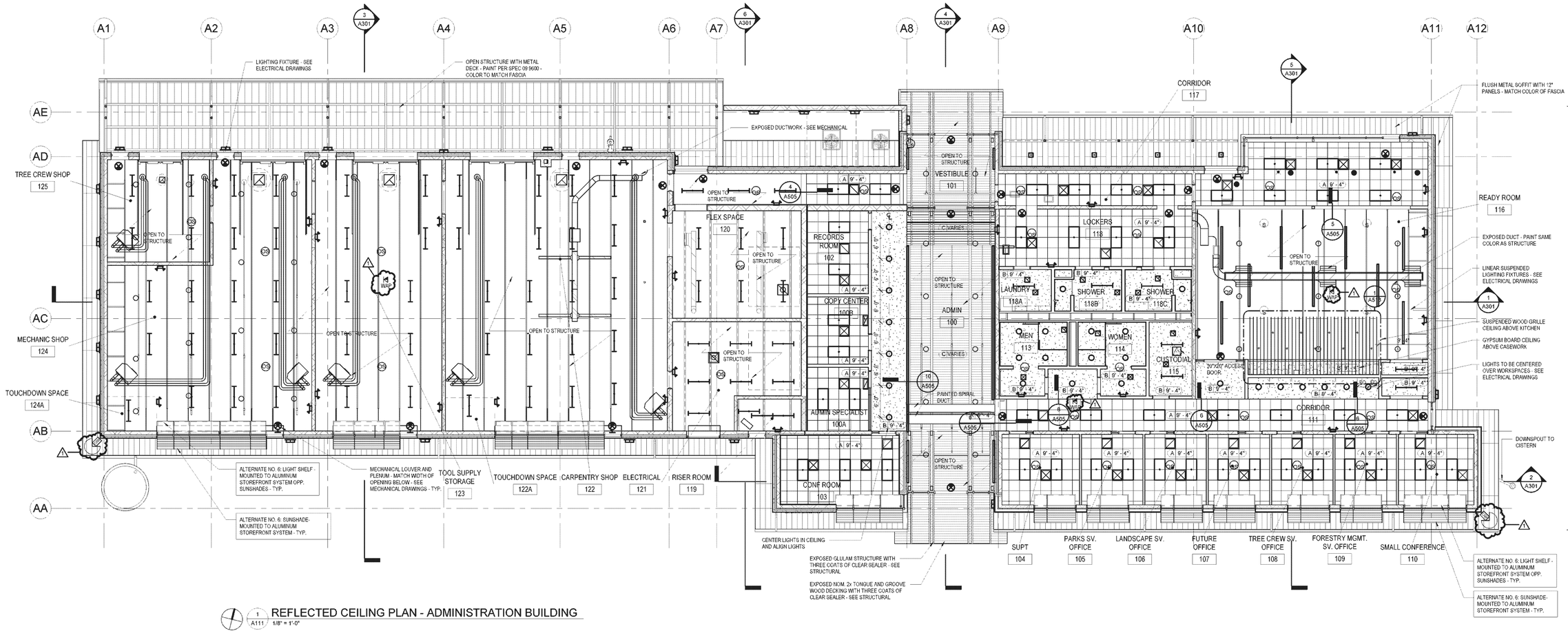
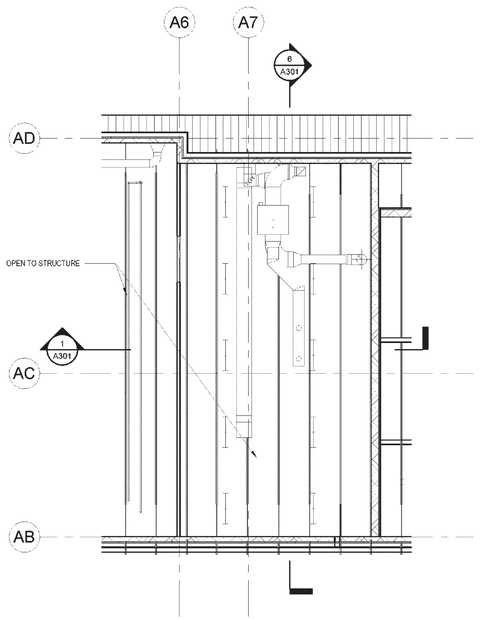


1 A111 REFLECTED CEILING PLAN - ADMINISTRATION BUILDING
1/8" = 1'-0"

NOTE: ALUMINUM SUNSHADES AND LIGHT SHELVES ARE AN ADD ALTERNATE. SEE ALTERNATE NO. 6 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES



2 A111 REFLECTED CEILING PLAN - MEZZANINE
1/8" = 1'-0"

CEILING LEGEND

CEILING TYPE — A | 10'-0" — CEILING HEIGHT

PATTERN	KEY	CEILING MATERIAL
	A	SUSPENDED 2'x2' ACOUSTICAL CEILING TILES
	B	GYPSUM BOARD
		EXPOSED NOM. 2x TONGUE AND GROOVE WOOD DECKING WITH THREE COATS OF CLEAR SEALER - OPEN TO STRUCTURE
		EXTERIOR SOFFIT PANELS - 12" WIDE, FLUSH - MATCH FASCIA COLOR

SYMBOL	DESCRIPTION
	SUSPENDED OR SURFACE MOUNTED LINEAR LIGHTING FIXTURE
	CEILING OR PENDENT LIGHT FIXTURE
	CEILING MOUNTED OR LAY-IN TYPE FIXTURE
	EMERGENCY LIGHT
	EXIT SIGN
	AIR SUPPLY
	EXHAUST
	AIR RETURN
S	SPEAKER
OS	OCCUPANCY SENSOR
	SPRINKLER HEAD - SEE FP DRAWINGS FOR LAYOUT
WAP	WIRELESS ACCESS POINT DEVICE - OWNER PROVIDED. SEE ELECTRICAL AND COORDINATE LOCATIONS
1	OWNER PROVIDED 270-DEGREE, BUILDING-MOUNTED SECURITY CAMERA - SEE ELECTRICAL AND COORDINATE INSTALLATION, VIEW ANGLE, AND MOUNTING HEIGHT WITH OWNER'S SECURITY VENDOR.

CEILING NOTES:

1. SEE ELECTRICAL, MECHANICAL, AND FIRE PROTECTION PLANS FOR MORE INFORMATION.
2. WHERE CEILING KEYNOTE IS NOT NOTED, ROOM HAS EXPOSED STRUCTURE - SEE FINISH PLAN.
3. CENTER CEILING GRID IN ROOM UNLESS SHOWN OTHERWISE. CENTER LIGHTS AS INDICATED. NOTIFY ARCHITECT OF ANY CONFLICTS OF LOCATIONS PRIOR TO INSTALLATION.
4. ALL DIMENSIONS ARE TO CENTERLINE OF FIXTURE UNLESS OTHERWISE NOTED.
5. SEE FINISH PLANS FOR PAINT COLORS OF CEILING SOFFITS, EXPOSED STRUCTURE, SPRINKLER PIPING, AND DUCTWORK.
6. CONTRACTOR IS NOT TO INSTALL ANY ACCESS PANELS IN GWB CEILING WITHOUT PRIOR APPROVAL AND COORDINATION WITH ARCHITECT.
7. SPEAKERS AND PROJECTOR PROVIDED BY OWNER.
8. GENERAL CONTRACTOR TO SCHEDULE A PRE CONSTRUCTION MEETING TO COORDINATE TRADES IN EXPOSED CEILINGS PRIOR TO INSTALLATION OF ANY EXPOSED PIPING, CONDUIT, DUCT WORK OR SPRINKLER LINES. INCLUDE ARCHITECT AND ENGINEER IN MEETING.
9. TEGULAR CEILING TILES THAT WILL BE CUT TO FIT AROUND THE PERIMETER OF ROOMS ARE TO BE FIELD CUT & PAINTED TO CREATE A TEGULAR EDGE TO MATCH OTHER EDGES.

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

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LANDSCAPE ARCHITECTURE + CIVIL ENGINEERING
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SEALS

Esse Architects P.A. — 52498 — Raleigh, N.C.

REGISTERED LANDSCAPE ARCHITECT — 11583 — 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MDP, ADF
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION:	DATE
1	PRE-BID MODIFICATIONS/PERMIT REVIEW	03.19.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A111

ADMINISTRATION BUILDING - REFLECTED CEILING PLAN

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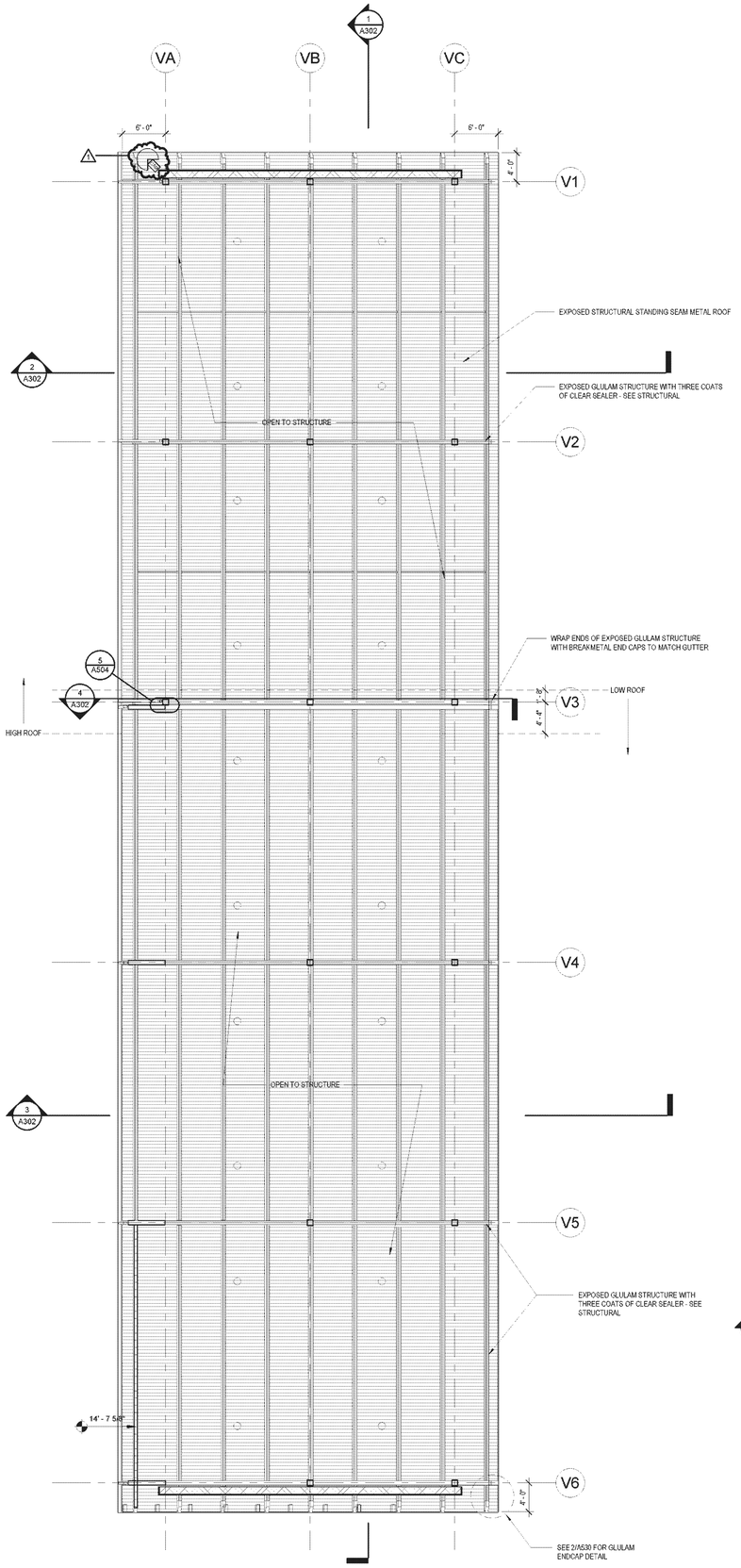
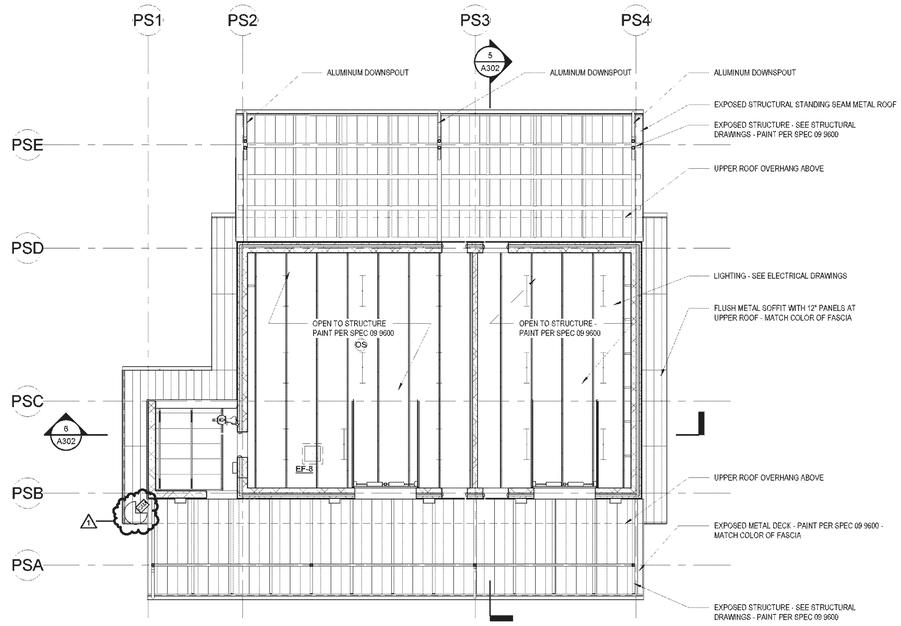
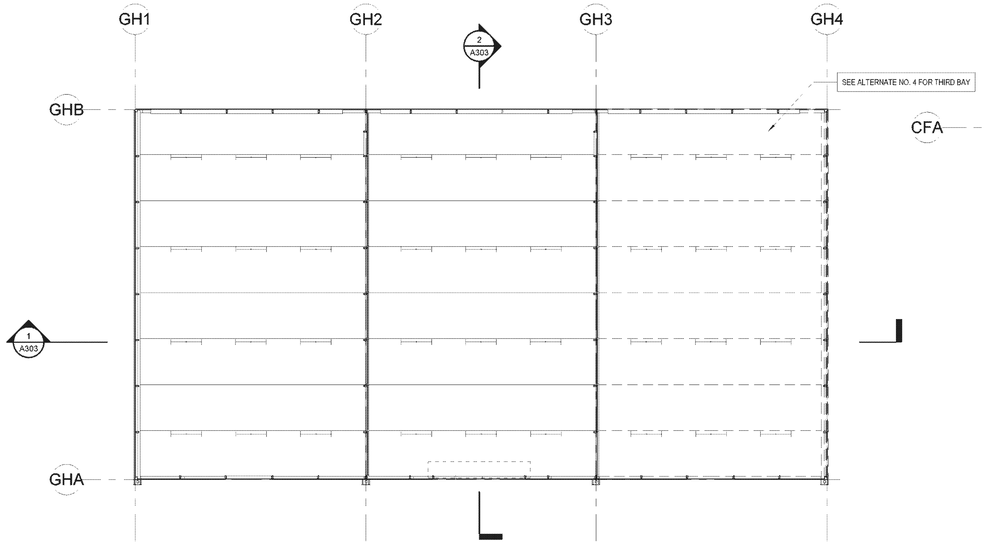


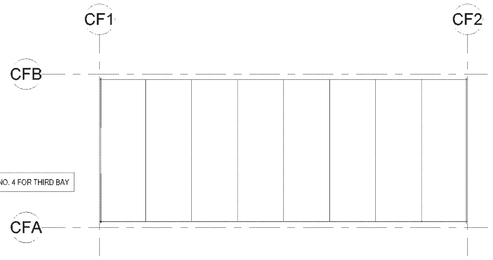
1 A112 REFLECTED CEILING PLAN - VEHICLE SHED
1/8" = 1'-0"



2 A112 REFLECTED CEILING PLAN - POTTING SHED
1/8" = 1'-0"



3 A112 REFLECTED CEILING PLAN - GREENHOUSE AND COLDFRAME
1/8" = 1'-0"



CEILING LEGEND

CEILING TYPE — A | 10'-0" — CEILING HEIGHT

PATTERN	KEY	CEILING MATERIAL
	A	SUSPENDED 2'X2' ACOUSTICAL CEILING TILES
	B	GYPSUM BOARD
		EXPOSED NOM. 2x TONGUE AND GROOVE WOOD DECKING WITH THREE COATS OF CLEAR SEALER - OPEN TO STRUCTURE
		EXTERIOR SOFFIT PANELS - 12" WIDE, PLUSH - MATCH FASCIA COLOR

SYMBOL	DESCRIPTION
	SUSPENDED OR SURFACE MOUNTED LINEAR LIGHTING FIXTURE
	CEILING OR PENDENT LIGHT FIXTURE
	CEILING MOUNTED OR LAY-IN TYPE FIXTURE
	EMERGENCY LIGHT
	EXIT SIGN
	AIR SUPPLY
	EXHAUST
	AIR RETURN
S	SPEAKER
OS	OCCUPANCY SENSOR
	SPRINKLER HEAD - SEE FP DRAWINGS FOR LAYOUT
WAP	WIRELESS ACCESS POINT DEVICE - OWNER PROVIDED - SEE ELECTRICAL AND COORDINATE LOCATIONS
1	OWNER PROVIDED 270-DEGREE, BUILDING-MOUNTED SECURITY CAMERA - SEE ELECTRICAL AND COORDINATE INSTALLATION, VIEW ANGLE, AND MOUNTING HEIGHT WITH OWNER'S SECURITY VENDOR

CEILING NOTES:

1. SEE ELECTRICAL, MECHANICAL, AND FIRE PROTECTION PLANS FOR MORE INFORMATION.
2. WHERE CEILING KEYNOTE IS NOT NOTED, ROOM HAS EXPOSED STRUCTURE - SEE FINISH PLAN.
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9. TEGULAR CEILING TILES THAT WILL BE CUT TO FIT AROUND THE PERIMETER OF ROOMS ARE TO BE FIELD CUT & PAINTED TO CREATE A TEGULAR EDGE TO MATCH OTHER EDGES.

GREENHOUSE SCHEDULE

DESCRIPTION	PROVIDED BY
FLOOR SLAB	CONTRACTOR
TRENCH DRAIN AND GRATE	CONTRACTOR
STEEL FRAME	GH MANUFACTURER
POLYCARBONATE WALLS (GH)	GH MANUFACTURER
MEMBRANE WALLS (COLD FRAME)	GH MANUFACTURER
DOORS AND DOOR HARDWARE	GH MANUFACTURER
GUTTERS	GH MANUFACTURER
DOWNSPOUT CONNECTION AT GUTTER	GH MANUFACTURER
DOWNSPOUTS AND DRAINAGE	CONTRACTOR
EVAPORATIVE WALL SUPPORTS	GH MANUFACTURER
EVAPORATIVE WALL SUPPORT ANCHOR TUBE	GH MANUFACTURER
SHADING SYSTEMS	GH MANUFACTURER
VENTILATION SYSTEMS	GH MANUFACTURER
HEATING SYSTEMS	GH MANUFACTURER
IRRIGATION SYSTEMS	GH MANUFACTURER
CONTROL PANEL	GH MANUFACTURER
BENCHES	GH MANUFACTURER
GENERAL LIGHTING	CONTRACTOR
ELECTRICAL RECEPTACLES	CONTRACTOR
DATA	CONTRACTOR
PME CONNECTIONS	CONTRACTOR
HOSE BIBBS	CONTRACTOR
POWER, CIRCUITS, AND CONDUIT	CONTRACTOR
SIGNAGE	CONTRACTOR

GREENHOUSE AND COLD FRAME NOTES:

1. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE GREENHOUSE MANUFACTURER AND PROVIDING WORK NOT COVERED IN GREENHOUSE CONTRACT.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING PME CONNECTIONS TO PANEL BOARD AND BETWEEN PANEL BOARD AND EQUIPMENT. GREENHOUSE MANUFACTURER TO PROVIDE PANEL BOARD WITH CONTACTS - SEE ELECTRICAL DRAWINGS.
3. ALL PARTS OF THE GREENHOUSE AND COLD FRAME STRUCTURE AND OPERATIONS EQUIPMENT ARE PROVIDED BY AND INSTALLED BY GREENHOUSE MANUFACTURER UNLESS OTHERWISE NOTED.
4. GC TO COORDINATE ALL SLAB DIMENSIONS WITH GREENHOUSE AND COLD FRAME COORDINATION DRAWINGS PRIOR TO POURING SLABS. COORDINATION DRAWINGS WILL BE PROVIDED BY THE OWNER.

THIRD BAY OF GREENHOUSE IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 4 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

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SEALS

Esse Architects P.A. 52498 Registered Architect Raleigh, N.C. North Carolina

Brian Conner Anthony 11993 Registered Professional Engineer Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: ADF
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATIONS/PERMIT REVIEW	01.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A112

AUXILIARY BUILDINGS - REFLECTED CEILING PLANS

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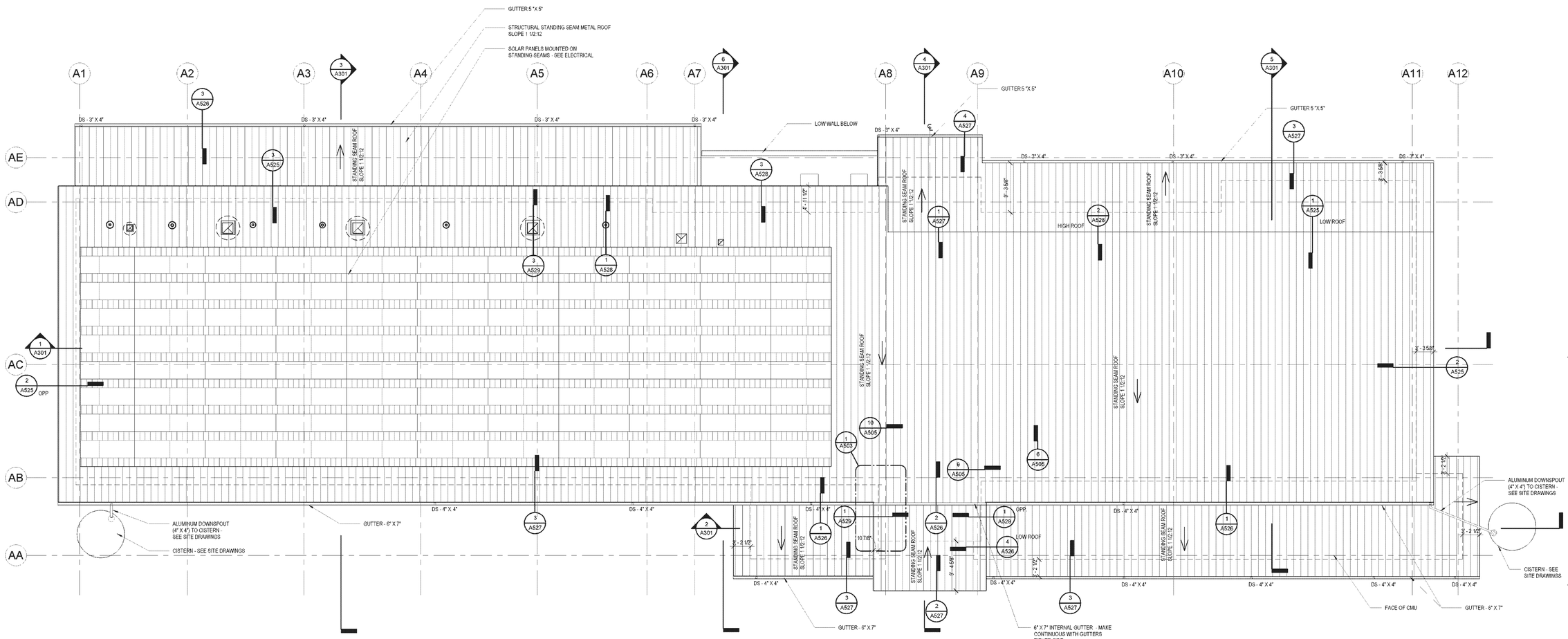

1 A121 ROOF PLAN - ADMINISTRATION BUILDING
1/8" = 1'-0"

ROOF PLAN LEGEND

	STANDING SEAM METAL ROOF, BASIS OF DESIGN: BONE WHITE
	SOLAR PANELS
DS	DOWN SPOUT - SIZES PER PLAN

GENERAL ROOF NOTES

1. GENERAL CONTRACTOR TO COORDINATE ALL ROOF PENETRATIONS TO AVOID EXTENTS OF PV ARRAY.
2. GENERAL CONTRACTOR TO COORDINATE BETWEEN ROOFING AND PV CONTRACTORS. PROVIDE SHOP DRAWING SUBMITTALS FOR THESE CONCURRENTLY. SCHEDULE A PRECONSTRUCTION MEETING TO INCLUDE THESE CONTRACTORS, THE ARCHITECT AND THE ENGINEER.

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

Esse Architects P.A. 52498 Raleigh, N.C.

REGISTERED LANDSCAPE ARCHITECT 11583 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
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DATE: 01.13.2025
DRAWN BY: MDP, ADF
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	02.21.2025

SHEET INFORMATION

A121

ADMINISTRATION BUILDING - ROOF PLAN

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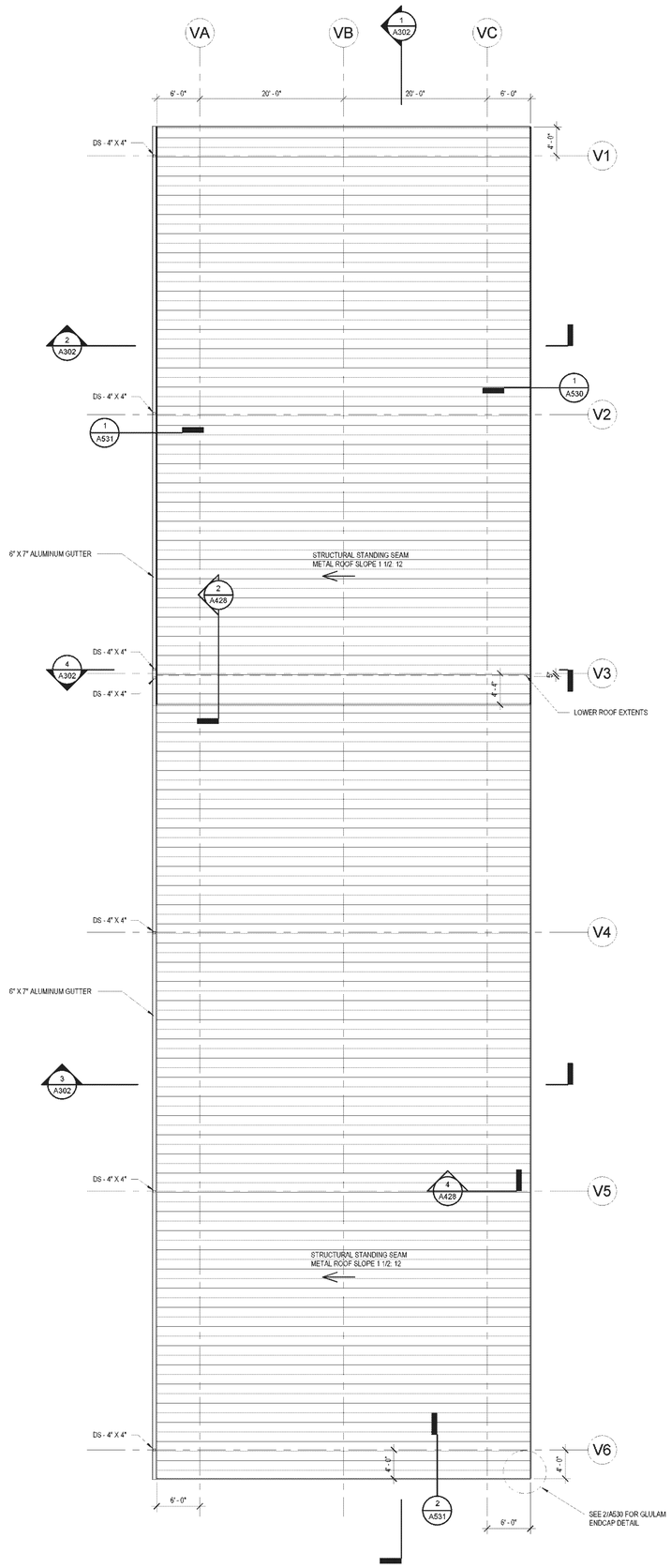


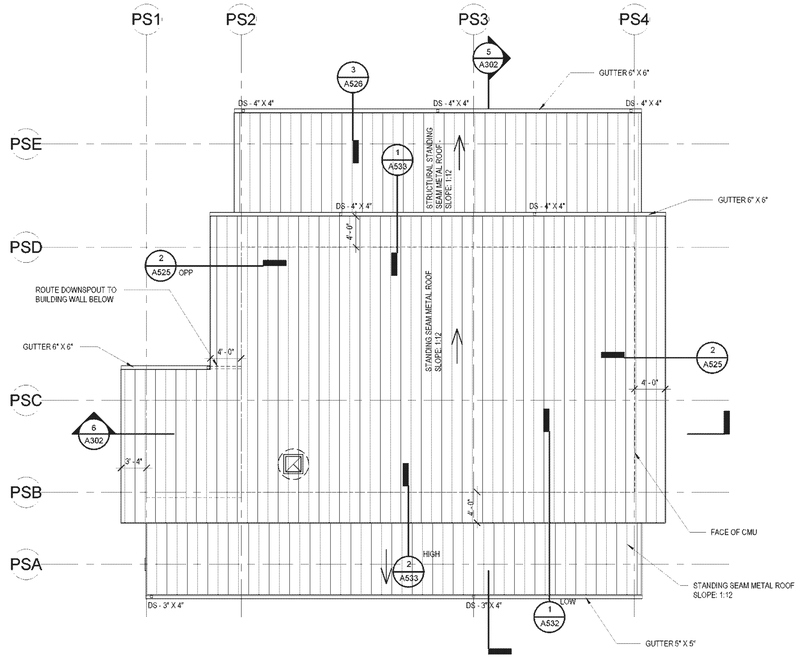
1 A122 ROOF PLAN - VEHICLE SHED
1/8" = 1'-0"

ROOF PLAN LEGEND

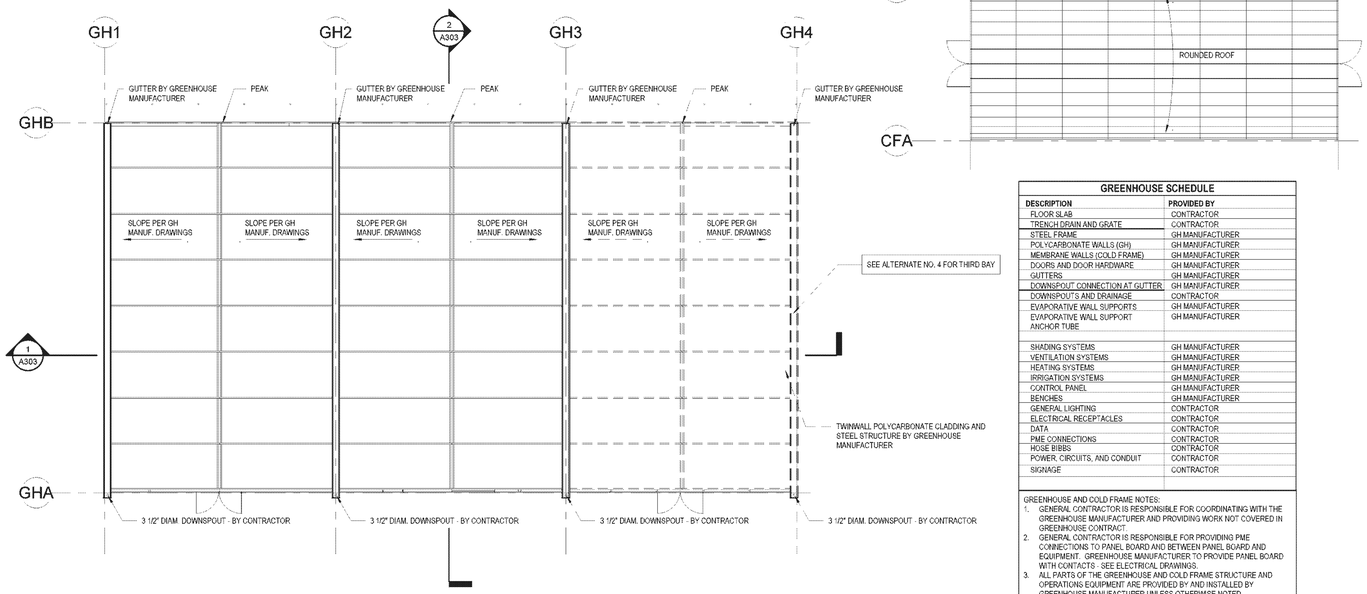
	STANDING SEAM METAL ROOF, BASIS OF DESIGN: BONE WHITE
DS	DOWN SPOUT - SIZES PER PLAN

GENERAL ROOF NOTES

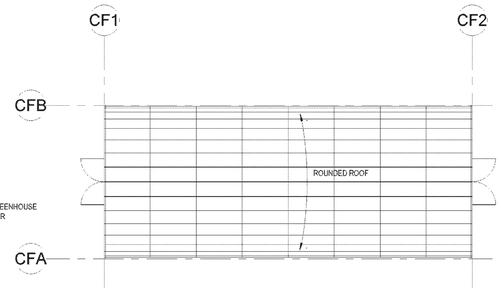
1. GENERAL CONTRACTOR TO COORDINATE ALL ROOF PENETRATIONS TO AVOID EXTENTS OF PV ARRAY.



2 A122 ROOF PLAN - POTTING SHED
1/8" = 1'-0"



3 A122 ROOF PLAN - GREENHOUSE AND COLDFRAME
1/8" = 1'-0"



GREENHOUSE SCHEDULE

DESCRIPTION	PROVIDED BY
FLOOR SLAB	CONTRACTOR
TRENCH DRAIN AND GRATE	CONTRACTOR
STEEL FRAME	GH MANUFACTURER
POLYCARBONATE WALLS (GH)	GH MANUFACTURER
MEMBRANE WALLS (COLD FRAME)	GH MANUFACTURER
DOORS AND DOOR HARDWARE	GH MANUFACTURER
GUTTERS	GH MANUFACTURER
DOWNSPOUT CONNECTION AT GUTTER	GH MANUFACTURER
DOWNSPOUTS AND DRAINAGE	CONTRACTOR
EVAPORATIVE WALL SUPPORTS	GH MANUFACTURER
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HEATING SYSTEMS	GH MANUFACTURER
IRRIGATION SYSTEMS	GH MANUFACTURER
CONTROL PANEL	GH MANUFACTURER
BENCHES	GH MANUFACTURER
GENERAL LIGHTING	CONTRACTOR
ELECTRICAL RECEPTACLES	CONTRACTOR
DATA	CONTRACTOR
PME CONNECTIONS	CONTRACTOR
HOSE BIBBS	CONTRACTOR
POWER, CIRCUITS, AND CONDUIT	CONTRACTOR
SIGNAGE	CONTRACTOR

GREENHOUSE AND COLD FRAME NOTES:

1. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE GREENHOUSE MANUFACTURER AND PROVIDING WORK NOT COVERED IN GREENHOUSE CONTRACT.
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THIRD BAY OF GREENHOUSE IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 4 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

Esse Architects, P.A. 52498 North Carolina Registered Professional Architect Raleigh, N.C.

Melissa Corinne Patterson 11683 Registered Professional Engineer North Carolina Mechanical

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MDP, ADF
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	02.21.2025

SHEET INFORMATION

A122

AUXILIARY BUILDINGS - ROOF PLANS

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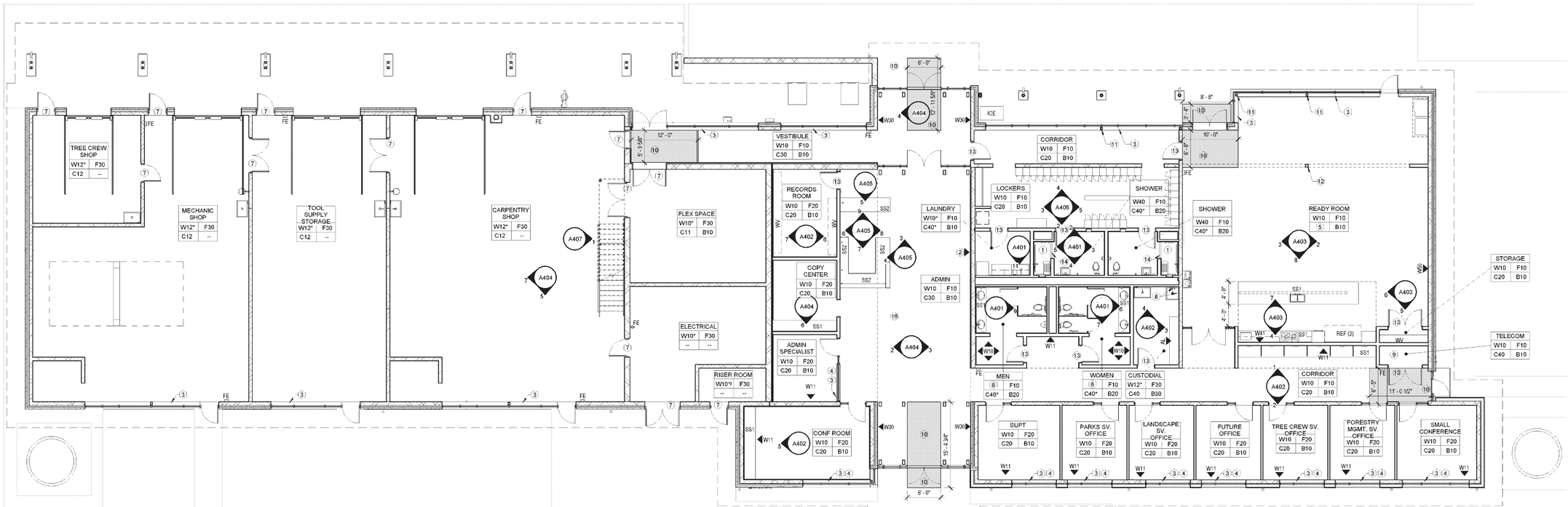
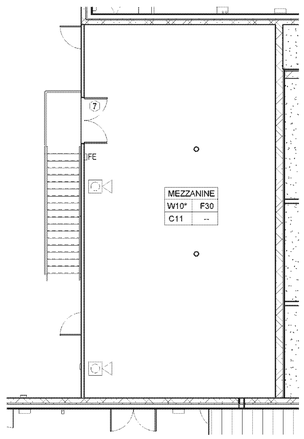
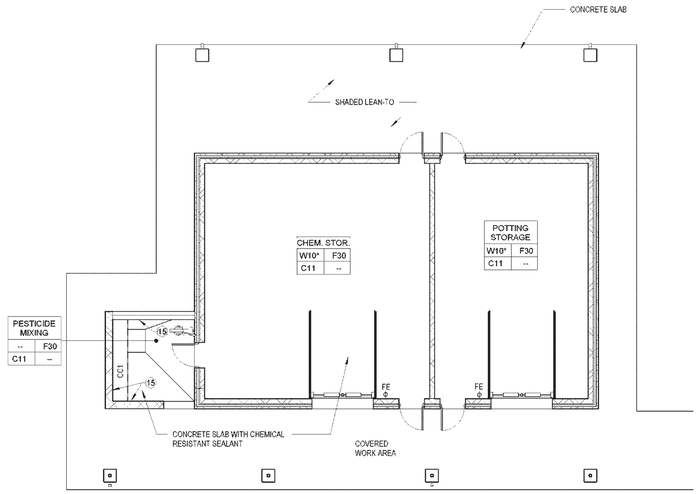


1 / A131 FINISH PLAN - ADMINISTRATION BUILDING
1/8" = 1'-0"



2 / A131 FINISH PLAN - MEZZANINE
1/8" = 1'-0"



3 / A131 FINISH PLAN - POTTING SHED
1/8" = 1'-0"

FINISH SCHEDULE

ROOM NAME
WALL FINISH — ROOM ##
CEILING MATERIAL OR FINISH — W## F## C## B##
ROOM NUMBER
FLOOR FINISH
WALL BASE MATERIAL

KEY	FLOOR MATERIAL
F10	POLISHED CONCRETE
F20	CARPET TILE - MOHAWK GROUP RISE UP TILE-NORTHVIEW
F30	SEALED CONCRETE

KEY	BASE MATERIAL
B10	4" RUBBER BASE - FLEXCO 014 MEDIUM GRAY
B20	CERAMIC TILE - 4X20 - GARDEN STATE DESIGN POSITIVE - VERT D'EAU
B30	4" RUBBER BASE - FLEXCO 034 BARLEY

KEY	WALL MATERIAL
W10	PAINT - SHERWIN WILLIAMS 7011 NATURAL CHOICE
W11	PAINT - ACCENT - SHERWIN WILLIAMS 6192 COASTAL PLAIN
W12	PAINT - ACCENT - SHERWIN WILLIAMS 7017 DORIAN GRAY
W13	PAINT - HM DOORS - SHERWIN WILLIAMS 2849 WEST CHESTER GRAY
W14	PAINT - CEILING - SHERWIN WILLIAMS 7105 REPOSE GRAY
W30	EXPOSED GROUND FACE CMU
W40	CERAMIC TILE - 8x20 - GARDEN STATE DESIGN POSITIVE VERT D'EAU
W41	TILE BACKSPLASH - 4x12 - TILE BAR LOFT SEAFOAM FROSTED
W50	WOOD FIBER ACOUSTICAL WALL PANEL - MANUFACTURER TO PAINT - SW 7011 NATURAL CHOICE

KEY	CEILING MATERIAL
C10	OPEN TO STRUCTURE AND PAINTED - W10
C11	OPEN TO STRUCTURE AND PAINTED WITH HIGH PERFORMANCE COATING PER SPEC 09 9600 - W10
C12	OPEN TO STRUCTURE AND PAINTED WITH HIGH PERFORMANCE COATING PER SPEC 09 9600 - W14
C20	ACOUSTICAL CEILING TILE - 24" x 24" ROCKFON SLN 16200	GRID - SQUARE TEGULAR
C30	EXPOSED NOM. 2x TONGUE AND GROOVE WOOD DECKING WITH THREE COATS OF CLEAR SEAL - SEE STRUCTURAL
C40	PAINTED GYPSUM BOARD - W10*

KEY	MISCELLANEOUS
CC1	CONCRETE COUNTER W/ CHEMICAL RESISTANT SEALER
SS1	SOLID SURFACE - KRION BRIGHT CONCRETE
SS2	SOLID SURFACE - KRION MARMO BIANCO
WV	WOOD VENEER SHELVING W/ SOLID WOOD EDGE BANDING
AL	ALUMINUM SHELVING
PS10	PRIVACY SCREEN - 3FORM 1/4" VARIA FOG
WB1	METAL WINDOW BLINDS 3/8" - 1/2" MAX SLATS, CORDLESS , COLOR TBD

KEYNOTES (1)	
1	CONCRETE SHOWER FLOOR - FINISHED W/ SEALANT
2	PAINTED WALL MURAL - SEE 6/A404
3	WINDOW SILLS TO BE SS2
4	WINDOW BLINDS TO BE WB1
5	C10 AND C20
6	W10* AND W40 - SEE INTERIOR ELEVATIONS.
7	HOLLOW METAL DOORS AND FRAMES - PAINT W13 SEMIGLOSS.
8	MOP SINK BACKSPLASH STAINLESS STEEL PANEL W/ EDGEBANDING
9	TELECOM ROOM TO HAVE 3/4" x 8' FIRE RATED PLYWOOD ON ALL WALLS. BOTTOM OF PLYWOOD TO BE MOUNTED AT TOP OF BASE. DO NOT PAINT OVER FIRE RATING MARK.
10	WALK OFF GRID - HEAVY DUTY STAINLESS STEEL GRID, WITH LOCKDOWN TABS, RECESSED INTO SLAB. SATIN FINISH
11	STRUCTURAL COLUMN AT WINDOW - PAINT W13 WITH HIGH PERFORMANCE COATING
12	STRUCTURAL COLUMN PAINT W10 - HIGH PERFORMANCE COATING
13	WOOD DOOR WITH HOLLOW METAL FRAME - PAINT W13 SEMIGLOSS
14	MARBLE THRESHOLD - BEVELED EDGES ADA COMPLIANT
15	PAINT WITH CHEMICAL RESISTANT PAINT UP TO 4'-0"
16	PAINT EXPOSED DUCTWORK - W10

NOTES:

1. ALL FINISHES CALLED OUT IN SCHEDULE REPRESENT BASIS OF DESIGN. SEE SPECIFICATIONS FOR APPROVED EQUALS.
2. * INDICATES EPOXY PAINT
3. ALL PAINT TO BE LATEX EGGSHELL FINISH, U.O.N.
4. REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL FINISH INFORMATION.
5. REFER TO MILLWORK DRAWINGS FOR ADDITIONAL MILLWORK FINISHES AND APPLICATIONS. FINISH PLANS INDICATE COUNTERTOP MATERIAL ONLY.
6. ALL CLOSET SHELVING TO BE WOOD VENEER - CLEAR BIRCH TO MATCH WOOD DOOR FINISH. EXCEPT IN CUSTODIAL, ALUMINUM SHELVES.
7. ALL FINISHES TO MEET "CLASS B" FLAME SPREAD REQUIREMENTS ("CLASS A" IN A NON-SPRINKLERED BUILDING) PER NC STATE BUILDING CODE CHAPTER 8.
8. TOILET PARTITIONS TO BE HDPE - SCRANTON PRODUCTS - CHARCOAL GRAY.
9. ALL WOOD DOORS TO BE CLEAR BIRCH.
10. EXPOSED METAL ROOF STRUCTURE/DECKING, DUCTWORK, SPRINKLER PIPING TO BE PAINTED TO MATCH CEILING PAINT FINISH SPECIFIED IN SCHEDULE, SPRAY APPLIED.
11. PAINT THE UNDERSIDE OF SOFFITS AND BULKHEADS THE SAME COLOR AS THAT SPECIFIED FOR THE FACE. U.O.N.
12. SEE TOILET ELEVATIONS FOR WALL TILE HEIGHTS. PAINT EXPOSED GYPSUM BOARD OR CMU IN TOILETS.
13. ALL EXPOSED GLUE-LAMINATED TIMBER AND WOOD DECKING TO RECEIVE 3 COATS CLEAR SEALER.
14. REFER TO A524 FOR TRANSITION DETAILS.

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SEALS

Esse Architects P.A. — 52498 — Registered Architecture — Raleigh, N.C.

REGIONAL DOMINIC ANTONELLI — 11093 — REGISTERED LANDSCAPE ARCHITECT — RALEIGH, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: KBM, ADF, TMR
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A131
FINISH PLANS

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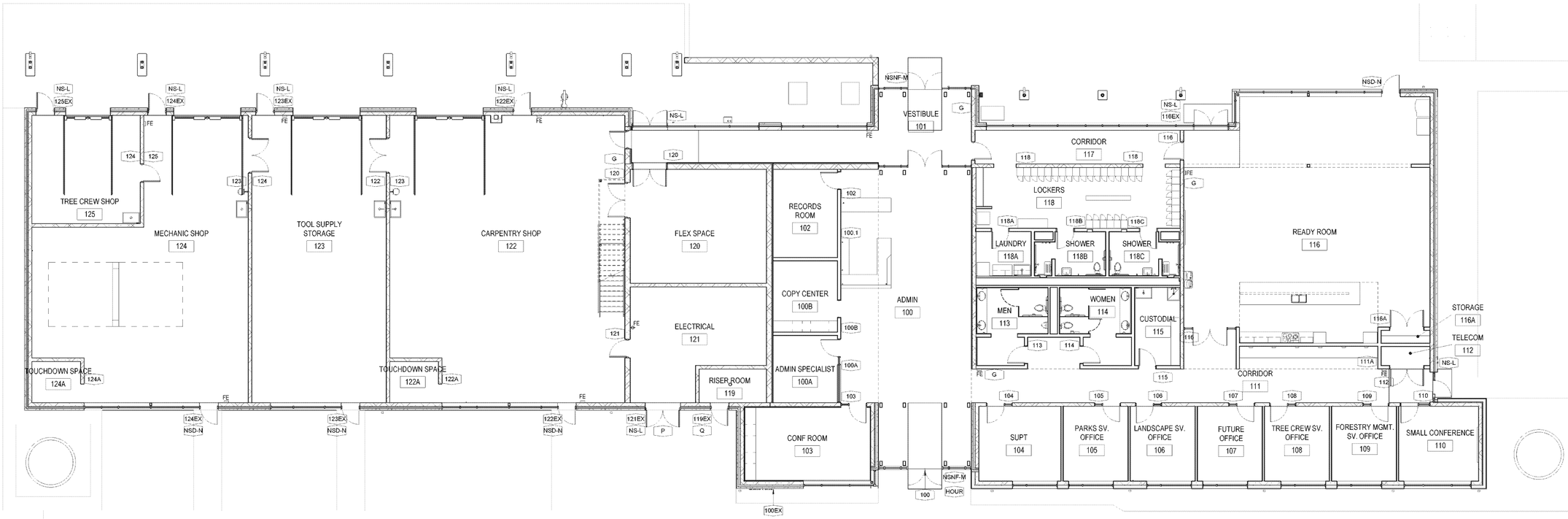
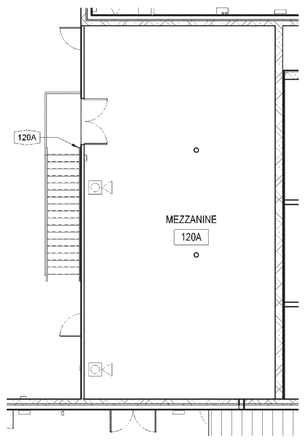
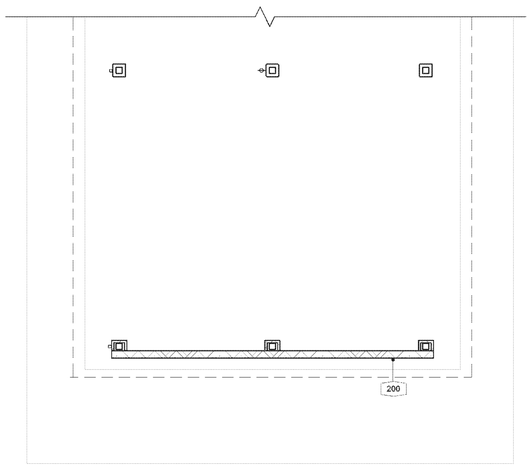


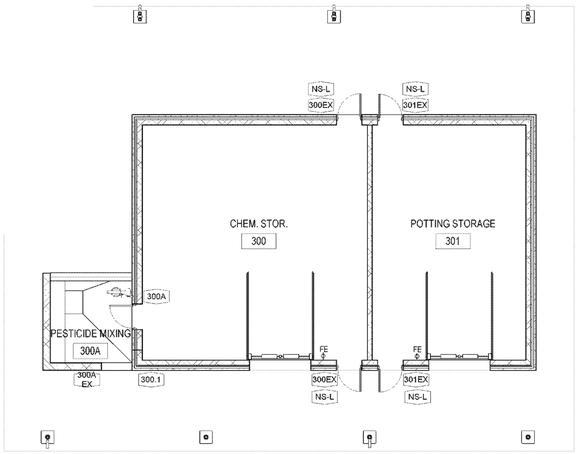
1 SIGNAGE PLAN - ADMINISTRATION BUILDING
A132 1/8" = 1'-0"



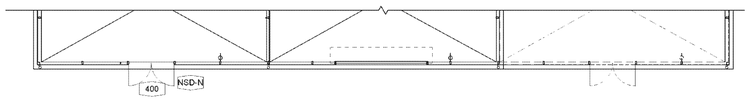
2 SIGNAGE PLAN - MEZZANINE
A132 1/8" = 1'-0"



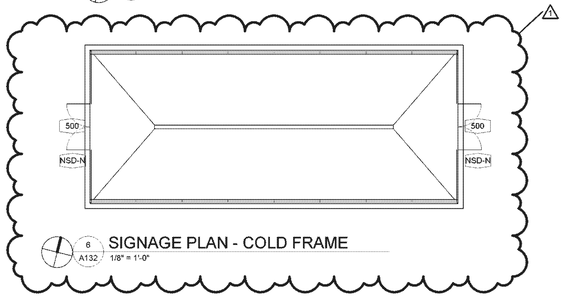
3 SIGNAGE PLAN - VEHICLE SHED
A132 1/8" = 1'-0"



4 SIGNAGE PLAN - POTTING SHED
A132 1/8" = 1'-0"



5 SIGNAGE PLAN - GREENHOUSE
A132 1/8" = 1'-0"



6 SIGNAGE PLAN - COLD FRAME
A132 1/8" = 1'-0"

#	SIGNAGE SCHEDULE				
TAG	NAME	LOCATION NUMBER	SIGN TYPE	SIGN QTY.	COMMENTS/ TRUE SIGN NAME / LOCATION
100	ADMIN	100	R	1	10" UV RESISTANT VINYL WHITE LETTER ON INTERIOR GLASS , SEE 1/A201 FOR EXACT LOCATION
100.1	ADMIN	100	H	1	PARKS OPERATIONS CENTER, 4"H CLEAR ANODIZED ALUMINUM LETTERS, SEE 2/A404 FOR EXACT LOCATION
100A	ADMIN SPECIALIST	100A	B	1	ADMIN SUPPORT SPECIALIST, GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
100B	COPY CENTER	100B	B	1	COPY, PRINT, & MAIL
100EX	BUILDING SIGNAGE	100EX	S	1	PARKS OPERATIONS CENTER, 10"H CLEAR ANODIZED ALUMINUM LETTERS, SEE 1/A201 FOR EXACT LOCATION, WORDING TO BE CONFIRMED WITH OWNER
101	VESTIBULE	101	--	--	NO SIGN REQUIRED
102	RECORDS ROOM	102	B	1	
103	CONF ROOM	103	B	1	CONFERENCE ROOM, GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
104	SUPT	104	A	1	PARKS, LANDSCAPE & FORESTRY SUPERINTENDANT, GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
105	PARKS SV. OFFICE	105	A	1	PARKS SUPERVISOR, GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
106	LANDSCAPE SV. OFFICE	106	A	1	LANDSCAPE SUPERVISOR, GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
107	FUTURE OFFICE	107	A	1	OFFICE, GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
108	TREE CREW SV. OFFICE	108	A	1	TREE CREW SUPERVISOR, GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
109	FORESTRY MGMT. SV. OFFICE	109	A	1	FORESTRY MGT. SUPERVISOR, GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
110	SMALL CONFERENCE	110	B	1	GLASS MOUNTED BACKGROUND COLOR # 2 BACKPLATE REQUIRED
111	CORRIDOR	111A	B	1	TOUCHDOWN STATION
112	TELECOM	112	B	1	
113	MEN	113	D	1	
114	WOMEN	114	C	1	
115	CUSTODIAL	115	B	1	
116	READY ROOM	116	B	2	
116A	STORAGE	116A	B	1	
116EX	READYROOM	116	K	1	EXTERIOR SIGNAGE
118	LOCKERS	118	F	2	
118A	LAUNDRY	118A	B	1	
118B	SHOWER	118B	E	1	
118C	SHOWER	118C	E	1	
119	RISER ROOM	119	P	1	EXTERIOR SIGNAGE
120	FLEX SPACE	120	B	2	WORDING TO BE VERIFIED WITH OWNER
120A	MEZZANINE	120A	B	1	
121	ELECTRICAL	121	B	1	
121EX	ELECTRICAL	121	K	1	EXTERIOR SIGNAGE
122	CARPENTRY SHOP	122	B	1	
122A	CARPENTRY SHOP OFFICE	122	B	1	
122EX	CARPENTRY SHOP	122	K	2	EXTERIOR SIGNAGE
123	TOOL SUPPLY STORAGE	123	B	2	
123EX	TOOL SUPPLY STORAGE	123	K	2	EXTERIOR SIGNAGE
124	MECHANIC SHOP	124	B	2	
124A	MECHANIC SHOP OFFICE	124A	B	1	
124EX	MECHANIC SHOP	124	K	2	EXTERIOR SIGNAGE
125	TREE CREW SHOP	125	B	1	
125EX	TREE CREW SHOP	125	K	1	EXTERIOR SIGNAGE
200	VEHICLE SHED	200	T	1	16" ALUMINUM LETTERS, SEE 3/A202 FOR EXACT LOCATION
300	CHEM. STOR.	300	K	2	CHEMICAL STORAGE, EXTERIOR SIGNAGE
300.1	POTTING SHED	300	T	1	16" ALUMINUM LETTERS, SEE 1/A203 FOR EXACT LOCATION
300A	PESTICIDE MIXING	300A	B	1	PESTICIDE MIXING
300AEX	PESTICIDE MIXING	300A	K	1	PESTICIDE MIXING
301	POTTING STORAGE	301	K	2	EXTERIOR SIGNAGE
400	GREENHOUSE	400	R	1	10" UV RESISTANT VINYL SILVER LETTER DECAL ON EXTERIOR OF GREENHOUSE POLYCARBONATE WALL, SEE 1/A303 FOR EXACT LOCATION
500	COLD FRAME	500	R	2	10" UV RESISTANT VINYL SILVER LETTER DECAL ON EXTERIOR OF COLD FRAME POLYCARBONATE WALL, SEE 1A133 FOR EXACT LOCATIONS
EVACUATION MAP			G		SEE A602 FOR EXACT LOCATION, WORDING TO BE VERIFIED WITH OWNER
HOUR	OFFICE HOURS	--	O	1	SEE A602 FOR EXACT LOCATION, WORDING TO BE VERIFIED WITH OWNER
NS-L	NON-SMOKING	--	L	12	SEE A132 FOR EXACT LOCATION
NSD-N	NON-SMOKING	--	N	5	SEE A132 FOR EXACT LOCATION
NSNF-M	NON-SMOKING	--	M	2	SEE A602 FOR EXACT LOCATION
P	SPRINKLER RISER ROOM	119	P	1	EXTERIOR DECAL - INSTALL CENTERED ON DOOR
Q	FACP	121	Q	1	EXTERIOR DECAL, INSTALL ON DOOR

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SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: TMR
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
1	PRICING MODIFICATIONS/PERMIT REVIEW	03.19.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A132

SIGNAGE PLANS AND SCHEDULE

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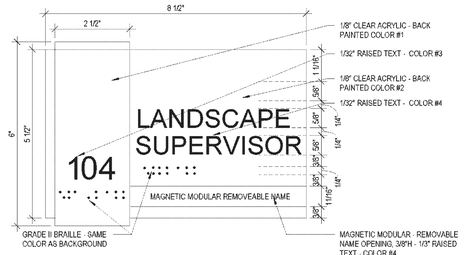

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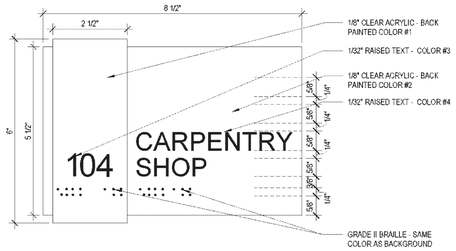

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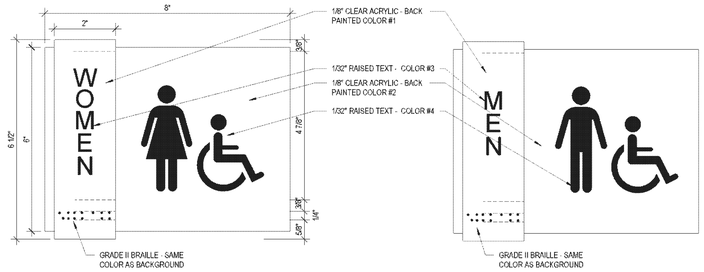

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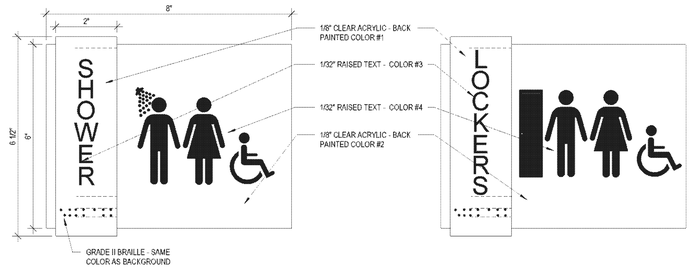

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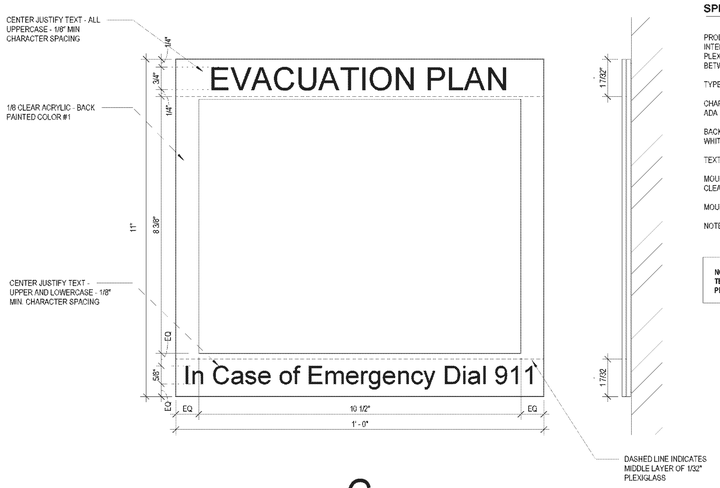


G

SPECIFICATIONS

PRODUCT: PLEXIGLASS SIGN WITH WINDOW FOR INTERCHANGEABLE BUILDING PLAN. TWO LAYERS OF 1/8" CLEAR PLEXIGLASS SCREENPRINTED WITH 1/32" LAYER OF PLEXIGLASS BETWEEN AS SPACER.

TYPEFACE: HELVETICA

CHARACTER SPACING: 1/8" MINIMUM CHARACTER SPACING PER ADA

BACKGROUND COLOR: SCREENPRINTED OPAQUE RED WITH WHITE LETTERING AND CLEAR VIEW WINDOW

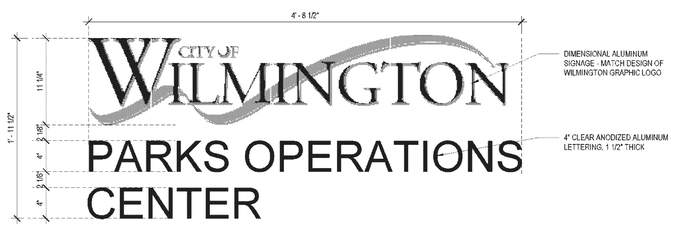
TEXT COLOR: MATCH 3M 7725-20 MATTE WHITE

MOUNTING: 3M #4910 CLEAR VHB DOUBLE-SIDED TAPE AND CLEAR SILICONE ADHESIVE

MOUNTING HEIGHT: TOP OF SIGN 60" A.F.F.

NOTE: OWNER TO PROVIDE EVACUATION INSERT

NOTE: PROVIDE (4) EVACUATION PLAN SIGNS. LOCATION TBD. CONFIRM LOCATIONS WITH LOCAL FIRE MARSHAL PRIOR TO INSTALLATION.



H

NOTES SIGNS A-F

SERIES - BACKPAINTED
MATERIAL - ACRYLIC - PROVIDE ADA NON-GLARE FINISH
EDGE CORNERS - SQUARE

BRAILLE CHARACTERS ARE FOR GRAPHIC REPRESENTATION ONLY - ACTUAL BRAILLE CHARACTERS TO BE DETERMINED BY SIGN FABRICATOR

TYPEFACE: HELVETICA

CHARACTER SPACING: 1/8" MINIMUM CHARACTER SPACING PER ADA

BACKGROUND COLOR: #1 NATURAL MAPLE

BACKGROUND COLOR: #2 SW 6195 ROCK GARDEN

TEXT AND LOGO: COLOR #3 BLACK

TEXT AND LOGO: COLOR #4 WHITE

NOTE: MEET ADA REQUIREMENTS FOR COLOR CONTRAST RATIO

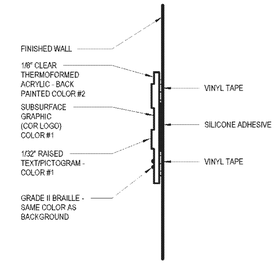
MOUNTING: 3M #4910 CLEAR VHB DOUBLE-SIDED TAPE AND CLEAR SILICONE ADHESIVE

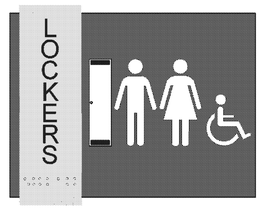
MOUNTING HEIGHT: TOP OF SIGN 60" A.F.F.

MOUNTING LOCATION: LATCH SIDE - 9" FROM DOOR FRAME TO C.L. OF SIGN.

TYPICAL SECTION SIGNS A-G

NOT TO SCALE





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SEALS

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PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	TMR
CHECKED BY:	MDP

REVISIONS

NO.	DESCRIPTION	DATE
1	TITLE BLOCK REVISION	02.21.2025

SHEET INFORMATION

A133

INTERIOR SIGNAGE DETAILS

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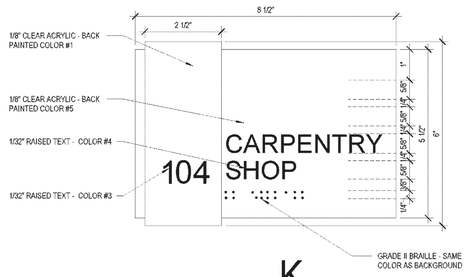

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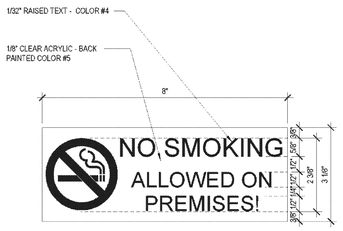

L

M

N

NOTES SIGN K & L

EXTERIOR SERIES - BACKPAINTED
MATERIAL - ACRYLIC - PROVIDE ADA NON-GLARE FINISH
EDGE CORNERS - SQUARE

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TYPEFACE: HELVETICA

CHARACTER SPACING: 1/8" MINIMUM CHARACTER SPACING PER ADA

BACKGROUND COLOR: #1 NATURAL MAPLE

BACKGROUND COLOR: #5 SW 7019 GAUNTLET GRAY

TEXT AND LOGO: COLOR #3 BLACK

TEXT AND LOGO" COLOR #4 WHITE

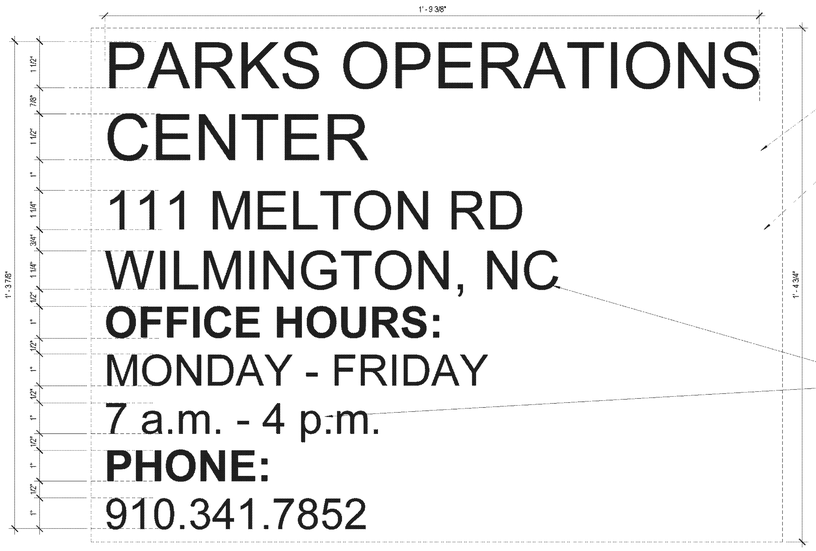
NOTE: MEET ADA REQUIREMENTS FOR COLOR CONTRAST RATIO

MOUNTING: 3M #4910 CLEAR EXTERIOR VHB DOUBLE-SIDED TAPE AND EXTERIOR CLEAR SILICONE ADHESIVE

MOUNTING HEIGHT: TOP OF SIGN 60" A.F.F.

MOUNTING LOCATION: LATCH SIDE - 9" FROM DOOR FRAME TO C.L. OF SIGN.

CONFIRM ALL SIGNS WITH OWNER TO ENSURE CORRECT NAMES OF ROOMS APPEARS ON SIGNAGE



O

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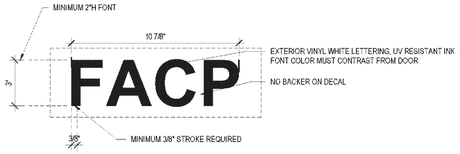

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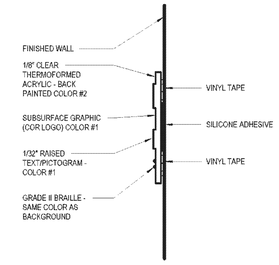

TYPICAL INSTALLATION DETAIL

NOT TO SCALE

R

S

T

NOTES: SIGN S&T

TYPEFACE: HELVETICA

MATERIAL: CLEAR ANODIZED ALUMINUM

DEPTH: 1 1/2"

HEIGHT: VARIES - REFERENCE DIMENSIONS ON DRAWING

NOTE: MEET ADA REQUIREMENTS FOR COLOR CONTRAST RATIO

MOUNTING: DIRECT MOUNT TO CMU WITH STAINLESS STEEL STUD, STAINLESS STEEL SPACER & EPOXY

MOUNTING HEIGHT: VARIES , SEE SIGNAGE SCHEDULE FOR REFERENCED SHEETS

MOUNTING LOCATION: VARIES , SEE SIGNAGE SCHEDULE FOR REFERENCED SHEETS

CONFIRM ALL SIGNS WITH OWNER TO ENSURE CORRECT NAMES & NUMBERS APPEARS ON SIGNAGE

TYPICAL INSTALLATION DETAIL - ALUMINUM LETTERING

NOT TO SCALE

NOTES: SIGN O - R

TYPEFACE: HELVETICA

MATERIAL: VARIES:
SIGN O-Q: DIE CUT WHITE UV RESISTANT VINYL LETTERING
SIGN R: DIE CUT SILVER LETTERING UV RESISTANT VINYL LETTERING

NOTE: MEET ADA REQUIREMENTS FOR COLOR CONTRAST RATIO

MOUNTING: DIRECT TO GLASS OR POLYCARBONATE

MOUNTING HEIGHT: VARIES, SEE SIGNAGE SCHEDULE FOR REFERENCED SHEETS

MOUNTING LOCATION: VARIES, SEE SIGNAGE SCHEDULE FOR REFERENCED SHEETS

CONFIRM ALL SIGNS WITH OWNER TO ENSURE CORRECT NAMES & NUMBERS APPEARS ON SIGNAGE

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PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: TMR
CHECKED BY: MDP

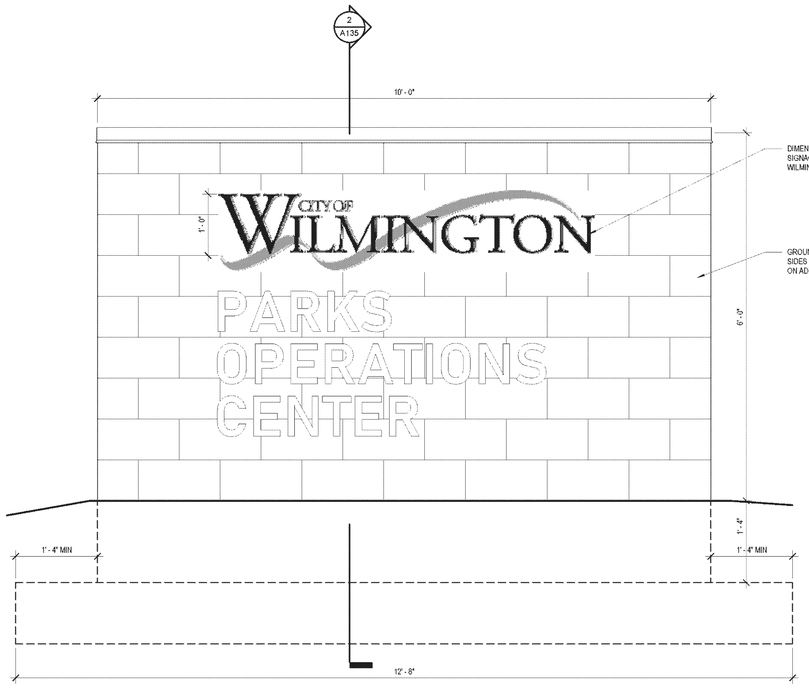
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	01.21.2025

SHEET INFORMATION

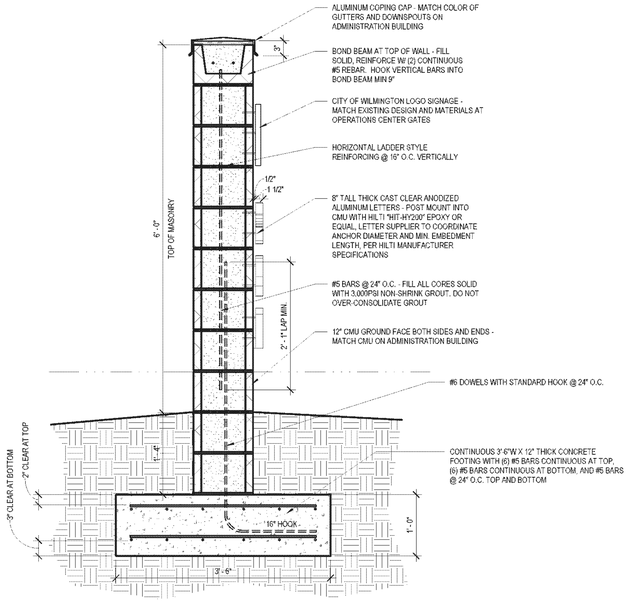
A134
EXTERIOR SIGNAGE DETAILS

Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0

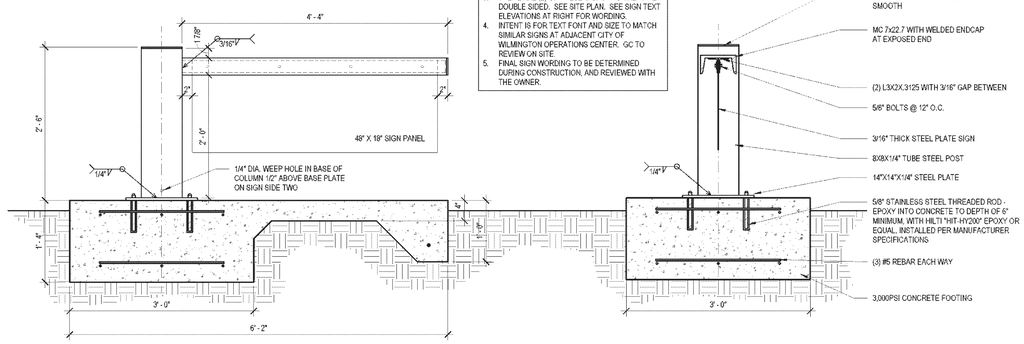


1 A135 MONUMENT SIGN AT RIVER ROAD
1" = 1'-0"

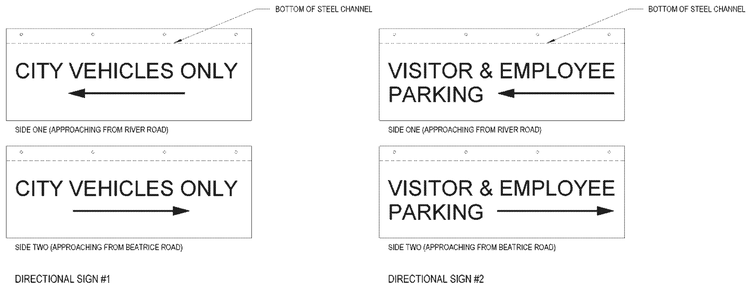
MONUMENT SIGN NOTES:
1. INTENT IS TO MATCH FONT AND CITY OF WILMINGTON SIGNAGE DESIGN ON THE ENTRY GATE SIGNS AT THE ADJACENT CITY OF WILMINGTON OPERATIONS CENTER.
2. FINAL SIGN WORDING TO BE DETERMINED DURING CONSTRUCTION, AND REVIEWED WITH THE OWNER.



2 A135 SECTION @ MONUMENT SIGN
1" = 1'-0"



3 A135 DIRECTIONAL SIGN DETAILS
1" = 1'-0"



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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

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Registered Professional Engineer 11693 North Carolina Mechanical 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MDP
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	02.21.2025

SHEET INFORMATION

A135
EXTERIOR SITE SIGNAGE

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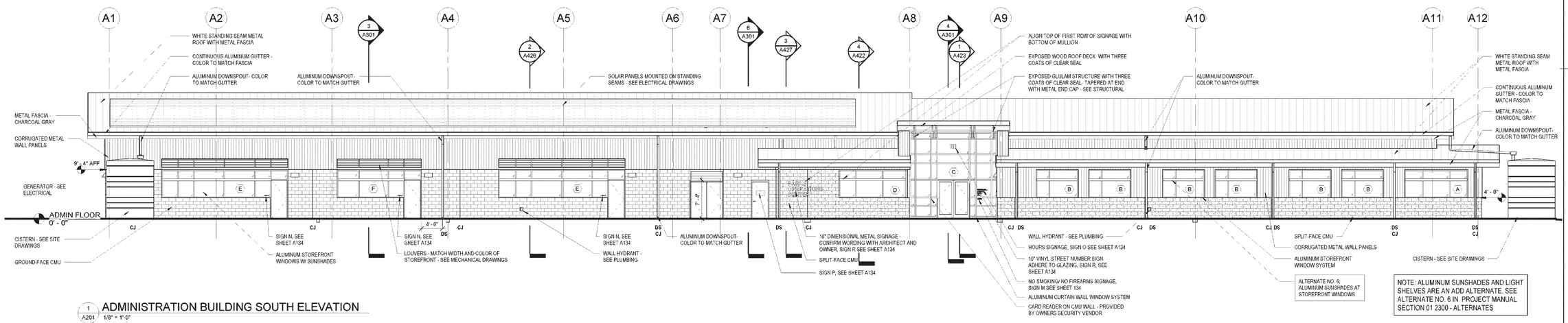
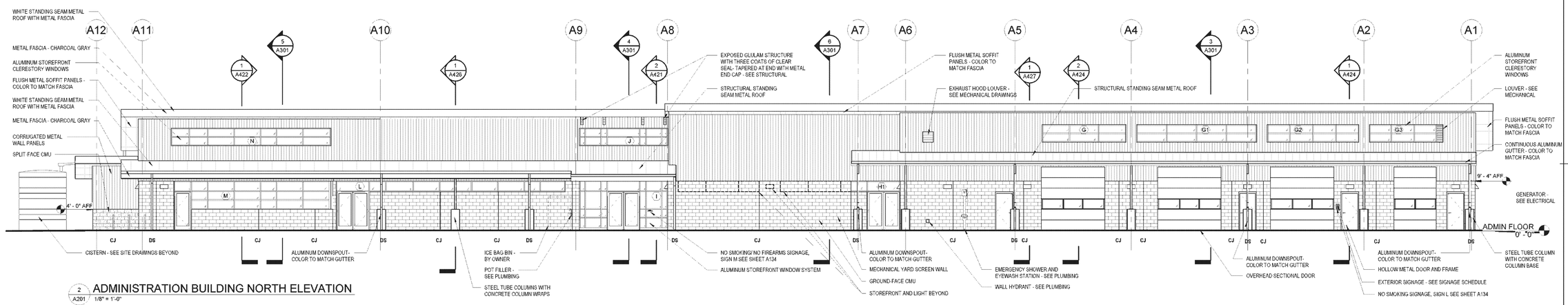
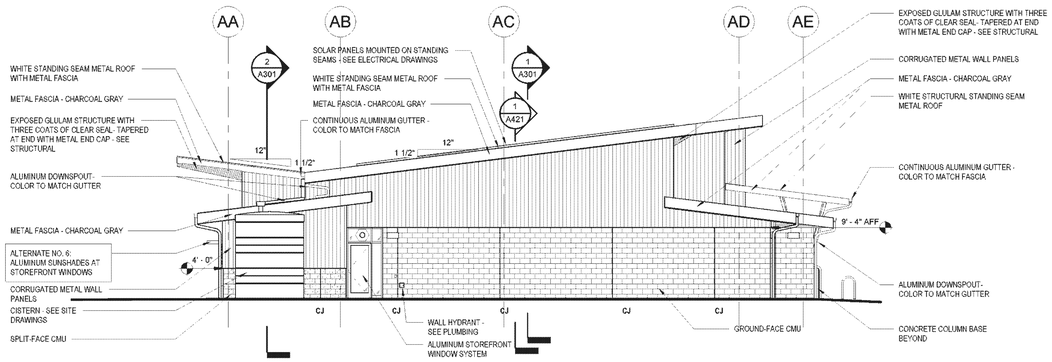


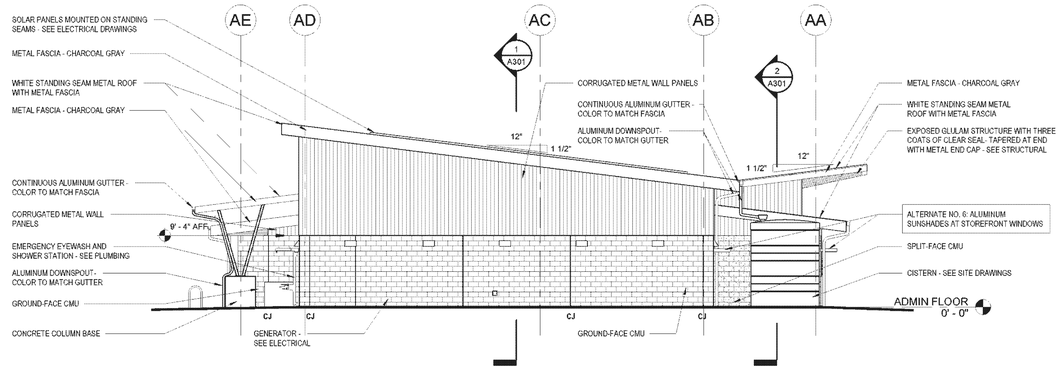
1 A201 **ADMINISTRATION BUILDING SOUTH ELEVATION**
1/8" = 1'-0"



2 A201 **ADMINISTRATION BUILDING NORTH ELEVATION**
1/8" = 1'-0"



3 A201 **ADMINISTRATION BUILDING EAST ELEVATION**
1/8" = 1'-0"



4 A201 **ADMINISTRATION BUILDING WEST ELEVATION**
1/8" = 1'-0"

NOTES
1. ALL EXPOSED GLUE-LAMINATED TIMBER AND WOOD DECKING TO RECEIVE 3 COATS CLEAR SEALER.
2. ALL EXPOSED STEEL TO BE PAINTED PER SPEC 09 9600 W/ HIGH PERFORMANCE COATING, INCLUDING STEEL CONNECTIONS AT GLULAM STRUCTURE
3. ALL EXPOSED EXTERIOR CMU SURFACES TO BE GROUND FACE U.O.N.
4. ALL ALUMINUM STOREFRONT AND CURTAIN WALL TO BE CLEAR ANODIZED
5. ROOF COLOR SHALL BE WHITE WITH AN INITIAL SOLAR REFLECTANCE INDEX OVER 82 OR AN AGED SOLAR REFLECTANCE INDEX OVER 64.
6. FASCIA COLOR SHALL BE DARK GRAY AS SELECTED FROM MANUFACTURER'S FULL RANGE.
7. GUTTER, DOWNSPOUT AND BREAKMETAL GLULAM END CAPS COLOR SHALL MATCH FASCIA COLOR.
8. ALL EXTERIOR FINISHES ON THE POTTING SHED AND VEHICLE SHED SHALL MATCH SIMILAR FINISHES ON THE ADMINISTRATION BUILDING UNLESS OTHERWISE NOTED.
9. **CJ** INDICATES MASONRY CONTROL JOINT.

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SEALS

PROJECT INFORMATION

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REVISIONS

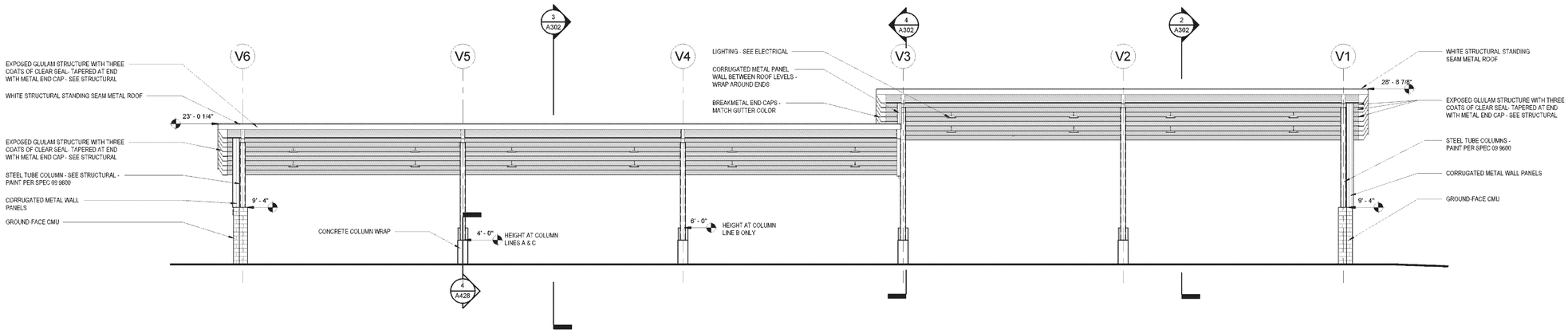
NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

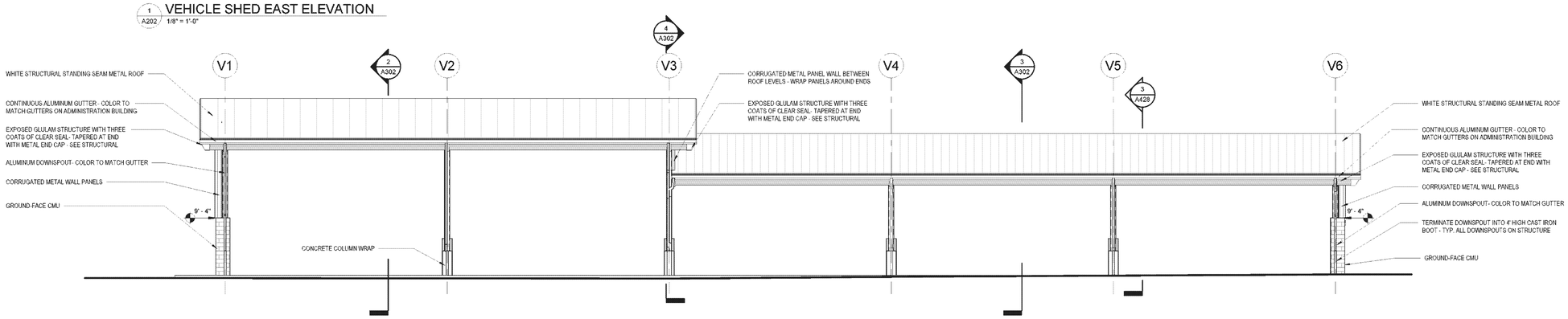
A201

ADMINISTRATION BUILDING - EXTERIOR ELEVATIONS

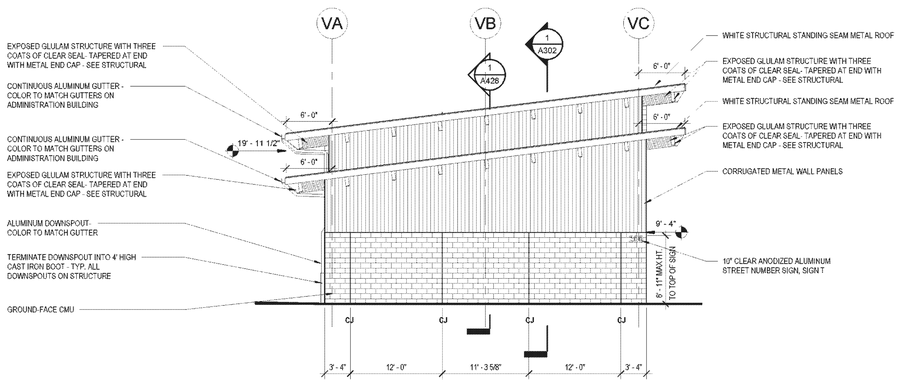
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA496404A75E0



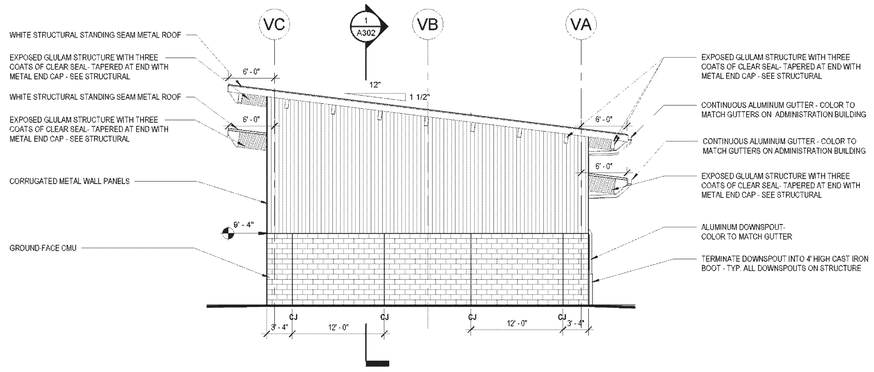
1 A202 **VEHICLE SHED EAST ELEVATION**
1/8" = 1'-0"



2 A202 **VEHICLE SHED WEST ELEVATION**
1/8" = 1'-0"



3 A202 **VEHICLE SHED SOUTH ELEVATION**
1/8" = 1'-0"



4 A202 **VEHICLE SHED NORTH ELEVATION**
1/8" = 1'-0"

NOTES:
1. ALL EXPOSED GLUE-LAMINATED TIMBER AND WOOD DECKING TO RECEIVE 3 COATS CLEAR SEALER.
2. ALL EXPOSED STEEL TO BE PAINTED PER SPEC 09 9600 W/ HIGH PERFORMANCE COATING, INCLUDING STEEL CONNECTIONS AT GLULAM STRUCTURE.
3. ALL EXPOSED EXTERIOR CMU SURFACES TO BE GROUND FACE U.O.N.
4. ALL ALUMINUM STOREFRONT AND CURTAIN WALL TO BE CLEAR ANODIZED
5. ROOF COLOR SHALL BE WHITE WITH AN INITIAL SOLAR REFLECTANCE INDEX OVER 82 OR AN AGED SOLAR REFLECTANCE INDEX OVER 64.
6. FASCIA COLOR SHALL BE DARK GRAY AS SELECTED FROM MANUFACTURER'S FULL RANGE.
7. GUTTER, DOWNSPOUT AND BREAKMETAL GLULAM END CAPS COLOR SHALL MATCH FASCIA COLOR.
8. ALL EXTERIOR FINISHES ON THE POTTING SHED AND VEHICLE SHED SHALL MATCH SIMILAR FINISHES ON THE ADMINISTRATION BUILDING UNLESS OTHERWISE NOTED.
9. CJ INDICATES MASONRY CONTROL JOINT.

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Registered Professional Engineer 11693 Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

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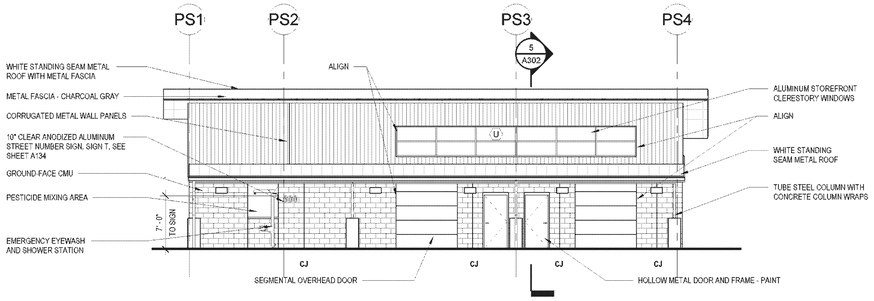
0	TITLE BLOCK REVISION	05.21.2025

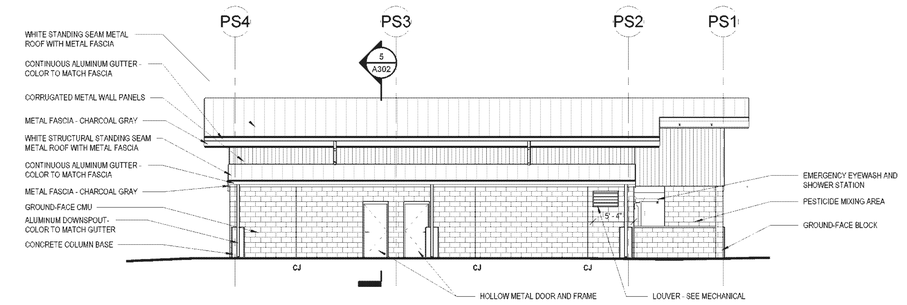
SHEET INFORMATION

A202
VEHICLE SHED -EXTERIOR ELEVATIONS

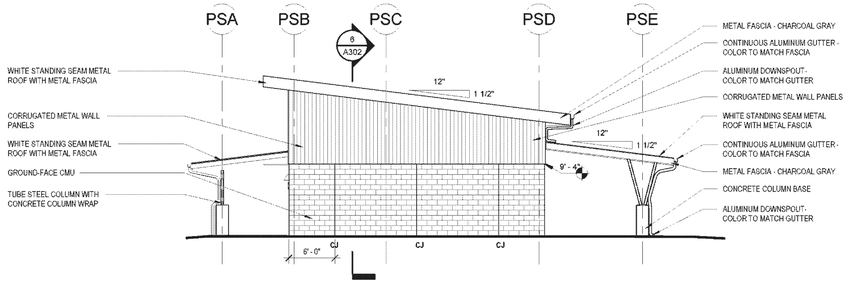
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



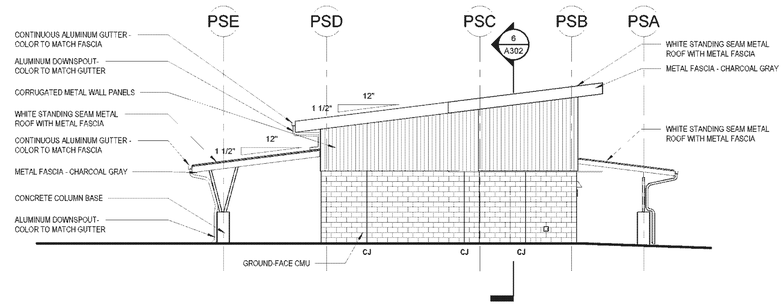
1 A203 **POTTING SHED SOUTH ELEVATION**
1/8" = 1'-0"



2 A203 **POTTING SHED NORTH ELEVATION**
1/8" = 1'-0"



3 A203 **POTTING SHED EAST ELEVATION**
1/8" = 1'-0"



4 A203 **POTTING SHED WEST ELEVATION**
1/8" = 1'-0"

NOTES
1. ALL EXPOSED GLUE-LAMINATED TIMBER AND WOOD DECKING TO RECEIVE 3 COATS CLEAR SEALER.
2. ALL EXPOSED STEEL TO BE PAINTED PER SPEC 09 9600 W/ HIGH PERFORMANCE COATING, INCLUDING STEEL CONNECTIONS AT GLULAM STRUCTURE
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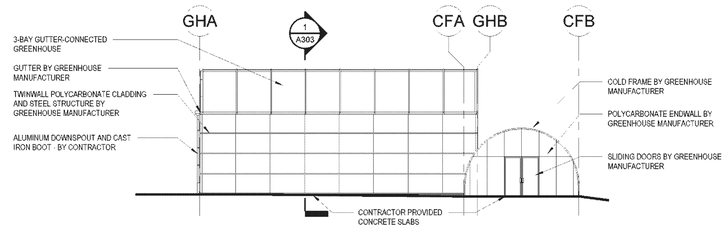
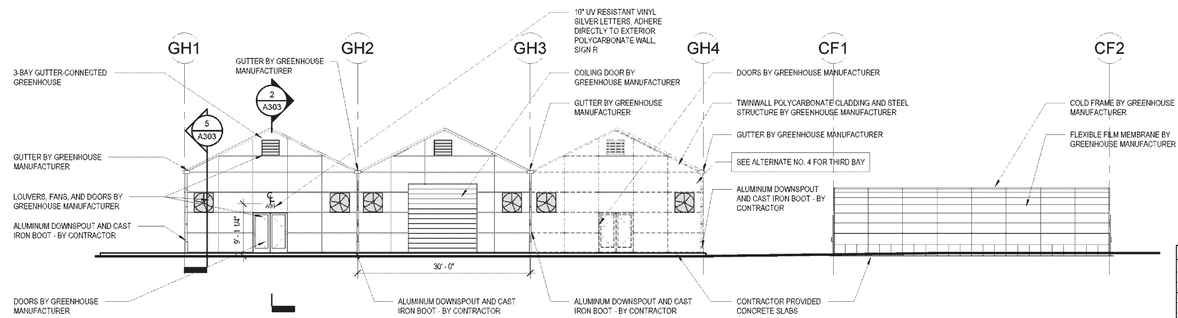
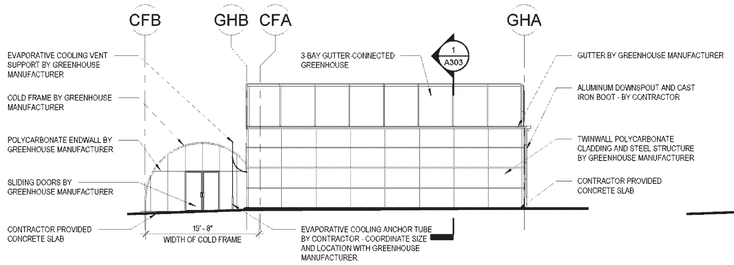
7. GUTTER, DOWNSPOUT AND BREAKMETAL GLULAM END CAPS COLOR SHALL MATCH FASCIA COLOR.
8. ALL EXTERIOR FINISHES ON THE POTTING SHED AND VEHICLE SHED SHALL MATCH SIMILAR FINISHES ON THE ADMINISTRATION BUILDING UNLESS OTHERWISE NOTED.
9. CJ INDICATES MASONRY CONTROL JOINT.



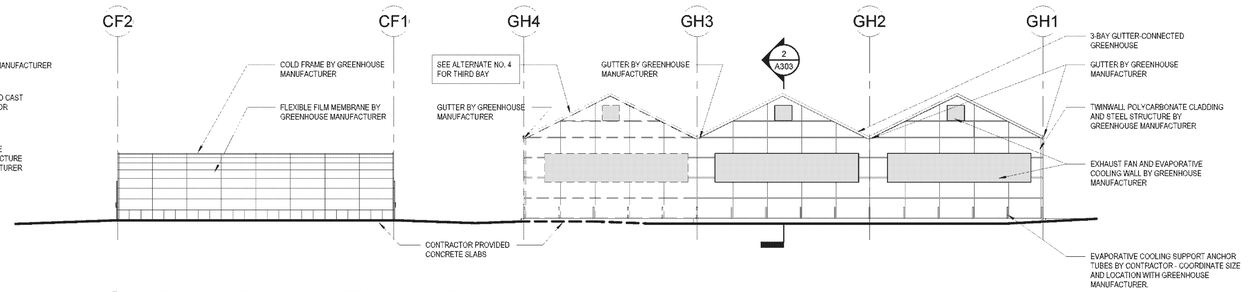
9 A203 **GREENHOUSE AND COLD FRAME - EAST**
3/32" = 1'-0"



10 A203 **GREENHOUSE AND COLD FRAME - SOUTH**
3/32" = 1'-0"



11 A203 **GREENHOUSE AND COLD FRAME WEST**
3/32" = 1'-0"



12 A203 **GREENHOUSE AND COLD FRAME - NORTH**
3/32" = 1'-0"

GREENHOUSE SCHEDULE	
DESCRIPTION	**PROVIDED BY**
FLOOR SLAB	CONTRACTOR
TRENCH DRAIN AND GRATE	CONTRACTOR
STEEL FRAME	GH MANUFACTURER
POLYCARBONATE WALLS (GH)	GH MANUFACTURER
MEMBRANE WALLS (COLD FRAME)	GH MANUFACTURER
DOORS AND DOOR HARDWARE	GH MANUFACTURER
GUTTERS	GH MANUFACTURER
DOWNSPOUT CONNECTION AT GUTTER	GH MANUFACTURER
DOWNSPOUTS AND DRAINAGE	CONTRACTOR
EVAPORATIVE WALL SUPPORTS	GH MANUFACTURER
EVAPORATIVE WALL SUPPORT ANCHOR TUBE	GH MANUFACTURER
SHADING SYSTEMS	GH MANUFACTURER
VENTILATION SYSTEMS	GH MANUFACTURER
HEATING SYSTEMS	GH MANUFACTURER
IRRIGATION SYSTEMS	GH MANUFACTURER
CONTROL PANEL	GH MANUFACTURER
BENCHES	GH MANUFACTURER
GENERAL LIGHTING	CONTRACTOR
ELECTRICAL RECEPTACLES	CONTRACTOR
DATA	CONTRACTOR
PME CONNECTIONS	CONTRACTOR
HOSE BIBBS	CONTRACTOR
POWER, CIRCUITS, AND CONDUIT	CONTRACTOR
SIGNAGE	CONTRACTOR

GREENHOUSE AND COLD FRAME NOTES:
1. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE GREENHOUSE MANUFACTURER AND PROVIDING WORK NOT COVERED IN GREENHOUSE CONTRACT.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING PME CONNECTIONS TO PANEL BOARD AND BETWEEN PANEL BOARD AND EQUIPMENT. GREENHOUSE MANUFACTURER TO PROVIDE PANEL BOARD WITH CONTACTS - SEE ELECTRICAL DRAWINGS.
3. ALL PARTS OF THE GREENHOUSE AND COLD FRAME STRUCTURE AND OPERATIONS EQUIPMENT ARE PROVIDED BY AND INSTALLED BY GREENHOUSE MANUFACTURER UNLESS OTHERWISE NOTED.
4. GC TO COORDINATE ALL SLAB DIMENSIONS WITH GREENHOUSE AND COLD FRAME COORDINATION DRAWINGS PRIOR TO POURING SLABS. COORDINATION DRAWINGS WILL BE PROVIDED BY THE OWNER.

THIRD BAY OF GREENHOUSE IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 4 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

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SEALS

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SHEET INFORMATION

A203

POTTING SHED AND GREENHOUSE - EXTERIOR ELEVATIONS

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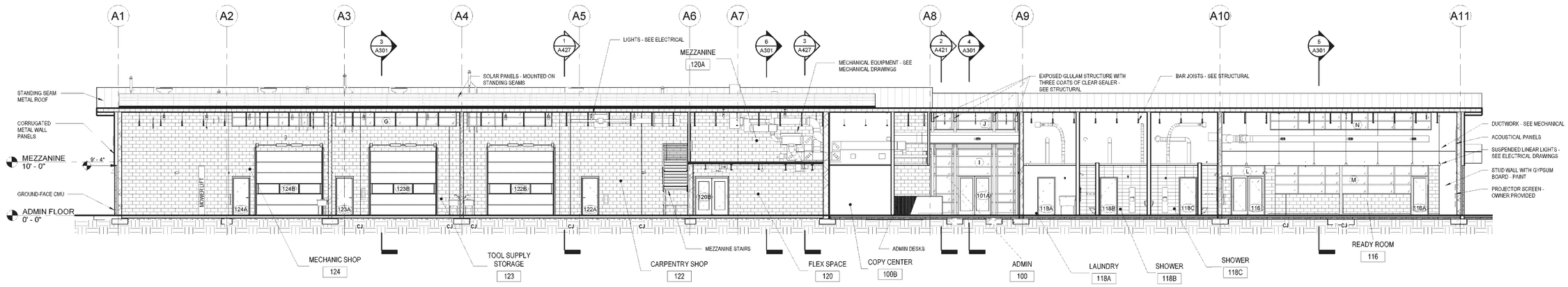
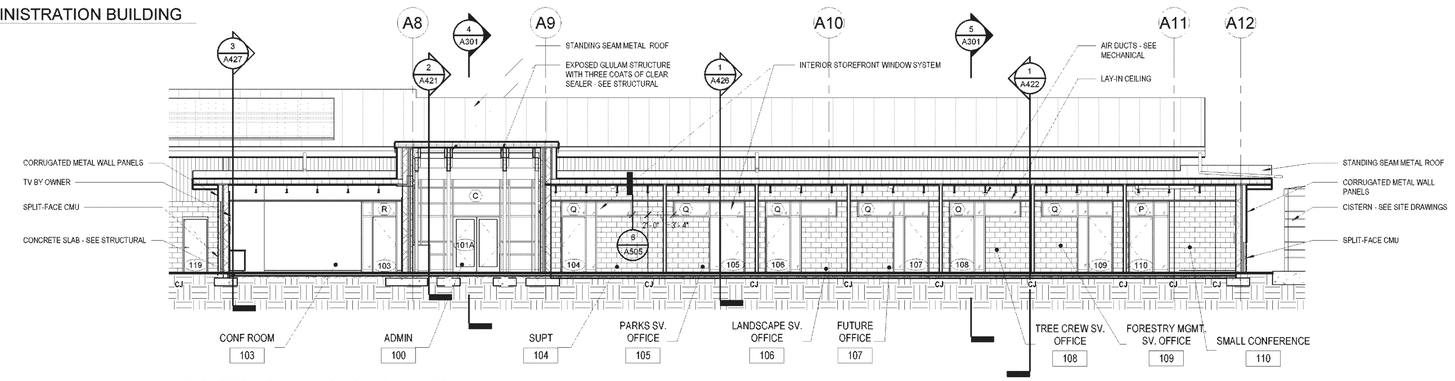
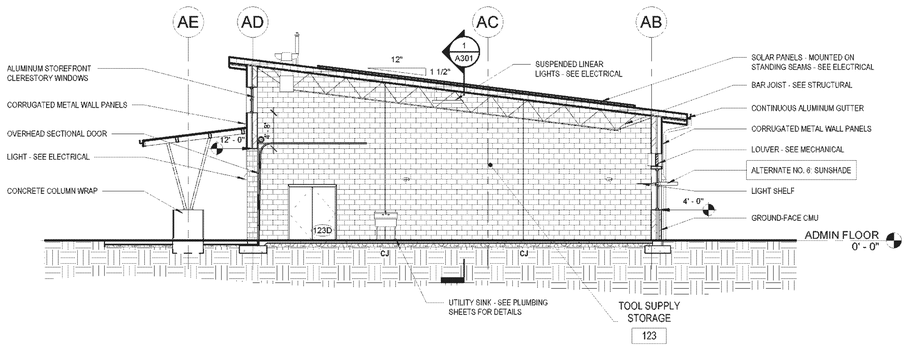


1 A301 BUILDING SECTION THROUGH ADMINISTRATION BUILDING
1/8" = 1'-0"

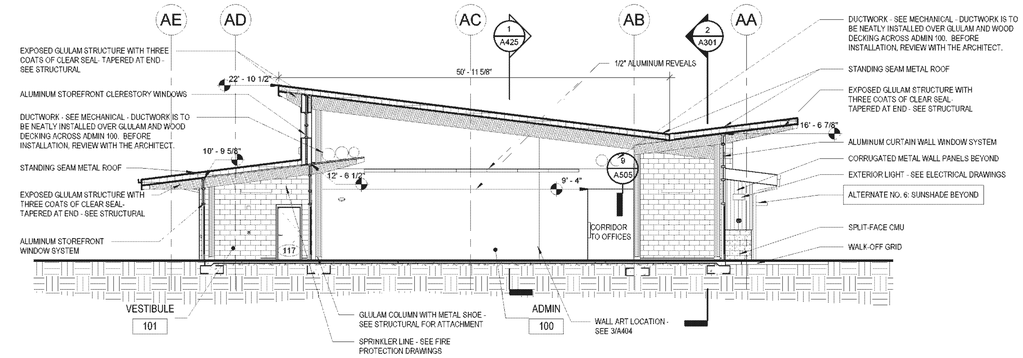


NOTE: ALUMINUM SUNSHADES AND LIGHT SHELVES ARE AN ADD ALTERNATE. SEE ALTERNATE NO. 6 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

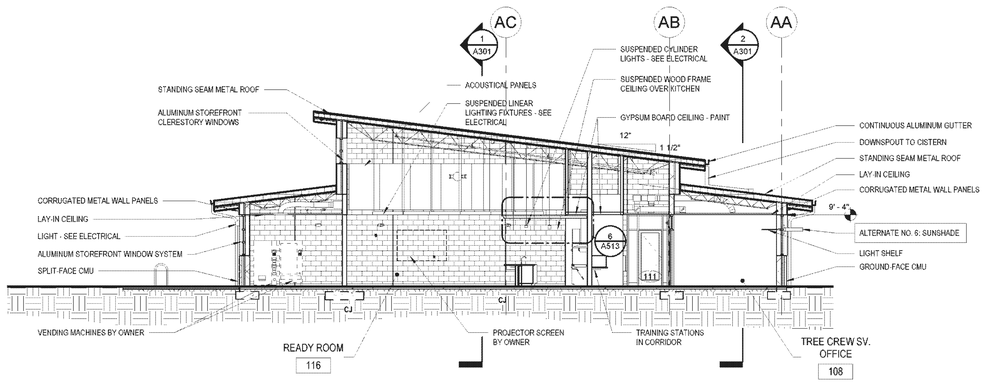
2 A301 BUILDING SECTION THROUGH OFFICES
1/8" = 1'-0"



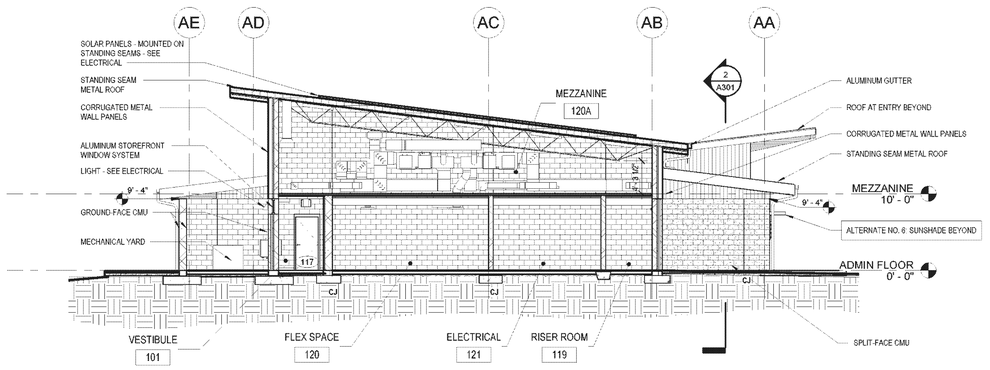
3 A301 BUILDING SECTION AT WORKSHOPS
1/8" = 1'-0"



4 A301 BUILDING SECTION AT ENTRY
1/8" = 1'-0"



5 A301 BUILDING SECTION AT READY ROOM
1/8" = 1'-0"



6 A301 BUILDING SECTION @ MEZZANINE
1/8" = 1'-0"

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SEALS

ESSE ARCHITECTS, P.A. · 52498 · NORTH CAROLINA · Raleigh, N.C.

ALISON JOANNE POTTICK · 11593 · NORTH CAROLINA · RALEIGH, N.C. · 5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	ADF
CHECKED BY:	MDP

REVISIONS

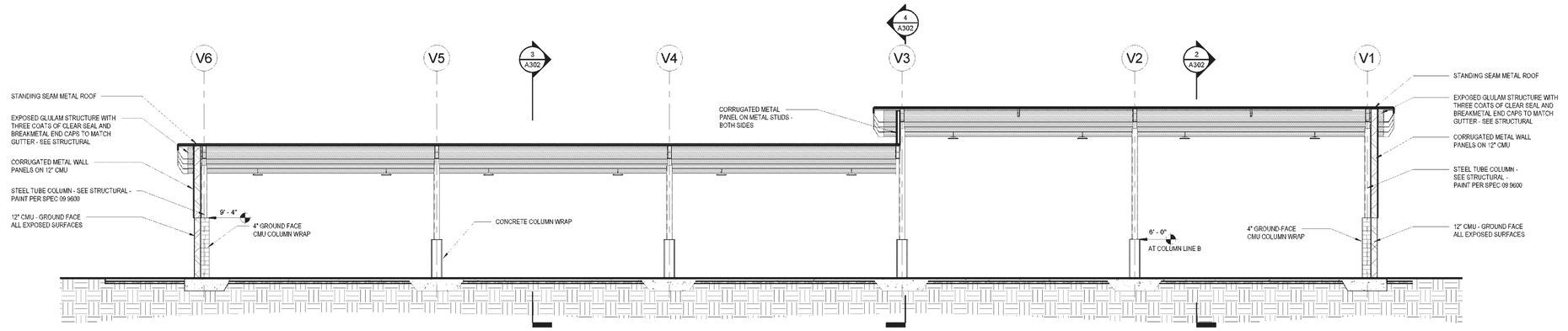
NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	02.21.2025

SHEET INFORMATION

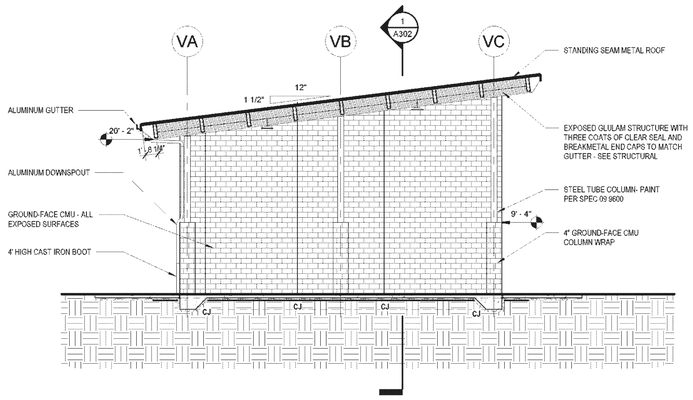
A301

ADMINISTRATION BUILDING - BUILDING SECTIONS

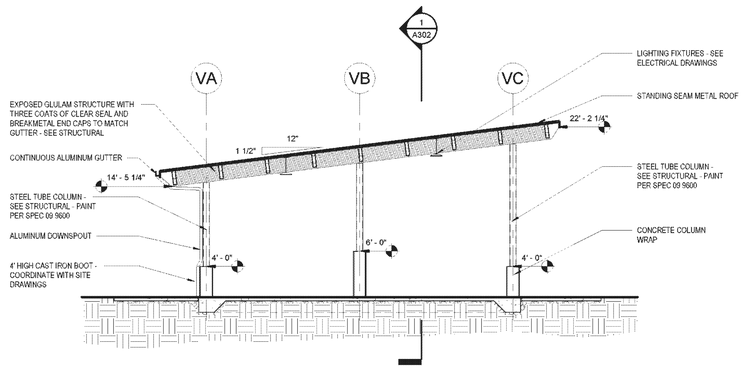
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



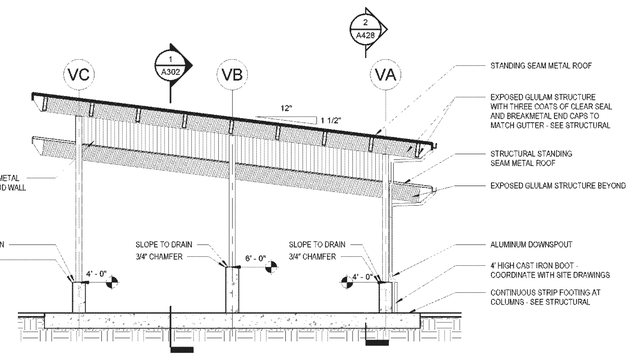
1 A302 BUILDING SECTION @ VEHICLE SHED - LONGITUDINAL
1/8" = 1'-0"



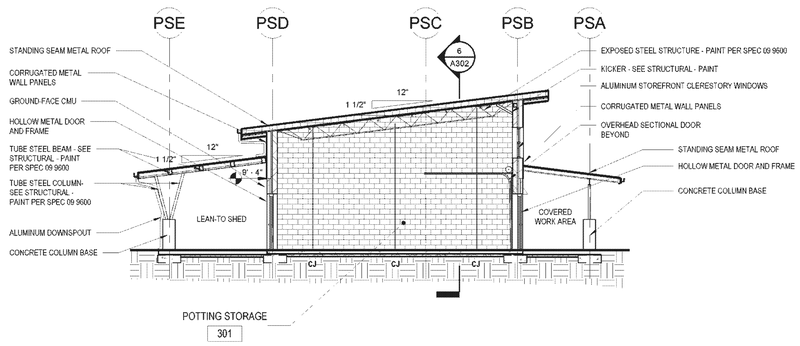
2 A302 BUILDING SECTION @ VEHICLE SHED HIGH ROOF
1/8" = 1'-0"



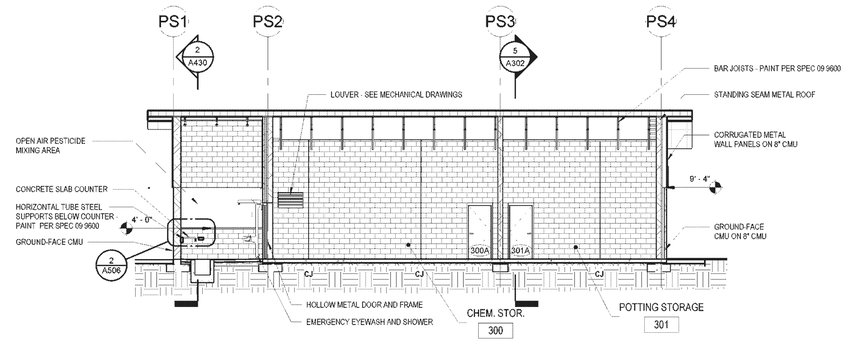
3 A302 BUILDING SECTION @ VEHICLE SHED LOW ROOF
1/8" = 1'-0"



4 A302 BUILDING SECTION @ VEHICLE SHED HIGH AND LOW ROOF
1/8" = 1'-0"



5 A302 BUILDING SECTION @ POTTING SHED LATITUDINAL
1/8" = 1'-0"



6 A302 BUILDING SECTION @ POTTING SHED LONGITUDINAL
1/8" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
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CONSULTANTS

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TIMMONS GROUP
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SEALS

Esse Architecture, P.A. 52498 North Carolina Registered Architecture Raleigh, N.C.

Melissa Dawner Potter 11983 North Carolina Registered Landscape Architect 5/22/2025

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A302

VEHICLE SHED AND POTTING SHED - BUILDING SECTIONS

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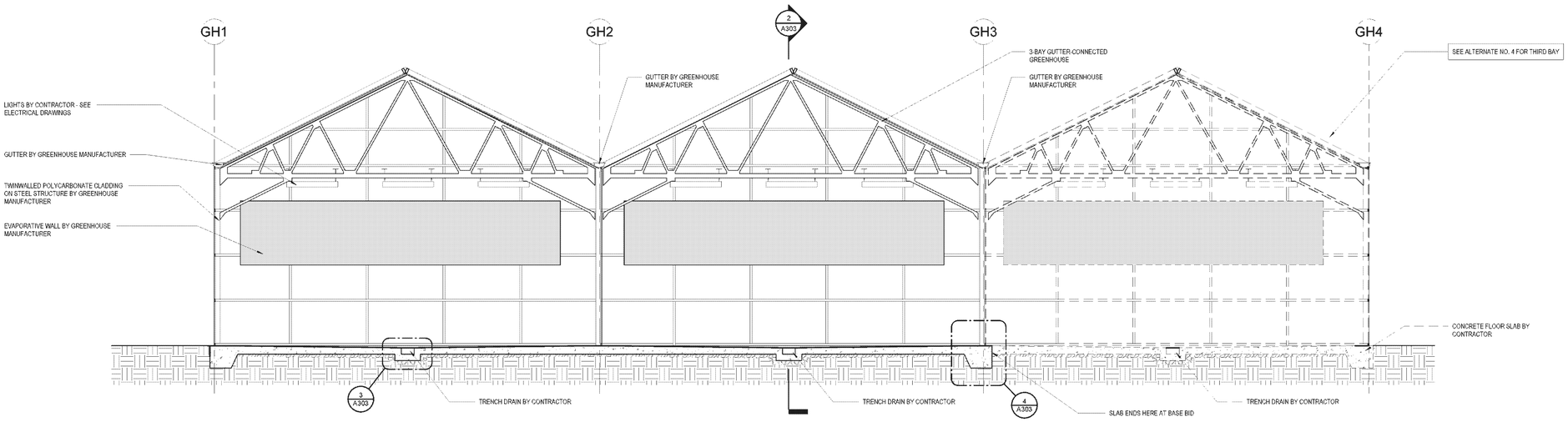
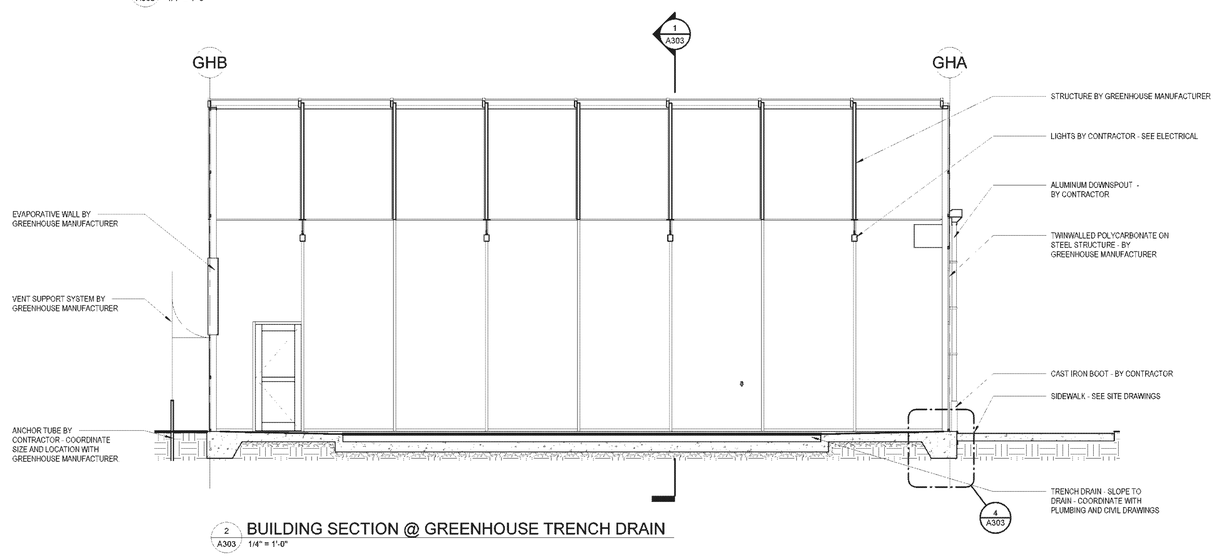
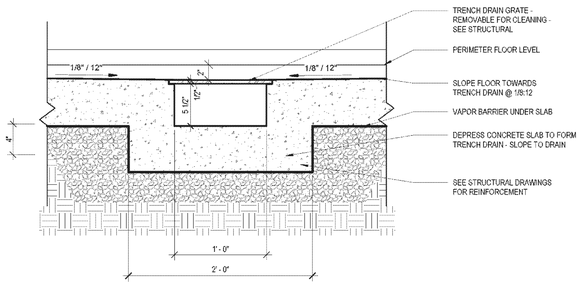


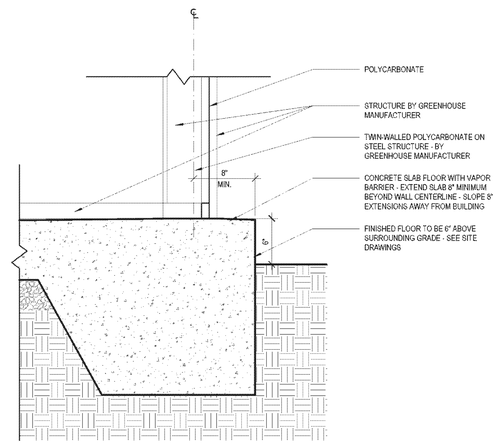
1 A303 BUILDING SECTION @ GREENHOUSE
1/4" = 1'-0"



2 A303 BUILDING SECTION @ GREENHOUSE TRENCH DRAIN
1/4" = 1'-0"



3 A303 DETAIL AT GREENHOUSE TRENCH DRAIN
1 1/2" = 1'-0"



4 A303 DETAIL AT GREENHOUSE SLAB
1 1/2" = 1'-0"

5 A303 WALL SECTION @ GREENHOUSE DOWNSPOUT
3/4" = 1'-0"

GREENHOUSE SCHEDULE

DESCRIPTION	PROVIDED BY
FLOOR SLAB	CONTRACTOR
TRENCH DRAIN AND GRATE	CONTRACTOR
STEEL FRAME	GH MANUFACTURER
POLYCARBONATE WALLS (GH)	GH MANUFACTURER
MEMBRANE WALLS (COLD FRAME)	GH MANUFACTURER
DOORS AND DOOR HARDWARE	GH MANUFACTURER
GUTTERS	GH MANUFACTURER
DOWNSPOUT CONNECTION AT GUTTER	GH MANUFACTURER
DOWNSPOUTS AND DRAINAGE	CONTRACTOR
EVAPORATIVE WALL SUPPORTS	GH MANUFACTURER
EVAPORATIVE WALL SUPPORT ANCHOR TUBE	GH MANUFACTURER
SHADING SYSTEMS	GH MANUFACTURER
VENTILATION SYSTEMS	GH MANUFACTURER
HEATING SYSTEMS	GH MANUFACTURER
IRRIGATION SYSTEMS	GH MANUFACTURER
CONTROL PANEL	GH MANUFACTURER
BENCHES	GH MANUFACTURER
GENERAL LIGHTING	CONTRACTOR
ELECTRICAL RECEPTACLES	CONTRACTOR
DATA	CONTRACTOR
PME CONNECTIONS	CONTRACTOR
HOSE BIBBS	CONTRACTOR
POWER, CIRCUITS, AND CONDUIT	CONTRACTOR
SIGNAGE	CONTRACTOR

GREENHOUSE AND COLD FRAME NOTES:
1. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE GREENHOUSE MANUFACTURER AND PROVIDING WORK NOT COVERED IN GREENHOUSE CONTRACT.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING PME CONNECTIONS TO PANEL BOARD AND BETWEEN PANEL BOARD AND EQUIPMENT. GREENHOUSE MANUFACTURER TO PROVIDE PANEL BOARD WITH CONTACTS - SEE ELECTRICAL DRAWINGS.
3. ALL PARTS OF THE GREENHOUSE AND COLD FRAME STRUCTURE AND OPERATIONS EQUIPMENT ARE PROVIDED BY AND INSTALLED BY GREENHOUSE MANUFACTURER UNLESS OTHERWISE NOTED.
4. GC TO COORDINATE ALL SLAB DIMENSIONS WITH GREENHOUSE AND COLD FRAME COORDINATION DRAWINGS PRIOR TO POURING SLABS. COORDINATION DRAWINGS WILL BE PROVIDED BY THE OWNER.

THIRD BAY OF GREENHOUSE IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 4 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

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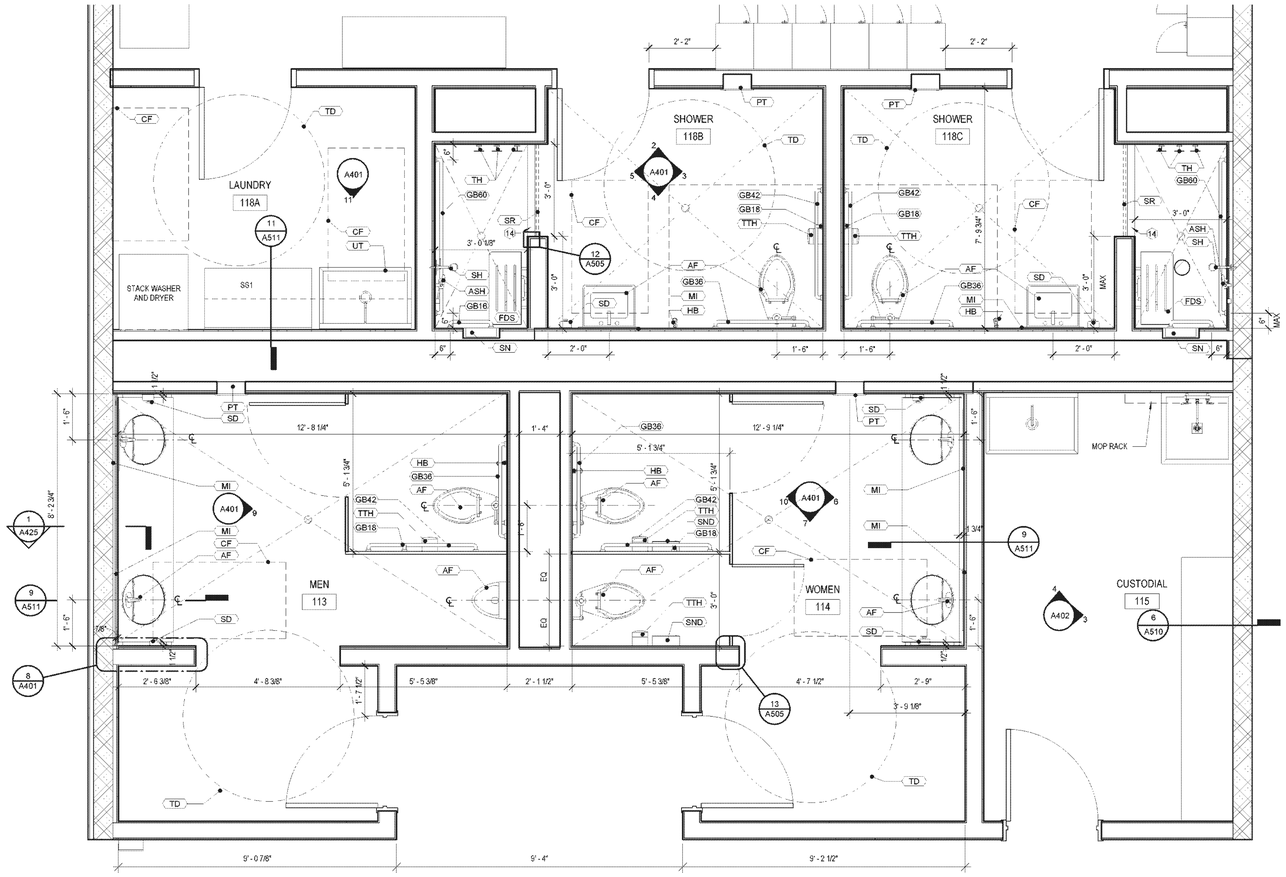
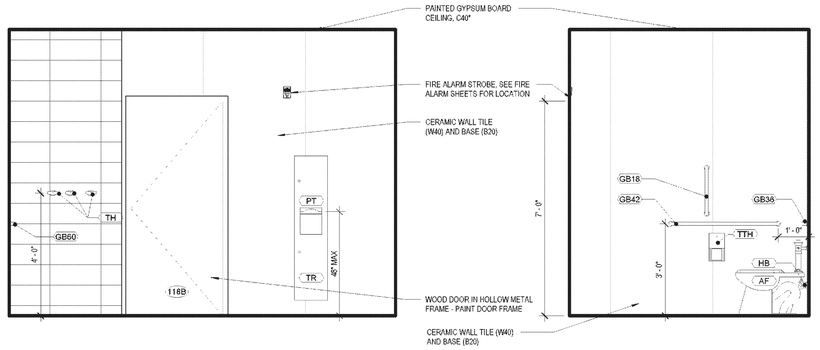
A303

GREENHOUSE-BUILDING SECTIONS AND DETAILS

Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA496404A75E0

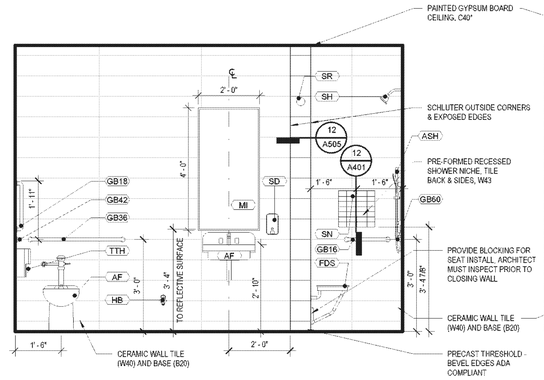


1 A401 ENLARGED PLAN - TOILETS AND SHOWERS
1/2" = 1'-0"

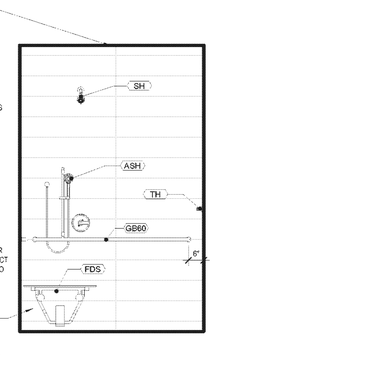


2 A401 SHOWER/CHANGE ROOM 118B DOOR
1/2" = 1'-0"
NOTE: SHOWER/CHANGE 118C IS SIMILAR/OPPOSITE

3 A401 SHOWER/CHANGE ROOM 118B WC
1/2" = 1'-0"
NOTE: SHOWER/CHANGE 118C IS SIMILAR/OPPOSITE

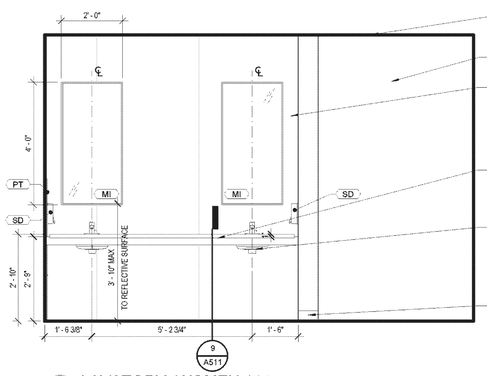


4 A401 SHOWER/CHANGE ROOM 118B LAVATORY
1/2" = 1'-0"
NOTE: SHOWER/CHANGE 118C IS SIMILAR/OPPOSITE

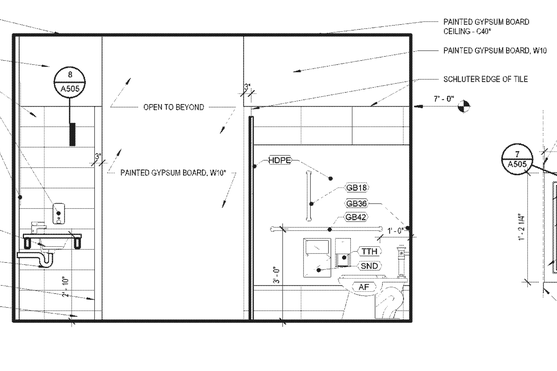


5 A401 SHOWER/CHANGE ROOM 118B SHOWER
1/2" = 1'-0"
NOTE: SHOWER/CHANGE 118C IS SIMILAR/OPPOSITE

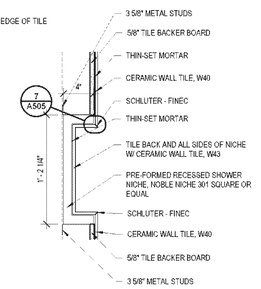
1 A401 ENLARGED PLAN - TOILETS AND SHOWERS
1/2" = 1'-0"



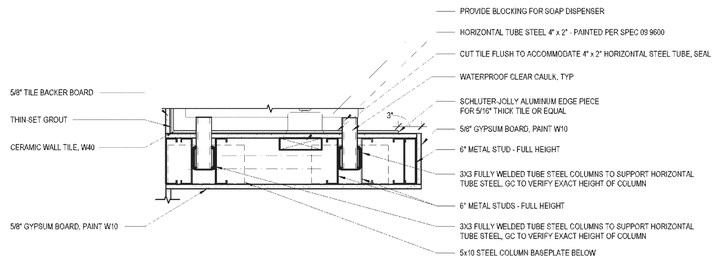
8 A401 LAVATORY WOMEN 114
1/2" = 1'-0"
MEN 113 IS SIMILAR/OPPOSITE



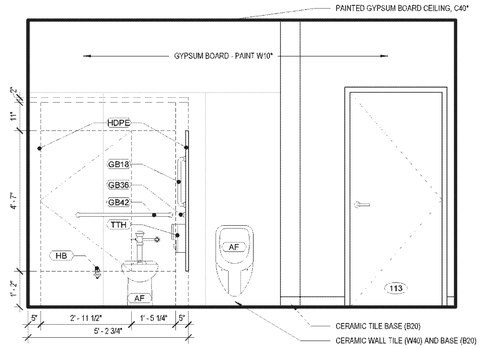
7 A401 ACCESSIBLE WC WOMEN 114
1/2" = 1'-0"
MEN 113 SIMILAR/OPPOSITE



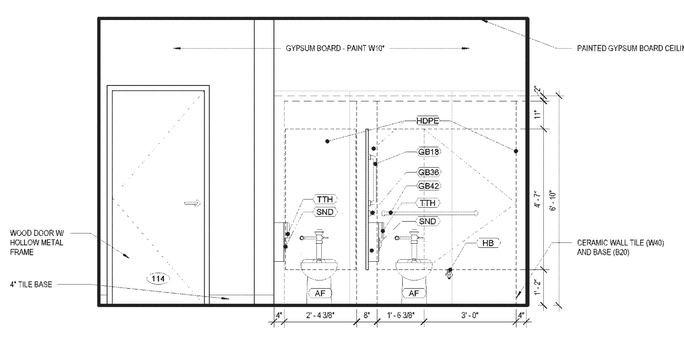
12 A401 DETAIL AT SHOWER NICHE
1 1/2" = 1'-0"



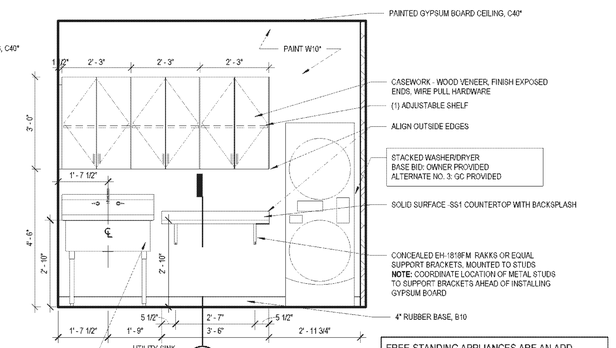
8 A401 PLAN DETAIL AT WING WALL - TUBE STEEL SUPPORTS
1 1/2" = 1'-0"



9 A401 MEN 113 WC
1/2" = 1'-0"



10 A401 WOMEN 114 WC
1/2" = 1'-0"



11 A401 LAUNDRY
1/2" = 1'-0"

FREE-STANDING APPLIANCES ARE AN ADD-ALTERNATE. SEE ALTERNATE NO. 3 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

	TOILET ACCESSORIES LEGEND
AF	ACCESSIBLE FIXTURE
ASH	ACCESSIBLE SHOWER HEAD
CF	CLEAR FLOOR SPACE 30" x 52"
CH	COAT HOOK
FDS	FOLD-DOWN SEAT
GB18	GRAB BAR, 18" LONG (VERTICAL)
GB36	GRAB BAR, 36" LONG (REAR WALLS)
GB42	GRAB BAR, 42" LONG (SIDE WALLS)
GB60	GRAB BAR 60" LONG (SHOWER)
HB	HOSE BIBB
HDPE	HDPE TOILET PARTITIONS
MI	MIRROR
PT	PAPER TOWEL DISPENSER WITH TRASH RECEPTACLE
SD	SOAP DISPENSER
SH	SHOWER HEAD
SN	PRE-FORMED SHOWER NICHE
SND	SANITARY NAPKIN DISPOSAL
SR	SHOWER ROD
TD	67" ACCESSIBLE TURNING DIAMETER
TH	TOWEL HOOK
TR	TRASH RECEPTACLE
TTH	TOILET TISSUE HOLDER
UT	UTILITY SINK

NOTES:
1. PLUMBING CONTRACTOR TO PROVIDE PROTECTIVE INSULATION AT HOT PIPES BELOW LAVATORY PER ACCESSIBILITY CODE.
2. FLUSH CONTROL VALVES AT ACCESSIBLE TOILETS TO BE MOUNTED ON THE WIDE SIDE OF TOILET STALL.
3. SEE SPECIFICATIONS FOR DETAILS OF TOILET ACCESSORIES.
4. ALL TOILET PARTITIONS ARE FLOOR MOUNTED AND OVERHEAD BRACED.
5. THRESHOLDS SLOPE IN DOOR OPENINGS SHALL NOT EXCEED 1:8 SLOPE OR 1/2" IN HEIGHT PER ACCESSIBILITY CODE.
6. SLOPE EACH TOILET FLOOR SLAB TO DRAIN @ 1/8"/FT - PROVIDE SEPERATE CONCRETE POURS TO ENSURE PROPER SLOPE

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SEALS

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MELINDA CORINNE PHIPPEN 11993 NOTARY PUBLIC WAKE COUNTY, N.C. 5/22/2025

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DRAWN BY: ADF, TMR
CHECKED BY: MDP

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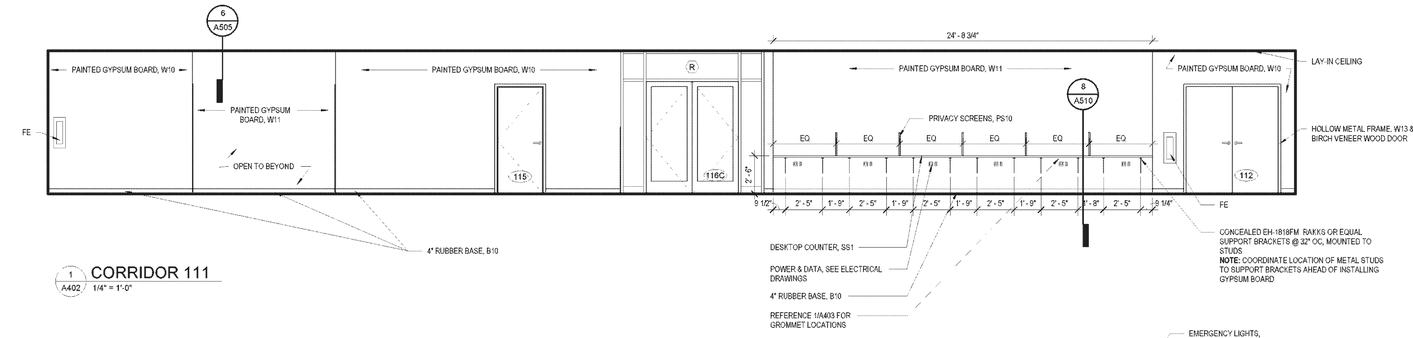
SHEET INFORMATION

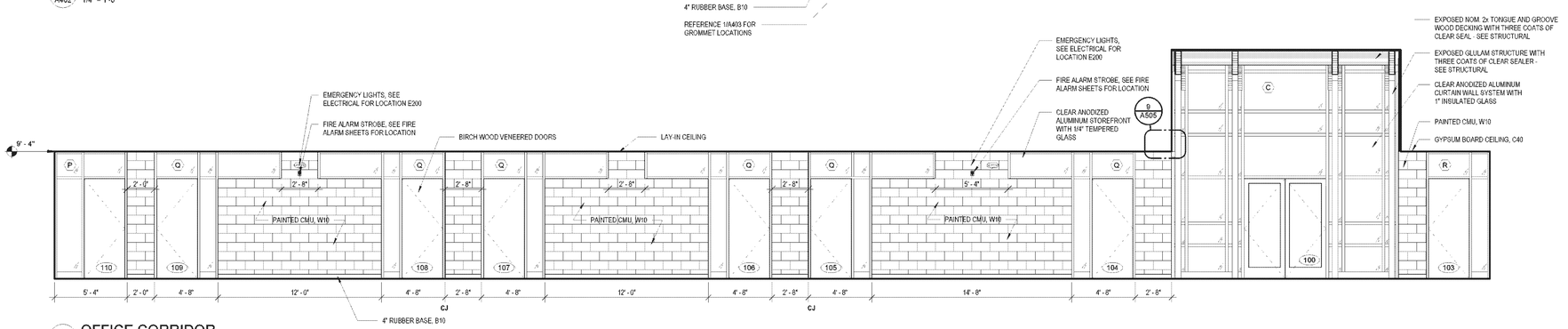
A401

ENLARGED TOILET PLANS AND ELEVATIONS

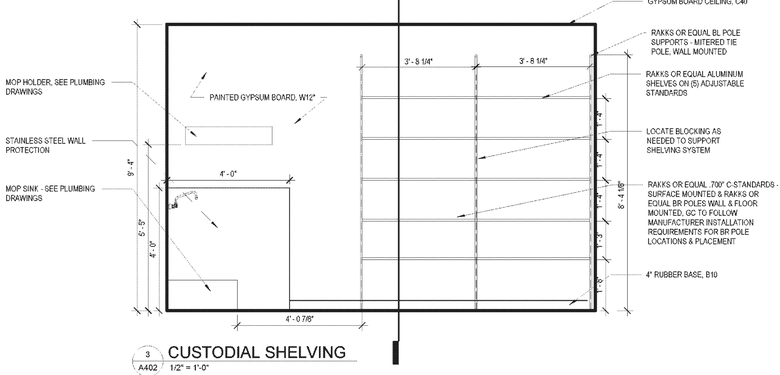
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



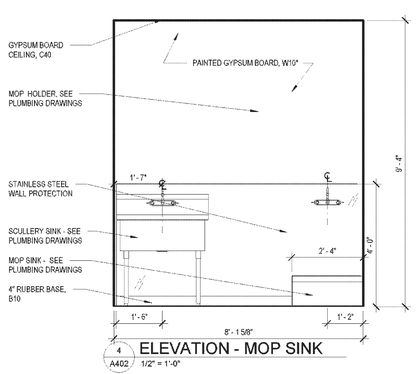
1 A402 CORRIDOR 111
1/4" = 1'-0"



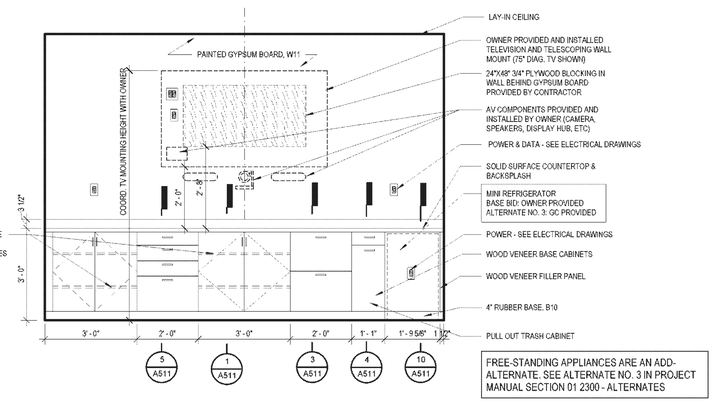
2 A402 OFFICE CORRIDOR
1/4" = 1'-0"



3 A402 CUSTODIAL SHELVING
1/2" = 1'-0"



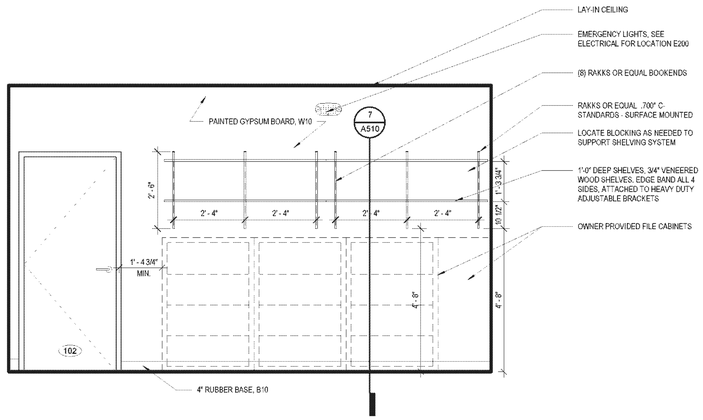
4 A402 ELEVATION - MOP SINK
1/2" = 1'-0"



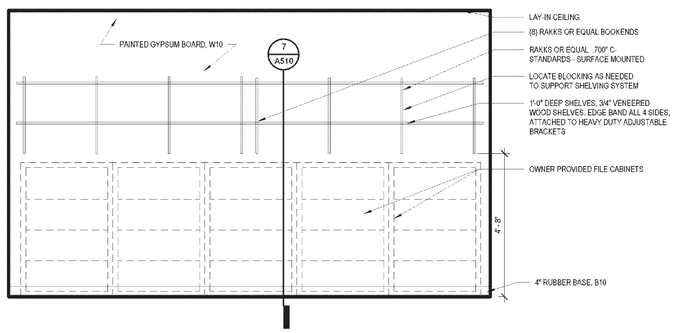
FREE-STANDING APPLIANCES ARE AN ADD-ALTERNATE. SEE ALTERNATE NO. 3 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

5 A402 ELEVATION CONFERENCE ROOM 103
1/2" = 1'-0"

NOTE: AV LAYOUT WILL BE SIMILAR FOR CONFERENCE ROOM 110. CONTRACTOR TO COORDINATE FOR PLACEMENT OF RECEPTACLES, CONDUITS, RACEWAYS, ETC. FOR OWNER'S AV INSTALLATION PRIOR TO INSTALLING THIS INFRASTRUCTURE. ALL AV EQUIPMENT AND WIRING TO BE OWNER PROVIDED AND INSTALLED. SEE ELECTRICAL DRAWINGS. WALL MOUNTED AV COMPONENTS COORDINATE WITH THE FLOOR BOX IN THESE SPACES.



6 A402 RECORDS ROOM ELEVATION 1
1/2" = 1'-0"



7 A402 RECORDS ROOM ELEVATION 2
1/2" = 1'-0"

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SEALS

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NOTARIAL COMMISSION POSITIONS 11093 NOTARY PUBLIC WAKE COUNTY, N.C. 5/22/2025

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SHEET INFORMATION

A402
OFFICE INTERIOR ELEVATIONS

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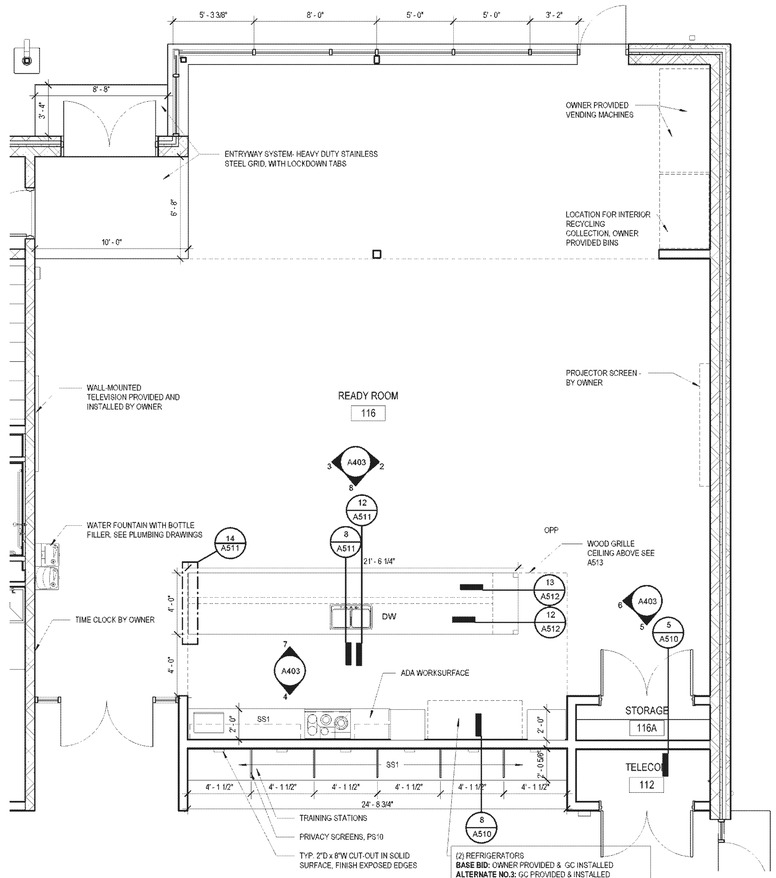
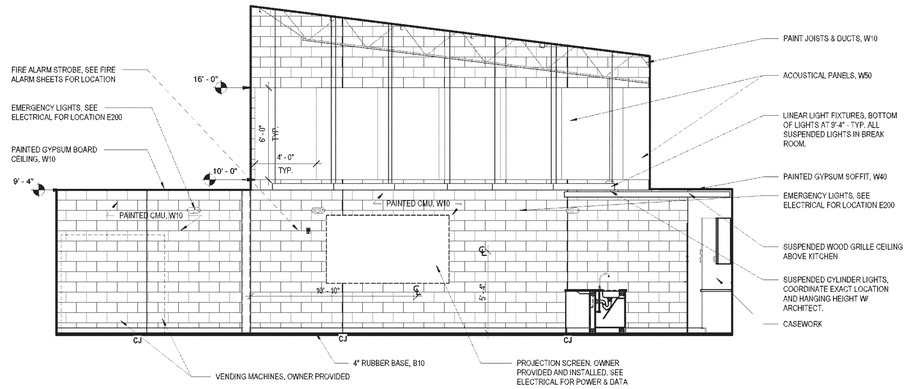
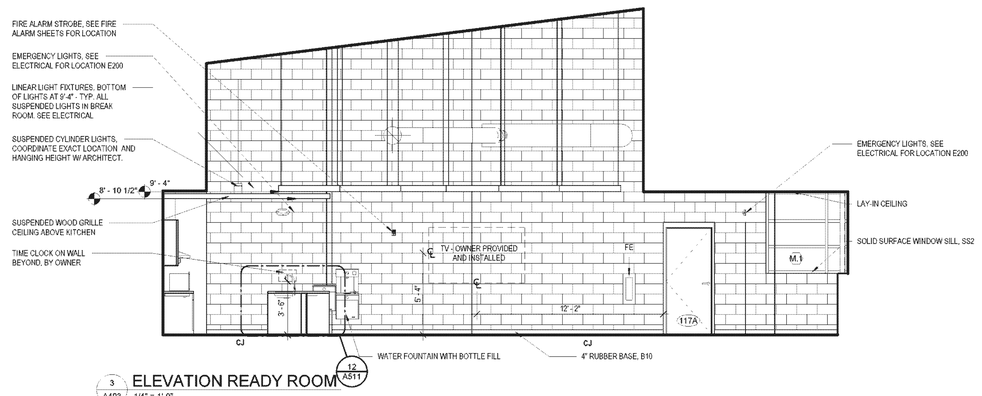


1 A403 ENLARGED PLAN - READY ROOM KITCHEN
1/4" = 1'-0"

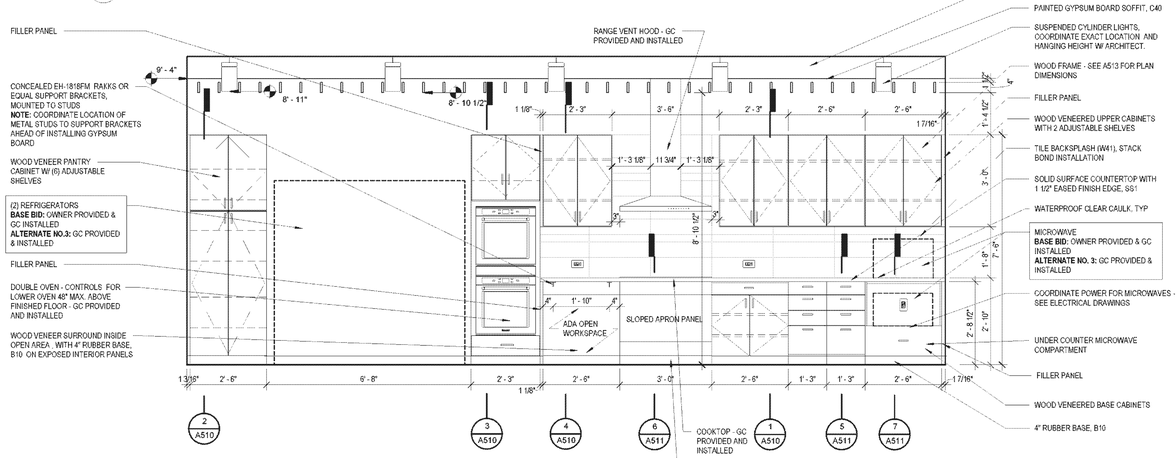
FREE-STANDING APPLIANCES ARE AN ADD-ALTERNATE. SEE ALTERNATE NO. 3 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES



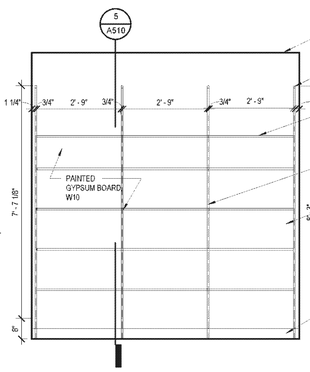
2 A403 ELEVATION - PROJECTION WALL
1/4" = 1'-0"



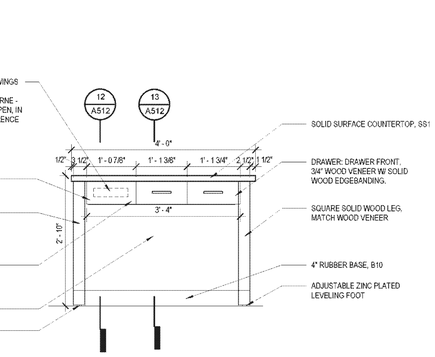
3 A403 ELEVATION READY ROOM
1/4" = 1'-0"



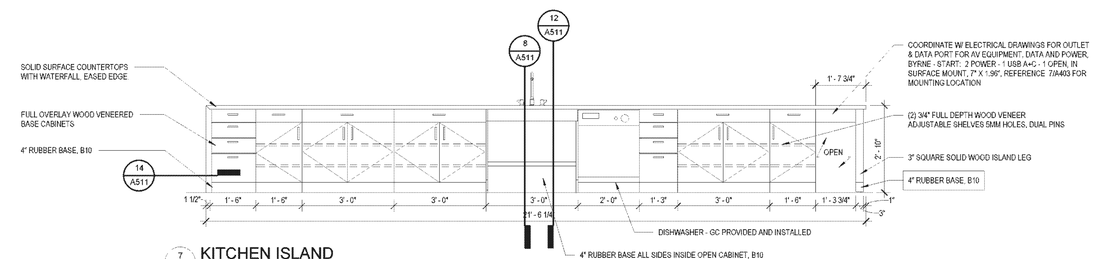
4 A403 ELEVATION - KITCHEN RANGE WALL
1/2" = 1'-0"



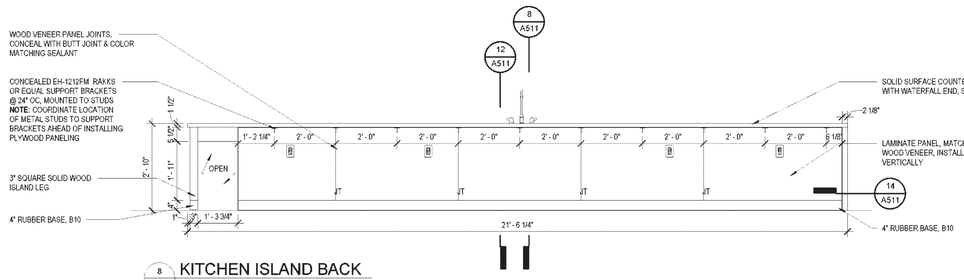
5 A403 KITCHEN PANTRY SHELVING
1/2" = 1'-0"



6 A403 READY ROOM ISLAND (EAST END)
3/4" = 1'-0"



7 A403 KITCHEN ISLAND
1/2" = 1'-0"



8 A403 KITCHEN ISLAND BACK
1/2" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CONSULTANTS

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5410 TRINITY RD. SUITE 102
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SEALS

Esse Architects P.A. 52498 Raleigh, N.C. NORTH CAROLINA REGISTERED ARCHITECTURAL CORPORATION
5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KBM, TMR
CHECKED BY:	MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	01.21.2025

SHEET INFORMATION

A403

ENLARGED READY ROOM PLANS AND ELEVATIONS

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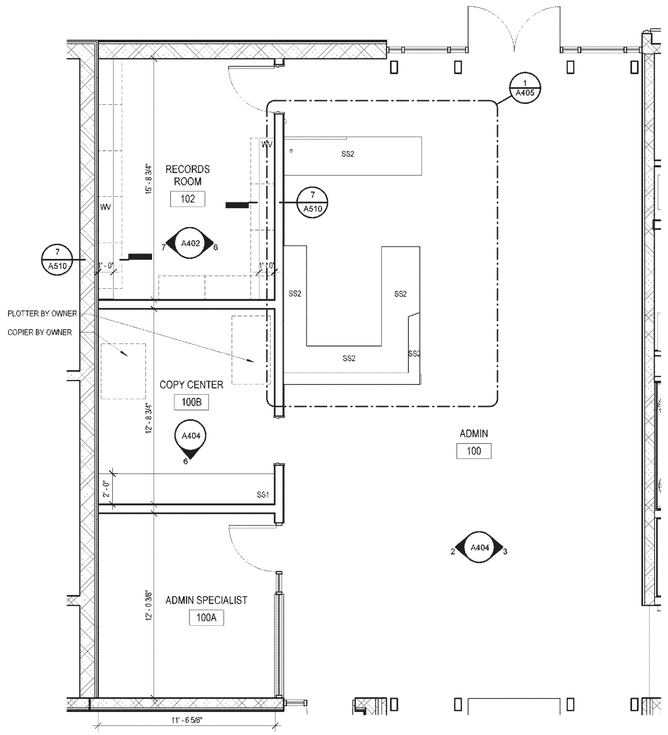
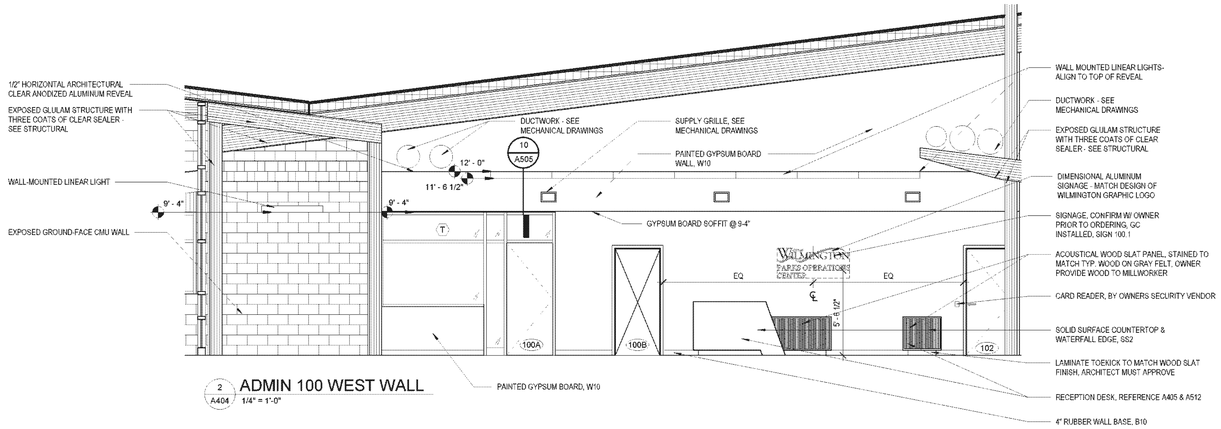
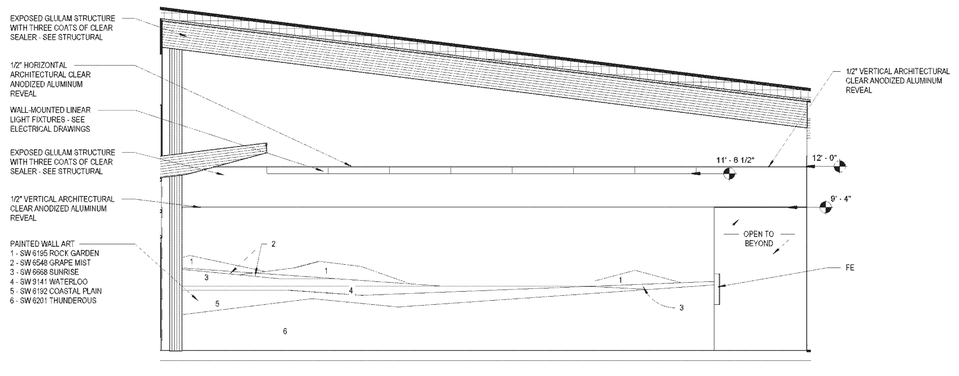


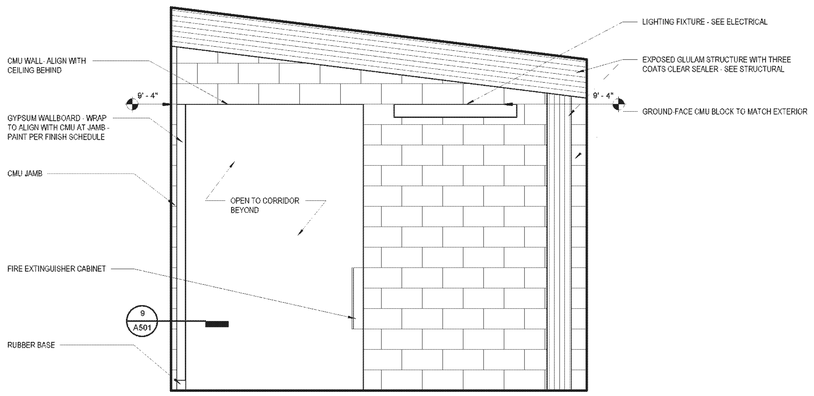
1 A404 ENLARGED PLAN - ADMIN AND COPY/STORAGE
1/4" = 1'-0"



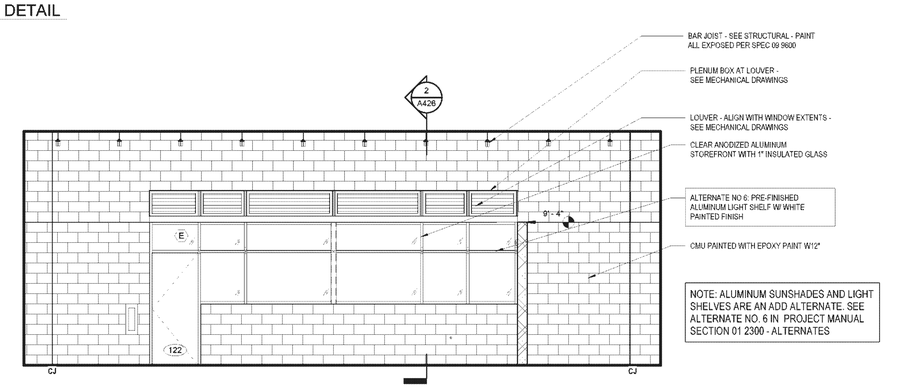
2 A404 ADMIN 100 WEST WALL
1/4" = 1'-0"



3 A404 WALL ART DETAIL
1/4" = 1'-0"

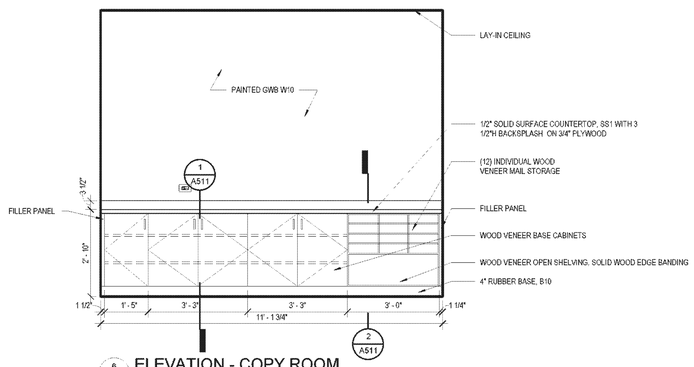


4 A404 ELEVATION - VESTIBULE WEST WALL
1/2" = 1'-0"

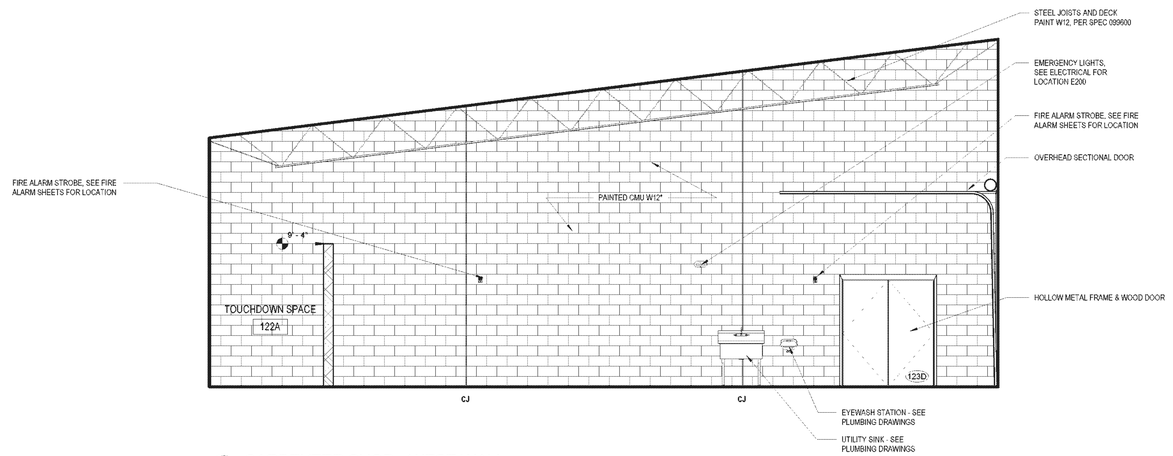


NOTE: ALUMINUM SUNSHADES AND LIGHT SHELVES ARE AN ADD ALTERNATE. SEE ALTERNATE NO. 6 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

5 A404 CARPENTER SHOP - SOUTH WALL
1/4" = 1'-0"



6 A404 ELEVATION - COPY ROOM
1/2" = 1'-0"



7 A404 CARPENTER SHOP - WEST WALL
1/4" = 1'-0"

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SEALS

Esse Architects, P.A. 52498 Registered Architectural Corporation North Carolina Raleigh, N.C.

Division of Engineering 11883 Kevin M. Dees Wilmington, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: KBM, TMR
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A404

ENLARGED ADMIN, COPY ROOM & WORKSHOP PLANS AND ELEVATIONS

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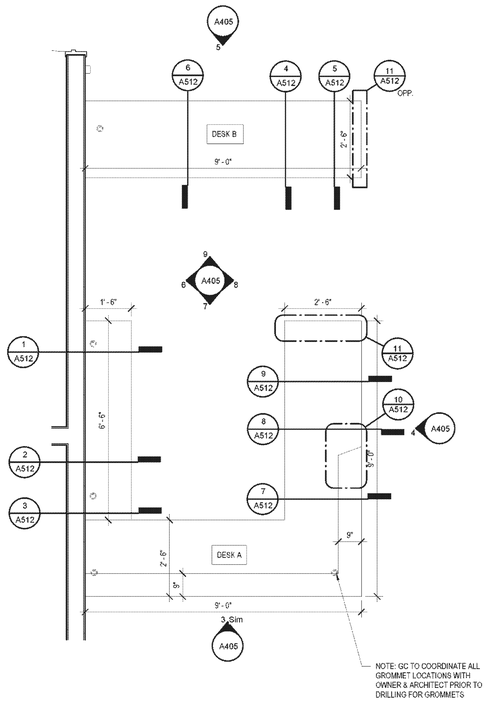
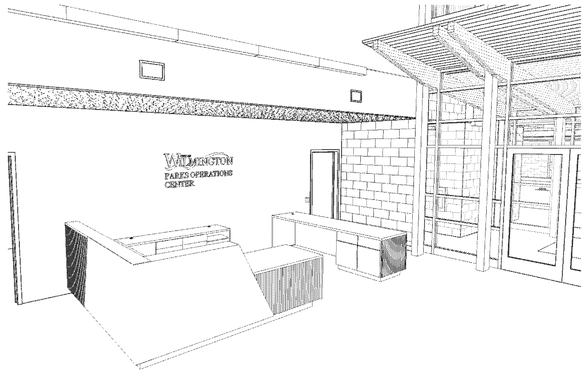
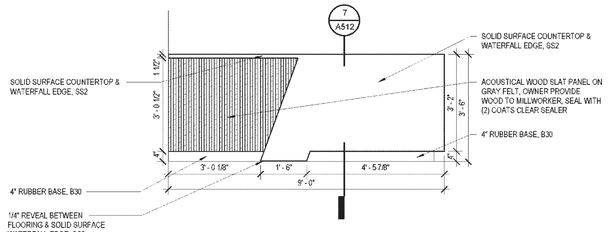


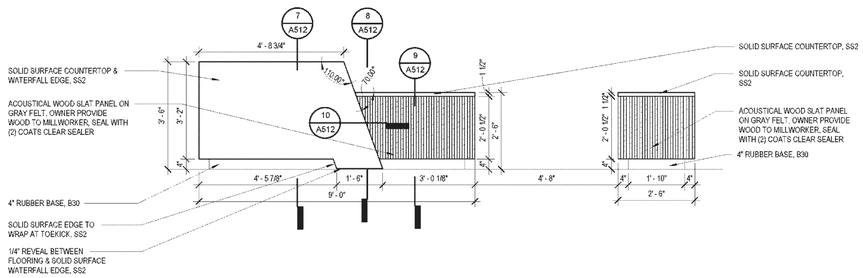
1 A405 ENLARGED PLAN - RECEPTION DESK
1/2" = 1'-0"



2 A405 3-D VIEW RECEPTION DESK



3 A405 ELEVATION 1 - RECEPTION DESK A
1/2" = 1'-0"



4 A405 ELEVATION 2 - RECEPTION DESK A&B
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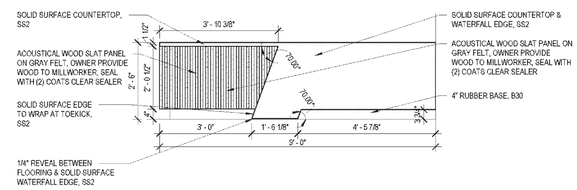
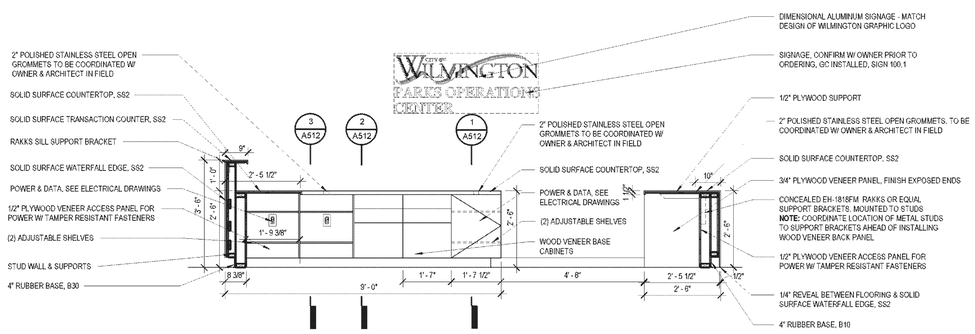
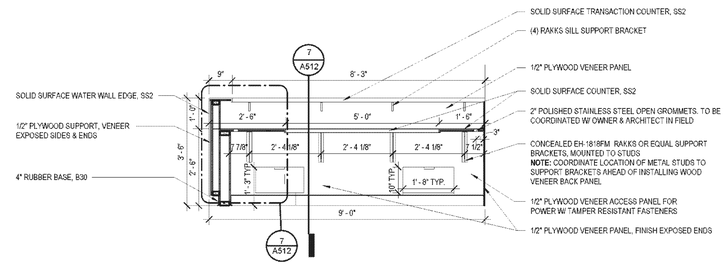


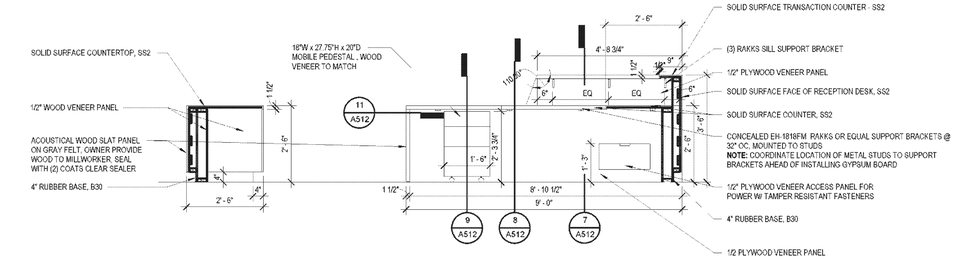
5 A405 ELEVATION 3 - RECEPTION DESK B
1/2" = 1'-0"



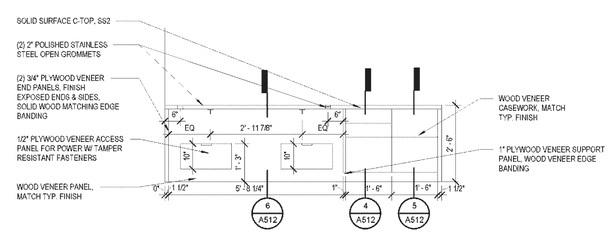
6 A405 ELEVATION - RECEPTION DESK A&B - EAST INTERIOR
1/2" = 1'-0"



7 A405 ELEVATION RECEPTION DESK A - SOUTH INTERIOR
1/2" = 1'-0"



8 A405 ELEVATION - RECEPTION DESK A&B - WEST INTERIOR
1/2" = 1'-0"



9 A405 ELEVATION - RECEPTION DESK B - NORTH INTERIOR
1/2" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
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SEALS

Esse Architects, P.A. — 52498 — Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: TMR
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	02.21.2025

SHEET INFORMATION

A405

RECEPTION DESK DETAILS

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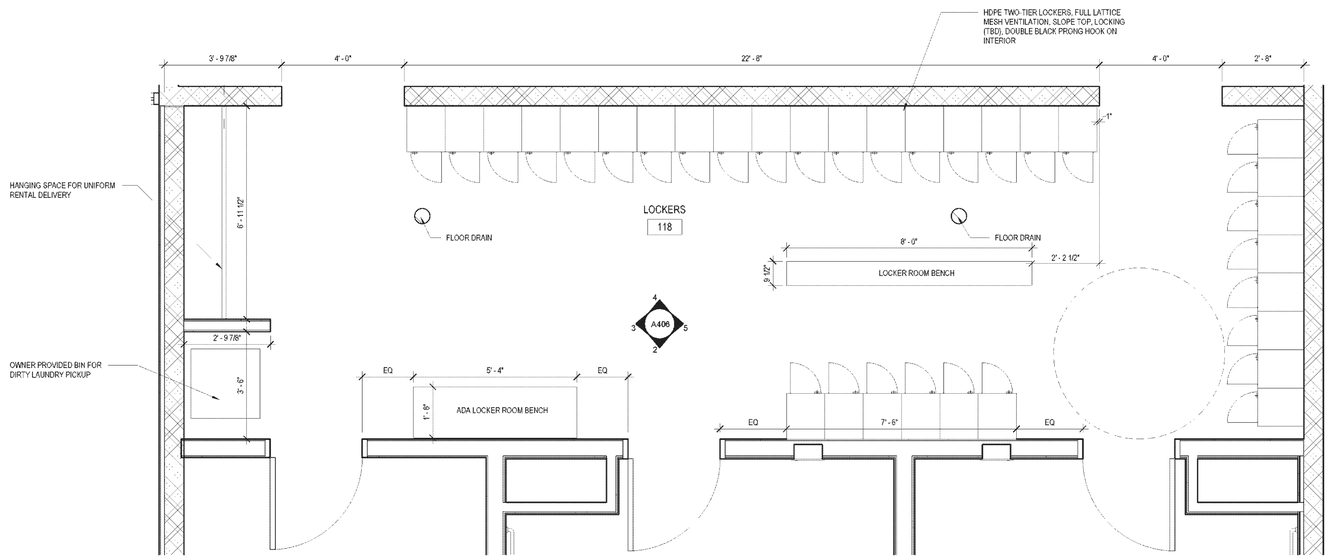
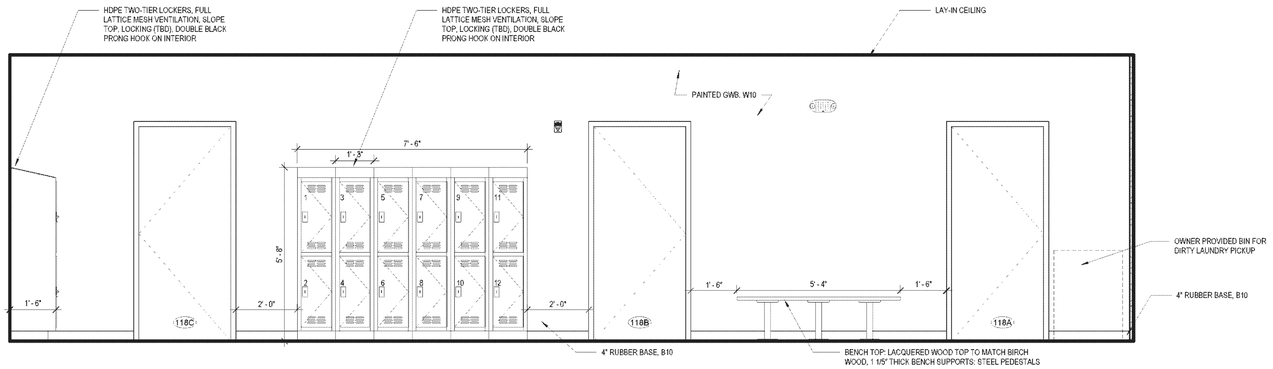
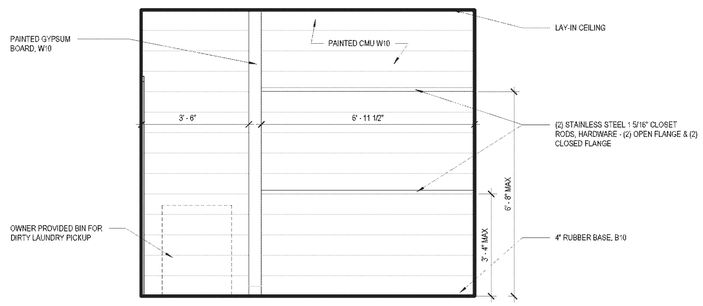


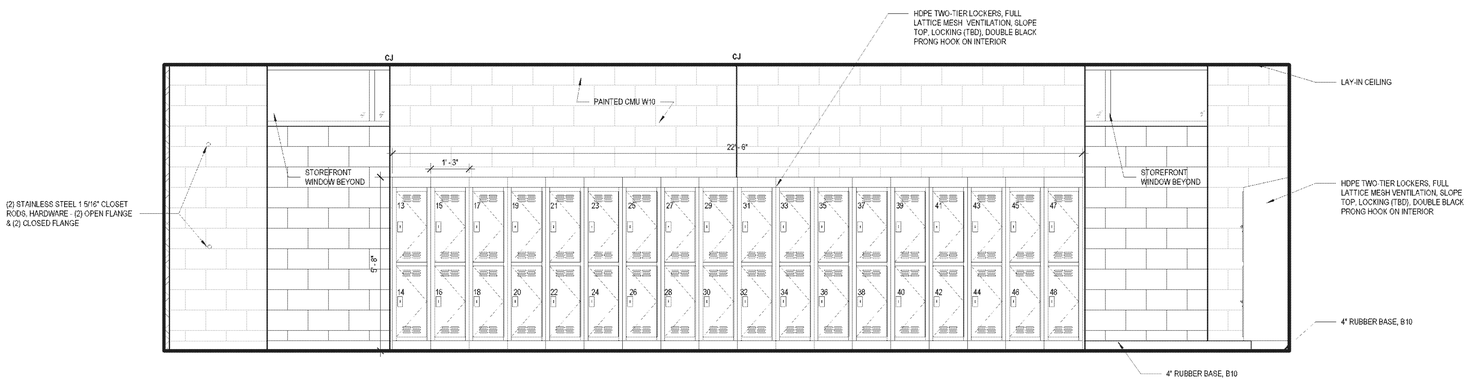
1 / A406 ENLARGED PLAN - LOCKERS 118
1/2" = 1'-0"



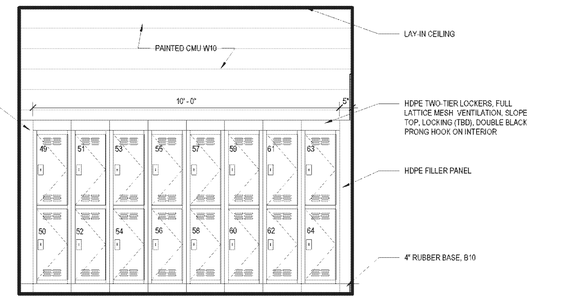
2 / A406 ELEVATION LOCKERS 118 SOUTH
1/2" = 1'-0"



3 / A406 ELEVATION LOCKERS 118 WEST
1/2" = 1'-0"



4 / A406 ELEVATION LOCKERS 118 NORTH
1/2" = 1'-0"



5 / A406 ELEVATION LOCKERS 118 EAST
1/2" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

Esse Architects P.A. 52498 North Carolina Registered Architecture Firm Raleigh, N.C.

Melinda Conner Potvin 11983 Registered Landscape Architect Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	ADF, TMR
CHECKED BY:	MDP

REVISIONS

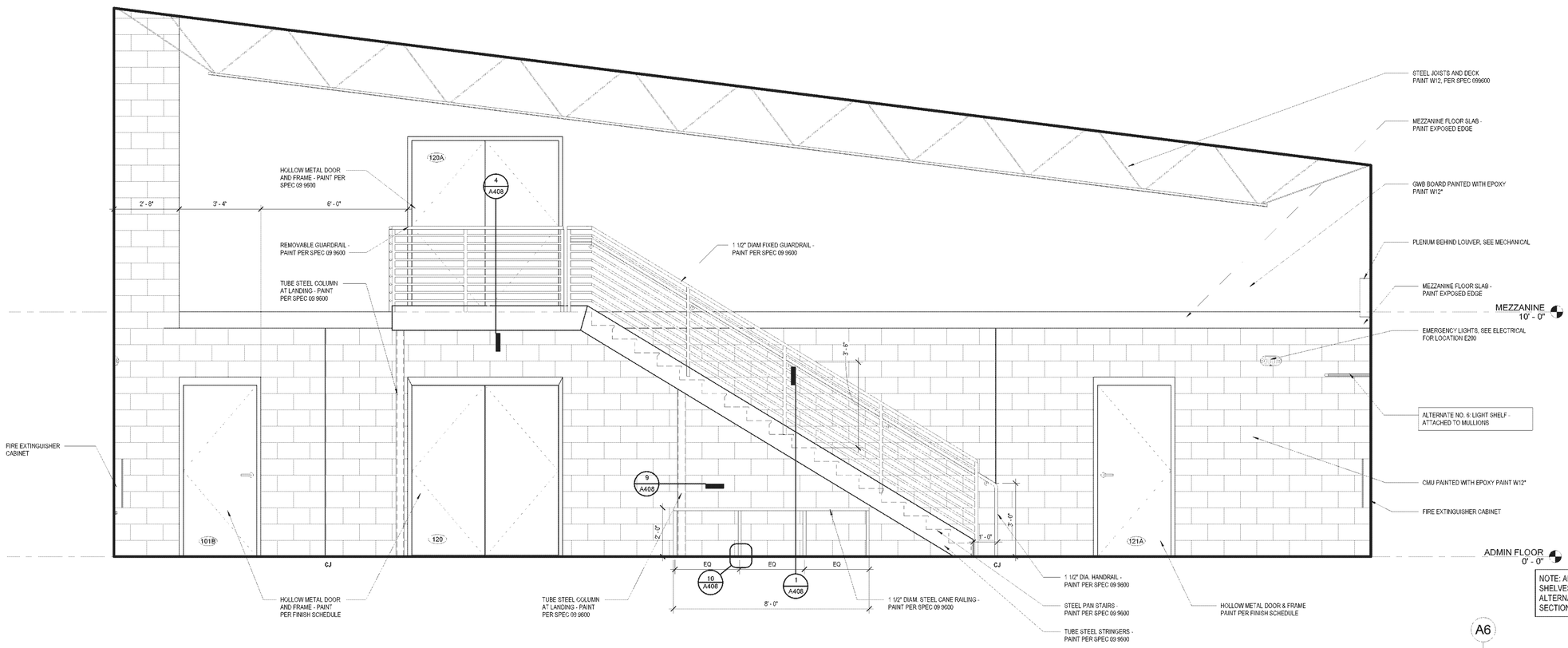
NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	01.21.2025

SHEET INFORMATION

A406

LOCKER ROOM ENLARGED PLANS AND ELEVATIONS

Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA496404A75E0



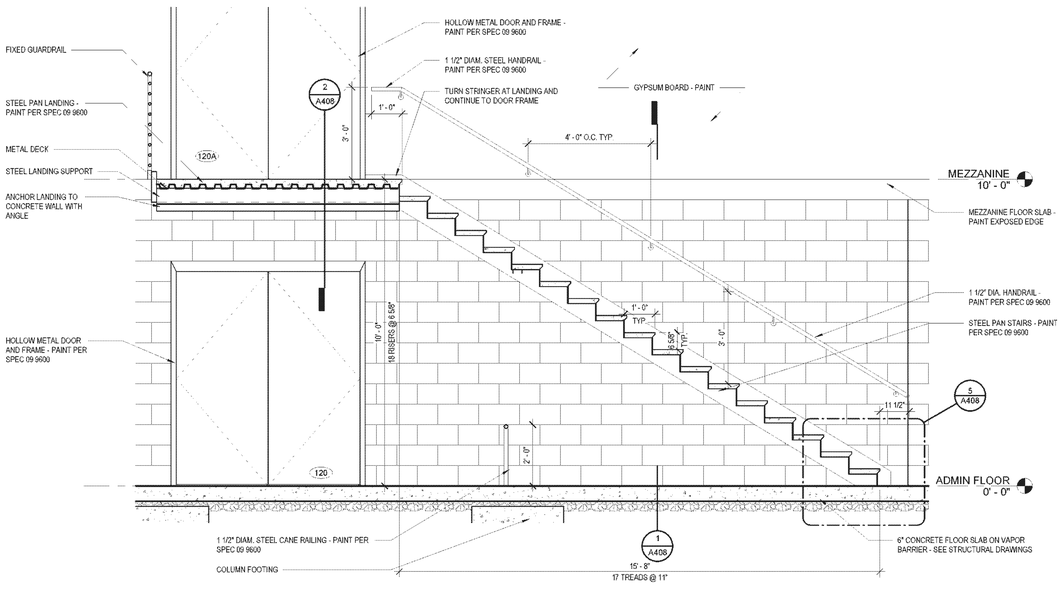
NOTE: ALUMINUM SUNSHADES AND LIGHT SHELVES ARE AN ADD ALTERNATE. SEE ALTERNATE NO. 6 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

1 A407 MEZZANINE STAIR ELEVATION

1/2" = 1'-0"

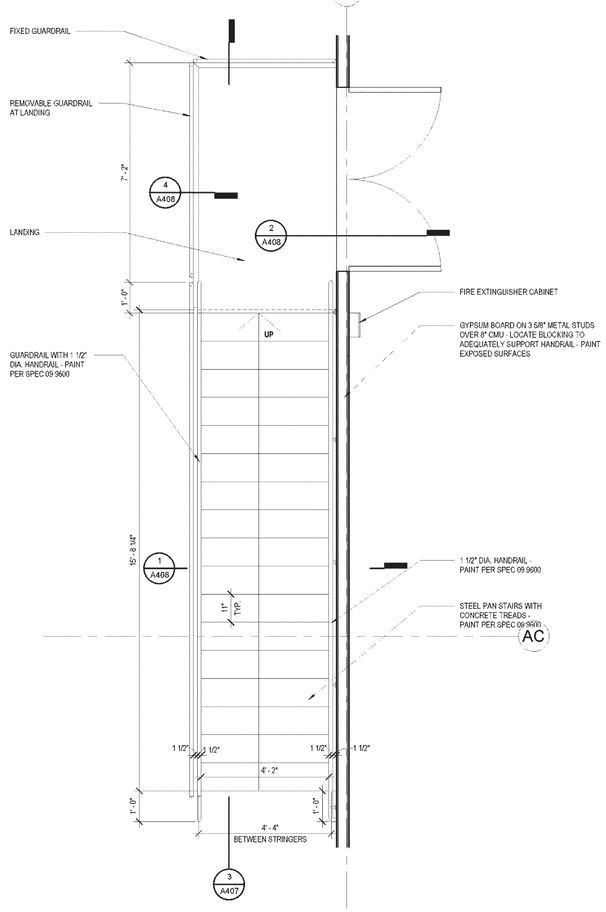
STAIR NOTES

1. STAIRS TO BE DESIGNED BY DELEGATED DESIGN - ARCHITECTURAL DETAILS ARE PROVIDED IN BID SET TO SHOW REQUIREMENTS.
2. ALL EXPOSED METAL ON STAIRS TO BE PAINTED PER SPEC 09 9600
3. GUARDRAIL AT LANDING TO BE REMOVABLE. GUARDRAIL ON STAIR TREADS TO BE FIXED.



3 A407 SECTION AT MEZZANINE STAIRS

1/2" = 1'-0"



2 A407 MEZZANINE STAIRS

1/2" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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CITY OF WILMINGTON NORTH CAROLINA

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SEALS

Esse Architects P.A. 52498 Raleigh, N.C.

11585 Timothy M. Rose 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: ADF, TMR
CHECKED BY: MDP

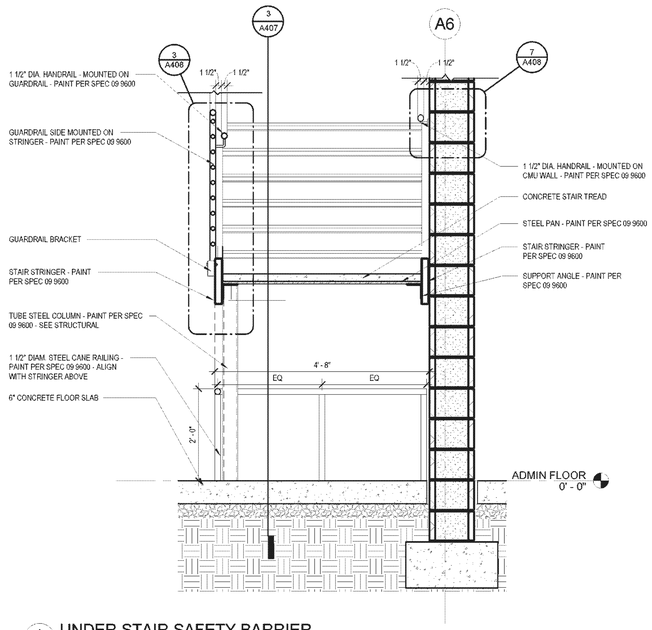
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	02.21.2025

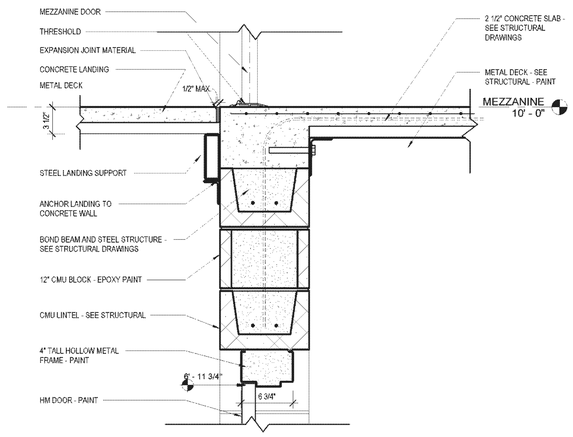
SHEET INFORMATION

A407
STAIR DETAILS

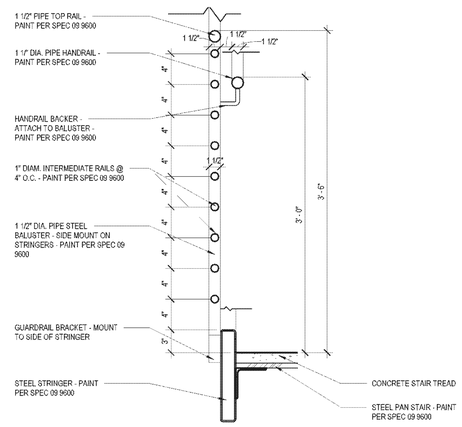
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA496404A75E0



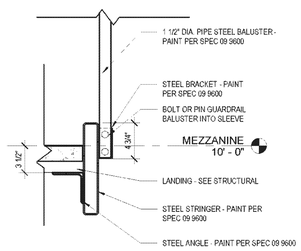
1 A408 UNDER STAIR SAFETY BARRIER
3/4" = 1'-0"



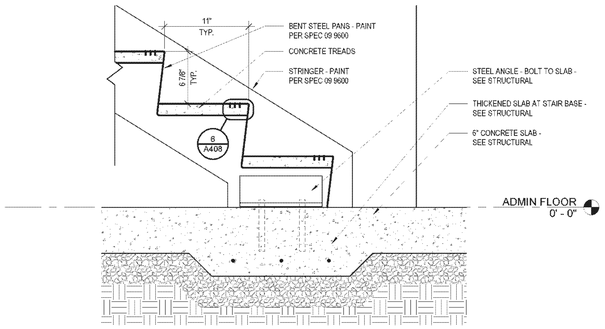
2 A408 LANDING AT MEZZANINE SLAB
1 1/2" = 1'-0"



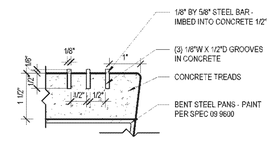
3 A408 DETAIL @ STAIR GUARDRAIL
1 1/2" = 1'-0"



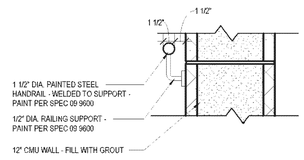
4 A408 DETAIL @ REMOVEABLE GUARDRAIL
1 1/2" = 1'-0"



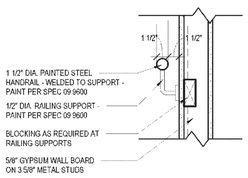
5 A408 STAIR DETAIL
1 1/2" = 1'-0"



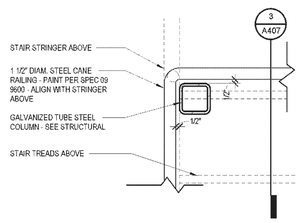
6 A408 STAIR TREAD DETAIL
6" = 1'-0"



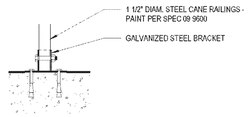
7 A408 DETAIL @ HANDRAIL ON CMU
1 1/2" = 1'-0"



8 A408 DETAIL @ HANDRAIL ON GWB
1 1/2" = 1'-0"



9 A408 DETAIL @ COLUMN AND CANE RAIL
1 1/2" = 1'-0"



10 A408 CANE RAIL MOUNTING DETAIL
1 1/2" = 1'-0"

STAIR NOTES
1. STAIRS TO BE DESIGNED BY DELEGATED DESIGN - ARCHITECTURAL DETAILS ARE PROVIDED IN BID SET TO SHOW REQUIREMENTS. 2. ALL EXPOSED METAL ON STAIRS TO BE PAINTED PER SPEC 09 9600 3. GUARDRAIL AT LANDING TO BE REMOVABLE. GUARDRAIL ON STAIR TREADS TO BE FIXED.

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SEALS

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: ADF
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

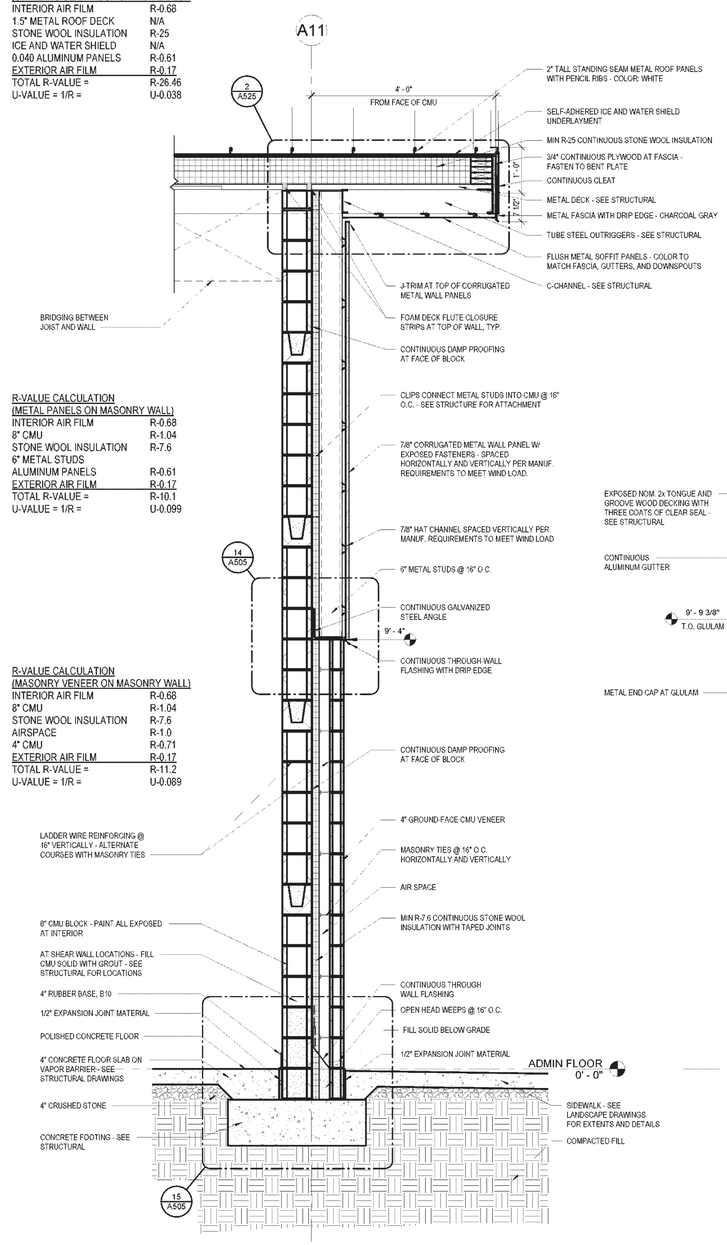
SHEET INFORMATION

A408
STAIR DETAILS

Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0

R-VALUE CALCULATION
(STANDING SEAM ROOF ON METAL DECK

INTERIOR AIR FILM	R-0.68
1.5" METAL ROOF DECK	N/A
STONE WOOL INSULATION	R-25
ICE AND WATER SHIELD	N/A
0.040 ALUMINUM PANELS	R-0.61
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-26.46
U-VALUE = 1/R =	U-0.038



R-VALUE CALCULATION
(METAL PANELS ON MASONRY WALL)

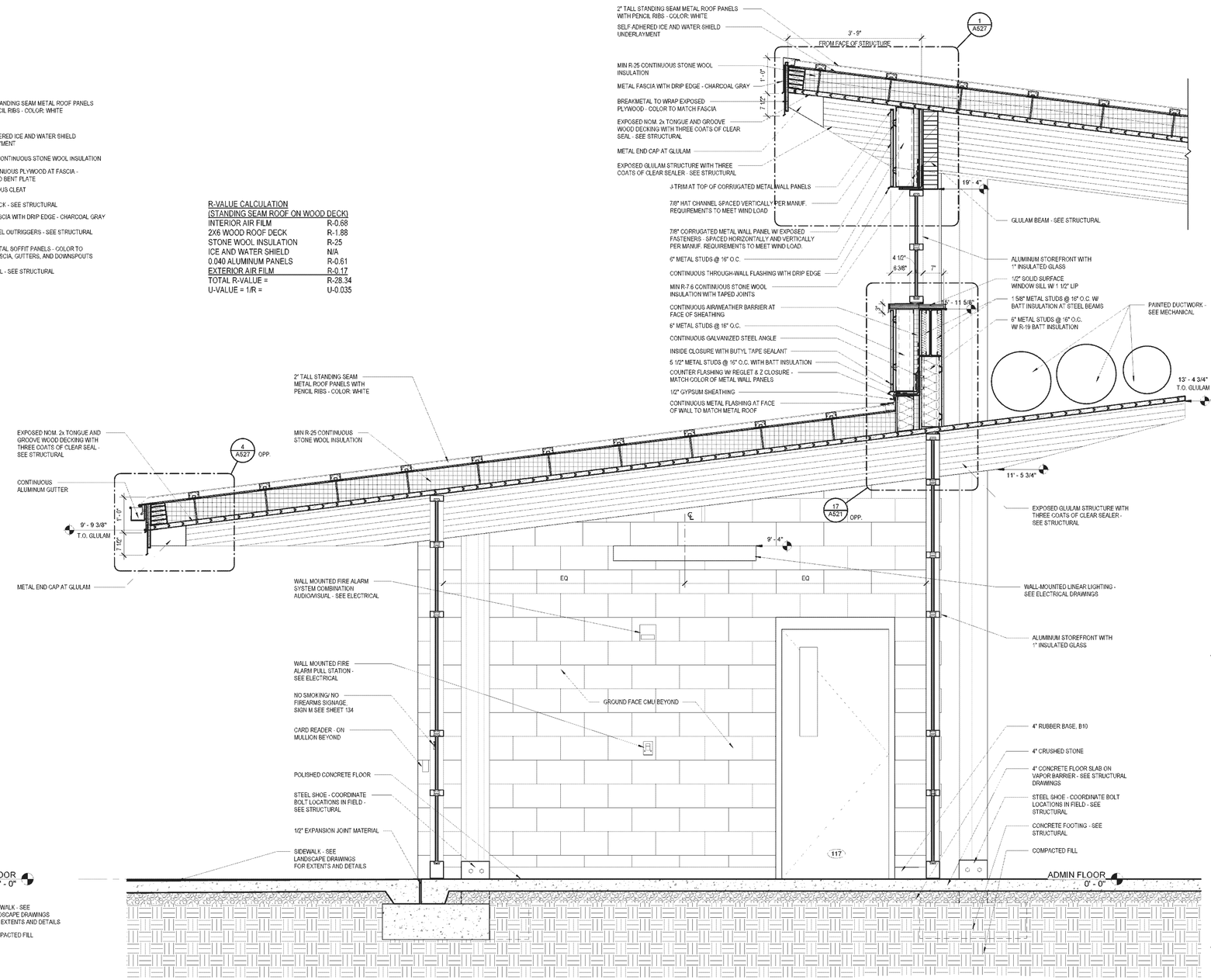
INTERIOR AIR FILM	R-0.68
8" CMU	R-1.04
STONE WOOL INSULATION	R-7.6
6" METAL STUDS	
ALUMINUM PANELS	R-0.61
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-10.1
U-VALUE = 1/R =	U-0.099

R-VALUE CALCULATION
(MASONRY VENEER ON MASONRY WALL)

INTERIOR AIR FILM	R-0.68
8" CMU	R-1.04
STONE WOOL INSULATION	R-7.6
AIRSPACE	R-1.0
4" CMU	R-0.71
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-11.2
U-VALUE = 1/R =	U-0.089

R-VALUE CALCULATION
(STANDING SEAM ROOF ON WOOD DECK)

INTERIOR AIR FILM	R-0.68
2X6 WOOD ROOF DECK	R-1.88
STONE WOOL INSULATION	R-25
ICE AND WATER SHIELD	N/A
0.040 ALUMINUM PANELS	R-0.61
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-28.34
U-VALUE = 1/R =	U-0.035



1 A421 WALL SECTION - TYPICAL
3/4" = 1'-0"

2 A421 ADMINISTRATION BUILDING WALL SECTION AT VESTIBULE
3/4" = 1'-0"

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Melinda Corinne Pittman 11985 Registered Professional Engineer North Carolina Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	ADF, EMK
CHECKED BY:	MDP

REVISIONS

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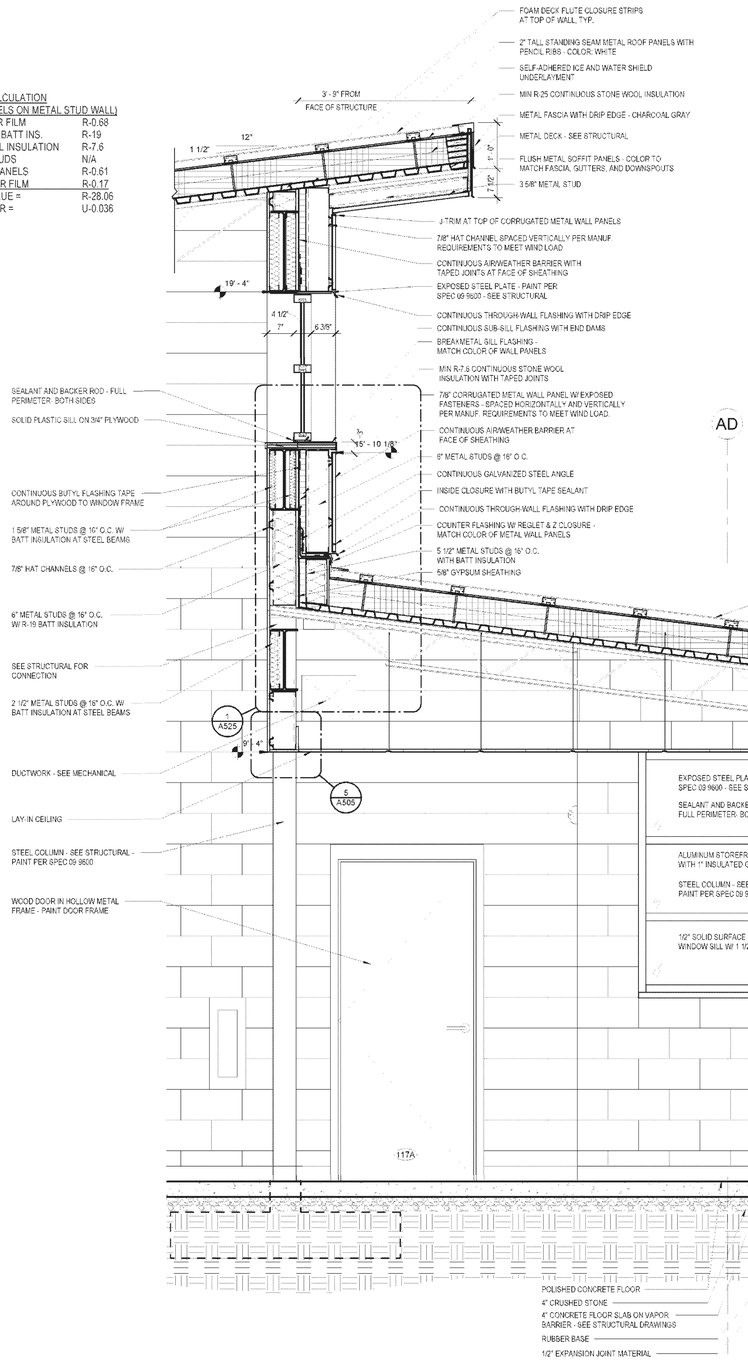
SHEET INFORMATION

A421

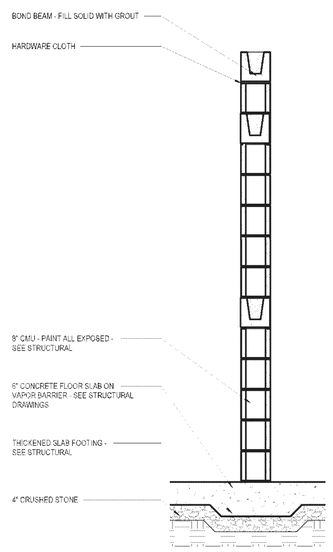
ADMINISTRATION BUILDING - WALL SECTIONS

Docusign Envelope ID: 10B4A470-564B-4168-9F51-EA49640A75E0

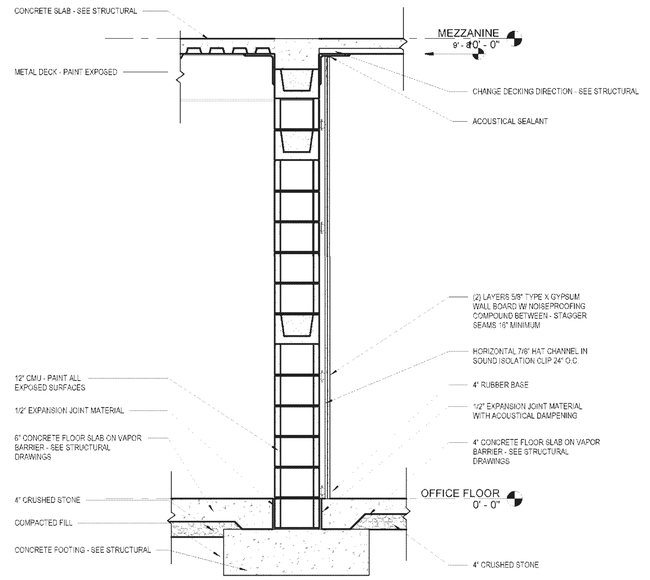
R-VALUE CALCULATION (METAL PANELS ON METAL STUD WALL)	
INTERIOR AIR FILM	R-0.68
6" CMU W/ 6" BATT INS.	R-19
STONE WOOL INSULATION	R-7.6
6" METAL STUDS	N/A
ALUMINUM PANELS	R-0.61
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-28.06
U-VALUE = 1/R =	U-0.036



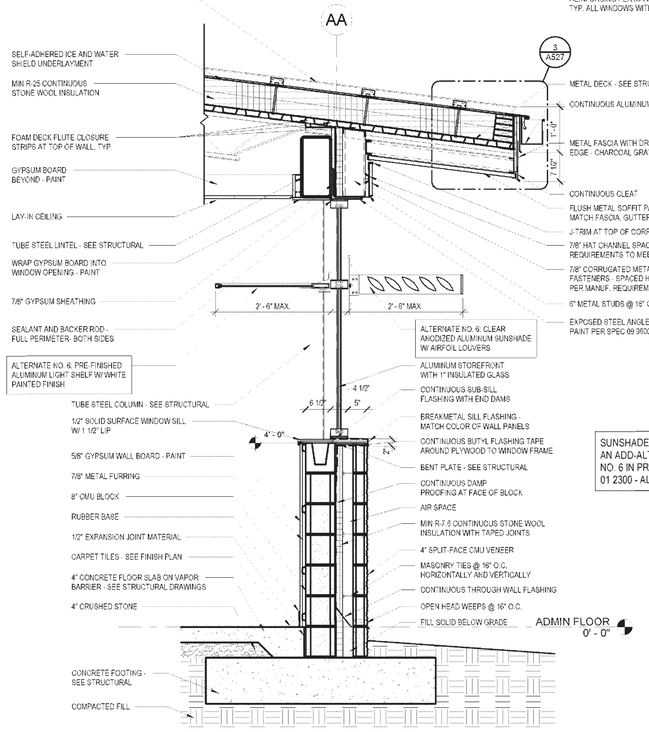
1 A422 WALL SECTION @ READY ROOM CLERESTORY
3/4" = 1'-0"



2 A422 WALL SECTION AT WORKSHOP TOUCHDOWN SPACE
3/4" = 1'-0"



3 A422 OFFICE BUILDING WALL SECTION @ FLEX AND CORRIDOR
3/4" = 1'-0"



1 A422 WALL SECTION @ READY ROOM CLERESTORY
3/4" = 1'-0"

4 A422 WALL SECTION @ CONFERENCE
3/4" = 1'-0"

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PROJECT INFORMATION

PROJECT NO.:	2014
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CHECKED BY:	MDP

REVISIONS

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SHEET INFORMATION

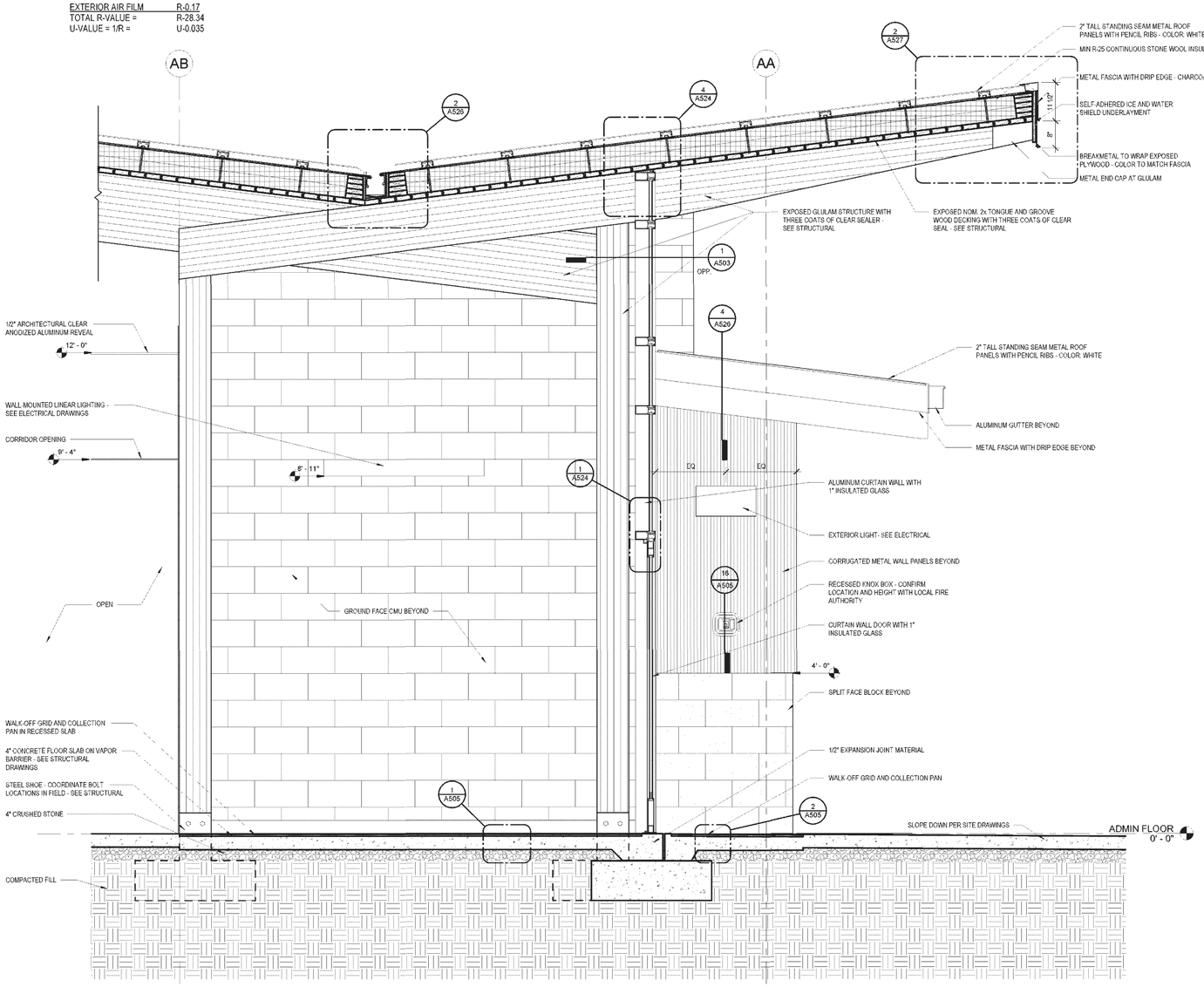
A422

ADMINISTRATION BUILDING - WALL SECTIONS

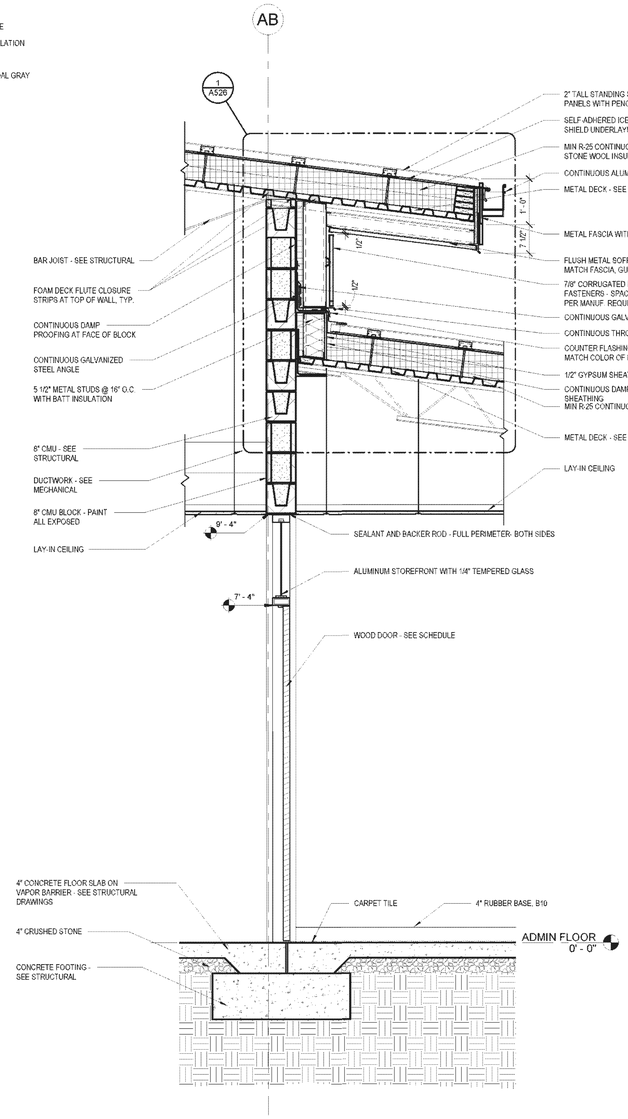
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0

R-VALUE CALCULATION
(STANDING SEAM ROOF ON WOOD DECK

INTERIOR AIR FILM	R-0.68
2X6 WOOD ROOF DECK	R-1.88
STONE WOOL INSULATION	R-25
ICE AND WATER SHIELD	N/A
0.040 ALUMINUM PANELS	R-0.61
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-28.34
U-VALUE = 1/R =	U-0.035



1 A423 WALL SECTION @ ENTRY
3/4" = 1'-0"



2 A423 WALL SECTION @ CORRIDOR AND SUPERVISOR OFFICE
3/4" = 1'-0"

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Melanie Donner Patterson 11693 Registered Architect Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
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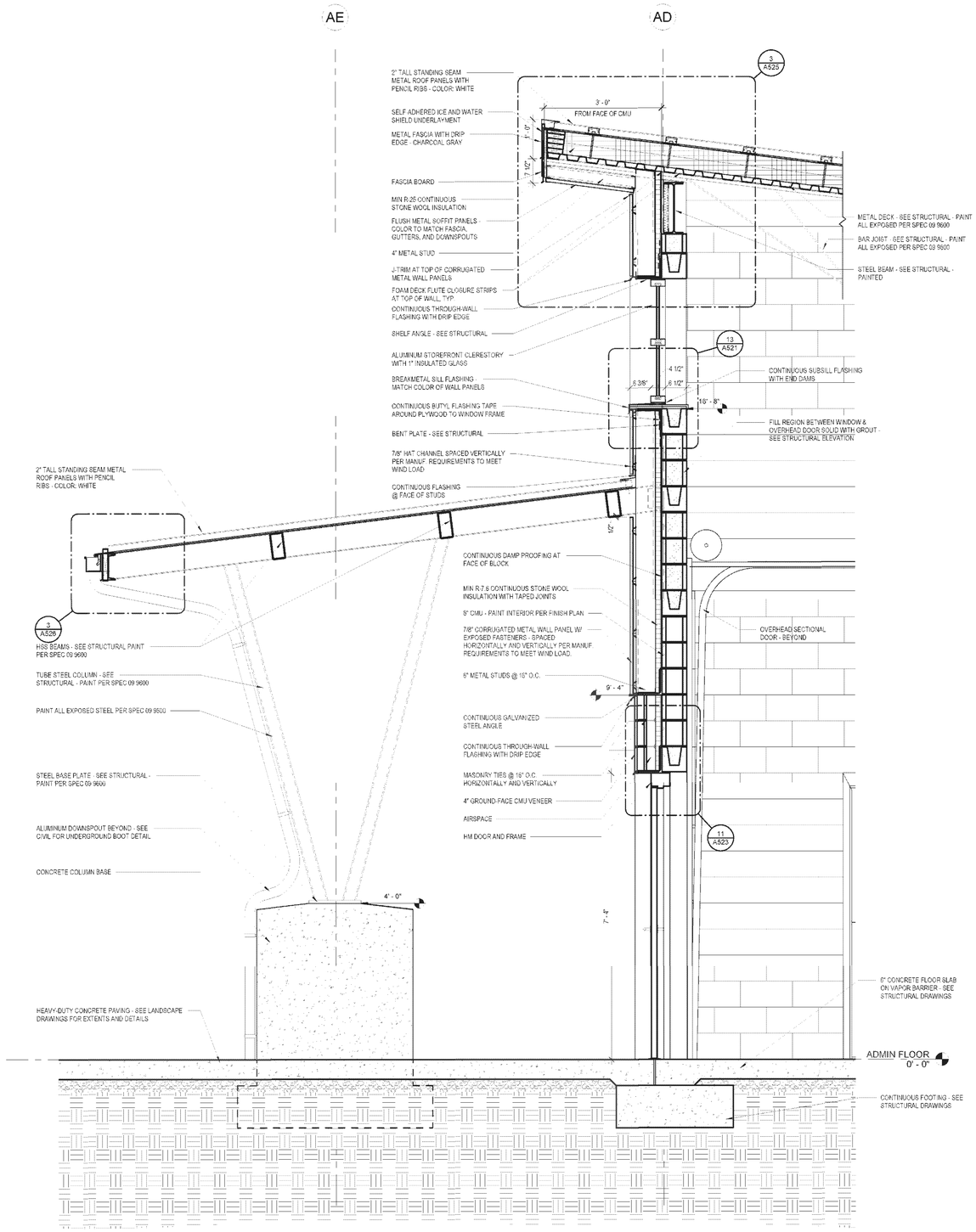
SHEET INFORMATION

A423

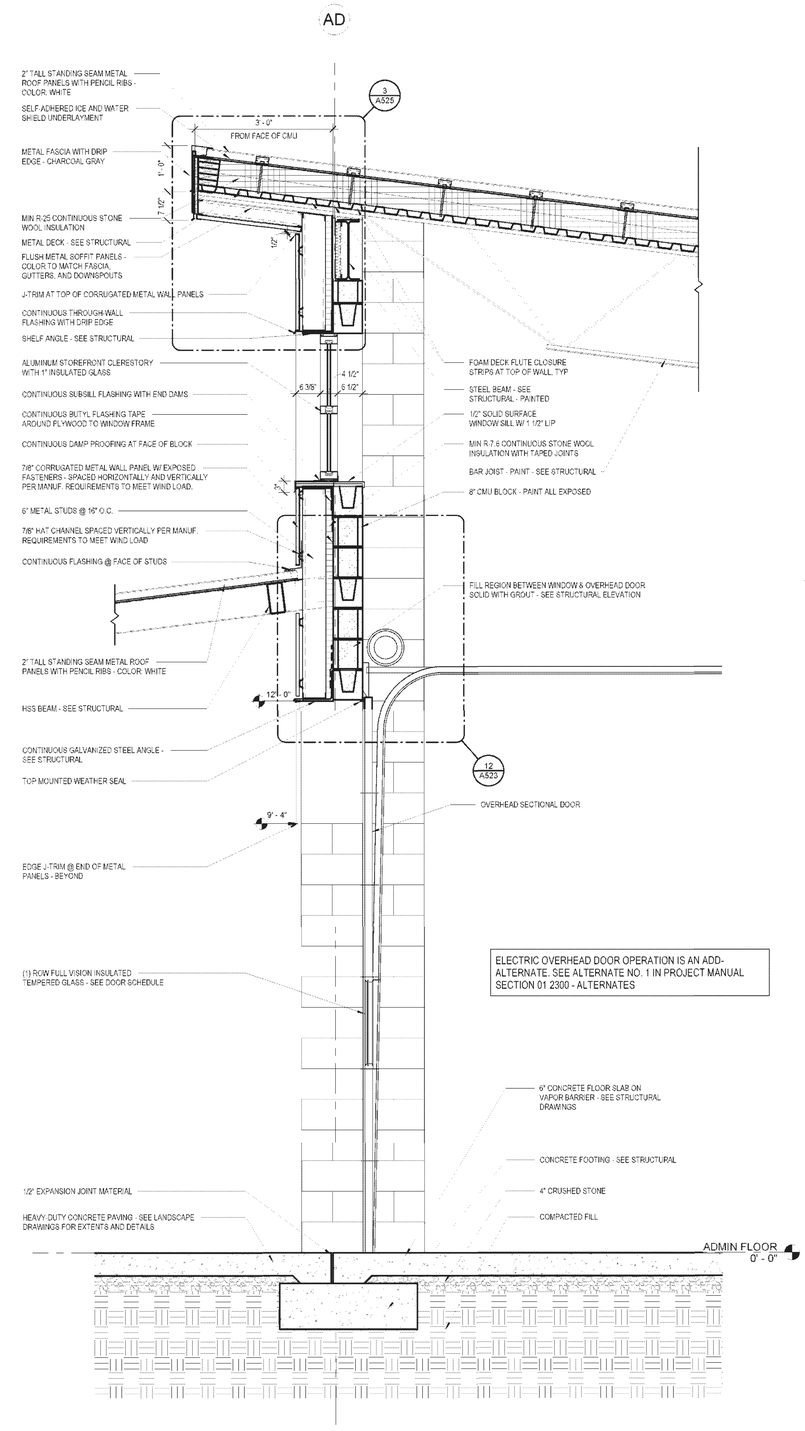
ADMINISTRATION BUILDING - WALL SECTIONS

Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



1 A424 WALL SECTION @ MECHANIC SHOP CLERESTORY
3/4" = 1'-0"

ELECTRIC OVERHEAD DOOR OPERATION IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 1 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES



ELECTRIC OVERHEAD DOOR OPERATION IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 1 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

2 A424 WORKSHOP BUILDING WALL SECTION AT OVERHEAD ROLLING DOOR
3/4" = 1'-0"

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5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
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1	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A424

ADMINISTRATION BUILDING - WALL SECTIONS

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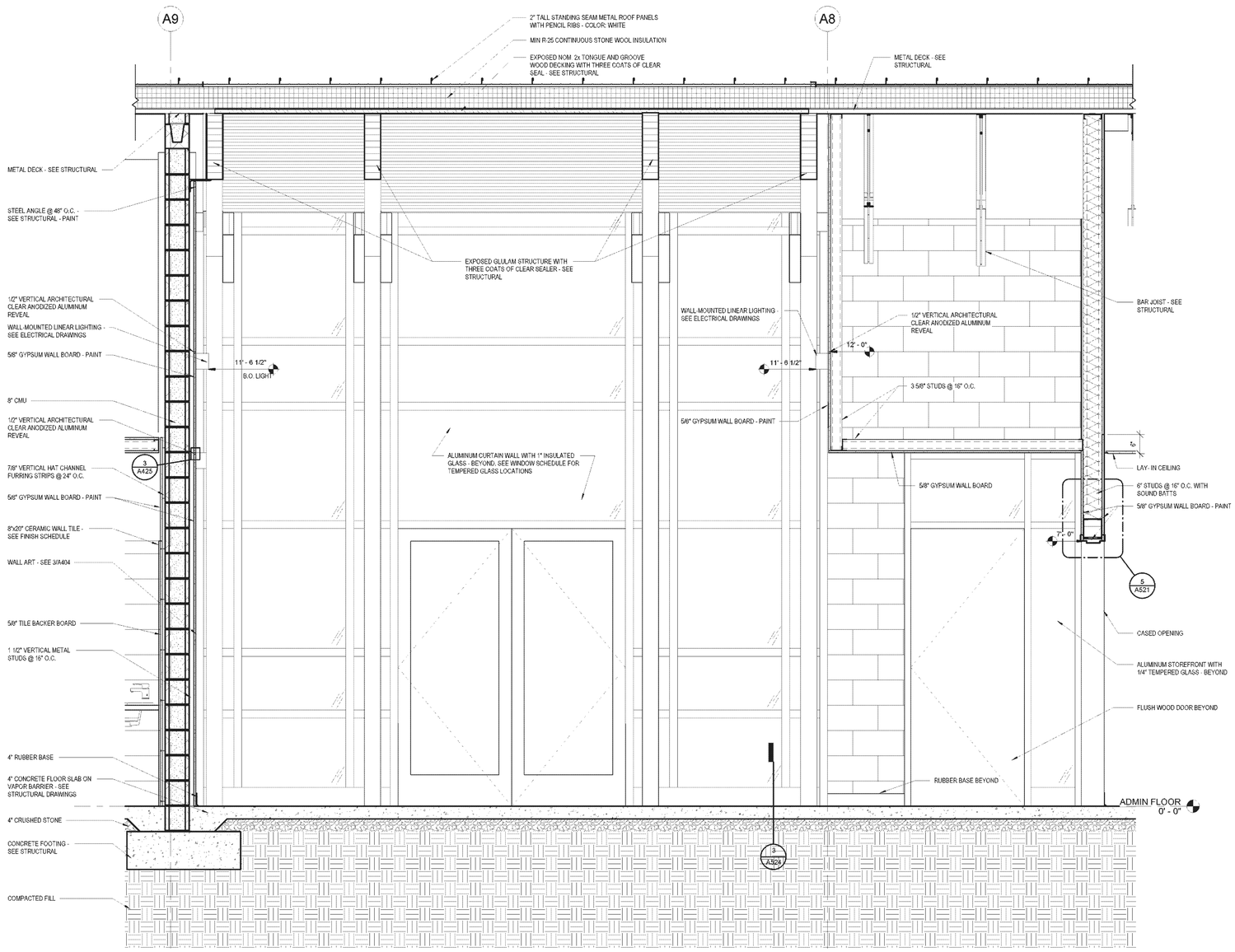
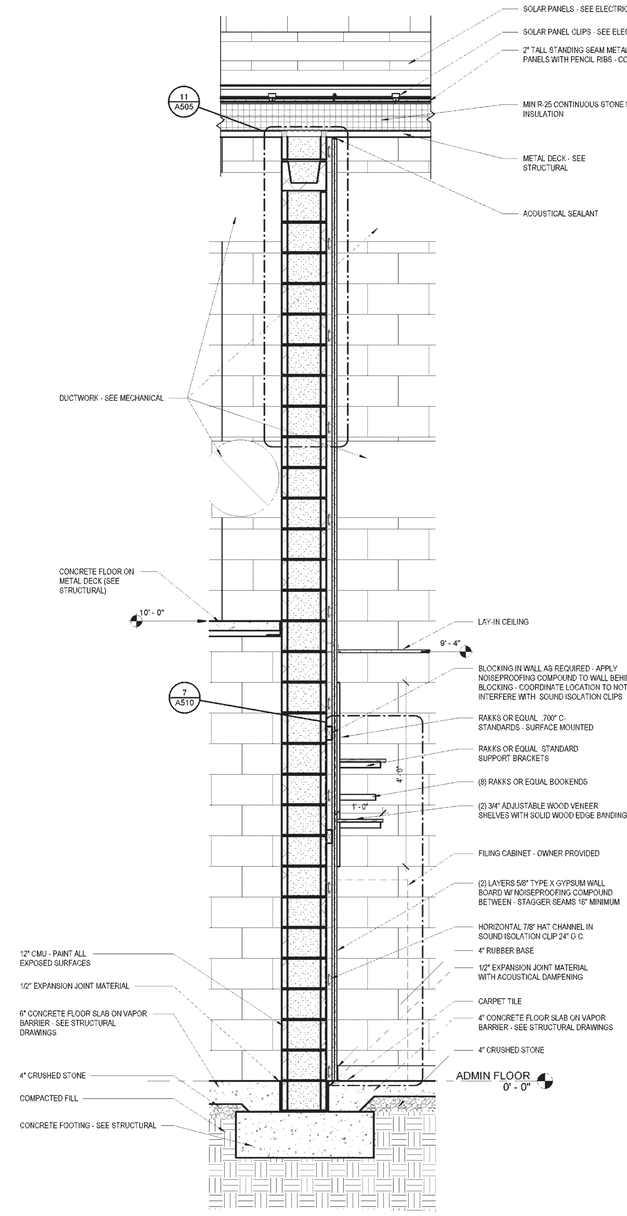
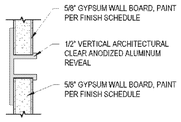


1 A425 ADMINISTRATION BUILDING WALL SECTION THROUGH ADMIN
3/4" = 1'-0"



2 A425 WALL SECTION @ FLEX SPACE AND RECORDS ROOM
3/4" = 1'-0"



3 A425 DETAIL @ ARCHITECTURAL REVEAL
6" = 1'-0"

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REGISTERED LANDSCAPE ARCHITECT 11693 NORTH CAROLINA RALEIGH, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
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DRAWN BY: ADF, EMK
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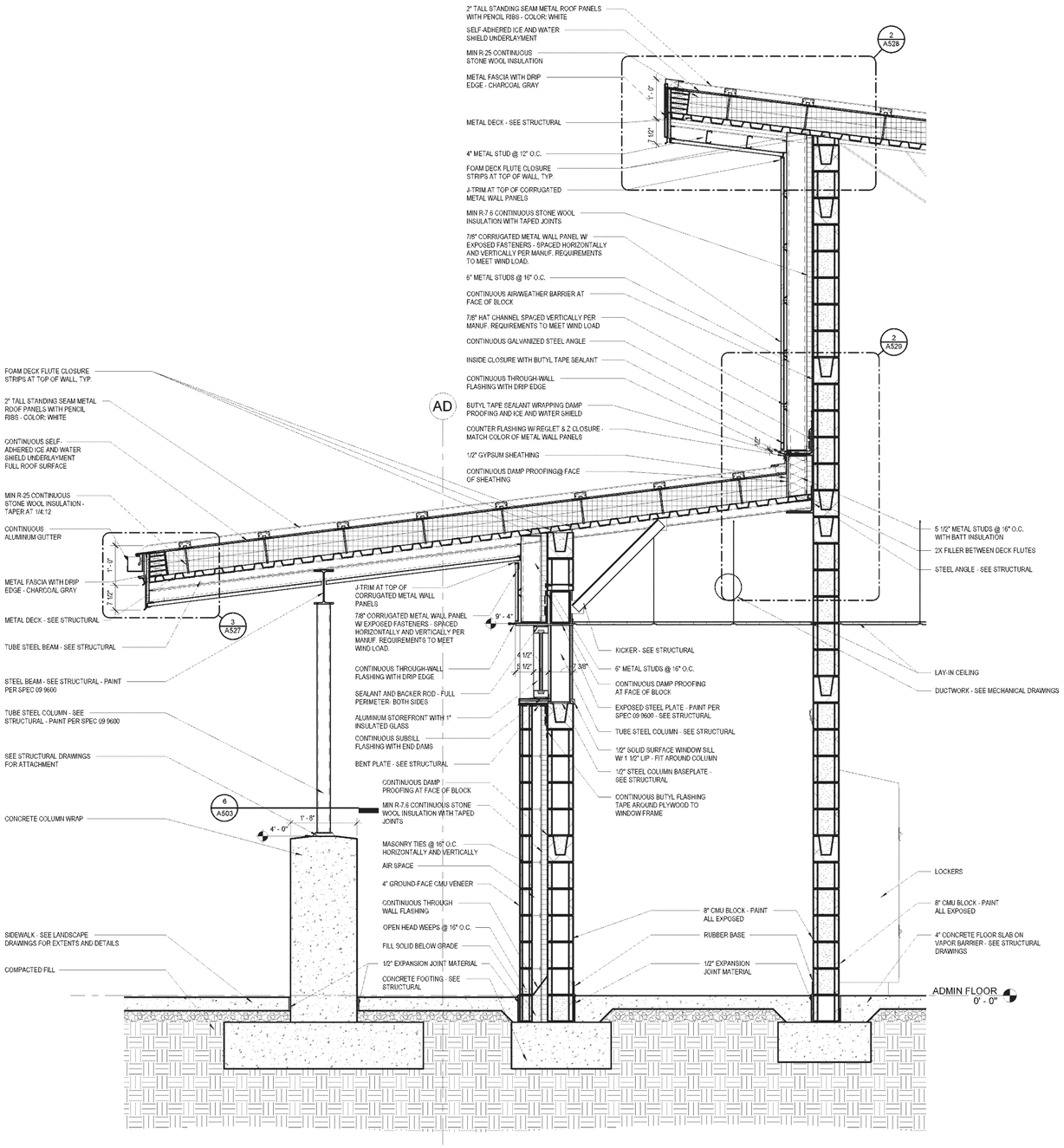
SHEET INFORMATION

A425
ADMINISTRATION BUILDING - WALL SECTIONS

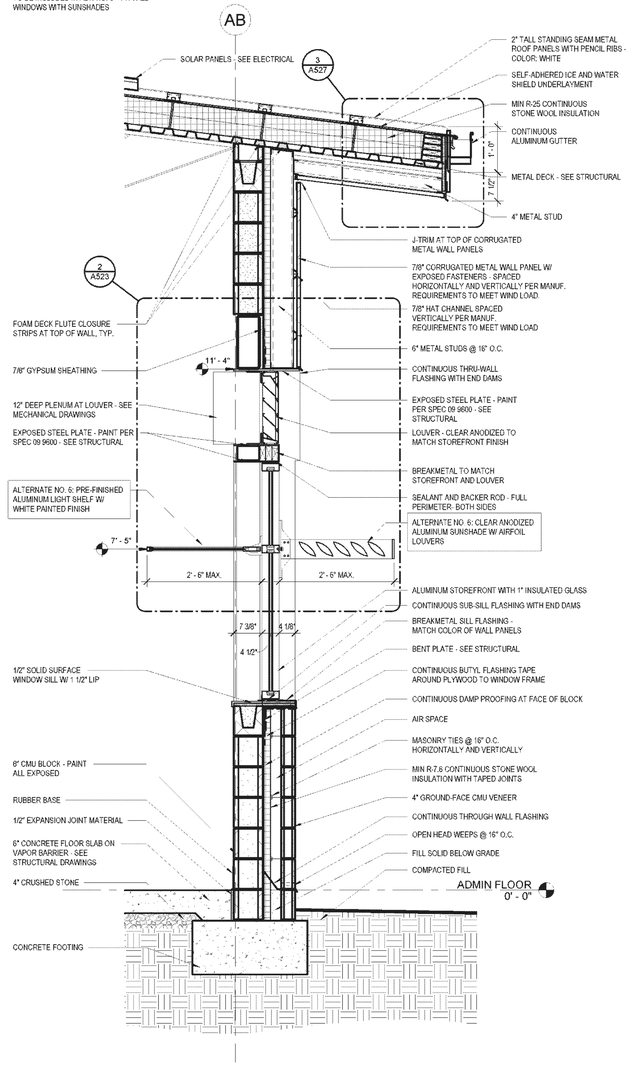
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



1 A426 WALL SECTION @ COVERED PATIO
3/4" = 1'-0"

SUNSHADES AND LIGHT SHELVES ARE AN ADD-ALTERNATE. SEE ALTERNATE NO. 6 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

NOTE: VERTICAL MULLIONS WITH STEEL REINFORCING PER MANUF. REQUIREMENTS TO BE INCLUDED IN ALT. NO. 6 - TYP. ALL WINDOWS WITH SUNSHADES



2 A426 WALL SECTION @ CARPENTER SHOP
3/4" = 1'-0"

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Melinda Conner Pittman 11993 Registered Professional Engineer Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
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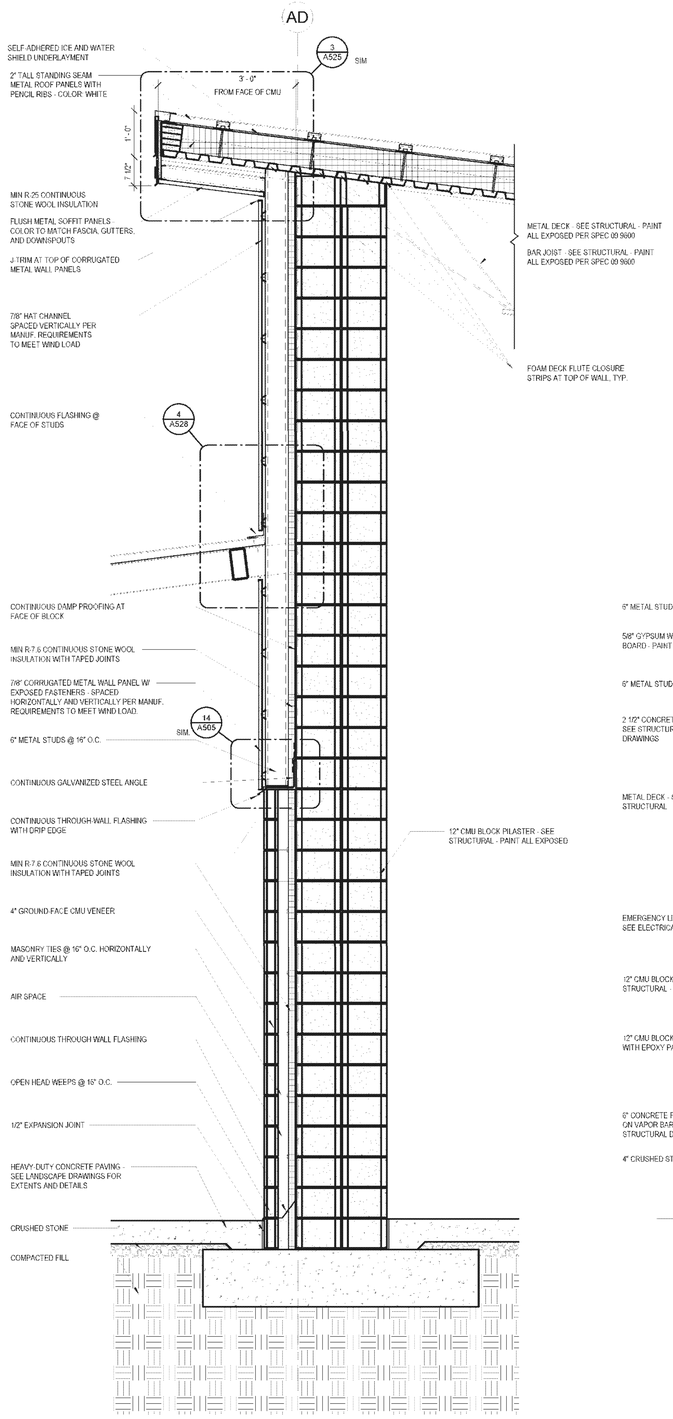
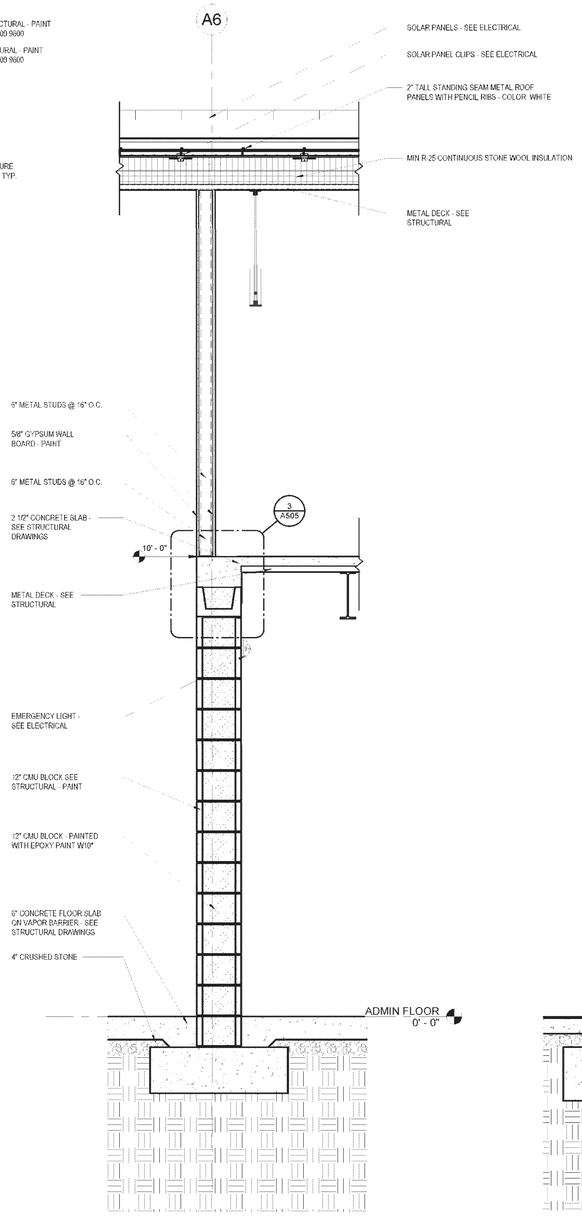
A426

ADMINISTRATION BUILDING - WALL SECTIONS

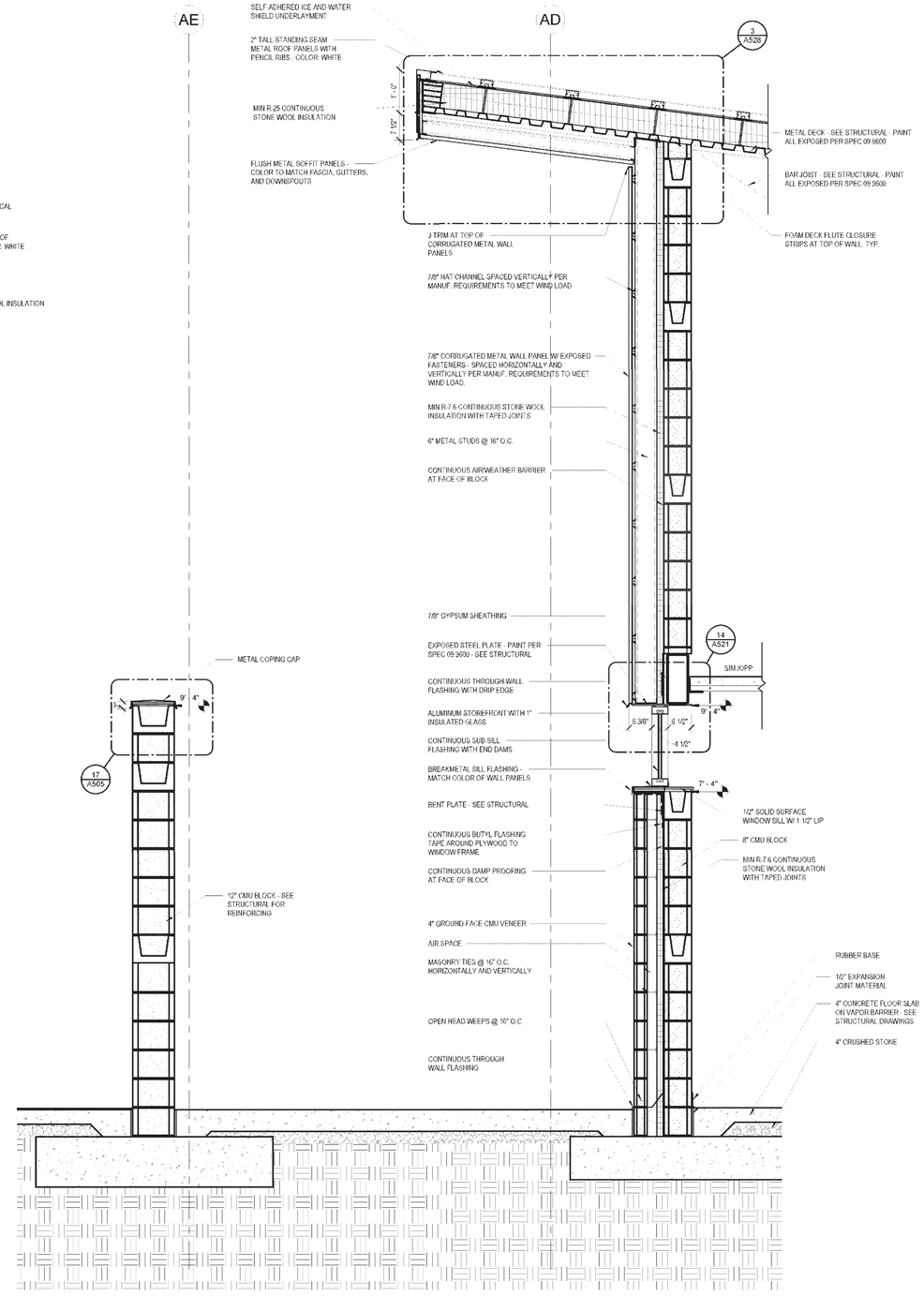
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



1 WALL SECTION AT PILASTER
A427 3/4" = 1'-0"



2 WALL SECTION @ MEZZANINE
A427 3/4" = 1'-0"



3 WALL SECTION @ SCREEN WALL
A427 3/4" = 1'-0"

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622 PERSHING ROAD
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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
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SEALS

Esse Architects P.A. 52498 NORTH CAROLINA Raleigh, N.C.

VIRGINIA ENGINEER SEAL 11603 5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	ADF, EMK
CHECKED BY:	MDP

REVISIONS

NO	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A427

ADMINISTRATION BUILDING - WALL SECTIONS

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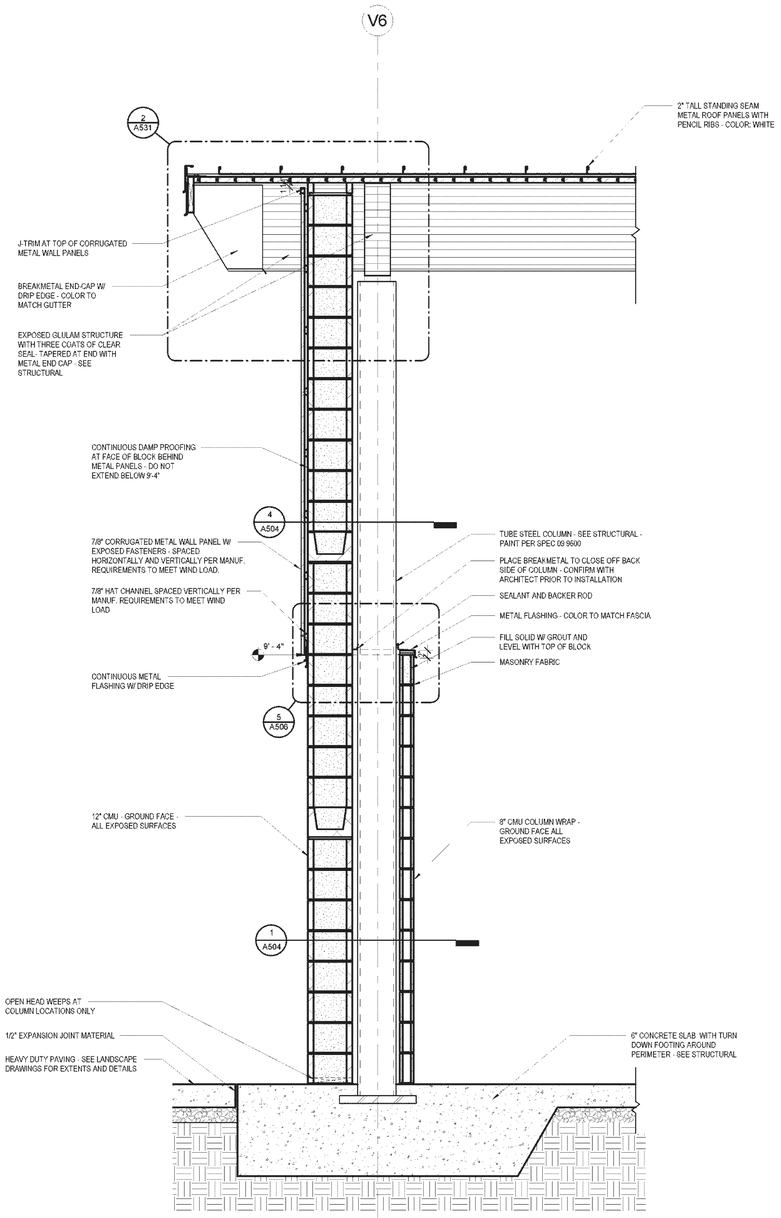
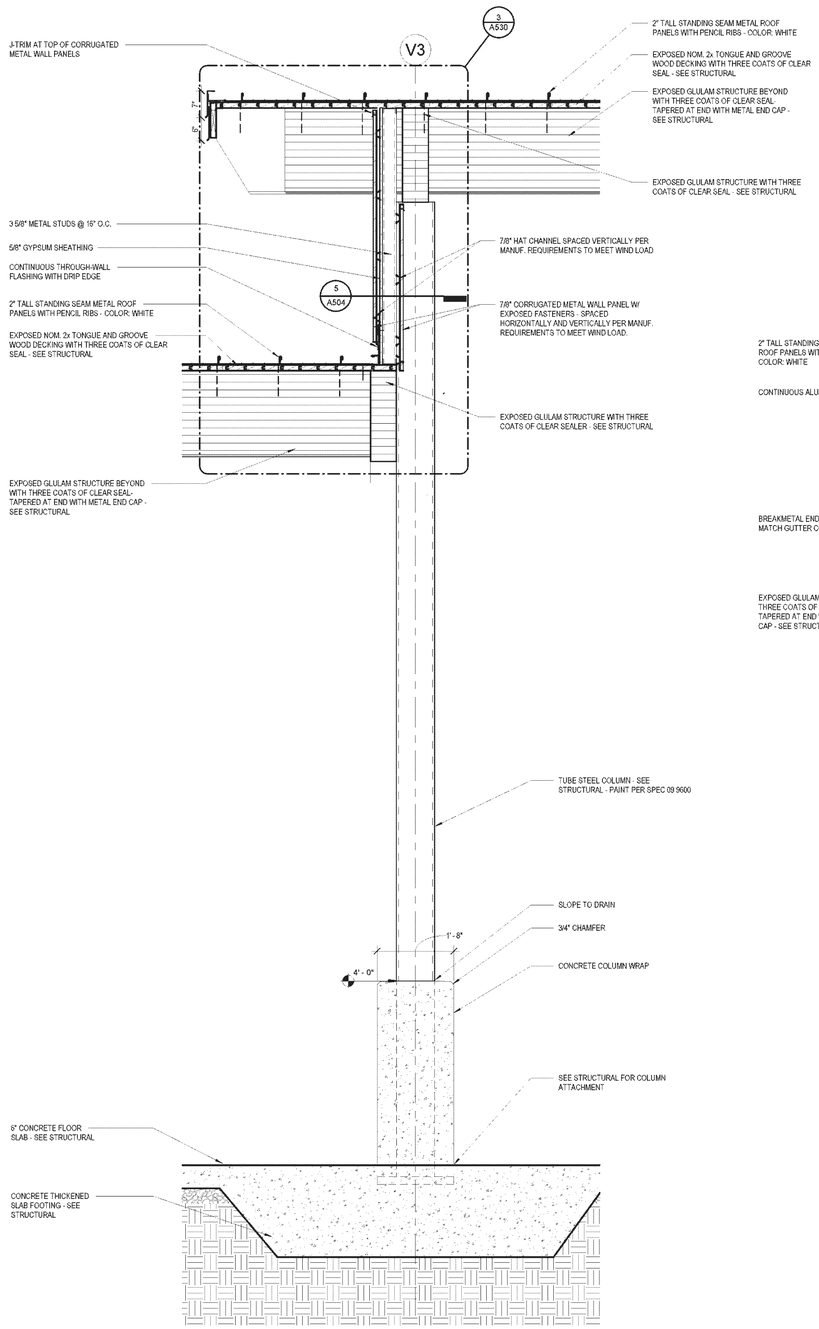
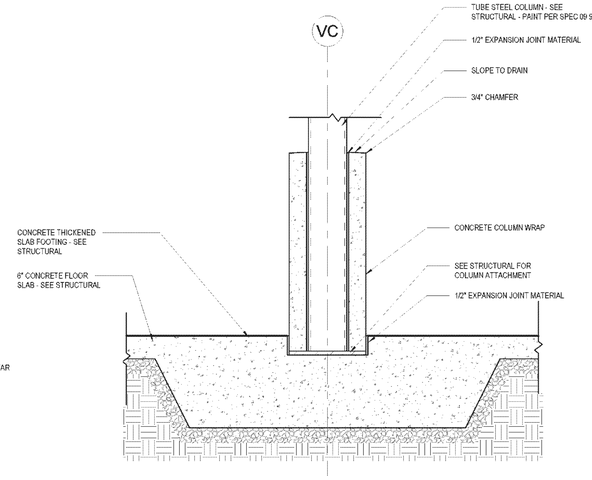


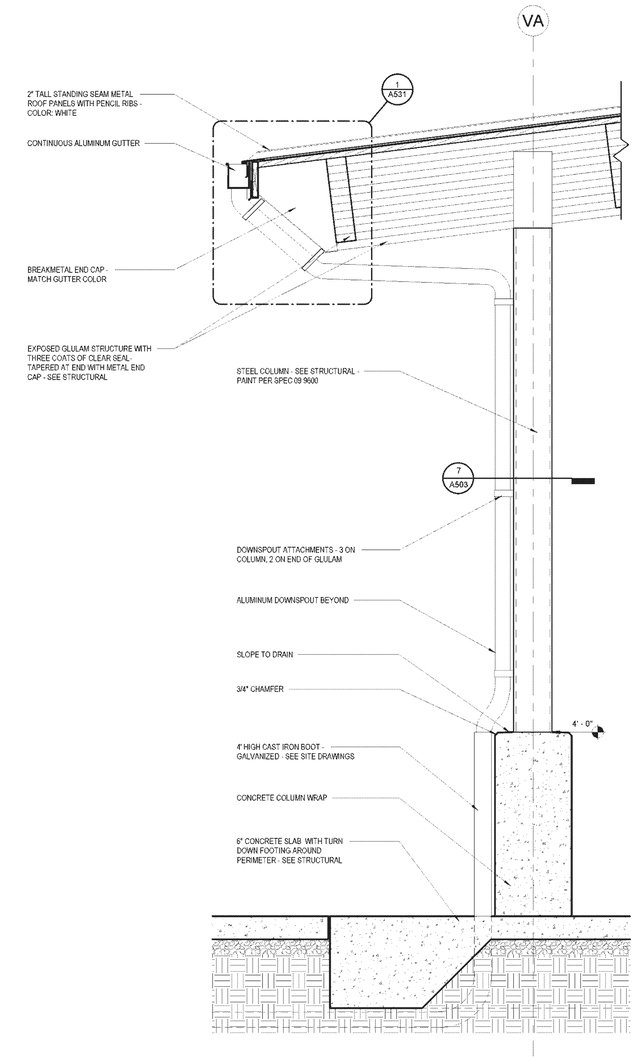
1 A428 WALL SECTION AT VEHICLE SHED COLUMN
3/4" = 1'-0"



2 A428 WALL SECTION AT VEHICLE SHED ROOF TRANSITION
3/4" = 1'-0"



4 A428 SECTION THROUGH CONCRETE COLUMN WRAP
3/4" = 1'-0"



3 A428 WALL SECTION AT VEHICLE SHED DOWNSPOUT
3/4" = 1'-0"

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CITY OF WILMINGTON NORTH CAROLINA

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SEALS

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Kristina Dawnee Postnov 11693 Registered Architect North Carolina Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
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DATE: 01.13.2025
DRAWN BY: ADF
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A428
VEHICLE SHED - WALL SECTIONS

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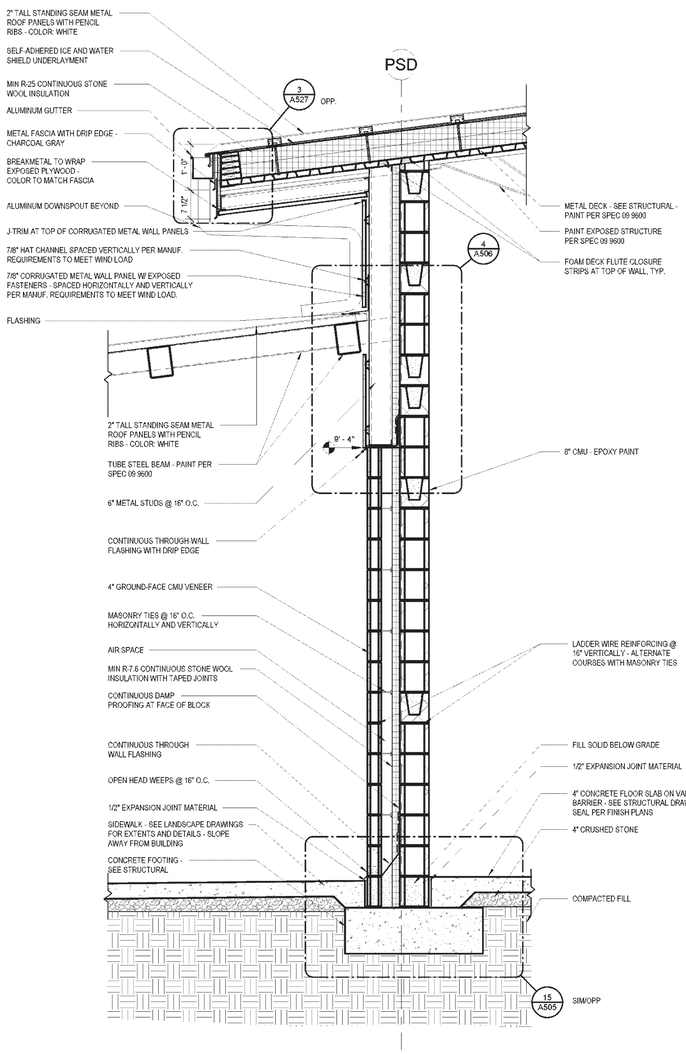


R-VALUE CALCULATION
(STANDING SEAM ROOF ON METAL DECK

INTERIOR AIR FILM	R-0.68
1.5" METAL ROOF DECK	N/A
STONE WOOL INSULATION	R-25
ICE AND WATER SHIELD	N/A
0.040 ALUMINUM PANELS	R-0.61
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-26.46
U-VALUE = 1/R =	U-0.038

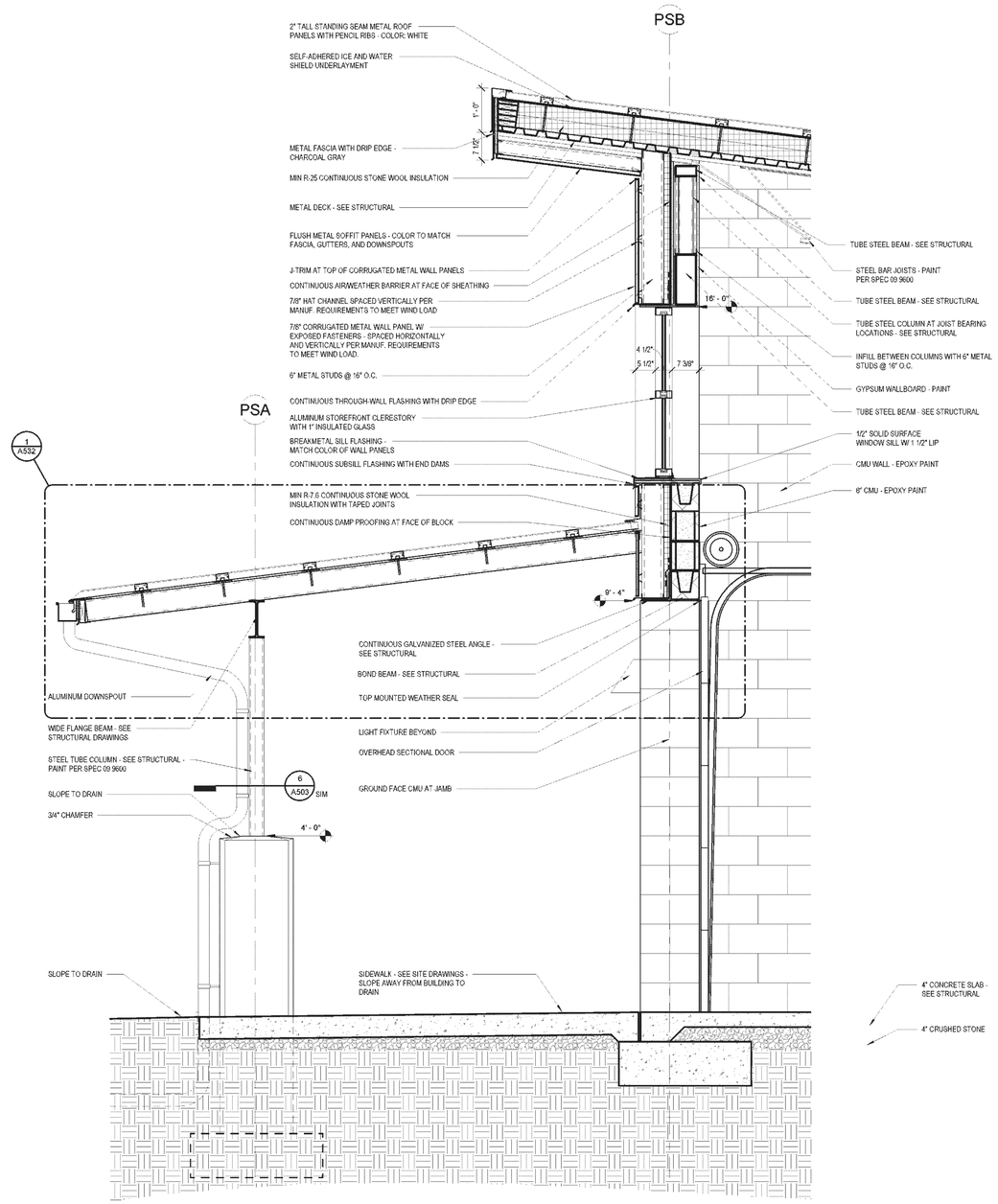
R-VALUE CALCULATION
(METAL PANELS ON MASONRY WALL)

INTERIOR AIR FILM	R-0.68
8" CMU	R-1.04
STONE WOOL INSULATION	R-7.6
6" METAL STUDS	
ALUMINUM PANELS	R-0.61
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-10.1
U-VALUE = 1/R =	U-0.099

R-VALUE CALCULATION
(MASONRY VENEER ON MASONRY WALL)

INTERIOR AIR FILM	R-0.68
8" CMU	R-1.04
STONE WOOL INSULATION	R-7.6
AIRSPACE	R-1.0
4" CMU	R-0.71
EXTERIOR AIR FILM	R-0.17
TOTAL R-VALUE =	R-11.2
U-VALUE = 1/R =	U-0.089

1 A429 WALL SECTION AT POTTING SHED NORTH
3/4" = 1'-0"



ELECTRIC OVERHEAD DOOR OPERATION IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 1 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

2 A429 WALL SECTION AT POTTING SHED CLERESTORY
3/4" = 1'-0"

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SEALS

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Melton Corner Partners 11683 Professional Engineer Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
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SHEET INFORMATION

A429

POTTING SHED - WALL SECTIONS

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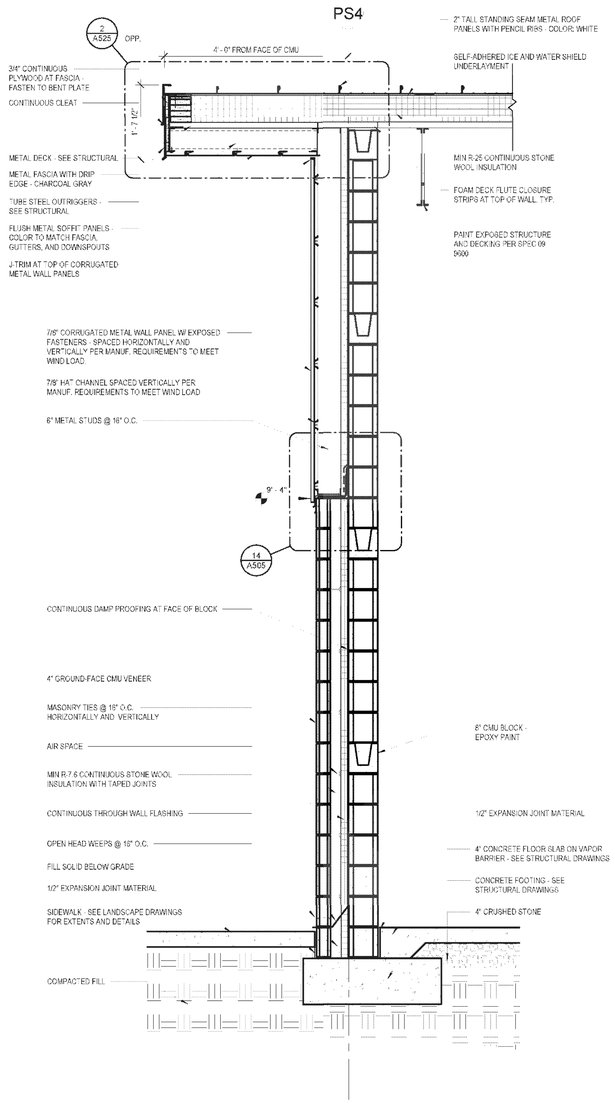
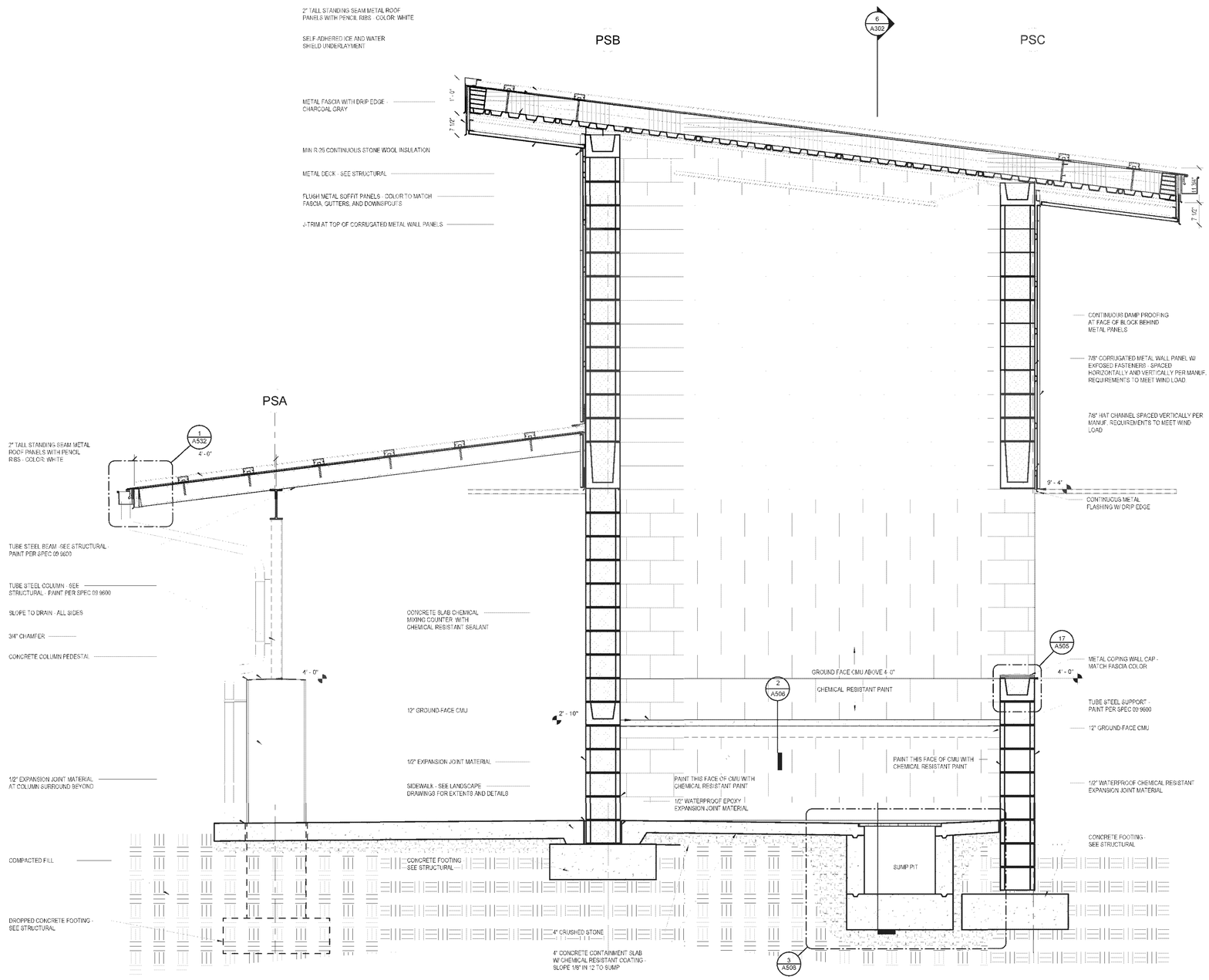


1 A430 WALL SECTION AT POTTING SHED EAST
3/4" = 1'-0"



2 A430 WALL SECTION AT POTTING SHED PESTICIDE MIXING
3/4" = 1'-0"

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1683 WILLIAM D. MOORE 5/22/2025

PROJECT INFORMATION

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A430

POTTING SHED - WALL SECTIONS

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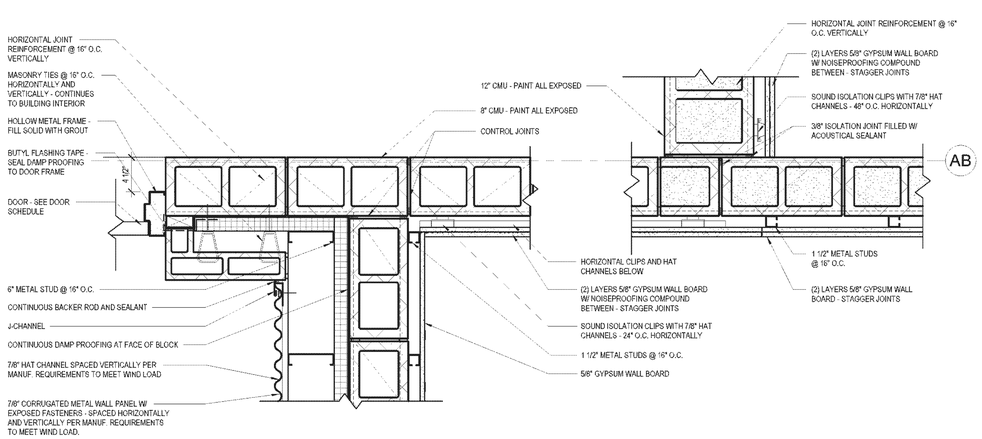
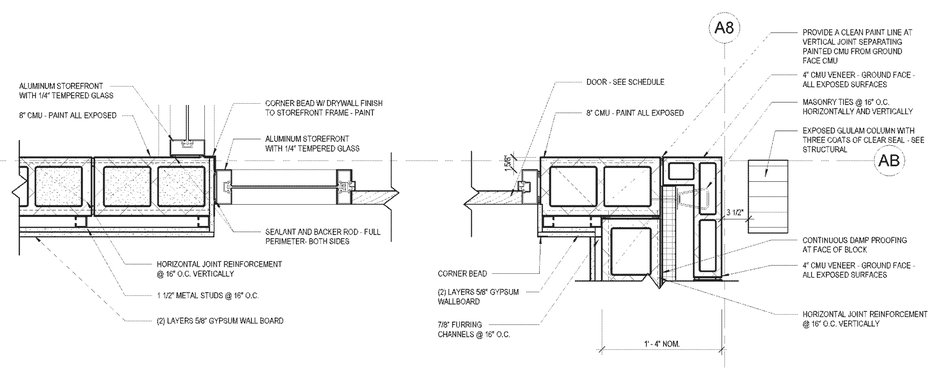
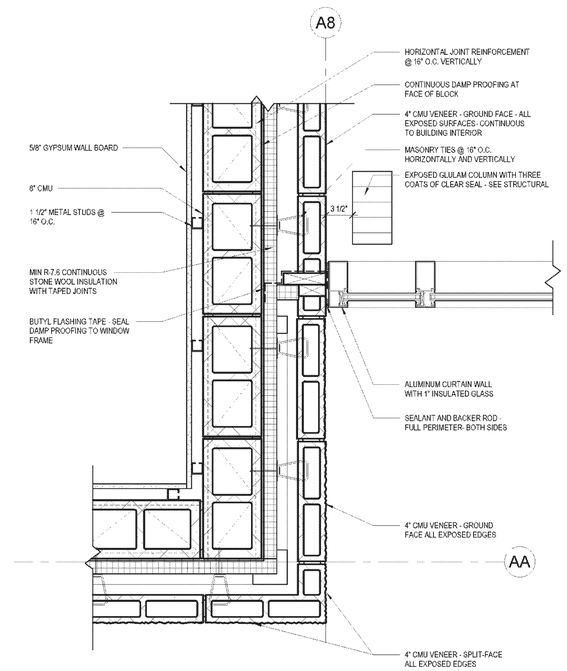


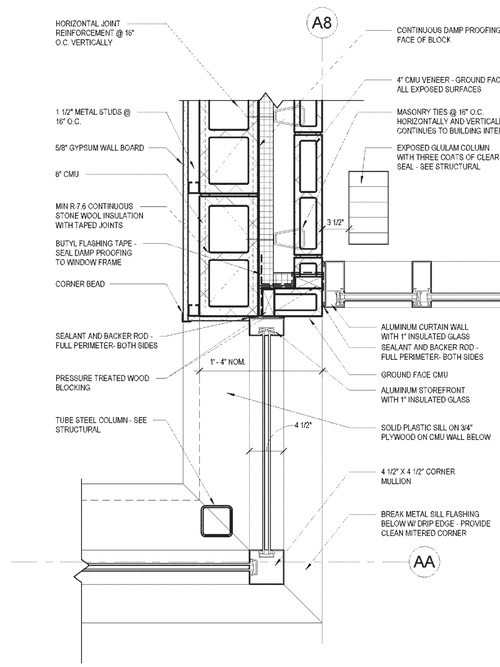
1 A501 PLAN DETAIL @ CONFERENCE ROOM EXTERIOR CORNER
1 1/2" = 1'-0"



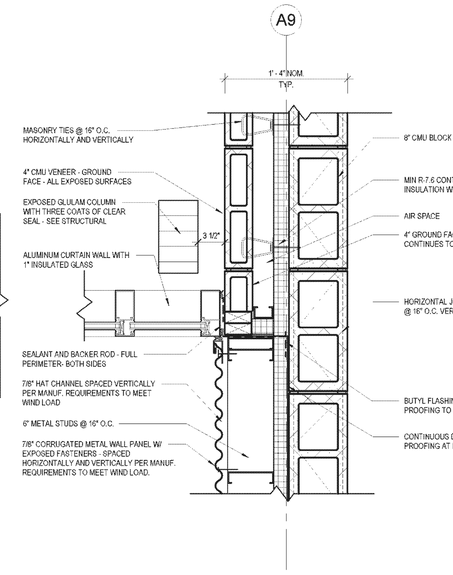
2 A501 PLAN DETAIL @ CMU AND STUD WALL WINDOW
1 1/2" = 1'-0"



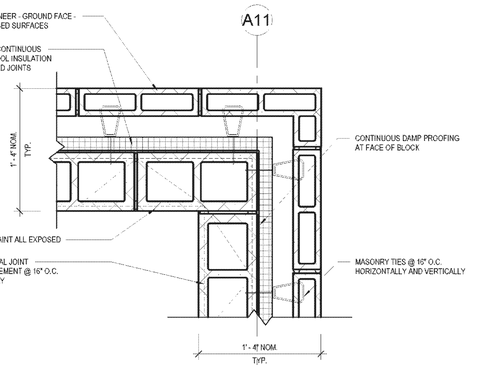
3 A501 PLAN DETAIL @ CONFERENCE ROOM AND ENTRY WINDOW - LOW
1 1/2" = 1'-0"



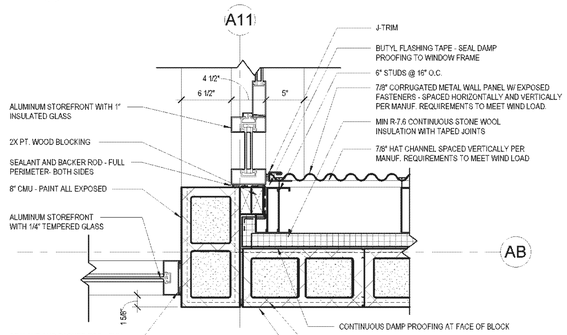
4 A501 PLAN DETAIL @ CONFERENCE ROOM AND ENTRY WINDOW - HIGH
1 1/2" = 1'-0"



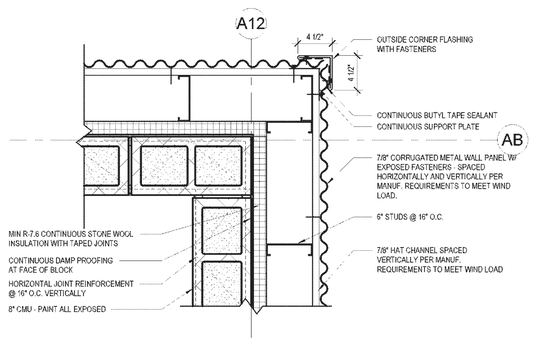
5 A501 PLAN DETAIL @ ENTRY
1 1/2" = 1'-0"



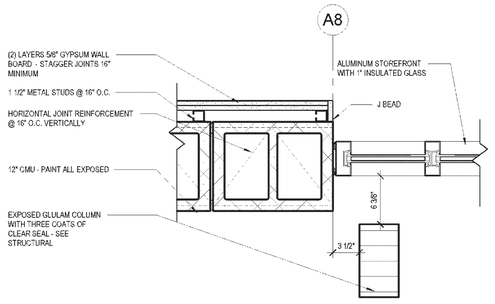
6 A501 PLAN DETAIL @ NORTHEAST CORNER
1 1/2" = 1'-0"



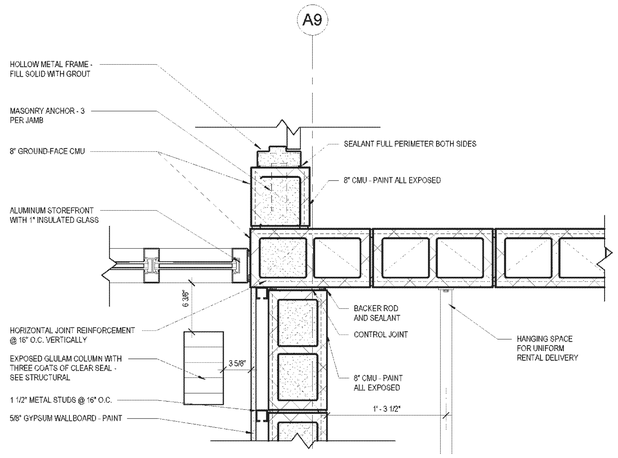
7 A501 PLAN DETAIL @ SMALL CONFERENCE AND CORRIDOR
1 1/2" = 1'-0"



8 A501 PLAN DETAIL @ SMALL CONFERENCE EXTERIOR CORNER
1 1/2" = 1'-0"



9 A501 PLAN DETAIL @ CMU W/2 LAYER GWB
1 1/2" = 1'-0"



10 A501 PLAN DETAIL @ VESTIBULE, CORRIDOR AND LOCKERS
1 1/2" = 1'-0"

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CITY OF WILMINGTON NORTH CAROLINA

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SEALS

Esse Architects, P.A. 52498 North Carolina Registered Professional Engineering Corporation Raleigh, N.C.

Rebecca Compton Pittman 11983 Registered Landscape Architect Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: ADF, EMK
CHECKED BY: MDP

REVISIONS

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2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A501

ADMINISTRATION BUILDING - PLAN DETAILS

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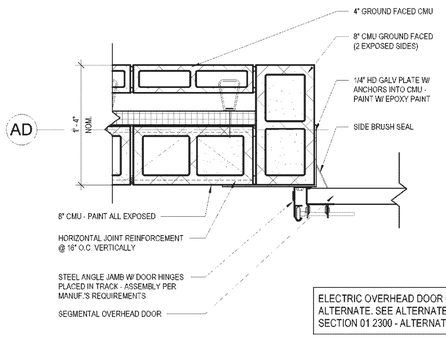
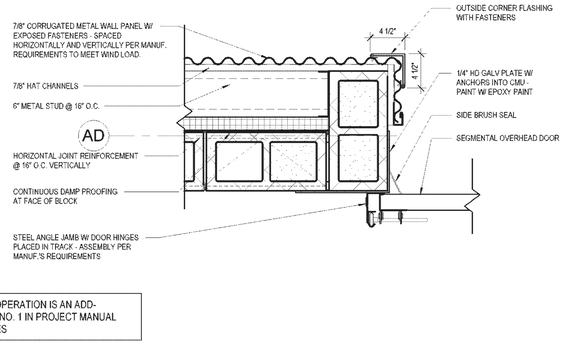
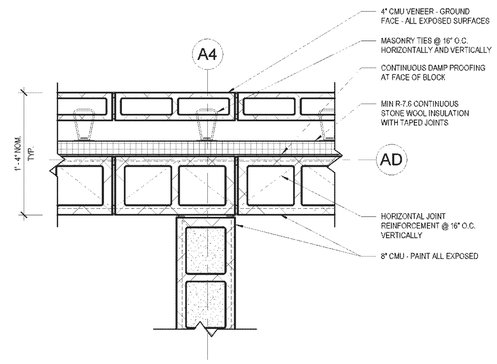


ELECTRIC OVERHEAD DOOR OPERATION IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 1 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

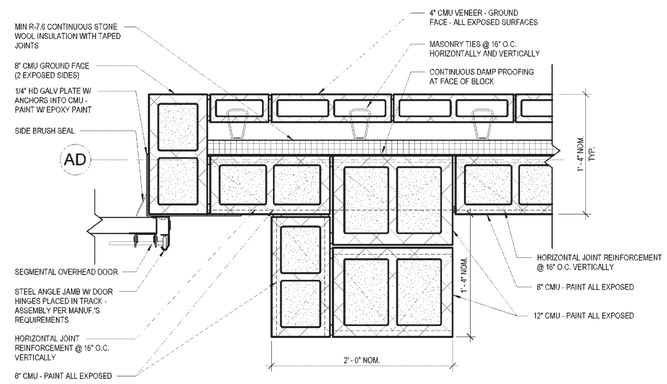
1 OVERHEAD DOOR JAMB
A502 1 1/2" = 1'-0"



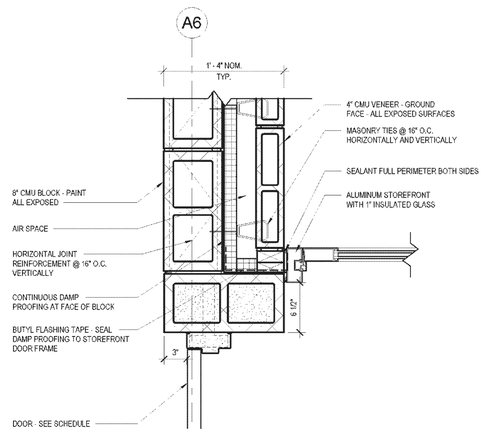
2 JAMB @ OVERHEAD DOOR METAL PANELS
A502 1 1/2" = 1'-0"



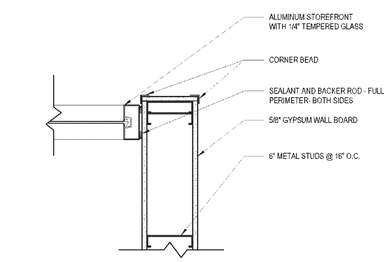
3 PLAN DETAIL @ EXTERIOR & INTERIOR CMU
A502 1 1/2" = 1'-0"



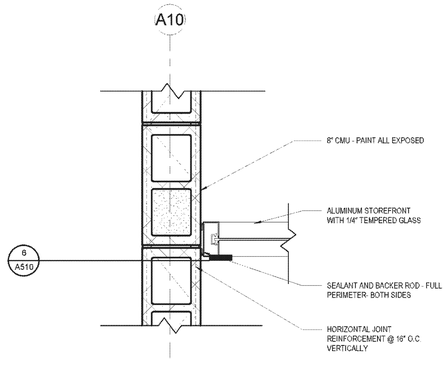
4 PLAN DETAIL @ PILASTER
A502 1 1/2" = 1'-0"



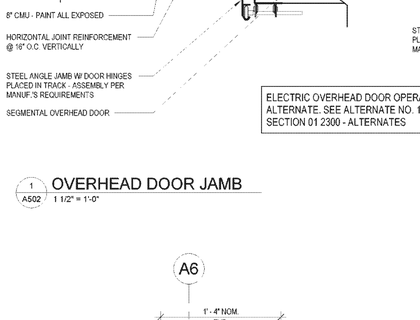
5 PLAN DETAIL @ MECH YARD CORNER
A502 1 1/2" = 1'-0"



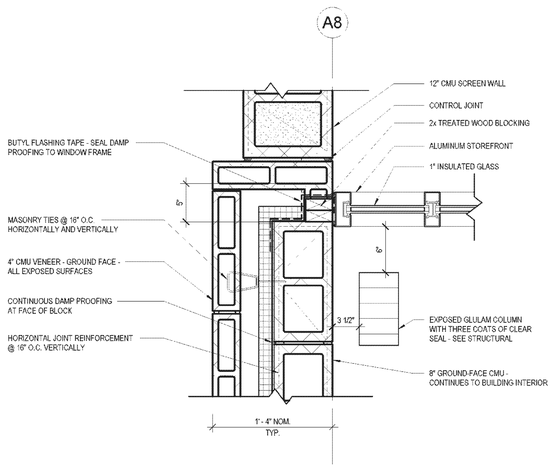
6 PLAN DETAIL @ STOREFRONT AND GWB
A502 1 1/2" = 1'-0"



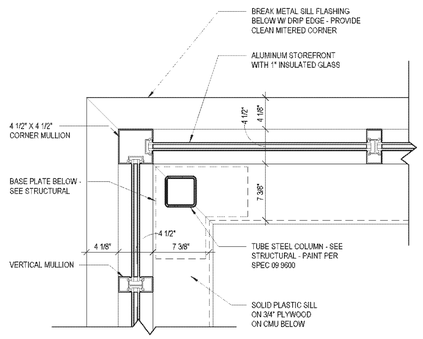
7 PLAN DETAIL @ STOREFRONT @ CMU
A502 1 1/2" = 1'-0"



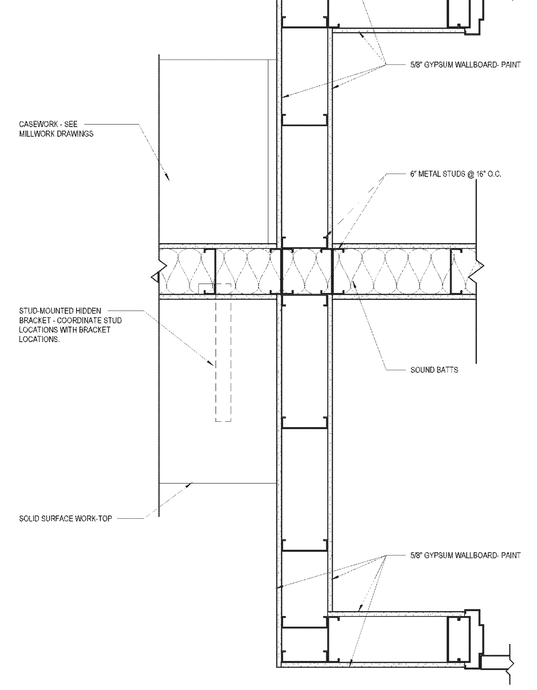
8 PLAN DETAIL @ MEN'S ROOM CORNER
A502 1 1/2" = 1'-0"



9 PLAN DETAIL @ VESTIBULE AND MECH YARD
A502 1 1/2" = 1'-0"



10 CORNER WINDOW DETAIL
A502 1 1/2" = 1'-0"



11 PLAN DETAIL @ CLOSETS AND KITCHEN WALL
A502 1 1/2" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

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SEALS

Esse Architects P.A. 52498 North Carolina Registered Architecture Raleigh, N.C.

Melissa Dawn Potenza 11083 North Carolina Registered Landscape Architect Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: ADF, EMK
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A502

ADMINISTRATION BUILDING - PLAN DETAILS

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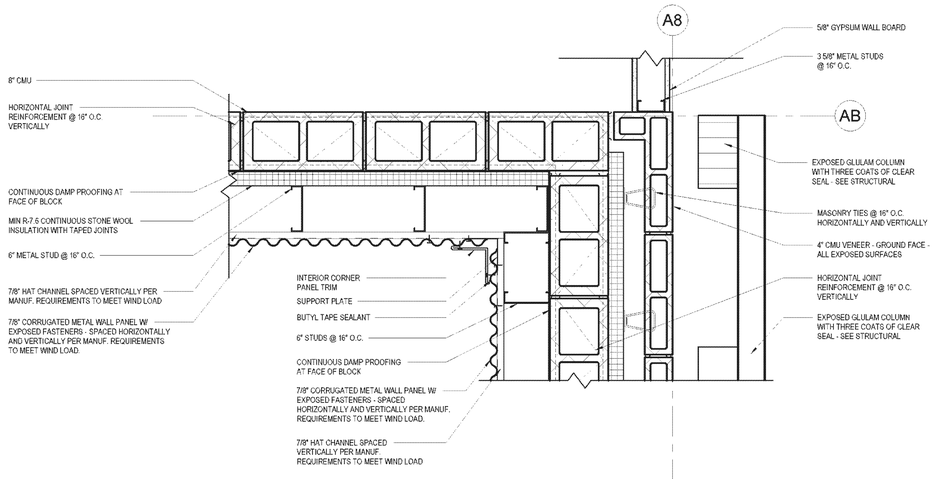
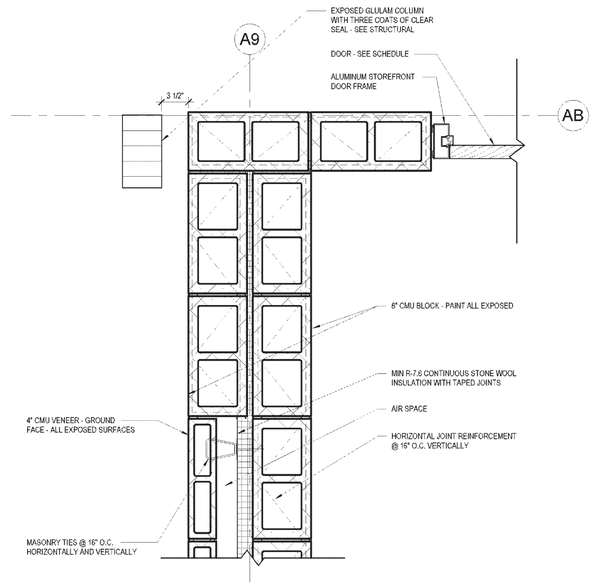
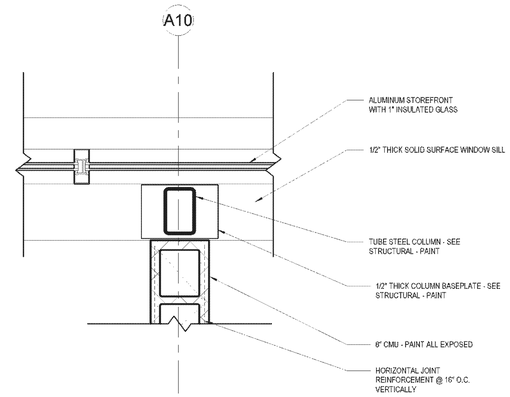


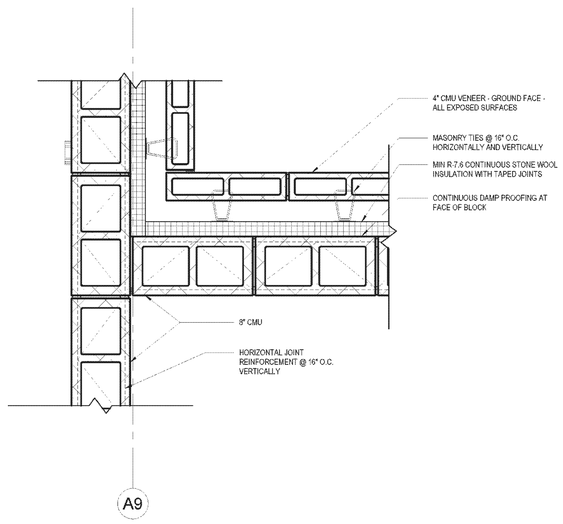
1 A503 PLAN DETAIL @ ENTRY WALL AND LOW ROOF
1 1/2" = 1'-0"



2 A503 DETAIL @ SUPT CORNER
1 1/2" = 1'-0"



3 A503 PLAN DETAIL @ WALL AND RIBBON WINDOW
1 1/2" = 1'-0"



4 A503 PLAN DETAIL AT VESTIBULE CORNER
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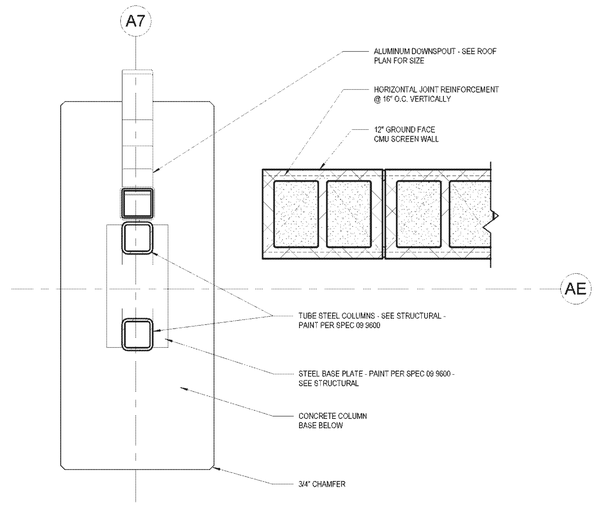
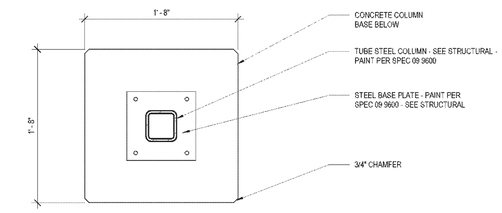
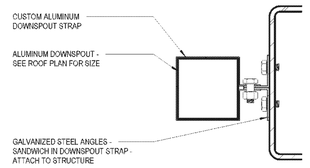


5 A503 PLAN DETAIL @ MECH. YARD COLUMN
1 1/2" = 1'-0"



6 A503 PLAN DETAIL @ SINGLE COLUMN
1 1/2" = 1'-0"



7 A503 DOWNSPOUT ATTACHMENT - TYP.
3" = 1'-0"

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SEALS

Esse Architects P.A. — 52498 — North Carolina — Raleigh, N.C.

Melton Corridor Improvement Project — 11085 — Wilmington, N.C. — 5/22/2025

PROJECT INFORMATION

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REVISIONS

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A503
ADMINISTRATION BUILDING - PLAN DETAILS

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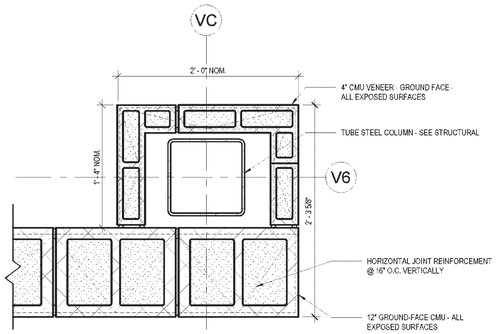
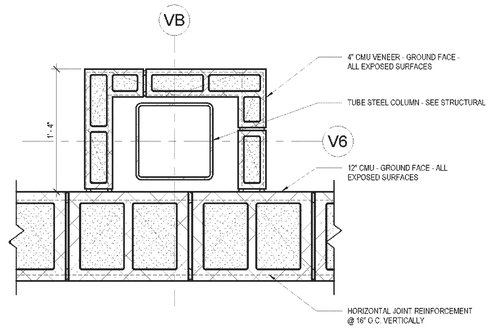


1 A504 PLAN DETAIL @ VEHICLE SHED CORNER COLUMN - LOW
1 1/2" = 1'-0"



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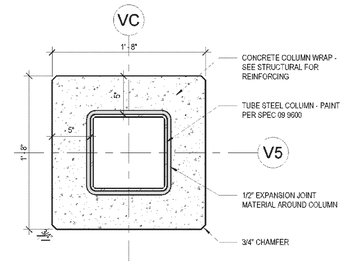
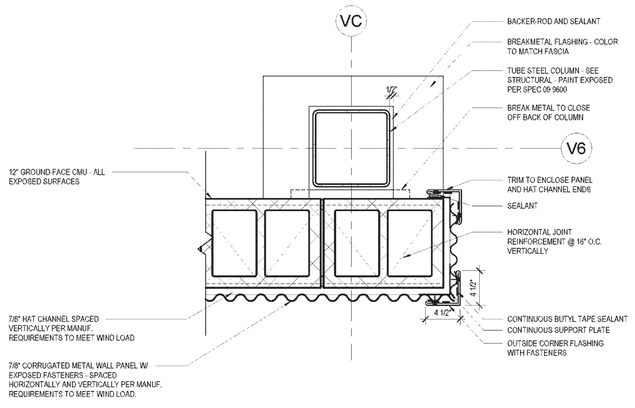
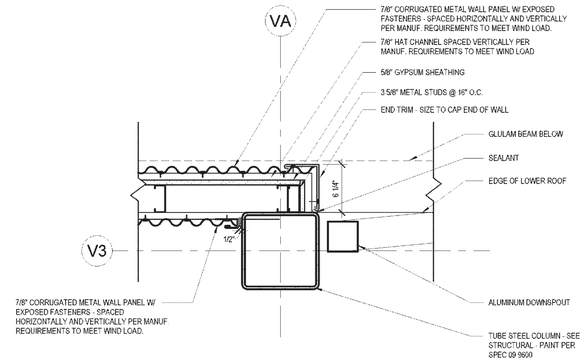


3 A504 PLAN DETAIL @ VEHICLE SHED COLUMN
1 1/2" = 1'-0"



4 A504 PLAN DETAIL @ VEHICLE SHED CORNER COLUMN - HIGH
1 1/2" = 1'-0"



5 A504 PLAN DETAIL @ VEHICLE SHED HIGH WALL END
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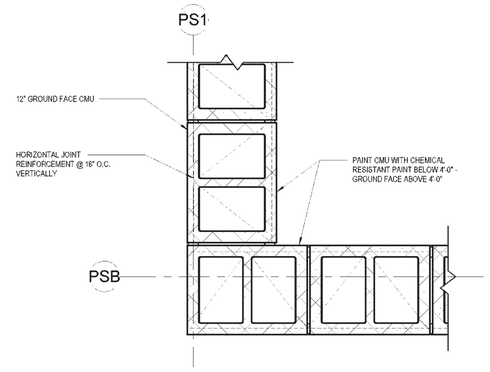
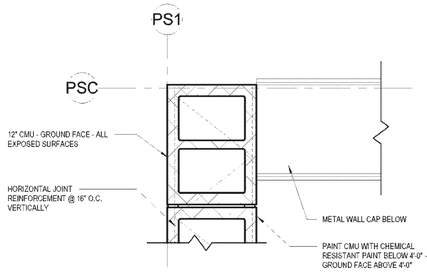
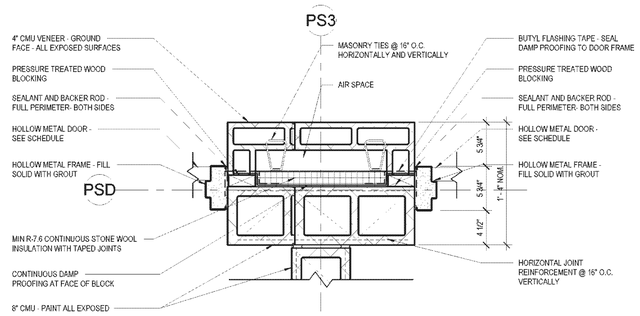


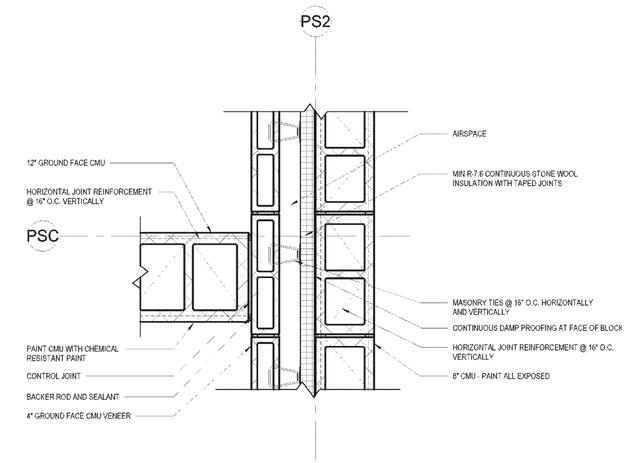
6 A504 PLAN DETAIL @ PESTICIDE MIXING 12" CMU
1 1/2" = 1'-0"



7 A504 PLAN DETAIL @ PESTICIDE MIXING CMU & SHORT WALL
1 1/2" = 1'-0"



8 A504 PLAN DETAIL @ POTTING SHED CMU & EXTERIOR
1 1/2" = 1'-0"



9 A504 PLAN DETAIL @ POTTING SHED EXTERIOR WALL & PEST. MIXING
1 1/2" = 1'-0"

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SEALS

PROJECT INFORMATION

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A504

AUXILIARY BUILDINGS - PLAN DETAILS

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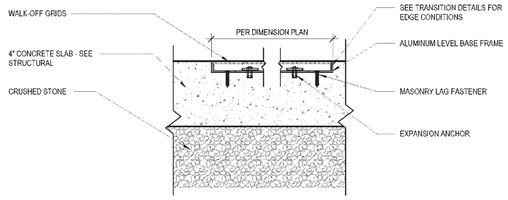
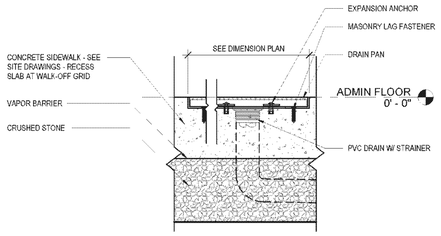
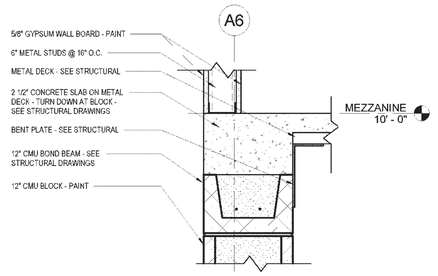


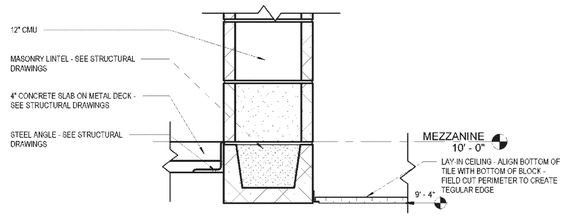
1 A505 — INTERIOR WALK-OFF GRID DETAIL
3" = 1'-0"



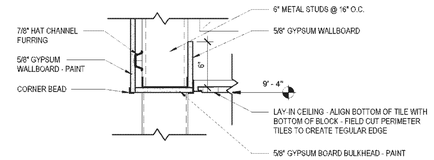
2 A505 — EXTERIOR WALK-OFF GRID DETAIL
3" = 1'-0"



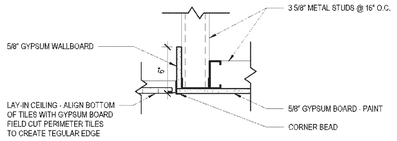
3 A505 — DETAIL @ MEZZANINE FLOOR AND WALL
1 1/2" = 1'-0"



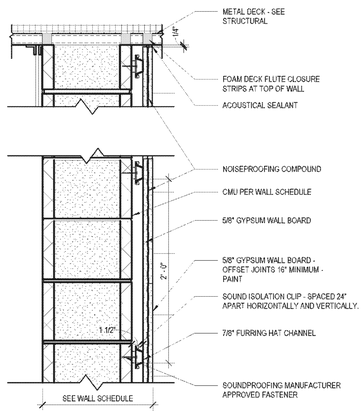
4 A505 — CEILING DETAIL AT CORRIDOR AND MEZZANINE
1 1/2" = 1'-0"



5 A505 — CEILING DETAIL AT ACT
1 1/2" = 1'-0"



6 A505 — CEILING DETAIL ACT TO GYPSUM
1 1/2" = 1'-0"



11 A505 — SOUNDPROOFING DETAIL
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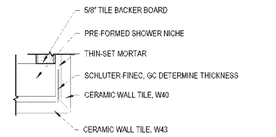
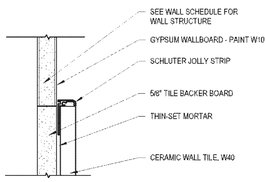
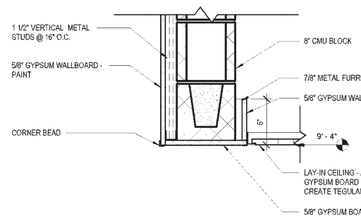


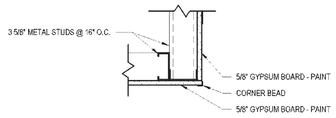
7 A505 — SCHLUTER AT SHOWER NICHE
6" = 1'-0"



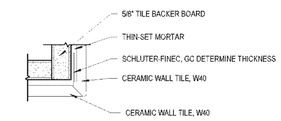
8 A505 — DETAIL AT TOP OF TILE
6" = 1'-0"



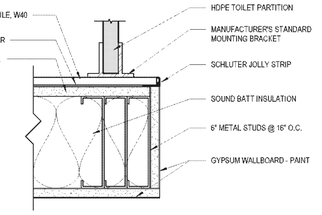
9 A505 — CEILING DETAIL AT CORRIDOR WALL AND LOBBY
1 1/2" = 1'-0"



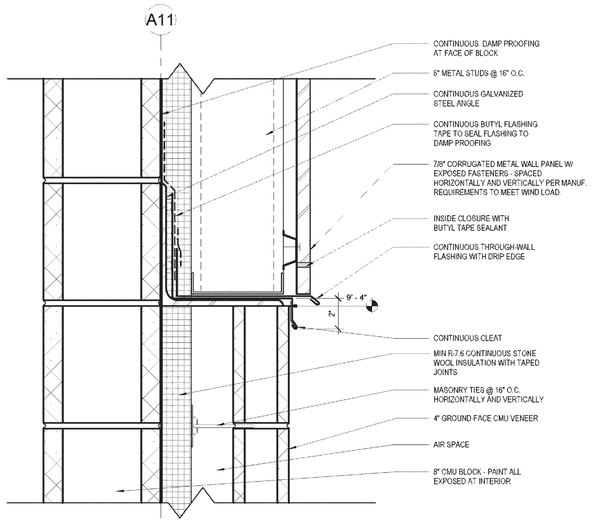
10 A505 — CEILING DETAIL GYPSUM SOFFIT
1 1/2" = 1'-0"



12 A505 — SCHLUTER AT TILED CORNERS, TYP.
6" = 1'-0"



13 A505 — DETAIL AT TILE AND GWB CORNER
3" = 1'-0"



14 A505 — TYP. DETAIL @ METAL PANEL TO CMU TRANSITION
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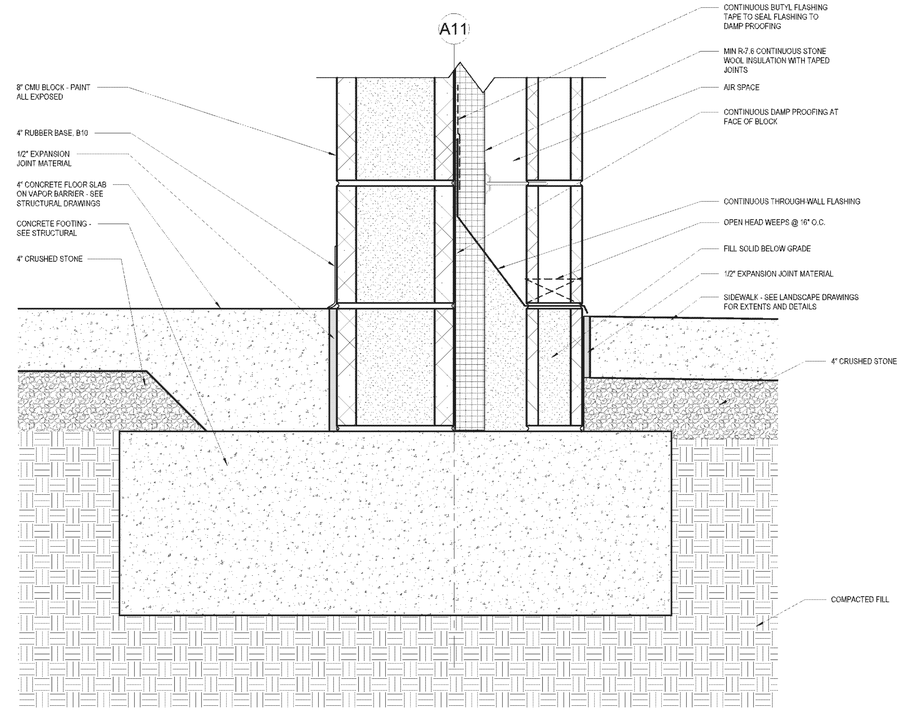

15 A505 — TYP. FOOTING DETAIL @ EXTERIOR CMU WALL
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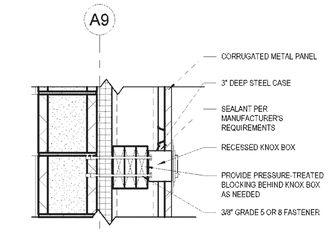
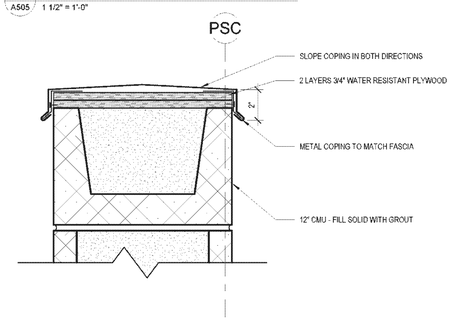


16 A505 — KNOX BOX MOUNTING DETAIL
1 1/2" = 1'-0"



17 A505 — METAL COPING AT PARTIAL HEIGHT WALL
3" = 1'-0"

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Esse Architects P.A. — 52498 — Raleigh, N.C. — 5/22/2025

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A505

MISCELLANEOUS DETAILS ADMINISTRATION BUILDING

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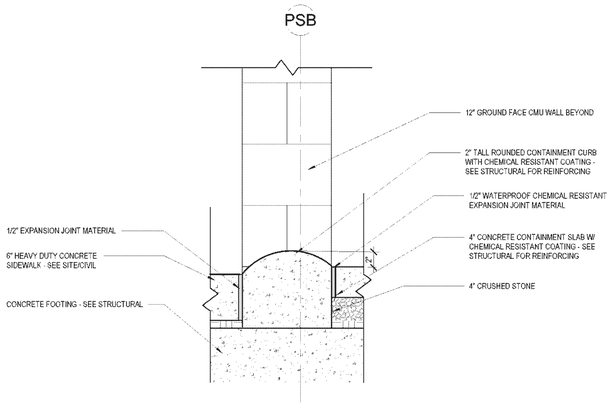

1 A506 DETAIL @ PESTICIDE MIXING CONTAINMENT CURB
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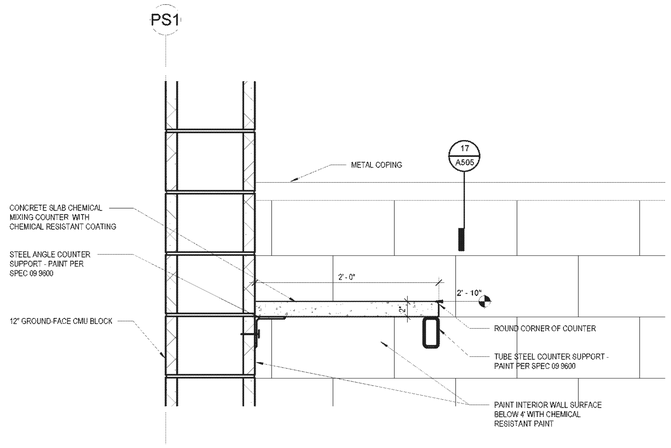

2 A506 PESTICIDE COUNTER DETAIL
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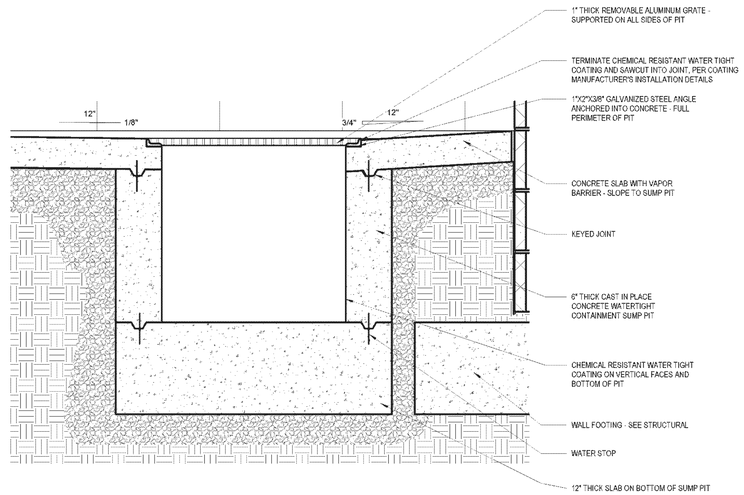
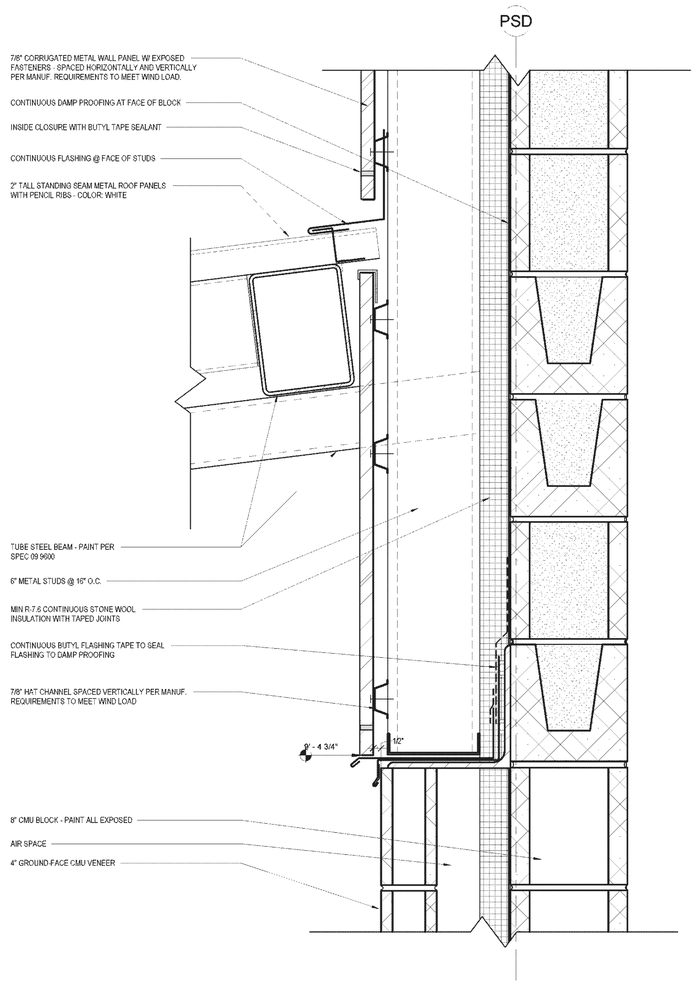
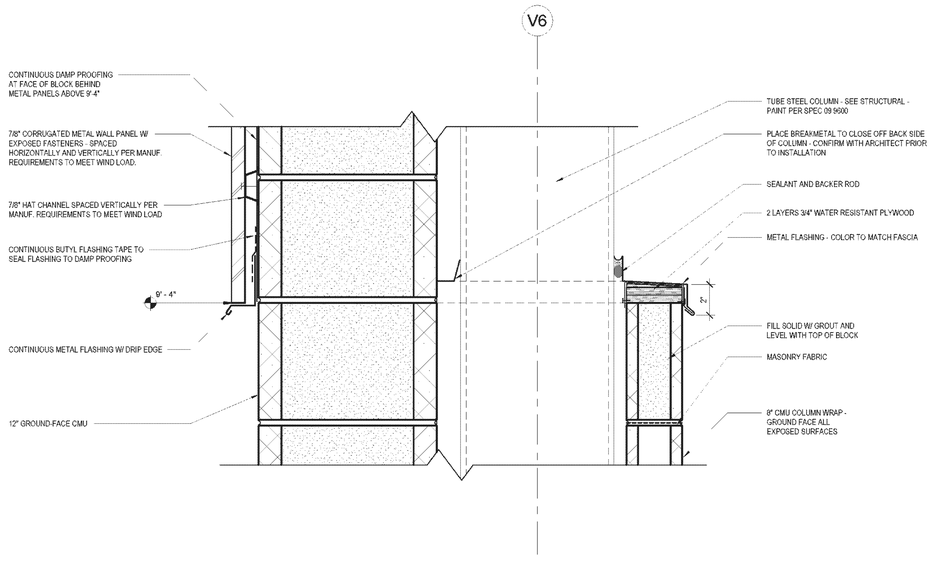


3 A506 SUMP PIT DETAIL
1 1/2" = 1'-0"



4 A506 DETAIL @ POTTING SHED LOWER ROOF
3" = 1'-0"



5 A506 DETAIL @ VECHICLE SHED METAL PANEL TO CMU TRANSITION
3" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
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CONSULTANTS

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REGINA CORINNE PATTON 11593 NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT RALEIGH, N.C.
5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: ADF
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A506
MISCELLANEOUS DETAILS AUXILIARY BUILDINGS

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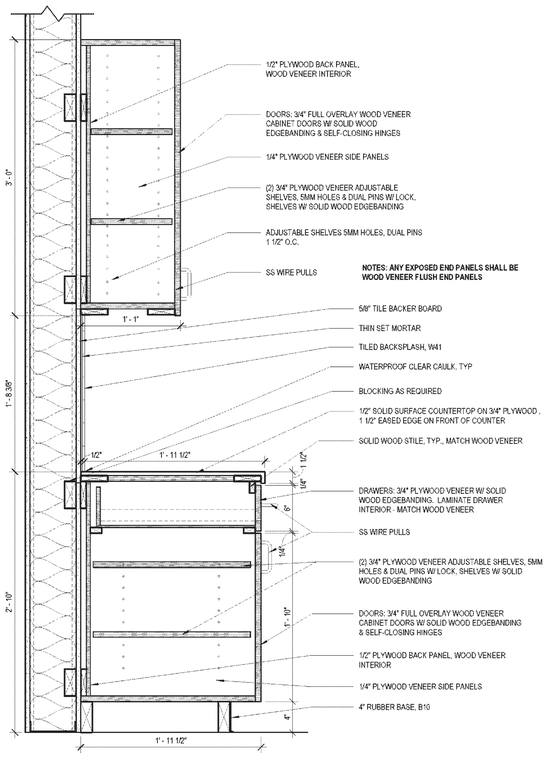
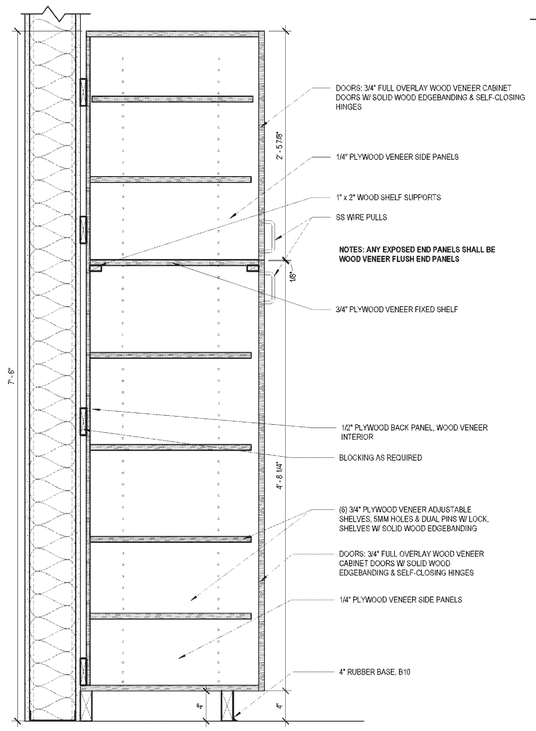


1 A510 SECTION AT READYROOM KITCHEN BASE CABINETS - TYP.
1 1/2" = 1'-0"



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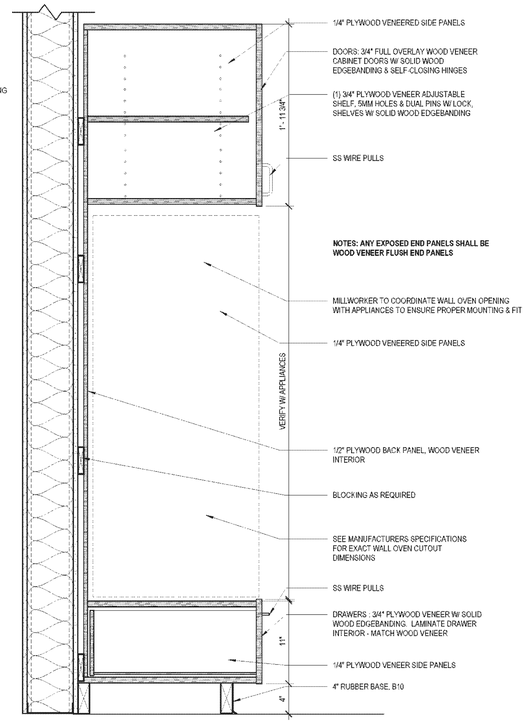
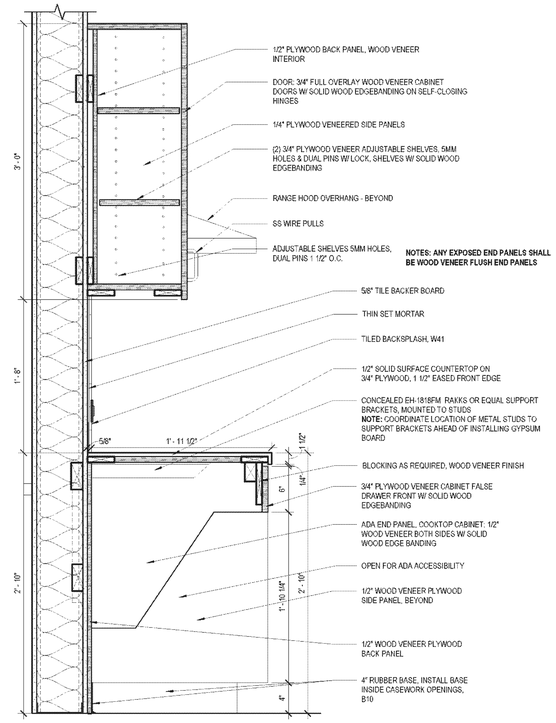


3 A510 SECTION AT READYROOM WALL OVEN CABINET
1 1/2" = 1'-0"



4 A510 SECTION AT READYROOM ADA WORKSPACE
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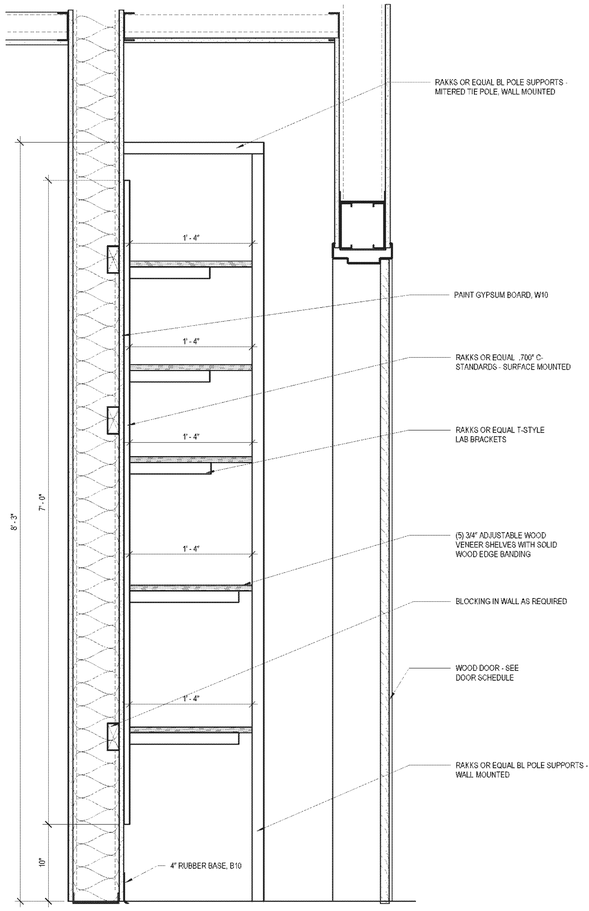
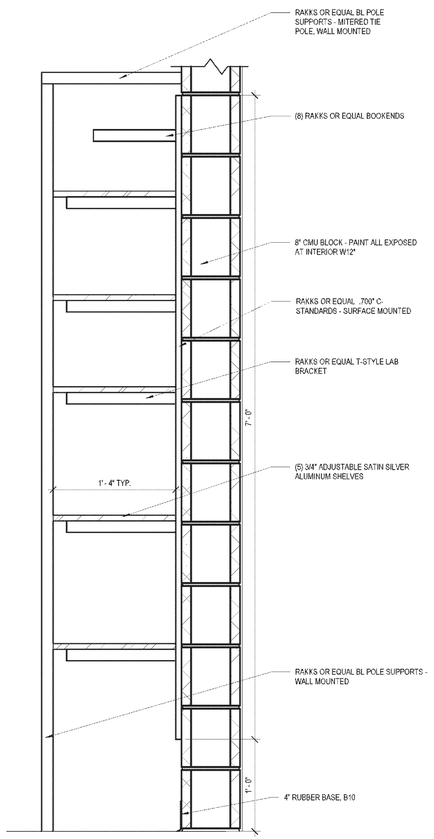


5 A510 SECTION AT STORAGE 116A
1 1/2" = 1'-0"



6 A510 SECTION AT CUSTODIAL SHELVING
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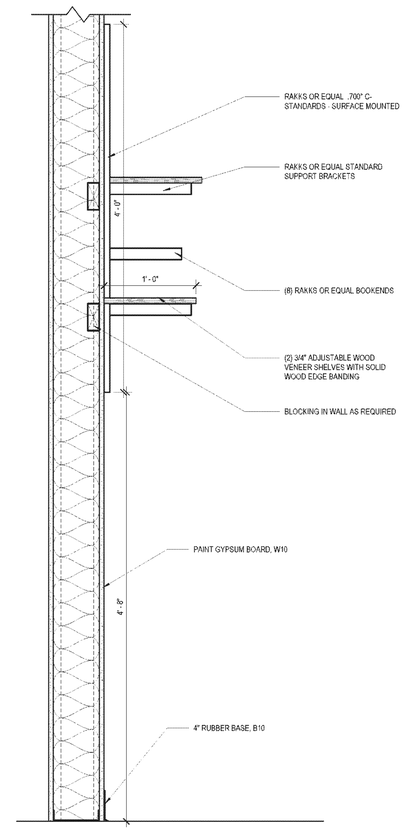

7 A510 SECTION AT RECORD ROOM
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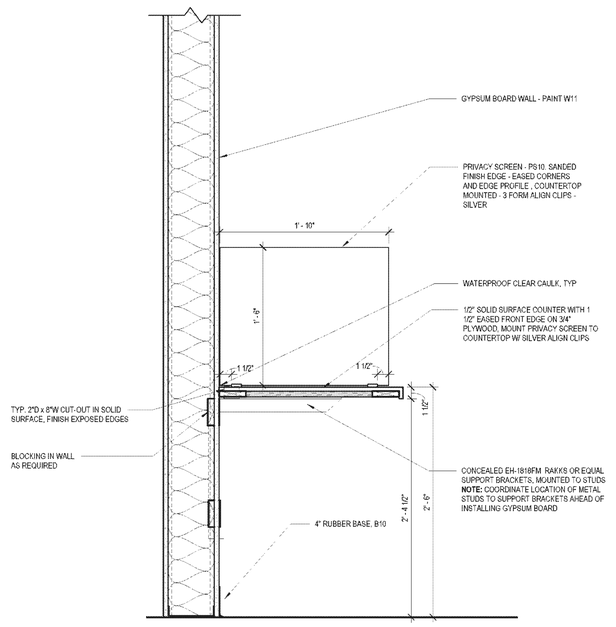

8 A510 SECTION AT TRAINING STATIONS
1 1/2" = 1'-0"

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SEALS

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Melissa Dawnee Whitney 11993 Registered Landscape Architect North Carolina Raleigh, N.C. 5/22/2025

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CHECKED BY: MDP

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SHEET INFORMATION

A510
MILLWORK DETAILS

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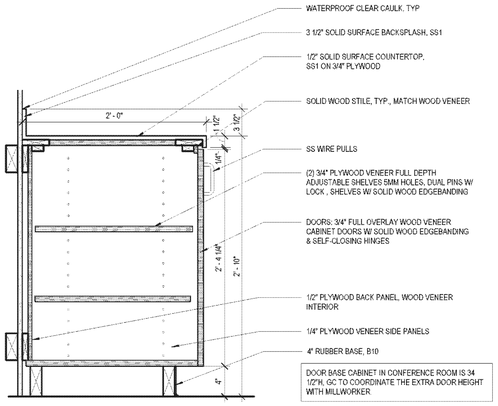

1 A511 SECTION AT COPY/PRINT CABINETS
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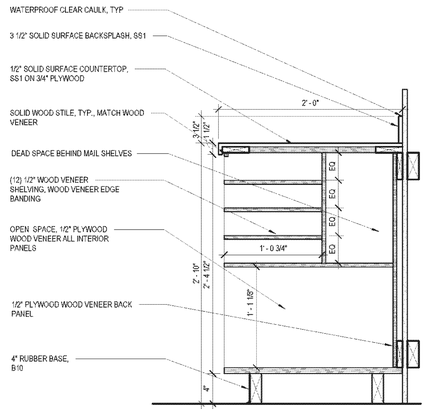
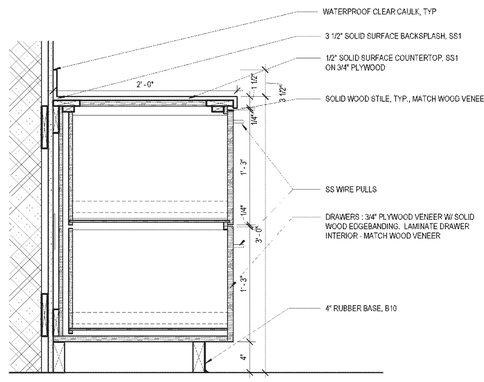
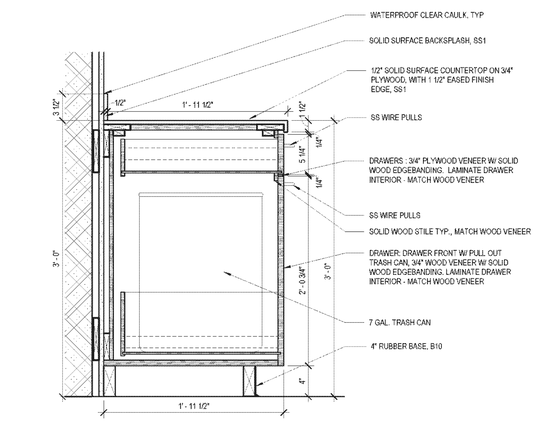


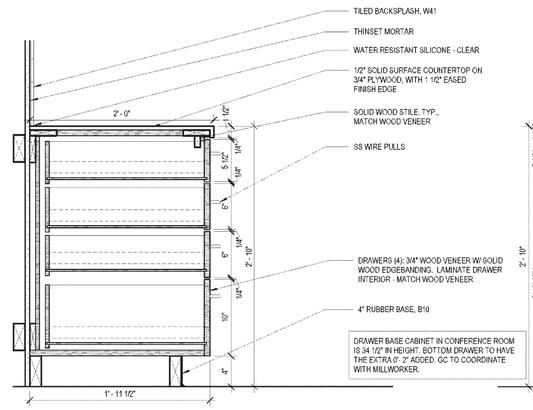
2 A511 SECTION AT COPY/PRINT MAIL CABINET
1 1/2" = 1'-0"



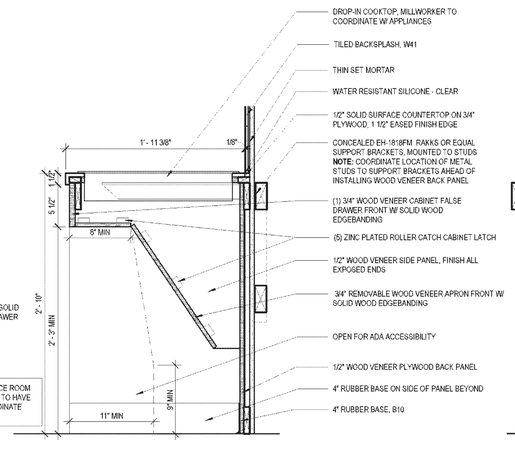
3 A511 SECTION AT CONFERENCE ROOM DRAWER BASE
1 1/2" = 1'-0"



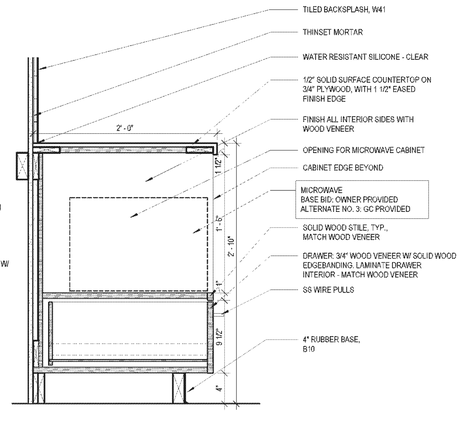
4 A511 SECTION AT CONFERENCE ROOM PULL OUT TRASH CABINET
1 1/2" = 1'-0"



5 A511 SECTION AT DRAWER BASE CABINET
1 1/2" = 1'-0"



6 A511 SECTION AT COOKTOP
1 1/2" = 1'-0"



7 A511 SECTION AT MICROWAVE CABINET
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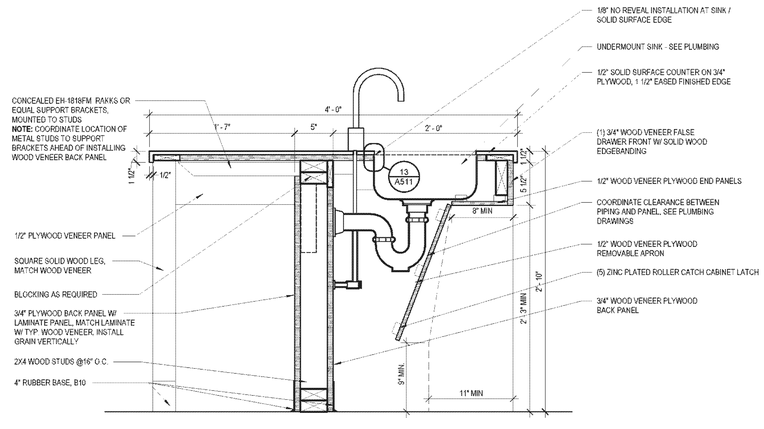
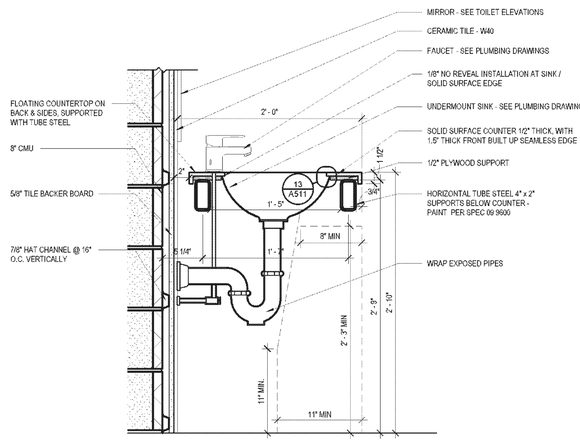
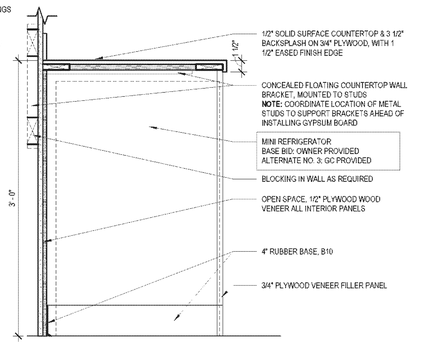


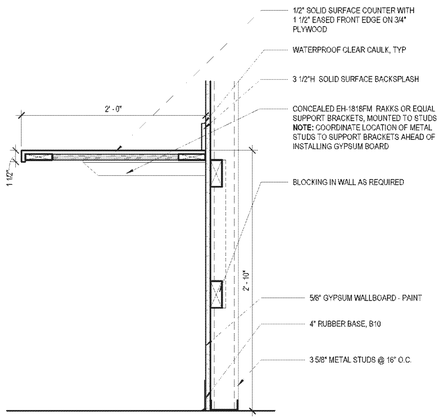
8 A511 SECTION AT READYROOM ISLAND/ADA SINK
1 1/2" = 1'-0"



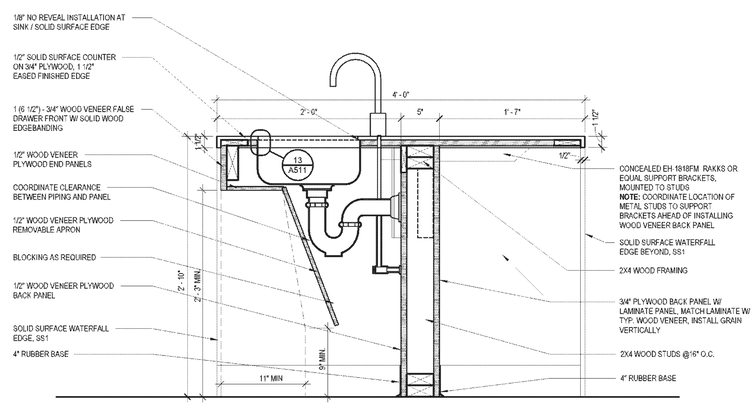
9 A511 SECTION THROUGH LAVATORY - EXPOSED TUBE STEEL
1 1/2" = 1'-0"



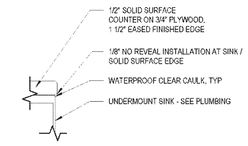
10 A511 SECTION AT CONFERENCE ROOM OPEN CABINET
1 1/2" = 1'-0"



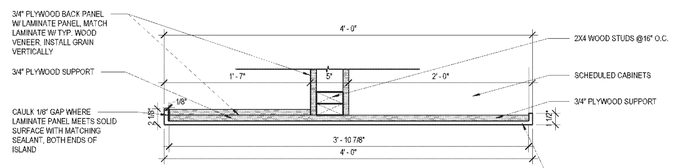
11 A511 SECTION AT LAUNDRY COUNTER
1 1/2" = 1'-0"



12 A511 SECTION AT READYROOM ISLAND/ADA SINK 2
1 1/2" = 1'-0"



13 A511 DETAIL @ SINK REVEAL
6" = 1'-0"



14 A511 DETAIL - WATERFALL EDGE - ISLAND
1 1/2" = 1'-0"
ROTATED 90 DEGREES COUNTER CLOCKWISE FROM FLOOR PLAN

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SEALS

Esse Architects P.A. 52498 Registered Architecture Raleigh, N.C.

11083 Registered Professional Engineer Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

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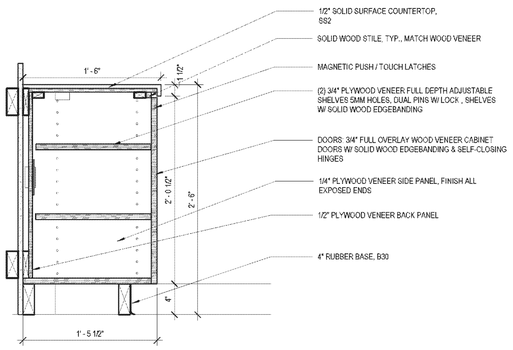
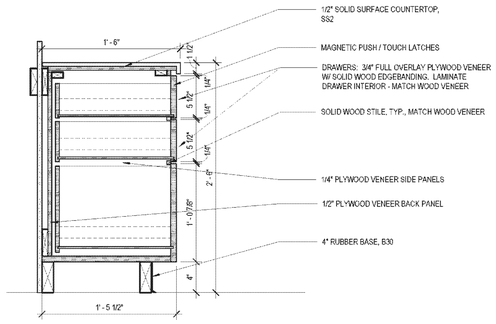
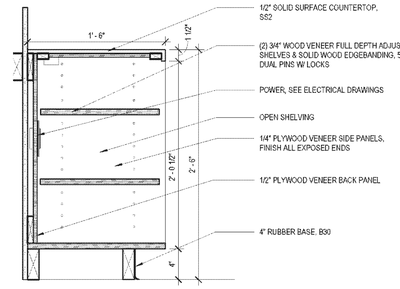


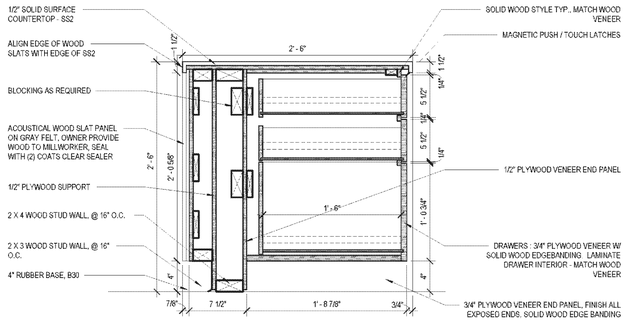
1 A512 SECTION AT RECEPTION BASE FULL HEIGHT DOOR
1 1/2" = 1'-0"



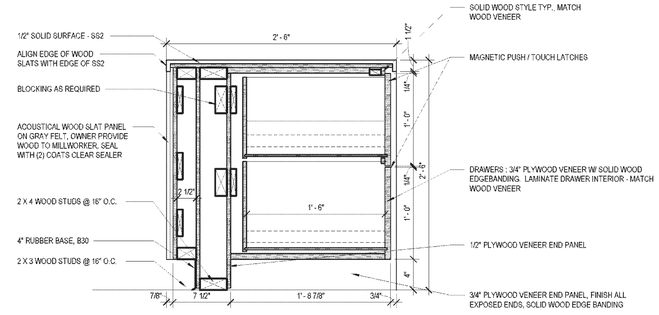
2 A512 SECTION AT RECEPTION BASE DRAWER
1 1/2" = 1'-0"



3 A512 SECTION AT RECEPTION BASE OPEN SHELVING
1 1/2" = 1'-0"



4 A512 SECTION AT RECEPTION DESK - BOX / FILE
1 1/2" = 1'-0"



5 A512 SECTION AT RECEPTION DESK - FILE
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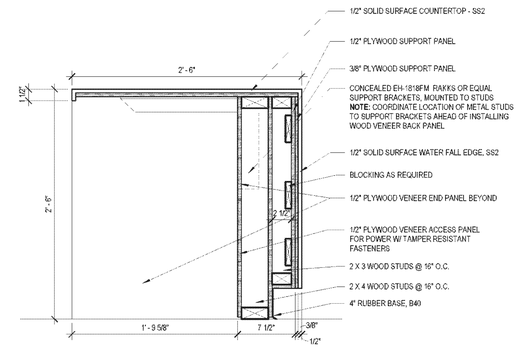
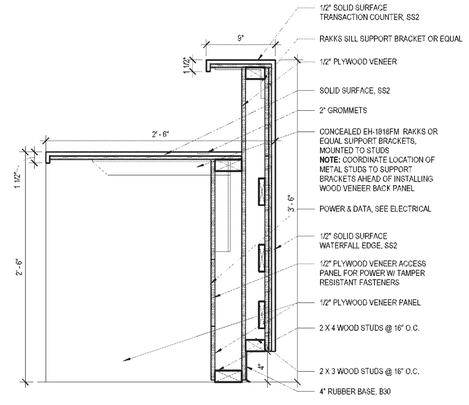
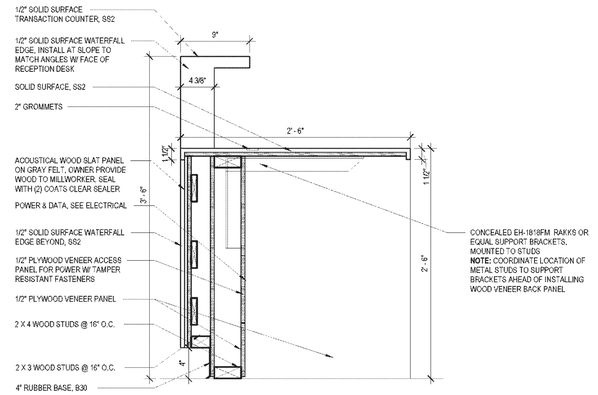


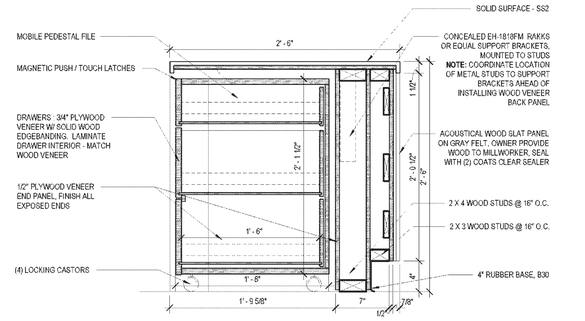
6 A512 SECTION AT RECEPTION DESK - SOLID SURFACE FACADE
1 1/2" = 1'-0"



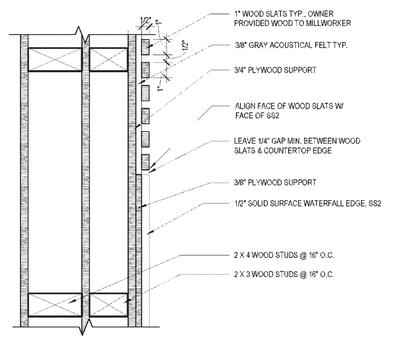
7 A512 SECTION AT RECEPTION DESK - TRANSACTION TOP
1 1/2" = 1'-0"



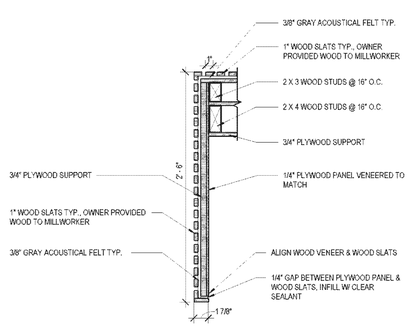
8 A512 DETAIL AT RECEPTION TOP EDGE
1 1/2" = 1'-0"



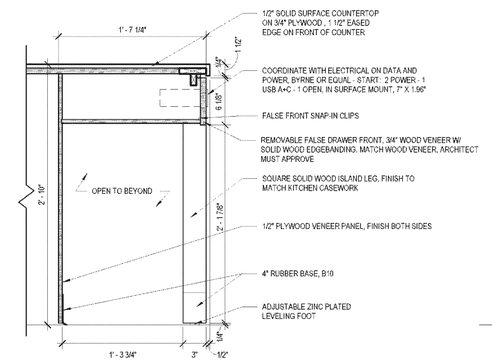
9 A512 SECTION AT RECEPTION DESK - WOOD SLAT & MOBILE PEDESTAL
1 1/2" = 1'-0"



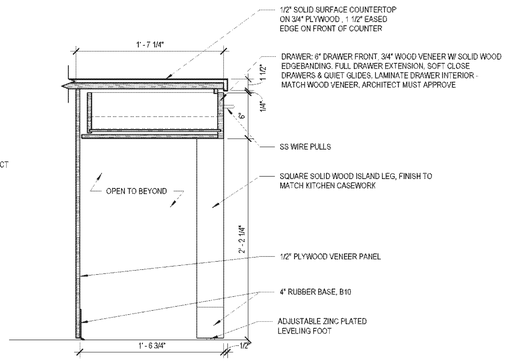
10 A512 PLAN DETAIL AT COUNTERTOP & SLAT TRANSITION
3" = 1'-0"



11 A512 WOOD SLAT EDGE PLAN DETAIL - U-SHAPED RECEPTION DESK
1 1/2" = 1'-0"
ROTATED 90 DEGREES COUNTER CLOCKWISE FROM FLOOR PLAN



12 A512 SECTION AT KITCHEN ISLAND A (EAST)
1 1/2" = 1'-0"



13 A512 SECTION AT KITCHEN ISLAND B (EAST)
1 1/2" = 1'-0"

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Esse Architect P.A. 52498 North Carolina Raleigh, N.C.

Melissa Conner Potvin 13985 North Carolina Registered Landscape Architect Raleigh, N.C. 5/22/2025

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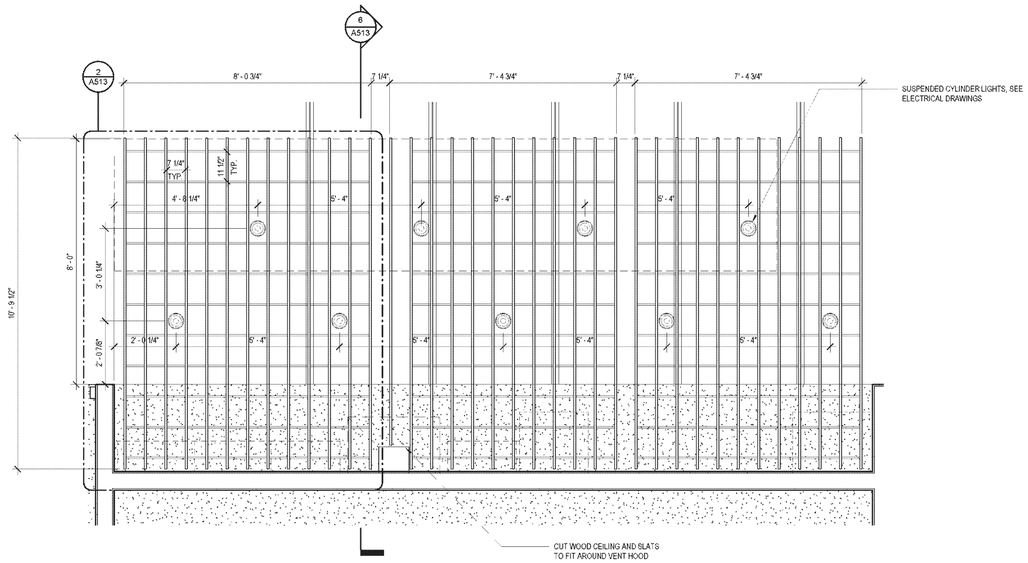
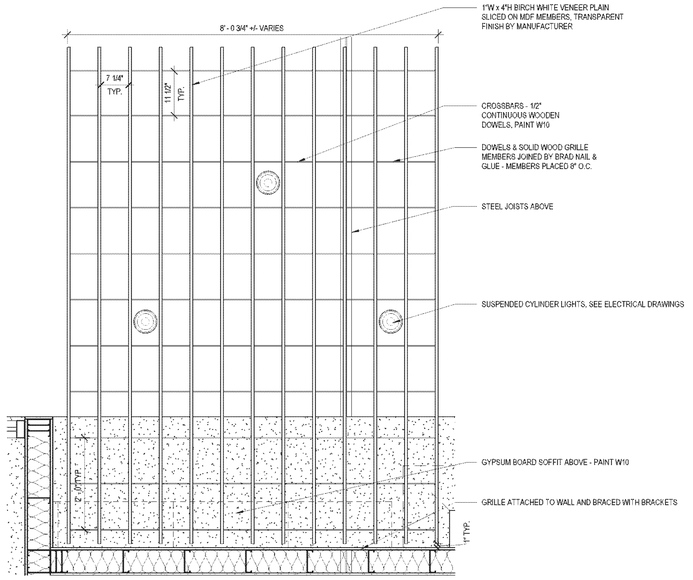
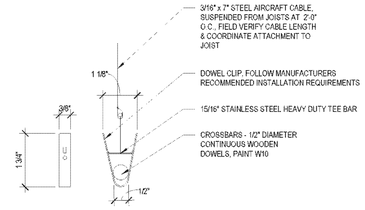


1 A513 WOOD GRILLE - OVERALL REFLECTED CEILING PLAN
1/2" = 1'-0"

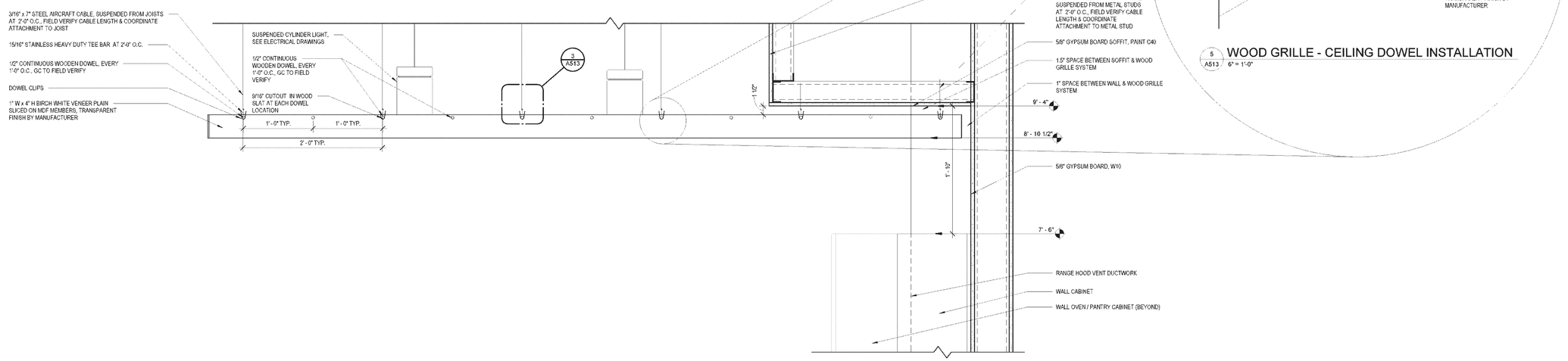


2 A513 WOOD GRILLE ENLARGED REFLECTED CEILING PLAN
3/4" = 1'-0"

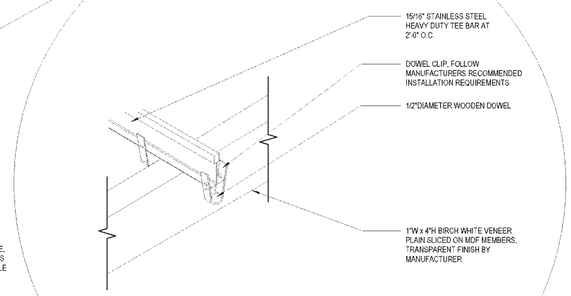


3 A513 DOWEL CLIP DETAIL
6" = 1'-0"

4 A513 ELEVATION - WOOD GRILLE
1 1/2" = 1'-0"



6 A513 WOOD GRILLE - SIDE ELEVATION
1 1/2" = 1'-0"



5 A513 WOOD GRILLE - CEILING DOWEL INSTALLATION
6" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CONSULTANTS

LANDSCAPE ARCHITECTURE - CIVIL ENGINEERING
TIMMONS GROUP
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SEALS

Esse Architects P.A. 52498 North Carolina Registered Architecture Raleigh, N.C.

Kenneth Donner Potenza 11083 Registered Landscape Architect Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	ADF, EMK, TMR
CHECKED BY:	MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A513

READY ROOM
WOOD GRILLE
DETAILS

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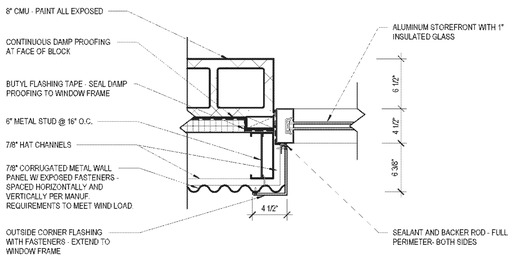
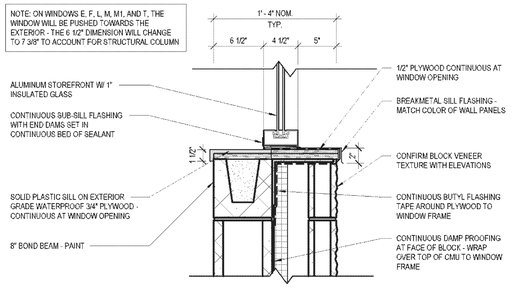
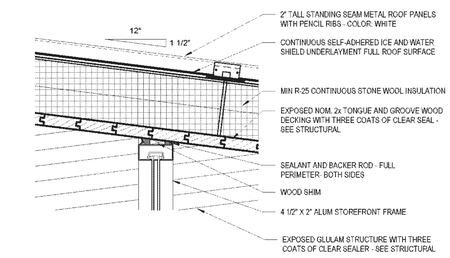


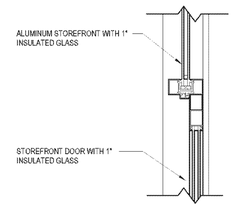
1 A521 JAMB @ METAL PANELS
1 1/2" = 1'-0"



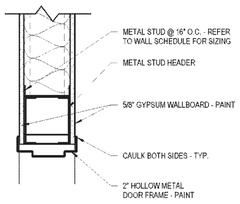
2 A521 SILL @ CMU WALL
1 1/2" = 1'-0"



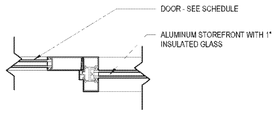
3 A521 HEAD @ STOREFRONT W/ WOOD DECK
1 1/2" = 1'-0"



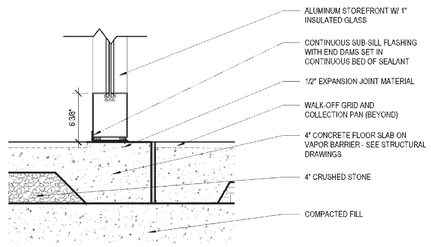
4 A521 HEAD @ STOREFRONT DOOR
1 1/2" = 1'-0"



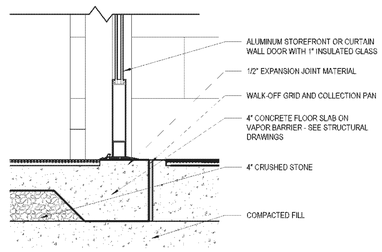
5 A521 HEAD @ CASED OPENING
1 1/2" = 1'-0"



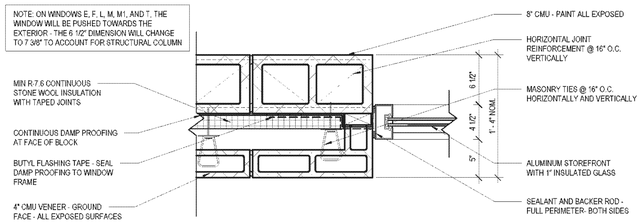
6 A521 JAMB @ STOREFRONT DOOR
1 1/2" = 1'-0"



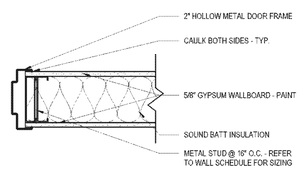
7 A521 SILL @ STOREFRONT ENTRY
1 1/2" = 1'-0"



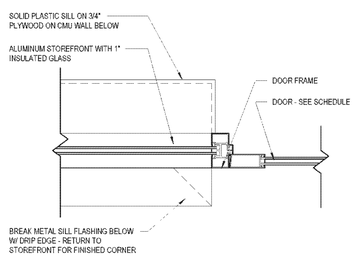
8 A521 SILL @ STOREFRONT OR CURTAIN WALL DOOR
1 1/2" = 1'-0"



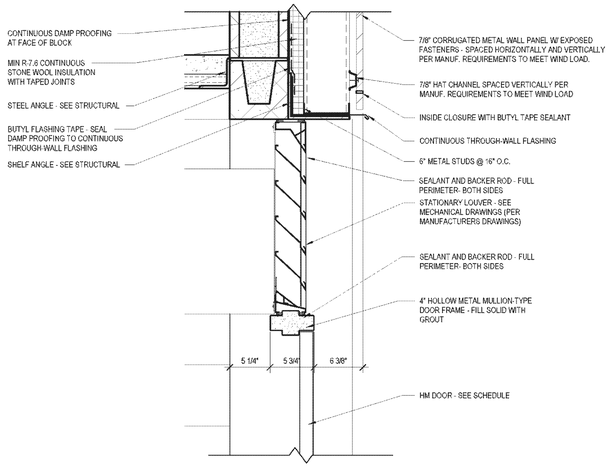
9 A521 JAMB @ CMU WALL
1 1/2" = 1'-0"



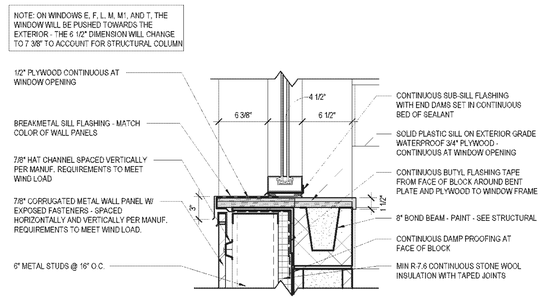
10 A521 JAMB @ CASED OPENING
1 1/2" = 1'-0"



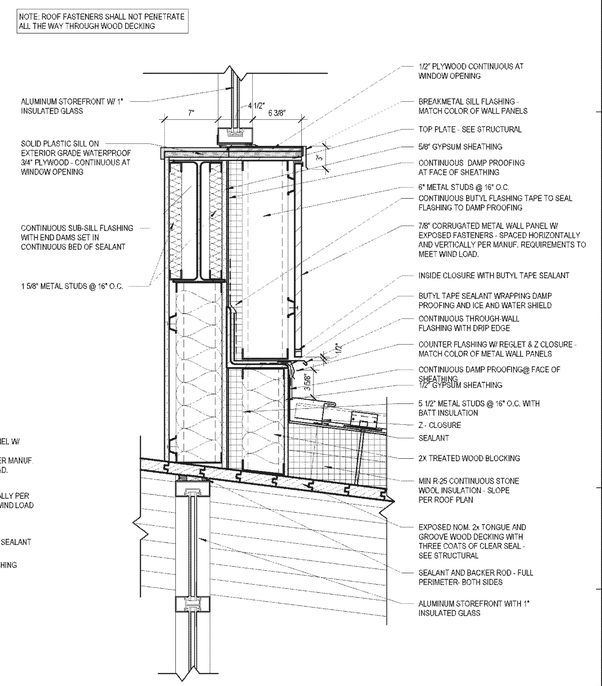
11 A521 JAMB @ DOOR IN STOREFRONT
1 1/2" = 1'-0"

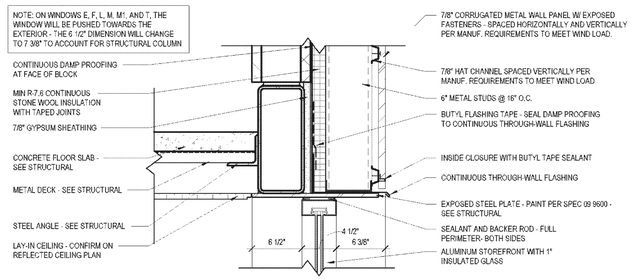


12 A521 HEAD @ EXT. ELECTRICAL DOOR
1 1/2" = 1'-0"

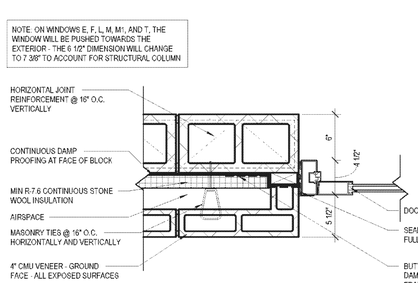


13 A521 SILL @ METAL PANELS
1 1/2" = 1'-0"

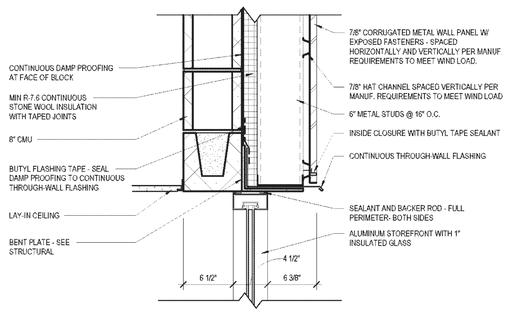




14 A521 HEAD @ MEZZANINE FLOOR
1 1/2" = 1'-0"



15 A521 JAMB @ STOREFRONT DOOR W/ CMU WALL
1 1/2" = 1'-0"



16 A521 HEAD @ METAL PANELS AND STOREFRONT
1 1/2" = 1'-0"

17 A521 HEAD @ INTERIOR STOREFRONT
1 1/2" = 1'-0"

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PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

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SEALS

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: EMK
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
0	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A521
HEAD JAMB AND SILL DETAILS

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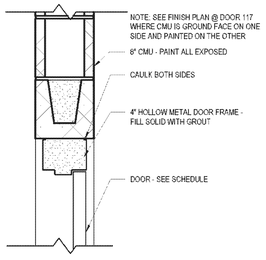
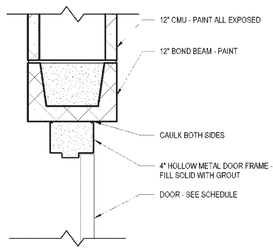
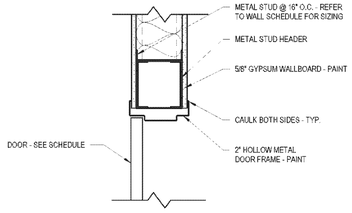


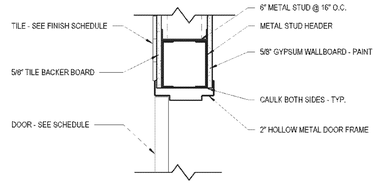
1 A522 HEAD @ 8" CMU (HM FRAME)
1 1/2" = 1'-0"



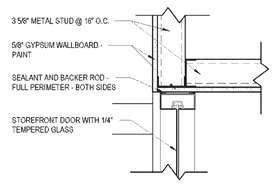
2 A522 HEAD @ 12" CMU
1 1/2" = 1'-0"



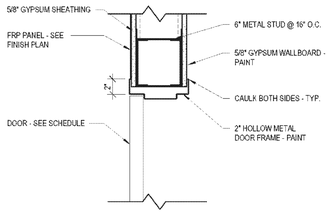
3 A522 HEAD @ GWB ON MTL STUD (HM FRAME)
1 1/2" = 1'-0"



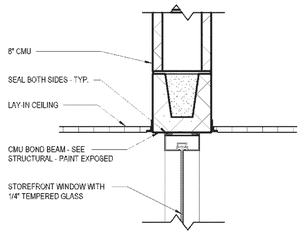
4 A522 HEAD @ GWB ON MTL STUD W/ TILE (HM FRAME)
1 1/2" = 1'-0"



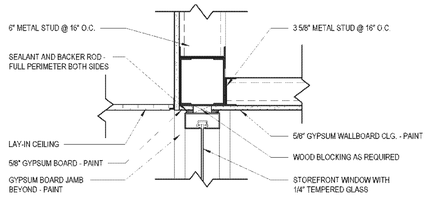
5 A522 HEAD @ STOREFRONT AND GWB. SOFFIT
1 1/2" = 1'-0"



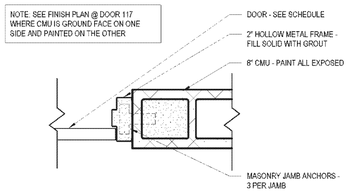
6 A522 HEAD @ GWB ON MTL STUD W/ FRP (HM FRAME)
1 1/2" = 1'-0"



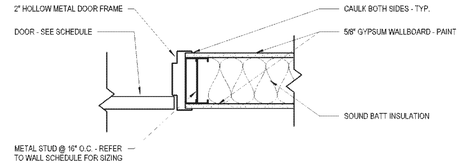
7 A522 HEAD @ INTERIOR WINDOWS
1 1/2" = 1'-0"



8 A522 HEAD @ ADMIN SPECIALIST WINDOW
1 1/2" = 1'-0"



9 A522 JAMB @ 8" CMU (HM FRAME)
1 1/2" = 1'-0"



10 A522 JAMB @ GWB ON MTL STUD (HM FRAME)
1 1/2" = 1'-0"

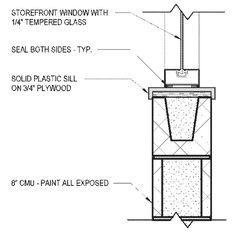
11 A522 JAMB @ GWB ON MTL STUD W/ TILE (HM FRAME)
1 1/2" = 1'-0"

12 A522 JAMB @ GWB ON MTL STUD W/ FRP (HM FRAME)
1 1/2" = 1'-0"

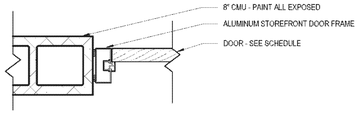
13 A522 JAMB @ INTERIOR WINDOWS ON CMU
1 1/2" = 1'-0"

14 A522 JAMB @ INT. STOREFRONT DOOR
1 1/2" = 1'-0"

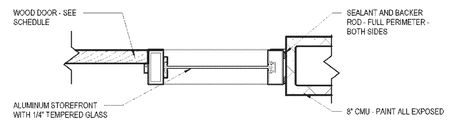
15 A522 JAMB @ GWB ON MTL STUD (AL FRAME)
1 1/2" = 1'-0"



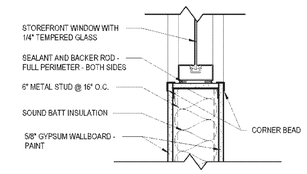
16 A522 SILL @ INTERIOR WINDOWS
1 1/2" = 1'-0"



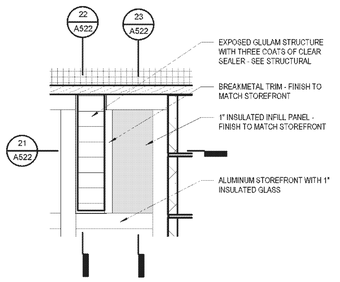
17 A522 JAMB @ WOOD DOOR (AL FRAME) ON CMU
1 1/2" = 1'-0"



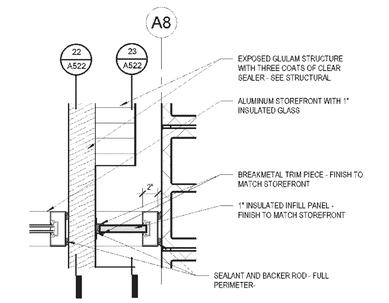
18 A522 JAMB @ INT. WOOD DOOR IN STOREFRONT FRAME
1 1/2" = 1'-0"



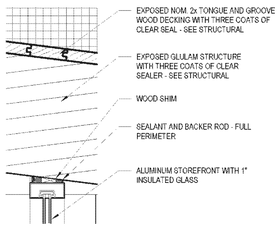
19 A522 SILL @ INT. STOREFRONT ON STUD WALL
1 1/2" = 1'-0"



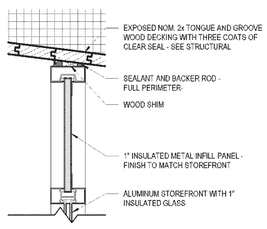
20 A522 STOREFRONT INFILL
1 1/2" = 1'-0"



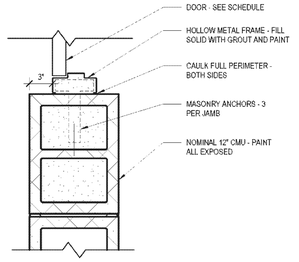
21 A522 JAMB @ STOREFRONT INFILL AND GLULAM
1 1/2" = 1'-0"



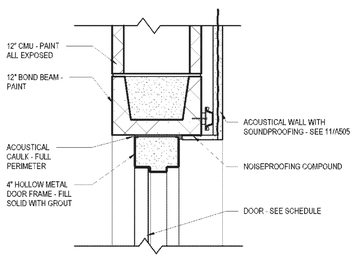
22 A522 HEAD @ STOREFRONT & GLULAM
1 1/2" = 1'-0"



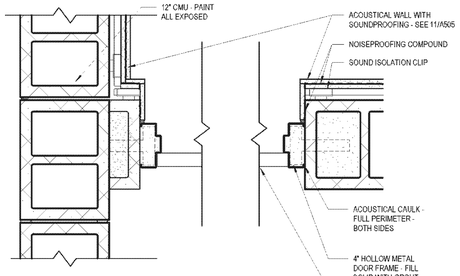
23 A522 HEAD @ STOREFRONT INFILL
1 1/2" = 1'-0"



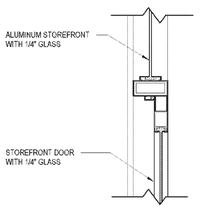
24 A522 HOLLOW METAL DOOR JAMB-TYP
1 1/2" = 1'-0"



25 A522 HEAD @ ACOUSTICAL WALL
1 1/2" = 1'-0"



26 A522 JAMB @ ACOUSTIC WALL
1 1/2" = 1'-0"



27 A522 HEAD @ INT. STOREFRONT DOOR
1 1/2" = 1'-0"

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632 PERSHING ROAD
RALEIGH, NORTH CAROLINA 27608
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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CONSULTANTS

LANDSCAPE ARCHITECTURE - CIVIL ENGINEERING
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5410 TRINITY RD, SUITE 102
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5909 FALLS OF NEUSE RD, SUITE 101
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STRUCTURAL
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120 ST. MARY'S ST.
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919.833.0495

SEALS

Esse Architects, P.A. 52498 Registered Professional Engineer North Carolina Raleigh, N.C.

Corporate Registration 11093 Engineering North Carolina Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	EMK
CHECKED BY:	MDP

REVISIONS

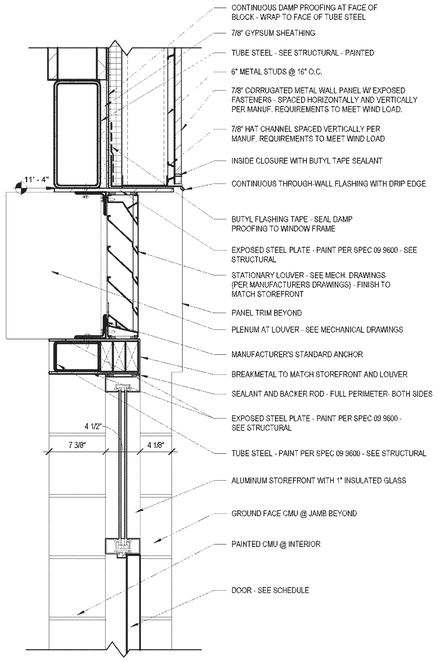
NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

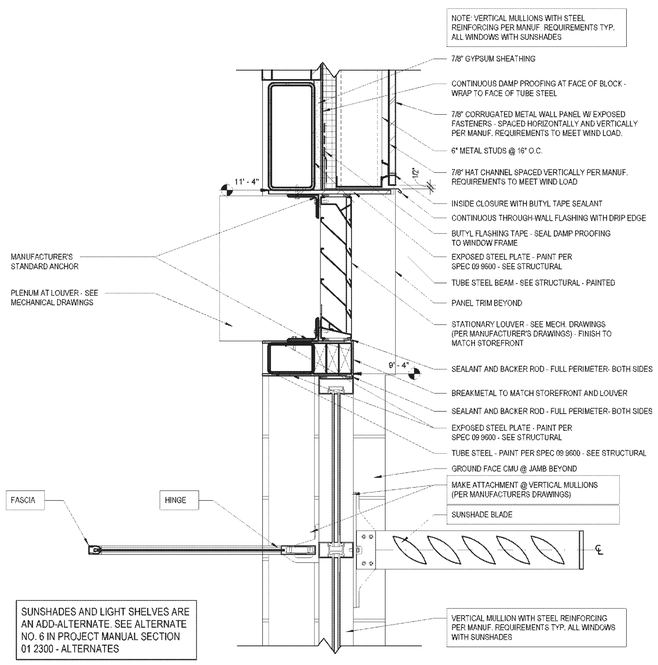
A522

HEAD JAMB AND SILL DETAILS

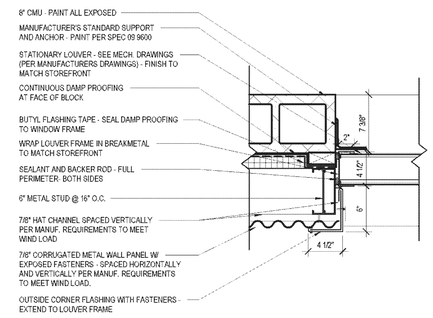
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



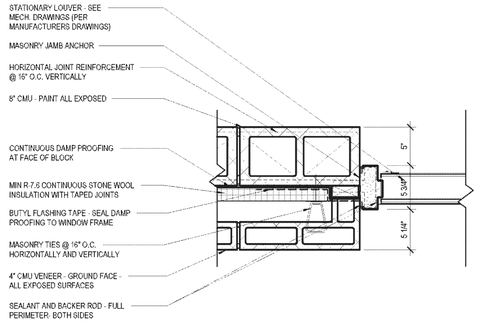
1 A523 HEAD @ AL DOOR
1 1/2" = 1'-0"



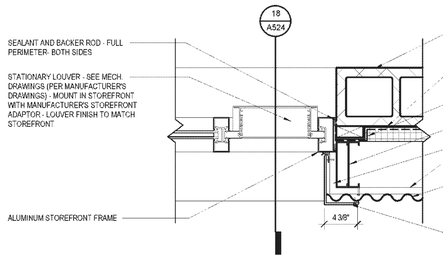
2 A523 HEAD @ SUNSHADE AND LOUVER
1 1/2" = 1'-0"



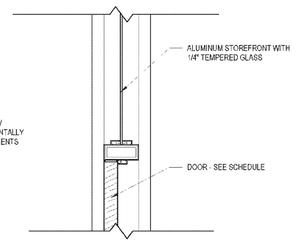
3 A523 JAMB DETAIL @ CONTINUOUS LOUVER
1 1/2" = 1'-0"



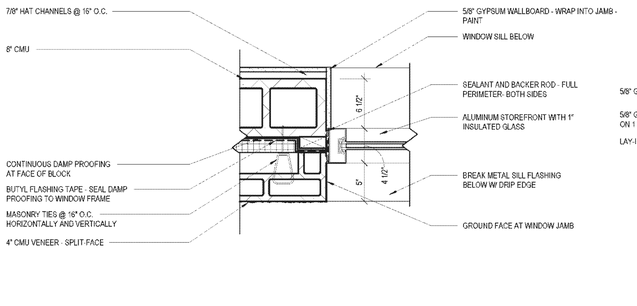
4 A523 JAMB @ DOOR 121 LOUVER
1 1/2" = 1'-0"



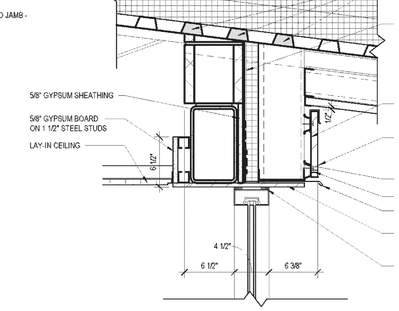
5 A523 JAMB DETAIL @ LOUVER IN STOREFRONT
1 1/2" = 1'-0"



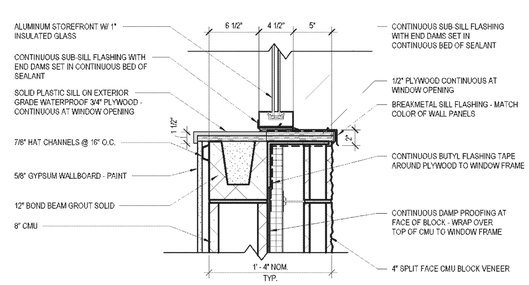
6 A523 HEAD @ WOOD DOOR IN STOREFRONT
1 1/2" = 1'-0"



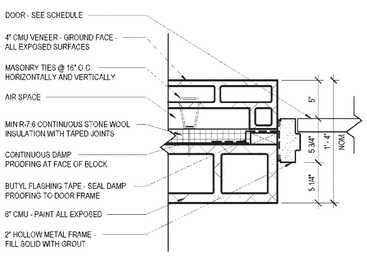
7 A523 JAMB @ GWB ON EXTERIOR CMU
1 1/2" = 1'-0"



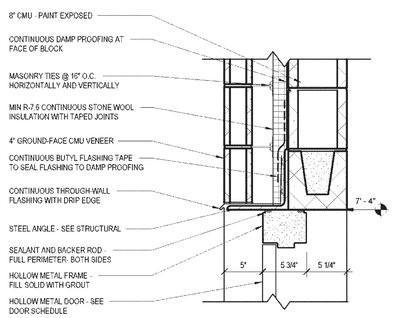
8 A523 HEAD @ GWB ON EXTERIOR CMU
1 1/2" = 1'-0"



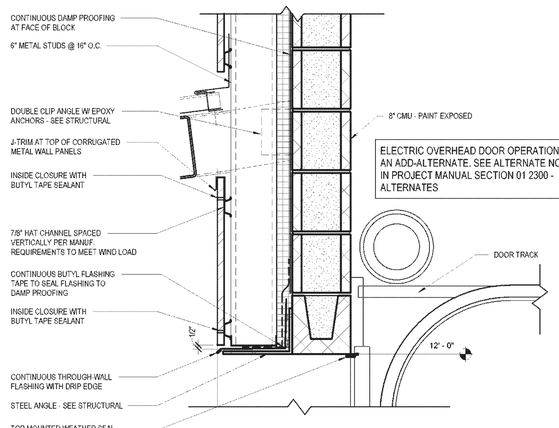
9 A523 SILL @ GWB ON EXTERIOR CMU
1 1/2" = 1'-0"



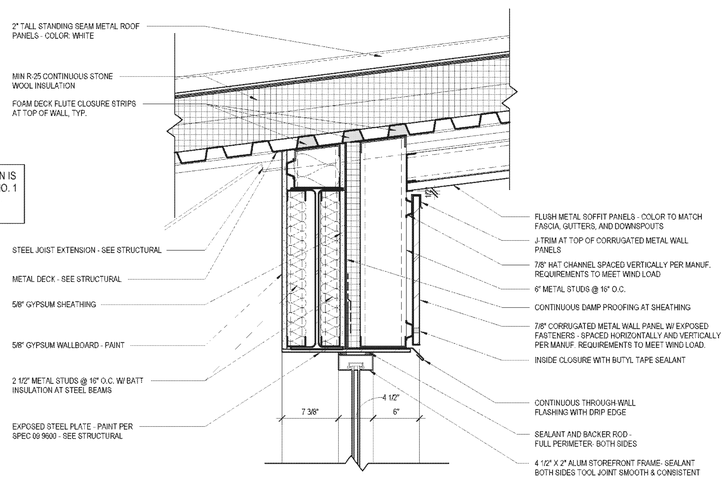
10 A523 JAMB @ EXTERIOR CMU WALL
1 1/2" = 1'-0"



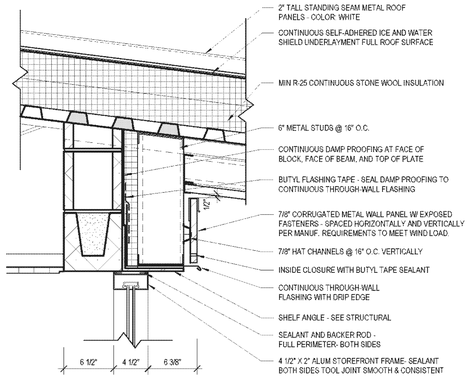
11 A523 HEAD @ EXTERIOR HM
1 1/2" = 1'-0"



12 A523 HEAD @ OVERHEAD DOOR
1 1/2" = 1'-0"



13 A523 HEAD @ WINDOW N
1 1/2" = 1'-0"



14 A523 HEAD @ METAL PANELS
1 1/2" = 1'-0"

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SEALS

Esse Architects P.A. 52498 NORTH CAROLINA Raleigh, N.C.

REGISTERED CORNER PROPERTY SURVEYOR 11983 Thomas J. Lysaght, Jr. RALEIGH, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: EMK
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	02.21.2025

SHEET INFORMATION

A523

HEAD JAMB AND SILL DETAILS

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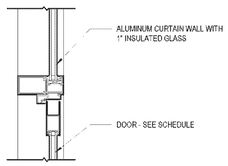
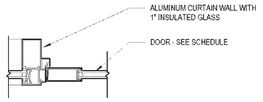
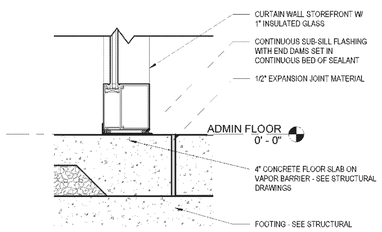


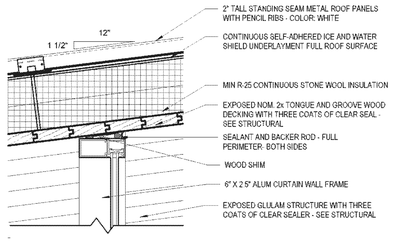
1 A524 HEAD @ CURTAIN WALL DOOR
1 1/2" = 1'-0"



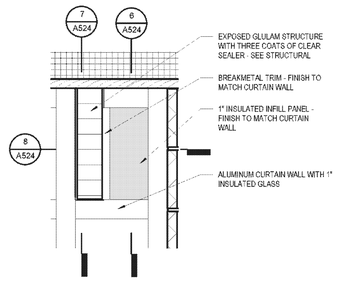
2 A524 JAMB @ CURTAIN WALL DOOR
1 1/2" = 1'-0"



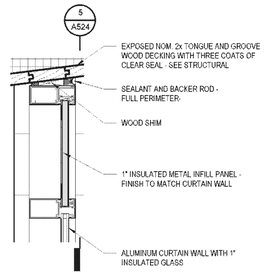
3 A524 SILL @ CURTAIN WALL ENTRY
1 1/2" = 1'-0"



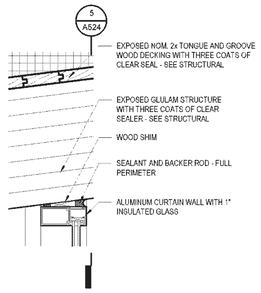
4 A524 HEAD @ CURTAIN WALL ENTRY
1 1/2" = 1'-0"



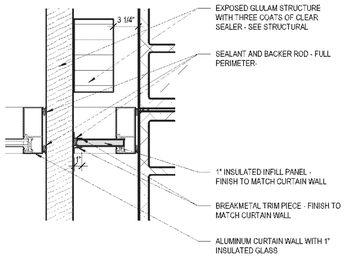
5 A524 CURTAIN WALL INFILL
1 1/2" = 1'-0"



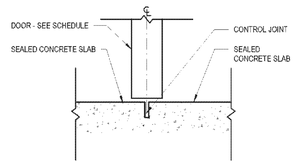
6 A524 HEAD @ CURTAIN WALL INFILL
1 1/2" = 1'-0"



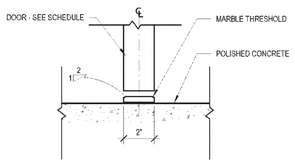
7 A524 HEAD @ CURTAIN WALL INFILL & GLULAM
1 1/2" = 1'-0"



8 A524 JAMB @ CURTAIN WALL INFILL AND GLULAM
1 1/2" = 1'-0"



9 A524 TRANSITION - INT. CONC. TO INT. CONC.
3" = 1'-0"



10 A524 TRANSITION - SHOWER THRESHOLD
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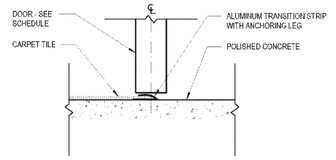
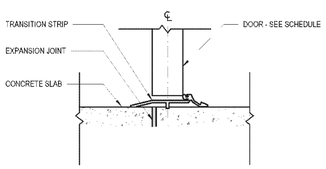
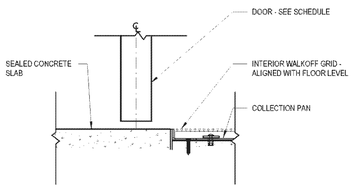


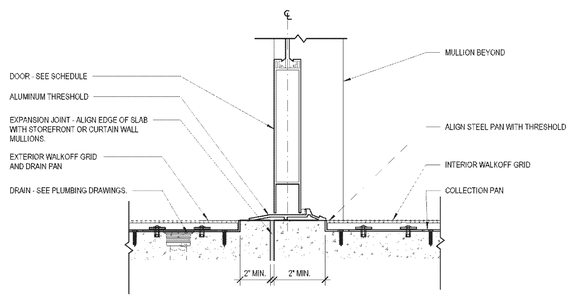
11 A524 TRANSITION - CARPET AT CONC.
3" = 1'-0"



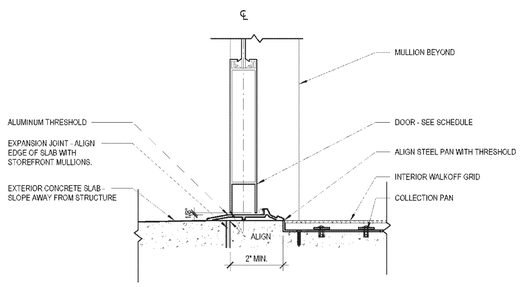
12 A524 TRANSITION - CONC. TO CONC. IN DUSTY AREA
3" = 1'-0"



13 A524 TRANSITION - INT. CONC. TO WALKOFF GRID
3" = 1'-0"



14 A524 THRESHOLD - EXT. WALKOFF GRID TO INT. WALKOFF GRID
3" = 1'-0"



15 A524 TRANSITION - EXT. CONC. TO INT. WALKOFF GRID
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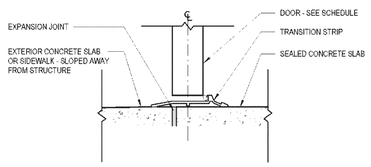
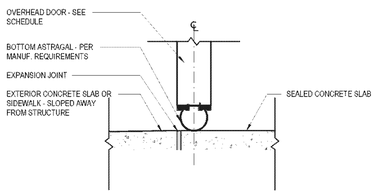
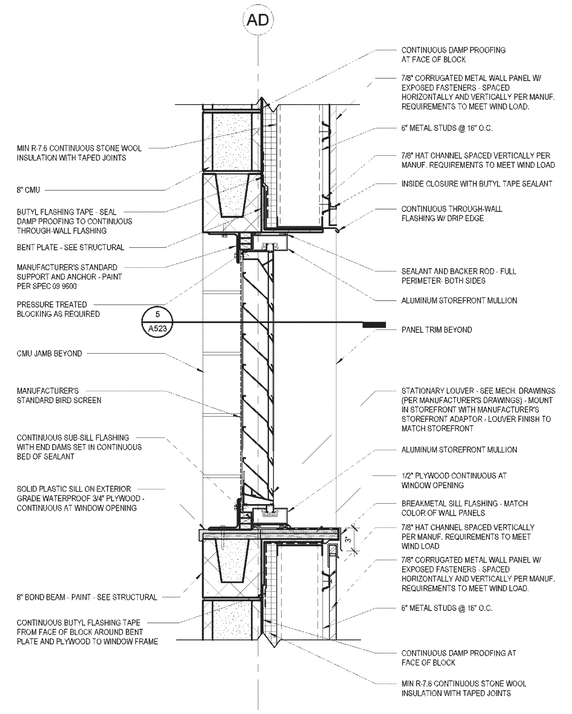


16 A524 TRANSITION - EXT. CONC. TO INT. CONC.
3" = 1'-0"



17 A524 TRANSITION - OVERHEAD DOORS
3" = 1'-0"



18 A524 STOREFRONT LOUVER HEAD AND SILL DETAIL
1 1/2" = 1'-0"

Esse Architects
622 PERSHING ROAD
RALEIGH, NORTH CAROLINA 27608
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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

LANDSCAPE ARCHITECTURE - CIVIL ENGINEERING
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SEALS

Esse Architects P.A. — 52498 — Registered Architect — North Carolina — Raleigh, N.C.

Brandon Donnell Pritchett — 11593 — Registered Landscape Architect — North Carolina — Raleigh, NC — 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: Author
CHECKED BY: Checker

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A524
HEAD JAMB AND SILL DETAILS

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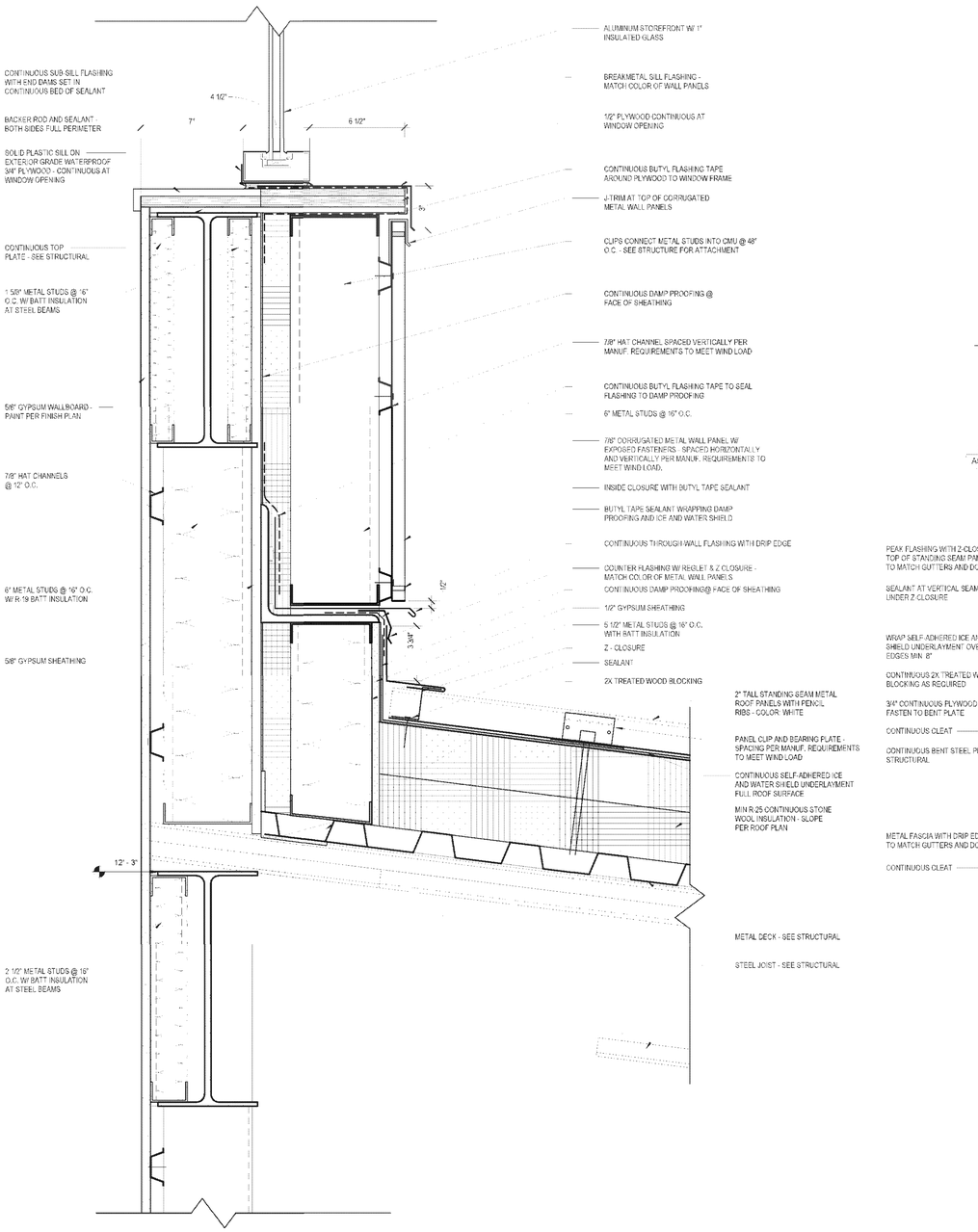
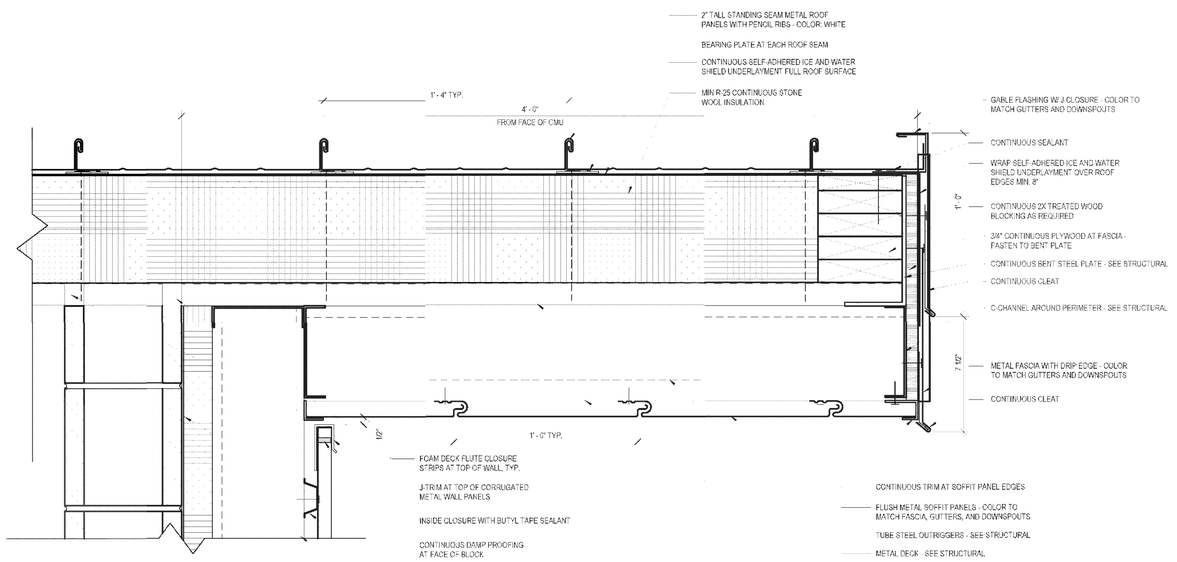
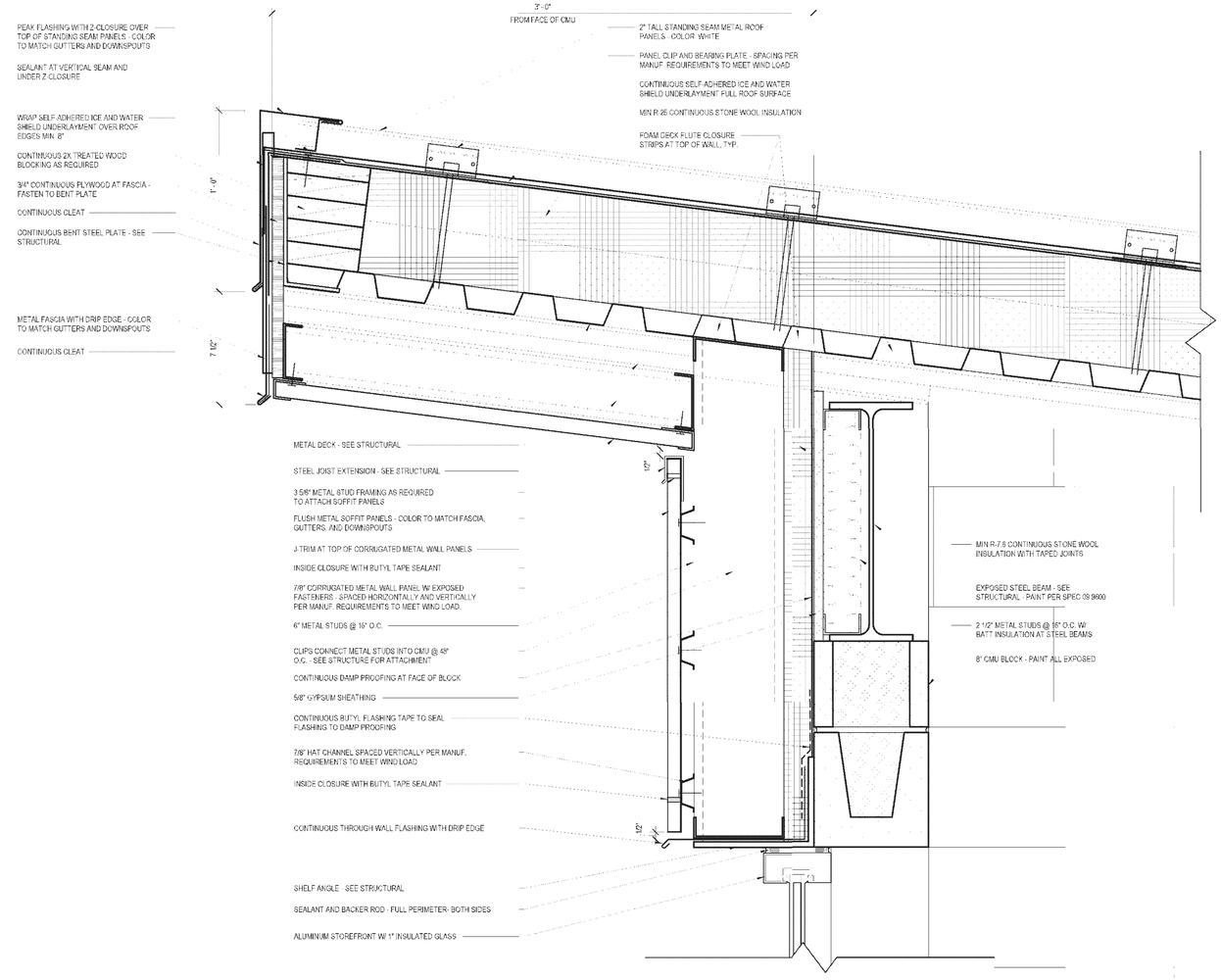


1 METAL PANELS AT LOWER READY ROOM ROOF
A525 3" = 1'-0"



2 STANDING SEAM METAL ROOF - TYP
A525 3" = 1'-0"



3 OFFICE BUILDING METAL ROOF AT NORTH EDGE
A525 3" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
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CITY OF WILMINGTON NORTH CAROLINA

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SEALS

Esse Architects, P.A. 52498 Registered Professional Engineer Raleigh, N.C.

Victoria Conner Patterson 11683 Registered Landscape Architect North Carolina

5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	MDP, EMK
CHECKED BY:	MDP

REVISIONS

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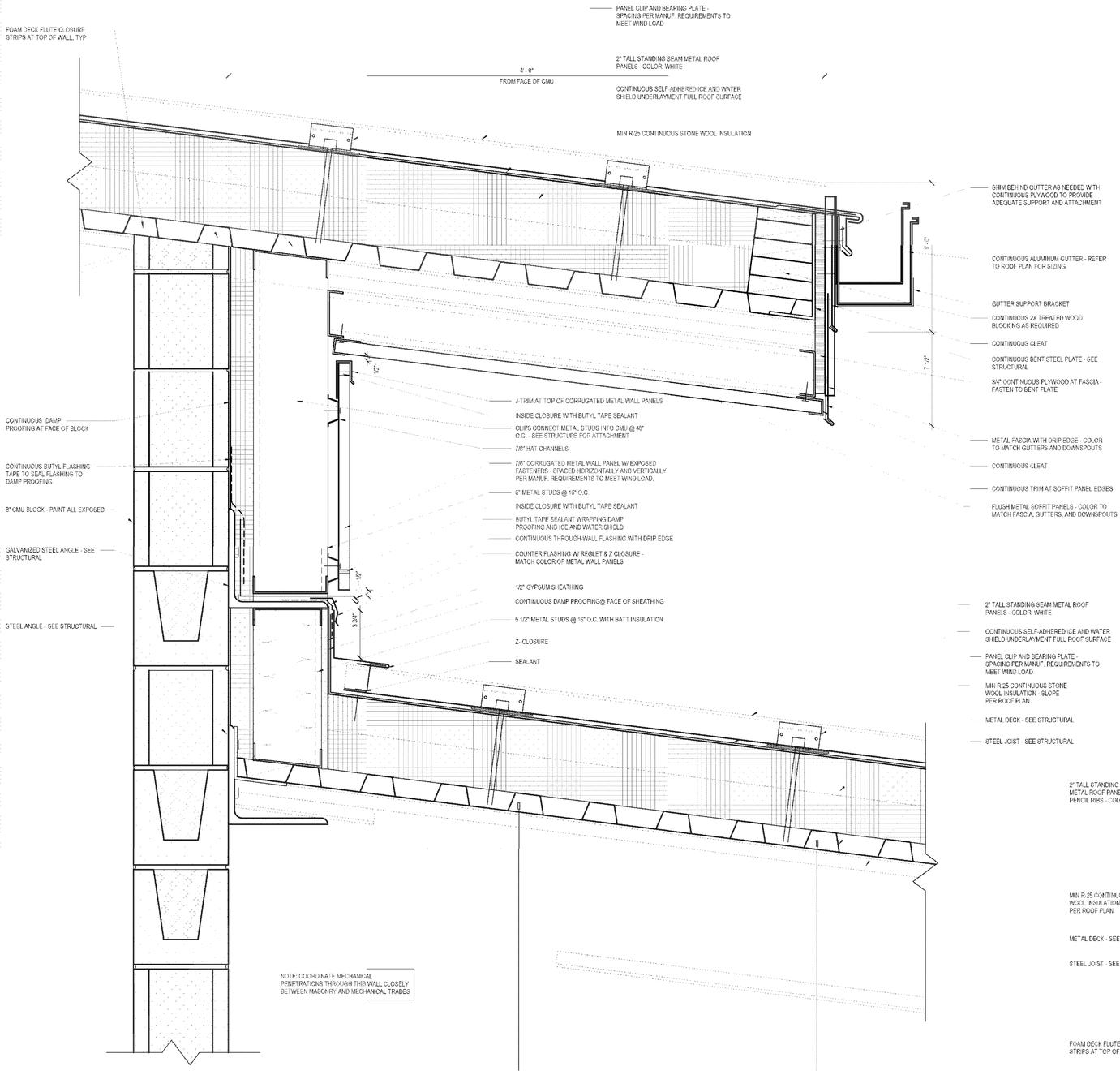
2	TITLE BLOCK REVISION	03.21.2025

SHEET INFORMATION

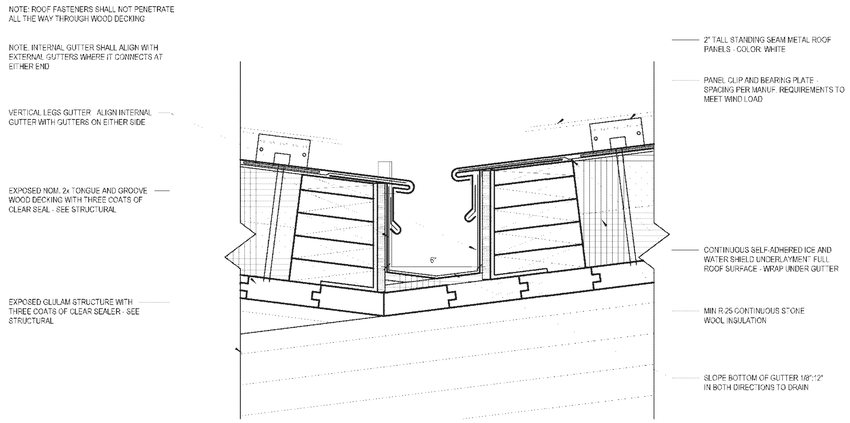
A525

ADMINISTRATION BUILDING - ROOF DETAILS

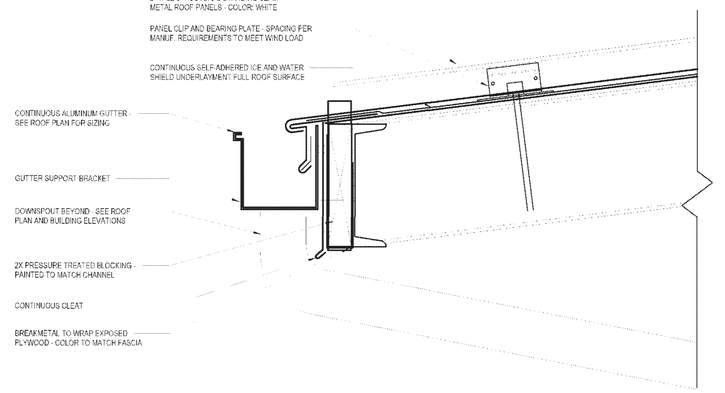
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



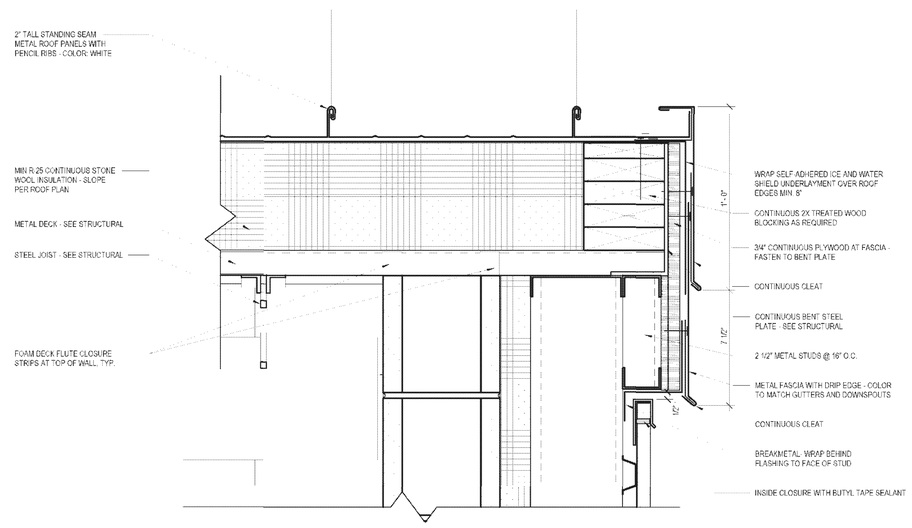
1 ADMINISTRATION BUILDING METAL ROOF AT SOUTH EDGE
A526 3" = 1'-0"



2 DETAIL @ INTERNAL GUTTER
A526 3" = 1'-0"



3 ROOF DETAIL @ COVERED OUTDOOR WORK AREA
A526 3" = 1'-0"



4 ROOF DETAIL @ SUPT. OFFICE
A526 3" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
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CITY OF WILMINGTON NORTH CAROLINA

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Esse Architects, P.A. NORTH CAROLINA 52498 Raleigh, N.C.

NICHOLAS DOMINIC PISTORINO 11283 REGISTERED LANDSCAPE ARCHITECT NORTH CAROLINA
5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	MDP, EMK
CHECKED BY:	MDP

REVISIONS

NO.	DESCRIPTION	DATE
4	TITLE BLOCK REVISION	05.01.2025

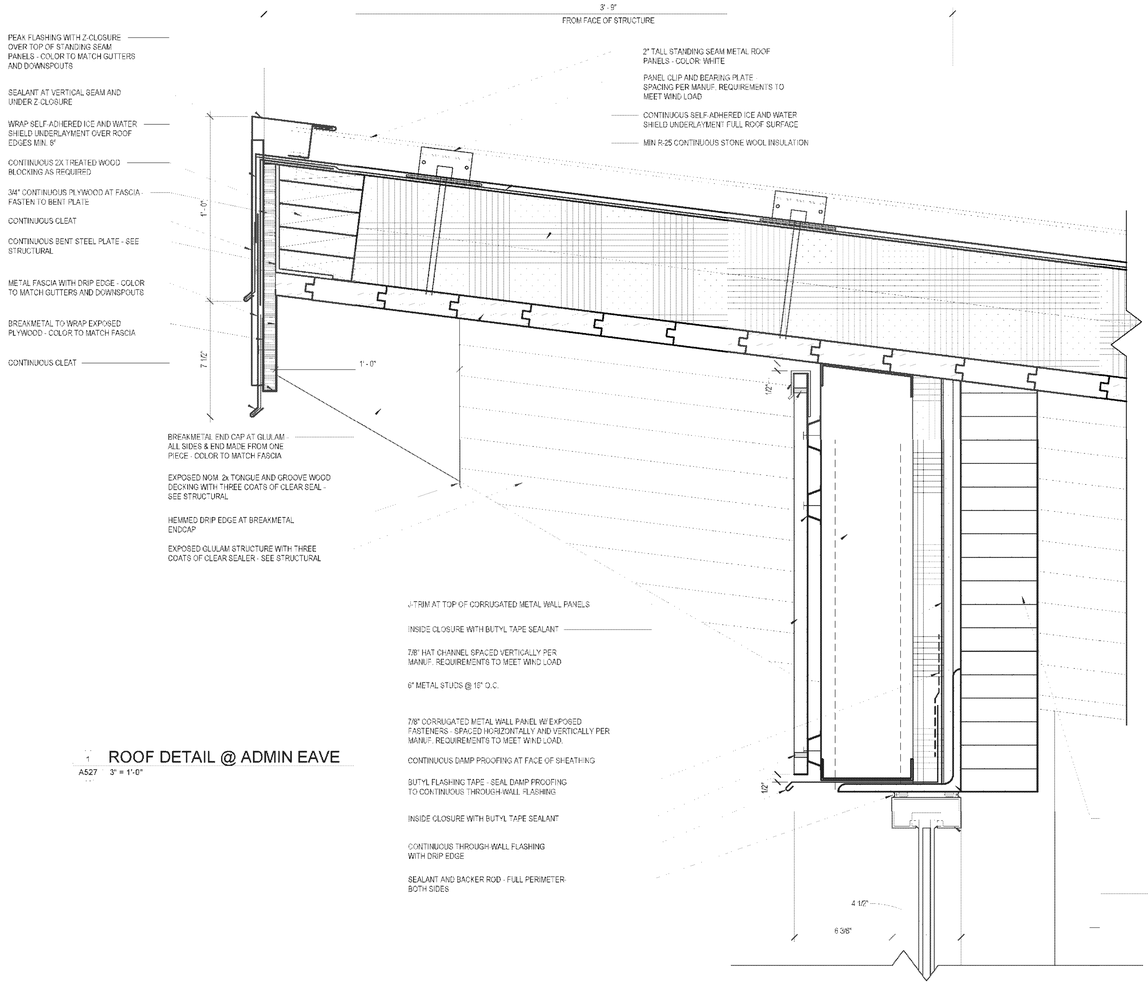
SHEET INFORMATION

A526

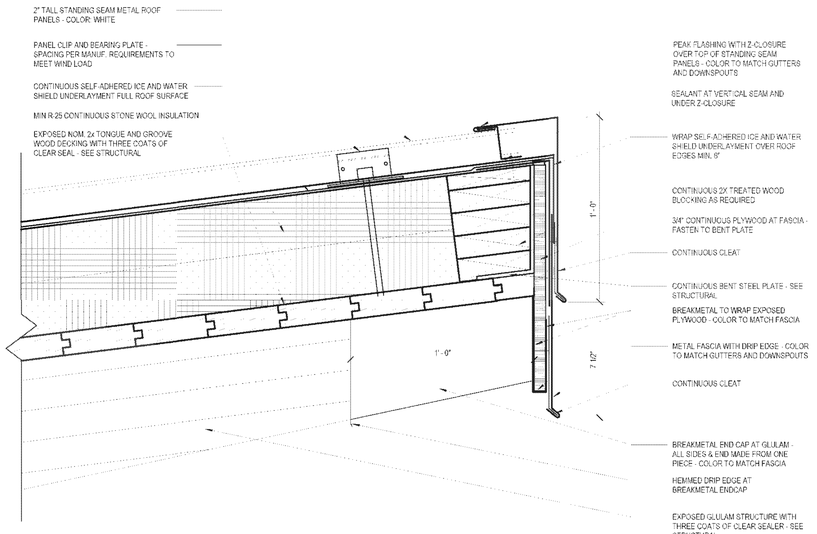
ADMINISTRATION BUILDING - ROOF DETAILS

Docusign Envelope ID: 10B4A470-384B-4166-0F51-EA49640A75E0

NOTE: ROOF FASTENERS SHALL NOT PENETRATE ALL THE WAY THROUGH WOOD DECKING

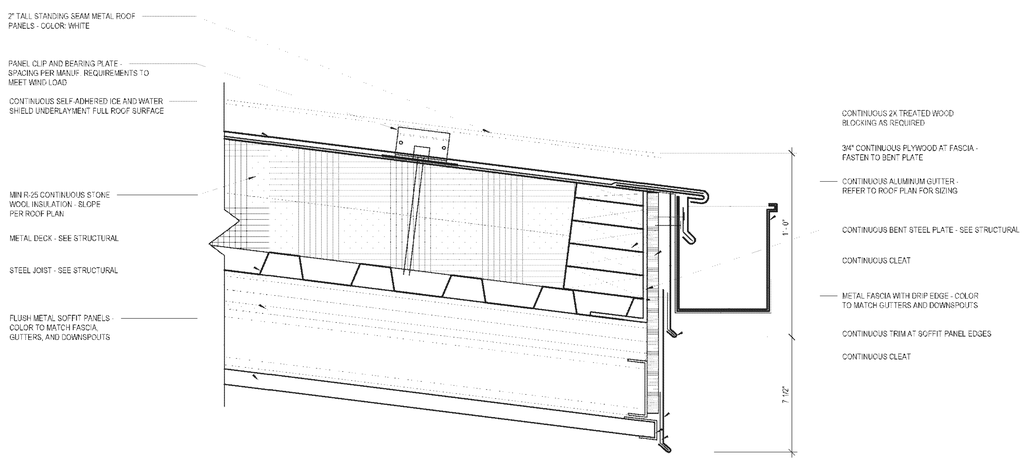


1 A527 ROOF DETAIL @ ADMIN EAVE
3" = 1'-0"

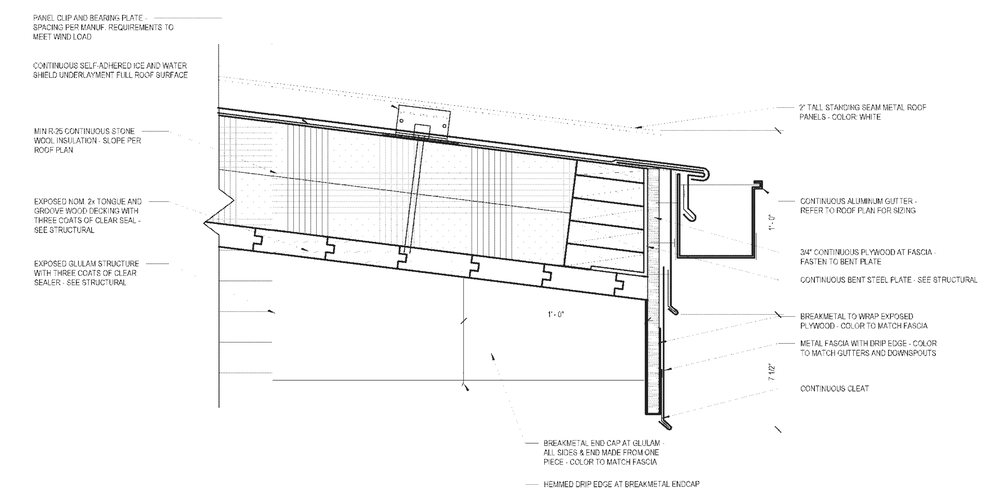


NOTE: GLULAM END CAPS - COORDINATE INSTALLATION W/ WOOD DECKING SO THESE ARE INSTALLED IN APPROPRIATE SEQUENCE

2 A527 ROOF DETAIL @ ENTRY
3" = 1'-0"



3 A527 ROOF DETAIL @ OFFICES
3" = 1'-0"



4 A527 ROOF DETAIL @ STANDING SEAM / GLULAM
3" = 1'-0"

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SEALS

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Melissa Corinne Hanson 11893 Registered Landscape Architect N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
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A527

ADMINISTRATION BUILDING - ROOF DETAILS

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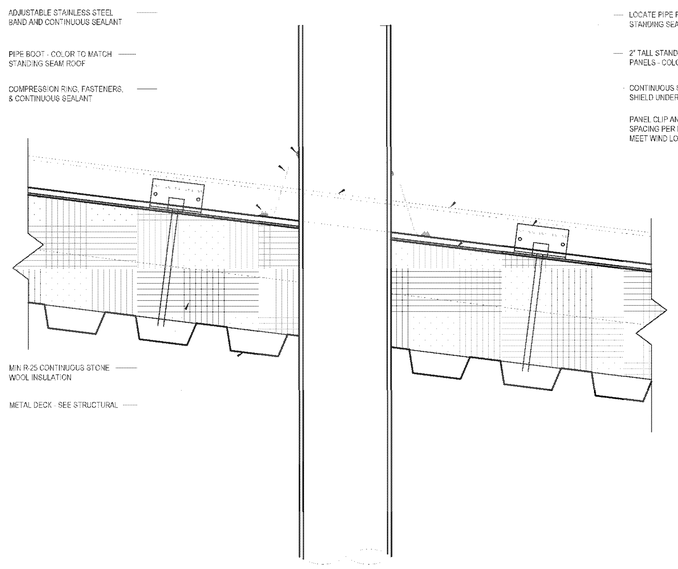
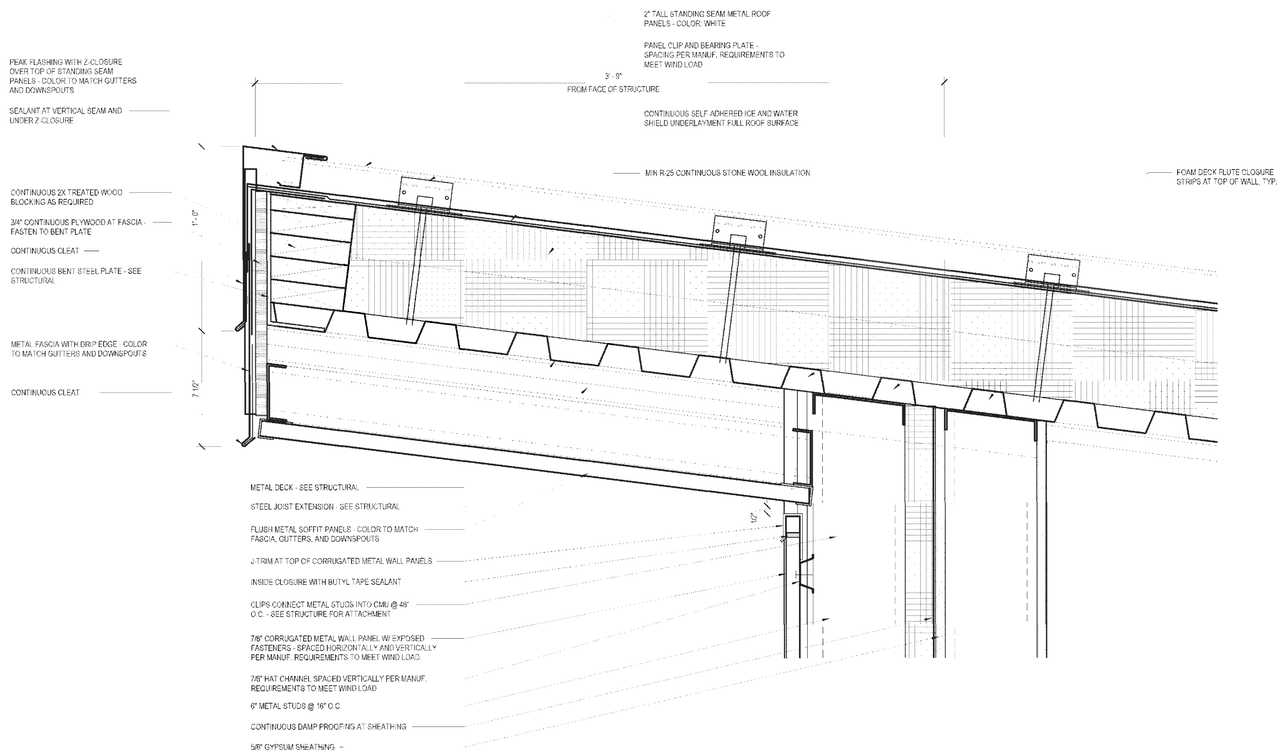
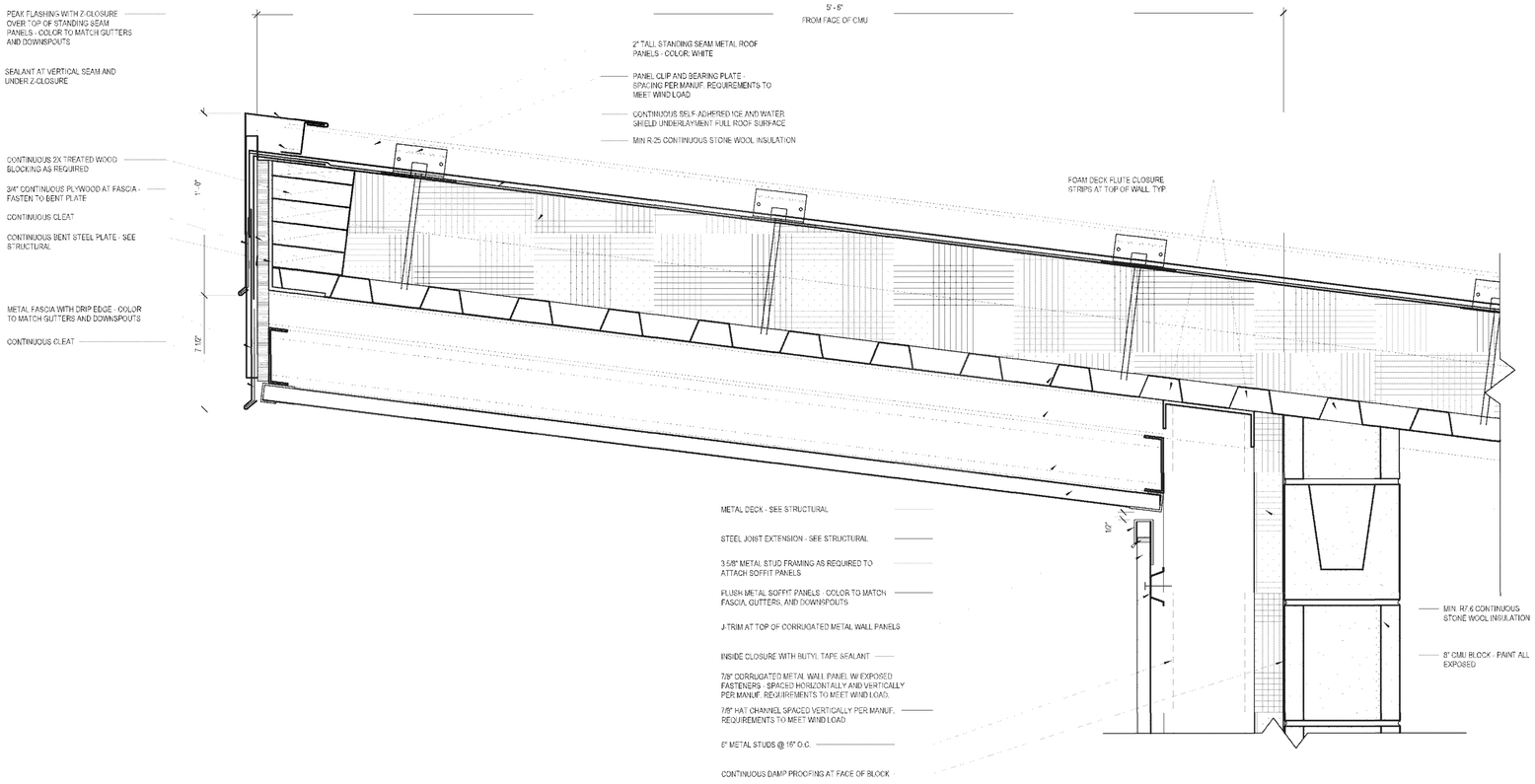


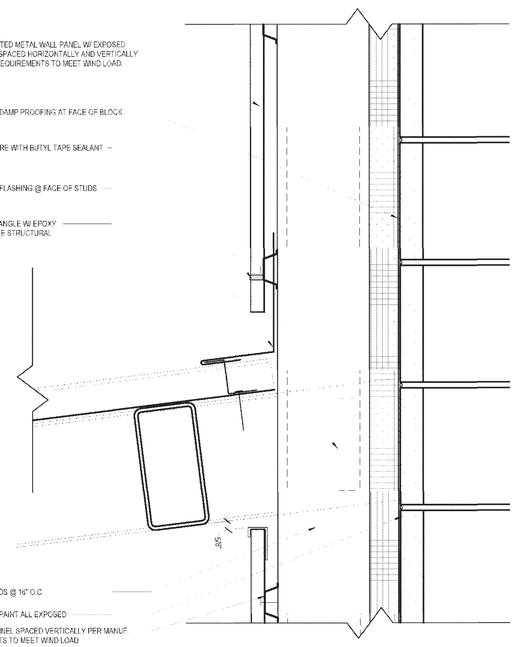
1 A528 ROOF DETAIL @ PENETRATION
3" = 1'-0"



2 A528 ROOF DETAIL @ LOCKER ROOM
3" = 1'-0"



3 A528 ROOF DETAIL @ MECHANICAL COURTYARD
3" = 1'-0"



4 A528 ROOF DETAIL @ PILASTER COLUMN
3" = 1'-0"

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SEALS

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Melissa Dunigan Hutchens 17693 Registered Landscape Architect North Carolina

5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
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SHEET INFORMATION

A528

ADMINISTRATION BUILDING - ROOF DETAILS

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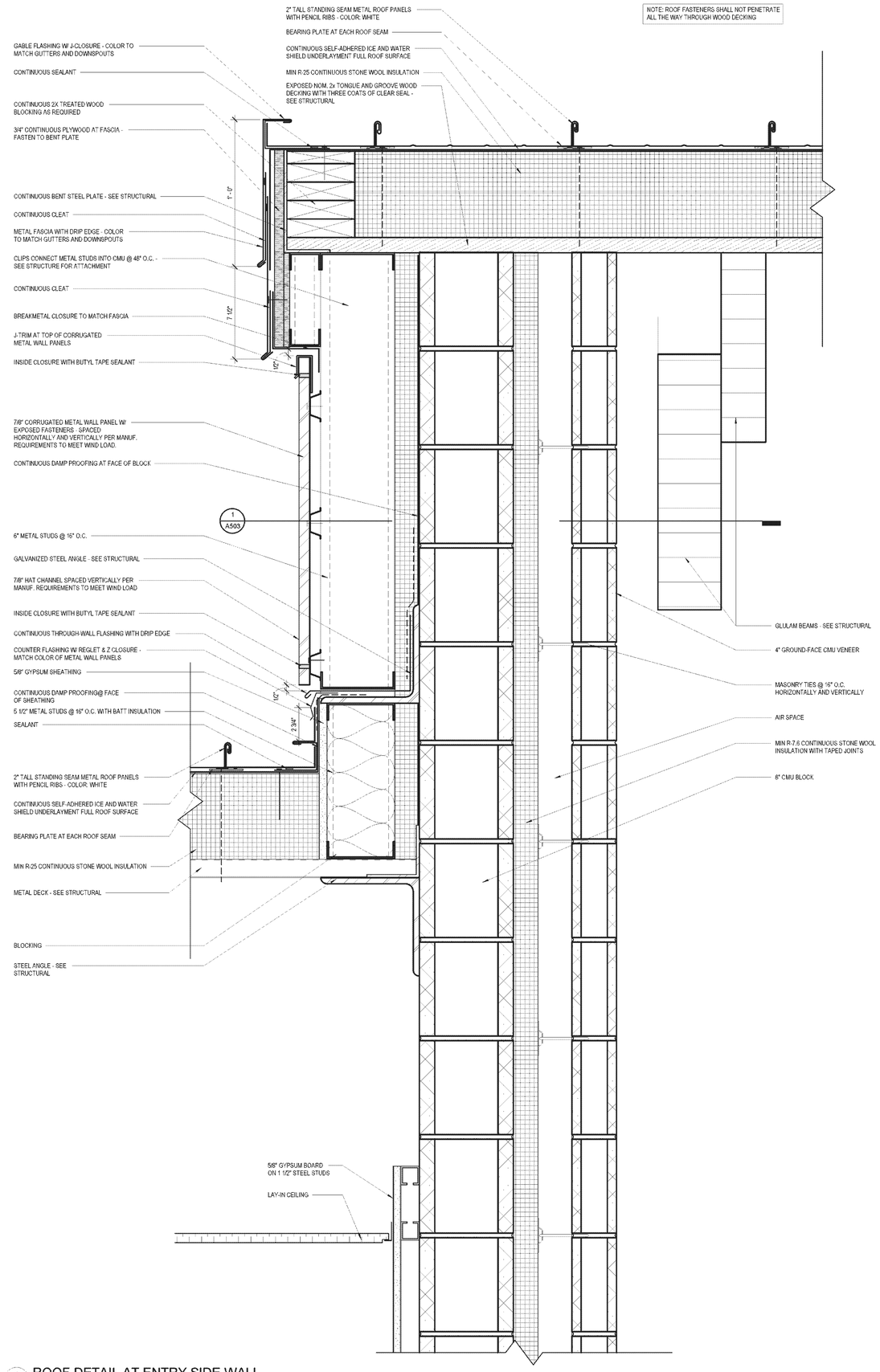
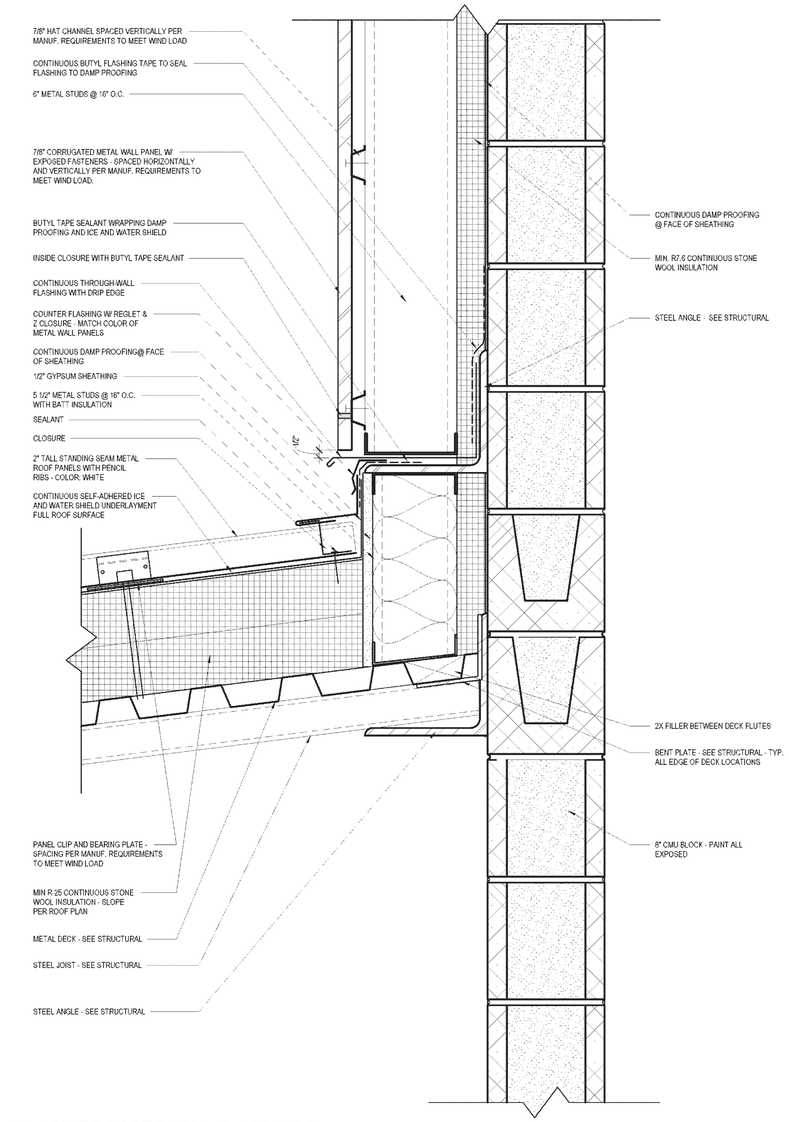
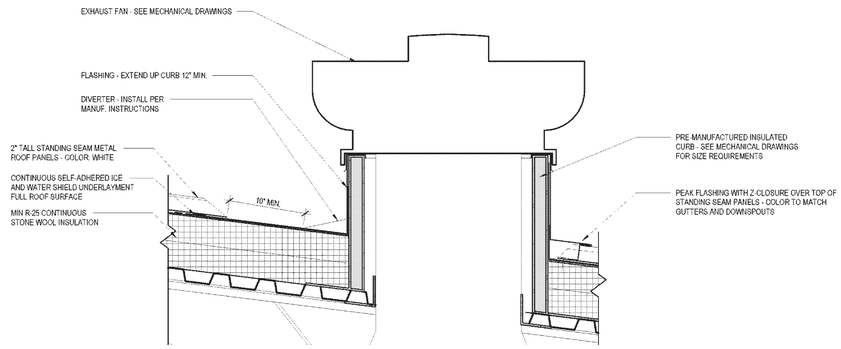


1 A529 ROOF DETAIL AT ENTRY SIDE WALL
3" = 1'-0"



2 A529 LOWER ROOF DETAIL @ LOCKERS
3" = 1'-0"



3 A529 ROOF CURB DETAIL
1 1/2" = 1'-0"

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5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
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NO.	DESCRIPTION	DATE
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SHEET INFORMATION

A529

ADMINISTRATION BUILDING - ROOF DETAILS

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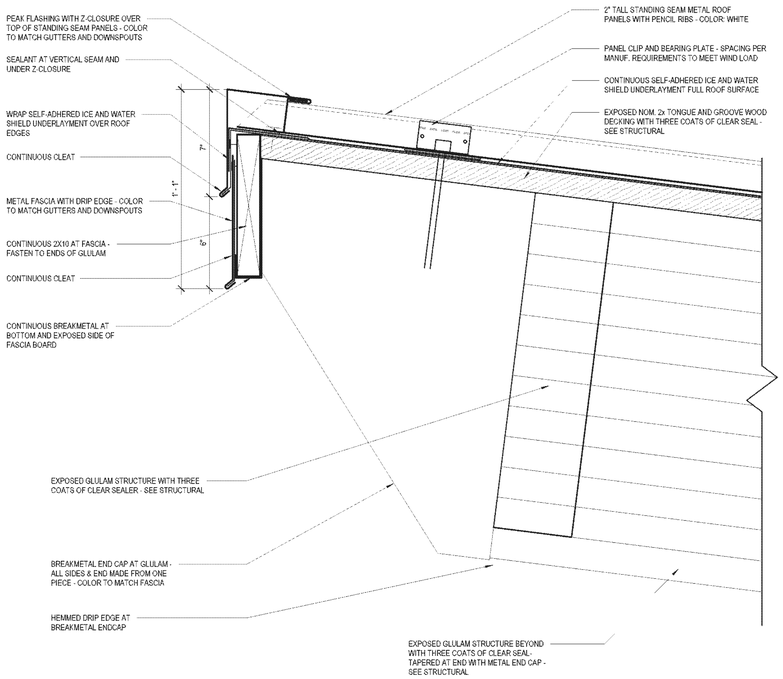
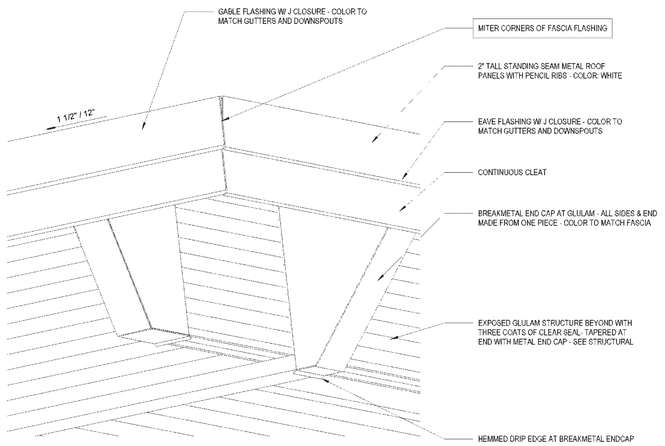
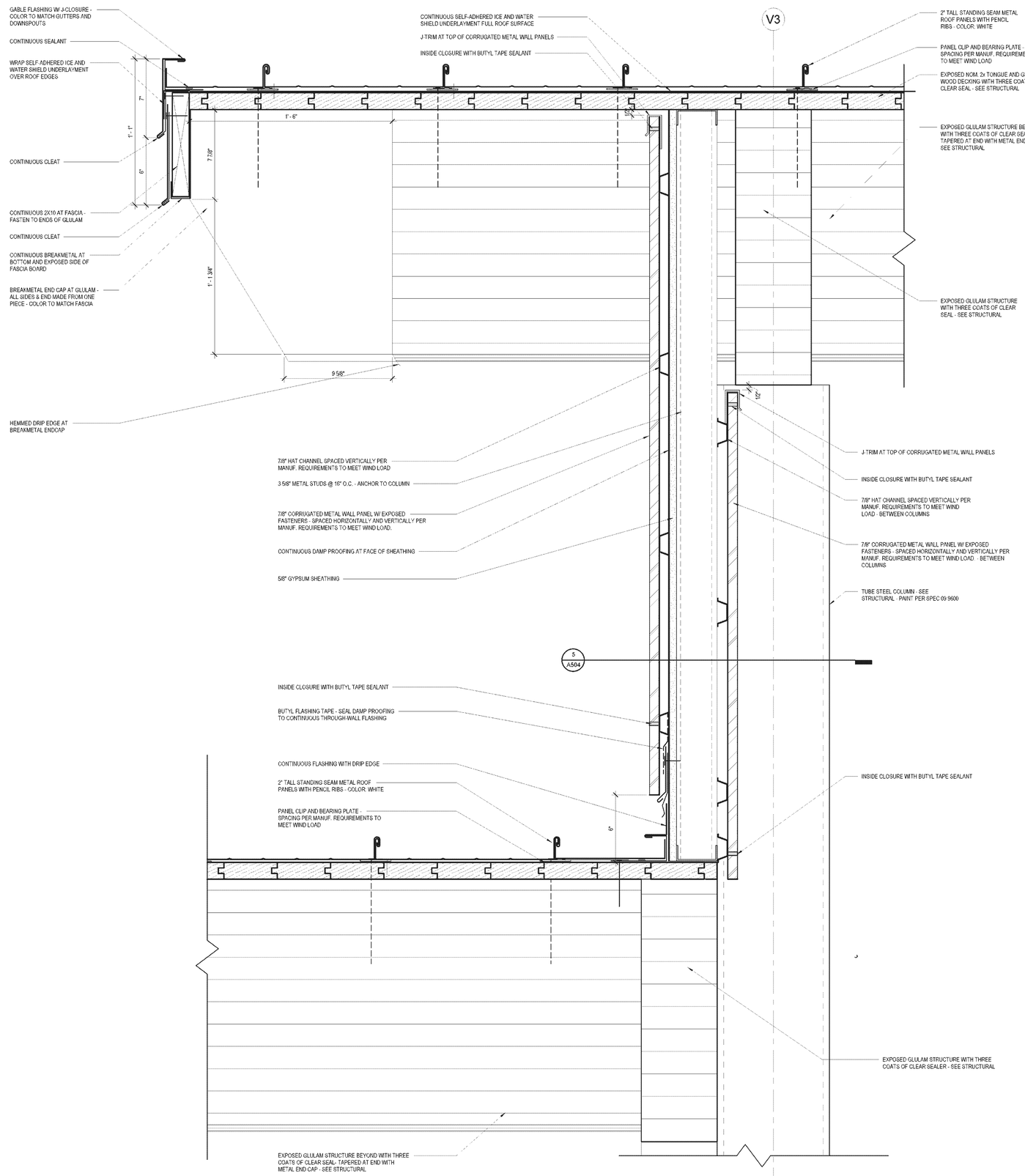


1 A530 **ROOF DETAIL AT VEHICLE SHED HIGH ROOF**
3" = 1'-0"



2 A530 **GLULAM ENDCAP AT LOW ROOF**



3 A530 **ROOF DETAIL AT HIGH AND LOW ROOFS**
3" = 1'-0"

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SEALS

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Melton Corner Partners 11883 Professional Engineer North Carolina Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
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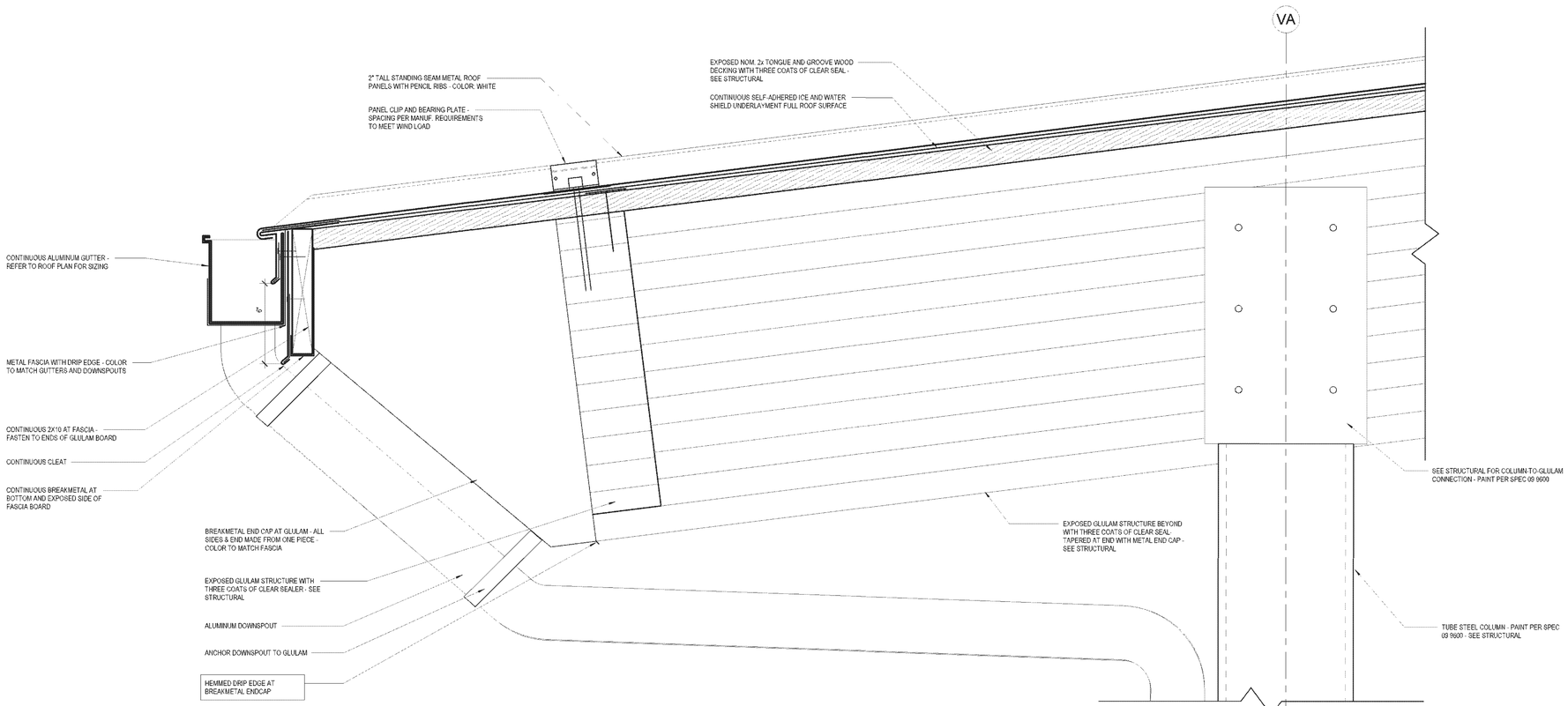
SHEET INFORMATION

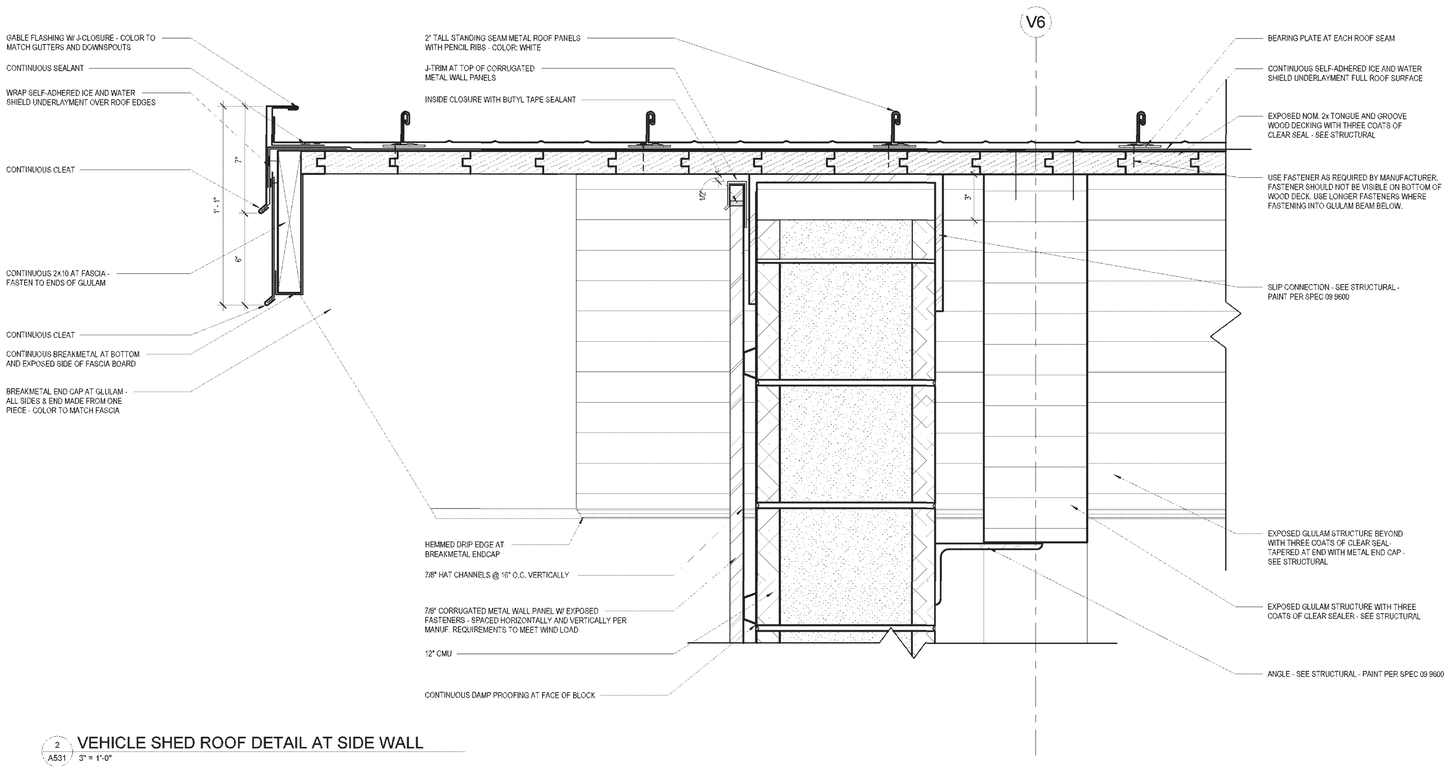
A530

VEHICLE SHED - ROOF DETAILS

Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA496A0A75E0



1 / A531 VEHICLE SHED DETAIL THROUGH ROOF END AND GUTTER
3" = 1'-0"



2 / A531 VEHICLE SHED ROOF DETAIL AT SIDE WALL
3" = 1'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

Esse Architects, P.A. 52498 Raleigh, N.C.

11883 Professional Engineer Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
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REVISIONS

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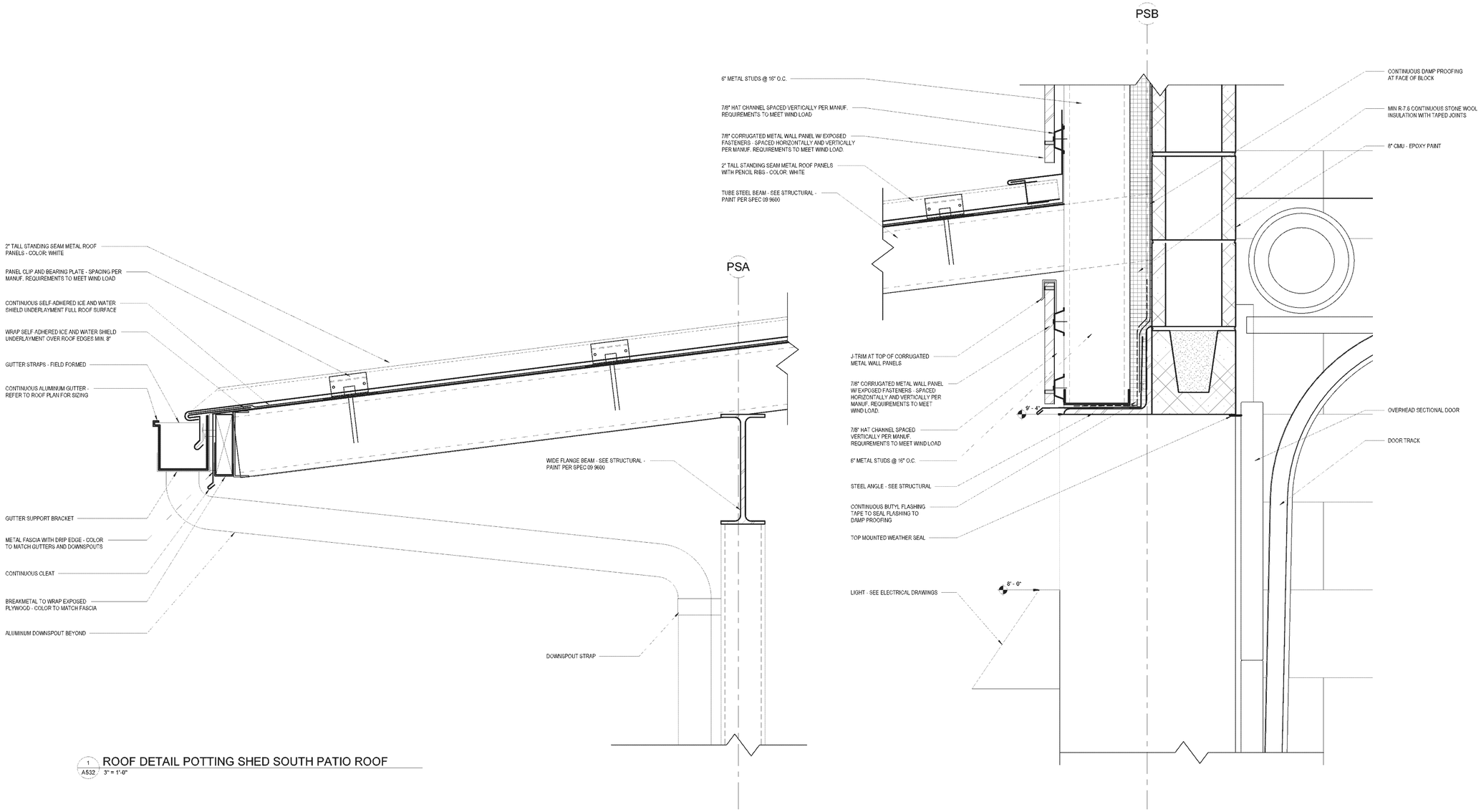
SHEET INFORMATION

A531
VEHICLE SHED - ROOF DETAILS

Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



1 A532 ROOF DETAIL POTTING SHED SOUTH PATIO ROOF
3" = 1'-0"

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Melinda Conner Potter 11983 Registered Landscape Architect Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
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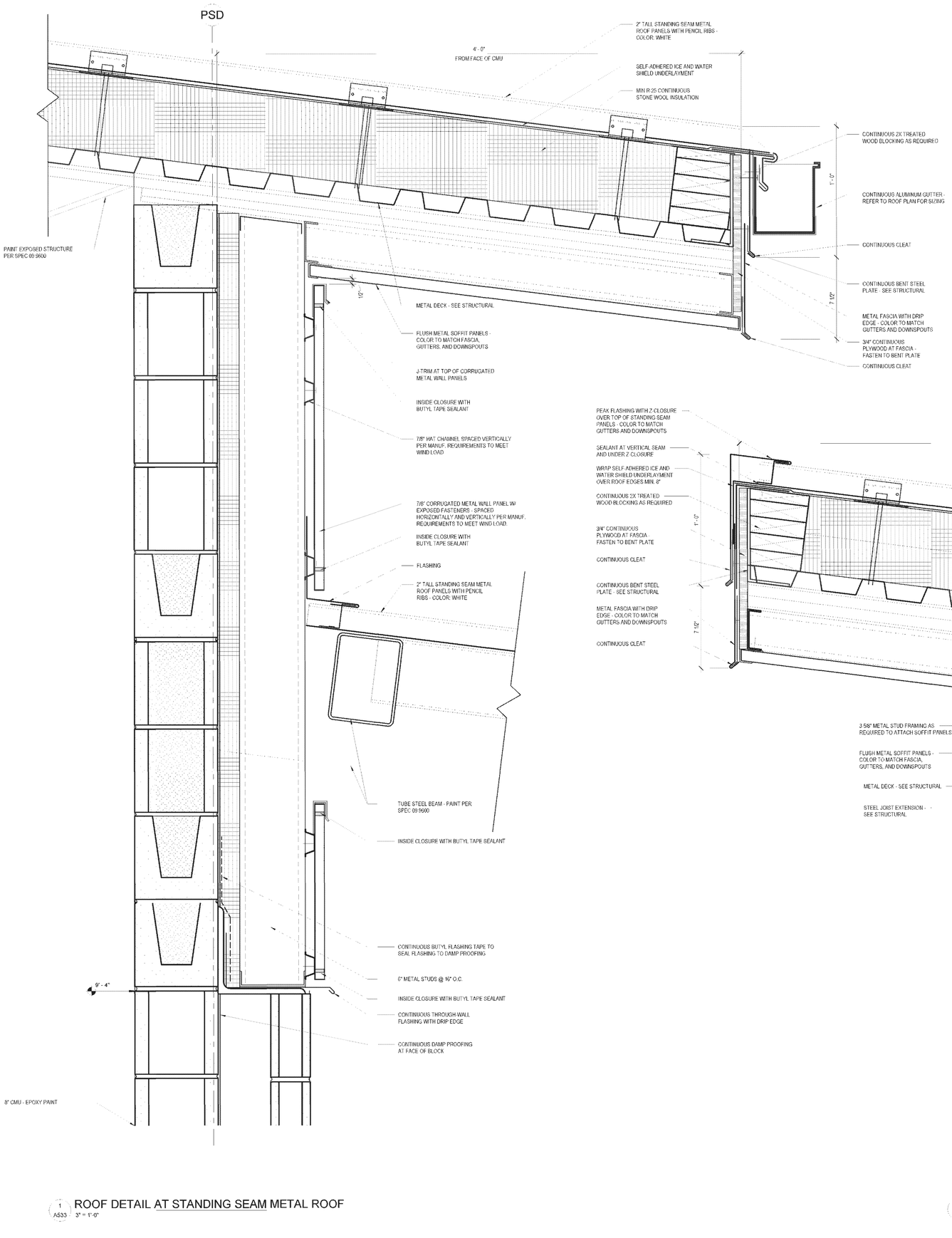
A532

POTTING SHED - ROOF DETAILS

Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0



1 A533 ROOF DETAIL AT STANDING SEAM METAL ROOF
3" = 1'-0"

2 A533 ROOF DETAIL @ POTTING SHED HIGH ROOF
3" = 1'-0"

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SEALS

Esse Architecture, P.A. 52498 Registered Architect North Carolina Raleigh, N.C.

Registered Professional Engineer 19683 North Carolina 5/22/2025

PROJECT INFORMATION

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PHASE:	BID DOCUMENTS
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SHEET INFORMATION

A533

POTTING SHED - ROOF DETAILS

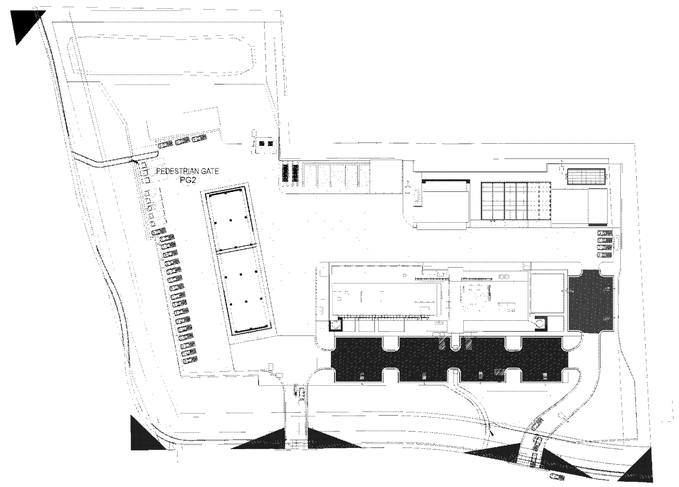
Docusign Envelope ID: 10B4A470-554B-4166-9F51-EA49640A75E0

DOOR SCHEDULE

NUMBER	DOOR HEIGHT	DOOR WIDTH	DOOR MATERIAL	DOOR FINISH	DOOR ELEVATION	FRAME MATERIAL	FRAME FINISH	FRAME ELEVATION	DETAIL HEAD	DETAIL JAMB	DETAIL SILL	HW	COMMENTS
100	7' - 4"	6' - 0"	AL	CLEAR	F	AL	CLEAR	C/A602	1/A524	2/A524	8/A521	01	CARD READER, DOOR POSITION SWITCH
100A	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	1/A602	6/A523	18/A522 15/A522	11/A524	07	
100B	7' - 0"	3' - 0"	-	-	-	HM	PAINT	1	5/A521	10/A521	-	-	CASED OPENING
101	7' - 4"	6' - 0"	AL	CLEAR	F	AL	CLEAR	I/A602	4/A521	6/A521	8/A521	01	CARD READER, DOOR POSITION SWITCH
101A	7' - 4"	6' - 0"	AL	CLEAR	F	AL	CLEAR	K/A602	21/A522	14/A522	-	04A	
101B	7' - 0"	3' - 0"	HM	PAINT	B	HM	PAINT	2	25/A522	26/A522 5/A503	13/A524	09	DOOR POSITION SWITCH
101C	7' - 4"	6' - 0"	AL	CLEAR	F	AL	CLEAR	H/A602	4/A521	5/A502 15/A521	15/A524	01	CARD READER, DOOR POSITION SWITCH
102	7' - 0"	3' - 0"	WD	CLEAR	B	HM	PAINT	1	3/A522	10/A522	11/A524	10	CARD READER, DOOR POSITION SWITCH
103	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	B/A602	6/A523	2/A501	11/A524	11	
104	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	C/A602	6/A523	18/A522 2/A503	11/A524	08	
105	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	C/A602	6/A523	18/A522 17/A522	11/A524	08	
106	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	C/A602	6/A523	18/A522 17/A522	11/A524	08	
107	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	C/A602	6/A523	18/A522 17/A522	11/A524	08	
108	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	C/A602	6/A523	18/A522 17/A522	11/A524	08	
109	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	C/A602	6/A523	18/A522 17/A522	11/A524	08	
110	7' - 4"	3' - 0"	WD	CLEAR	A	AL	CLEAR	D/A602	6/A523	17/A522	11/A524	11	
111	7' - 4"	3' - 0"	AL	CLEAR	E	AL	CLEAR	C/A602	4/A521	7/A501 6/A521	8/A521	02	CARD READER, DOOR POSITION SWITCH
112	7' - 0"	6' - 0"	WD	CLEAR	C	HM	PAINT	1	3/A522	10/A522	13/A524	12	
113	7' - 0"	3' - 0"	WD	CLEAR	A	HM	PAINT	1	3/A522	10/A522	-	13	
114	7' - 0"	3' - 0"	WD	CLEAR	A	HM	PAINT	1	3/A522	10/A522	-	13	
115	7' - 0"	3' - 0"	WD	CLEAR	A	HM	PAINT	1	6/A522	12/A522	-	14	
116	7' - 4"	6' - 0"	AL	CLEAR	F	AL	CLEAR	L/A602	4/A521	15/A521	8/521	01	CARD READER, DOOR POSITION SWITCH
116A	7' - 4"	3' - 0"	AL	CLEAR	E	AL	CLEAR	M/A602	4/A521	11/A521 15/A521	16/A524	02A	DOOR POSITION SWITCH
116B	7' - 0"	6' - 0"	WD	CLEAR	C	HM	PAINT	1	3/A522	10/A522	-	15	
116C	7' - 4"	6' - 0"	AL	CLEAR	F	AL	CLEAR	S/A602	6/A523	14/A522	-	04	
117	7' - 0"	3' - 0"	WD	CLEAR	B	HM	PAINT	2	1/A522	9/A522 10/A501	9/A524	16	
117A	7' - 0"	3' - 0"	WD	CLEAR	B	HM	PAINT	2	1/A522	9/A523	13/A524	17	
118A	7' - 0"	3' - 0"	WD	CLEAR	A	HM	PAINT	1	3/A522	10/A522	10/A524	17	
118B	7' - 0"	3' - 0"	WD	CLEAR	A	HM	PAINT	1	4/A522	11/A522	10/A524	18	
118C	7' - 0"	3' - 0"	WD	CLEAR	A	HM	PAINT	1	4/A522	11/A522	10/A524	18	
119	7' - 0"	3' - 0"	HM	PAINT	A	HM	PAINT	2	1/A503	1/A501 19/A523	16/A524	05	
120	7' - 0"	6' - 0"	HM	PAINT	C	HM	PAINT	2	2/A522	24/A522	12/A524	19	
120A	7' - 0"	6' - 0"	HM	PAINT	C	HM	PAINT	1	3/A522	10/A522	12/A524	20	
120B	7' - 0"	6' - 0"	HM	PAINT	G	HM	PAINT	2	25/A522	26/A522	13/A524	21	
121	7' - 0"	6' - 0"	HM	PAINT	C	HM	PAINT	3	12/A521	10/A523	16/A524	06	
121A	7' - 0"	3' - 0"	HM	PAINT	A	HM	PAINT	2	2/A522	2/A522	12/A524	22	
122	7' - 4"	3' - 0"	AL	CLEAR	E	AL	CLEAR	E/A602	1/A523	11/A521 15/A521	16/A524	03	DOOR POSITION SWITCH
122A	7' - 0"	3' - 0"	HM	PAINT	B	HM	PAINT	2	11/A523	10/A523	16/A524	05A	DOOR POSITION SWITCH
122B	12' - 0"	12' - 0"	STL	PAINT	H	STL	PAINT	-	12/A523	1/A502 2/A502 4/A502	17/A524		OVERHEAD DOOR
123	7' - 4"	3' - 0"	AL	CLEAR	E	AL	CLEAR	F/A602	1/A523	1/A521 15/A521	16/A524	03	DOOR POSITION SWITCH
123A	7' - 0"	3' - 0"	HM	PAINT	B	HM	PAINT	2	11/A523	10/A523	16/A524	05A	DOOR POSITION SWITCH
123B	12' - 0"	12' - 0"	STL	PAINT	H	STL	PAINT	-	12/A503	1/A502 2/A502	17/A524		OVERHEAD DOOR
123C	7' - 0"	6' - 0"	HM	PAINT	D	HM	PAINT	2	1/A522	9/A523	9/A524	23	DUTCH DOORS, BOTH LEAVES
123D	7' - 0"	6' - 0"	HM	PAINT	C	HM	PAINT	2	1/A522	9/A522	12/A524	20	
124	7' - 4"	3' - 0"	AL	CLEAR	E	AL	CLEAR	E/A602	1/A523	11/A521 15/A521	16/A524	03	DOOR POSITION SWITCH
124A	7' - 0"	3' - 0"	HM	PAINT	B	HM	PAINT	2	11/A503	10/A523	16/A524	05A	DOOR POSITION SWITCH
124B	12' - 0"	12' - 0"	STL	PAINT	H	STL	PAINT	-	12/A523	1/A502 2/A502	17/A524		OVERHEAD DOOR
125	7' - 0"	3' - 0"	HM	PAINT	B	HM	PAINT	2	1/A522	9/A523	9/A524	24	
125A	7' - 0"	3' - 0"	HM	PAINT	B	HM	PAINT	2	11/A523	10/A523	16/A524	05A	DOOR POSITION SWITCH
125B	12' - 0"	8' - 0"	STL	PAINT	H	STL	PAINT	-	12/A523	1/A502 2/A502	17/A524		OVERHEAD DOOR
300	7' - 0"	3' - 0"	HM	PAINT	A	HM	PAINT	2	11/A523	8/A504	16/A524	05	
300A	7' - 0"	3' - 0"	HM	PAINT	A	HM	PAINT	2	11/A503	8/A504	16/A524	05	
300B	9' - 4"	9' - 0"	STL	PAINT	I	STL	PAINT	-	12/A503	1/A502 2/A502	17/A524		OVERHEAD DOOR
300C	7' - 0"	3' - 0"	HM	PAINT	A	HM	PAINT	2	11/A523	10/A523	16/A524	05	
301	7' - 0"	3' - 0"	HM	PAINT	A	HM	PAINT	2	11/A503	8/A504	16/A524	05	
301A	7' - 0"	3' - 0"	HM	PAINT	A	HM	PAINT	2	11/A523	9/A504	16/A524	05	
301B	9' - 4"	8' - 0"	STL	PAINT	I	STL	PAINT	-	12/A523	1/A502 2/A502	17/A524		OVERHEAD DOOR
PG1	8' - 0"	4' - 0"										25	PEDESTRIAN GATE - SEE SITE DRAWINGS & DOOR HARDWARE SCHEDULE
PG2	8' - 0"	4' - 0"										25	PEDESTRIAN GATE - SEE SITE DRAWINGS & DOOR HARDWARE SCHEDULE

DOOR HARDWARE NOTES:

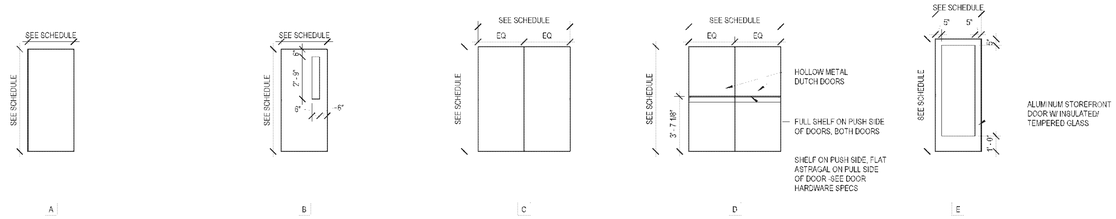
1. GC IS RESPONSIBLE FOR RUNNING CONDUIT FOR DOORS WITH ACCESS CONTROL OR POWERED DEVICES. THE OWNER'S SECURITY VENDOR WILL INSTALL WIRING AND ACCESS CONTROL DEVICES LIKE CARD READERS, DOOR POSITION SWITCHES, ETC.
2. DOOR HARDWARE FOR THE ADMINISTRATION BUILDING, POTTING SHED, AND PEDESTRIAN GATES IS SPECIFIED IN THE CONTRACT DOCUMENTS IN THE GENERAL CONTRACTORS SCOPE.
3. GREENHOUSE AND COLDFRAME DOORS AND HARDWARE ARE INCLUDED WITH THE GREENHOUSE PACKAGE AND WILL BE KEYED ALIKE FOR THOSE STRUCTURES, BUT WILL HAVE A DIFFERENT KEYING SCHEME THAN THE OTHER BUILDINGS.



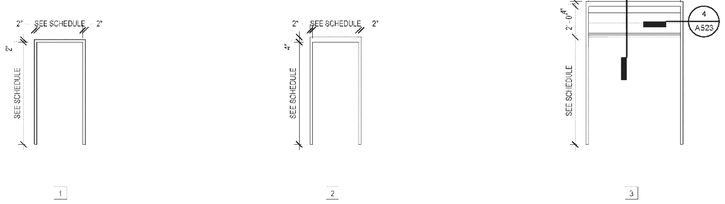
9 / A601 — PEDESTRIAN GATE LOCATIONS
1" = 80'-0"

ELECTRIC OVERHEAD DOOR OPERATION IS AN ADD-ALTERNATE. SEE ALTERNATE NO. 1 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

DOOR ELEVATIONS



FRAME ELEVATIONS



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SEALS

Esse Architecture, P.A. — 52498 — Raleigh, N.C. — North Carolina Board of Examiners for Engineers and Surveyors

Notarial Stamp — 5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	ADF, EMK
CHECKED BY:	MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

A601
DOOR SCHEDULE

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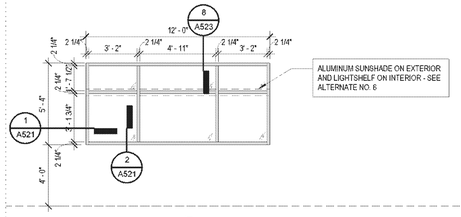

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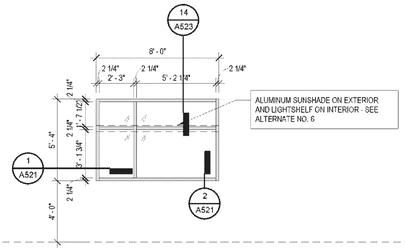

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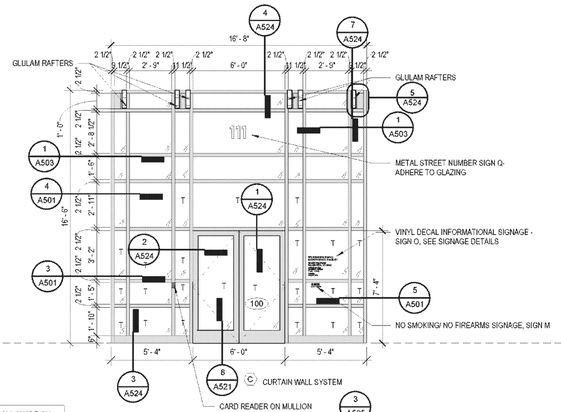

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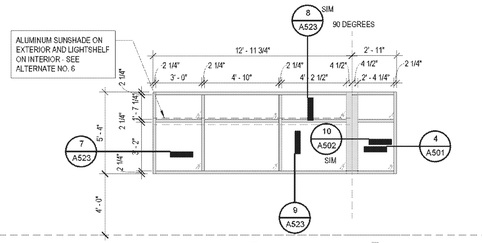


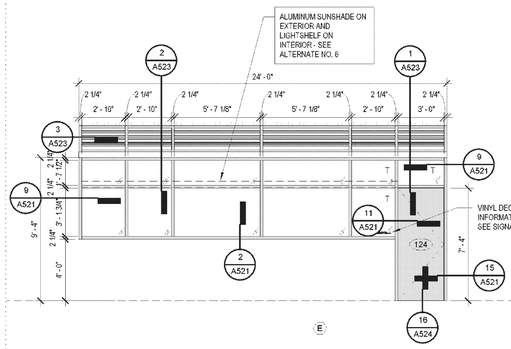
D D1

NOTES
1. GC TO FIELD VERIFY ALL ROUGH OPENING DIMENSIONS
2. ALL STOREFRONT CLEAR ANODIZED
3. T= TEMPERED GLASS LOCATIONS
4. EXTERIOR STOREFRONT AND CURTAIN WALL TO HAVE 1" INSULATED GLASS - SEE LOCATIONS NOTED FOR TEMPERED GLASS
5. INTERIOR STOREFRONT TO HAVE 1/4" TEMPERED GLASS
6. ALL STOREFRONT MULLION PROFILES ARE 2" X 4 1/2" W/ 4 1/2" X 4 1/2" CORNER MULLIONS.
7. ALL CURTAIN WALL MULLION PROFILES ARE 2 1/2" X 6".

SUNSHADES AND LIGHT SHELVES ARE AN ADD-ALTERNATE. SEE ALTERNATE NO. 6 IN PROJECT MANUAL SECTION 01 2300 - ALTERNATES

VERTICAL MULLIONS WITH STEEL REINFORCING PER MANUF. REQUIREMENTS TYP. ALL WINDOWS WITH SUNSHADES

IF ALTERNATE NO. 6 IS NOT ACCEPTED, SUPPLY 2" MULLIONS TO MATCH OTHER STOREFRONT



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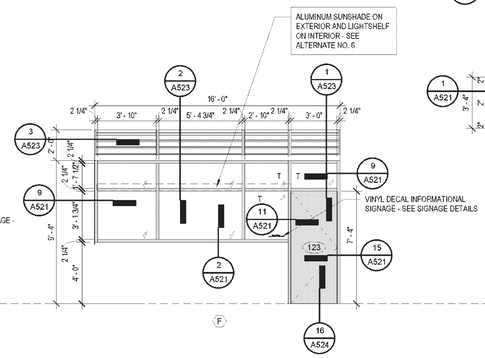

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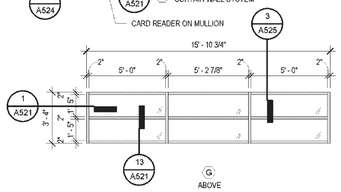

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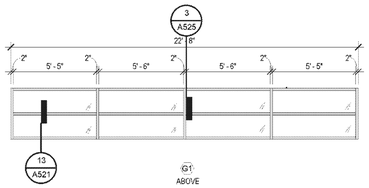

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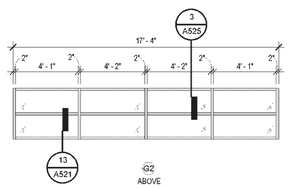

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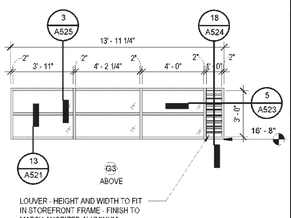

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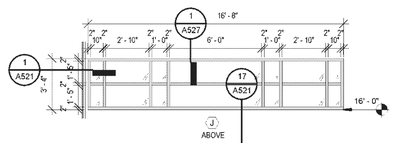

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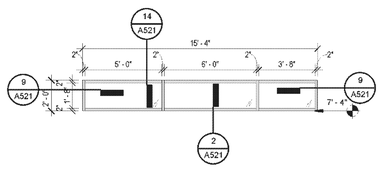

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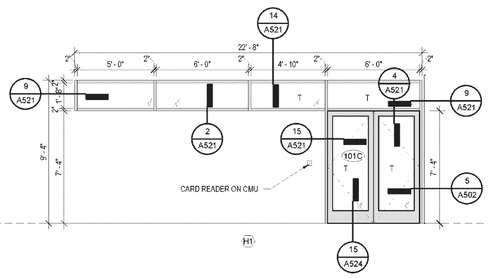

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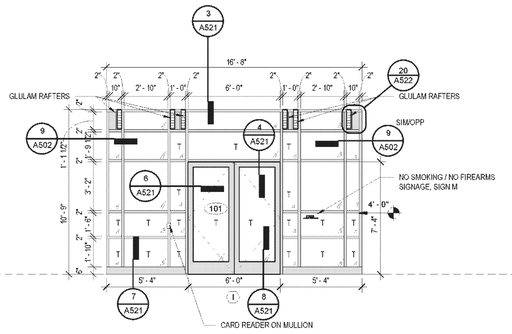

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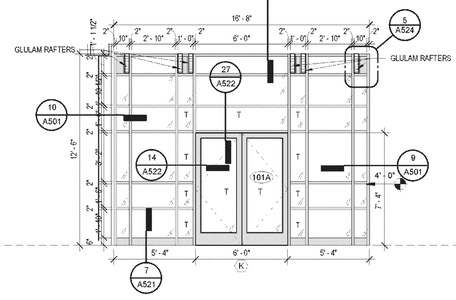

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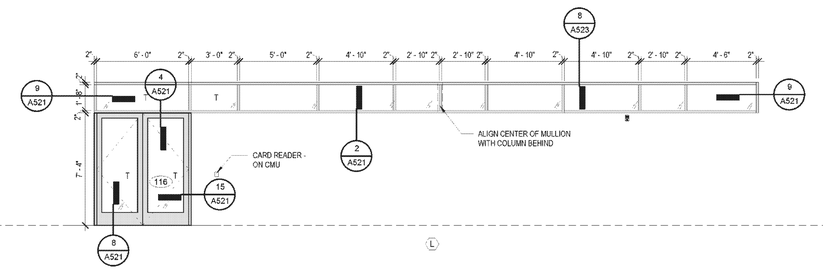

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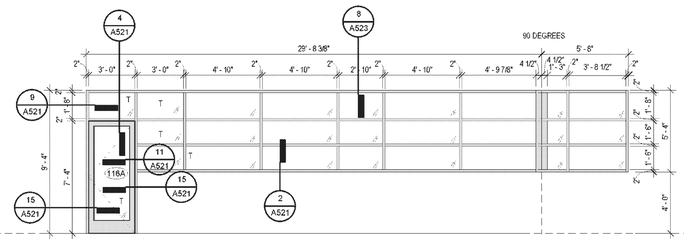

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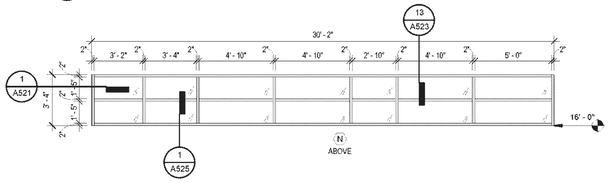

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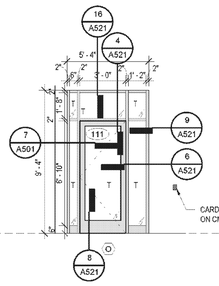

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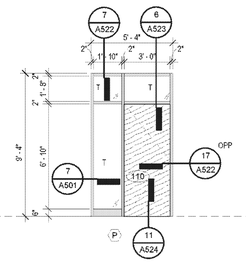

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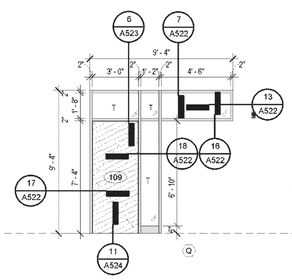

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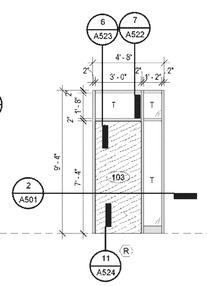

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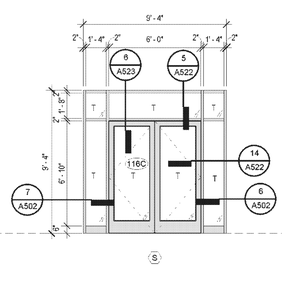

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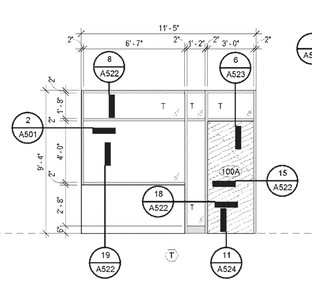

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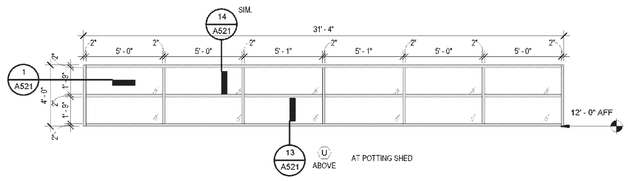

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Esse Architects, P.A. 52498 Raleigh, N.C.

Melinda Corinne Pittman 11693 Engineer Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: ADF, EMK, MDP
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
1	TITLE BLOCK REVISION	03.21.2025

SHEET INFORMATION

A602

WINDOW SCHEDULE

PHASE I EROSION CONTROL NARRATIVE AND CONSTRUCTION SEQUENCE

1. CONTACT THE DEMLR WILMINGTON REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO COMMENCING THE LAND-DISTURBING ACTIVITY. THE CONTACT NUMBER IS (919) 791-4200.
2. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES CAN OCCUR.
3. ALL CONSTRUCTION SHALL COMPLY WITH DEMLR STANDARDS AND SPECIFICATIONS.
4. PER NPDES REQUIREMENTS, A RAIN GAUGE, SELF-INSPECTION RECORDS, PERMIT, CERTIFICATE OF COVERAGE, AND S&E PLAN ARE REQUIRED TO BE MAINTAINED ON SITE AND ACCESSIBLE DURING INSPECTION. IT IS RECOMMENDED THAT THESE ITEMS BE PLACED IN A PERMITS BOX AT THE BEGINNING OR ENTRANCE OF PROJECT.
5. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
6. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
7. SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1 INCH. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED. ALL ESC MEASURES REPAIRS SHALL BE MAINTAINED AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT SITE FOR MONITORING.
8. A COPY OF THE APPROVED EROSION CONTROL PLAN MUST BE ON FILE AT THE JOB SITE AT ALL TIMES.
9. FAILURE TO FOLLOW THE APPROVED PLAN, SEQUENCE AND DETAILS COULD SUBJECT THE CONTRACTOR TO FINES AND PENALTIES ISSUED BY DEQ.
10. FIELD VERIFY ALL DIMENSIONS AND GRADES ON THESE PLANS PRIOR TO CONSTRUCTION. FAILURE TO NOTIFY THE OWNER AND CIVIL ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH PLAN OR GRADE CHANGES. MAY RESULT IN NO EXTRA COMPENSATION PAID TO THE CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY.
11. EXCAVATION AND EARTH MOVING OPERATIONS SHALL BE CONDUCTED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER.
12. VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. EXISTING UTILITIES SHOWN ARE FROM THE BEST AVAILABLE RECORDS FROM A SURVEY OF ABOVE GROUND FEATURES. NO WARRANTY IS GIVEN OR IMPLIED AS TO THE ACCURACY OF THE INFORMATION. ALL EXISTING UTILITIES SHOULD BE CONSIDERED APPROXIMATE IN LOCATIONS AND VERIFIED PRIOR TO COMMENCING ACTIVITY ON SITE.
13. ALL ADJACENT ROADS TO THE SITE ARE TO BE SWEPT AND WASHED AT THE END OF EACH WORK DAY TO ENSURE NO SEDIMENT COLLECTS ON THE ROADWAY.
14. INSPECT AND PROPERLY MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND AFTER EVERY RAINFALL EVENT.
15. INSTALL ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT SEDIMENT RUNOFF.
16. CONCRETE WASHOUT TO BE LOCATED A MINIMUM OF 50' FROM ANY DRAINAGE STRUCTURE.
17. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS.
18. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, ENFORCEMENT OFFICER, OR OTHER GOVERNING AGENCY.
19. WHEN PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITTEE SHALL VISIT DEQ.NC.GOV/NCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (E-NOT). A $120 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE E-NOT HAS BEEN FILLED OUT.

PHASE I EROSION CONTROL LEGEND

- SILT FENCE OUTLET
- SILT FENCE
- TPF — TP — TPF: TREE PROTECTION FENCE
- CONSTRUCTION ENTRANCE
- INLET PROTECTION
- CL: COIR LOG
- POROUS BAFFLE (PB)
- LOD: LIMITS OF DISTURBANCE
- DIVERSION DITCH
- TEMPORARY CHECK DAM

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PROJECT LOCATION
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WILMINGTON, NC

CONSULTANTS

LANDSCAPE ARCHITECTURE + CIVIL ENGINEERING
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MECHANICAL, ELECTRICAL, & PLUMBING
SIGMA ENGINEERED SOLUTIONS
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LYSAGHT & ASSOCIATES
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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 034374 ENGINEER Brenden L. McLamb 01/13/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

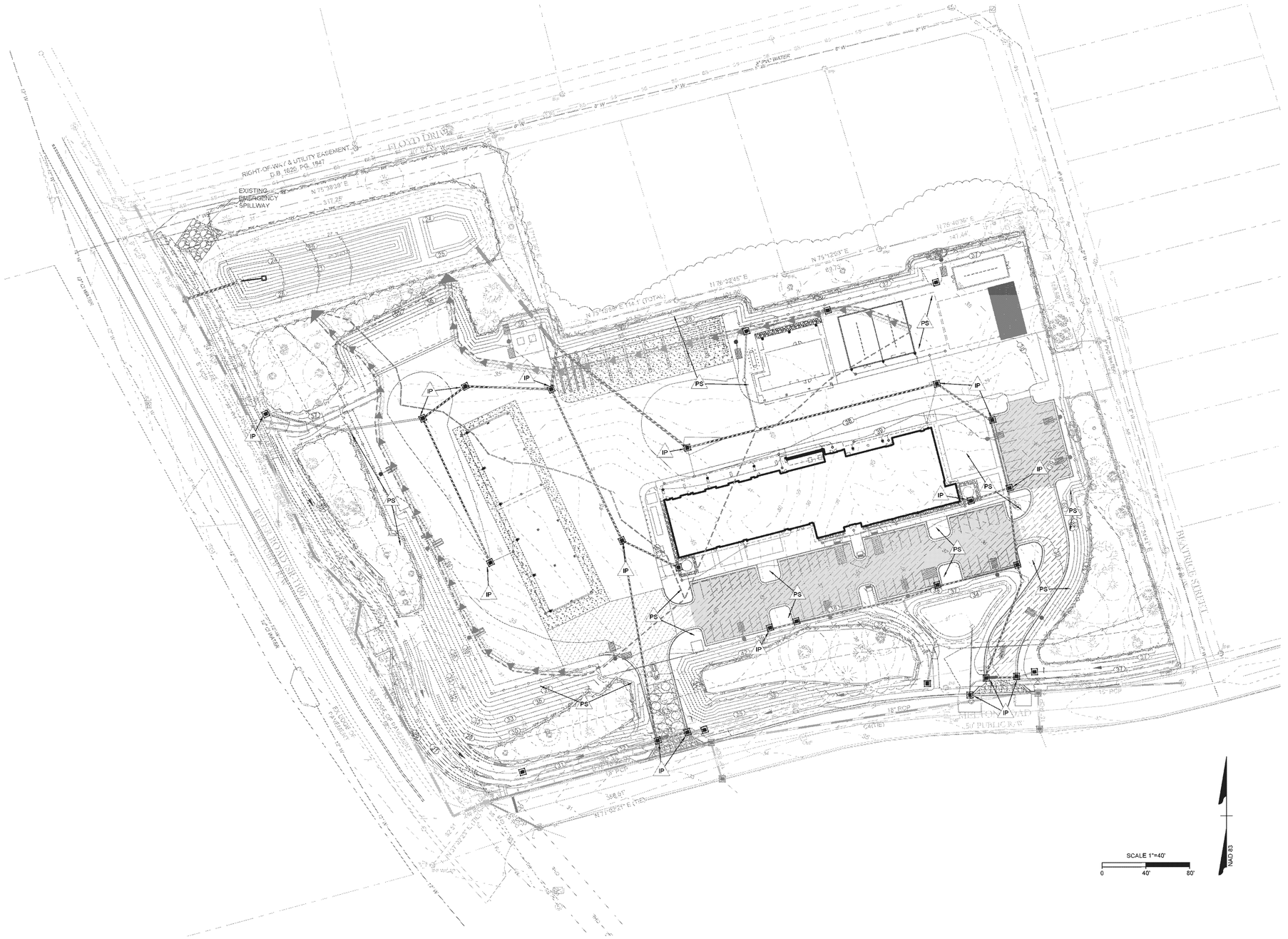
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

C-100

EROSION AND SEDIMENT CONTROL - PHASE 1



PHASE II EROSION CONTROL NARRATIVE AND CONSTRUCTION SEQUENCE

1. ALL PHASE I SEDIMENTATION AND EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AND OPERATIONAL THROUGHOUT PHASE II IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS. THIS IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
3. BEGIN GRADING OPERATIONS ONSITE.
4. INSTALL THE STORM DRAINAGE AS SHOWN ON DRAWING C-200. UTILIZE PLYWOOD AND STONE FILTER PROTECTION AND INLET PROTECTION FOR DROP INLETS AND PIPES UNDER CONSTRUCTION.
5. ALL DISTURBED AREAS ARE TO BE SEEDED.

   a. PERMANENT GROUNDCOVER SHALL BE ESTABLISHED IN 15 WORKING DAYS OR 90 CALENDAR DAYS, WHICHEVER IS SHORTER. HOWEVER, NPDES GROUNDCOVER REQUIREMENTS TAKE PRECEDENCE.

   b. PERMANENT SEEDING TO COMMENCE AND USE SEEDING AND MULCHING FOR PERMANENT SEDIMENTATION AND EROSION CONTROL MEASURES ON ALL DISTURBED AREAS THAT ARE PERVIOUS.
6. AFTER SITE IS PERMANENTLY STABILIZED, REMOVE ALL TEMPORARY MEASURES.
7. WHEN THE PROJECT IS COMPLETE, THE PERMITEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITEE SHALL VISIT DEQ.NC.GOV/MCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (E-NOT). A $120 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE E-NOT HAS BEEN FILED.

EROSION CONTROL PHASE II LEGEND

PS	PERMANENT SEEDING
IP	INLET PROTECTION

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034374 01/13/2025 Brendan L. McLaurin

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

REVISIONS

NO.	DESCRIPTION	DATE
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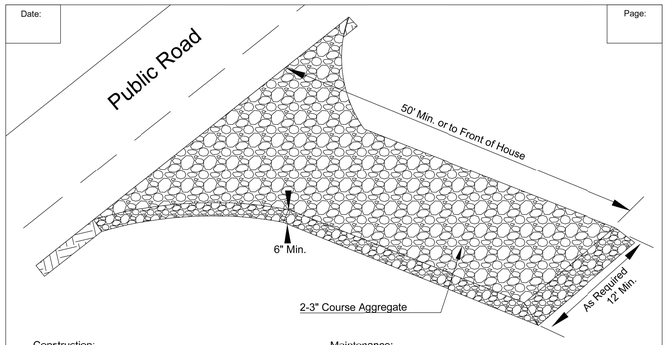
SHEET INFORMATION

C-101

EROSION AND SEDIMENT CONTROL - PHASE 2

Date: Page:



Construction:
1. Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade it.
2. Place the gravel to the specific grade and dimensions shown on the plans, and smooth it.
3. Provide drainage to carry water to a sediment trap or other suitable outlet.
4. Use geotextile fabrics in order to improve stability of the foundation in locations subject to seepage or high water table.

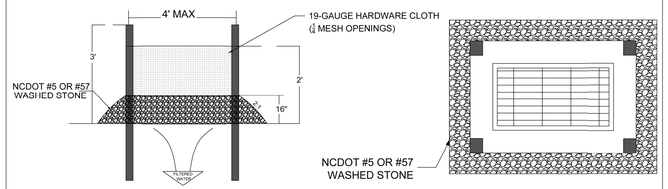
Maintenance:
1. Per NCG-01 inspect at least once a week and after each 1 inch or greater rainfall; make any required repairs immediately.
2. Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site. This may require periodic topdressing with 2 inch stone.
3. Immediately remove all objectionable materials spilled, washed or tracked onto public roadways.

NORTH CAROLINA Environmental Quality
EFFECTIVE DATE: 11/12/2020

CONSTRUCTION ENTRANCE / EXIT

1 CONSTRUCTION ENTRANCE / EXIT
NTS

Date: Page:



Construction:
1. Uniformly grade a shallow depression approaching the inlet.
2. Drive 5-foot steel posts 2 feet into the ground surrounding the inlet. Space posts evenly around the perimeter of the inlet, a maximum of 4 feet apart.
3. Surround the posts with wire mesh hardware cloth. Secure the wire mesh to the steel posts at the top, middle, and bottom. Placing a 2-foot flap of the wire mesh under the gravel for anchoring is recommended.
4. Place clean gravel (NC DOT #5 or #57 stone) on a 2:1 slope with a height of 16 inches around the wire, and smooth to an even grade.
5. Once the contributing drainage area has been stabilized, remove accumulated sediment, and establish final grading elevations.
6. Compact the area properly and stabilize with groundcover.

Maintenance:
1. Inspect sediment fences at least once a week and after each 1 inch or greater rainfall. Make any required repairs immediately.
2. Clear the mesh wire of any debris or other objects to provide adequate flow for subsequent rains. Take care not to damage or undercut the mesh during sediment removal.
3. Replace stone as needed.

NORTH CAROLINA Environmental Quality
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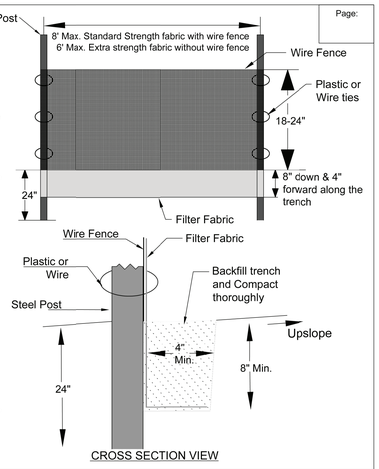
INLET PROTECTION

2 INLET PROTECTION
NTS

Date: Page:

Construction:
1. Construct the sediment barrier of standard strength or extra strength synthetic filter fabrics.
2. Ensure that the height of the sediment fence does not exceed 24 inches above the ground. (Higher fences may impound volumes of water sufficient to cause failure of the structure.)
3. Construct the filter fabric from a continuous roll cut to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with 4 feet minimum overlap to the next post.
4. Support standard strength filter fabric by wire mesh fastened securely to the upslope side of the posts. Extend the wire mesh support to the bottom of the trench. Fasten the wire reinforcement, then fabric on the upslope side of the fence post. Wire or plastic zip ties should have a minimum 50 pound tensile strength.
5. When a wire mesh support fence is used, space posts a maximum of 8 feet apart. Supports should be driven securely into the ground a minimum of 24 inches.
6. Extra strength filter fabric with 5 feet post spacing does not require wire mesh support fence. Securely fasten the filter fabric directly to posts. Wire or plastic zip ties should have a minimum of 50 pound tensile strength.
7. Excavate the trench approximately 4 inches wide and 8 inches deep along the proposed line of the posts and upslope from the barrier.
8. Place 12 inches of fabric along the bottom and side of the trench.
9. Backfill the trench with soil placed over the filter fabric and compact. Thorough compaction of the backfill is critical to silt fence performance.
10. Do not attach filter fabric to existing trees.

Maintenance:
1. Inspect sediment fences at least once a week and after each 1 inch rainfall. Make any required repairs immediately.
2. Should the fabric of a sediment fence collapse, tear, decompose, or become ineffective, replace it promptly.
3. Remove sediment deposits as necessary to provide adequate storage volume for the next rain and reduce pressure on the fence. Take care to avoid undermining the fence during cleanout.
4. Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.

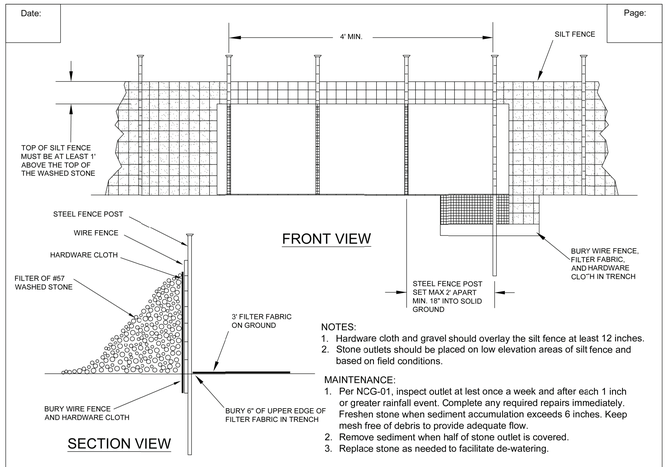


NORTH CAROLINA Environmental Quality
EFFECTIVE DATE: 11/12/2020

SILT FENCE

3 SILT FENCE
NTS

Date: Page:



NOTES:
1. Hardware cloth and gravel should overlay the silt fence at least 12 inches.
2. Stone outlets should be placed on low elevation areas of silt fence and based on field conditions.

MAINTENANCE:
1. Per NCG-01, inspect outlet at lest once a week and after each 1 inch or greater rainfall event. Complete any required repairs immediately. Freshen stone when sediment accumulation exceeds 6 inches. Keep mesh free of debris to provide adequate flow.
2. Remove sediment when half of stone outlet is covered.
3. Replace stone as needed to facilitate de-watering.

NORTH CAROLINA Environmental Quality
EFFECTIVE DATE: 11/12/2020

SILT FENCE OUTLET

4 SILT FENCE OUTLET
NTS

Date: Page:

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE

Species	Rate
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
Mountains - July 15- Aug 15
Piedmont - Aug 15 - Oct 15

Maintenance:
Indian Woodoats and Virginia Wild Rye are both sun and shade tolerant.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE

Species	Rate
Hard Fescue	15 lbs/acre
Switchgrass	2.5-3.5 lbs/acre*
Indian Grass	5-7 lbs/acre*
Big Bluestem	5-7 lbs/acre*
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
Mountains - Hard Fescue- Aug 1 - June 1
Mountains- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 15
Piedmont and Coastal- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 1
Coastal- Indian Woodoats and Virginia Wild Rye- Sept 1 - Nov 1

Maintenance:
Hard Fescue is not recommended for slopes > 5%. Prefers shade.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE

Species	Rate
Centipede	5 lbs/acre
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
Coastal or Eastern Piedmont for Centipede- Sept. 1 - May 1
Coastal and Piedmont for Indian Woodoats and Virginia Wild Rye- Feb 15 - April 1
Mountains for Indian Woodoats and Virginia Wild Rye- March 1 - May 15

Maintenance:
Significant maintenance may be required to obtain desired cover once centipede is planted. Acceptable for sodding.

SEED BED PREPARATION:

LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1 ½ tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

NOTES:
1. Permanent seeding, sodding or other means of stabilization are required when all construction work is completed accorcing to the NPDES timeframe's table.
2. A North Carolina Department of Agriculture soils test (or equal) is highly recommended to be obtained for all areas to be seeded, sprigged, sodded or planted.
3. Use a seeding mix that will produce fast growing nurse crops and includes non-invasive species that will eventually provide a permanent groundcover. Soil blankets may be used in lieu of nurse crops. Mat, tack or crimp mulch, as needed to stabilize seeded areas until root establishment. Mulch must be applied uniformly over the soil with a cover density of at least 80%.
4. Ground cover shall be maintained until permanent vegetation is established and stable against accelerated erosion.

NORTH CAROLINA Environmental Quality
EFFECTIVE DATE: 11/12/2020

PERMANENT SEEDING RECOMMENDATIONS

5 PERMANENT SEEDING
NTS

Date: Page:

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10 feet or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permiment ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
· Temporary grass seec covered with straw or other mulches and tackifiers. · Hydroseeding. · Rolled erosion control products with or without temporary grass seed · Appropriately applied straw or other mulch · Plastic sheeting	· Permanent grass seed covered with straw or other mulches and tackifiers · Geotextile fabrics such as permanent soil reinforcement matting · Hydroseeding · Shrubs or other permanent plantings covered with mulch · Uniform and evenly distributed ground cover sufficient to restrain erosion · Structural methods such as concrete, asphalt or retaining walls · Rolled erosion control products with grass seed

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stab-lize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface wate: If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

NORTH CAROLINA Environmental Quality
EFFECTIVE DATE: 11/12/2020

NCG-01 GROUND COVER

6 GROUND COVER INFORMATION
NTS

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 034374 01/13/2025 ENGINEER Braden L. McLamb

PROJECT INFORMATION

PROJECT NO.:	2014
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DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

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SHEET INFORMATION

C-102
EROSION CONTROL NOTES AND DETAILS

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

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SECTION E: GROUND STABILIZATION

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

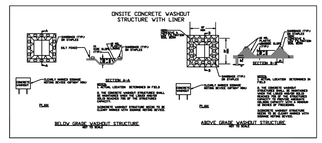
PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA *Environmental Quality*



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

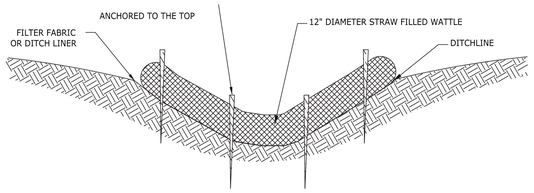
1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

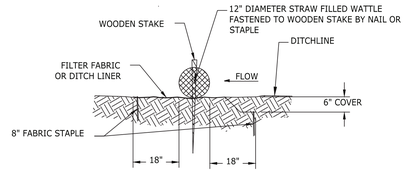
EFFECTIVE: 04/01/19

7 GROUND STABILIZATION AND MATERIALS HANDLING

NTS



PROFILE VIEW



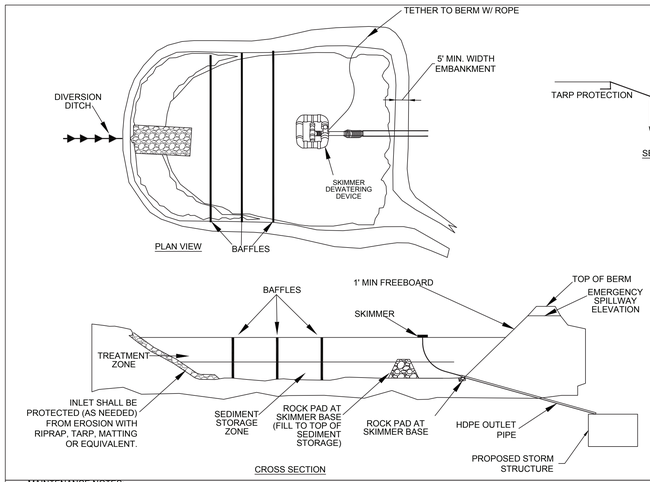
CROSS SECTION

NOTES:
1. WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL.
2. SPACING FOR WATTLES SHALL BE AS SHOWN ON EROSION CONTROL PLAN.
3. STAKE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
4. THE SOCK SHALL BE PRODUCED FROM A 5 MIL THICK CONTINUOUS POLYPROPYLENE, WOVEN INTO A TUBULAR MESH NETTING MATERIAL, WITH OPENINGS IN THE KNITTED MESH OF 1/8"TO 3/8" OPENINGS.
5. HARDWOOD 2"x2" STAKES SHALL BE DRIVEN THROUGH CENTER OF STRAW FILLED WATTLE AT 4' O.C. MAXIMUM SPACING ANGLED UP SLOPE.

MAINTENANCE NOTES:
1. INSPECT COMPOST SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER).
2. REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN.
3. IF PONDING BECOMES EXCESSIVE, THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE.
4. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED.
5. THE COMPOST SOCK SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED.

9 COIR LOG

NTS



MAINTENANCE NOTES:

INSPECT SKIMMER SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (ONE-HALF INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND THE SKIMMER OR THE FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.

REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR THE BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM. IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO REMOVE THE DEBRIS.

IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.

CHECK THE FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.

FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

8 SKIMMER SEDIMENT BASIN DETAIL

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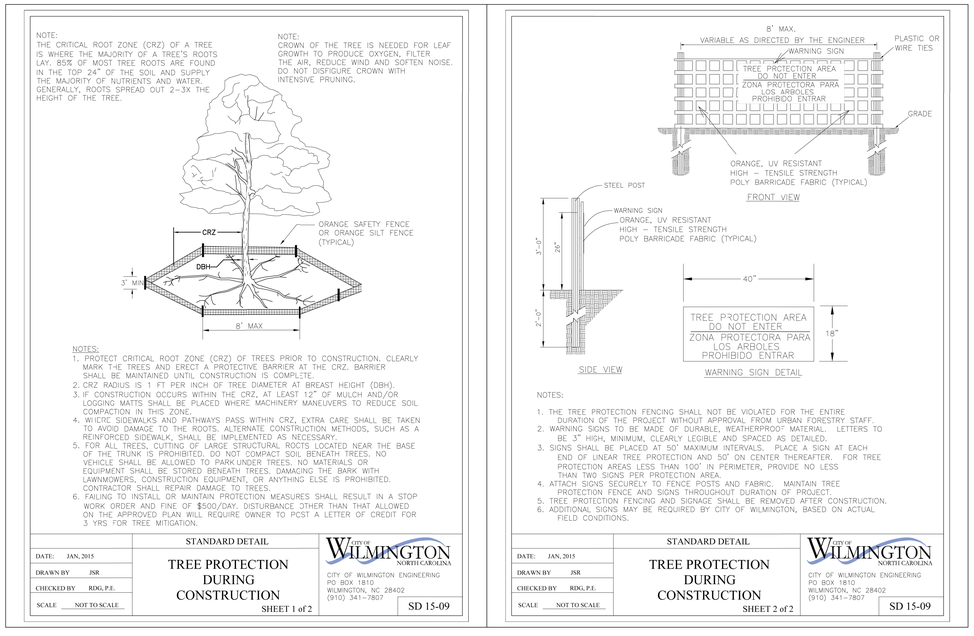

10 TREE PROTECTION DETAIL

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SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034374 01/13/2025 ENGINEER Brandon L. McLamb

PROJECT INFORMATION

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SHEET INFORMATION

C-103

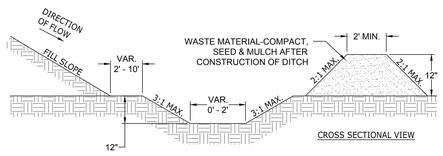
EROSION CONTROL NOTES AND DETAILS

NOTES:

1. TEMPORARY DIVERSION DITCH TO BE USED TO INTERCEPT FLOW AND/OR DIVERT TO A SEDIMENT CONTROL MEASURE OR SCM.
2. SILT SHALL BE REMOVED WHEN DITCH IS ONE-HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.
4. STABILIZE DIVERSION DITCH BERM WITH TEMPORARY SEEDING, MULCH WITH TAC, AND/OR EROSION CONTROL NETTING.

MAINTENANCE

INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.



CROSS SECTIONAL VIEW

DITCH	TOTAL FLOW (CFS)	SLOPE (%)	BOTTOM WIDTH (FT)	RIGHT SLOPE (H:V)	LEFT SLOPE (H:V)	FLOW DEPTH (FT)	TEMPORARY LINER	PERMANENT LINER
A (EX.)	1.0	11.50	0	3:1	3:1	0.27	STRAW W/ EXCELSIOR NET	N/A
B (EX.)	13.55	3.33	2	3:1	3:1	0.69	STRAW W/ EXCELSIOR NET	N/A
C (EX.)	1.61	0.13	0	3:1	3:1	1.03	STRAW W/ EXCELSIOR NET	N/A
D (EX.)	1.96	1.38	0	3:1	3:1	0.55	STRAW W/ EXCELSIOR NET	N/A
E (EX.)	3.66	1.09	0	3:1	3:1	0.73	STRAW W/ EXCELSIOR NET	N/A
F (EX.)	5.00	1.59	0	3:1	3:1	0.76	STRAW W/ EXCELSIOR NET	N/A
G (EX.)	23.05	2.80	3	3:1	3:1	0.83	STRAW W/ EXCELSIOR NET	BERMUDA GRASS
H	1.09	9.13	0	3:1	3:1	0.41	STRAW W/ EXCELSIOR NET	BERMUDA GRASS

*SWALES HAVE BEEN DESIGNED USING RAINFALL INTENSITY FOR THE 10-YEAR STORM ACCORDING TO THE NCDENR EROSION CONTROL MANUAL.

11 TEMPORARY DIVERSION

NTS

DESIGN OF SPILLWAYS

DRAINAGE AREA (ACRES)	MIN. WEIR LENGTH (FT)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

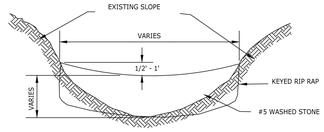
SIDE VIEW

NOTES:

HEIGHT AND WIDTH DETERMINED BY EXISTING TOPOGRAPHY AND SEDIMENT STORAGE REQUIRED.

KEY RIP RAP INTO THE DAM FOR STABILIZATION.

STEP SEQUENCE



FRONT VIEW

MAINTENANCE NOTES:

1. INSPECT CHECK PROTECTION WEEKLY AND AFTER ½" RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT STRAW, LIMBS, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED.
2. IMMEDIATELY CORRECT ANY DAMAGE CAUSED BY SUBMERGED AND DEPOSITION ABOVE THE CHECK DAM AND FROM HIGH FLOWS AROUND THE EDGES.
3. REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAINTHROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

12 TEMPORARY ROCK CHECK DAM

NTS

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SHEET INFORMATION

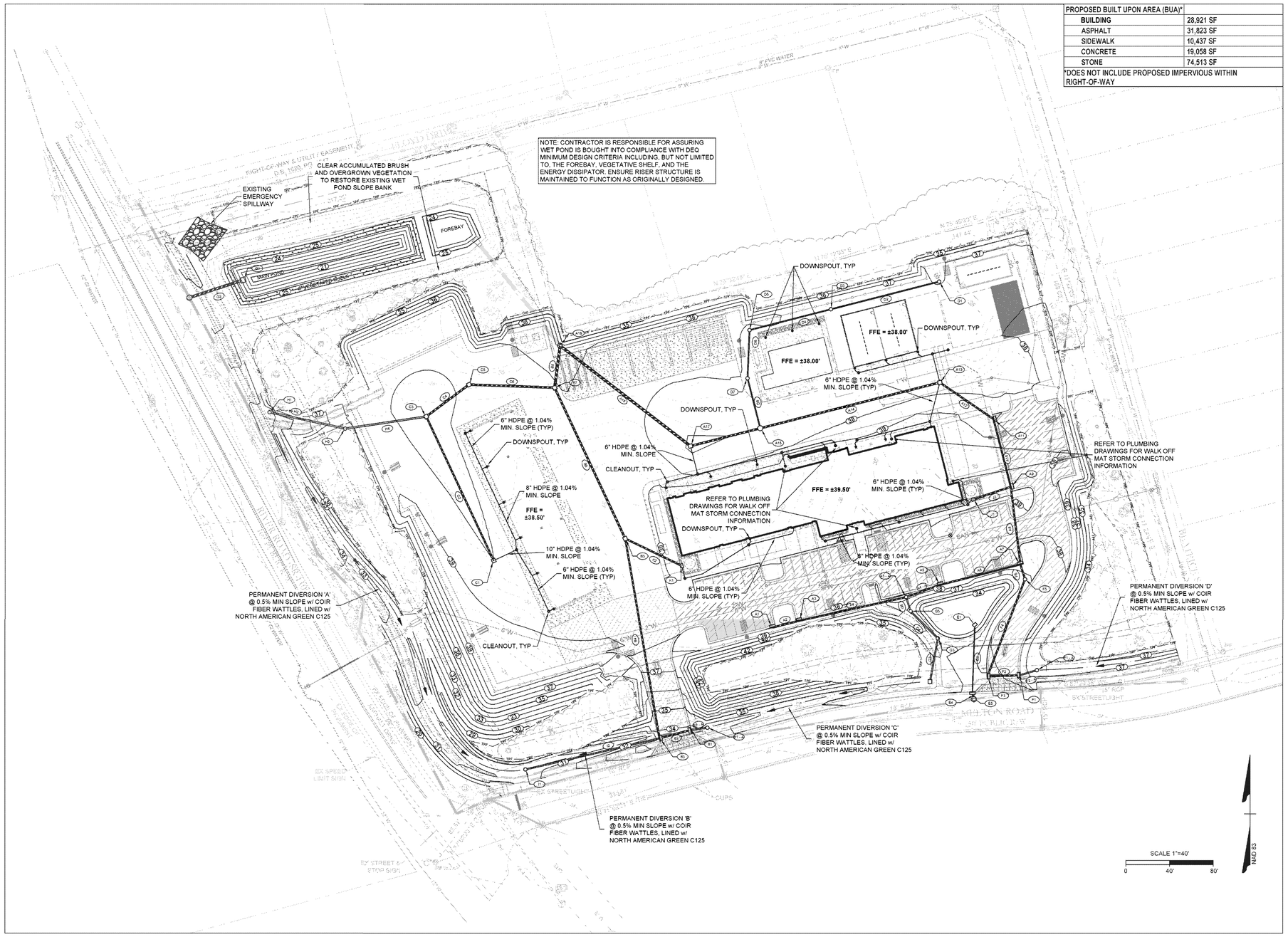
C-104

EROSION CONTROL NOTES AND DETAILS

PROPOSED BUILT UPON AREA (BUA)*	
BUILDING	28,921 SF
ASPHALT	31,823 SF
SIDEWALK	10,437 SF
CONCRETE	19,058 SF
STONE	74,513 SF

*DOES NOT INCLUDE PROPOSED IMPERVIOUS WITHIN RIGHT-OF-WAY

NOTE: CONTRACTOR IS RESPONSIBLE FOR ASSURING WET POND IS BOUGHT INTO COMPLIANCE WITH DEQ MINIMUM DESIGN CRITERIA INCLUDING, BUT NOT LIMITED TO, THE FOREBAY, VEGETATIVE SHELF, AND THE ENERGY DISSIPATOR. ENSURE RISER STRUCTURE IS MAINTAINED TO FUNCTION AS ORIGINALLY DESIGNED.



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SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034374 2/13/2025 Brendan L. McGinnis

PROJECT INFORMATION

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SHEET INFORMATION

C-200

GRADING AND DRAINAGE PLAN

PROPOSED BUILT UPON AREA (BUA)*	
BUILDING	30,090 SF
ASPHALT	31,823 SF
SIDEWALK	10,237 SF
CONCRETE	18,673 SF
STONE	74,705 SF

*DOES NOT INCLUDE PROPOSED IMPERVIOUS WITHIN RIGHT-OF-WAY

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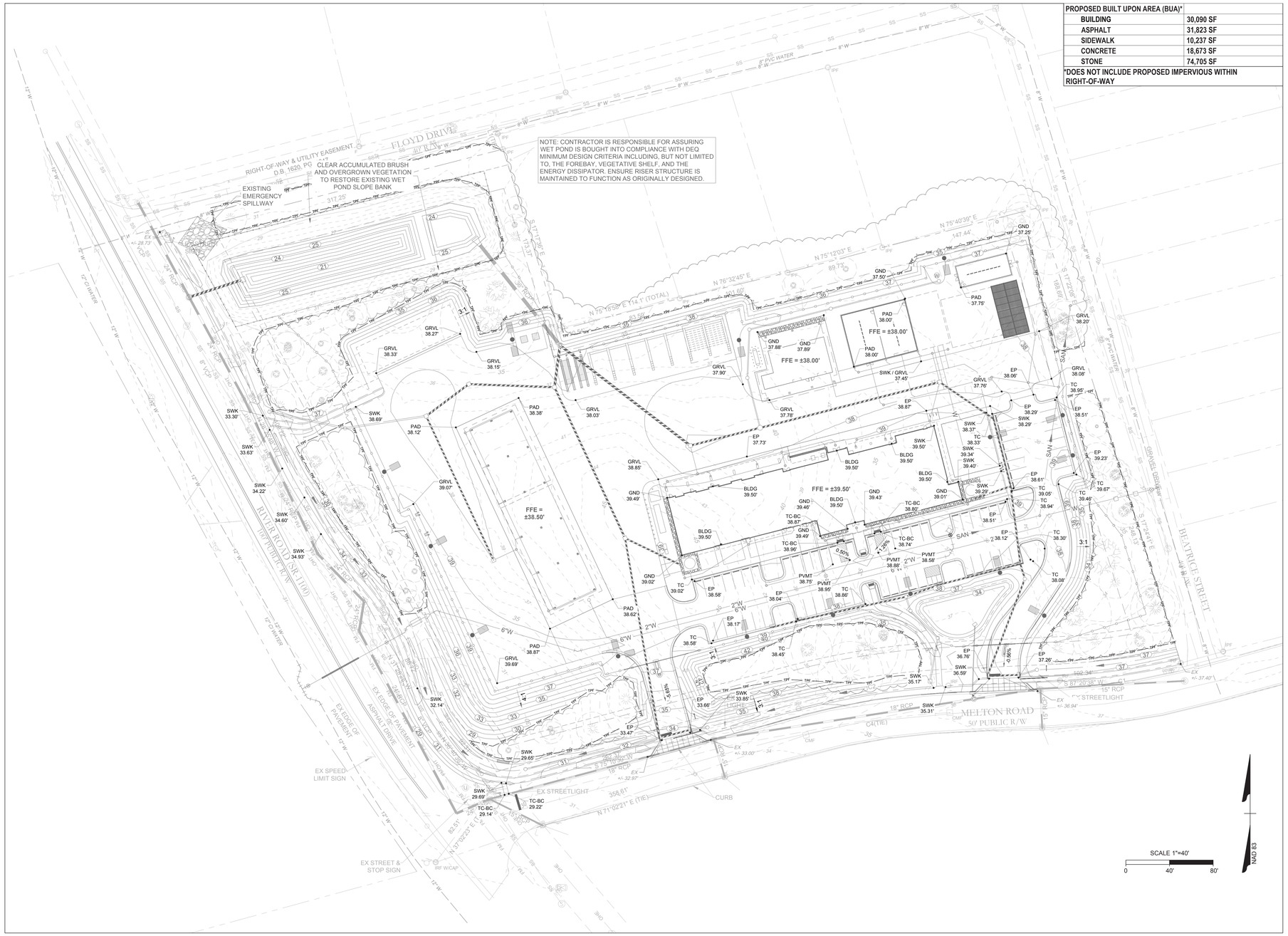

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 034374 ENGINEER Brandon L. McLamb
01/13/2025

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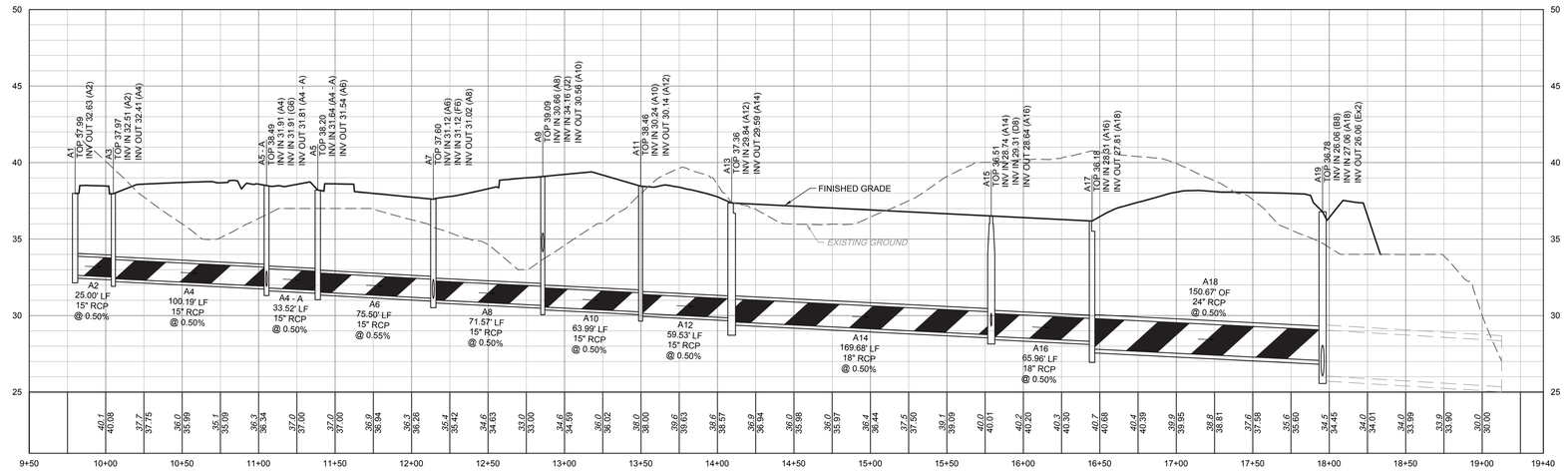
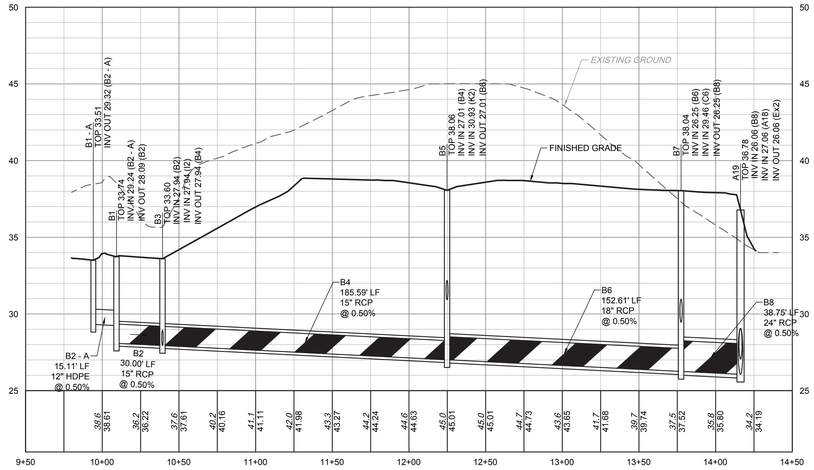
SHEET INFORMATION

C-201
SPOT ELEVATION PLAN



STORM A PROFILE
Horz: 1" = 40'
Vert: 1" = 4'



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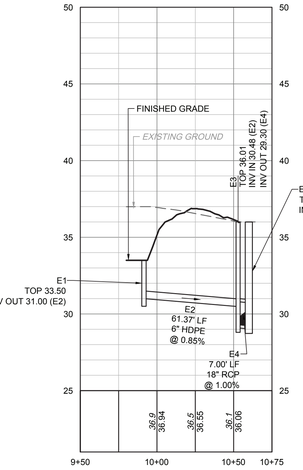

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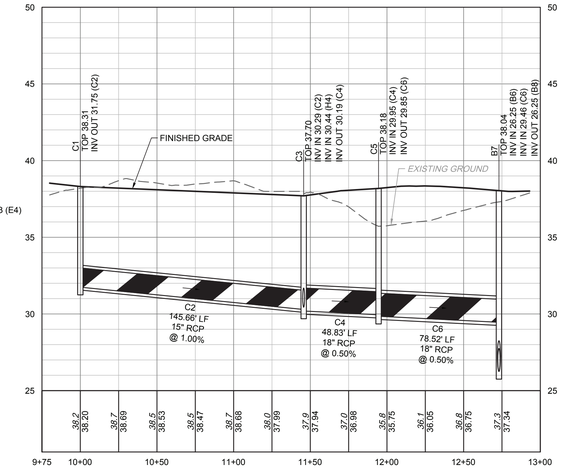

STORM C PROFILE
Horz: 1" = 40'
Vert: 1" = 4'

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40
PROFILE SCALE

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 034374 01/13/2025 ENGINEER Braidan L. McLamb

PROJECT INFORMATION

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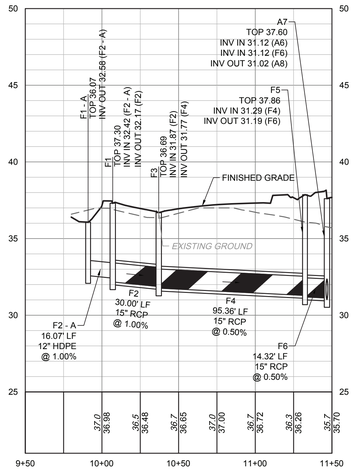
SHEET INFORMATION

C-202
STORM SEWER PROFILES



STORM F PROFILE
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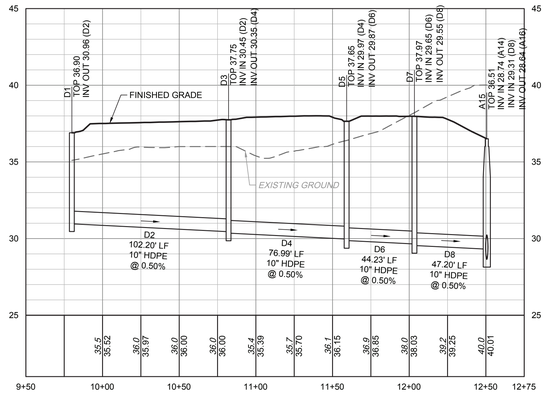

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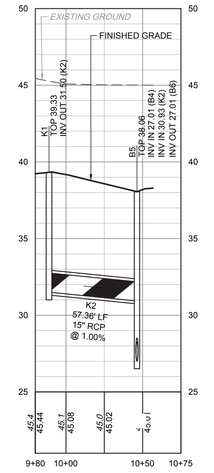
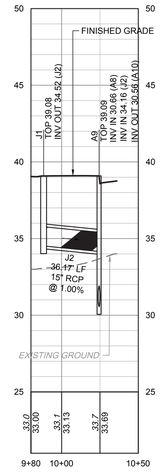


STORM K PROFILE
Horz: 1" = 40'
Vert: 1" = 4'



STORM J PROFILE
Horz: 1" = 40'
Vert: 1" = 4'

STORM G PROFILE
Horz: 1" = 40'
Vert: 1" = 4'

STORM I PROFILE
Horz: 1" = 40'
Vert: 1" = 4'

STORM H PROFILE
Horz: 1" = 40'
Vert: 1" = 4'

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 034374 01/13/2025 ENGINEER Brandon L. McLamb

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

C-203
STORM SEWER PROFILES

STORM STRUCTURE TABLE			
STRUCTURE #	TOP	STRUCTURE HEIGHT	DESCRIPTION
E1	33.50	2.50'	NCDOT 840.14 CONCRETE DROP INLET
E3	36.01	6.71'	NCDOT 840.34 TRAFFIC BEARING JUNCTION BOX
E5	36.00	6.77'	NCDOR STD. MANHOLE 840.52

STORM PIPE TABLE							
PIPE #	DIA	FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DESCRIPTION
E2	6"	E1 - E3	31.00	30.48	0.85%	61.37 LF	6" HDPE
E4	18"	E3 - E5	29.30	29.23	1.00%	7.00 LF	CLASS III

STORM PIPE TABLE							
PIPE #	DIA	FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DESCRIPTION
A2	15"	A1 - A3	32.63	32.51	0.50%	25.00 LF	CLASS III
A4	15"	A3 - A5 - A	32.41	31.91	0.50%	100.19 LF	CLASS III
A6	15"	A5 - A7	31.54	31.12	0.55%	75.50 LF	CLASS III
A8	15"	A7 - A9	31.02	30.66	0.50%	71.57 LF	CLASS III
A10	15"	A9 - A11	30.56	30.24	0.50%	63.99 LF	CLASS III
A12	15"	A11 - A13	30.14	29.84	0.50%	59.53 LF	CLASS III
A14	18"	A13 - A15	29.59	28.74	0.50%	169.68 LF	CLASS III
A16	18"	A15 - A17	28.64	28.31	0.50%	65.96 LF	CLASS III
A18	24"	A17 - A19	27.81	27.06	0.50%	150.67 LF	CLASS III
B2 - A	12"	B1 - A - B1	29.32	29.24	0.50%	15.11 LF	12" HDPE
B6	18"	B5 - B7	27.01	26.25	0.50%	152.61 LF	CLASS III
B8	24"	B7 - A19	26.25	26.06	0.50%	38.75 LF	CLASS III
C2	15"	C1 - C3	31.75	30.29	1.00%	145.66 LF	CLASS III
C4	18"	C3 - C5	30.19	29.95	0.50%	48.83 LF	CLASS III
C6	18"	C5 - B7	29.85	29.46	0.50%	78.52 LF	CLASS III
D2	10"	D1 - D3	30.96	30.45	0.50%	102.20 LF	10" HDPE
D4	10"	D3 - D5	30.35	29.97	0.50%	76.99 LF	10" HDPE
D6	10"	D5 - D7	29.87	29.65	0.50%	44.23 LF	10" HDPE
D8	10"	D7 - A15	29.55	29.31	0.50%	47.20 LF	10" HDPE
F2	15"	F1 - F3	32.17	31.87	1.00%	30.00 LF	CLASS III
F2 - A	12"	F1 - A - F1	32.58	32.42	1.00%	16.07 LF	12" HDPE
F4	15"	F3 - F5	31.77	31.29	0.50%	95.36 LF	CLASS III
F6	15"	F5 - A7	31.19	31.12	0.50%	14.32 LF	CLASS III
G2	12"	G1 - G3	32.56	32.36	0.50%	40.12 LF	12" HDPE
G4	12"	G3 - G5	32.26	32.08	0.50%	35.30 LF	12" HDPE
G6	12"	G5 - A5 - A	31.98	31.91	0.50%	13.56 LF	12" HDPE
H2	15"	H1 - H3	31.26	30.91	0.50%	70.96 LF	15" HDPE
H4	15"	H3 - C3	30.81	30.44	0.50%	75.05 LF	15" HDPE
I2	12"	I1 - B3	28.57	27.94	0.50%	126.04 LF	12" HDPE
J2	15"	J1 - A9	34.52	34.16	1.00%	36.17 LF	CLASS III
K2	15"	K1 - B5	31.50	30.93	1.00%	57.36 LF	CLASS III

STORM STRUCTURE TABLE			
STRUCTURE #	TOP	STRUCTURE HEIGHT	DESCRIPTION
A1	37.99	5.35'	NCDOT 840.02 CONCRETE CATCH BASIN
A3	37.97	5.56'	NCDOT 840.02 CONCRETE CATCH BASIN
A5	38.20	6.66'	NCDOT 840.02 CONCRETE CATCH BASIN
A5 - A	38.49	6.68'	30" NYLOPLAST DRAIN BASIN w/ SOLID TOP
A7	37.60	6.59'	NCDOT 840.02 CONCRETE CATCH BASIN
A9	39.09	8.53'	NCDOT 840.02 CONCRETE CATCH BASIN
A11	38.46	8.32'	NCDOT 840.02 CONCRETE CATCH BASIN
A13	37.36	7.77'	NCDOT 840.02 CONCRETE CATCH BASIN
A15	36.51	7.87'	NCDOT 840.52 PRECAST MANHOLE
A17	36.18	8.37'	NCDOT 840.02 CONCRETE CATCH BASIN
A19	36.78	10.72'	NCDOT 840.52 PRECAST MANHOLE
B1 - A	33.51	4.19'	30" NYLOPLAST DRAIN BASIN w/ GRATE TOP
B5	38.06	11.05'	NCDOT 840.12 CONCRETE DROP INLET
B7	38.04	11.79'	NCDOT 840.12 CONCRETE DROP INLET
C1	38.31	6.56'	NCDOT 840.12 CONCRETE DROP INLET
C3	37.70	7.51'	NCDOT 840.12 CONCRETE DROP INLET
C5	38.18	8.33'	NCDOT 840.12 CONCRETE DROP INLET
D1	36.90	5.94'	30" NYLOPLAST DRAIN BASIN w/ GRATE INLET TOP
D3	37.75	7.40'	30" NYLOPLAST DRAIN BASIN w/ GRATE INLET TOP
D5	37.65	7.78'	30" NYLOPLAST DRAIN BASIN w/ GRATE INLET TOP
D7	37.97	8.43'	30" NYLOPLAST DRAIN BASIN w/ SOLID TOP
F1	37.30	5.13'	NCDOT 840.02 CONCRETE CATCH BASIN
F1 - A	36.07	3.49'	30" NYLOPLAST DRAIN BASIN w/ GRATE TOP
F3	36.69	4.92'	NCDOT 840.02 CONCRETE CATCH BASIN
F5	37.86	6.67'	30" NYLOPLAST DRAIN BASIN w/ SOLID TOP
G1	35.16	2.60'	NCDOT 840.12 CONCRETE DROP INLET
G3	36.08	3.82'	30" NYLOPLAST DRAIN BASIN w/ SOLID TOP
G5	36.78	4.80'	30" NYLOPLAST DRAIN BASIN w/ GRATE TOP
H1	33.50	2.24'	30" NYLOPLAST DRAIN BASIN w/ GRATE TOP
H3	37.57	6.76'	30" NYLOPLAST DRAIN BASIN w/ SOLID TOP
I1	30.45	1.88'	30" NYLOPLAST DRAIN BASIN w/ GRATE TOP
J1	39.08	4.56'	NCDOT 804.14 CONCRETE DROP INLET
K1	39.33	7.82'	NCDOT 840.14 CONCRETE DROP INLET

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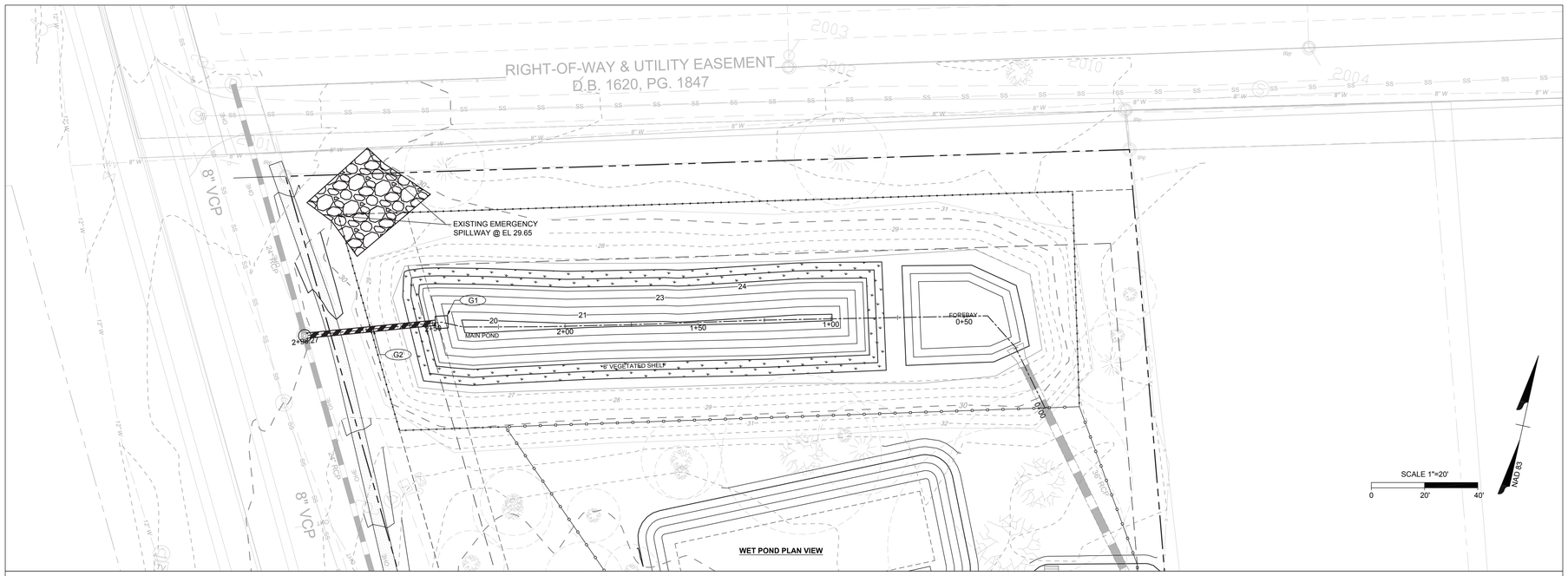
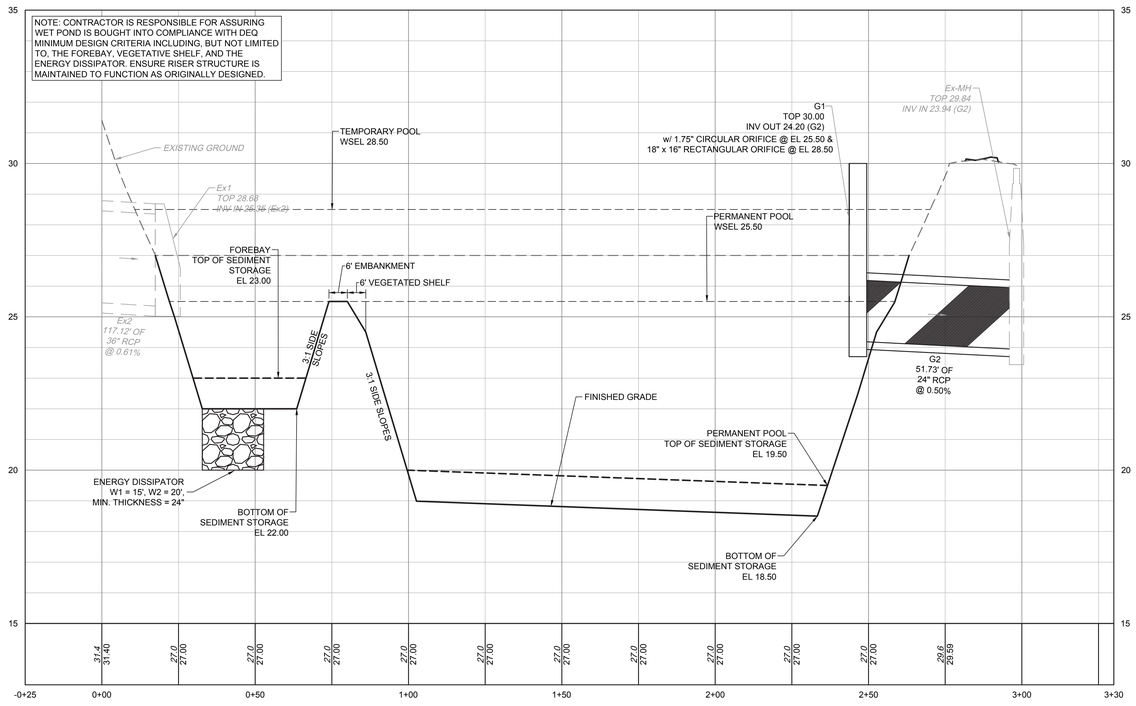
SHEET INFORMATION

C-204

STORM SEWER SCHEDULES



NOTE: CONTRACTOR IS RESPONSIBLE FOR ASSURING WET POND IS BOUGHT INTO COMPLIANCE WITH DEQ MINIMUM DESIGN CRITERIA INCLUDING, BUT NOT LIMITED TO, THE FOREBAY, VEGETATIVE SHELF, AND THE ENERGY DISSIPATOR. ENSURE RISER STRUCTURE IS MAINTAINED TO FUNCTION AS ORIGINALLY DESIGNED.



WET POND CROSS SECTION
Horz: 1" = 20'
Vert: 1" = 2'

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SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034374 01/13/2025 Brandon L. McLaurin

PROJECT INFORMATION

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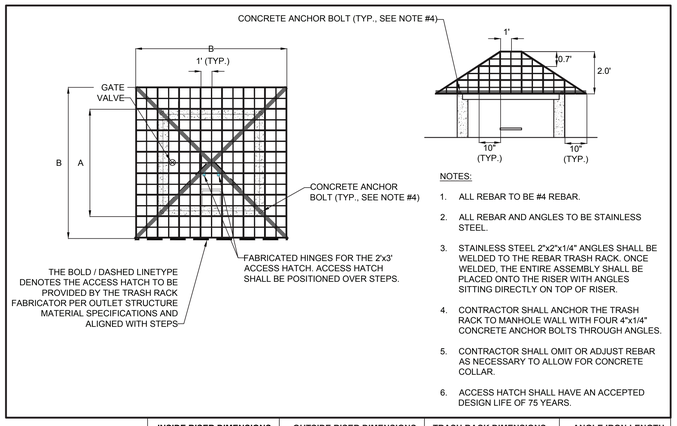
SHEET INFORMATION

C-205

WET POND PLAN AND PROFILE



NOTES:

1. ALL REBAR TO BE #4 REBAR.
2. ALL REBAR AND ANGLES TO BE STAINLESS STEEL.
3. STAINLESS STEEL 2"x2"x1/4" ANGLES SHALL BE WELDED TO THE REBAR TRASH RACK. ONCE WELDED, THE ENTIRE ASSEMBLY SHALL BE PLACED ONTO THE RISER WITH ANGLES SITTING DIRECTLY ON TOP OF RISER.
4. CONTRACTOR SHALL ANCHOR THE TRASH RACK TO MANHOLE WALL WITH FOUR 4"x1/4" CONCRETE ANCHOR BOLTS THROUGH ANGLES.
5. CONTRACTOR SHALL OMIT OR ADJUST REBAR AS NECESSARY TO ALLOW FOR CONCRETE COLLAR.
6. ACCESS HATCH SHALL HAVE AN ACCEPTED DESIGN LIFE OF 75 YEARS.

INSIDE RISER DIMENSIONS	OUTSIDE RISER DIMENSIONS	TRASH RACK DIMENSIONS	ANGLE IRON LENGTH
B	A	B	C
4' x 4'	5' x 5'	7' x 7'	9.9'
5' x 5'	6' x 6'	8' x 8'	11.3'
6' x 6'	7' x 7'	9' x 9'	12.7'

1 RISER TRASH RACK DETAIL

NTS

CITY OF WILMINGTON

STORMWATER STRUCTURAL BEST MANAGEMENT PRACTICE (SCM) INSTALLATION SEQUENCE, FOR CONVERSION FROM AN E&SC DEVICE

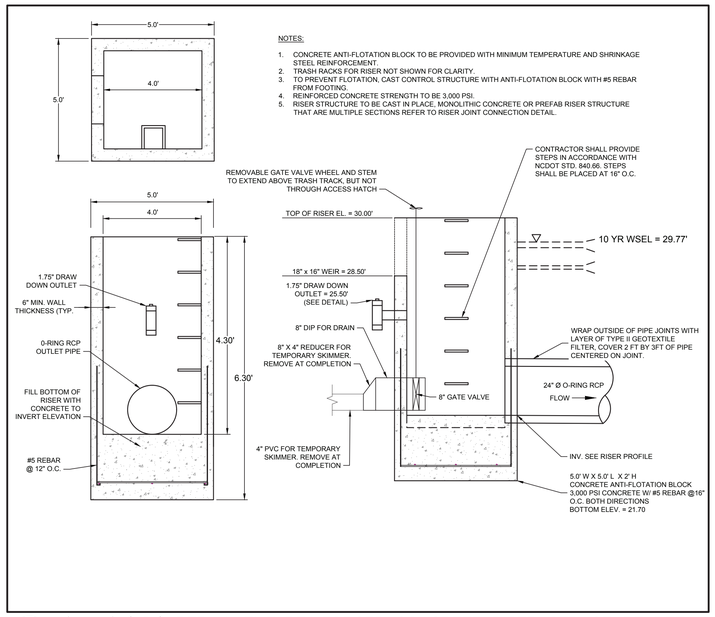
THE BASIC INSTALLATION SEQUENCE ON PROJECTS FOR E&SC DEVICES THAT ARE TO BE CONVERTED TO PERMANENT STRUCTURAL SCMs SHALL BE ROUGHLY AS FOLLOWS. THIS SEQUENCE SHOULD BE MODIFIED AS NEEDED FOR EACH SPECIFIC INSTALLATION. THE SPECIFIC SEQUENCE WILL BE APPROVED WITH THE CONSTRUCTION DRAWING/EROSION CONTROL PLAN FOR THE SITE.

NOTE: AN INDIVIDUAL INSTALLATION SEQUENCE WILL BE REQUIRED FOR EACH STRUCTURAL SCM.

1. ATTEND PRE-CONSTRUCTION CONFERENCE.
2. OBTAIN ENVIRONMENTAL DEVELOPMENT PERMIT.
3. INSTALL TREE PROTECTION ON SITE.
4. INSTALL ALL EROSION CONTROL MEASURES AS SHOWN ON THE APPROVED PLAN.
5. CALL FOR ON-SITE INSPECTION BY ENGINEERING DEPARTMENT TO OBTAIN CERTIFICATE OF COMPLIANCE. THE FIRST ENGINEER CERTIFICATION FOR THE BASIN(S) MUST BE RECEIVED AND APPROVED BY ET OF THE CITY, BEFORE THE CERTIFICATE OF COMPLIANCE WILL BE ISSUED BY THE DEVELOPMENT INSPECTOR.
6. PROCEED WITH GRADING.
7. CLEAN SEDIMENT TRAPS AND BASINS WHEN ONE-HALF FULL AND CHECK FOR MAINTENANCE OF ALL EROSION CONTROL DEVICES WEEKLY OR AFTER EVERY 1/2" OF RAIN.
8. SEED AND MULCH DENUDED AREA WITHIN 14 DAYS.
9. MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
10. WHEN APPROPRIATE, CALL FOR ON-SITE MEETING WITH THE DEVELOPMENT INSPECTOR (DI) AND THE ENVIRONMENTAL TECHNICIAN (ET) TO OBTAIN APPROVAL FOR REMOVAL OF TEMPORARY EROSION CONTROL MEASURES. IF SITE OR DRAINAGE AREA IS AT LEAST 85% STABILIZED AND APPROVAL IS GRANTED, STRUCTURAL STORMWATER SCMs MAY BE INSTALLED.
11. THE ET WILL PERFORM ROUTINE INSPECTIONS DURING INSTALLATION. THE DI WILL BE RESPONSIBLE FOR ENSURING EROSION CONTROL AND ANY NECESSARY BYPASS MEASURES FUNCTION.
12. ONCE INSTALLATION IS COMPLETE, CONTACT THE ET FOR SCM SPECIFIC PUNCHLIST INSPECTION. ONCE ALL PUNCHLIST ITEMS ARE ADDRESSED, THE PERFORMANCE MONITORING PERIOD MAY BEGIN.
13. THE FINANCIALLY RESPONSIBLE PARTY THAT INSTALLED THE SCM(s) WILL BE RESPONSIBLE FOR ENSURING THAT THE DEVICE FUNCTIONS PROPERLY AND ALL VEGETATION BECOMES ESTABLISHED DURING THIS TIME.
14. AT THE END OF THE PERFORMANCE MONITORING PERIOD, CONTACT THE ET FOR A FINAL SCM SPECIFIC PUNCHLIST INSPECTION. BEFORE THE TOWN WILL ALLOW LONG-TERM OPERATIONS AND MAINTENANCE (O&M) TO TRANSFER TO THE HOA/OWNER, ALL PUNCHLIST ITEMS MUST BE COMPLETED, INCLUDING, BUT NOT LIMITED TO: RECORDED PLAT SHOWING ALL APPLICABLE DRAINAGE EASEMENTS, SCM SPECIFIC AS-BUILTS (MYLAR AND CAD FORMAT), MAINTENANCE SURETY, AND A RECORDED O&M AGREEMENT.
15. ONCE ALL SCM SPECIFIC PUNCHLIST ITEMS HAVE BEEN COMPLETED ND APPROVED BY THE ET, IF ALL OTHER EROSION CONTROL HAS BEEN SATISFIED, A CERTIFICATE OF COMPLETION MAY BE ISSUED BY THE DI.

WET DETENTION BASIN CONSTRUCTION SEQUENCE:

1. IF THE WET DETENTION BASIN IS USED AS A SEDIMENT BASIN DURING CONSTRUCTION, ALL SEDIMENT DEPOSITED DURING CONSTRUCTION MUST BE REMOVED, EROSION FEATURES MUST BE REPAIRED, AND THE VEGETATED SHELF MUST BE RESTORED, BEFORE OPERATION AS A STORMWATER SCM BEGINS.
2. DO NOT BEGIN CONSTRUCTION OF WET DETENTION BASIN AREAS UNTIL SITE CONSTRUCTION IS COMPLETE, ALL PARKING SURFACES ARE PAVED, AND THE ENTIRE SITE HAS BEEN ESTABLISHED WITH A GOOD STAND OF GRASS.
3. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE AND THE SLOPES DRAINING TO THE WET DETENTION BASIN AREA SHALL BE STABILIZED BEFORE CONSTRUCTION OF THE WET DETENTION BASIN BEGINS.
4. INSTALL TEMPORARY SILT FENCE AROUND THE WET DETENTION BASIN AREA AS NEEDED.
5. EXCAVATE WET DETENTION BASIN AREA, PER THE GRADES AND DETAILED ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS.
6. CONTACT ENGINEER SO AN AS-BUILT SURVEY CAN BE PERFORMED OF THE WET DETENTION BASIN.
7. INSTALL ANY REMAINING STORM DRAINAGE PIPES AND INLETS.
8. FINE GRADE THE SIDE SLOPES OF THE WET DETENTION BASIN AREA. DRESS UP VELOCITY DISSIPATER AS NEEDED PER THE PLANS.
9. INSTALL GRASS PER GRASS SPECIFICATIONS.
10. PLANT ALL PROPOSED VEGETATION PER WET DETENTION BASIN PLANTING PLAN. CONTACT THE PROJECT LANDSCAPE ARCHITECT TO COORDINATE AS NEEDED.
11. FINE GRADE AS NEEDED, SEED AND STABILIZE ANY REMAINING DISTURBED AREAS AROUND THE OUTSIDE OF THE WET DETENTION BASIN AREA. REMOVE SILT FENCE.
12. UPON COMPLETION OF WORK, CONTACT THE PROJECT ENGINEER AND LANDSCAPE ARCHITECT FOR AN INSPECTION AND TO BEGIN THE AS-BUILT CERTIFICATION PROCESS. AN AS-BUILT SURVEY OF ALL ASPECTS OF THIS FACILITY WILL BE PERFORMED BY THE ENGINEER. CERTIFICATIONS WILL NOT BE ISSUED IF THE SCM DOES NOT MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CONSTRUCTION DOCUMENTS. SHOULD REMEDIAL WORK BE REQUIRED, ALL COSTS ASSOCIATED WITH THE REMEDIAL WORK INCLUDING RE-SURVEY AND RE-INSPECTIONS WILL BE BORNE BY THE CONTRACTOR.

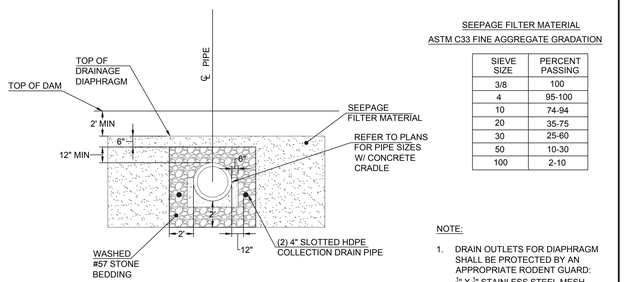


NOTES:

1. CONCRETE ANTI-FLOTATION BLOCK TO BE PROVIDED WITH MINIMUM TEMPERATURE AND SHRINKAGE STEEL REINFORCEMENT.
2. TRASH RACKS FOR RISER NOT SHOWN FOR CLARITY.
3. TO PREVENT FLOTATION, CAST CONTROL STRUCTURE WITH ANTI-FLOTATION BLOCK WITH #5 REBAR FROM FOOTING.
4. REINFORCED CONCRETE STRENGTH TO BE 3,000 PSI.
5. RISER STRUCTURE TO BE CAST IN PLACE, MONOLITHIC CONCRETE OR PREFAB RISER STRUCTURE THAT ARE MULTIPLE SECTIONS REFER TO RISER JOINT CONNECTION DETAIL.

2 4' x 4' (I.D.) PERMANENT REINFORCED CONCRETE RISER STRUCTURE DETAIL

NTS



SEEPAGE FILTER MATERIAL

ASTM C33 FINE AGGREGATE GRADATION

SIEVE SIZE	PERCENT PASSING
3/8	100
4	95-100
10	74-94
20	35-75
30	25-60
50	10-30
100	2-10

SECTION VIEW AS VIEWED LOOKING UPSTREAM

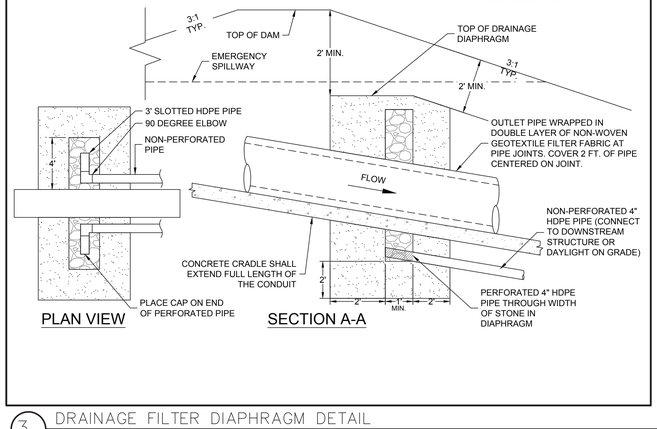
NTS

NOTE:

1. DRAIN OUTLETS FOR DIAPHRAGM SHALL BE PROTECTED BY AN APPROPRIATE RODENT GUARD: ¼" X ½" STAINLESS STEEL MESH SECURED WITH STAINLESS STEEL CLAMP OR APPROVED EQUAL.
2. PIPE SHALL INCLUDE EXPANSION JOINTS SPACED EVERY 8 FEET ON CENTER.
3. JOINTS WRAPPED WITH DOUBLE LAYER OF NON-WOVEN GEOTEXTILE FILTER FABRIC ON OUTSIDE OF PIPE SHALL COVER 2 FEET BY 3 FEET OF PIPE CENTERED ON JOINT.

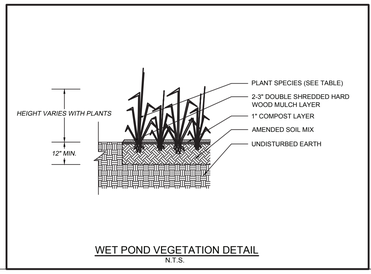
CONSTRUCTION NOTES

1. SEEPAGE PROTECTION FILTER MATERIAL SHALL BE COMPACTED PER SPECIFICATIONS.
2. NO GEOTEXTILE FABRIC TO BE USED.



3 DRAINAGE FILTER DIAPHRAGM DETAIL

NTS



WET POND VEGETATION DETAIL

N.T.S.

WET POND VEGETATED SHELF PLANT LIST

MINIMUM REQUIRED PLANT DENSITY = 50 PLANTS PER 200 SQUARE FEET OF VEGETATED SHELF
(3000 SF / 200 SF) * 50 PLANTS = 750 MINIMUM PLANTS REQUIRED.

THE FOLLOWING PLANTS SHALL BE PLANTED ON THE 6-FOOT WIDE VEGETATED SHELF BETWEEN THE ELEVATIONS OF 370.0 - 371.0:

QUANTITY	BOTANICAL NAME	COMMON NAME	SPACING	NOTES	PLANTING ZONE
125	ACORUS AMERICANUS	SWEETFLAG	2-3' O.C.	PLANT IN GROUPS OF 5	SHALLOW WATER (0-6")
125	JUNCUS EFFUSUS	COMMON RUSH	2-3' O.C.	PLANT IN GROUPS OF 5	SHALLOW WATER (0-6")
125	SAURURUS CERNUUS	LIZARD'S TAIL	2-3' O.C.	PLANT IN GROUPS OF 5	SHALLOW WATER (0-6")
125	ECHINACEA PURPUREA	PURPLE CONE FLOWER	2-3' O.C.	PLANT IN GROUPS OF 5	TEMPORARY INUNDATION
125	ASCLEPIAS INCARNATA	SWAMP MILKWEED	2-3' O.C.	PLANT IN GROUPS OF 5	TEMPORARY INUNDATION
125	SOLIDAGO CANADENSIS	GOLDENROD	2-3' O.C.	PLANT IN GROUPS OF 5	TEMPORARY INUNDATION

NURSERY SOURCES:
MELLOW MARSH FARM (919) 742-1200
CURE NURSERY (919) 542-6186

4 WET POND VEGETATION DETAIL AND PLANT LIST

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919.866.4929

MECHANICAL, ELECTRICAL, & PLUMBING
SIGMA ENGINEERED SOLUTIONS
5909 FALLS OF NEUSE RD, SUITE 101
RALEIGH, NC 27609
919.840.9300

STRUCTURAL
LYSAGHT & ASSOCIATES
120 ST. MARY'S ST
RALEIGH, NC 27605
919.833.0495

SEALS

SOUTH CAROLINA PROFESSIONAL ENGINEER SEAL 034374 01/13/2025 Brandon L. McLamb

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

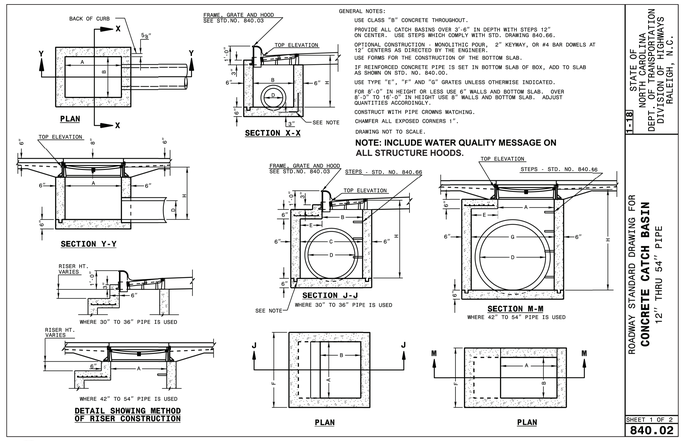
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

C-206

SCM (WET POND) DETAILS



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

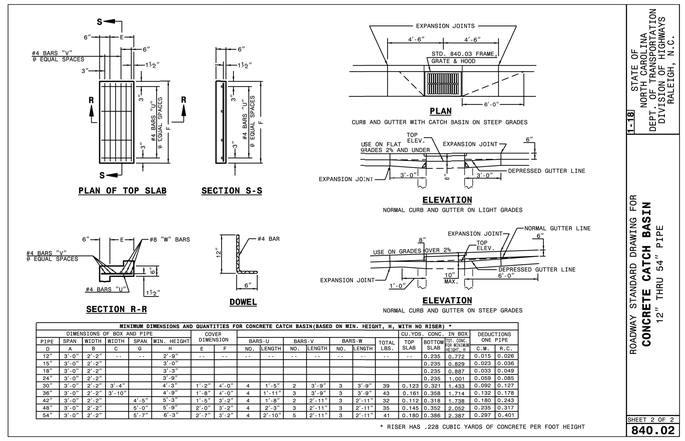
ROADWAY STANDARD DRAWING FOR **CONCRETE CATCH BASIN** 12" THRU 54" PIPE

SHEET 1 OF 2

840.02

1 NCDOT STD. CATCH BASIN

NTS



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *

DIMENSIONS OF BOX AND PIPE						COVER DIMENSION		BARS-U		BARS-V		BARS-W		TOTAL LBS.	CU.YDS. CONC. IN BOX		DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT			NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		TOP SLAB	BOTTOM SLAB AND TOP SCREED	C.M.	R.C.
D	A	B	C	G	H	E	F											
12"	3'-0"	2'-3"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	0.235	0.015	0.026
15"	3'-0"	2'-3"			3'-0"											0.235	0.029	0.035
18"	3'-0"	2'-3"			3'-3"											0.235	0.037	0.049
24"	3'-0"	2'-3"			3'-9"											0.235	0.051	0.065
30"	3'-0"	2'-3"	3'-4"		4'-3"	1'-2"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	0.092	0.127
36"	3'-0"	2'-3"	3'-10"		4'-9"	1'-8"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.358	1.714	0.152	0.178
42"	3'-0"	2'-3"		4'-5"	5'-3"	1'-5"	3'-3"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-3"		5'-0"	5'-9"	2'-0"	3'-3"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.145	0.352	2.052	0.235	0.317
54"	3'-0"	2'-3"		5'-7"	6'-3"	2'-7"	3'-3"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

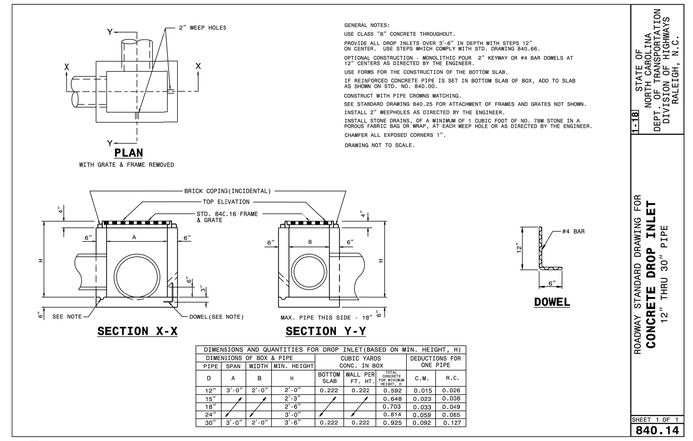
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR **CONCRETE CATCH BASIN** 12" THRU 54" PIPE

SHEET 2 OF 2

840.02



DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)

DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT	BOTTOM SLAB	WALL PER FT. HT.	HEIGHT FOR BOTTOM SLAB & WALL	C.M.	R.C.
D	A	B	H					
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026
15"	/	/	2'-3"	/	/	0.648	0.023	0.036
18"	/	/	2'-6"	/	/	0.703	0.033	0.049
24"	/	/	3'-0"	/	/	0.814	0.059	0.065
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

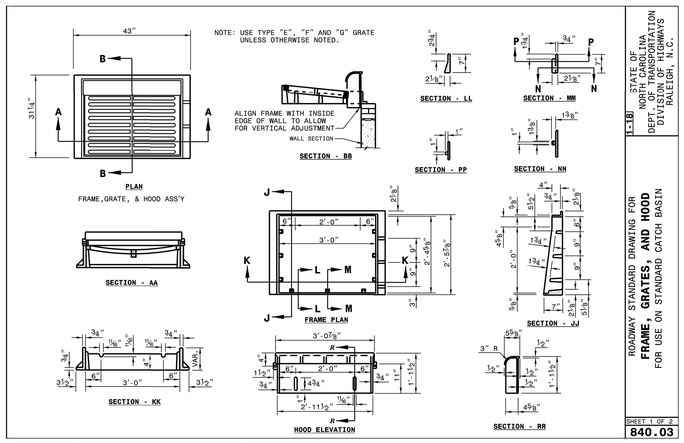
ROADWAY STANDARD DRAWING FOR **CONCRETE DROP INLET** 12" THRU 30" PIPE

SHEET 1 OF 1

840.14

2 NCDOT STD. DROP INLET

NTS



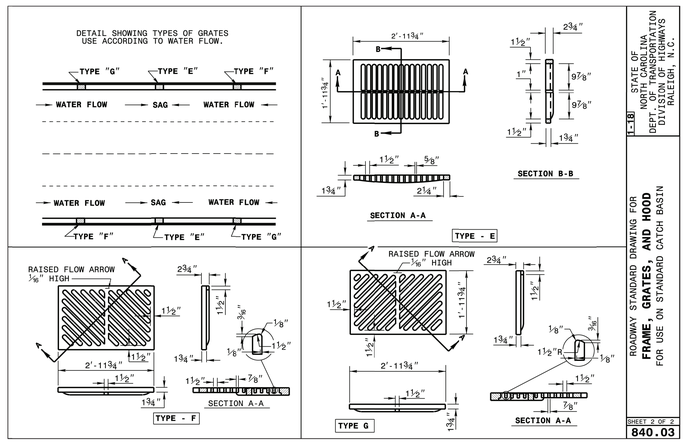
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN

SHEET 1 OF 2

840.03



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

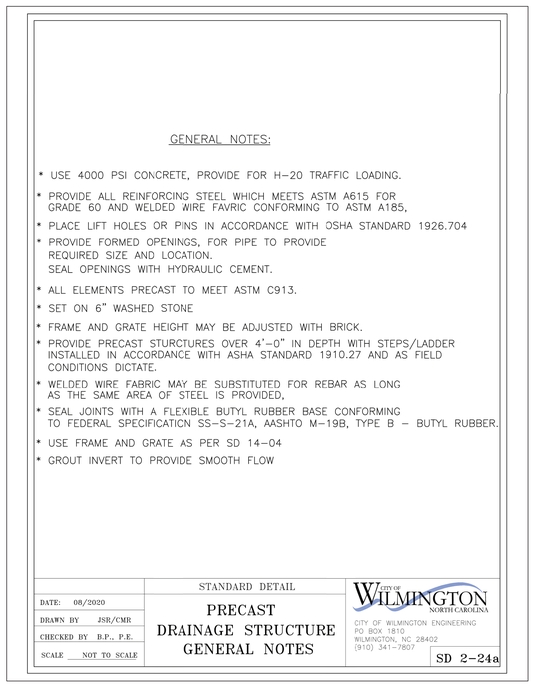
ROADWAY STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN

SHEET 2 OF 2

840.03

3 NCDOT STD. FRAME, GRATE, AND HOOD

NTS



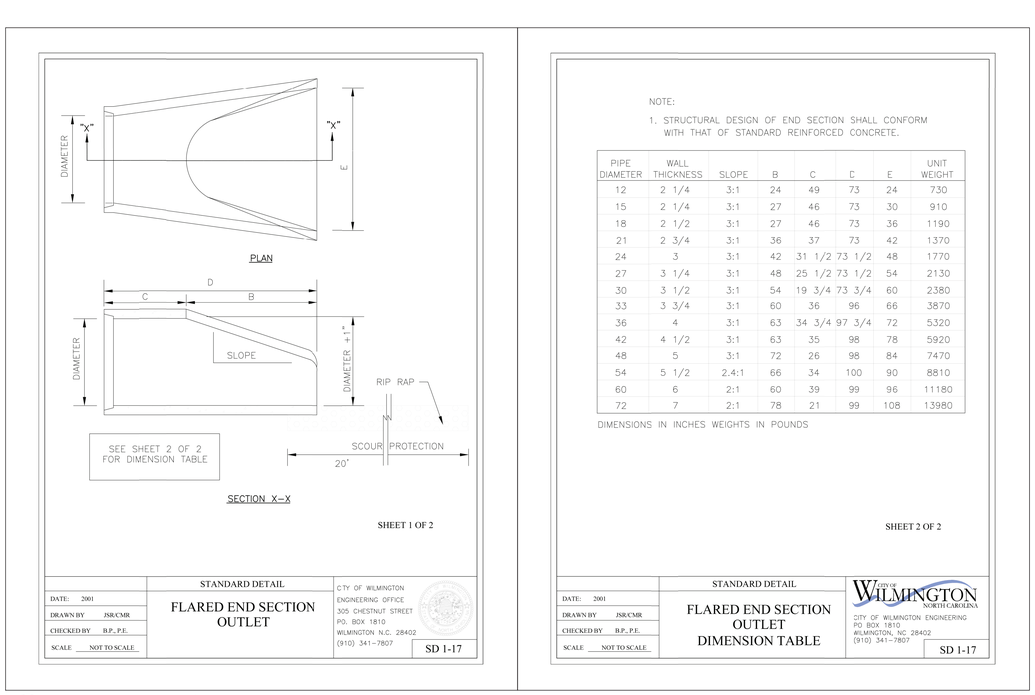
GENERAL NOTES:

- USE 4000 PSI CONCRETE, PROVIDE FOR H-20 TRAFFIC LOADING.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FAVRIC CONFORMING TO ASTM A185,
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704
- PROVIDE FORMED OPENINGS, FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION. SEAL OPENINGS WITH HYDRAULIC CEMENT.
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- SET ON 6" WASHED STONE
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH BRICK.
- PROVIDE PRECAST STURCTURES OVER 4'-0" IN DEPTH WITH STEPS/LADDER INSTALLED IN ACCORDANCE WITH ASHA STANDARD 1910.27 AND AS FIELD CONDITIONS DICTATE.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED,
- SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATICN SS-S-21A, AASHTO M-19B, TYPE B - BUTYL RUBBER.
- USE FRAME AND GRATE AS PER SD 14-04
- GROUT INVERT TO PROVIDE SMOOTH FLOW

	STANDARD DETAIL	
DATE: 08/2020	PRECAST DRAINAGE STRUCTURE GENERAL NOTES	CITY OF WILMINGTON NORTH CAROLINA CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY JSR/CMR		
CHECKED BY B.P., P.E.		
SCALE NOT TO SCALE		SD 2-24a

5 PRECAST DRAINAGE STRUCTURES GENERAL NOTES

NTS



SHEET 1 OF 2

	STANDARD DETAIL	
DATE: 2001	FLARED END SECTION OUTLET	CITY OF WILMINGTON ENGINEERING OFFICE 305 CHESTNUT STREET PO. BOX 1810 WILMINGTON N.C. 28402 (910) 341-7807
DRAWN BY JSR/CMR		
CHECKED BY B.P., P.E.		
SCALE NOT TO SCALE		SD 1-17

NOTE:

1. STRUCTURAL DESIGN OF END SECTION SHALL CONFORM WITH THAT OF STANDARD REINFORCED CONCRETE.

PIPE DIAMETER	WALL THICKNESS	SLOPE	B	C	D	E	UNIT WEIGHT
12	2 1/4	3:1	24	49	73	24	730
15	2 1/4	3:1	27	46	73	30	910
18	2 1/2	3:1	27	46	73	36	1190
21	2 3/4	3:1	36	37	73	42	1370
24	3	3:1	42	31 1/2	73 1/2	48	1770
27	3 1/4	3:1	48	25 1/2	73 1/2	54	2130
30	3 1/2	3:1	54	19 3/4	73 3/4	60	2380
33	3 3/4	3:1	60	36	96	66	3870
36	4	3:1	63	34 3/4	97 3/4	72	5320
42	4 1/2	3:1	63	35	98	78	5920
48	5	3:1	72	26	98	84	7470
54	5 1/2	2.4:1	66	34	100	90	8810
60	6	2:1	60	39	99	96	11180
72	7	2:1	78	21	99	108	13980

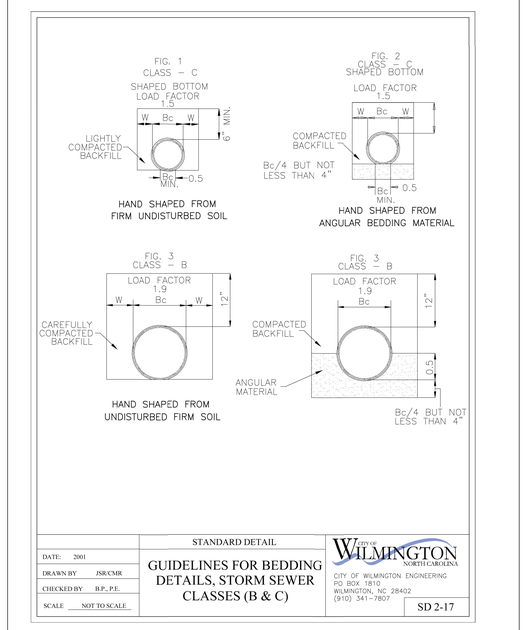
DIMENSIONS IN INCHES WEIGHTS IN POUNDS

SHEET 2 OF 2

	STANDARD DETAIL	
DATE: 2001	FLARED END SECTION OUTLET DIMENSION TABLE	CITY OF WILMINGTON NORTH CAROLINA CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY JSR/CMR		
CHECKED BY B.P., P.E.		
SCALE NOT TO SCALE		SD 1-17

6 FLARED END SECTION OUTLET

NTS



	STANDARD DETAIL	
DATE: 2001	GUIDELINES FOR BEDDING DETAILS, STORM SEWER CLASSES (B & C)	CITY OF WILMINGTON NORTH CAROLINA CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY JSR/CMR		
CHECKED BY B.P., P.E.		
SCALE NOT TO SCALE		SD 2-17

4 PIPE BEDDING INFORMATION

NTS

Esse Architects
632 PERSHING ROAD
RALEIGH, NORTH CAROLINA 27608
P 919.270.6400
www.esse-architects.com

CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

LANDSCAPE ARCHITECTURE + CIVIL ENGINEERING
TIMMONS GROUP
5410 TRINITY RD, SUITE 102
RALEIGH NC 27607
919.866.4929

MECHANICAL, ELECTRICAL, & PLUMBING
SIGMA ENGINEERED SOLUTIONS
5909 FALLS OF NEUSE RD, SUITE 101
RALEIGH NC 27609
919.840.5500

STRUCTURAL
LYSAGHT & ASSOCIATES
120 ST. MARYS ST.
RALEIGH, NC 27605
919.833.0495

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034374 01/13/2025 Braiden L. McLamb

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

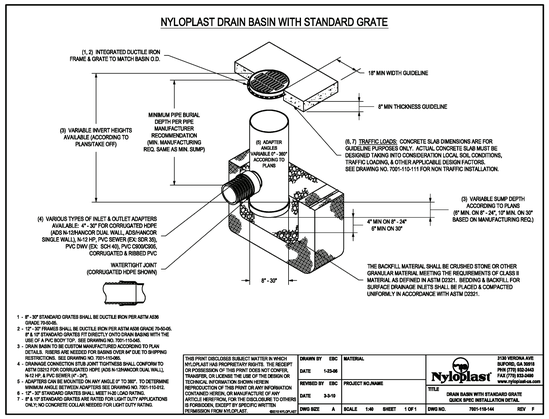
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

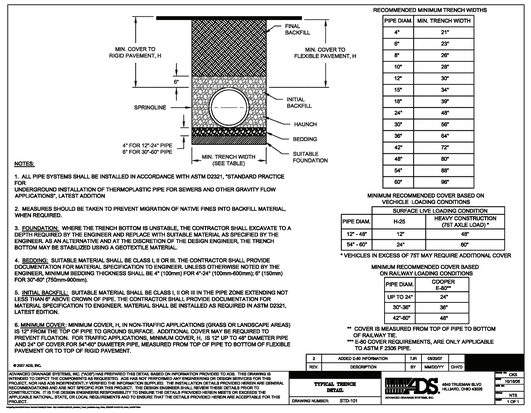
SHEET INFORMATION

C-207

GRADING AND DRAINAGE DETAILS



1 NYLOPLAST DRAIN BASIN DETAIL
NTS



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

NOTES:
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-l400mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) SHALL BE THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) FOR 4"-48" DIAMETER PIPE AND 24" COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

MINIMUM RECOMMENDED COVER BASED ON VEHICULE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-20	HEAVY CONSTRUCTION (75T AXLE LOADS) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2536 PIPE.

NO.	DESCRIPTION	BY	MM/DD/YY	CHK'D
2	ADDED E-80 INFORMATION	TJR	09/26/07	DMS
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D

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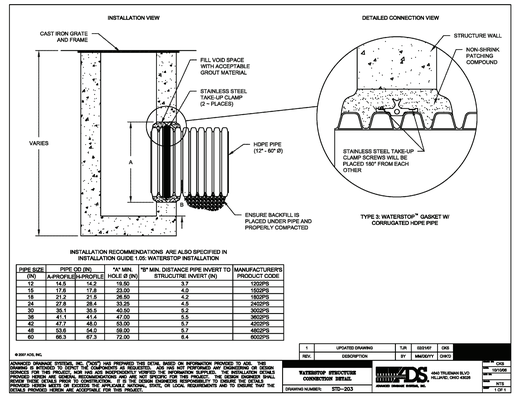
TYPICAL TRENCH DETAIL
DRAWING NUMBER: STD-101
4640 TRUEMAN BLVD. HILLIARD, OHIO 43026
ADVANCED DRAINAGE SYSTEMS, INC.
DRAWN BY: CKS 10/19/06
APP'D:
SCALE: NTS
SHEET: 1 OF 1

2 ADS PIPE TRENCHING DETAIL
NTS



INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN INSTALLATION GUIDE I.05: WATERSTOP INSTALLATION

PIPE SIZE (IN)	PIPE OD (IN) A-PROFILE	PIPE OD (IN) S-PROFILE	"A" MIN. HOLE Ø (IN)	"B" MIN. DISTANCE PIPE INVERT TO STRUCUTNE INVERT (IN)	MANUFACTURER'S PRODUCT CODE
12	14.5	14.2	19.50	3.7	1206PS
15	17.8	17.8	23.00	4.0	1503PS
18	21.0	21.0	26.50	4.5	1803PS
24	27.9	28.4	33.25	5.0	2403PS
30	35.1	35.5	40.00	5.2	3003PS
36	41.1	41.4	47.00	5.5	3603PS
42	47.7	48.0	53.00	5.7	4203PS
48	53.8	54.0	59.00	5.7	4803PS
60	66.3	67.3	72.00	6.4	6003PS

NO.	DESCRIPTION	BY	MM/DD/YY	CHK'D
1	UPDATED DRAWING	TJR	03/01/07	DMS
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D

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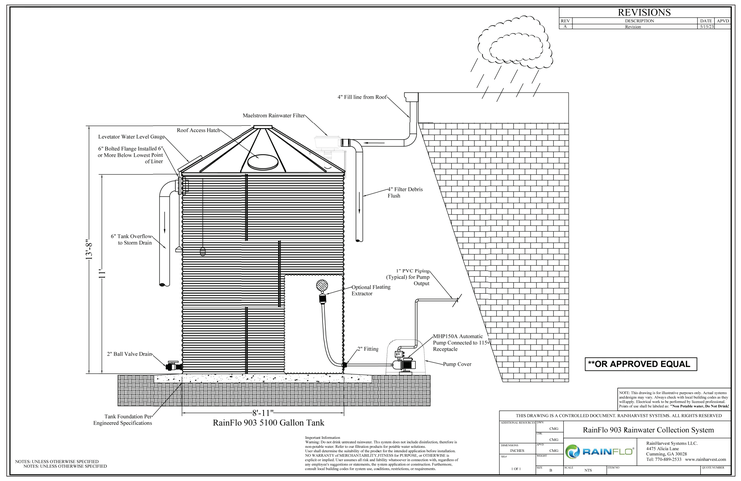
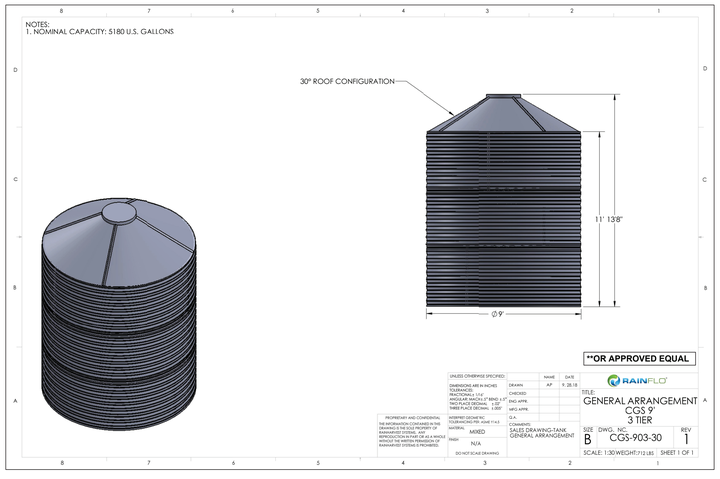
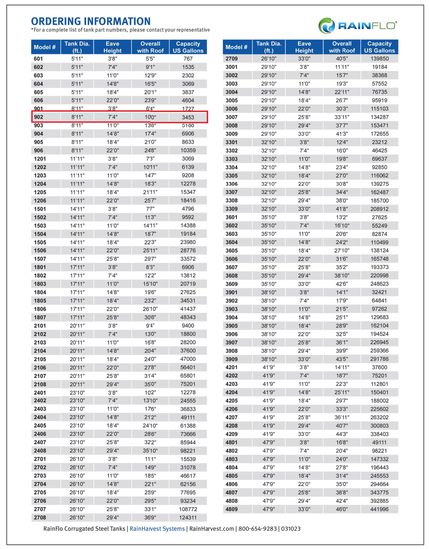
WATERSTOP STRUCTURE CONNECTION DETAIL
DRAWING NUMBER: STD-203
4640 TRUEMAN BLVD. HILLIARD, OHIO 43026
ADVANCED DRAINAGE SYSTEMS, INC.
DRAWN BY: CKS 10/19/06
APP'D:
SCALE: NTS
SHEET: 1 OF 1

3 WATERSTOP STRUCTURE CONNECTION DETAIL
NTS



4 CISTERN DETAIL AND INFORMATION
NTS





Model #	Tank Dia. (ft.)	Eave Height	Overall with Roof	Capacity US Gallons
601	5'11"	3'8"	5'5"	767
602	5'11"	7'4"	9'1"	1535
603	5'11"	11'0"	12'9"	2302
604	5'11"	14'8"	16'5"	3069
605	5'11"	18'4"	20'1"	3837
606	5'11"	22'0"	23'9"	4604
901	8'11"	3'8"	6'4"	1727
902	8'11"	7'4"	10'0"	3453
903	8'11"	11'0"	13'9"	5180
904	8'11"	14'8"	17'4"	6906
905	8'11"	18'4"	21'0"	8633
906	8'11"	22'0"	24'9"	10359
1201	11'11"	3'8"	7'3"	3069
1202	11'11"	7'4"	10'11"	6139
1203	11'11"	11'0"	14'7"	9208
1204	11'11"	14'8"	18'3"	12278
1205	11'11"	18'4"	21'11"	15347
1206	11'11"	22'0"	25'7"	18416
1501	14'11"	3'8"	7'7"	4796
1502	14'11"	7'4"	11'3"	9592
1503	14'11"	11'0"	14'11"	14388
1504	14'11"	14'8"	18'7"	19184
1505	14'11"	18'4"	22'3"	23980
1506	14'11"	22'0"	25'11"	28776
1507	14'11"	25'8"	29'7"	33572
1801	17'11"	3'8"	8'1"	6906
1802	17'11"	7'4"	12'2"	13812
1803	17'11"	11'0"	15'10"	20719
1804	17'11"	14'8"	19'6"	27625
1805	17'11"	18'4"	23'2"	34531
1806	17'11"	22'0"	26'10"	41437
1807	17'11"	25'8"	30'6"	48343
2101	20'11"	3'8"	9'4"	9400
2102	20'11"	7'4"	13'0"	18800
2103	20'11"	11'0"	16'8"	28200
2104	20'11"	14'8"	20'4"	37600
2105	20'11"	18'4"	24'0"	47000
2106	20'11"	22'0"	27'8"	56401
2107	20'11"	25'8"	31'4"	65801
2108	20'11"	29'4"	35'0"	75201
2401	23'10"	3'8"	10'2"	12278
2402	23'10"	7'4"	13'10"	24555
2403	23'10"	11'0"	17'6"	36833
2404	23'10"	14'8"	21'2"	49111
2405	23'10"	18'4"	24'10"	61388
2406	23'10"	22'0"	28'6"	73666
2407	23'10"	25'8"	32'2"	85944
2408	23'10"	29'4"	35'10"	98221
2701	26'10"	3'8"	11'1"	15539
2702	26'10"	7'4"	14'9"	31078
2703	26'10"	11'0"	18'5"	46617
2704	26'10"	14'8"	22'1"	62156
2705	26'10"	18'4"	25'9"	77695
2706	26'10"	22'0"	29'5"	93234
2707	26'10"	25'8"	33'1"	108772
2708	26'10"	29'4"	36'9"	124311

Model #	Tank Dia. (ft.)	Eave Height	Overall with Roof	Capacity US Gallons
2709	26'10"	33'0"	40'5"	139850
3001	29'10"	3'8"	11'11"	19184
3002	29'10"	7'4"	15'7"	38368
3003	29'10"	11'0"	19'3"	57552
3004	29'10"	14'8"	22'11"	76735
3005	29'10"	18'4"	26'7"	95919
3006	29'10"	22'0"	30'3"	115103
3007	29'10"	25'8"	33'11"	134287
3008	29'10"	29'4"	37'7"	153471
3009	29'10"	33'0"	41'3"	172655
3301	32'10"	3'8"	12'4"	23212
3302	32'10"	7'4"	16'0"	46425
3303	32'10"	11'0"	19'8"	69637
3304	32'10"	14'8"	23'4"	92850
3305	32'10"	18'4"	27'0"	116062
3306	32'10"	22'0"	30'8"	139275
3307	32'10"	25'8"	34'4"	162487
3308	32'10"	29'4"	38'0"	185700
3309	32'10"	33'0"	41'8"	208912
3601	35'10"	3'8"	13'2"	27625
3602	35'10"	7'4"	16'10"	55249
3603	35'10"	11'0"	20'6"	82874
3604	35'10"	14'8"	24'2"	110499
3605	35'10"	18'4"	27'10"	138124
3606	35'10"	22'0"	31'6"	165748
3607	35'10"	25'8"	35'2"	193373
3608	35'10"	29'4"	36'10"	220998
3609	35'10"	33'0"	42'6"	248623
3901	38'10"	3'8"	14'1"	32421
3902	38'10"	7'4"	17'9"	64841
3903	38'10"	11'0"	21'5"	97262
3904	38'10"	14'8"	25'1"	129683
3905	38'10"	18'4"	28'9"	162104
3906	38'10"	22'0"	32'5"	194524
3907	38'10"	25'8"	36'1"	226945
3908	38'10"	29'4"	39'9"	259366
3909	38'10"	33'0"	43'5"	291786
4201	41'9"	3'8"	14'11"	37600
4202	41'9"	7'4"	18'7"	75201
4203	41'9"	11'0"	22'3"	112801
4204	41'9"	14'8"	25'11"	150401
4205	41'9"	18'4"	29'7"	188002
4206	41'9"	22'0"	33'3"	225602
4207	41'9"	25'8"	36'11"	263202
4208	41'9"	29'4"	40'7"	300803
4209	41'9"	33'0"	44'3"	338403
4801	47'9"	3'8"	16'8"	49111
4802	47'9"	7'4"	20'4"	98221
4803	47'9"	11'0"	24'0"	147332
4804	47'9"	14'8"	27'8"	196443
4805	47'9"	18'4"	31'4"	245553
4806	47'9"	22'0"	35'0"	294664
4807	47'9"	25'8"	38'8"	343775
4808	47'9"	29'4"	42'4"	392885
4809	47'9"	33'0"	46'0"	441996

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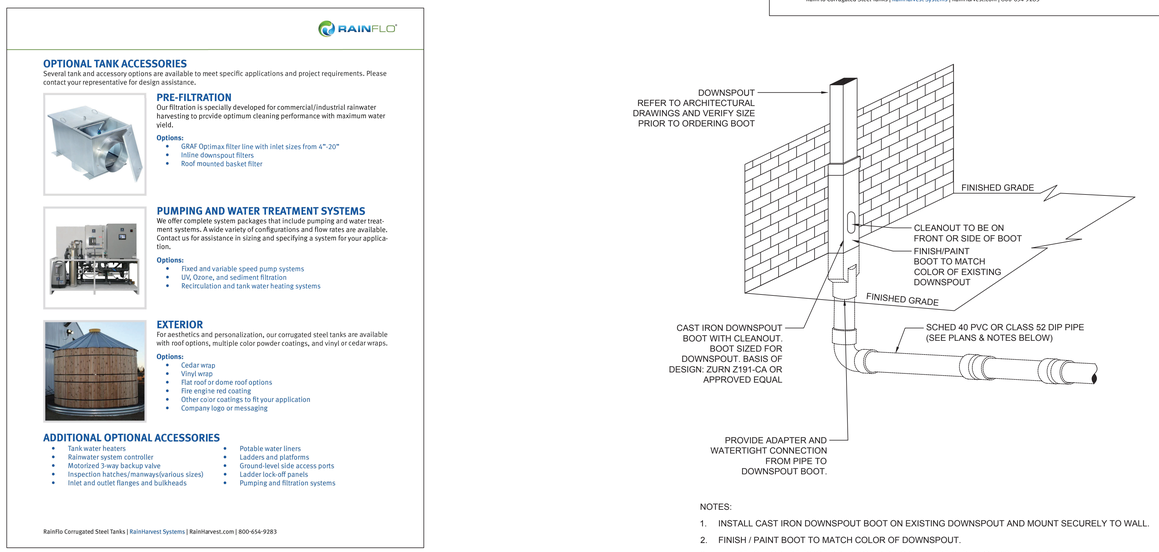

NOTES:
1. INSTALL CAST IRON DOWNSPOUT BOOT ON EXISTING DOWNSPOUT AND MOUNT SECURELY TO WALL.
2. FINISH / PAINT BOOT TO MATCH COLOR OF DOWNSPOUT.
3. ALL BELOW GRADE ROOF DRAINAGE PIPING SHALL BE 6" PVC @ 1.0% MIN. SLOPE UNLESS NOTED OTHERWISE.
4. PIPE SHALL BE DIP WHEN LESS THAN 24" OF COVER IS PROVIDED.
5. VERIFY DOWNSPOUT DIMENSIONS MATCH BOOT DIMENSIONS PRIOR TO ORDERING BOOT OR ADAPTOR.
6. MAINTAIN A WATERTIGHT CONNECTION AT ALL PIPE CONNECTIONS BELOW GRADE.
7. THE SITE WORK CONTRACTOR IS RESPONSIBLE FOR ALL WORK TO AND INCLUDING THE 45° BEND FOR ROOF DRAINS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ROOF DRAINS.

5 DOWNSPOUT BOOT CONNECTOR DETAIL
NTS

Esse Architects
632 PERSHING ROAD
RALEIGH, NORTH CAROLINA 27608
P 919.275.6455
www.esse-architects.com

CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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CITY OF WILMINGTON NORTH CAROLINA

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SEALS

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

C-208
GRADING AND DRAINAGE DETAILS

ELECTRICAL SYMBOLS

WALL OR CEILING MTD EXIT SIGN WITH SELF CONTAINED BATTERY BACK-UP, SINGLE FACE. ARROW WHEN USED INDICATES DIRECTION.

WALL OR CEILING MTD EXIT SIGN WITH SELF CONTAINED BATTERY BACK-UP, DOUBLE FACE. ARROW WHEN USED INDICATES DIRECTION.

CEILING/PENDENT MTD/RECESSED LIGHTING FIXTURE AND OUTLET, LETTER INDICATES FIXTURE TYPE, NUMBER INDICATES CIRCUIT

A — SUSPENDED OR SURFACE MTD LED LIGHTING FIXTURE AND OUTLET, LETTER INDICATES FIXTURE TYPE NUMBER INDICATES CIRCUIT

A, NL — SUSPENDED OR SURFACE MTD LED LIGHTING FIXTURE LETTER DESIGNATES FIXTURE TYPE. NL DESIGNATES UNSWITCHED NIGHT LIGHTING

A — CEILING MTD OR LAY-IN TYPE LED LIGHTING FIXTURE AND OUTLET, LETTER INDICATES FIXTURE TYPE NUMBER INDICATES CIRCUIT

A — CEILING MTD OR LAY-IN TYPE LED LIGHTING FIXTURE AND OUTLET, LETTER INDICATES FIXTURE TYPE NUMBER INDICATES CIRCUIT

C — CEILING MTD OR LAY-IN TYPE LED LIGHTING FIXTURE AND OUTLET, LETTER INDICATES FIXTURE TYPE NUMBER INDICATES CIRCUIT

D — WALL SCONCE, LETTER INDICATES FIXTURE TYPE NUMBER INDICATES CIRCUIT

D — WALL SCONCE, LETTER INDICATES FIXTURE TYPE NUMBER INDICATES CIRCUIT

EMERGENCY LIGHT BATTERY PACK - TWO HEAD UNIT.

G — CEILING/PENDENT MTD/RECESSED LIGHTING FIXTURE AND OUTLET, LETTER DESIGNATES FIXTURE TYPE.

J — OUTLET BOX WITH BLANK COVER - LOCATE AS REQUIRED TO FOR EQUIPMENT SERVED.

DUPLEX RECEPTACLE AND OUTLET, 20A, 125V, 3W. MTD 18" AFF UNLESS OTHERWISE NOTED ON PLANS.

QUADRUPLEX RECEPTACLE AND OUTLET, 20A, 125V, 3W. MTD 18" AFF UNLESS OTHERWISE NOTED ON PLANS.

DUPLEX RECEPTACLE AND OUTLET 20A, 125V, 3W, INSTALLED HORIZONTALLY 4" ABOVE BACKSPLASH OR COUNTER IF NO BACKSPLASH EXISTS

QUADRUPLEX RECEPTACLE AND OUTLET 20A, 125V, 3W, INSTALLED 4" ABOVE BACKSPLASH OR COUNTER IF NO BACKSPLASH EXISTS.

TV — TELEVISION OUTLET. 1-20AMP, 125V 3W QUAD RECEPTACLE AND 4" SQUARE J-BOX FOR TELEVISION CABLE AND DATA. PROVIDE 1" FROM J-BOX TO TELECOM ROOM. OUTLETS ARE TO BE MOUNTED BEHIND TV. COORDINATE LOCATION OF TV WITH ARCHITECT AND G.C. BEFORE STARTING ANY ROUGH-ING.

NOTE TO ALL RECEPTACLES:
1. SUBSCRIPT SP INDICATES SURGE SUPPRESSION PROTECTED DUPLEX RECEPTACLE.
2. SUBSCRIPT WP INDICATES GROUND FAULT TYPE RECEPTACLE. WITH STAINLESS STEEL IN-USE WEATHERPROOF COVER.
3. SUBSCRIPT ISG INDICATES ISOLATED GROUND TYPE RECEPTACLE.
4. SUBSCRIPT GFI INDICATES GROUND FAULT TYPE RECEPTACLE.
5. SUBSCRIPT TV INDICATES RECEPTACLE FOR TV MOUNTED IN BRACKET.
6. SUBSCRIPT S INDICATES SURFACE MOUNTED DEVICE.
7. SUBSCRIPT EM INDICATES EMERGENCY DEVICE.
8. SUBSCRIPT P INDICATES RECEPTACLE MOUNTED NEXT TO CEILING PROJECTOR.
9. SUBSCRIPT USB INDICATES RECEPTACLE. WITH USB AND USB-C PORTS

ONE GANG RECESSED FLOOR BOX EQUAL TO LEGRAND OMNIBOX SERIES. PROVIDE WITH ONE DUPLEX RECEPTACLES. PROVIDE 1"C FROM BOX AND RISE UP NEAREST WALL TO OPEN CEILING SPACE AND RUN CONDUIT TO POWER SOURCE OVER HEAD.

PE — DUSK TO DAWN PHOTOCELL LIGHT SENSOR

S — FLUSH MTD TOGGLE SWITCH, S.P.S.T., 20A, 120/277V

S_3 — FLUSH MTD 3-WAY TOGGLE SWITCH, 20A, 120/277V

S_{3D} — FLUSH MTD 3-WAY TOGGLE SWITCH WITH DIMMING, 20A, 120/277V

S_4 — FLUSH MTD 4-WAY TOGGLE SWITCH, 20A, 120/277V

S_D — FLUSH MTD DIMMER SWITCH. TO BE COMPATIBLE WITH LOAD.

S_M — MANUAL MOTOR STARTER SWITCH WITHOUT OVERLOAD HEATERS

S_{OS} — SWITCH TYPE DUAL TECHNOLOGY OCCUPANCY SENSOR WITH BUILT-IN OVERRIDE SWITCH

S_{OSD} — SWITCH TYPE DUAL TECHNOLOGY OCCUPANCY SENSOR WITH DIMMER AND OVERRIDE SWITCH

S_{OR} — DIGITAL TIMER SWITCH-INTERMATIC EI235 OR EQUAL

S_{DT} — DIGITAL TIMER SWITCH-INTERMATIC ST01 OR EQUAL

OS — CEILING MOUNTED TYPE DUAL TECHNOLOGY OCCUPANCY SENSOR

ES — WALL MOUNTED EMERGENCY POWER CONTROLLER FOR SWITCHED LOADS PER DETAIL 6/E304.

TWO-COMPARTMENT RECESSED FLOOR BOX WITH TWO COMPARTMENT FLOOR BOX EQUAL TO LEGRAND RFB2 SERIES. PROVIDE WITH ONE QUAD RECEPTACLE AND 4 DATA PORTS. PROVIDE 1" CONDUIT AND TWO (2) CAT 6 CABLES FROM DATA COMPARTMENT TO TELECOM ROOM 112 AND 1"CONDUIT WITH PULLWIRE TO DATA OUTLET BEHIND TV. COORDINATE COVER STYLE AND COLOR WITH ARCHITECT

TELE/COMM OUTLET 4" SQ. BOX, 2-1/8" DEEP WITH 1" K.O. WITH SINGLE GANG PLASTER RING, WITH 1"C AND TWO (2) CAT 6 CABLES TO TELECOM ROOM 112.

WAP — TELE/COMM WIRE ACCESS POINT OUTLET 4" SQ. BOX, 2-1/8" DEEP WITH 1" K.O. WITH SINGLE GANG PLASTER RING, WITH 1"C AND TWO (2) CAT 6 CABLES TO TELECOM ROOM 112.

S — RECESSED CEILING MOUNTED INTERCOM SPEAKER

CR — CARD READER. CONDUIT AND BOXES BY CONTRACTOR DEVICE AND CABING BY OWNER.

RECESSED MOUNTED PANELBOARD. REFER TO PANELBOARD SCHEDULE FOR PANELBOARD INFORMATION. DASHED SQUARE IS REQUIRED WORKING SPACE.

SURFACE MOUNTED PANELBOARD. REFER TO PANELBOARD SCHEDULE FOR PANELBOARD INFORMATION. DASHED SQUARE IS REQUIRED WORKING SPACE.

DASHED SQUARE IN FRONT OF EQUIPMENT IS REQUIRED WORKING SPACE FOR ELECTRICAL EQUIPMENT.

X-XX,XX — CONCEALED RACEWAY WITH CIRCUIT INFORMATION. CONDUIT AND CONDUCTORS INFORMATION SHOWN ON PANELBOARD SCHEDULE. UNLESS NOTED OTHERWISE.

NOTE:
ALL RACEWAYS SHALL CONTAIN A SEPARATE GREEN EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH NEC 250.122.

SURFACE METAL RACEWAY WITH RECEPTACLES AND DATA, REFER TO PLANS FOR SPECIFICATIONS.

PENDENT MTD, PLUG-IN BUS DUCT WITH PLUG-IN CIRCUIT BREAKER OR FUSIBLE SWITCH AND TAP BOX. DUCT AND SWITCH SHALL BE RATED AS NOTED.

NF / 30 — 30 AMP NON-FUSED DISCONNECT SWITCH. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.

20 / 30 — 30 AMP FUSED DISCONNECT SWITCH, FUSED AT 20 AMP. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.

NF / 30 WP — 30 AMP NON-FUSED, WEATHERPROOF DISCONNECT SWITCH. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.

20 / 30 4XSS — 30 AMP FUSED, NEMA 4 X STAINLESS STEEL DISCONNECT SWITCH, FUSED AT 20 AMP. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.

COMBINATION DISCONNECT SWITCH AND MAGNETIC MOTOR STARTER

MAGNETIC MOTOR STARTER

MANUAL MOTOR STARTER WITH OVERLOAD HEATERS

1 — A.C. MOTOR, NUMERAL INDICATES HP "F" INDICATES FRACTIONAL HP

ELECTRICAL SYMBOL NOTES

1. SYMBOLS AND ABBREVIATIONS MAY NOT ALL BE UTILIZED FOR THIS PROJECT.
2. SYMBOLS NOT LISTED IN THIS ELECTRICAL SYMBOL LEGEND ARE IDENTIFIED ON THE DRAWINGS WHERE THEY OCCUR.
3. MOUNTING HEIGHT GIVEN IN THE ELECTRICAL SPECIFICATIONS IS TO THE CENTERLINE OF THE DEVICE AND SHALL BE FOLLOWED UNLESS OTHERWISE INDICATED AT THE SYMBOL, ON ARCHITECTURAL ELEVATIONS OR CASEWORK DRAWINGS.

ABBREVIATIONS

A	AMPERE, AMMETER
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AHU	AIR HANDLING UNIT
ATS	AUTOMATIC TRANSFER SWITCH
BFG	BELOW FINISHED GRADE
C	CONDUIT
CATV	CABLE (COMMUNITY) ANTENNA TELEVISION
CU	COPPER
DISC	DISCONNECT
EC	ELECTRICAL CONTRACTOR
EGC	EQUIPMENT GROUNDING CONDUCTOR
EWC	ELECTRIC WATER COOLER
E	EXISTING
FA, F/A	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
GEC	GROUNDING ELECTRODE CONDUCTOR
GC	GENERAL CONTRACTOR
G,GND	GROUND
GF,GFI	GROUND FAULT INTERRUPTER
HH	HANDHOLE
HP	HORSEPOWER
IG, ISG	ISOLATED GROUND
JB	JUNCTION BOX
KVA	KILOVOLT-AMPERES
KW	KILOWATTS
LC	LIGHTING CONTACTOR
LTG	LIGHTING
LV	LOW VOLTAGE
MB	MAIN BREAKER
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MLO	MAIN LUGS ONLY
NF	NON FUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
P	POLE, PHASE
PB	PULL BOX
PC	PLUMBING CONTRACTOR
P/BD, PNL	PANELBOARD
PR	PAIR
SN	SOLID NEUTRAL
SW	SWITCH
SWBD	SWITCHBOARD
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VOLT
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL NOTES

1. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE 2023 NEC, ALL LOCAL AND STATE CODES, STATE BUILDING CODE AND REQUIREMENTS BY THE AUTHORITY HAVING JURISDICTION.
2. SYMBOLS AND ABBREVIATIONS MAY NOT ALL BE UTILIZED FOR THIS PROJECT.
3. UNLESS OTHERWISE INDICATED THE CONTRACTOR, IS RESPONSIBLE FOR ALL CUTTING, CORE- DRILLING AND PATCHING REQUIRED TO INSTALL ELECTRICAL RELATED WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ELECTRICAL RELATED WORK WITH OTHER TRADES. THE CONTRACTOR IS CAUTIONED THAT IT IS TOTALLY HIS RESPONSIBILITY TO COORDINATE HANGERS AND SUPPORTS WITH OTHER TRADES. ADDITIONAL REQUIRED HANGERS & SUPPORTS MUST BE IN PLACE PRIOR TO APPLICATION OF FIRE PROOFING MATERIAL. ANY DAMAGE INCURRED ON FIRE PROOFING MATERIAL DUE TO INSTALLATION OF ELECTRICAL HANGERS WILL BE REPAIRED BY FIRE PROOFING SUB-CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
5. UTILITIES SERVING AREAS OF THIS PROJECT STILL OCCUPIED BY THE OWNER DURING DEMOLITION AND NEW CONSTRUCTION SHALL BE MAINTAINED UNTIL THE OWNER VACATES THE AREA. UNLESS OTHERWISE NOTED.
6. VISIT THE SITE PRIOR TO BID DATE AND EXAMINE ALL AREAS TO BE DEMOLISHED AND RENOVATED. THOROUGHLY FAMILIARIZE YOURSELF WITH EXISTING CONDITIONS. NO EXTRA COMPENSATION WILL BE GIVEN FOR FAILURE TO THOROUGHLY EXAMINE EXISTING CONDITIONS TO DETERMINE THE EXACT SCOPE OF DEMOLITION WORK. "KEYED" NOTES ON THE DEMOLITION DRAWINGS ARE PROVIDED TO ASSIST BIDDERS TO DETERMINE THE SCOPE OF DEMOLITION WORK.
7. EXISTING AREAS WHETHER WITHIN OR WITHOUT THE "GENERAL LIMITS OF CONSTRUCTION", SHALL BE REPAIRED WHERE ANY DAMAGE HAS OCCURRED DUE TO CONSTRUCTION BY THE CONTRACTOR.
8. PROVIDE 4" HIGH CONCRETE HOUSEKEEPING PADS WITH CHAMFERED EDGES UNDER ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.
9. DO NOT MOUNT ANY WALL RECEPTACLES OR TELEPHONE/COMPUTER OUTLETS BACK TO BACK.
10. USE 3/4" DEEP MUD RINGS ON BOXES IN 5/8" DRYWALL SO FACE OF RING IS FLUSH WITH FACE OF DRYWALL. PROVIDE CADDY #RLC ADAPTER ON ALL OUTLETS WHERE DRYWALL IS CUT IN EXCESS OF 1/8" LARGER THAN MUD RING OR WHERE THE DEVICE "EARS" ARE NOT SUPPORTED BY THE DRYWALL.
11. 20A BRANCH CIRCUIT WIRE SIZING SHALL BE IN ACCORD WITH THE FOLLOWING TABLE:

VOLTS	DISTANCE	FIRST DEVICE)	REMAINDER OF CIRCUIT
120/208	0' - 50'	#12	#12
	50' - 100'	#10, #10 GND	#12
	100' - 150'	# 8, #8 GND	#10, #10 GND

12. THE ELECTRICAL CONTRACTOR SHALL VERIFY LOCATION OF LIGHTS, ETC. IN WITH MECHANICAL CONTRACTOR BEFORE ROUGH-IN TO AVOID CONFLICT WITH DUCT WORK.
13. ALL CONDUCTORS SHALL BE COPPER WITH A MINIMUM SIZE OF #12 AWG EXCEPT FOR FIRE ALARM.
14. ALL BRANCH CIRCUIT BREAKERS SHALL BE 20A, 1P, WITH 2 #12 AWG 1#12 GND IN 1/2" MINIMUM CONDUIT, UNLESS OTHERWISE NOTED.
18. ALL WIRING LUGS THROUGHOUT THE PROJECT, INCLUDING BUT NOT LIMITED TO BREAKERS, PANELBOARD/SWITCHBOARD LUGS, SAFETY SWITCH LUGS, AND TRANSFORMER LUGS, SHALL BE RATED FOR USE WITH 75 DEGREE CONDUCTORS SIZED IN ACCORDANCE WITH NEC TABLES 310-15 (B)(1)(1), 310-15(B)(1)(2), 310-15(C)(1) AND TABLE 310.16.
19. ALL RACEWAYS SHALL BE METAL UNLESS SPECIFICALLY NOTED OR APPROVED OTHERWISE. ANY RACEWAY IN POURED CONCRETE SHALL BE RIGID METAL (HEAVY WALL).
20. CONTRACTOR SHALL MINIMIZE NUMBER OF HOME RUN CONDUITS. CONTRACTOR MAY COMBINE UP TO THREE CIRCUITS PER HOME RUN IN A SINGLE CONDUIT. IF CIRCUITS ARE COMBINED,THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR APPLYING THE AMPACITY REDUCTION PERCENTS ON ALL CONDUCTORS PER NEC TABLE 310.15(C)(1) . INCREASE CONDUCTOR SIZE AS REQUIRED. A SEPARATE NEUTRAL SHALL BE USED FOR EACH CIRCUIT (NO NEUTRAL SHARING).
21. IN GENERAL ALL ELECTRICAL CONDUIT WILL BE RUN AS HIGH AS POSSIBLE. THE CONTRACTOR SHALL OFFSET THE ELECTRICAL CONDUIT TO AVOID INTERFERENCE WITH ANY DUCTWORK, SPRINKLER OR MECHANICAL PIPING. THE CONTRACTOR SHALL COORDINATE HIS CONDUIT AND RACEWAY LOCATIONS WITH ALL OTHER TRADES BEFORE INSTALLATION.
22. ELECTRICAL PLANS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL ALIGN FIXTURES, FIRE ALARM DETECTORS, CEILING DIFFUSERS, ETC. AS REQUIRED TO PROVIDE A PATTERN OF UNIFORMITY. AT NO TIME SHALL A SMOKE DETECTOR BE LOCATED WITHIN 3'-0" OF A SUPPLY OR RETURN GRILLE.
23. WIRE AND CIRCUIT BREAKERS ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE, BREAKERS AND CONDUIT FOR THIS PROJECT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND SHALL VERIFY THE ELECTRICAL DATA FOR EQUIPMENT WHICH WILL ACTUALLY BE INSTALLED BY THE OTHER CONTRACTORS AND RECOMPUTE WIRE AND BREAKER SIZES IF REQUIRED TO COMPLY WITH THE N.E.C.
24. REFER TO MECHANICAL DRAWINGS AND COORDINATE VERTICAL RUNS OF WIRE AND CONDUIT WITH MECHANICAL PIPING. COORDINATE WITH MECHANICAL CONTRACTORS. (NOTE: STACK RUNS OF CONDUIT AND PROVIDE OFFSETS AS NECESSARY.)
25. LABEL ALL CONDUITS TERMINATING IN THE CEILING CAVITIES.
26. LIGHTING & POWER PANELS ARE DESIGNED AROUND SQUARE "D" "NQOD" WITH A MAXIMUM DEPTH OF 5 3/4" AND WIDTH OF 20".
27. THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS, JUNCTION BOXES AND DISCONNECT SWITCHES SHALL BE REVIEWED AND COORDINATED WITH CASEWORK DRAWINGS AND ACTUAL EQUIPMENT LOCATION, PRIOR TO INSTALLATION. ANY DIFFERENCES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
28. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL CEILING TYPES AND FINISHES BEFORE PURCHASE OF ANY LIGHT FIXTURES SO THAT THE PROPER TRIM WILL BE PROVIDED FOR THE CEILING TO BE INSTALLED. ANY DIFFERENCES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
29. EACH CONTRACTOR SHALL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIM AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
30. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS.
31. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO THE INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE. PROVIDE COORDINATION DRAWINGS TO THE ENGINEER FOR APPROVAL. ANY REWORK THAT NEEDS TO BE DONE DUE TO CONFLICTS BETWEEN TRADES SHALL BE DONE AT THIS CONTRACTORS EXPENSE.
32. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING SYSTEM.
33. WHERE ELECTRICAL EQUIPMENT PENETRATES EXTERIOR WALLS OR THE ROOF, THEY SHALL BE PROPERLY SEALED WITH METHODS APPROVED BY THE ENGINEER. SUBMIT DETAIL OF PROPOSED WORK.
34. IN ALL AREAS WHERE THE FIRE RATED WALLS, FLOORS AND CEILINGS ARE INSTALLED OR ARE EXISTING, ALL PENETRATIONS OF ELECTRICAL CONDUITS OR OTHER RELATED ELECTRICAL MATERIALS SHALL BE PROPERLY SEALED WITH APPROVED FIRE RATED MATERIALS TO MAINTAIN THE RATINGS OF THE BUILDING CONSTRUCTION.
35. ALL FUSES, DISCONNECT SWITCHES AND BREAKER SIZES, SHOWN FOR MECHANICAL EQUIPMENT, SHALL BE VERIFIED BEFORE THE PURCHASE OR INSTALLATION OF SAID EQUIPMENT, WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR.
36. UPON COMPLETION OF WORK ALL KEYS TO ELECTRICAL POWER PANELS SHALL BE TURNED OVER TO THE OWNER AND A SIGNED RECEIPT SHALL BE OBTAINED.
37. ALL MULTIWIRE BRANCH CIRCUITS NEED TO HAVE SEPARATE NEUTRAL CONDUCTORS TO COMPLY WITH NEC 2020 ARTICLE 210.4. NO SHARED NEUTRAL CONDUCTORS PERMITTED ON THIS PROJECT.
38. ANY RECEPTACLE WITH-IN 6'-0" OF A SINK SHALL BE A GROUND FAULT TYPE (GFI) RECEPTACLE.
39. ALL WORK ON THIS PROJECT SHALL BE INSTALLED IN COMPLIANCE WITH ANSI A117.1, ADA STANDARDS FOR ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.
40. PROVIDE COORDINATION DRAWINGS FOR ALL ABOVE CEILING WORK REQUIRED; PRIOR TO BEGINNING WORK. DRAWINGS TO INCLUDE ELECTRICAL, MECHANICAL, FIRE ALARM, FIRE PROTECTION, ETC. CONTRACTOR TO LOCATE REQUIRED ACCESS PANELS. INTENT IS TO MINIMIZE NUMBER OF ACCESS PANELS REQUIRED AND MAKE PANELS AS SMALL AS POSSIBLE.
41. DATA AND SECURITY WIRING AND EQUIPMENT IS FURNISHED AND INSTALLED BY OWNER'S VENDORS. CONDUIT AND BOXES TO BE PROVIDED BY ELECTRICAL CONTRACTOR AS SHOWN ON DRAWINGS. GC TO COORDINATE REQUIREMENTS AND LOCATIONS.
42. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LIGHT FIXTURE LOCATION/ALIGNMENT.
43. ALL ELECTRICAL CONDUIT TO BE CONCEALED WHERE FEASIBLE. ALL NEW CONDUIT SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO STRUCTURE. CEILING CONDUIT SHALL BE RUN AS TIGHT TO STRUCTURE AS POSSIBLE. EXPOSED ROUTING IS TO BE COORDINATED WITH AND APPROVED BY ARCHITECT.
44. ALL SCHEDULING OF ELECTRICAL INSPECTIONS WITH THE LOCAL ELECTRICAL INSPECTOR SHALL BE MONDAY THRU FRIDAY 8:00AM TO 5:00PM UNLESS SPECIFICALLY EXEMPTED AND APPROVED BY LOCAL INSPECTOR.

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT — RONALD A. DAVIS — 2018 — PROFESSIONAL ENGINEER — 5/21/2025

SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: RDA
CHECKED BY: RDA

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2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

E001
ELECTRICAL LEGEND & NOTES

VEHICLE SHED

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE: ENERGY CODE — [X] PERFORMANCE [ ] PRESCRIPTIVE
ASHRAE 90.1 — [ ] PERFORMANCE [ ] PRESCRIPTIVE

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE	NOT APPLICABLE
TOTAL WATTAGE PER FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	2150 WATTS VS 4840 WATTS
TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED	NA

ADDITIONAL EFFICIENCY PACKAGE OPTIONS
(WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)

- [ ] C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
- [X] C406.3 REDUCED LIGHTING POWER DENSITY
- [ ] C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
- [ ] C406.5 ON-SITE RENEWABLE ENERGY
- [ ] C406.6 DEDICATED OUTDOOR AIR SYSTEM
- [ ] C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENT OF THE NORTH CAROLINA STATE BUILDING CODE

SIGNED: Reggie Adams
NAME: REGGIE ADAMS P.E.
TITLE: ELECTRICAL ENGINEER

ADMINISTRATION BUILDING

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE: ENERGY CODE — [X] PERFORMANCE [ ] PRESCRIPTIVE
ASHRAE 90.1 — [ ] PERFORMANCE [ ] PRESCRIPTIVE

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE	NOT APPLICABLE
TOTAL WATTAGE PER FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	7595 WATTS VS 12122 WATTS
TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED	2650 WATTS VS 6412 WATTS

ADDITIONAL EFFICIENCY PACKAGE OPTIONS
(WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)

- [ ] C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
- [X] C406.3 REDUCED LIGHTING POWER DENSITY
- [ ] C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
- [ ] C406.5 ON-SITE RENEWABLE ENERGY
- [ ] C406.6 DEDICATED OUTDOOR AIR SYSTEM
- [ ] C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENT OF THE NORTH CAROLINA STATE BUILDING CODE

SIGNED: Reggie Adams
NAME: REGGIE ADAMS P.E.
TITLE: ELECTRICAL ENGINEER

POTTING SHED

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE: ENERGY CODE — [X] PERFORMANCE [ ] PRESCRIPTIVE
ASHRAE 90.1 — [ ] PERFORMANCE [ ] PRESCRIPTIVE

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE	NOT APPLICABLE
TOTAL WATTAGE PER FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	600 WATTS VS 910 WATTS
TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED	110 WATTS VS 590 WATTS

ADDITIONAL EFFICIENCY PACKAGE OPTIONS
(WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)

- [ ] C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
- [X] C406.3 REDUCED LIGHTING POWER DENSITY
- [ ] C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
- [ ] C406.5 ON-SITE RENEWABLE ENERGY
- [ ] C406.6 DEDICATED OUTDOOR AIR SYSTEM
- [ ] C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENT OF THE NORTH CAROLINA STATE BUILDING CODE

SIGNED: Reggie Adams
NAME: REGGIE ADAMS P.E.
TITLE: ELECTRICAL ENGINEER

GREENHOUSES

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE: ENERGY CODE — [ ] PERFORMANCE [ ] PRESCRIPTIVE
ASHRAE 90.1 — [ ] PERFORMANCE [ ] PRESCRIPTIVE

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE	NOT APPLICABLE
TOTAL WATTAGE PER FIXTURE	REFER TO LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	1440 WATTS VS 4200 WATTS
TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED	N/A

ADDITIONAL EFFICIENCY PACKAGE OPTIONS
(WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)

- [ ] C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
- [ ] C406.3 REDUCED LIGHTING POWER DENSITY
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- [ ] C406.5 ON-SITE RENEWABLE ENERGY
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- [ ] C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENT OF THE NORTH CAROLINA STATE BUILDING CODE

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5/21/2025

SEALS

PROJECT INFORMATION

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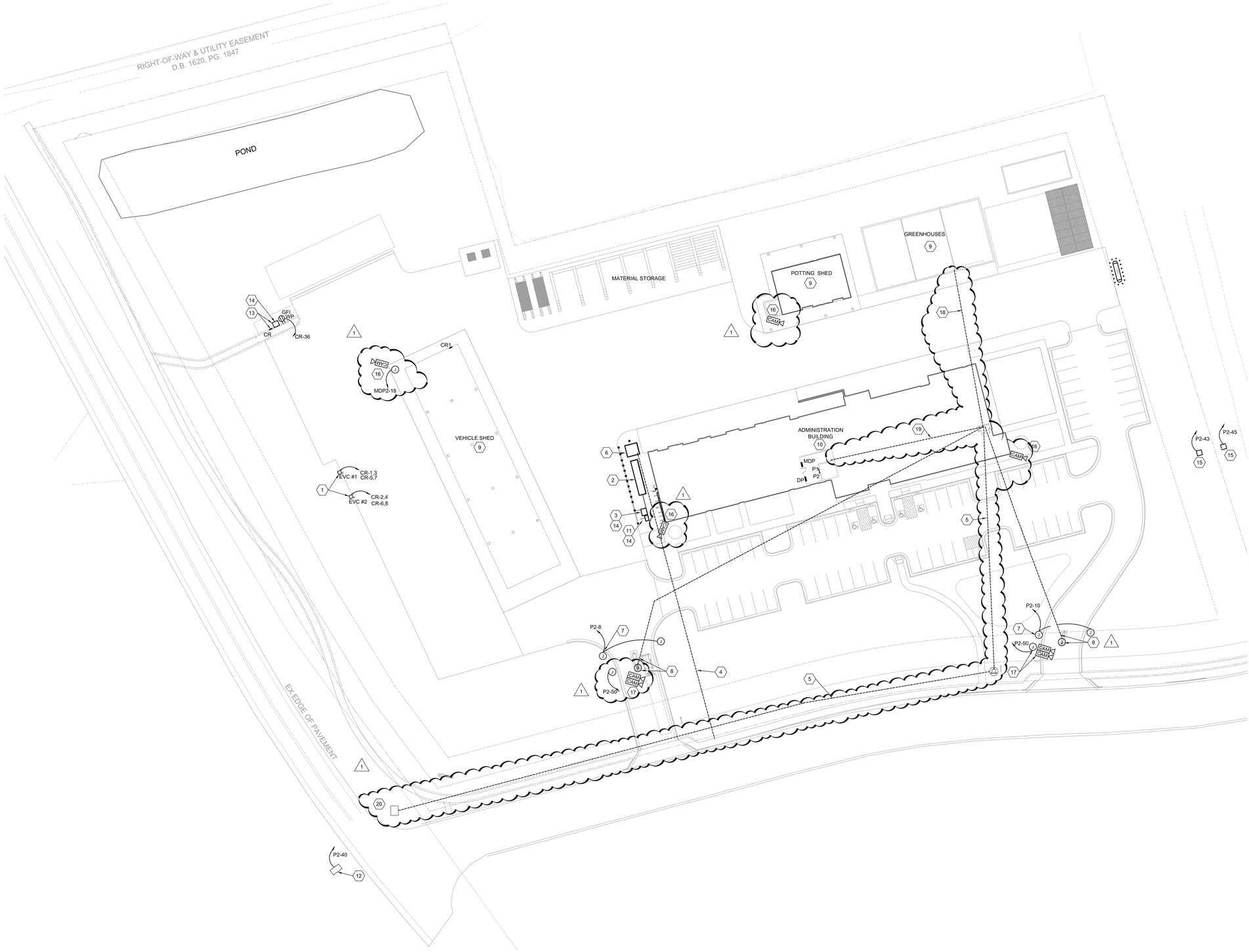
SHEET INFORMATION

E002
ELECTRICAL BUILDING CODE SUMMARIES

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 260500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



N

1 / E100 ELECTRICAL SITE PLAN
1" = 30'-0"

GENERAL NOTES:

1. REFER TO SHEET E001 FOR LEGEND AND GENERAL NOTES.
2. REFER TO REFER TO SHEET E500 AND E501 FOR PANEL & LUMINAIRE SCHEDULES.

KEYED NOTES:

1. PEDESTAL MOUNTED LEVEL 2 DUAL CHARGING STATIONS. FED FROM PANEL CR. REFER TO PANELBOARD SCHEDULE FOR CONDUIT AND CONDUCTOR SIZES. REFER TO 7/E301 FOR MOUNTING.
2. 400 kW DIESEL GENERATOR. PROVIDE BOLLARDS TO PROTECT FROM VEHICULAR TRAFFIC REFER TO DETAIL 8/E301.
3. GENERATOR 800AMP, 208Y/120V NEMA 4XSS DOCKING STATION (GDS#1) FOR MDP. PROVIDE BOLLARD TO PROTECT FROM VEHICULAR TRAFFIC REFER TO DETAIL 8/E301.
4. PROVIDE 2-4"C TO ROW FOR USE BY DUKE ENERGY.
5. PROVIDE 2-4"C TO TELECOM 112. REFER TO DETAIL 3/E303 FOR DUCT BANK INFORMATION.
6. DUKE PROGRESS TRANSFORMER.
7. PROVIDE 120V CIRCUIT FOR GATE CONTROLLER. REFER TO DRAWING A4.5 FOR ADDITIONAL CONDUIT REQUIRED FOR GATE EQUIPMENT.
8. PROVIDE JUNCTION BOX AT CARD READER LOCATION. PROVIDE 1.5" CONDUIT FROM THIS LOCATION TO TELECOM ROOM 112.
9. REFER TO SHEET E203 FOR BUILDING ELECTRICAL PLANS.
10. REFER TO SHEETS E200, E201, E202 FOR BUILDING ELECTRICAL PLANS.
11. GENERATOR 200AMP, 208Y/120V, NEMA 4XSS DOCKING STATION (GDS#2) FOR PANELBOARD DP. PROVIDE BOLLARD TO PROTECT FROM VEHICULAR TRAFFIC REFER TO DETAIL 4/E301.
12. SPRINKLER HOT BOX. PROVIDE (2) FIRE ALARM MONITOR CIRCUITS FOR TAMPER SWITCHES AND A 120VOLT CIRCUIT FOR HEATER AND RECEPTACLE. COORDINATE LOCATION OF HOT BOX WITH UTILITY PLAN U-100 AND CIVIL CONTRACTOR. PROVIDE WEATHER PROOF JUNCTION IN HOT BOX AND REDUCE CONDUCTORS TO #12 IN JUNCTION BOX.
13. 400 AMP GENERATOR DOCKING STATION "GDS#3" AND 400 AMP, 208Y/120V, 3P, 4W, NEMA 4XSS SERVICE ENTRANCE RATED PANELBOARD "CR". REFER TO PANELBOARD SCHEDULE FOR ADDITIONAL INFORMATION. REFER TO DETAIL 5/E301 FOR MOUNTING INFORMATION.
14. PROVIDE PERMANENT SIGNAGE ON THE DOCKING STATION THAT DESCRIBES HOW TO CONNECT A TEMPORARY GENERATOR TO THE DOCKING STATION.
15. CIRCUIT FOR DOMESTIC WATER HOT BOX. COORDINATE LOCATION WITH GENERAL CONTRACTOR BEFORE STARTING ANY ROUGH-IN WORK.
16. SECURITY CAMERA. PROVIDE 3/4"C WITH PULLWIRE FROM CAMERA LOCATION TO TELECOM ROOM #112. LABEL CONDUIT "SECURITY INCLUDE THE LOCATION. EXAMPLE "SECURITY POTTING SHED".
17. SECURITY CAMERAS AND JUNCTION AT GATE: JUNCTION BOX TO BE 24" X 24" X 4" NEMA 4X STAINLESS STEEL . MOUNT AT 2'-0" A.F.G. PROVIDE 3/4"C WITH PULLWIRE FROM CAMERA LOCATION TO JUNCTION BOX . PROVIDE 1-1/2"C WITH PULLWIRE FROM JUNCTION BOX TO TELECOM ROOM #112. LABEL CONDUIT "SECURITY INCLUDE THE LOCATION. EXAMPLE "SECURITY EAST GATE". REFER TO DETAIL 5/E303 FOR JUNCTION BOX MOUNTING.
18. PROVIDE 3"C WITH CABLING FROM TELCOM 112 TO GREENHOUSE'S PLYWOOD BACKBOARD. REFER TO DRAWING E203 FOR LOCATION OF PLYWOOD BACKBOARD IN GREENHOUSE.
19. PROVIDE 2"C WITH CABLING FROM TELCOM 112 TO INTERMEDIATE DATA RACK IN ELECTRICAL ROOM 121. REFER TO DRAWING E201 FOR LOCATION OF RACK.
20. EXISTING FIBER VAULT TO REMAIN AND HAVE NEW CONDUITS INSTALLED.

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2958 RYAN D. ALLEN
NORTH CAROLINA PROFESSIONAL ENGINEER 049758 SEAL 01.13.2025

SEALS

PROJECT INFORMATION

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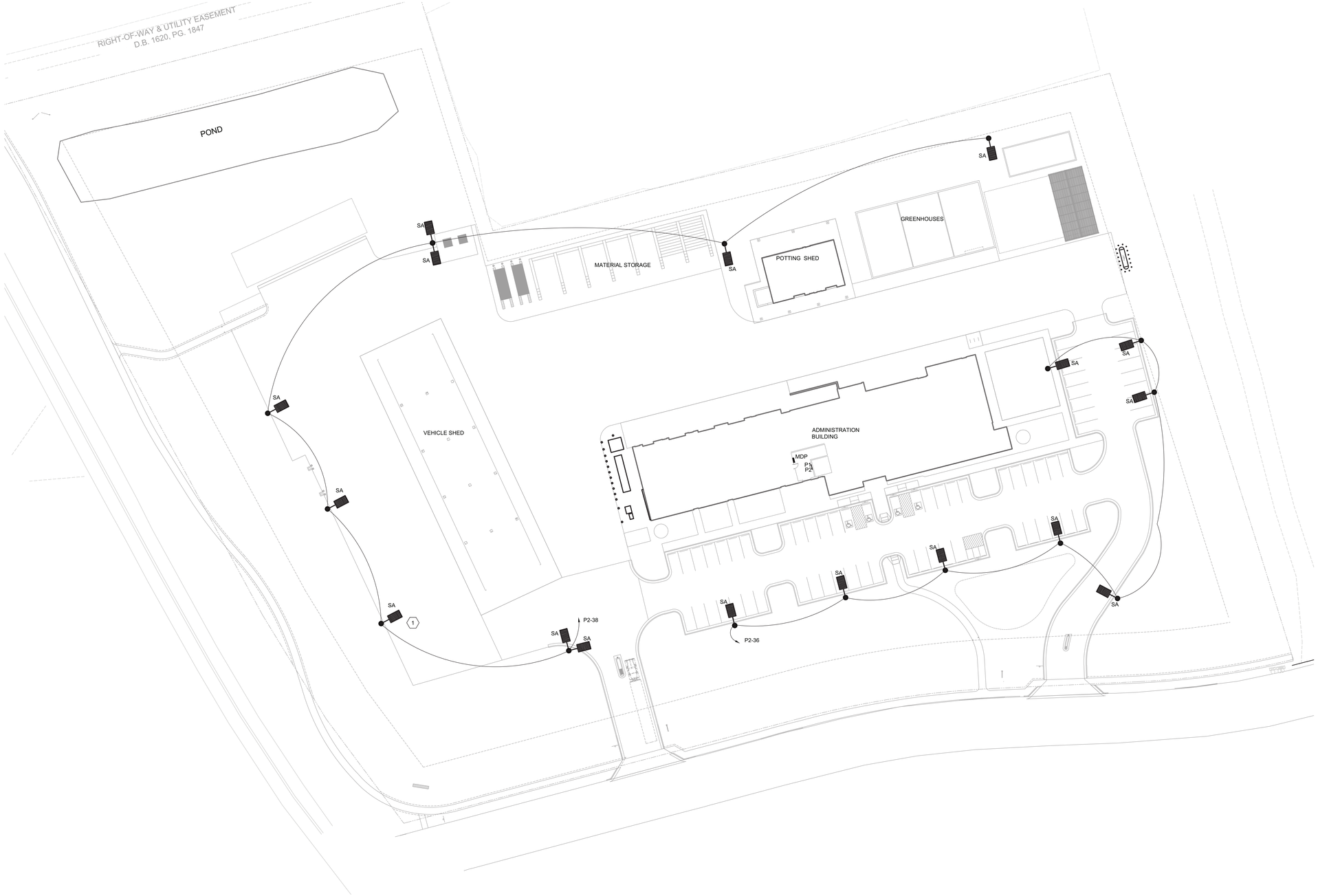
SHEET INFORMATION

E100
ELECTRICAL SITE PLAN

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 260500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



N

1 / E101 SITE LIGHTING PLAN
1" = 30'-0"

GENERAL NOTES:

1. REFER TO SHEET E001 FOR ELECTRICAL LEGEND AND ADDITIONAL GENERAL NOTES.

NOTES KEYED TO 1/E002:

1. SOLAR POWERED POLE LIGHT. REFER TO LIGHT FIXTURE SCHEDULE FOR FIXTURE INFORMATION. TYPICAL ALL POLE LIGHTS.

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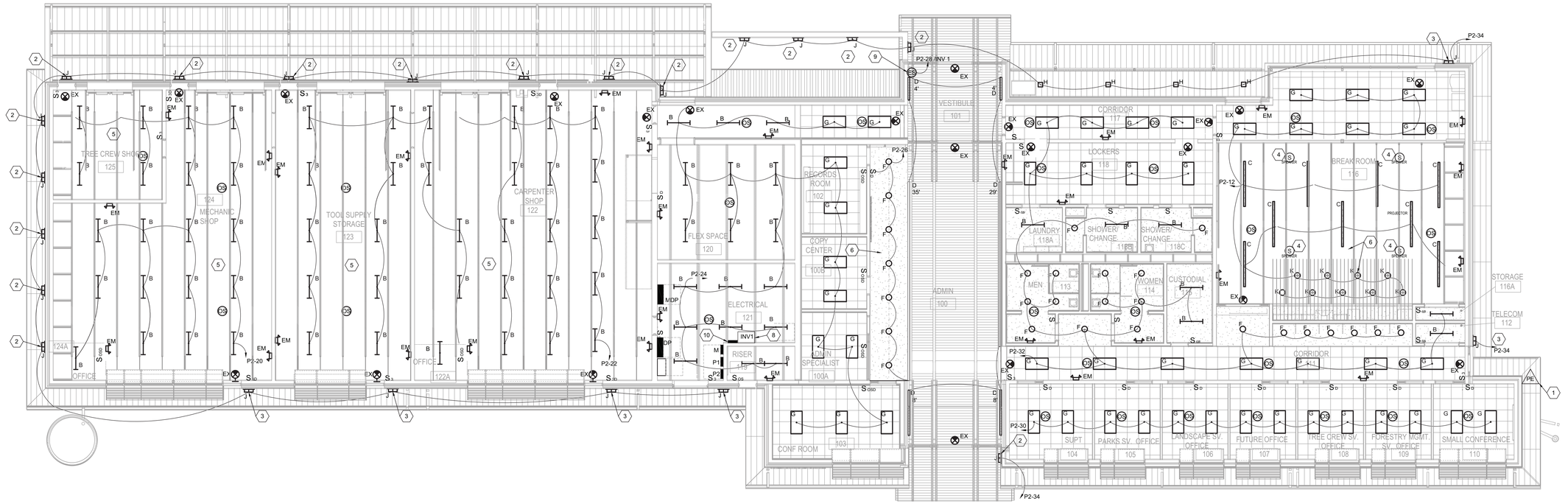
SHEET INFORMATION

E101
SITE PLAN LIGHTING

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 260500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



N

1 / E201 ADMINISTRATION BUILDING LIGHTING PLAN

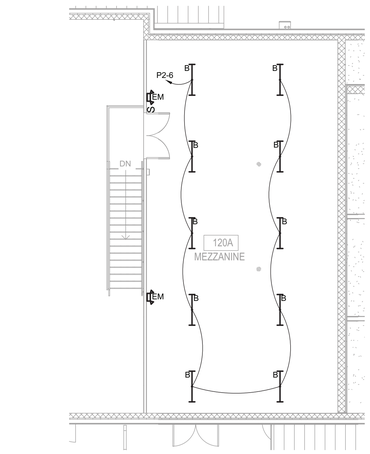
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET E001 FOR LEGEND AND GENERAL NOTES.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS IN ADDITION TO KEYED NOTES.
3. ALL EXIT AND EMERGENCY LIGHTS SHALL BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF SWITCHING.

KEYED NOTES:

1. PHOTOCELL TO CONTROL EXTERIOR FIXTURES. MOUNT UNDER SOFFIT. REFER TO DETAIL 4/E304 FOR ADDITIONAL INFORMATION.
2. MOUNT FIXTURE WITH TOP OF FIXTURE AT 8'-8" AFG.
3. MOUNT FIXTURE WITH TOP OF FIXTURE AT 8'-8" AFG AND 16" FROM DOOR FRAME TO CENTER OF LIGHT FIXTURE.
4. PROVIDED 4"X4" JUNCTION BOX TO SUPPORT SPEAKERS. PROVIDE 3/4" C BETWEEN EACH SPEAKER BOX AND PROVIDE 1.25"C TO AV RACK.
5. FIXTURE TO BE MOUNTED SO THE TOP OF FIXTURE IS LEVEL WITH BOTTOM OF ROLL-UP DOOR WHEN OPEN. REFER TO DETAIL 2/A424 FOR DOOR HEIGHT INFORMATION.
6. REFER TO ARCHITECTURAL ELEVATION DETAILS FOR FIXTURE MOUNTING INFORMATION.
7. LOCATION OF TIME CLOCK AND LIGHTING CONTRACTORD LC1 AND LC1.
8. 2.2KVA 120VOLT 1PH INPUT AND 120VOLT OUTPUT. INVERTER "INV-1" FOR ADMIN 100 AND VESTIBULE 101 LIGHT FIXTURES.
9. EMERGENCY POWER CONTROLLER FOR LOBBY TYPE "D" LIGHTS. REFER TO DETAIL 6/E304 FOR ADDITIONAL INFORMATION.
10. LIGHTING CONTRCTORS LC1, LC2 AND TIME CLOCK .



N

2 / E200 ADMINISTRATION BUILDING MEZZANINE LIGHTING PLAN

1/8" = 1'-0"

0 4' 8' 16'

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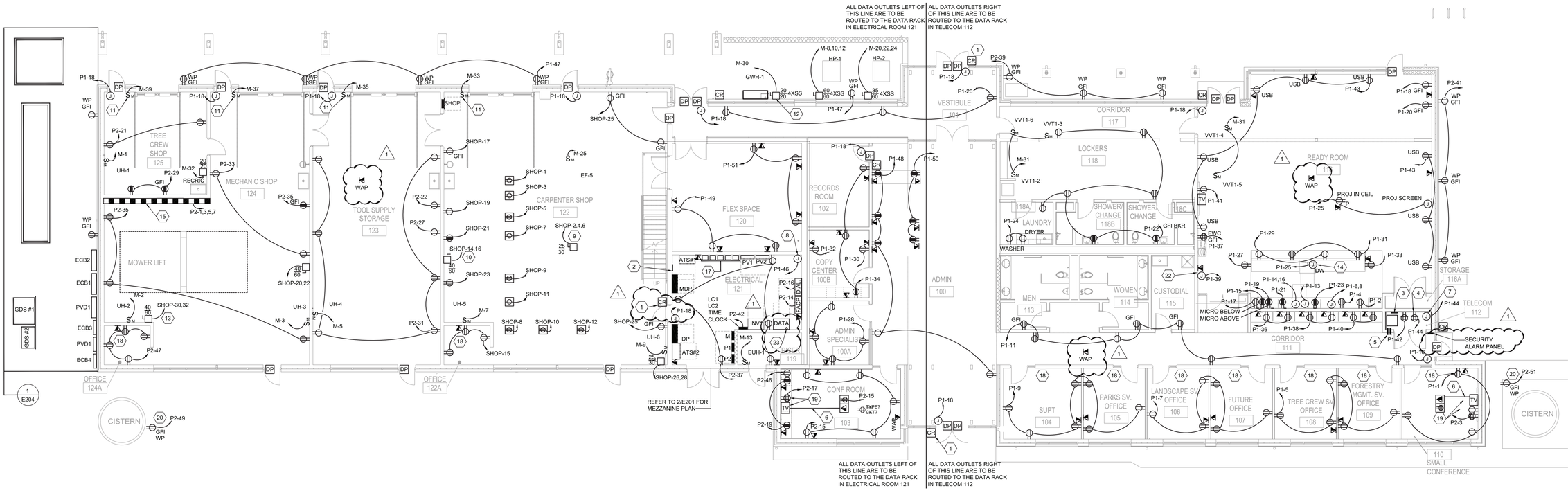
SHEET INFORMATION

E200

ADMINISTRATION BUILDING LIGHTING PLAN

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 260500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



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1 / E200 ADMINISTRATION BUILDING POWER PLAN

1/8" = 1'-0"

0 4' 8' 16'

GENERAL NOTES:

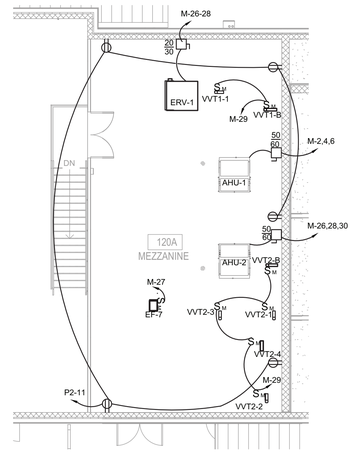
1. REFER TO SHEET E001 FOR LEGEND AND GENERAL NOTES.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS AND E200.
3. ALL EXIT AND EMERGENCY LIGHTS SHALL BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF SWITCHING.
4. REFER TO ARCHITECTURAL CASE WORK DRAWING A402 FOR POWER AND DATA OUTLET LOCATION AT CASEWORK LOCATION. MOUNTING HEIGHTS MAY VARY.
5. REFERENCE E202 AND E400 FOR DIFFERENTIATING LANGUAGE RELATED TO BASE BID AND ALTERNATE WORK RELATED TO PV SYSTEM INSTALLATION.

1

KEYED NOTES:

1. MULLION MOUNTED CARD READER.
2. BUILDING GROUND BAR, REFER TO DETAIL 2/E400 FOR ADDITIONAL BAR INFORMATION.
3. TELECOM GROUND BAR, REFER TO DETAIL 2/E303 FOR ADDITIONAL BAR INFORMATION.
4. TELECOM ROOM TO HAVE 3/4" X 8'-0" FIRE RATED PLYWOOD ON ALL WALLS. BOTTOM OF PLYWOOD TO MOUNTED AT THE TOP OF THE BASE BOARD.
5. 2-3" RIGID CONDUITS THROUGH WALL ABOVE CEILING . REFER TO DETAIL 1/E303 FOR ADDITIONAL INFORMATION.
6. PROVIDE 1-1" CONDUIT WITH PULL WIRE TO TELECOM ROOM 112 AND 1-1" CONDUIT WITH PULL WIRE TO DATA OUTLET BEHIND TV. .
7. JUNCTION BOX FOR SECURITY CAMERA EQUIPMENT. COORDINATE LOCATION OF EQUIPMENT WITH SECURITY CONTRACTOR BEFORE STARTING ANY ROUGH-IN.
8. JUNCTION BOX FOR SECURITY ACCESS CONTROL EQUIPMENT. PROVIDE A 2"C WITH PULL FROM JUNCTION BOX TO JUNCTION BOX IN KEYED NOTE 21. COORDINATE LOCATION OF EQUIPMENT WITH SECURITY CONTRACTOR BEFORE STARTING ANY ROUGH-IN.
9. DISCONNECT FOR DUST COLLECTION SYSTEM. COORDINATE CONNECTION POINT BEFORE STARTING ANY ROUGH-IN WORK.
10. DISCONNECT FOR WELDER COORDINATE CONNECTION POINT BEFORE STARTING ANY ROUGH-IN WORK.
11. DISCONNECT SWITCH FOR OVERHEAD DOOR. COORDINATE CONNECTION POINT BEFORE STARTING ANY ROUGH-IN WORK. PART OF ALTERNATE #1
12. DISCONNECT SWITCH FOR WATER HEATER. COORDINATE CONNECTION POINT BEFORE STARTING ANY ROUGH-IN WORK.
13. DISCONNECT SWITCH FOR MOWER LIFT. COORDINATE CONNECTION POINT BEFORE STARTING ANY ROUGH-IN WORK.
14. JUNCTION BOX FOR DISHWASHER. COORDINATE CONNECTION POINT BEFORE STARTING ANY ROUGH-IN WORK. PER NEC JUNCTION BOX (CONNECTION) SHALL BE LOCATED IN SPACE ADJACENT TO THE SPACE OCCUPIED BY THE DISHWASHER.
15. 4000 WIREMOLD WITH A DUPLEX RECEPTACLES. RECEPTACLES TO BE WIRED ALTERNATELY. REFER TO DETAIL 10/E301 FOR ADDITIONAL INFORMATION.
16. DISCONNECT FOR PLUMBING RECRIC PUMP. COORDINATE LOCATION OF PUMP WITH DIVISION 22 BEFORE STARTING ANY ROUGH-IN WORK.
17. FIVE (5)-17.3 kVA 3-PHASE INVERTERS FOR ROOF SOLAR PANELS.
18. THE BOTTOM SECTION OF ALL RECEPTACLES TO BE CONTROLLED VIA OCCUPANCY SENSORS.
19. POWER AND DATA TO BE MOUNTED BEHIND TV. COORDINATE LOCATION WITH G.C. AND CASEWORK ELEVATION DRAWING 5/A402 BEFORE STARTING ANY ROUGH-IN.
20. GFI/WEATHER PROOF RECEPTACLE FOR CISTERN PUMP. COORDINATE LOCATION OF PUMP WITH CISTERN INSTALLER BEFORE STARTING ANY ROUGH-IN WORK.
21. RECEPTACLE FOR MINI-FRIG. COORDINATE LOCATION COORDINATE LOCATION WITH OWNER AND CASEWORK ELAVATIONS BEFORE STARTING ROUGH-IN.
22. JUNCTION BOX AND DATA OUTLET FOR OWNER PROVIDED TIME CLOCK. COORDINATE LOCATION AND CONNECTION WITH OWNER AND G.C. BEFORE STATING ANY ROUGH-IN WORK.
23. INTERMEDIATE DATA RACK: PROVIDE 2"C AND CABLING FROM TELECOM 112. STUB CONDUIT UP 6" A.F.F.

1



N

2 / E201 ADMINISTRATION BUILDING MEZZANINE POWER PLAN

1/8" = 1'-0"

0 4' 8' 16'

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT RYAN DAVID ALLEN 5/21/2025

SEALS

PROJECT INFORMATION

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DATE: 01.13.2025
DRAWN BY: RDA
CHECKED BY: RDA

REVISIONS

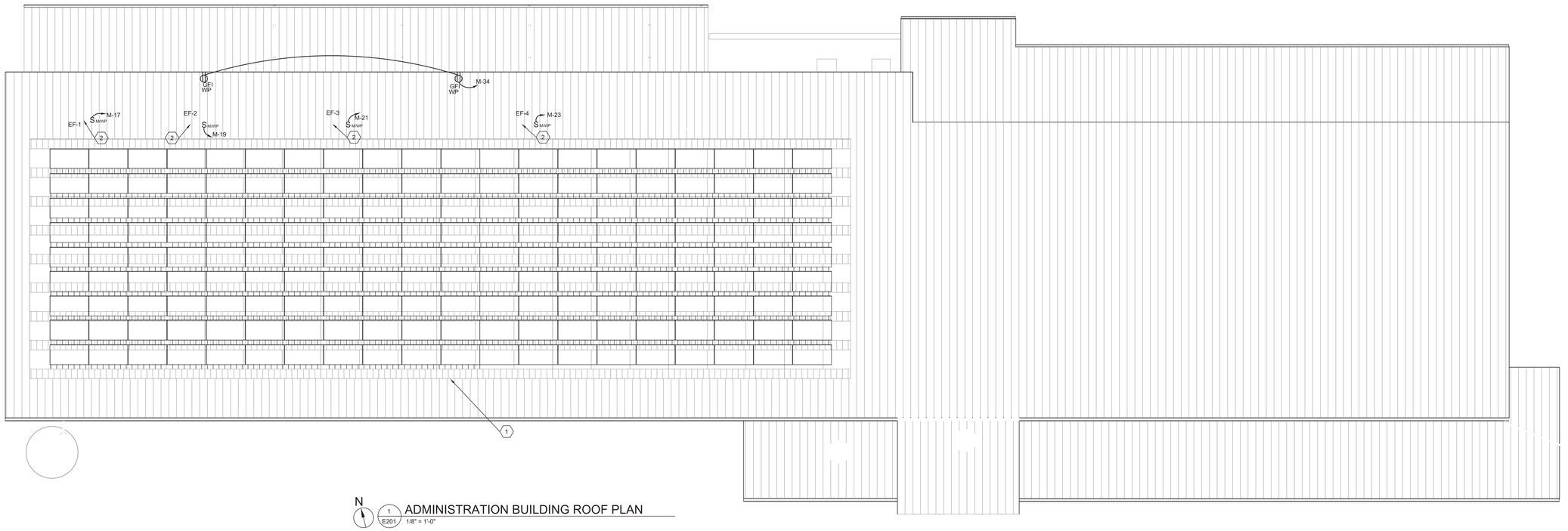
NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

E201

ADMINISTRATION BUILDING POWER PLAN

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 260500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



N

1 / E201 ADMINISTRATION BUILDING ROOF PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET E001 FOR LEGEND AND GENERAL NOTES.

KEYED NOTES:

1. 450 W (DC) PV PANEL. TYPICAL OF TWO HUNDRED (200). REFERENCE SHEET E-401 FOR INTERCONNECTION DIAGRAMS. PV PANELS SHALL BE FURNISHED AND INSTALLED AS PART OF ADD ALTERNATE #7.
2. HVAC EXHAUST FAN. COORDINATE CONNECTION POINT WITH DIVISION 23 BEFORE STARTING ANY ROUGH-IN WORK.

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2358 RYAN DAVIS ENGINEERS, PLLC
5/21/2025

SEALS

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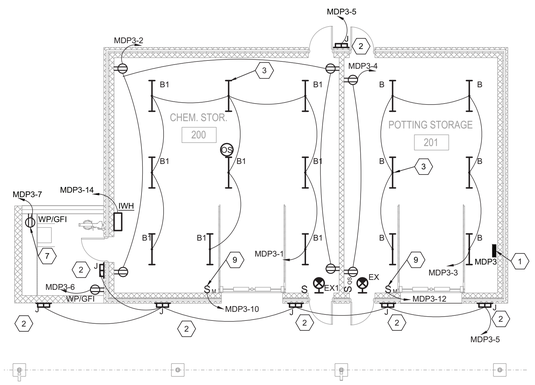
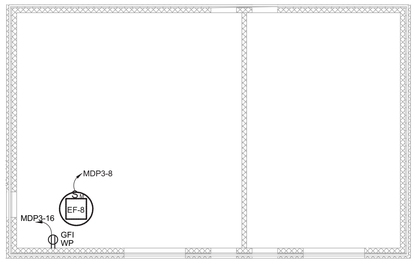
SHEET INFORMATION

E202

ADMINISTRATION BUILDING ROOF PLAN

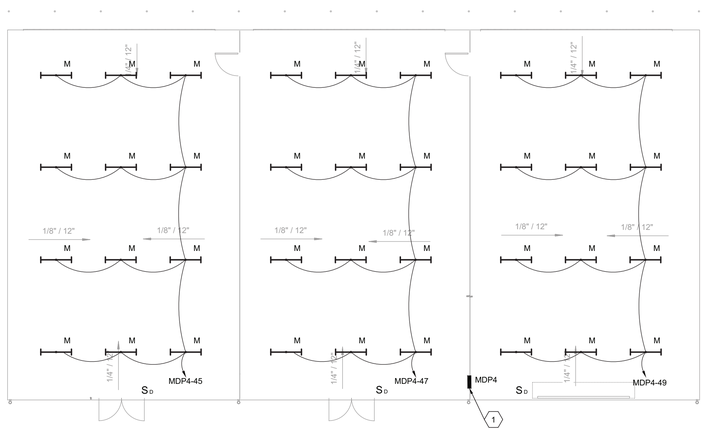
COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 260500 FOR REQUIRED PRE-INSTALLATION MEETINGS.





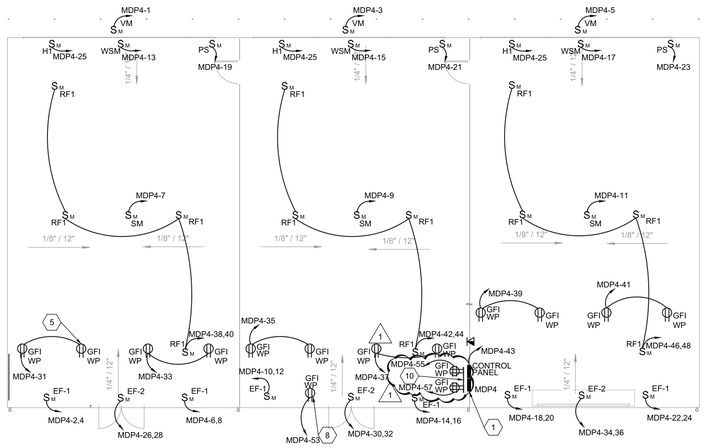
N 1 E203 POTTING SHED ELECTRICAL PLAN 1/8" = 1'-0"

N 2 E203 POTTING SHED ROOF PLAN 1/8" = 1'-0"

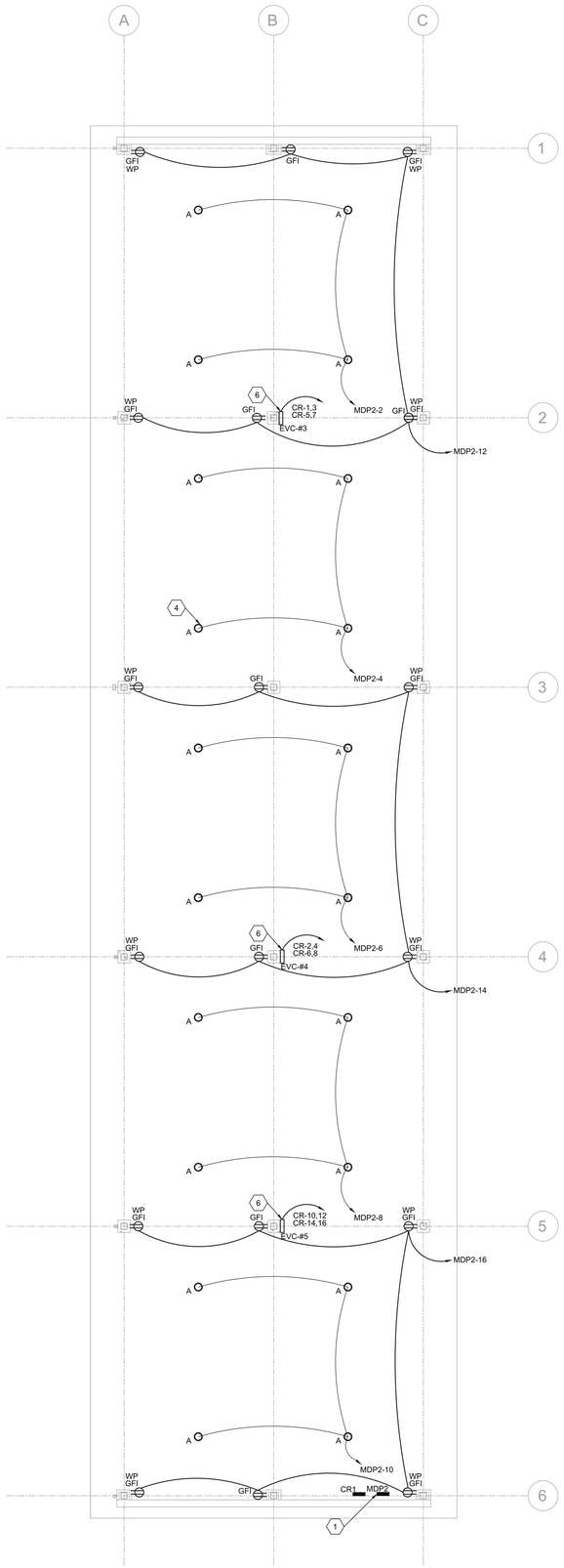


N 3 E203 GREENHOUSE PLAN- LIGHTING 1/8" = 1'-0"

GREEN HOUSE EQUIPMENT
VM VENT MOTOR
SM SCREEN MPTOR
EF1 EXHAUSR FAN 1
EF2 EXHAUST FAN 2
WSM WALL SHUTTER
PS PAD WALL PUMP
H1 UNIT HEATER
RF1 RECRIC FAN.



N 4 E203 GREENHOUSE PLAN - POWER 1/8" = 1'-0"



N 5 E203 VEHICLE SHED ELECTRICAL PLAN 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET E001 FOR LEGEND AND GENERAL NOTES.

KEYED NOTES:

1. BUILDING PANELBOARD, REFER TO PANELBOARD SCHEDULE FOR ADDITIONAL PANELBOARD INFORMATION. REFER TO POWER RISER FOR CONDUIT AND FEEDER INFORMATION.
2. MOUNT FIXTURE WITH TOP OF FIXTURE AT 7'-4" AFF. TYPICAL ALL TYPE J FIXTURES
3. MOUNT FIXTURES AT 10'-0" ABOVE FINISHED FLOOR. TYPICAL FOR TYPE B AND B1 FIXTURES
4. MOUNT FIXTURES AT 18'-0" ABOVE FINISHED FLOOR. TYPICAL FOR TYPEA FIXTURES
5. RECEPTACLE FOR GREEN HOUSE TABLES. REFER TO DETAIL 8/E304 FOR ADDITIONAL INSTALLATION INFORMATION.
6. WALL MOUNTED LEVEL 2 DUAL CHARGING STATIONS. REFER TO PANELBOARD SCHEDULE FOR CONDUIT AND CONDUCTOR SIZES. REFER TO 8/E301 FOR MOUNTING
7. WEATHER PROOF RECEPTACLE FOR SUMP PUMP. COORDINATE LOCATION OF PUMP WITH DIVISION 22 BEFORE STARTING ANY ROUGH-IN WORK.
8. WEATHER PROOF RECEPTACLE FOR PESTICIDE SUMP PUMP. COORDINATE LOCATION OF PUMP WITH DIVISION 22 BEFORE STARTING ANY ROUGH-IN WORK.
9. POWER FOR OVER HEAD DOORS IS PART OF ALTERNATE #1
10. 4 X 8 FIRE RATED PLYWOOD FOR TELECOM EQUIPMENT.

1

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2015 RYAN C. DAVIS 1/13/2025

SEALS

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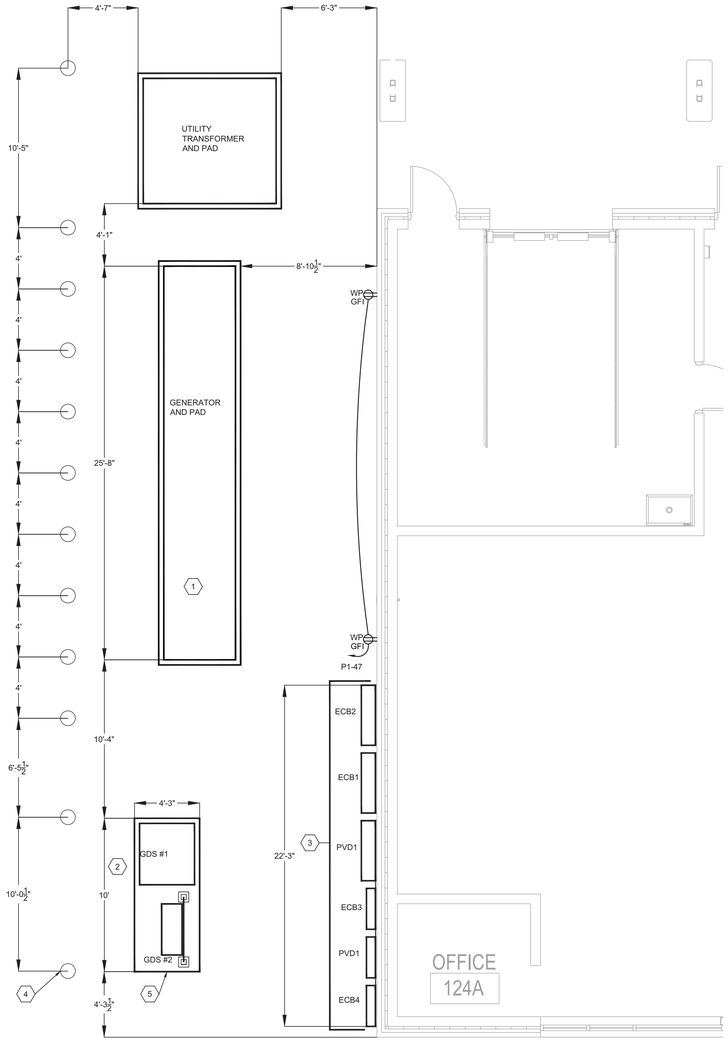
SHEET INFORMATION

E203

VEHICLE SHED, POTTING SHED AND GREENHOUSE ELECTRICAL PLANS

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 260500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



N

1 / E204 ADMINISTRATION BUILDING SERVICE YARD PLAN

1/4" = 1'-0"

KEYED NOTES:

1. NEW GENERATOR. REFER TO POWER RISER FOR ADDITIONAL INFORMATION.
2. GENERATOR DOCKING STATION. REFER TO POWER RISER FOR ADDITIONAL INFORMATION.
3. SERVICE ENTRANCE EQUIPMENT. ALL TO BE PROVIDED IN NEMA 4X SS ENCLOSURES. REFER TO POWER RISER FOR ADDITIONAL INFORMATION.
4. BOLLARD PER DETAIL 9/E301. TYPICAL
5. GENERATOR DOCKING STATION CONCRETE PAD SHOWN IS THE MINIMUM REQUIRED PAD SIZE. PAD SIZE MAY VERIFY DO TO EQUIPMENT PROVIDED.

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SHEET INFORMATION

E204

ADMINISTRATION BUILDING SERVICE YARD PLAN

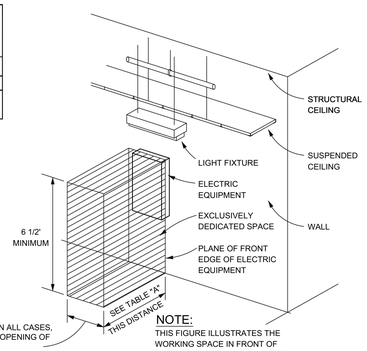
TABLE "A"
WORKING CLEARANCES

NOMINAL VOLTAGE TO GROUND	CONDITION: 1	2	3
		MINIMUM CLEAR DISTANCE (FEET)	
0-150		3	3	3
151-600		3	3.5	4

WHERE THE "CONDITIONS" ARE AS FOLLOWS:

1. EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUSBARS OPERATING AT NOT OVER 300 VOLTS SHALL NOT BE CONSIDERED LIVE PARTS.
2. EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE. CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.
3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

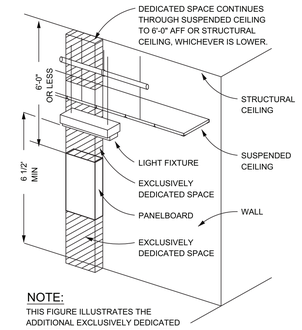
NOTE:
DEDICATED SPACE CONTINUES THROUGH SUSPENDED CEILING TO A HEIGHT OF 6FT ABOVE THE EQUIPMENT OR TO THE STRUCTURE CEILING, WHICH EVER IS LOWER.



WIDTH OF EQUIPMENT OR 30", WHICHEVER IS GREATER. IN ALL CASES, THE WORK SPACE SHALL PERMIT AT LEAST A 90 DEGREE OPENING OF EQUIPMENT DOORS OR HINGED PANELS.

NOTE:
THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF ELECTRIC EQUIPMENT REQUIRED BY SECTION 110.26 OF THE NATIONAL ELECTRICAL CODE.

ALL ELECTRIC EQUIPMENT



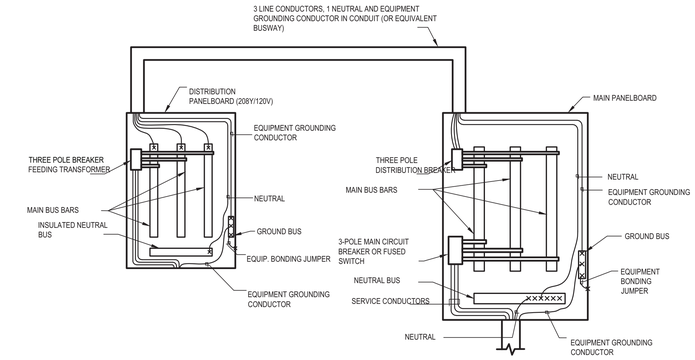
NOTE:
THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED OVER AND UNDER PANELBOARDS FOR CABLES, RACEWAYS, ETC. TO AND FROM PANELBOARDS REQUIRED BY SECTION 110.26 OF THE NATIONAL ELECTRICAL CODE.

PANELBOARDS

1 E300 REQUIRED WORKING SPACE ABOUT ELECTRICAL EQUIPMENT
NOT TO SCALE

NOTE:

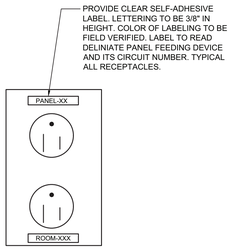
1. THIS INCLUDES BUT IS NOT LIMITED TO PANELBOARDS, SAFETY SWITCHES, MOTOR STARTERS, JUNCTION BOXES AND OTHER ELECTRIC EQUIPMENT.
2. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH THE DEDICATED SPACES SHOWN ABOVE.



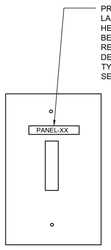
2 E300 GROUNDING AND BONDING DETAIL
NOT TO SCALE

NOTES:

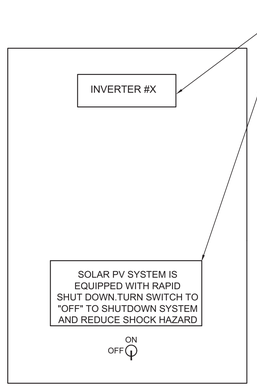
1. ALL GROUNDING AND BONDING CONDUCTORS SHALL BE SIZED PER NEC, TABLE 250.122 OR 250.66. SEE ELECTRICAL RISER AND PANEL SCHEDULES FOR SIZING REQUIREMENTS.
2. SYSTEM GROUND CONDUCTOR SHALL BE CONTINUOUS AND UNBROKEN, AND SHALL BE RUN BETWEEN BONDING POINTS ALONG THE SHORTEST POSSIBLE PATH.
3. THIS DETAIL DIAGRAMS THE PREFERRED METHOD OF ESTABLISHING A SYSTEM GROUND AND BONDING POINTS WITHIN A TYPICAL DISTRIBUTION SYSTEM. THE GROUNDING SYSTEM SHALL COMPLY WITH NEC ARTICLE 250.



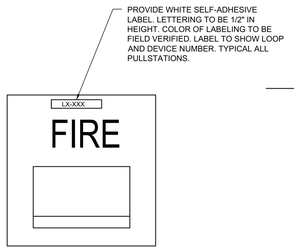
RECEPTACLE



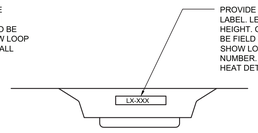
SWITCH OR OCCUPANCY SENSOR-WALL MOUNTED



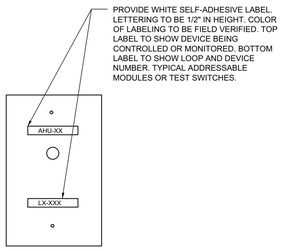
INVERTER/INVERTER DISCONNECT



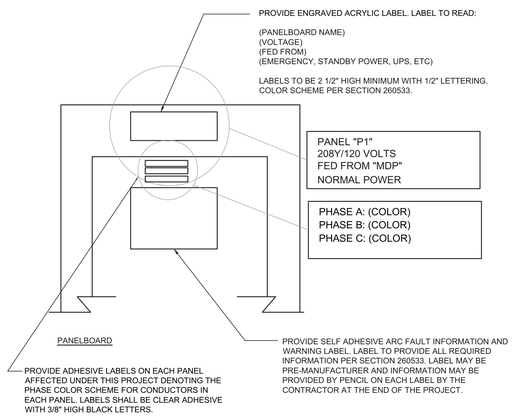
PULL STATION



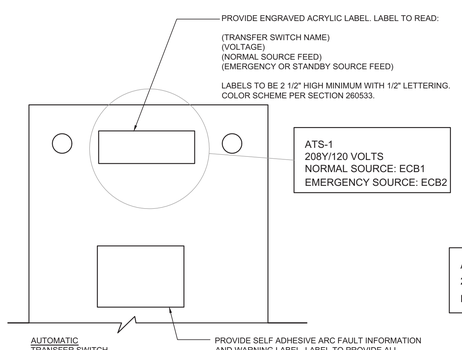
CEILING MOUNTED DETECTOR



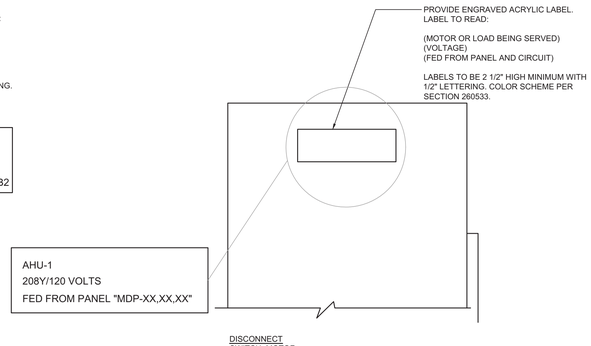
FIRE ALARM MODULE OR REMOTE TEST SWITCH



PANELBOARD



AUTOMATIC TRANSFER SWITCH

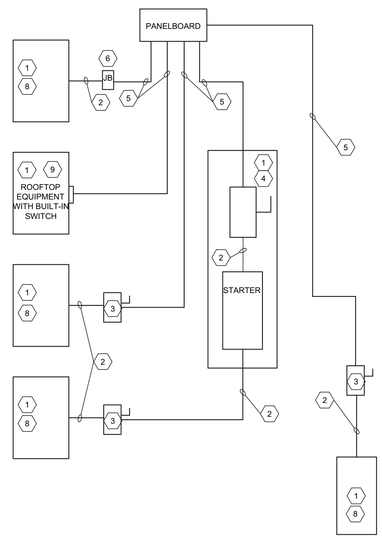


DISCONNECT SWITCH, MOTOR STARTER OR VARIABLE FREQUENCY DRIVE

1 E300 DEVICE/EQUIPMENT LABELING DETAILS
NOT TO SCALE

KEYED NOTES:

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
2. CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
4. A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATED ADJACENT TO EQUIPMENT.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
6. JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
7. NOT USED.
8. IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
9. IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.



2 E300 ELECTRICAL CONNECTION TO DIVISION 21, 22 AND 23 EQUIPMENT
NOT TO SCALE

NOTES:

1. DIVISION 21 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DIRECTION OF ROTATION FOR ALL THREE PHASE EQUIPMENT.
2. DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DIRECTION OF ROTATION FOR ALL THREE PHASE EQUIPMENT.
3. DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR LABELING OF ALL DISCONNECTS.

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 3658 RICHARD D. ANDERSON 5/21/2025

SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
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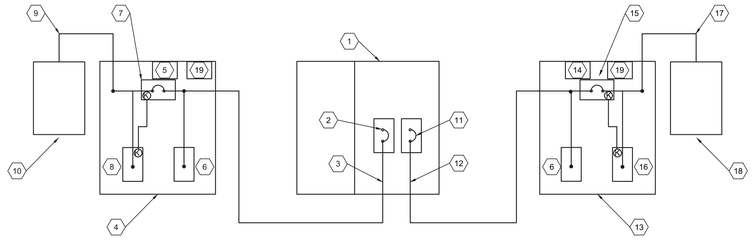
DATE: 01.13.2025
DRAWN BY: RDA
CHECKED BY: RDA

REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

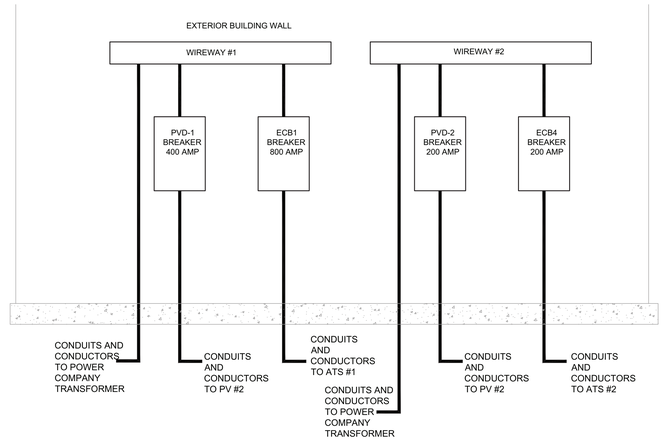
E300
ELECTRICAL DETAILS



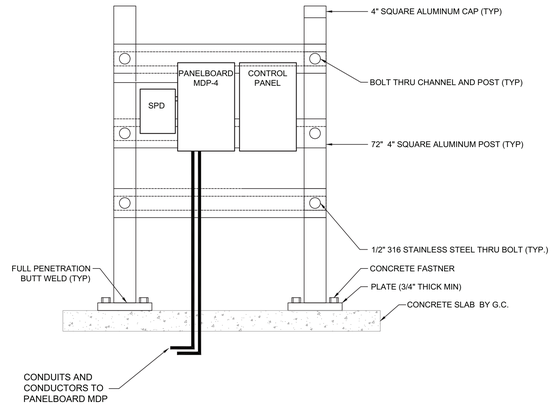
1 BUILDING DOCKING STATION WIRING DIAGRAM
E301 NOT TO SCALE

KEYED NOTES:

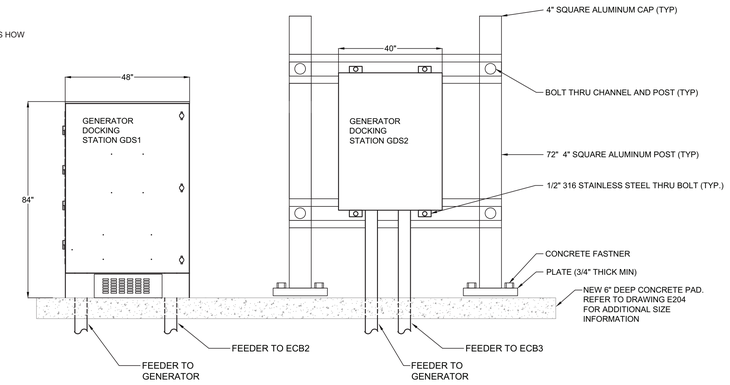
1. PROVIDE NEW GENERATOR PER SPECIFICATIONS. CONTRACTOR SHALL PROVIDE CONCRETE PAD ON 12" CRUSHED STONE BASE.
2. 800 AMPERE CIRCUIT BREAKER IN NEW GENERATOR. LABEL GDS#1
3. PROVIDE FEEDERS AND CONDUIT PER POWER RISER TO GENERATOR DOCKING STATION GDS #1.
4. PROVIDE NEW 800AMP PAD MOUNTED GENERATOR DOCKING STATION (GDS #1) PER SPECIFICATIONS 263601. REFER TO DRAWING E204 FOR LOCATION. REFER TO DETAIL 4/E301 FOR MOUNTING INFORMATON .
5. PROVIDE PERMANENT SIGNAGE AT THE DOCKING STATION GDS #1 THAT READS AS FOLLOWS: "GENERATOR POWER SYSTEM IS A SEPARATELY DERIVED SOURCE AND AS SUCH SHALL HAVE IT'S NEUTRAL AND GROUND BONDED TOGETHER PRIOR TO BEING CONNECTED TO THE DOCKING STATION". COORDINATE PLACEMENT OF SIGNAGE WITH ENGINEER.
6. LOAD BANK CONNECTION TERMINAL ON DOCKING STATION.
7. 800 AMP MAIN LOAD BANK BREAKER WITH KIRK-KEY TO BE INTERLOCKED WITH TEMPORARY GENERATOR CONNECTION.
8. 800 AMP TEMPORARY GENERATOR CONNECTION AT DOCKING STATION. ACCESS TO THIS CONNECTION ARE TO BE KIRK-KEY INTERLOCKED WITH INTERNAL BREAKER.
9. PROVIDE FEEDERS AND CONDUIT PER POWER RISER TO NEW ECB2.
10. 800 ENCLOSED CIRCUIT BREAKER ECB2
11. 200 AMPERE CIRCUIT BREAKER IN NEW GENERATOR. LABEL GDS#2
12. PROVIDE FEEDERS AND CONDUIT PER POWER RISER TO GENERATOR DOCKING STATION GDS #2.
13. PROVIDE NEW 200AMP GENERATOR DOCKING STATION (GDS #2) PER SPECIFICATIONS 263601. REFER TO DRAWING E204 FOR LOCATION. REFER TO DETAIL 4/E301 FOR MOUNTING INFORMATON .
14. PROVIDE PERMANENT SIGNAGE AT THE DOCKING STATION GDS#2 THAT READS AS FOLLOWS: "GENERATOR POWER SYSTEM IS A SEPARATELY DERIVED SOURCE AND AS SUCH SHALL HAVE ITS NEUTRAL AND GROUND BONDED TOGETHER PRIOR TO BEING CONNECTED TO THE DOCKING STATION". COORDINATE PLACEMENT OF SIGNAGE WITH ENGINEER.
15. 200 AMP MAIN LOAD BANK BREAKER WITH KIRK-KEY TO BE INTERLOCKED WITH TEMPORARY GENERATOR CONNECTION.
16. 200 AMP TEMPORARY GENERATOR CONNECTION AT DOCKING STATION. ACCESS TO THESE CONNECTIONS ARE TO BE KIRK-KEY INTERLOCKED WITH INTERNAL BREAKER.
17. PROVIDE FEEDERS AND CONDUIT PER POWER RISER TO NEW ECB3.
18. 200AMP ENCLOSED CIRCUIT BREAKER ECB3
19. PROVIDE PERMANENT SIGNAGE AT THE DOCKING STATION THAT DESCRIBES HOW TO CONNECT A TEMPORARY GENERATOR TO THE DOCKING STATION.



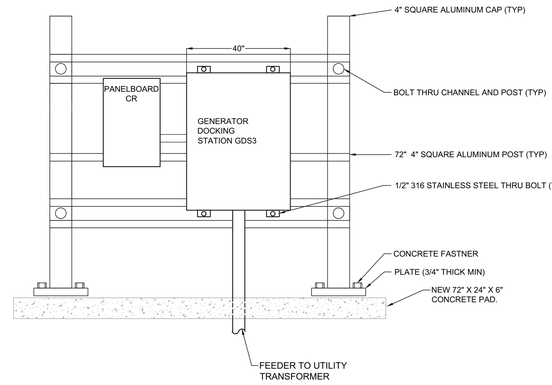
2 EQUIPMENT MOUNTING DETAIL
E301 NOT TO SCALE



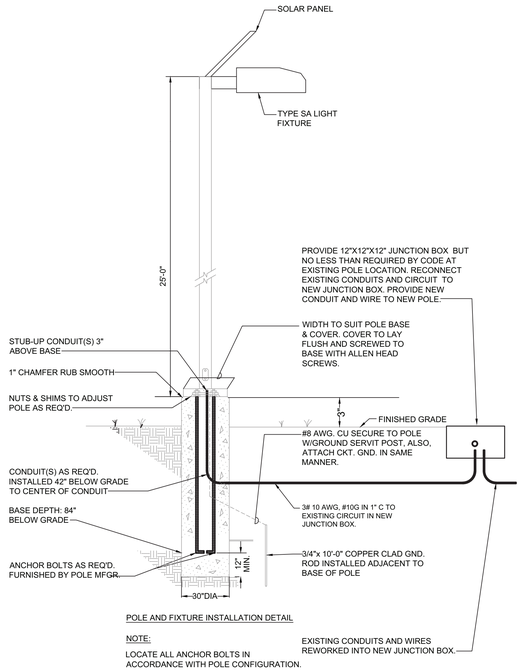
3 GREENHOUSE PANELBOARD AND CONTROL PANEL MOUNTING DETAIL
E301 NOT TO SCALE



4 DOCKING STATION MOUNTING DETAIL
E301 NOT TO SCALE



5 DOCKING STATION AND PANEL CR MOUNTING DETAIL
E301 NOT TO SCALE

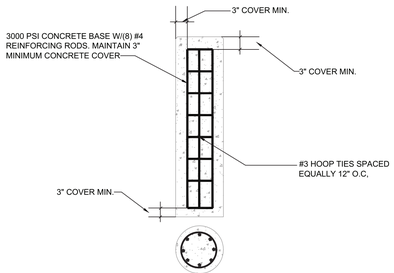


POLE AND FIXTURE INSTALLATION DETAIL

NOTE:

LOCATE ALL ANCHOR BOLTS IN ACCORDANCE WITH POLE CONFIGURATION.

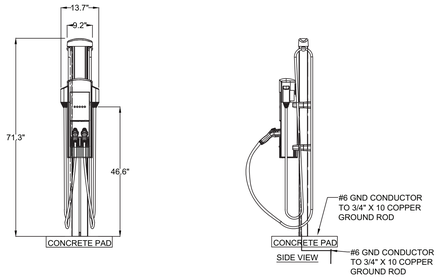
6 POLE BASE DETAIL
E301 NOT TO SCALE



POLE BASE CONSTRUCTION DETAIL

NOTES

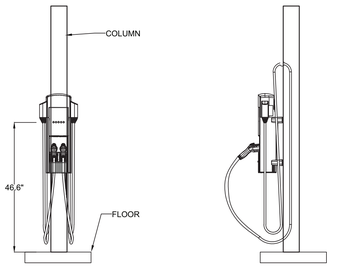
1. 2" CONDUITS TO EXIT POLE AND BASE WITH A 45° BEND FOR COAX SWEEP.
2. ALL CONDUITS TO CABINET TO EXIT ON THE CABINET SIDE. EXIT POINTS ARE TO BE STAGGER 12".



7 PEDESTAL MOUNTEDELECTRIC VEHICLE SUPPLY EQUIPMENT
E301 NOT TO SCALE

NOTE

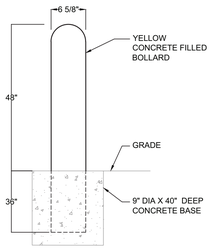
SIZE CONCRETE PAD PER MANUFACTURES INSTALLATION INSTRUCTIONS UNLESS NOTED OTHERWISE ON PLANS.



8 WALL MOUNTEDELECTRIC VEHICLE SUPPLY EQUIPMENT
E301 NOT TO SCALE

NOTE

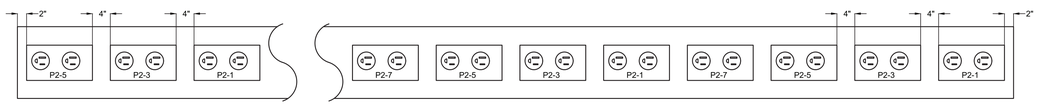
SIZE CONCRETE PAD PER MANUFACTURES INSTALLATION INSTRUCTIONS UNLESS NOTED OTHERWISE ON PLANS.



9 BOLLARD DETAIL
E300 NOT TO SCALE

NOTE

REFER TO DRAWING E204 FOR BOLLARD PLACEMENT AND SPACING AT THE GENERATOR AND TRANSFORMER



10 MECHANICAL SHOP WIREMOLD WITH ALTERNATING WIRING
E301 NOT TO SCALE

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT RYAN DAVIS ALLEN 5958 PROFESSIONAL ENGINEER SEAL 5/21/2025

SEALS

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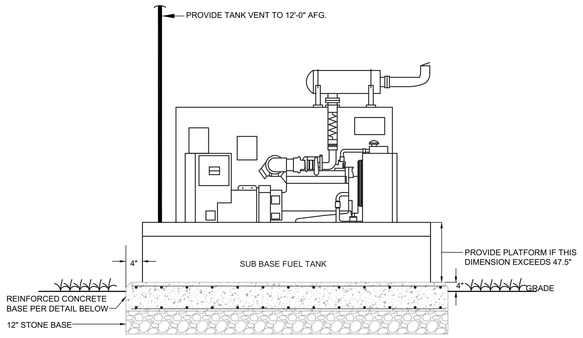
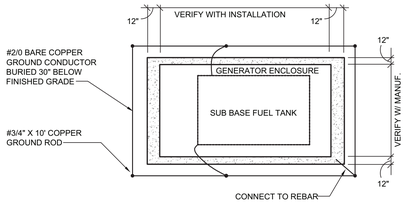
SHEET INFORMATION

E301
ELECTRICAL DETAILS

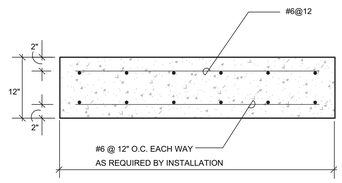
GENERATOR IS FOR OPTIONAL STANDBY POWER ONLY. EMERGENCY MEANS OF EGRESS LIGHTING IS PROVIDED BY EXISTING OR NEW BATTERIES IN LIGHTING.



GENERATOR ELEVATION



GENERATOR PAD PLAN



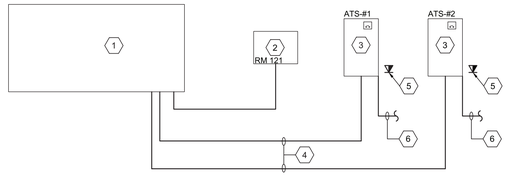
SECTION THRU GENERATOR PAD

1 E302 GENERATOR PAD INSTALLATION DETAILS

NOT TO SCALE

GENERAL NOTES:

1. CONTRACTOR SHALL PRESSURE TEST THE DIESEL FUEL TANK PER THE MANUFACTURER'S RECOMMENDATIONS. TEST SHALL BE WITNESSED BY THE DESIGNER.
2. CONTRACTOR SHALL PROVIDE A 20B FIRE EXTINGUISHER AT THE GENERATOR. LOCATION TO BE DETERMINED IN FIELD.
3. CONTRACTOR SHALL PROVIDE HAZARDOUS MATERIALS SIGNAGE AT THE GENERATOR ENCLOSURE IN LOCATION TO BE DETERMINED IN FIELD.



2 E302 GENERATOR CONTROL WIRING SCHEMATIC

NOT TO SCALE

KEYED NOTES

1. NEW STANDBY GENERATOR.
2. GENERATOR REMOTE ANNUNCIATOR IN ROOM 121. PROVIDE 1" WITH CABLING TO GENERATOR.
3. ATS #1 AND ATS #2 ARE LOCATED IN ELECTRICAL ROOM 121.
4. GENERATOR START SIGNAL. COORDINATE WIRING WITH GENERATOR VENDOR. PROVIDE SEPARATE WIRING FROM EACH ATS TO GENERATOR. COORDINATE WIRE SIZES TO ALLOW FOR ANY VOLTAGE DROP DUE TO DISTANCE.
5. DATA CONNECTIONS AT ATS LOCATIONS.

3 E301 GENERATOR SIGNAGE

NOT TO SCALE

GENERAL NOTES

1. PROVIDE SIGNAGE AT A CONSPICUOUS LOCATION APPROVED BY THE AHJ AND THE ENGINEER.
2. SIGNAGE TO BE A SIZE TO BE A MINIMUM OF 10" IN ANY DIMENSION.

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SEALS

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1	PRE BID MODIFICATION/PERMIT REVIEW	03.19.2025
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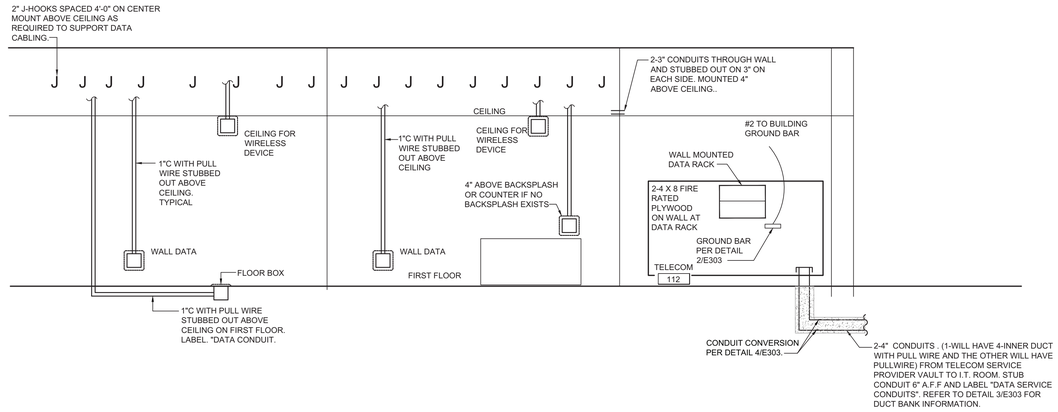
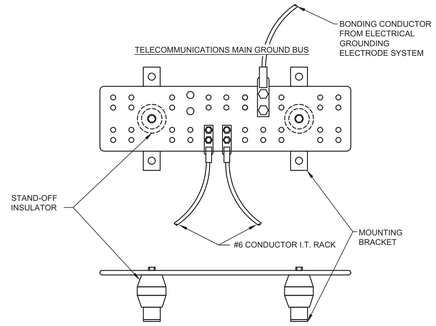
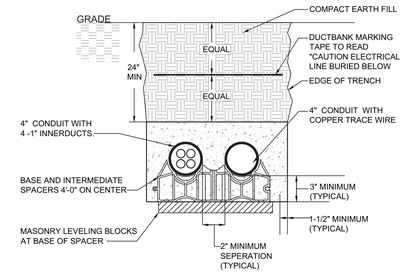
E302
ELECTRICAL DETAILS



1 E303 TELECOM RISER DETAIL
NOT TO SCALE



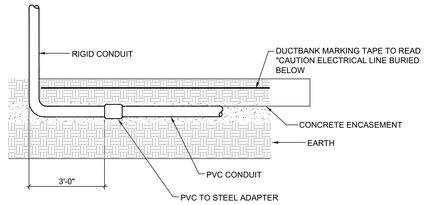
2 E303 TELECOM GROUND BAR DETAIL
NOT TO SCALE



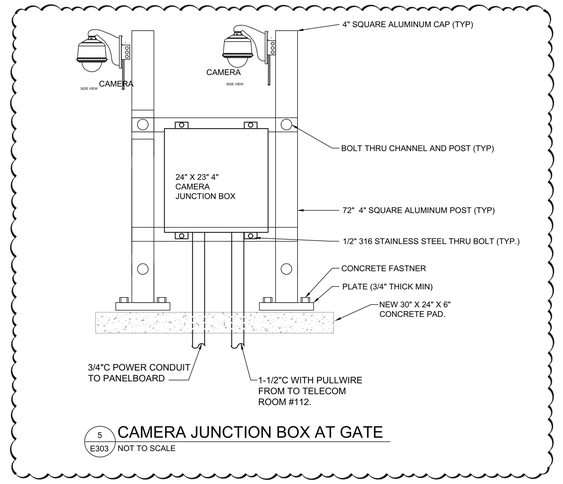
3 E303 TELECOM DUCTBANK DETAIL
NOT TO SCALE

NOTE:
1. PROVIDE WITH MAGNETIC MARKING TAPE AND COPPER TRACE WIRE.

NOTES:
1. PROVIDE ANSI/EIA/TIA 607 COMPLIANT TELECOM GROUND BUS AND ASSOCIATED EQUIPMENT, MOUNTED AT 6'-0" AFF NEXT TO DATA RACK. REFER TO FLOOR PLANS FOR LOCATION WITHIN ROOM.
2. MODEL NUMBERS INDICATED ARE BY ERITECH, A DIV. OF ERICO. PROVIDE EQUIPMENT AS INDICATED, OR EQUIVALENT BY CHATSWORTH PRODUCTS INC., OR HARGER LIGHTING & GROUNDING INC.,
3. TMGB SHALL BE MODEL TMGB-A16L19PT.



4 E303 CONVERSION FROM PVC TO STEEL CONDUIT
No Scale:



5 E303 CAMERA JUNCTION BOX AT GATE
NOT TO SCALE

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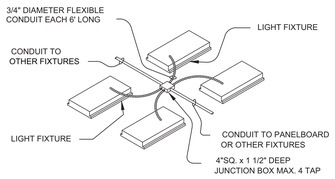
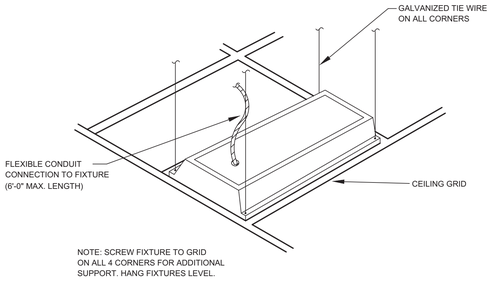
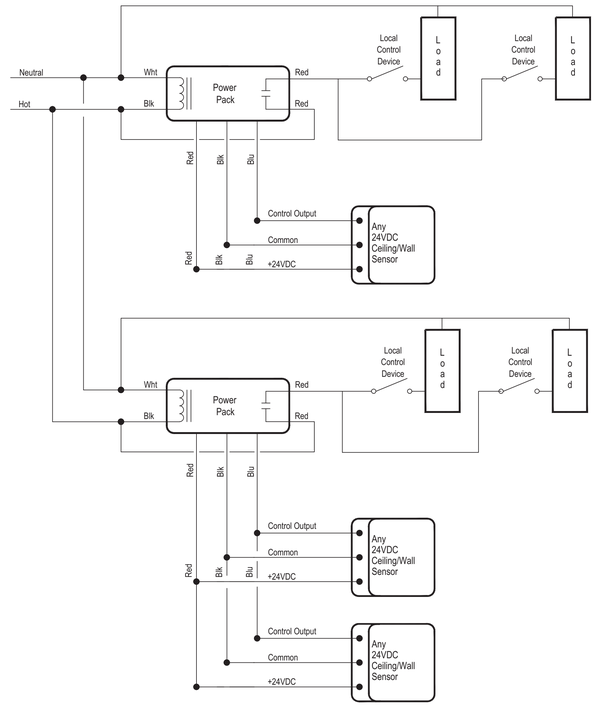


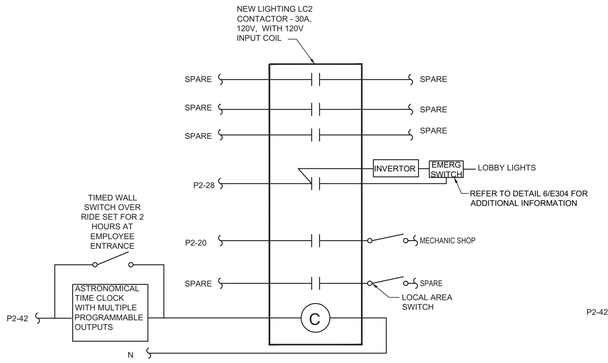
1 E304 RECESSED LIGHT FIXTURE WIRING TAP DETAIL
NOT TO SCALE



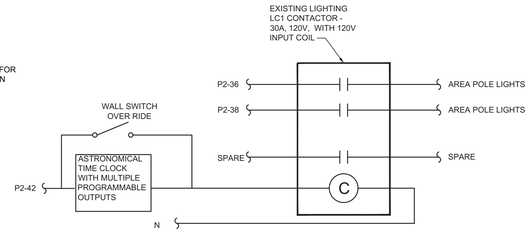
2 E304 TYPICAL RECESSED LIGHT FIXTURE SUPPORT
NOT TO SCALE



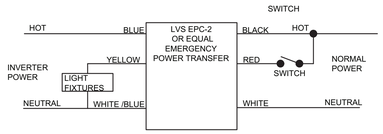
5 E304 MULTIPLE CEILING MOUNTED OCCUPANCY SENSOR-WITH POWER PACK
NOT TO SCALE



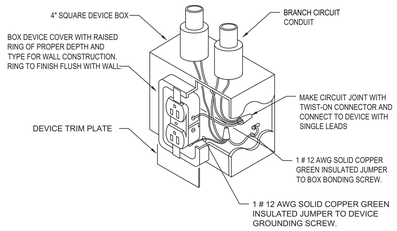
3 E304 INTERIOR LIGHTING CONTACTOR (LC2) DETAIL
NOT TO SCALE



4 E304 EXTERIOR LIGHTING CONTACTOR (LC1) DETAIL
NOT TO SCALE

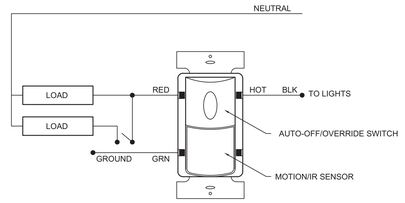


6 E304 EMERGENCY POWER TRANSFER FOR LOBBY LIGHTS
NOT TO SCALE

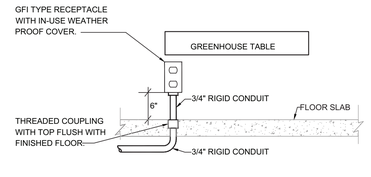


NOTES:
1. RECEPTACLES ARE TO BE MOUNTED WITH THE GROUND TERMINAL ON THE TOP.

7 E304 RECEPTACLE INSTALLATION DETAIL
NOT TO SCALE



8 E304 WALL MOUNTED OCCUPANCY SENSOR - NO POWER PACK
NOT TO SCALE



9 E304 TYPICAL GREENHOUSE RECEPTACLE AT TABLE
NOT TO SCALE

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STRUCTURAL
LYSAGHT & ASSOCIATES
120 ST. MARY'S ST
RALEIGH, NC 27605
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SEALS

PROJECT INFORMATION

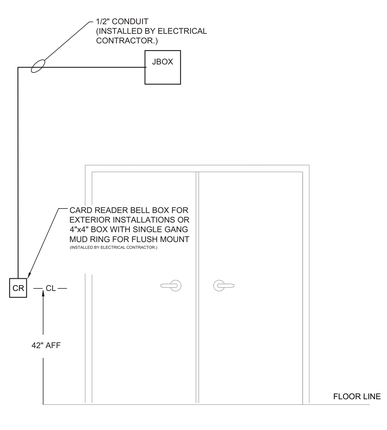
PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MP
CHECKED BY: RDA

REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

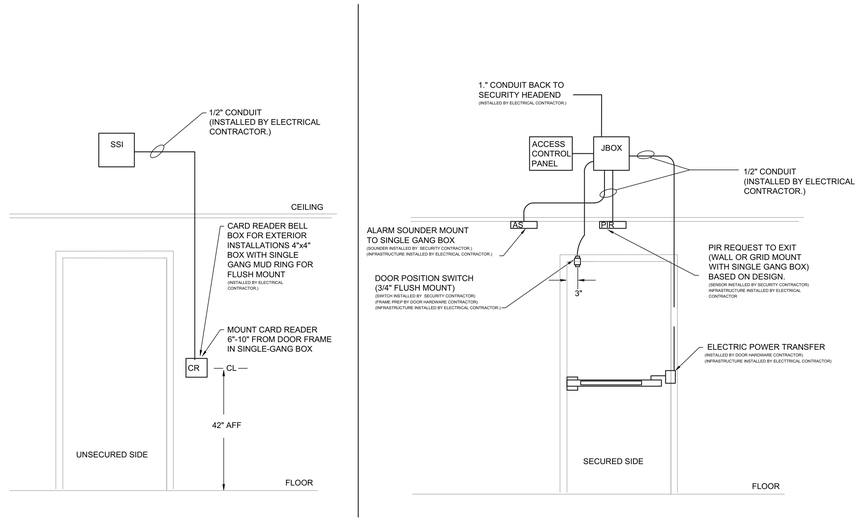
SHEET INFORMATION

E304
ELECTRICAL DETAILS



1 E305 DOUBLE DOOR SECURITY ROUGH IN DETAIL

NOT TO SCALE



1 E305 SINGLE DOOR WITH ELECTRIFIED EXIT DEVICE

NOT TO SCALE

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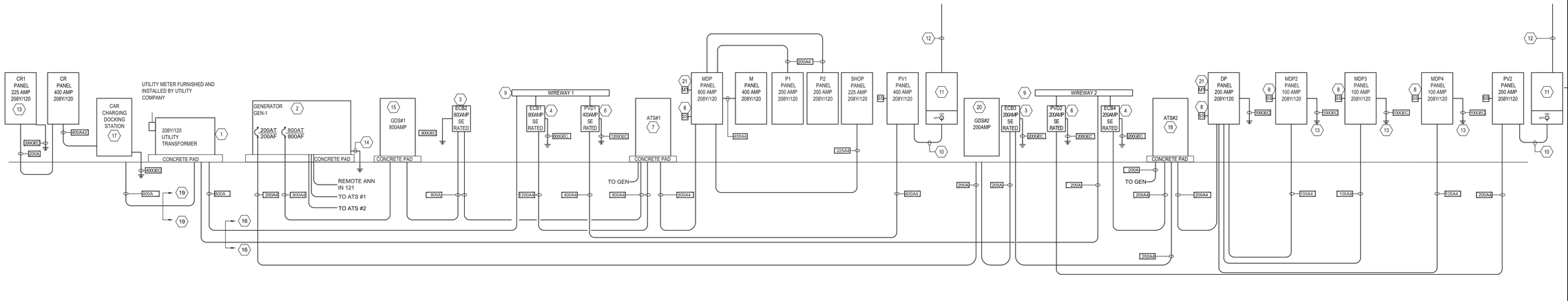
E305

ELECTRICAL DETAILS



1/E400 ELECTRICAL POWER RISER

NOT TO SCALE

GENERAL NOTES:

1. ALL EXTERIOR FEEDERS SHALL BE CONCRETE ENCASED PER DETAILS 4/E400 AND 5/E400.
2. PROVIDE SERVICE ENTRANCE GROUNDING PER DETAILS 2/E400 AND 3/E400.
3. THE CONTRACTOR SHALL PROVIDE INSTALLED FEEDER LENGTHS TO THE DESIGNER FOR ARC-FAULT CALCULATION PURPOSES.
4. PROVIDE LABELING OF ALL PV RELATED CONDUIT SYSTEMS AS REQUIRED BY NEC 690.
5. THE PV SYSTEM WORK SHALL BE PROVIDED AS FOLLOWS:

   BASE BID SHALL INCLUDE EXTERIOR PV DISCONNECTS, ELECTRICAL PANELS, POWER CONDUITS, AND ALL OTHER CONDUIT SYSTEMS INCLUDING CONDUIT TO THE ROOF.

   ALTERNATE #7 WORK SHALL INCLUDE PV PANELS, WIRING FROM THE PANELS TO THE INVERTERS, INVERTERS AND WIRING FROM THE INVERTERS TO THE POWER PANELS AND WIRING FROM THE POWER PANELS TO THE TROUGHS.

1

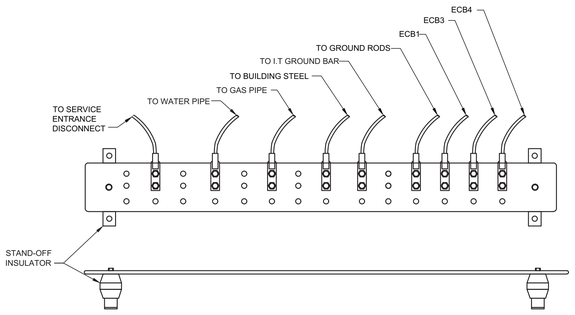
NOTES KEYED TO 1/E400:

1. DUKE PROGRESS TRANSFORMER AND PAD.
2. DIESEL GENERATOR AND PAD.
3. SERVICE ENTRANCE RATED BREAKER-GENERATOR OUTPUT. PROVIDE IN NEMA 4X SS ENCLOSURE.
4. SERVICE ENTRANCE RATED BREAKER-UTILITY. PROVIDE IN NEMA 4X SS ENCLOSURE.
5. PV SYSTEM LOAD BREAK FUSIBLE DISCONNECT CAPABLE OF BEING LOCKED IN THE OPEN POSITION. PROVIDE IN NEMA 4X SS ENCLOSURE. (DUKE POWER REQUIRED DISCONNECT).
6. PV SYSTEM LOAD BREAK FUSIBLE DISCONNECT CAPABLE OF BEING LOCKED IN THE OPEN POSITION. PROVIDE IN NEMA 4X SS ENCLOSURE. (DUKE POWER REQUIRED DISCONNECT).
7. 800 AMPERE 3-POLE, SOLID NEUTRAL 208Y/120 VOLT AUTOMATIC TRANSFER SWITCH "ATS-1".
8. PROVIDE SURGE SUPPRESSION ON PANELS INDICATED. TYPICAL.
9. CODE SIZED NEMA 4XSS GUTTER. TAP SERVICE LATERAL WITH PV WIRING PER NEC 705.
10. PROVIDE WIRING FROM INVERTERS TO PANEL PER PANEL SCHEDULE.
11. 17.3 kVA 3-PHASE INVERTERS. REFER TO DRAWINGS FOR NUMBERS AND LOCATIONS.
12. PROVIDE CONDUIT AND WIRE FROM ROOF MOUNTED PANELS. TYPICAL.
13. DO NOT BOND NEUTRAL AND GND CONNECTION AT PANEL.
14. #2/0 AWG TO GND LOOP AROUND GENERATOR PAD.
15. 800 AMPERE NEMA 4XSS GENERATOR DOCKING STATION.
16. REFER TO DETAIL 4/E400 FOR DUCT BANK INFORMATION.
17. 400 AMPERE NEMA 4XSS GENERATOR DOCKING STATION. PROVIDE WITH SERVICE ENTRANCE UTILITY BREAKER.
18. 200 AMPERE 3-POLE, SOLID NEUTRAL 208Y/120 VOLT AUTOMATIC TRANSFER SWITCH "ATS-2".
19. REFER TO DETAIL 5/E400 FOR DUCT BANK INFORMATION.
20. 200 AMPERE NEMA 4XSS GENERATOR DOCKING STATION.
21. PROVIDE METERING OF PANELBOARD PER SECTION **262713** OF THE PROJECT MANUAL.

SERVICE FEEDERS	
AMPERE SIZE	WIRE SIZE
100A	4#1AWG 2"C
200A	4#3/0 AWG 2"C
225A	4#4/0 AWG 2 1/2"C
250A	4-250 kcmil 2 1/2"C
300A	4-350 kcmil GND 3"C
400A	4-500 kcmil 3 1/2"C
500A	2 SETS 4-250 kcmil 2 1/2"C
600A	2 SETS 4-350 kcmil 3"C
800A	2 SETS 4-500 kcmil 3 1/2"C
1000A	3 SETS 4-400 kcmil 3 1/2"C
1200A	4 SETS 4-350 kcmil 4"C
1600A	5 SETS 4-400 kcmil GND 4"C

GROUNDING ELECTRODE CONDUCTOR	
AMPERE SIZE	WIRE SIZE
100GEC	#6
200GEC	#1
225GEC	#2
250GEC	#2
300GEC	#2
400GEC	#1/0
500GEC	#1/0
600GEC	#2/0
800GEC	#2/0
1000GEC	#3/0
1200GEC	#3/0
1600GEC	#3/0

4-WIRE FEEDERS	
AMPERE SIZE	WIRE SIZE
60A4	4#6 AWG, #10 GND 1"C
100A41	4#3 AWG, #8 GND 1 1/4"C
100A42	3#3 AWG, #2/0N, #8 GND, #8 IG 1 1/4"C
125A4	4#2 AWG, #6 GND 1 1/4"C
150A4	4#1/0 AWG, #6 GND 1 1/2"C
175A4	4#2/0 AWG, #6 GND 2"C
200A4	4#3/0 AWG, #6 GND 2"C
225A41	4#4/0 AWG, #4 GND 2 1/2"C
225A42	4#4/0 AWG, #2 GND 2 1/2"C
225A43	3#4/0 AWG, 2#4/0N,#2 GND, #2 IG 2 1/2"C
225A44	3#4/0 AWG, 2#4/0N,#4 GND, #4 IG 2 1/2"C
250A45	4-250 kcmil, #4 GND 2 1/2"C
300A4	4-350 kcmil, #3 GND 3"C
400A41	4-500 kcmil, #2 GND 3 1/2"C
400A42	4-500 kcmil, #1/0 GND 3 1/2"C
400A43	3-500 kcmil, 2# 500 kcmil N, #1/0 GND 4"C
500A4	2 SETS 4-250 kcmil, #2 GND 2 1/2"C
600A4	2 SETS 4-350 kcmil, #1 GND 3"C
800A4	2 SETS 4-500 kcmil, #2/0 GND 3 1/2"C
1000A4	3 SETS 4-400 MCM, #2/0 GND 3 1/2"C
1000A4	3 SETS 4-400 MCM, #3/0 GND #3/0 IG 3 1/2"C
1200A4	4 SETS 4-350 MCM, #3/0 GND 3"C

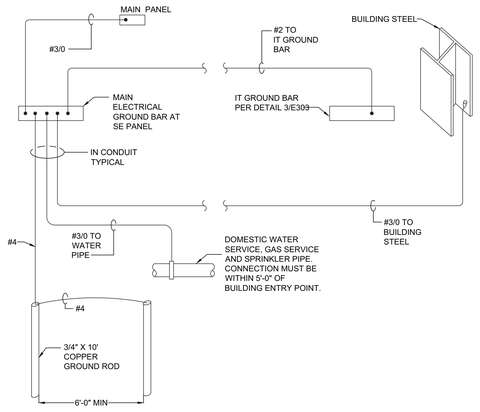


2/E400 BUILDING GROUND BAR DETAIL

NOT TO SCALE

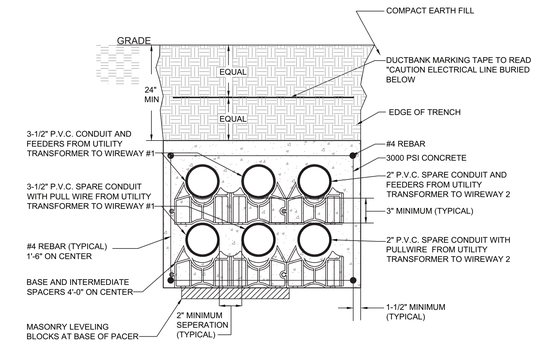
NOTES:

1. PROVIDE 24" ELECTRICAL MAIN GROUND BAR (EMGB) AND ASSOCIATED EQUIPMENT, MOUNTED AT 24" AFF IN EACH MAIN ELECTRICAL ROOM. REFER TO FLOOR PLAN FOR LOCATION WITHIN ROOM.
2. EMGB SHALL BE MODEL EGBA-14430. EGB SHALL BE MODEL EGBA-14212.



3/E400 BUILDING GROUND DETAIL

NOT TO SCALE

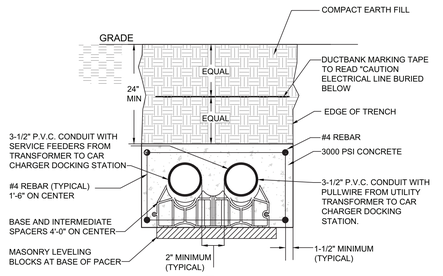


4/E400 POWER DUCTBANK FROM UTILITY TRANSFORMER TO WIREWAYS 1 & 2

NOT TO SCALE

NOTE:

1. PROVIDE WITH MAGNETIC MARKING TAPE AND COPPER TRACE WIRE.



5/E400 POWER DUCTBANK FROM UTILITY TRANSFORMER TO CAR CHARGER DOCKING STATION.

NOT TO SCALE

1. PROVIDE WITH MAGNETIC MARKING TAPE AND COPPER TRACE WIRE.

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SEALS

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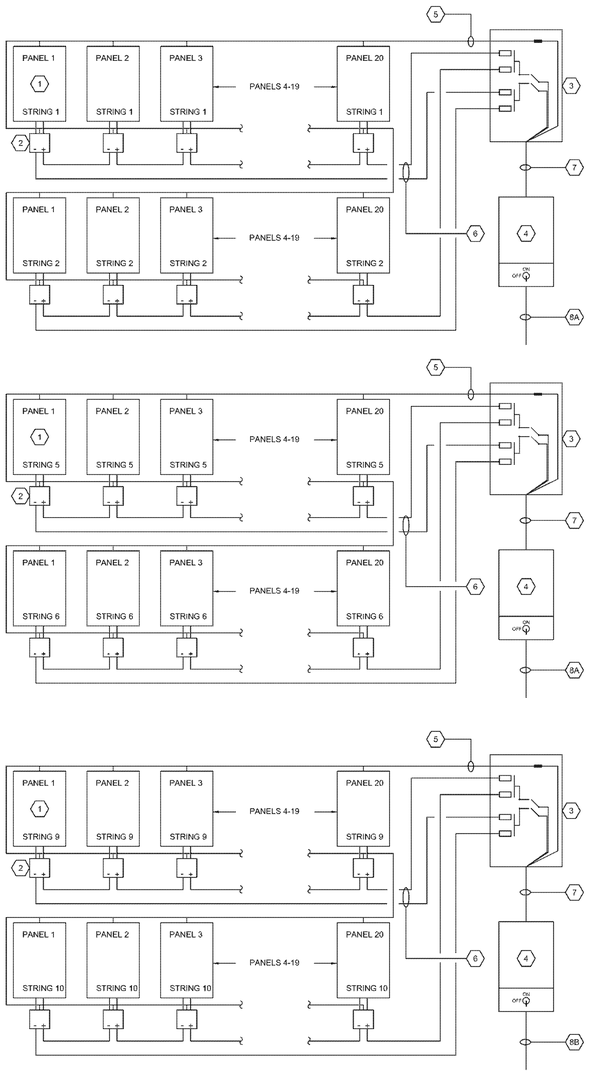
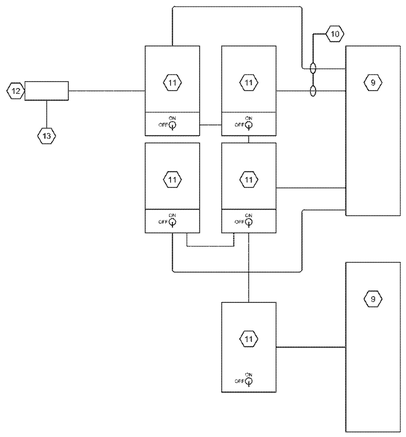
SHEET INFORMATION

E400

ELECTRICAL POWER RISER

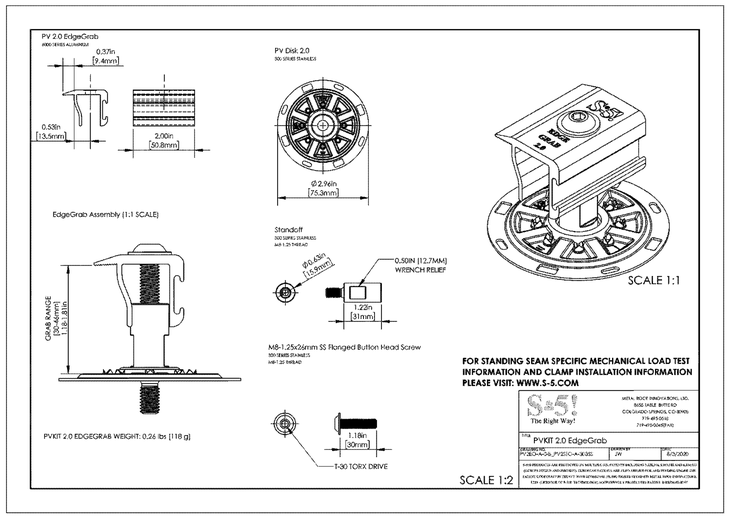


1 E400 PV SYSTEM SCHEMATICS
NOT TO SCALE

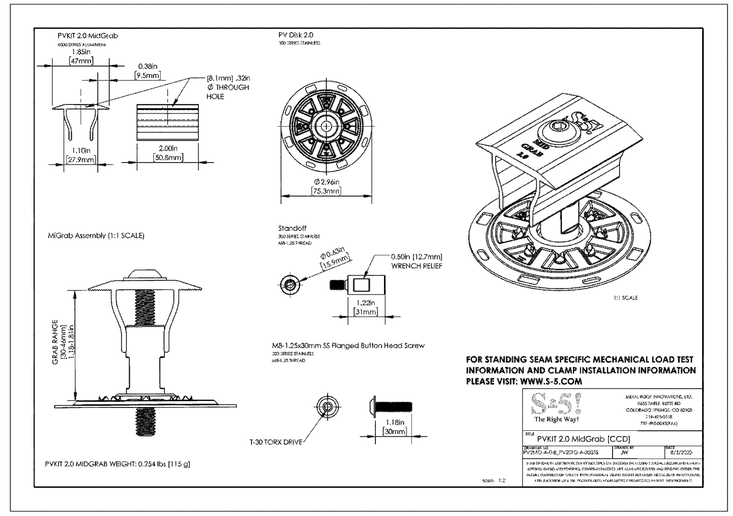


NOTES KEYED TO SCHEMATIC:

1. 450 (MAX) WATT STC HIGH EFFICIENCY SOLAR PANEL. TYPICAL.
2. POWER OPTIMIZER.
3. DC COMBINER (IF REQUIRED).
4. 26/17.3 kW/kVA INVERTER.
5. #10 BARE COPPER GND CONDUCTOR (ON ROOF); IN CONDUIT INSIDE BUILDING.
6. 2#10 AWG DC CONDUCTORS IN 1" CONDUIT TO COMBINER.
7. 3#8 AWG CONDUCTORS IN 1" CONDUIT TO INVERTER.
8A. CONDUCTOR FROM INVERTER TO PANEL "PV1" AS NOTED ON ELECTRICAL RISER.
8B. CONDUCTOR FROM INVERTER TO PANEL "PV2" AS NOTED ON ELECTRICAL RISER.
9. PROVIDE MANUFACTURER FURNISHED CTs AT EACH PV FEEDER IN PV PANELS.
10. PROVIDE WIRING IN CONDUIT FROM CTs PER MANUFACTURER'S RECOMMENDATIONS.
11. CONNECT MONITOR WIRING AT BUILT-IN RGM IN EACH INVERTER.
12. CONTROL AND COMMUNICATION GATEWAY. WHERE MULTIPLE INVERTERS ARE PROVIDED, DAISY-CHAIN AND CONNECT TO GATEWAY.
13. CONNECT TO OWNER'S NETWORK.



2 E401 PANEL CLIP DETAILS
NOT TO SCALE



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SHEET INFORMATION

E401
PV POWER DETAILS

PANEL "MDP"

PANEL TYPE: ILINE **MCB or MLO:** MLO
BUS SIZE: 800A **MOUNTING:** SURFACE
VOLTAGE: 208Y/120V **MINIMUM AIC:** 42,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	PANEL "P1"	200	3	REFER TO RISER FOR WIRE & CONDUIT SIZES			20.82	39.56			18.74	REFER TO RISER FOR WIRE & CONDUIT SIZES			3	200	PANEL "P2"	2
3							16.27		33.91		17.64							4
5							14.73			26.92	12.19							6
7	PANEL "M"	400	3	REFER TO RISER FOR WIRE & CONDUIT SIZES			26.60	47.68			21.08	REFER TO RISER FOR WIRE & CONDUIT SIZES			3	225	PANEL "SHOP"	8
9							26.52		45.49		18.98							10
11							25.36			41.99	16.63							12
13	SPACE							0.00									SPACE	14
15	SPACE								0.00								SPACE	16
17	SPACE									0.00							SPACE	18
19	SPACE							0.00									SPACE	20
21	SPACE								0.00								SPACE	22
23	SPACE									0.00							SPACE	24
25	SPACE							0.00									SPACE	26
27	SPACE								0.00								SPACE	28
29	SPACE									0.00							SPACE	30
31	SPACE							0.00									SPACE	32
33	SPACE								0.00								SPACE	34
35	SPACE									0.00							SPACE	36
37	SPACE							0.00									SPACE	38
39	SPACE								0.00			REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	SDP	40
41	SPACE									0.00								42

TOTALS: A **87.24** | B **79.40** | C **68.91**

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING	9.97	125%	12.46
FIRST 10K RECEPTS	10.00	100%	0.00
REMAINDER RECEPT	31.56	50%	15.78
LARGEST MOTOR	15.21	125%	19.01
MOTOR	62.55	100%	62.55
MISC	105.66	100%	105.66
TOTAL (KVA)	234.95		215.47
TOTAL AMPS	652		598

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
***-PHASE/NEUTRAL**

PANEL "SHOP"

PANEL TYPE: NQ **MCB or MLO:** MLO
BUS SIZE: 225A **MOUNTING:** SURFACE
VOLTAGE: 208Y/120V **MINIMUM AIC:** 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	BANDSAW	30	1	#10	#10	3/4"	2.40	3.60			1.20			#12				2
3	MITER	20	1	#12	#12	3/4"	1.80		3.00		1.20	3/4"	#12	#12	3	20	DUST COLLECTOR	4
5	TABLE SAW	20	1	#12	#12	3/4"	1.25			2.45	1.20			#12				6
7	JOINTER	20	1	#12	#12	3/4"	1.20	2.40			1.20	3/4"	#12	#12	1	20	DRILL PRESS	8
9	PLANER	20	1	#12	#12	3/4"	1.80		4.80		3.00	0.75	#10	#10	1	30	BENCH SANDER	10
11	ROUTER TABLE	20	1	#12	#12	3/4"	1.80			2.22	0.42	3/4"	#12	#12	1	20	SPINDLE SANDER	12
13	BAND SAW	20	1	#12	#12	3/4"	0.96	4.16			3.20	3/4"	#10	#8	2	40	WELDER	14
15	OFFICE RECEPTACLES	20	1	#12	#12	3/4"	0.54		3.74		3.20			#8				16
17	SHOP RECEPTCLES	20	1	#12	#12	3/4"	0.18			3.38	3.20	3/4"	#10	#8	2	40	WELDER mech shop	18
19	SHOP RECEPTCLES	20	1	#12	#12	3/4"	0.18	3.38			3.20			#8				20
21	SHOP RECEPTCLES	20	1	#12	#12	3/4"	0.18		3.38		3.20	3/4"	#10	#8	2	40	WELDER mech shop	22
23	SHOP RECEPTCLES	20	1	#12	#12	3/4"	0.18			3.38	3.20			#8				24
25	SHOP RECEPTCLES	20	1	#12	#12	3/4"	0.36	2.34			1.98	3/4"	#10	#10	2	25	AIR COMPRESSOR	26
27	SPARE	20	1						1.98		1.98			#10				28
29	SPARE	20	1							3.12	3.12	3/4"	#10	#8	2	40	MOWER LIFT	30
31	SPARE	20	1					3.12			3.12			#8				32
33	SPARE	20	1						0.00								SPACE	34
35	SPARE	20	1							0.00							SPACE	36
37	SPARE	20	1					2.08			2.08			#10				38
39	SPARE	20	1						2.08		2.08	3/4"	#10	#10	3	25	AIR COMPRESSOR	40
41	SPARE	20	1							2.08	2.08			#10				42

TOTALS: A **21.08** | B **18.98** | C **16.63**

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS	1.62	100%	1.62
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC	55.06	100%	55.06
TOTAL (KVA)	56.68		56.68
TOTAL AMPS	157		157

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
***-PHASE/NEUTRAL**

PANEL "CR"

PANEL TYPE: NQ **MCB or MLO:** 400A-MCB SE RATED
BUS SIZE: 400A **MOUNTING:** SURFACE NEMA 4X SS
VOLTAGE: 208Y/120V **MINIMUM AIC:** 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	EVC #1	40	2	#4	#8	1-1/4"	3.12	3.12								2	40	SPARE	2
3				#4			3.12		3.12									4
5	EVC #1	40	2	#4	#8	1-1/4"	3.12			3.12						2	40	SPARE	6
7				#4			3.12	3.12										8
9	EVC #2	40	2	#4	#8	1-1/4"	3.12		3.12							2	40	SPARE	10
11				#4			3.12			3.12								12
13	EVC #2	40	2	#4	#8	1-1/4"	3.12	3.12								2	40	SPARE	14
15				#4			3.12		3.12									16
17	SPARE	40	2										0.00					SPACE	18
19								0.00										SPACE	20
21	SPARE	40	2						0.00									SPACE	22
23										0.00								SPACE	24
25	SPACE							0.00										SPACE	26
27	SPACE								0.00									SPACE	28
29	SPACE									0.00								SPACE	30
31	SPACE							0.00										SPACE	32
33	SPACE								0.00									SPACE	34
35	SPACE									0.00								SPACE	36
37	SPACE							15.60	15.60									SPACE	38
39	PANEL "CR1"	200	3	REFER TO RISER DIAGRAM				12.48		12.48					3	60	SDP	40
41								9.36										42

TOTALS: A **24.96** | B **21.84** | C **15.96**

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS	0.36	100%	0.36
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC (EVCS)	62.40	125%	78.00
TOTAL (KVA)	62.40		78.36
TOTAL AMPS	173		218

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
***-PHASE/NEUTRAL**

PANEL "P1"

PANEL TYPE: NQ **MCB or MLO:** MLO
BUS SIZE: 225A **MOUNTING:** SURFACE
VOLTAGE: 208Y/120V **MINIMUM AIC:** 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	RECEPT. 110	20	1	#8*	#8	3/4"	0.90	2.70			1.80	3/4"	#8	#8*	1	20G	REFRIG 116	2
3	TV ROM 110	20	1	#8*	#8	3/4"	1.08		2.88		1.80	3/4"	#8	#8*	1	20G	REFRIG 116	4
5	RECEPT. 108/109	20	1	#8*	#8	3/4"	1.08			4.23	3.15	1"	#8	#6*	2	40G	OVEN 116	6
7	RECEPT. 106/107	20	1	#10*	#10	3/4"	1.08	4.23			3.15	1"		#6				8
9	REPT. 104/105	20	1	#10*	#10	3/4"	1.26		1.26						2	40G	SPARE	10
11	RECEPT 113/114/115	20	1	#10*	#10	3/4"	0.90			0.90								12
13	RANGE HOOD 116	20G	1	#12	#12	3/4"	1.20	5.15			3.95	1"	#8	#6*	2	50G	COUNTER TOP RANGE 116 120/208V	14
15	MICROWAVE-ABOVE	20G	1	#8*	#8	3/4"	1.20		5.15		3.95			#6				16
17	MICROWAVE-BELOW	20G	1	#8*	#8	3/4"	1.20			2.46	1.26	3/4"	#8	#8*	1	20GF	VENDING	18
19	COUNTER RECEPT 116	CO	1	#8*	#8	3/4"	0.30	1.56			1.26	3/4"	#8	#8*	1	20GF	VENDING	20
21	COUNTER RECEPT 116	20G	1	#8*	#8	3/4"	0.80		2.06		1.26	3/4"	#12	#12	1	20G	RECEPT 117/118	22
23	COUNTER RECEPT 116	20	1	#8*	#8	3/4"	1.00			1.50	0.50	3/4"	#10	#10*	1	20G	GAS DRY & WASH 118A	24
25	DISHWASHER	20G	1	#8*	#8	3/4"	1.44	2.70			1.26	3/4"	#12	#12	1	20	RECEPT 101	26
27	ISLAND RECEPTACLE	20G	1	#10*	#10	3/4"	0.72		1.20		1.08	3/4"	#12	#12	1	20	RECEPT 100A	28
29	ISLAND RECEPTACLE	20G	1	#10*	#10	3/4"	0.36			1.36	1.00	3/4"	#12	#12	1	20	COPIER 100B	30
31	ISLAND RECEPTACLE	20G	1	#10*	#10	3/4"	0.36	1.36			1.00	3/4"	#12	#12	1	20	COPIER 100B	32
33	ISLAND RECEPTACLE	20G	1	#10*	#10	3/4"	0.18		1.26		1.08	3/4"	#12	#12	1	20	RECEPT 100B, 102	34
35	PROJECTOR/SCREEN 116	20	1	#8*	#8	3/4"	1.08			1.36	0.36	3/4"	#8	#8*	1	20	RECEPTACLE 111	36
37	EWC	20	1	#10*	#10	3/4"	0.36	0.72			0.36	3/4"	#8	#8*	1	20	RECEPTACLE 111	38
39	TIME CLOCK 116	20	1	#10*	#10	3/4"	0.60		0.96		0.36	3/4"	#12	#12*	1	20	RECEPTACLE 111	40
41	TELEVISION 116	20	1	#10*	#10	3/4"	0.40			0.76	0.36	3/4"	#10	#8*	1	20	RECEPT, TELECOM	42
43	RECEPTACLES 116	20	1	#8*	#8	3/4"	0.92	1.26			0.36	3/4"	#10	#8*	1	20	RECEPT, TELECOM	44
45	RECEPTACLES 116	20	1	#8*	#8	3/4"	0.54		0.90		0.36	3/4"	#10	#8*	1	20	OUTDOOR RECEPTACLES	46
47	OUTDOOR RECEPTACLES	20	1	#8*	#8	3/4"	1.26			2.16	0.90	3/4"	#12	#12	1	20	RECEPTACLE 100	48
49	RECEPTACLE 120	20	1	#10*	#10	3/4"	0.60	1.14			0.54	3/4"	#12	#12	1	20	RECEPTACLE 100	50
51	RECEPTACLE 120	20	1	#10*	#10	3/4"	0.60		0.60								SPACE	52
53	SPARE	20	1							0.00							SPACE	54

TOTALS: A **20.82** | B **16.27** | C **14.73**

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS	10.00	100%	10.00
REMAINDER RECEPT	16.80	50%	8.40
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC	24.42	100%	24.42
TOTAL (KVA)	51.22		42.82
TOTAL AMPS	142		119

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFCI PROTECTED
GP-GFPE PROTECTED
S- SHUNT TRIP
***-PHASE/NEUTRAL**

PANEL "M"

PANEL TYPE: I-LINE **MCB or MLO:** MLO
BUS SIZE: 400A **MOUNTING:** SURFACE
VOLTAGE: 208Y/120V **MINIMUM AIC:** 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	UNIT HEATER UH-1	15	1	#8*	#8	3/4"	1.38	6.45			5.07			#8				2
3	UNIT HEATER UH-2	20	1	#8*	#8	3/4"	1.42		6.49		5.07	3/4"	#10	#8	3	50	AHU-1	4
5	UNIT HEATER UH-3	20	1	#10*	#10	3/4"	1.42			6.49	5.07			#8				6
7	UNIT HEATER UH-4	20	1	#10*	#10	3/4"	1.42	4.84			3.42			#8				8
9	UNIT HEATER UH-5	20	1	#10*	#10	3/4"	1.42		4.84		3.42	3/4"	#10	#8	3	60	HP-1	10
11	UNIT HEATER UH-6	20	1	#10*	#10	3/4"	1.42			4.84	3.42			#8				12
13	SPARE	20	1					5.07			5.07			#8				14
15	SPARE	20	1						5.07		5.07	3/4"	#10	#8	3	50	AHU-2	16
17	EXHAUST FAN EF-1	20	1	#8*	#8	3/4"	0.46			5.53	5.07			#8				18
19	EXHAUST FAN EF-2	20	1	#8*	#8	3/4"	1.20	4.62			3.42			#8				20
21	EXHAUST FAN EF-3	20	1	#10*	#10	3/4"	1.20		4.62		3.42	3/4"	#10	#8	3	60	HP-2	22
23	EXHAUST FAN EF-4	20	1	#10*	#10	3/4"	1.20			4.62	3.42			#8				24
25	EXHAUST FAN EF-5	20	1	#10*	#10	3/4"	0.86	2.76			1.90	3/4"	#10	#10	2	20	ERV-1	26
27	EXHAUST FAN EF-7	20	1	#10*	#10	3/4"	0.88		2.78		1.90			#10				28
29	V-VT'S ON MEZZANINE	20	1	#12*	#12	3/4"	0.90			2.70	1.80	3/4"	#10	#10*	1	20	GWH-1 WATER HEATER	30
31	W/T'S OFFICE SIDE	20	1	#10*	#10	3/4"	0.80	1.68			0.88	3/4"	#10	#10*	1	20	RECRIC PUMP	32
33	OVERHEAD DOOR 122	20	1	#10*	#10	3/4"	1.18		1.54		0.36	3/4"	#10	#10*	1	20	ROOF RCEPTACLES	34
35	OVERHEAD DOOR 123	20	1	#10*	#10	3/4"	1.18			1.18					1	20	SPARE	36
37	OVERHEAD DOOR 124	20	1	#10*	#10	3/4"	1.18	1.18									SPACE	38
39	OVERHEAD DOOR 125	20	1	#8*	#10	3/4"	1.18		1.18								SPACE	40
41	SPARE									0.00							SPACE	42
43	SPARE							0.00									SPACE	44
45	SPARE								0.00								SPACE	46
47	SPARE									0.00							SPACE	48
49	SPACE							0.00									SPACE	50
51	SPACE								0.00								SPACE	52
53	SPACE									0.00							SPACE	54

TOTALS: A **26.60** | B **26.52** | C **25.36**

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS		100%	0.00
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR	15.21	125%	19.01
MOTOR	55.51	100%	55.51
MISC	7.76	100%	7.76
TOTAL (KVA)	78.48		82.28
TOTAL AMPS	218		228

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
***-PHASE/NEUTRAL**

PANEL "CR1"

PANEL TYPE: NQ **MCB or MLO:** 225A-MCB SE RATED
BUS SIZE: 225A **MOUNTING:** SURFACE NEMA 4X SS
VOLTAGE: 208Y/120V **MINIMUM AIC:** 10,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	EVC #3	40	2	#4	#8	1-1/4"	3.12	6.24			3.12			#8				2
3				#4			3.12		6.24		3.12	1-1/4"	#8	#4	2	40	EVC #4	4
5	EVC #3	40	2	#4	#8	1-1/4"	3.12			6.24	3.12			#4				6
7				#4			3.12	6.24			3.12	1-1/4"	#8	#4	2	40	EVC #4	8
9	SPACE								3.12		3.12	1-1/4"	#8	#4	2	40	EVC #5	10
11	SPACE									3.12	3.12			#4				12
13	SPACE							3.12			3.12	1-1/4"	#8	#4	2	40	EVC # 5	14
15	SPACE								3.12		3.12			#4				16
17	SPACE									0.00							SPACE	18
19	SPACE							0.00									SPACE	20
21	SPACE								0.00								SPACE	22
23	SPACE									0.00							SPACE	24
25	SPACE							0.00									SPACE	26
27	SPACE								0.00								SPACE	28
29	SPACE									0.00							SPACE	30
31	SPACE							0.00									SPACE	32
33	SPACE								0.00								SPACE	34
35	SPACE									0.00							SPACE	36
37	SPACE							0.00									SPACE	38
39	SPACE								0.00								SPACE	40
41	SPACE									0.00							SPACE	42
43	SPACE							0.00									SPACE	44
45	SPACE								0.00								SPACE	46
47	SPACE									0.00							SPACE	48
49								0.00									SPACE	50
51	SDP	60	3	REFER TO RISER FOR WIRE & CONDUIT SIZES					0.00								SPACE	52
53										0.00							SPACE	54

TOTALS: A **5.77** | B **5.77** | C **5.77**

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS		100%	0.00
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC	17.30	100%	17.30
TOTAL (KVA)			17.30
TOTAL AMPS			48

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
***-PHASE/NEUTRAL**

PANEL "P2"

PANEL TYPE: NQ **MCB or MLO:** MLO
BUS SIZE: 225A **MOUNTING:** SURFACE
VOLTAGE: 208Y/120V **MINIMUM AIC:** 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	WIREMOLD 124 COUNTER	20	1	#8*	#8	3/4"	1.20	4.32			3.12	3/4"	#10	#8	2	40	MOWER LIFT	2
3	WIREMOLD 124 COUNTER	20	1	#8*	#8	3/4"	1.20		4.32		3.12			#8				4
5	WIREMOLD 124 COUNTER	20	1	#8*	#8	3/4"	1.20			1.60	0.40	3/4"	#10	#10*	1	20	LIGHTS MEZZANINE	6
7	WIREMOLD 124 COUNTER	20	1	#8*	#8	3/4"	1.08	2.08			1.00	3/4"	#8	#8*	1	20	GATE CONTROL	8
9	SPARE	20	1						1.00		1.00	3/4"	#8	#8*	1	20	GATE CONTROL	10
11	RECEPTACLE MEZZANINE	20	1	#10*	#10	3/4"	1.08			2.95	1.87	3/4"	#10	#10*	1	20	LIGHTS 116	12
13	FLOOR BOX 103	20	1	#10*	#10	3/4"	0.80	1.45			0.65	3/4"	#10	#10*	1	20L	FIRE ALARM PANEL	14
15	RECEPTACLES 103	20	1	#12*	#12	3/4"	0.72		1.37		0.65	3/4"	#10	#10*	1	20L	NAC PANEL /CONMUN	16
17	TV 103	20	1	#12*	#12	3/4"	0.54			1.19	0.65	3/4"	#10	#10*	1	20L	CARD READER DOORS	18
19	RECEPTACLE 119,121	20	1	#12*	#12	3/4"	0.72	1.95			1.23	3/4"	#10	#10*	1	20	LIGHTS 124,125	20
21	RECEPTACLES 125	20	1	#8*	#8	3/4"	0.36		1.18		0.82	3/4"	#12	#12*	1	20	LIGHTS 122,123	22
23	RCEPTACLE COUNTER 125	20	1	#10*	#10	3/4"	0.36			1.32	0.96	3/4"	#12	#12*	1	20	LTS 100A,100B,102,103,119,120,121	24
25	RCEPTACLE COUNTER 125	20	1	#10*	#10	3/4"	0.36	0.56			0.20	3/4"	#10	#10*	1	20	DOWN LIGHTS IN LOBBY 101	26
27	RECEPTACLES 123	20	1	#10*	#10	3/4"	0.18		1.08		0.90	3/4"	#10	#10	1	20	TYPE D FIXTURE 100, 101	28
29	RECEPTACLES 123	20	1	#8*	#8	3/4"	0.18			0.71	0.53	3/4"	#10	#10*	1	20	LTS 104,105,106,107,108,109,110	30
31	RECEPTACLES 123	20	1	#10*	#10	3/4"	0.18	1.26			1.08	3/4"	#10	#10*	1	20	LTS 112,113,114,115,117,118,A,B,C	32
33	RECEPTACLES 124	20	1	#10*	#10	3/4"	1.08		2.48		1.40	3/4"	#10	#10*	1	20	OUTDOOR LIGHTS	34
35	RECEPTACLES 124	20	1	#10*	#10	3/4"	0.18			0.88	0.70	1"	#8	#8*	1	20	AREA POLE LIGHTS	36
37	RECEPTACLE 119,121	20	1	#12*	#12	3/4"	0.72	1.27			0.55	1"	#8	#8*	1	20	AREA POLE LIGHTS	38
39	OUTDOOR RECEPTACLES	20	1	#10*	#10	3/4"	0.36		1.91		1.55	1-1/4"	#4	#3*	1	20	FIRE PROTECTIONHOT BOX	40
41	OUTDOOR RECEPTACLES	20	1	#10*	#10	3/4"	0.72			1.92	1.20	3/4"	#10	#10*	1	20	LIGHTING CONTROL TIME CLOCK	42
43	DOMESTIC WATER HOT BOXES	20	1	#4*	6.00	1-1/4"	1.72	3.27			1.55	3/4"	#10	#10*	1	20	SECURITY EQUIPMENT	44
45	DOMESTIC WATER HOT BOXES	20	1	#4*	6.00	1-1/4"	1.72		2.62		0.90	3/4"	#10	#10*	1	20	MW FWD 116	46
47	OFFICE 124	20	1	#8*	#8	3/4"	0.72			1.62	**0.90**	**3/4"**	**#10**	**#10***	**1**	**20**	**GATE CAMERA J-BOX**	**48**
49	CISTERN PUMP RECEPTACLE	20	1	#8*	#8	3/4"	1.68	2.58			**0.90**	**3/4"**	**#10**	**#10***	**1**	**20**	**GATE CAMERA J-BOX**	**50**
51	CISTERN PUMP RECEPTACLE	20	1	#8*	#8	3/4"	1.68		1.68								SPACE	52
53	SPARE	20	1							0.00							SPACE	54

TOTALS: A **18.74** | B **17.64** | C **12.19**

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING	9.97	125%	12.46
FIRST 10K RECEPTS	10.00	100%	10.00
REMAINDER RECEPT	3.14	50%	1.57
LARGEST MOTOR	6.24	125%	7.80
MOTOR	0.80	100%	0.80
MISC	18.42	100%	18.42
TOTAL (KVA)	48.57		51.06
TOTAL AMPS	135		142

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
***-P

PANEL "MDP1"

PANEL TYPE: NQ **MCB or MLO:** MLO
BUS SIZE: 225A **MOUNTING:** SURFACE
VOLTAGE: 208Y/120V **MINIMUM AIC:** 42,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1							3.09	6.18			3.09							2
3	PANEL "MDP2" PULL-THRU SHED	200	3	REFER TO RISER FOR WIRE & CONDUIT SIZES			3.09		4.87		1.78	REFER TO RISER FOR WIRE & CONDUIT SIZES			3	100	PANEL "MDP3" STORAGE	4
5							1.46			2.93	1.47							6
7								6.61			6.61							8
9									6.07		6.07	REFER TO RISER FOR WIRE & CONDUIT SIZES			3	100	PANEL "MDP4" GREENHOUSE	10
11										6.07	6.07							12
13								0.00										14
15									0.00									16
17										0.00								18
19								0.00										20
21									0.00									22
23										0.00								24
25								0.00										26
27									0.00									28
29										0.00								30
31								0.00										32
33									0.00									34
35										0.00								36
37								0.00				REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	SDP	38
39									0.00									40
41										0.00								42

TOTALS: 12.79 | 10.94 | 8.99

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING	4.05	125%	5.06	L-PROVIDE WITH LOCK OUT CLIP
FIRST 10K RECEPTS	7.56	100%	0.00	G-GFC PROTECTED
REMAINDER RECEPT		50%	0.00	S- SHUNT TRIP
LARGEST MOTOR		125%	0.00	*-PHASE/NEUTRAL
MOTOR	10.49	100%	10.49	
MISC	10.62	100%	10.62	
TOTAL (KVA)	32.72		26.17	
TOTAL AMPS	91		73	

PANEL "MDP3"

POTTING SHED

PANEL TYPE: NQ **MCB or MLO:** 100A-MCB SE RATED
BUS SIZE: 100A **MOUNTING:** SURFACE
VOLTAGE: 208Y/120V **MINIMUM AIC:** 10,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	LIGHTS 200	20	1	#12*	#12	3/4"	0.36	0.90			0.54	3/4"	#12	#12*	1	20	RECEPTACLE 200	2
3	LIGHTS 201	20	1	#12*	#12	3/4"	0.24		0.60		0.36	3/4"	#12	#12*	1	20	RECEPTACLE201	4
5	LIGHTS OUTSIDE	20	1	#12*	#12	3/4"	0.11			0.29	0.18	3/4"	#12	#12*	1	20	OUTDOOR RECEPTACLE	6
7	SUMP PUMP	20	1	#12*	#12	3/4"	1.25	1.94			0.69	3/4"	#12	#12*	1	20	EXHAUST HFAN EF-8	8
9	SPARE	20	1						1.18		1.18	3/4"	#12	#12*	1	20	OVER HEAD DOOR RM 200	10
11	SPARE	20	1							1.18	1.18	3/4"	#12	#12*	1	20	OVER HEAD DOOR RM 201	12
13	SPARE	20	1					2.40			2.40	3/4"	#10	#10*	1	30	IWH WATER HEATER	14
15	SPARE	20	1						0.18		0.18	3/4"	#12	#12*	1	20	ROOF RECEPTACLE	16
17	SPARE	20	1							0.00							SUMP	18
19	SPARE	40	2				0.00										SPACE	20
21									0.00								SPACE	22
23	SPACE									0.00							SPACE	24
25	SPACE						0.00										SPACE	26
27	SPACE								0.00								SPACE	28
29	SPACE									0.00							SPACE	30
31	SPACE						0.00										SPACE	32
33	SPACE								0.00								SPACE	34
35	SPACE									0.00							SPACE	36
37	SPACE						0.00					REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	SDP	38
39	SPACE								0.00									40
41	SPACE									0.00								42

TOTALS: 5.24 | 1.96 | 1.47

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING	0.71	125%	0.89	L-PROVIDE WITH LOCK OUT CLIP
FIRST 10K RECEPTS	1.26	100%	1.26	G-GFC PROTECTED
REMAINDER RECEPT		50%	0.00	S- SHUNT TRIP
LARGEST MOTOR		125%	0.00	*-PHASE/NEUTRAL
MOTOR	0.69	100%	0.69	
MISC (EVCS)	4.76	125%	5.95	
TOTAL (KVA)	7.42		8.79	
TOTAL AMPS	21		24	

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUF. NAME	MANUFACTURER CAT. NUMBERS	LAMPS	INPUT WATTS	VOLT	REMARKS
A	LOW BAY LED. WITH MOTION SENSOR	LITHONIA	VCVL LED-V-4-P6-40K-T5W-M/OLT-A-CB-PIR4-DWHXD	4000K LED 13630 LUMENS	108	120	MOUNT AT 18' A FF
		LSI	EQUAL				
		WILLIAMS	EQUAL				
B	4' LED STRIP LIGHT	LITHONIA	CSS-L48-A-L03-M/OLT-40K-50GR6	LED	41	120	CHAIN MTD IN OPEN CEILINGS. SURFACE MTD IN GYP. BOARD CEILINGS. REFER TO PLANS FOR CEILING TYPES.
		COLUMBIA	EQUAL				
		DAY-BRITE	EQUAL				
B1	4' LED STRIP LIGHT. VAPOR-PROOF FOR MOUNTING IN CORROSIVE ENVIRONMENTS	LITHONIA	CSVT-L48-4000LM-M/OLT-40K-80GR6-STSL--SBOR 10	LED	41	120	CHAIN MTD IN OPEN CEILINGS. SURFACE MTD IN GYP. BOARD CEILINGS. REFER TO PLANS FOR CEILING TYPES.
		COLUMBIA	EQUAL				
		DAY-BRITE	EQUAL				
C	INDIRECT/DIRECT PENDANT LUMINAIRE	MARK	S2PEI-LCB-MEUB-80CRI-40K-1200LMF-80CRI-40K-800-BW-SCT-MINI-FLL-DC-/M/OLT-WHITT-ZT-F2/72A--BCRD	LED	118	120	MOUNT PER ARCH ELEVATION S/A 301
		PRUDENTIAL	EQUAL				
		EQUAL	EQUAL				
D	LINEAR WALL MOUNTED LED. DIRECT /INDIRECT	PRUDENTIAL	BPR04-LIN-FLSH-LED4-SO-^YGW-YGW-PFL-SA CW-A DC-SC-UNV--WM-ND	4000K LED PFL-730LMFT SA CW--600LM/FT	18.3WFT	UNV	* LENGTH PER FLOOR PLAN
		MARK					
EM	EMERGENCY EGRESS FIXTURE	LITHONIA	ELM6L--W-U/V,OLT-LTP-SCRT	LED	11	120	PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK UP PER NEC 700.12.
		EELP					
		CHLORDE					
EX	EXIT SIGN	LITHONIA	EDG-X-R-EL	LED	10	120	PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK UP PER NEC 700.12.
		EELP					
		CHLORDE					
EX1	EXIT SIGN	LITHONIA	LV--S-1-R-120/277--EL N-UM-4X-SD	LED	10	120	PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK UP PER NEC 700.12.
		DUALITE	SE-A-R-G-CTBD-E				
		CHLORDE					
F	RECESSED CEILING DOWNLIGHT	LITHONIA	WF6-LED-30K40K50K-90CRI-MW	LED	18	120	
		LITHONIA	EQUAL				
		COLUMBIA	EQUAL				
G	CENTER BASKET STYLE RECESSED TROFFER	LITHONIA	2BLT4-48L-ADSM--EZ1-LP840	LED	38	120	
		PRESCOLITE	EQUAL				
		LIGHTOLIER	EQUAL				
H	6" SQUARE SOFFIT FIXTURE	LITHONIA	LDNSQ-4-0-30-LS6-A-R-LS-TRBL-M/OLT-GZ1-E10WCP	LED	35	120	MOUNT PER ARCH ELEVATIONS. PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK UP PER NEC 700.12.
		PRESCOLITE	EQUAL				
		LIGHTOLIER	EQUAL				
J	EXTERIOR ARCHITECTURAL WALL SCONCE. FORWARD THROW OPTICS. PROVIDE WITH EMERGENCY BATTERY BACKUP	LITHONIA	WDGE2-P1-40K-80CRI-R4-M/OLT-SRM-E20WC-PE	4000K LED 6355 LUMENS	52	UNV	MOUNT PER ARCH ELEVATIONS. PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK UP PER NEC 700.12.
		EQUAL					
		EQUAL					
K	6" PENDANT MOUNTED LED CYLINDER	LITHONIA	LDN6CYL-40-40-LO6-A-R-LSS-M/OLT-EZ1-PM-DWHG	LED	44	120	MOUNT PER ARCH ELEVATION
		EQUAL					
		EQUAL					
M	4' LED STRIP LIGHT. WEATHER PROOF FOR MOUNTING IN GREENHOUSE	VIBRAJRE	VAL2 L48 BRH SEFY JP10	LED	32	120	CHAIN MTD
		COLUMBIA	EQUAL				
		DAY-BRITE	EQUAL				
SA	HYBRID SOLAR POWER AREA SITE LIGHT	SOLERA	SL-SALHYB--50W-40K-SF-BK-G1-T3	LED	50	SOLAR/120	MOUNTED IN 25'-0 POLE.
		EQUAL					
		EQUAL					

NOTES:
PD=PER DRAWINGS
A=N.A.S. REQUIRED
TBD=MOUNTING OR OTHER OPTION TO BE DECIDED BASED ON FIELD CONDITIONS
CTBD=COLOR TO BE DECIDED FROM MANUFACTURER'S STANDARD COLOR PALLETTE

PANEL "MDP2"

VEHICLE SHED

PANEL TYPE: NQ **MCB or MLO:** 100A-MCB SE RATED
BUS SIZE: 100A **MOUNTING:** SURFACE NEMA 4X SS
VOLTAGE: 208Y/120V **MINIMUM AIC:** 10,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	MOWER LIFT 2HP TWIST LOCKK RECEPTACLE	30	1	#10 #10	#10	3/4"	1.25	1.63			0.38	3/4"	#8	#8*	1	20	LIGHTING	2
3							1.25		1.63		0.38	3/4"	#8	#8*	1	20	LIGHTING	4
5	SPACE									0.38	0.38	3/4"	#10*	#10*	1	20	LIGHTING	6
7	SPACE							0.38			0.38	3/4"	#12	#12*	1	20	LIGHTING	8
9	SPACE								0.38		0.38	3/4"	#12	#12*	1	20	LIGHTING	10
11	SPACE							1.08			1.08	3/4"	#8	#8*	1	20	RECEPTACLES	12
13	SPACE						1.08				1.08	3/4"	#10*	#10*	1	20	RECEPTACLES	14
15	SPACE								1.08		1.08	3/4"	#12	#12*	1	20	RECEPTACLES	16
17	SPACE									0.90	0.90	3/4"	#12	#12*	1	20	WALL CAMERA	18
19	SPACE						0.00										SPACE	20
21	SPACE							0.00									SPACE	22
23	SPACE								0.00								SPACE	24
25	SPACE						0.00										SPACE	26
27	SPACE							0.00									SPACE	28
29	SPACE								0.00								SPACE	30
31	SPACE						0.00										SPACE	32
33	SPACE							0.00									SPACE	34
35	SPACE								0.00								SPACE	36
37	SPACE						0.00					REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	SDP	38
39	SPACE							0.00										40
41	SPACE								0.00									42

TOTALS: 3.09 | 3.09 | 2.36

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING	1.90	125%	2.38	L-PROVIDE WITH LOCK OUT CLIP
FIRST 10K RECEPTS	3.24	100%	3.24	G-GFC PROTECTED
REMAINDER RECEPT		50%	0.00	S- SHUNT TRIP
LARGEST MOTOR		125%	0.00	*-PHASE/NEUTRAL
MOTOR		100%	0.00	
MISC (EVCS)	3.40	125%	4.25	
TOTAL (KVA)	8.54		9.87	
TOTAL AMPS	24		27	

PANEL "MDP4"

GREENHOUSE

PANEL TYPE: NQ **MCB or MLO:** 100A-MCB SE RATED
BUS SIZE: 100A **MOUNTING:** SURFACE NEMA 4X SS
VOLTAGE: 208Y/120V **MINIMUM AIC:** 10,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	VM VENT MOTOR	20	1	#10*	#10	3/4"	0.48	0.82			0.34	3/4"	#10	#10	1	20	EF-1 EXHAUST FAN 36"	2
3	VM VENT MOTOR	20	1	#10*	#10	3/4"	0.48		0.82		0.34			#10				4
5	VM VENT MOTOR	20	1	#12*	#12	3/4"	0.48			0.82	0.34	3/4"	#12	#12	1	20	EF-1 EXHAUST FAN 36"	6
7	SM SCEEN MOTOR	20	1	#10*	#10	3/4"	0.30	0.64			0.34			#12				8
9	SM SCEEN MOTOR	20	1	#12*	#12	3/4"	0.30		0.64		0.34	3/4"	#12	#12	1	20	EF-1 EXHAUST FAN 36"	10
11	SM SCEEN MOTOR	20	1	#12*	#12	3/4"	0.30			0.64	0.34			#12				12
13	WSM WALL SHUTTER MOTOR	20	1	#10*	#10	3/4"	0.10	0.44			0.34			#12				14
15	WSM WALL SHUTTER MOTOR	20	1	#12*	#12	3/4"	0.10		0.44		0.34	3/4"	#12	#12	1	20	EF-1 EXHAUST FAN 36"	16
17	WSM WALL SHUTTER MOTOR	20	1	#12*	#12	3/4"	0.10			0.44	0.34			#12				18
19	PS PAD WALL PUMP	20	1	#10*	#10	3/4"	0.36	0.70			0.34			#12				20
21	PS PAD WALL PUMP	20	1	#12*	#12	3/4"	0.36		0.70		0.34	3/4"	#12	#12	1	20	EF-1 EXHAUST FAN 36"	22
23	PS PAD WALL PUMP	20	1	#12*	#12	3/4"	0.36			0.70	0.34			#12				24
25	H1 UNIT HEATER	20	1	#10*	#10	3/4"	0.61	0.75			0.14			#10				26
27	H1 UNIT HEATER	20	1	#12*	#12	3/4"	0.61		0.75		0.14	3/4"	#10	#10	1	20	EF-2 EXHAUST FAN 16" 120/208	28
29	H1 UNIT HEATER	20	1	#12*	#12	3/4"	0.61			0.75	0.14			#12				30
31	RECEPTACLES	20	1	#10*	#10	3/4"	0.54	0.68			0.14	3/4"	#12	#12	1	20	EF-2 EXHAUST FAN 16" 120/209	32
33	RECEPTACLES	20	1	#12*	#12	3/4"	0.54		0.68		0.14			#12				34
35	RECEPTACLES	20	1	#12*	#12	3/4"	0.54			0.68	0.14	3/4"	#12	#12	1	20	EF-2 EXHAUST FAN 16" 120/210	36
37	RECEPTACLES	20	1	#12*	#12	3/4"	0.54	1.04			0.50			#10				38
39	RECEPTACLES	20	1	#12*	#12	3/4"	0.54		1.04		0.50	3/4"	#10	#10	1	20	RF RECIRCULATION FANS	40
41	RECEPTACLES	20	1	#12*	#12	3/4"	0.54			1.04	0.50			#12				42
43	CONTTOL PANEL	20	1	#12*	#12	3/4"	0.54	1.04			0.50			#12				44
45	LIGHTS	20	1	#12*	#12	3/4"	0.48		0.98		0.50	3/4"	#12	#12	1	20	RF RECIRCULATION FANS	46
47	LIGHTS	20	1	#12*	#12	3/4"	0.48			0.98	0.50			#12				48
49	LIGHTS	20	1	#12*	#12	3/4"	0.48	0.48									SPACE	50
51	SPARE	20	1					0.00									SPACE	52
53	PESTICIDE PUMP RECEPTACLE	20	1	#12*	#12	3/4"	0.69			0.69							SPACE	54
55	DATA RACK RECEPTACLE	20	1	#12*	#12	3/4"	0.36	0.36									SPACE	56
57	DATA RACK RECEPTACLE	20	1	#12*	#12	3/4"	0.36		0.36								SPACE	58
59	SPACE									0.00							SPACE	60
61	SPACE							0.00									SPACE	62
63	SPACE								0.00								SPACE	64
65	SPACE									0.00							SPACE	66
67	SPACE							0.00									SPACE	68
69	SPACE								0.00			REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	SDP	70
71	SPACE									0.00								72

TOTALS: 6.97 | 6.43 | 6.76

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING	1.44	125%	1.80	L-PROVIDE WITH LOCK OUT CLIP
FIRST 10K RECEPTS	3.24	100%	3.24	G-GFC PROTECTED
REMAINDER RECEPT		50%	0.00	S- SHUNT TRIP
LARGEST MOTOR		125%	0.00	*-PHASE/NEUTRAL
MOTOR	9.80	100%	9.80	
MISC (EVCS)	4.26	125%	5.33	
TOTAL (KVA)	18.74		20.16	
TOTAL AMPS	52		56	

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WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

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SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: RDA
CHECKED BY: RDA

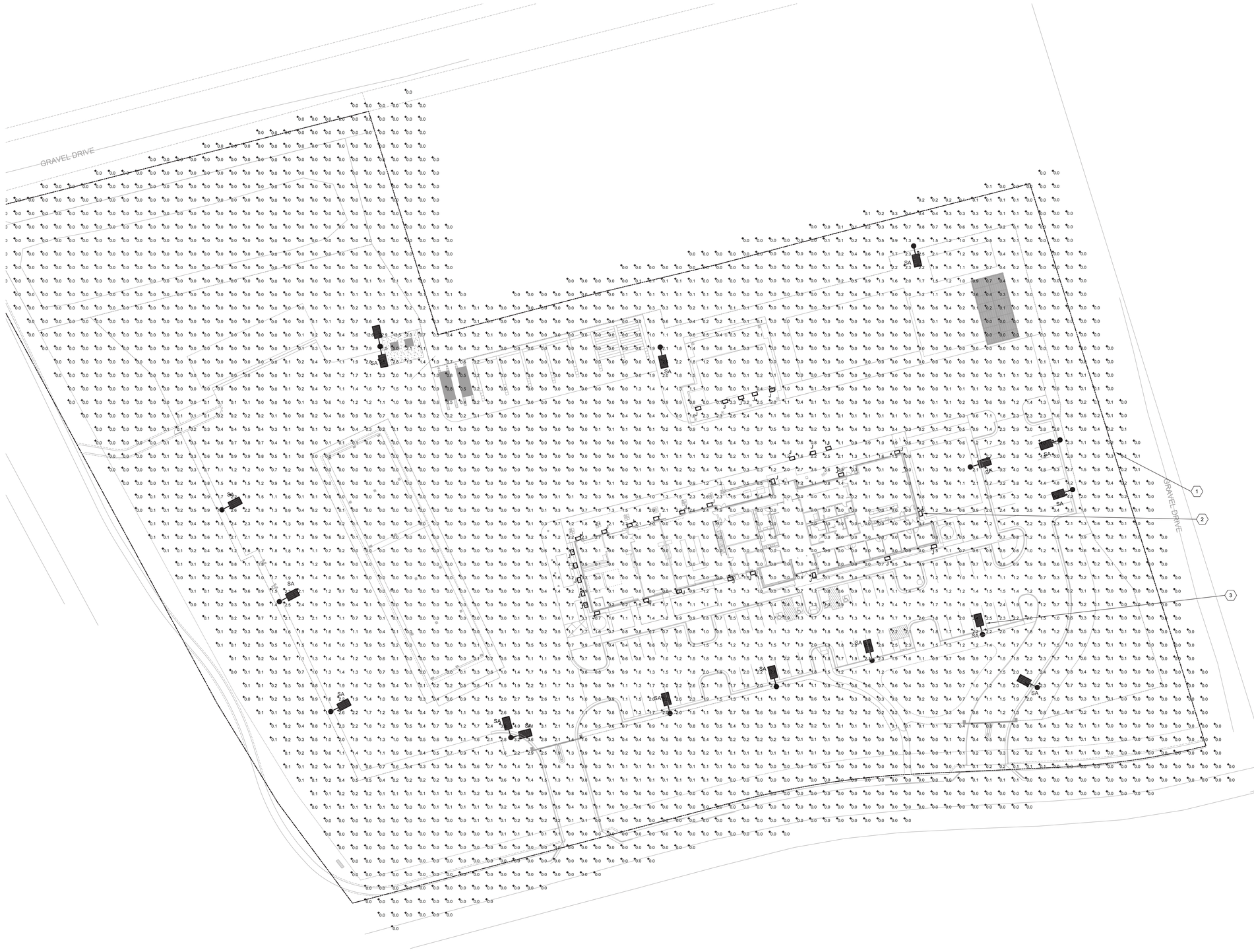
REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

E501

ELECTRICAL PANEL AND LIGHT FIXTURE SCHEDULES



1 ES100 ELECTRICAL SITE LIGHTING PLAN
1" = 30'-0"

KEYED NOTES:

1. PROPERTY LINE. TYPICAL.
2. PROPOSED BUILDING MOUNTED FIXTURE. REFER TO DETAIL 2/ES101 FOR CUT SHEET AND 3/ES101 FOR ADDITIONAL INFORMATION. TYPICAL OF ALL TYPE "J" FIXTURES.
3. PROPOSED POLE MOUNTED FIXTURE. REFER TO DETAIL 1/ES101 FOR CUT SHEET AND 3/ES101 FOR ADDITIONAL INFORMATION. TYPICAL OF ALL TYPE "SA" FIXTURES.

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2658 — 5/21/2025

SEALS

PROJECT INFORMATION

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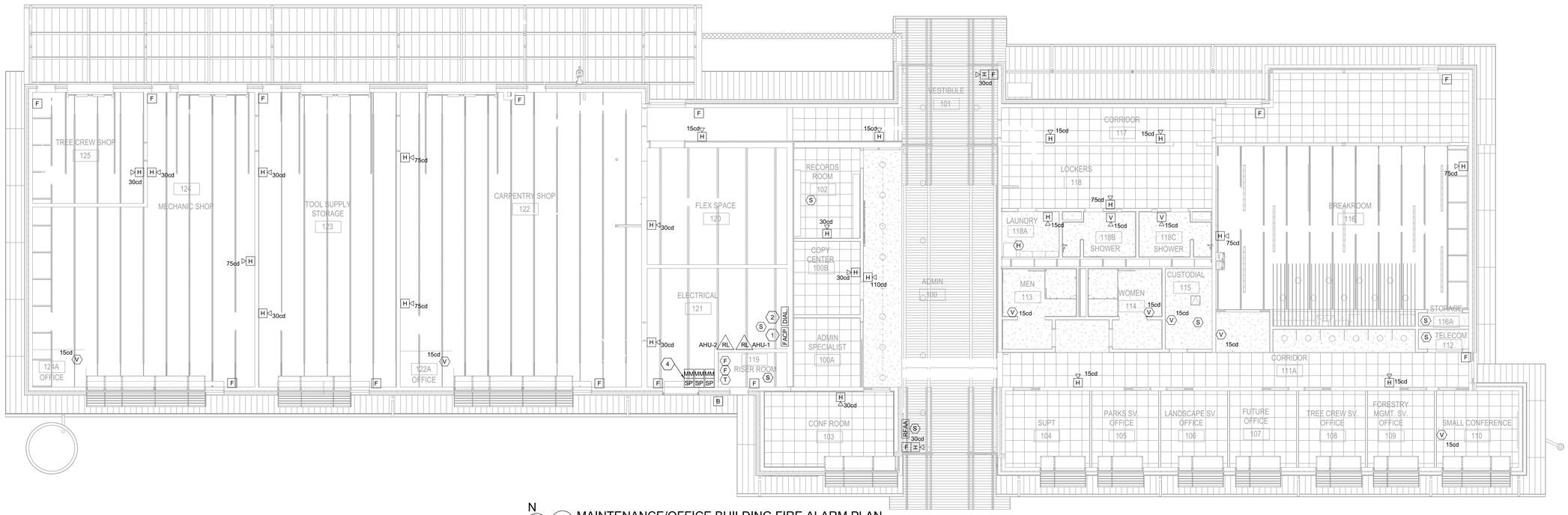
NO.	DESCRIPTION	DATE
1	PRE BID MEETING/CONSTRUCTION PERMIT REVIEW	03.25.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

ES100
ELECTRICAL SITE PLAN

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 260500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



N

1 / FA200 MAINTENANCE/OFFICE BUILDING FIRE ALARM PLAN

1/8" = 1'-0"

0 4' 8' 16'

GENERAL NOTES:

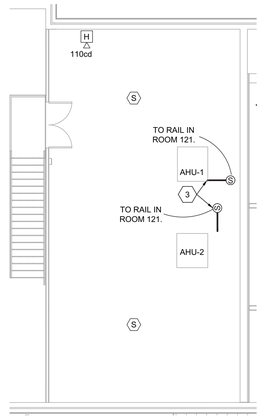
1. REFER TO SHEET E001 FOR LEGEND AND GENERAL NOTES.

KEYED NOTES:

1. ADDRESSABLE FIRE ALARM PANEL.
2. CELLULAR DIALER.
3. AHU DUCT DETECTOR. FURNISHED AND WIRED BY DIVISION 26, INSTALLED BY DIVISION 23. RAIL ARE TO BE MOUNTED IN ROOM 121.
4. MONITOR MODULES AND SURGE PROTECTION DEVICES FOR SPRINKLER HOT BOX HEATER AND TAMPERS SWITCHES. COORDINATE LOCATION OF HOT BOX WITH UTILITY PLAN U-100 AND CIVIL CONTRACTOR. NOTE HOT BOX IS APPOXIMATELY 600 FEET FROM FIRE ALARM CONTROL PANEL.

FIRE ALARM SYMBOLS

- F — WALL MTD FIRE ALARM PULL STATION
- FACP — WALL MTD FIRE ALARM CONTROL PANEL
- S — SMOKE DETECTOR, CEILING OR WALL MTD
- Sb — 520 Hz, SOUNDER BASE/HORN STROBE COMBO. SMOKE DETECTOR, CEILING MTD
- H — HEAT DETECTOR, CEILING OR WALL MTD
- Hc — HEAT DETECTOR, CONVENTIONAL
- D — DUCT MOUNTED SMOKE DETECTOR
- RL — REMOTE INDICATOR LAMP WITH TEST SWITCH
- CO — CARBON MONOXIDE DETECTOR
- F — FLOW SWITCH
- T — TAMPER SWITCH
- PIV — POST INDICATOR VALVE
- TS — TEMP. SENSOR
- MM — MONITOR MODULE
- CM — CONTROL MODULE
- IM — ISOLATION MODULE
- SP — SURGE PROTECTOR
- B — 24 VOLT SPINKLER BELL
- XXcd V — FIRE ALARM SYSTEM VISUAL DEVICE. CEILING MOUNTED. PROVIDE CANDELA RATING AS INDICATED ON PLANS.
- XXcd H — FIRE ALARM SYSTEM COMBINATION AUDIO/VISUAL DEVICE. WALL MOUNTED. PROVIDE CANDELA RATING AS INDICATED ON PLANS.



N

1 / FA200 MAINTENANCE/OFFICE BUILDING MEZZANINE FIRE ALARM PLAN

1/8" = 1'-0"

0 4' 8' 16'

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SEALS

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CHECKED BY: RDA

REVISIONS

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1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

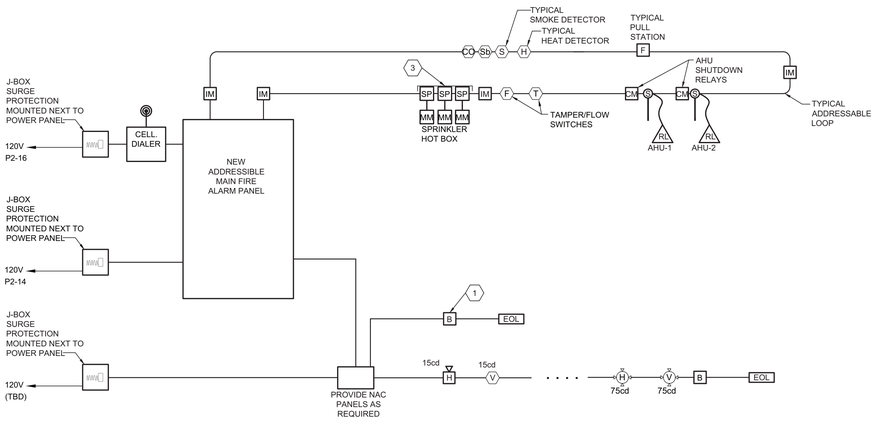
SHEET INFORMATION

FA200

FIRE ALARM NEW WORK PLAN

FIRE ALARM SYMBOLS

F	WALL MTD FIRE ALARM PULL STATION
FACP	WALL MTD FIRE ALARM CONTROL PANEL
S	SMOKE DETECTOR, CEILING OR WALL MTD
Sb	520 Hz. SOUNDER BASE/HORN STROBE COMBO. SMOKE DETECTOR, CEILING MTD
H	HEAT DETECTOR, CEILING OR WALL MTD
Hc	HEAT DETECTOR, CONVENTIONAL
D	DUCT MOUNTED SMOKE DETECTOR
RI	REMOTE INDICATOR LAMP WITH TEST SWITCH
CO	CARBON MONOXIDE DETECTOR
F	FLOW SWITCH
T	TAMPER SWITCH
PIV	POST INDICATOR VALVE
TS	TEMP. SENSOR
MM	MONITOR MODULE
CM	CONTROL MODULE
IM	ISOLATION MODULE
SP	SURGE PROTECTOR
B	24 VOLT SPINKLER BELL
XXcd V	FIRE ALARM SYSTEM VISUAL DEVICE. CEILING MOUNTED. PROVIDE CANDELA RATING AS INDICATED ON PLANS.
XXcd H	FIRE ALARM SYSTEM COMBINATION AUDIO/VISUAL DEVICE. WALL MOUNTED. PROVIDE CANDELA RATING AS INDICATED ON PLANS.



FIRE ALARM RISER

1 / FA400 — NO SCALE

KEYED NOTES:

1. 24 VOLT SPRINKLER BELL. BELL SHALL BE CONNECTED TO OPERATE ON WATER FLOW AND CANNNOT BE SILENCED WHILE WATER IS FLOWING.
2. MONITOR MODULE AND SURGE PROTECTION DEVICES FOR 2-TAMPER SWITCHES AND HEATER IN SPRINKLER HOT BOX.
3.

FIRE ALARM SPECIFICATION AND INSTALLATION:

1. CONTRACTOR SHALL PROVIDE FIRE ALARM SHOP DRAWINGS TO THE FIRE MARSHALL FOR APPROVAL. DO NOT START ANY FIRE ALARM ROUGH-IN WORK UNTIL APPROVED SHOP DRAWINGS ARE RECEIVED FROM THE FIRE MARSHALL
2. THIS DRAWING IS INTENDED TO SHOW ONLY WHICH DEVICES ARE CONNECTED TO WHICH CIRCUIT. THIS DRAWING DOES NOT SHOW THE OPTIMUM PATH FOR THE CIRCUITS. REFER TO FLOOR PLAN FOR SPECIFIC QUANTITIES AND LOCATIONS OF FIRE ALARM DEVICES.
3. ALL NEW FIRE ALARM CABLE SHALL BE IN MINIMUM 3/4" CONDUIT. RACEWAYS CONTAINING FIRE ALARM CONDUCTORS SHALL BE MARKED IN RED FOR READY IDENTIFICATION. UNLESS OTHERWISE NOTED ON THIS RISER.
4. ALL SMOKE DETECTORS SHALL BE PHOTOELECTRIC.
5. ALL ADDRESSABLE LOOP CONTROLLER (INITIATING) CIRCUITS SHALL BE WIRED IN A CLASS 'B' CONFIGURATION WITH NO 'T' TAPS MADE. PROVIDE 20% SPARE ADDRESSES PER CIRCUIT.
6. NOTIFICATION APPLIANCE CIRCUITS (NACs) SHALL BE WIRED CLASS 'B', AND ZONED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, NOT TO EXCEED 80% OF ZONE MODULE RATED OUTPUT. ALL NAC'S SHALL BE EQUIPPED WITH E.O.L. SUPERVISORY RELAYS.
7. FIRE ALARM NOTIFICATION DEVICES SHALL HAVE NOMINAL MOUNTING HEIGHT OF 80" AFF TO BOTTOM OF DEVICE. COORDINATE WITH REFLECTED CEILING PLAN AND ARCHITECT PRIOR TO ROUGH-IN. UNLESS NOTED OTHERWISE ON THE FLOOR PLANS, LIGHT LEVEL AND SOUND OUTPUT LEVELS FOR NEW DEVICES SHALL BE AS FOLLOWS:

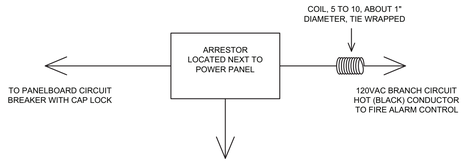
   -STROBES 75 cd
   -HORNS 95 dB

8. ADDITIONAL POWER AMPLIFICATION DEVICES THAT MAY BE NEEDED TO DRIVE NOTIFICATION DEVICES ARE COMPLETELY THE DUTY OF THE E.C./FIRE ALARM VENDOR TO PROVIDE. ANY POWER CIRCUITRY OR ADDITIONAL WIRING NEEDED FOR THIS SYSTEM SHALL BE PROVIDED AS PART OF THE BASE BID ON BID DAY.
9. ALL DEVICES SHALL BE ADA COMPLIANT.
10. INSTALLATION SHALL MEET REQUIREMENTS OF THE LATEST ADOPTED VERSIONS OF THE NFPA 72, NFPA 70 (NEC), AND THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
11. CONTRACTOR SHALL PROVIDE UPDATED FRAMED, PROTECTED ZONE MAP INDICATING LOCATION AND ADDRESS OF ALL INSTALLED DEVICES.
12. AT THE CONCLUSION OF THIS PROJECT, THE FIRE ALARM SYSTEM WILL BE TESTED IN ACCORDANCE WITH THE 2013 EDITION OF THE NFPA 72 SECTION 10.4.1.2.
13. REFER TO CONTRACT DOCUMENT FOR ADDITIONAL INFORMATION REQUIRED FOR SUBMITTALS.
14. THE TECHNICIANS WHO MAKE THE CONNECTIONS TO (PERFORM AND PROGRAMING FOR) THE FIRE ALARM SYSTEM ARE REQUIRED TO BE TRAINED AND INDIVIDUALLY CERTIFIED BY THE MANUFACTURER, FOR THE FACP MODEL/SERIES BEING INSTALLED. THIS TRAINING AND CERTIFICATION MUST HAVE OCCURRED WITHIN THE MOST RECENT 24 MONTHS.
15. AN 100% ACCEPTANCE TEST WILL BE REQUIRED. THIS MUST BE PERFORMED IN THE PRESENCE OF A WILMINGTON FIRE MARSHAL.
16. THE FIRE ALARM CONTRACTOR SHALL SUBMIT A COPY OF THE FIRE ALARM SHOP DRAWING FOR REVIEW AND APPROVAL TO THE AUTHORITIES HAVING JURISDICTION PRIOR TO SYSTEM INSTALLATION. SHOP DRAWINGS SHALL INCLUDE , BUT NOT BE LIMITED TO, ALL OF THE FOLLOWING.
    - A. A FLOOR PLAN
    - B. LOCATION OF ALARM-INITIATING AND NOTIFICATION APPLIANCES
    - C. ALARM CONTROL AND TROUBLE SIGNALING EQUIPMENT
    - D. ANNUNCIATION
    - E. POWER CONNECTION
    - F. BATTERY CALCULATIONS
    - G. CONDUCTOR TYPE AND SIZES
    - H. VOLTAGE DROP CALCULATIONS
    - I. MANUFACTURERS, MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT, DEVICES AND MATERIALS
    - J. DETAILS CO CEILING HEIGHT AND CONSTRUCTION
    - K. THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.
17. REFER TO CONTRACT DOCUMENT FOR ADDITIONAL INFORMATION REQUIRED FOR SUBMITTALS.

FIRE ALARM MATRIX

	Control Unit Annuciation							Notification						Safety	
	Common Alarm Indicator	Audible Alarm Signal	Common Supervisory Signal Indicator	Audible Common Supervisory Signal	Common Trouble Signal Indicator	Audible Common Trouble Signal	Floor Alarm Indicators	Activate Floor Evacuation Signals	Activate Sprinkler Bell	Print Change of Status	Transmit Alarm Signal	Transmit Supervisory Signal	Transmit Trouble Signal	AHU Shutdown	Activate Sprinkler Bell
Manual Pull Stations	X	X					X	X		X	X			X	
Smoke Detectors-Floor	X	X					X	X		X	X			X	
Heat Detectors-Floor	X	X					X	X		X	X			X	
Ductmounted Smoke Detectors			X	X				X		X		X		X	
Low Temperature-Hot Box			X	X						X		X			
Tamper Switch-Hot Box			X	X								X			
Tamper Switch			X	X								X			
Flow Switch	X	X					X	X	X	X	X			X	X
Fire Alarm Loss of AC Power					X	X				X			X		
Fire Alarm Low Battery					X	X				X			X		
AV Circuit By-Pass					X	X				X			X		
AHU By-Pass					X	X				X			X		
Open Circuit					X	X				X			X		
Ground Fault					X	X				X			X		
Notification Appliance circuit short					X	X				X			X		

2 / FA400 — FIRE ALARM MATRIX — NO SCALE



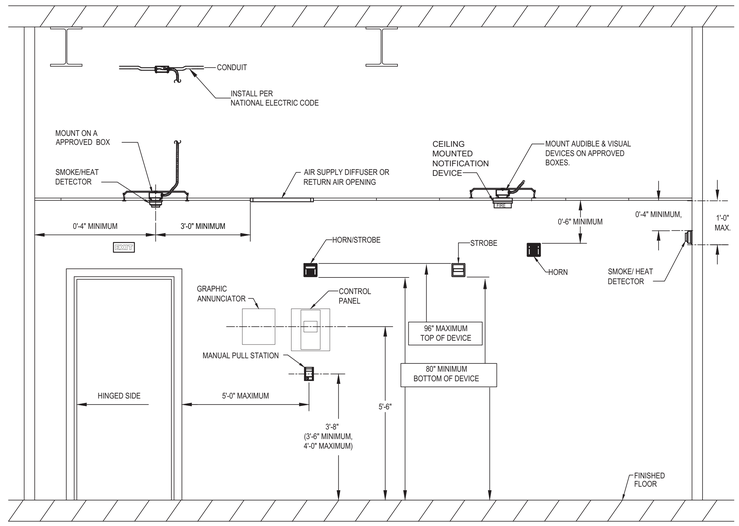
SURGE SUPPRESSION DETAIL

3 / FA400 — NO SCALE

NOTE:

1. SECURELY MOUNT TRANSIENT ARRESTOR IN ACCESSIBLE JUNCTION BOX OR PROPER METAL ENCLOSURE ADJACENT TO THE POWER PANELS. PROVIDE ENGRAVED LABEL INDICATING ITS LOCATION.

NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS



NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS

4 / FA400 — NO SCALE

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: RDA
CHECKED BY: RDA

REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

FA400

FIRE ALARM RISER, MATRIX & DETAILS

FIRE PROTECTION SYMBOLS AND ABBREVIATIONS

PIPE TURNING UP
PIPE TURNING DOWN
TEE DOWN
TEE UP
45° OFFSET
DIRECTION OF FLOW IN PIPE
PIPE SLOPED IN DIRECTION OF ARROW
PIPE CAP
CONCENTRIC REDUCER
ECCENTRIC REDUCER
PIPE UNION
GATE VALVE
CHECK VALVE
BUTTERFLY VALVE
BALL VALVE
SOLENOID VALVE
PRESSURE REDUCING VALVE
SAFETY RELIEF VALVE
BASKET STRAINER
PRESSURE GAUGE (W/ BALL VALVE)
PIPE ANCHOR
FLEXIBLE PIPE CONNECTION
PUMP
FIRE HOSE CABINET
HYDRAULIC CALCULATION NODE (SPRINKLER SYSTEM)
HYDRAULIC CALCULATION NODE (STANDPIPE SYSTEM)
ALARM CHECK VALVE
DRY PIPE VALVE WITH EXHAUSTER OR ACCELERATOR
DELUGE VALVE
PREACTION VALVE
HOSE END VALVE
TAMPER SWITCH (SHOWN ON VALVE)
PRESSURE SWITCH
FLOW SWITCH
ANGLE VALVE (ELEVATION VIEW)
ANGLE VALVE (PLAN VIEW)
FIRE HYDRANT WITH OS&Y VALVE IN ROADWAY BOX
SIAMESE CONN., FIRE DEPT. CONN.
FIRE PUMP TEST HEADER
FCA — FLOOR CONTROL ASSEMBLY

℄	CENTER LINE
<	ANGLE
Ø	ROUND, DIAMETER OR PHASE
#	POUNDS OR NUMBER
A	COMPRESSED AIR
ABV.CLG.	ABOVE CEILING
ACFM	ACTUAL CUBIC FEET PER MINUTE
ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ALUM.	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARD ASSOCIATION
AP	ACCESS PANEL
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASV	AUTOMATIC SPRINKLER VALVE
AUTO	AUTOMATIC
AWWA	AMERICAN WATER WORKS ASSOCIATION
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BOP	BOTTOM OF PIPE
C	CELSIUS
C/C	CENTER TO CENTER
CI	CAST IRON
CLG.	CEILING
CONC.	CONCRETE
CONFIG.	CONFIGURATION
CONN.	CONNECTION
CONT.	CONTINUATION
CONST.	CONSTRUCTION
CONTR.	CONTRACTOR
COORD.	COORDINATE
COP	COEFFICIENT OF PERFORMANCE
CTR	CENTER
CU	COPPER
CU.FT.	CUBIC FOOT
CW	COLD WATER OR CITY WATER
CU.YD.	CUBIC YARD
D.I.	DUCTILE IRON
DIA.	DIAMETER
DN.	DOWN
DWG.	DRAWING
E.C.	ELECTRICAL CONTRACTOR
EL.	ELEVATION
ELEC.	ELECTRICAL
EQUIP.	EQUIPMENT
EQ.	EQUAL
EXIST.	EXISTING
FCA	FLOOR CONTROL ASSEMBLY
FDC	FIRE DEPARTMENT CONNECTION
FIN.	FINISHED
FL	FLOOR
FLEX	FLEXIBLE
FLG	FLANGE
FP	FIRE PROTECTION
F.P.C.	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FOOT/FEET
GA.	GAGE
GAL.	GALLONS
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
H.C.	HEATING, VENTILATING, AND AIR CONDITIONING CONTRACTOR
HGR.	HANGER
H.CAB.	HOSE CABINET
HOA	HAND-OFF-AUTOMATIC
HORZ.	HORIZONTAL
HP	HIGH PRESSURE OR HORSEPOWER
HR	HOUR
HTG.	HEATING
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HYD.	HYDRANT
IN.	INCH
KW	KILOWATT
MAX.	MAXIMUM
MECH.	MECHANICAL
MEZZ	MEZZANINE
MFG.	MANUFACTURING
MFR.	MANUFACTURER
MIN.	MINIMUM
MJ	MECHANICAL JOINT
MTD	MOUNTED
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
N.I.C.	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NPSH	NET POSITIVE SUCTION HEAD
N.R.S.	NON RISING STEM
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OPNG	OPENING
O.R.	OPERATING ROOM
OSD	OPEN SIGHT DRAIN
O.S.&Y.	OUTSIDE SCREW AND YOKE
P.C.	PLUMBING CONTRACTOR
PICU	PEDIATRIC INTENSIVE CARE UNIT
PLBG.	PLUMBING
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
QR	QUICK RESPONSE
QTY.	QUANTITY
REINF.	REINFORCING
REQ'D	REQUIRED
REV.	REVISION
RPDA	REDUCED PRESSURE DETECTOR ASSMBLY
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
R.S.	RISING STEM
S.C.	SITE CONTRACTOR
SCH.	SCHEDULE
SPEC.	SPECIFICATION
SPR	SPRINKLER
SSU	STANDARD SPRAY UPRIGHT
SSS	STANDARD SPRAY SIDEWALL
STA.	STEEL
STRUCT.	STRUCTURAL
SYM	SYMBOL OR SYMMETRICAL
SYS.	SYSTEM
T.O.P.	TOP OF PIPE
T.O.S.	TOP OF STEEL
TS	TAMPER SWITCH
TYP.	TYPICAL
U.F.	UNDER FLOOR
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
VLV.	VALVE
W/	WITH
W/O	WITHOUT
ZCA	ZONE CONTROL ASSEMBLY

FIRE PROTECTION GENERAL NOTES

1. DIVISION 21 SHALL PROVIDE ALL LABOR AND MATERIALS REQUIRED FOR A COMPLETE WORKING SYSTEM WHICH SHALL COMPLY FULLY WITH NFPA #13, 2013 EDITION, STANDARD FOR INSTALLATION OF AUTOMATIC SPRINKLER SYSTEMS. THE NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION, REQUIREMENTS OF ALL LOCAL FIRE MARSHALL AUTHORITIES. FINAL ACCEPTANCE IS CONTINGENT UPON APPROVAL OF ALL WORK AND COMPLETION OF THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FORM 85A.

2. DIVISION 21 SHALL PROVIDE ENGINEERED SHOP DRAWINGS FOR THE PROPOSED BUILDING. THE DRAWINGS SHALL INCLUDE THE FULLY AUTOMATIC WET PIPE SPRINKLER SYSTEM WITH ALL PIPING, SPRAY HEADS OF EVERY TYPE REQUIRED, FITTINGS, VALVES, DEVICES, ACCESSORIES, HANGERS AND SUPPORTS, ALARM CHECK VALVES, WATER MOTOR GONG AND CONNECTIONS. THE WORK SHALL INCLUDE HYDRAULIC CALCULATIONS FOR THE AUTOMATIC WET PIPE SPRINKLER SYSTEMS MOST REMOTE AREAS (APPLY 10PSI REDUCTION ON STATIC AND RESIDUAL PRESSURES AND A 10% REDUCTION ON FLOW) SEE SPRINKLER DESIGN DATA ON THIS SHEET, SUBMIT TO ENGINEER FOR APPROVAL AND FORWARD TO STATE CONSTRUCTION OFFICE.

3. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UL LISTED AND FM APPROVED FOR THE INTENDED USE AND SHALL BE INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.

4. THE FIRE SPRINKLER SYSTEM FOR THE OCCUPIED AND HEATED AREAS SHALL BE AN AUTOMATIC WET PIPE SYSTEM.

5. SPRINKLER HEADS SHALL BE SPACED AS PER N.F.P.A. 13, 2013 EDITION.

6. ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED FOR THIS PROJECT.

7. ALL PIPING AND/OR CONDUIT PENETRATIONS THRU FIRE RATED FLOORS AND/OR WALLS SHALL BE MADE/SEALED IN ACCORDANCE WITH UL LISTED SYSTEMS.

8. UNLESS OTHERWISE INDICATED DIVISION 21 IS RESPONSIBLE FOR ALL CUTTING, CORE DRILLING AND PATCHING REQUIRED TO INSTALL FIRE PROTECTION WORK.

9. ALL SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF CEILING TILES WHERE LAY-IN CEILINGS OCCUR UNLESS SHOWN OR NOTED OTHERWISE.

10. REFER TO ALL ARCHITECTURAL/GENERAL CONSTRUCTION CONTRACT SPECIFICATIONS AND DRAWING DOCUMENTS FOR PROJECT REQUIREMENTS.

11. IT IS TOTALLY DIVISION 21'S RESPONSIBILITY TO COORDINATE HANGERS & SUPPORTS WITH OTHER TRADES. ANY DAMAGE INCURRED ON EXISTING FIREPROOFING MATERIAL DUE TO INSTALLATION OF HANGERS BY THIS CONTRACTOR, SHALL BE REPAIRED BY THE FIREPROOFING SUBCONTRACTOR AT THE FIRE PROTECTION CONTRACTOR'S EXPENSE.

12. ALL PIPE LARGER THAN 2" SHALL BE BLACK STEEL SCH. 10 WITH GROOVED ENDS JOINED BY GROOVE FITTINGS. USE RIGID COUPLINGS WITH ALL 2" BRANCH LINES TO PREVENT PIPE ROTATION.

13. ALL PIPE 2" AND SMALLER SHALL BE BLACK STEEL SCH. 40 WITH THREADED ENDS JOINED BY THREADED FITTINGS.

14. ALL EXPOSED SPRINKLER PIPING SHALL BE PAINTED PER ARCHITECT.

15. FINAL PIPE SIZING SHALL BE BASED ON HYDRAULIC CALCULATIONS FOR APPROPRIATE HAZARD AND A WATER FLOW TEST OF FIRE HYDRANT FLOW NEAREST TO THE SITE. THE TEST SHALL BE PROVIDED BY DIVISION 21.

16. ALL ARMOVERS SHALL BE 1", ARMOVERS EXCEEDING 1"X 2-0" SHALL BE SUPPORTED WITH A HANGER PER NFPA #13.

17. ALL INTERIOR SPRINKLER PIPING SHALL BE PRESSURE TESTED FOR 2 HOURS AT 200 PSI OR 50 PSI ABOVE THE MAXIMUM SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER.

18. AUTOMATIC SPRINKLERS SHALL BE PROVIDED UNDER DUCTS OF 48" AND GREATER WIDTH AND UNDER LESSER WIDTH DUCTS WHERE SPRAY HEADS CANNOT BE LOCATED TO COMPLY WITH THE CLEARANCE GUIDELINES OF NFPA # 13.

19. ALL WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED FOR THE PROCEDURES USED. ALL SLAG CAUSED BY WELDING OR CUTTING PROCEDURES SHALL BE REMOVED FROM PIPING BEFORE INSTALLATION OF PIPING.

20. FLUSHING CONNECTIONS SHALL BE PROVIDED AT THE ENDS OF EACH CROSS MAIN.

21. A PERMANENT METAL PLACARD SHALL BE PROVIDED AT THE BASE OF THE RISER INDICATING THE DESIGN CRITERIA AND SYSTEM DEMANDS.

22. PROVIDE FLOW SWITCHES FOR SYSTEM MAIN AND ZONES AND TAMPER SWITCHES FOR ALL ABOVE GROUND GATE, WAFER, AND BALL VALVES ABOVE GROUND AND INSIDE THE BUILDING.

23. WIRING FROM TAMPER SWITCHES AND FLOW SWITCHES TO FIRE ALARM PANEL SHALL BE BY ELECTRICAL CONTRACTOR.

24. ALL PENETRATIONS OF RATED WALLS AND FLOORS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE SCHEDULE AND DETAILS ON THIS SHEET.

25. ALL SPRINKLER PIPING, AS SHOWN, IS DIAGRAMMATIC WITH APPROXIMATE PIPE LOCATIONS, ELEVATIONS, ROUTING, ETC., AND IS PROVIDED FOR INFORMATIONAL PURPOSES. EVERY FITTING, ELL, TEE AND LENGTH OF PIPE MAY NOT BE SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO REVIEW THE CONTRACT DRAWINGS AND COORDINATE THE FIRE PROTECTION SYSTEM INSTALLATION WITH THE BUILDING STRUCTURAL, MECHANICAL AND ELECTRICAL SYSTEMS. THE FIRE PROTECTION CONTRACTOR SHALL CREATE A FABRICATION DRAWING SHOWING ALL PIPE SIZES, LOCATION, ROUTING, HANGERS & ELEVATIONS THAT IS A RESULT OF THIS COORDINATION EFFORT. NECESSARY OFFSETS IN PIPING REQUIRED TO PROPERLY INSTALL THE FIRE PROTECTION SYSTEM AS TO TAKE UP MINIMUM SPACE SHALL BE FURNISHED AND INSTALL BY THE CONTRACTOR WITH NO ADDITIONAL EXPENSE TO THE OWNER.

FIRE PROTECTION DESIGN DATA

Project Name:	CITY OF WILMINGTON PARKS MAINTENANCE FACILITY	System:	WET
Project Location:	111 MELTON RD, WILMINGTON, NC 28412	Sys. Sq. Ft.:	+/- 15,392 Sq.Ft.
Suite:	—— Floor#: 1	Ceiling Hgt.:	VARIES
Designed By:	SIGMA ENGINEERED SOLUTIONS Phone#: (919) 840-9300	Total Bldg. Hgt.:	24'-0" MAXIMUM
Occupancy:	OFFICE Hazard: SEE BELOW		

FIRE PROTECTION DESIGN SUMMARY

	System #1					
Design Method	CALCULATED					
Design Area #	R/A--1					
Location	SHOPS					
Type of System	WET					
Hazard Class	ORDINARY GRP I					
Criteria From	NFPA 13					
Design Area	1500 SQ FT					
Sprinkler Spacing	130 SQ FT (MAX)					
Density	0.15					
K-Factor	5.6					
Hose Allowance	250 GPM					
# Design Sprklr's.	14					
Special App Spkr	N/A					
Req.@ BOR						
G.P.M. Req'd.	315					
P.S.I. Req'd.	**38.33**					
Req.@ PUMP						
G.P.M. Req'd.	N/A					
P.S.I. Req'd.	N/A					
Safety Factor@Test	**26.85**					
Dry Sys. Vol. (gal)	N/A					

FIRE PROTECTION WATER SUPPLY INFORMATION

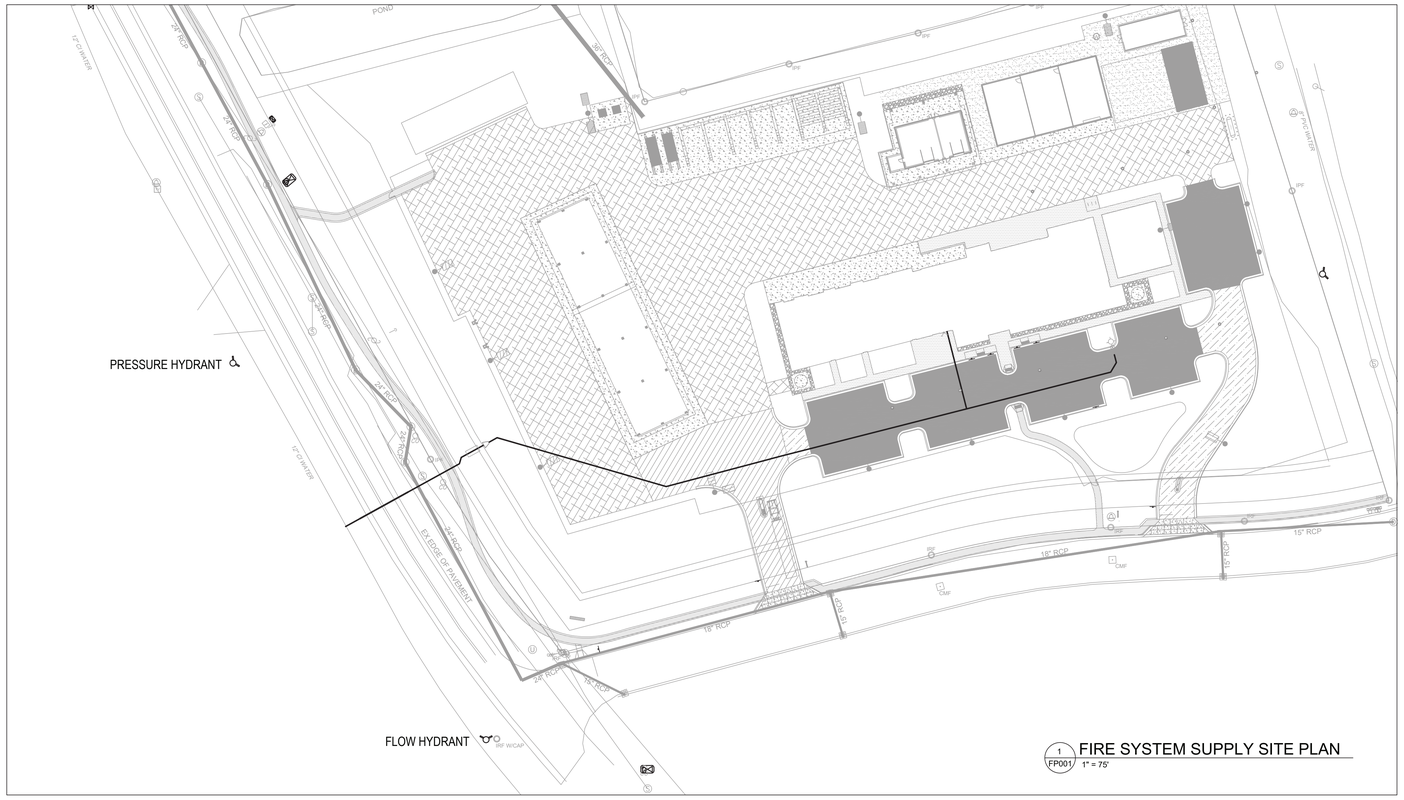
TESTED BY	TIMMONS GROUP	DATE/TIME	8.22.2022 @ 10:20 AM	PRESSURE HYDRANT	275' NW OF FLOW HYD.
HYDRANT ELEV.	32'	FLOW HYDRANT #1	RIVER RD & MELTON RD	FLOW HYDRANT #2	N/A
STATIC (PSI)	60-10=50	RESIDUAL (PSI)	44-10=34	FLOW (GPM)	788-10%=709
COPY OF TEST DATA INCLUDED WITH CALCULATION, WATER SUPPLY REDUCED PER SCO REQUIREMENTS					

SPRINKLER HEAD LEGEND

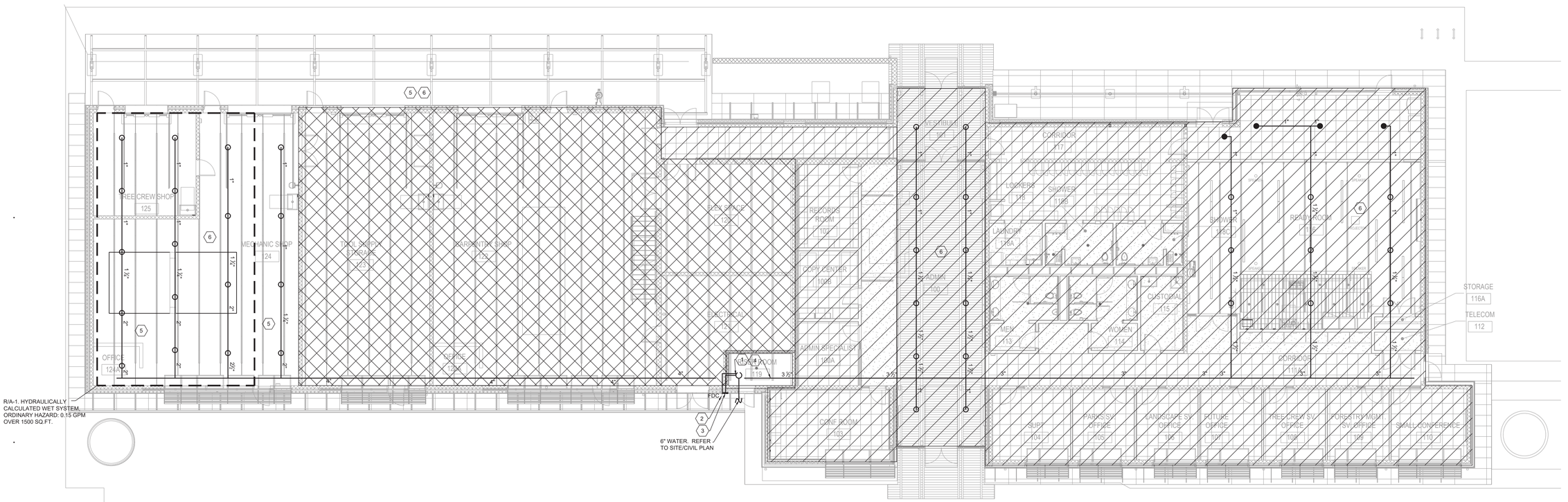
- CONCEALED PENDENT SPRINKLER HEAD, QR, CHROME BODY, WHITE COVER PLATE, 1/2, 155°, K=5.6.
- UPRIGHT SPRINKLER HEAD, QR, SSU BRASS BODY, 1/2", 155°, K=5.6.
- SEMI-RECESSED PENDENT SPRINKLER HEAD: QR, SSP BRASS BODY, 1/2", 155°, K=5.6.
- SIDEWALL SPRINKLER HEAD: QR CHROME BODY, 1/2", 155°, SSS, K=5.6.
- DRY TYPE SIDEWALL SPRINKLER HEAD: QR CHROME BODY, 1/2", 155°, SSS, K=5.6.

NOTE:

ALL SPRINKLER HEAD SPECIFICATION INFORMATION LISTED ABOVE IS TYPICAL UNLESS OTHERWISE INDICATED ON THE DRAWINGS AND/OR AS OTHERWISE REQ'D. BY CODE (ORIFICE SIZES, TEMP. RATINGS, ETC.).


POND
12" DWWR
24" RCP
24" RCP
24" RCP

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 210500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



1 FP200 MAINTENANCE/OFFICE BUILDING SPRINKLER PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO FP001 FOR FIRE PROTECTION LEGEND AND ADDITIONAL GENERAL NOTES.
2. REFER TO ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, AND SLOPES.
3. ENTIRE BUILDING SHALL BE PROTECTED WITH AN AUTOMATIC WET-PIPE SPRINKLER SYSTEM.
4. INTERIOR SPACES WITH A CEILING SHALL BE PROTECTED WITH CONCEALED PENDENT HEADS. INTERIOR SPACES WITHOUT A CEILING SHALL BE PROTECTED WITH UPRIGHT HEADS. EXTERIOR OVERHANGS AND OTHER AREAS SUBJECT TO FREEZING SHALL BE PROTECTED WITH DRY SIDEWALL HEADS.
5. THESE PLANS ARE PRESCRIPTIVE ONLY. DIVISION 21 IS RESPONSIBLE FOR PROVIDING SHOP DRAWINGS SHOWING THE HEAD AND PIPING LAYOUT, PIPE SIZES, HYDRAULIC CALCULATIONS, SEISMIC BRACING, AND SEISMIC BRACING CALCULATIONS AS DEFINED BY THE GENERAL NOTES ON FP001 AND THE SPECIFICATIONS.

NOTES KEYED TO 1/FP200:

1. 6" SPRINKLER RISER.
2. FORWARD FLOW TEST HEADER.
3. WET RISER DRAIN.
4. TO WET SYSTEM SPRINKLERS.
5. HIGH TEMPERATURE HEADS SHALL BE INSTALLED IN THE SHOP AREAS WHEN LOCATED NEAR UNIT HEATERS AS REQUIRED
6. EXPOSED SPRINKLER PIPING SHALL BE PAINTED PER ARCHITECT.

HATCH LEGEND:

HYDRAULICALLY CALCULATED WET SYSTEM, LIGHT HAZARD: 0.10 GPM OVER 1500 SQ.FT, AREA REDUCTIONS ALLOWABLE PER NFPA 13.

HYDRAULICALLY CALCULATED WET SYSTEM, ORDINARY HAZARD GROUP I OCCUPANCY: 0.15 GPM OVER 1500 SQ.FT, AREA REDUCTIONS ALLOWABLE PER NFPA 13.

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SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MAA/AMR
CHECKED BY:

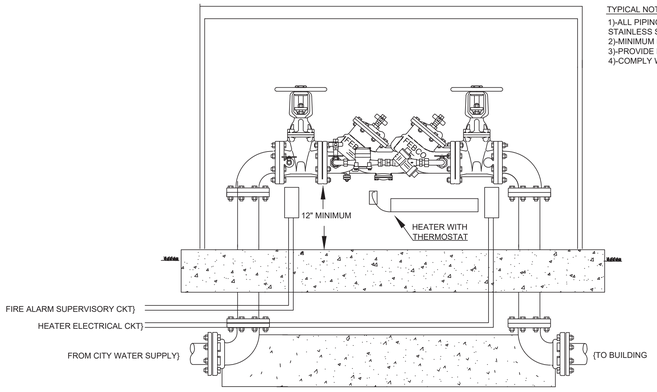
REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

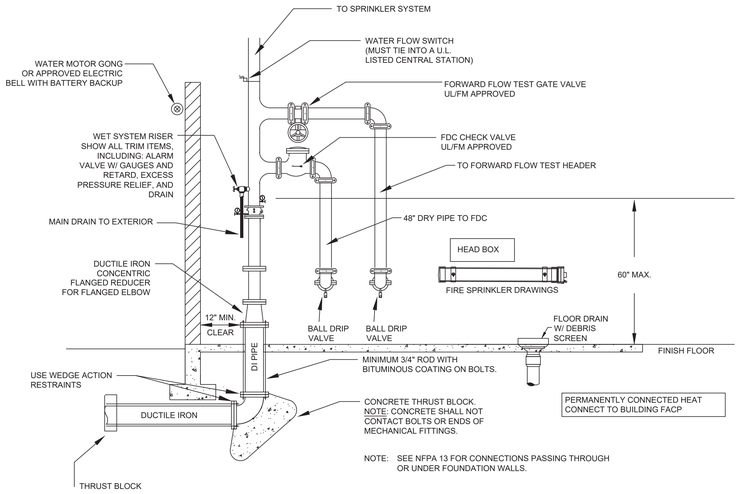
FP200

FIRE PROTECTION NEW WORK PLAN

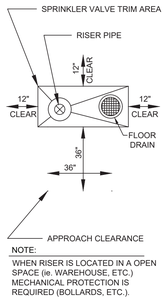


TYPICAL NOTES:
1)-ALL PIPING AND FITTINGS TO BE DUCTILE IRON, GALVANIZED BRASS, STAINLESS STEEL, OR ALUMINUM.
2)-MINIMUM DISTANCE 3 FEET BEHIND CURB, PROTECT FROM VEHICLES.
3)-PROVIDE HEAT AND ALARM SUPERVISION TO HOT BOX (2 CONDUITS).
4)-COMPLY WITH PUBLIC UTILITIES REQUIREMENTS.

1 HOTBOX INLINE BACKFLOW DETAIL
(REFER TO SITE CIVIL PLANS FOR LOCATION)

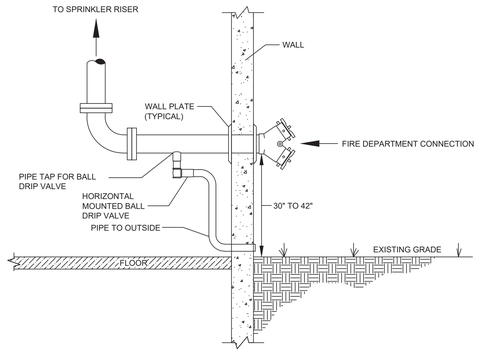


2 SPRINKLER RISER DETAIL
NO SCALE



NOTE:
WHEN RISER IS LOCATED IN A OPEN SPACE (ie. WAREHOUSE, ETC.) MECHANICAL PROTECTION IS REQUIRED (BOLLARDS, ETC.).

3 SPRINKLER RISER CLEARANCE DETAIL
NO SCALE



4 WALL MOUNTED FDC DETAIL
NO SCALE

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www.esse-architects.com

CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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TIMMONS GROUP
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919.866.4935

MECHANICAL, ELECTRICAL, & PLUMBING
SIGMA ENGINEERED SOLUTIONS
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919.840.9300

STRUCTURAL
LYSAGHT & ASSOCIATES
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SEALS

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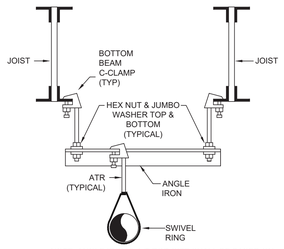
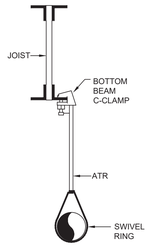
SHEET INFORMATION

FP300
FIRE PROTECTION DETAILS

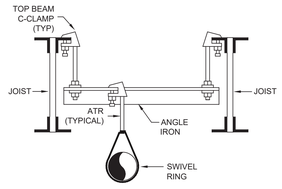


NOTE: ANGLE IRON & A.T.ROD SIZE SHALL BE BASED ON TABLES 2-6.1.5 (a), 2-6.1.5(b) AND 2-6.4.1 IN NFPA 13.

BOTTOM BEAM TRAPEZE HANGER

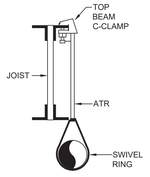


BOTTOM BEAM HANGER



NOTE: ANGLE IRON & A.T.ROD SIZE SHALL BE BASED ON TABLES 2-6.1.5 (a), 2-6.1.5(b) AND 2-6.4.1 IN NFPA 13.

TOP BEAM TRAPEZE HANGER



TOP BEAM HANGER

HANGER INSTALLATION REQUIREMENTS									
MAXIMUM DISTANCE BETWEEN HANGERS									
NOMINAL PIPE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
BLAZEMASTER CPVC	5' 6"	6' 0"	6' 6"	7' 0"	8' 0"	9' 0"	10' 0"	N/A	N/A
THREADABLE LIGHTWALL	N/A	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	N/A	N/A
STEEL PIPE (10/ 40)	N/A	12' 0"	12' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"

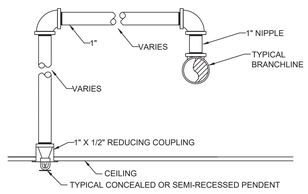
100 PSI STATIC PRESSURE ON SYSTEM REQUIRES UP-LIFT RESTRAINT WITHIN 12 INCHES HORIZONTALLY OF HEAD FOR ARM-OVERS AND END OF BRANCH LINE.

THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT EXCEED 36" FOR 1" PIPE, 48" FOR 1-1/4" PIPE AND 60" FOR 1-1/2" PIPE OR LARGER.

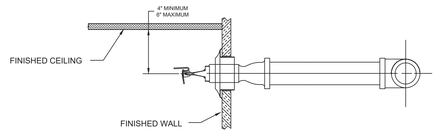
THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER TO A SPRINKLER, SPRINKLER DROP, OR SPRIG-UP SHALL NOT EXCEED 24".

TRAPEZE INSTALLATION REQUIREMENTS								
SPAN OF TRAPEZE (Schedule 10)	NOMINAL PIPE SIZE SUPPORTED							
	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
1 FT. 6 IN.	1"	1"	1"	1"	1"	1"	1-1/4"	1-1/4"
2 FT. 0 IN.	1"	1"	1"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"
2 FT. 6 IN.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	2"
3 FT. 0 IN.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	1-1/2"	1-1/2"	2"
4 FT. 0 IN.	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2-1/2"
5 FT. 0 IN.	2"	2"	2"	2"	2"	2"	2-1/2"	2-1/2"
6 FT. 0 IN.	2"	2"	2"	2"	2"	2-1/2"	2-1/2"	3"
7 FT. 0 IN.	2"	2"	2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"
8 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"
9 FT. O IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	4"
10 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	3"	4"

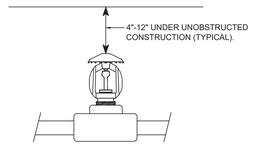
1 PIPE HANGER AND SUPPORT DETAILS
NO SCALE



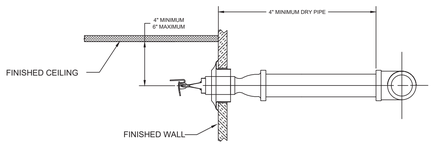
2 PENDANT SPRINKLER DETAIL
NO SCALE



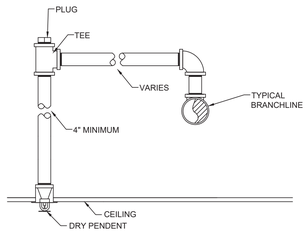
3 SIDEWALL SPRINKLER DETAIL
NO SCALE



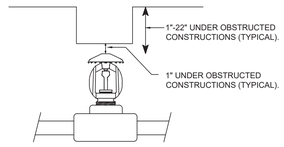
4 UPRIGHT SPRINKLER DETAIL
NO SCALE



5 DRY SIDEWALL SPRINKLER DETAIL
NO SCALE

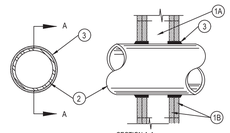


6 DRY PENDANT SPRINKLER DETAIL
NO SCALE



7 UPRIGHT SPRINKLER UNDER OBSTRUCTION DETAIL
NO SCALE

SYSTEM NO. W-L-1001
JUNE 15 2000
F RATINGS-1, 2, 3 AND 4 HR (SEE ITEM 2 AND 3)
T RATING-0, 1, 2, 3, AND 4 HR. (SEE ITEM 3)
L RATING AT AMBIENT - LESS THAN 1 CFM/SQ. FT.
L RATING AT 400°F - LESS THAN 1 CFM/SQ. FT.



SECTION A-A

1. THE 1, 2, 3 OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE WALL ASSEMBLY-CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

   A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 H FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102mm) LUMBER SPACED 16 IN. (406mm) OC WITH NOM 2 BY 4 IN. (51 BY 102mm) LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. (92mm) WIDE BY 1-3/8 IN. (35mm) DEEP CHANNELS SPACED MAX 24 IN. (610mm) OC.

   B. GYPSUM BOARD* - NOM 1/2 OR 5/8 IN. (13 or 16mm) THICK, 4 FT. (122cm) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 26 IN. (660mm).

2. THROUGH - PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (0mm) (POINT CONTACT) TO MAX MAX. 2 IN. (51mm) PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED.

   A. STEEL PIPE - NOM 24 IN. (610mm) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

   B. IRON PIPE - NOM 24 IN. (610mm) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN (305mm) DIAM (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE LINE PRESSURE PIPE.

   C. CONDUIT - NOM 6 IN. (152mm) DIAM. (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. (102mm) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.

   D. COPPER TUBING - NOM 6 IN. (152mm) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

   E. COPPER PIPE - NOM 6 IN. (152mm) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

   F. THROUGH PENETRANTING PRODUCT* - FLEXIBLE METAL PIPING THE FOLLOWING TYPES OF STEEL FLEXIBLE METAL GAS PIPING MAY BE USED:

   1. NOM 2 IN. (51COVERING ON PIPIING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

      OMEGA FLEX INC

   2. NOM 1 IN. (25mm) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

      GASTILE, DIV OF TILEFLEX

   3. NOM 1 IN. (25mm) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

      WARD MFG INC

3. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN 5/8. 1-1/4, 1-7/8 AND 2-1/2 IN (16,32,48, AND 64mm) THICKESS OF CAULK FOR 1, 2, 3, 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OR WALL. MIN 1/4 IN (6mm) DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIZE OF WALL. THE HOURLY F RATING OF THE FIRESTOP IS DEPENENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSATEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW.

MAX PIPE OR CONDUIT DIAM, IN	F RATING HR	T RATING HR
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+WHEN COPPER PIPE IS USED, T RATING IS 0 H.

3M COMPANY - CP 25WB+ or FB-3000 WT.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CLASSIFICATION MARK FOR JURISDICTION EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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8 U.L. DETAIL
NO SCALE

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SHEET INFORMATION

FP301
FIRE PROTECTION DETAILS

Docusign Envelope ID: 20224FDD-79D6-40E1-8728-B091AEBC6BD8

CITY OF WILMINGTON
PARKS MAINTENANCE FACILITY

BID DOCUMENTS 01.13.2025

DRAWING LIST	
SHEET NO.	SHEET NAME
G001	COVER
G101	CODE SUMMARY ADMINISTRATION BUILDING
G102	LIFE SAFETY PLAN - ADMINISTRATION BUILDING
G103	CODE SUMMARY VEHICLE SHED
G104	CODE SUMMARY POTTING SHED
G105	CODE SUMMARY GREENHOUSE
G106	LIFE SAFETY PLAN - POTTING SHED AND GREENHOUSE
G-000	COVER
SV1	EXISTING CONDITIONS SURVEY
L100	EXISTING CONDITIONS
L101	DEMOLITION PLAN
L102	TREE PRESERVATION PLAN
L103	TREE SHADING PLAN
L200	SITE LAYOUT
L201	STAKING PLAN
L202	TRUCK ACCESS PLAN
L300	LANDSCAPE PLAN
L301	LANDSCAPE NOTES AND DETAILS
L400	SITE DETAILS
L401	SITE DETAILS
L402	SITE DETAILS
L403	SITE DETAILS
C100	EROSION AND SEDIMENT CONTROL PLAN (PHASE 1)
C101	EROSION AND SEDIMENT CONTROL PLAN (PHASE 2)
C102	EROSION CONTROL NOTES AND DETAILS
C103	EROSION CONTROL NOTES AND DETAILS
C104	EROSION CONTROL NOTES AND DETAILS
C200	GRADING AND DRAINAGE PLAN
C201	SPOT ELEVATION PLAN
C202	STORM SEWER PROFILES
C203	STORM SEWER PROFILES
C204	STORM SEWER SCHEDULES
C205	WET POND PLAN AND PROFILE
C206	SCM (WET POND) DETAILS
C207	GRADING AND DRAINAGE DETAILS
C208	GRADING AND DRAINAGE DETAILS
U100	UTILITY PLAN
U101	WATERLINE PROFILE
U102	SEWER PROFILE
U200	UTILITY DETAILS
U201	UTILITY DETAILS
U202	UTILITY DETAILS
A000	ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES
A001	3D VIEWS
A002	3D VIEWS
A101	ADMINISTRATION BUILDING - FLOOR PLAN
A102	ADMINISTRATION BUILDING - DIMENSIONED FLOOR PLAN
A103	AUXILIARY BUILDINGS - FLOOR PLANS
A104	MATERIAL STORAGE CANOPY
A105	CONTROL JOINT LAYOUTS
A111	ADMINISTRATION BUILDING - REFLECTED CEILING PLAN
A112	AUXILIARY BUILDINGS - REFLECTED CEILING PLANS
A121	ADMINISTRATION BUILDING - ROOF PLAN
A122	AUXILIARY BUILDINGS - ROOF PLANS
A131	FINISH PLANS
A132	SIGNAGE PLANS AND SCHEDULE
A133	INTERIOR SIGNAGE DETAILS
A134	EXTERIOR SIGNAGE DETAILS
A135	EXTERIOR SITE SIGNAGE
A201	ADMINISTRATION BUILDING - EXTERIOR ELEVATIONS
A202	VEHICLE SHED -EXTERIOR ELEVATIONS
A203	POTTING SHED AND GREENHOUSE - EXTERIOR ELEVATIONS
A301	ADMINISTRATION BUILDING - BUILDING SECTIONS
A302	VEHICLE SHED AND POTTING SHED - BUILDING SECTIONS
A303	GREENHOUSE- BUILDING SECTIONS AND DETAILS
A401	ENLARGED TOILET PLANS AND ELEVATIONS
A402	OFFICE INTERIOR ELEVATIONS
A403	ENLARGED READY ROOM PLANS AND ELEVATIONS
A404	ENLARGED ADMIN, COPY ROOM & WORKSHOP PLANS AND ELEVATIONS
A405	RECEPTION DESK DETAILS
A406	LOCKER ROOM ENLARGED PLANS AND ELEVATIONS
A407	STAIR DETAILS
A408	STAIR DETAILS
A421	ADMINISTRATION BUILDING - WALL SECTIONS
A422	ADMINISTRATION BUILDING - WALL SECTIONS
A423	ADMINISTRATION BUILDING - WALL SECTIONS
A424	ADMINISTRATION BUILDING - WALL SECTIONS
A425	ADMINISTRATION BUILDING - WALL SECTIONS
A426	ADMINISTRATION BUILDING - WALL SECTIONS
A427	ADMINISTRATION BUILDING - WALL SECTIONS
A428	VEHICLE SHED - WALL SECTIONS
A429	POTTING SHED - WALL SECTIONS
A430	POTTING SHED - WALL SECTIONS
A501	ADMINISTRATION BUILDING - PLAN DETAILS
A502	ADMINISTRATION BUILDING - PLAN DETAILS
A503	ADMINISTRATION BUILDING - PLAN DETAILS
A504	AUXILIARY BUILDINGS - PLAN DETAILS

DRAWING LIST (CONTINUED)	
A505	MISCELLANEOUS DETAILS ADMINISTRATION BUILDING
A506	MISCELLANEOUS DETAILS AUXILIARY BUILDINGS
A510	MILLWORK DETAILS
A511	MILLWORK DETAILS
A512	MILLWORK DETAILS
A513	READY ROOM WOOD GRILLE DETAILS
A521	HEAD JAMB AND SILL DETAILS
A522	HEAD JAMB AND SILL DETAILS
A523	HEAD JAMB AND SILL DETAILS
A524	HEAD JAMB AND SILL DETAILS
A525	ADMINISTRATION BUILDING - ROOF DETAILS
A526	ADMINISTRATION BUILDING - ROOF DETAILS
A527	ADMINISTRATION BUILDING - ROOF DETAILS
A528	ADMINISTRATION BUILDING - ROOF DETAILS
A529	ADMINISTRATION BUILDING - ROOF DETAILS
A530	VEHICLE SHED - ROOF DETAILS
A531	VEHICLE SHED - ROOF DETAILS
A532	POTTING SHED - ROOF DETAILS
A533	POTTING SHED - ROOF DETAILS
A601	DOOR SCHEDULE
A602	WINDOW SCHEDULE
S001	GENERAL STRUCTURAL NOTES
S002	GENERAL NOTES AND LEGENDS
S101	ADMINISTRATION BUILDING FOUNDATION PLAN
S102	ADMINISTRATION BUILDING MEZZANINE AND HEADER PLAN
S103	ADMINISTRATION BUILDING ROOF PLAN
S104	ADMINISTRATION BUILDING EXTERIOR ELEVATIONS
S105	ADMINISTRATION BUILDING SECTIONS
S106	ADMINISTRATION BUILDING SECTIONS
S107	ADMINISTRATION BUILDING SECTIONS
S111	VEHICLE SHED FOUNDATION PLAN
S112	VEHICLE SHED ROOF FRAMING PLANS
S113	VEHICLE SHED ELEVATIONS AND DETAILS
S114	VEHICLE SHED ELEVATION
S121	POTTING SHED FOUNDATION PLAN
S122	POTTING SHED ROOF FRAMING
S123	POTTING SHED SECTIONS
S124	POTTING SHED DETAILS
S130	STORAGE SHED
S131	STORAGE SHED DETAILS
S140	AUXILIARY STRUCTURES
S301	FOUNDATION DETAILS
S401	MASONRY DETAILS
S501	STEEL DETAILS
S601	WOOD AND LIGHT GAGE DETAILS
P001	PLUMBING LEGENDS AND SCHEDULES
P002	PLUMBING LEGENDS AND SCHEDULES
P200	PLUMBING WASTE AND VENT NEW WORK PLAN
P201	PLUMBING WATER AND GAS NEW WORK PLAN
P210	PLUMBING WATER AND GAS NEW WORK PLAN
P300	PLUMBING WASTE AND VENT RISERS
P310	PLUMBING WATER AND GAS RISERS
P500	PLUMBING DETAILS AND NOTES
FP001	FIRE PROTECTION LEGENDS AND NOTES
FP200	FIRE PROTECTION NEW WORK PLAN
FP300	FIRE PROTECTION DETAILS
FP301	FIRE PROTECTION DETAILS
M001	MECHANICAL LEGENDS AND SCHEDULES
M002	MECHANICAL SCHEDULES
M200	MECHANICAL NEW WORK PLAN
M210	MECHANICAL NEW WORK PLAN
M300	MECHANICAL NEW WORK ENLARGED PLANS AND SECTIONS
M310	MECHANICAL NEW WORK ENLARGED PLANS AND SECTIONS
M500	MECHANICAL DETAILS
M501	MECHANICAL DETAILS
M502	MECHANICAL DETAILS
E001	ELECTRICAL LEGEND AND NOTES
E002	ELECTRICAL BUILDING CODE SUMMARIES
ES100	ELECTRICAL SITE PLAN
E100	ELECTRICAL SITE PLAN
E101	SITE PLAN LIGHTING
E200	ADMINISTRATION BUILDING LIGHTING PLAN
E201	ADMINISTRATION BUILDING POWER PLAN
E202	ADMINISTRATION BUILDING ROOF PLAN
E203	VEHICLE SHED, POTTING SHED AND GREENHOUSE ELECTRICAL PLANS
E204	ADMINISTRATION BUILDING SERVICE YARD PLAN
E300	ELECTRICAL DETAILS
E301	ELECTRICAL DETAILS
E302	ELECTRICAL DETAILS
E303	ELECTRICAL DETAILS
E304	ELECTRICAL DETAILS
E305	ELECTRICAL DETAILS
E400	ELECTRICAL POWER RISER
E401	PV POWER DETAILS
E500	ELECTRICAL PANEL SCHEDULES
E501	ELECTRICAL PANEL AND LIGHT FIXTURE SCHEDULES
FA200	FIRE ALARM NEW WORK PLAN
FA400	FIRE ALARM RISER, MATRIX AND DETAILS

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

MAYOR
BILL SAFFO

MAYOR PRO-TEM
CLIFFORD D. BARNETT, SR.

CITY COUNCIL
CHARLIE RIVENBARK
KEVIN SPEARS
LUKE WADDELL, SR.
DAVID JOYNER
SALETTE ANDREWS

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TONY CAUDLE

DIVISION
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Esse Architects P.A. 52498 North Carolina Registered Professional Corporation Raleigh, N.C.

Melissa Corinne Potenza 11083 Registered Landscape Architect Raleigh, N.C.

5/22/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	MDP, ADF
CHECKED BY:	MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

G001
COVER

Docusign Envelope ID: 20224FDD-79D6-40E1-8728-B091AEBC6BD8

2018 APPENDIX B BUILDING CODE SUMMARY - ADMINISTRATIVE BUILDING

NAME OF PROJECT: CITY OF WILMINGTON PARKS MAINTENANCE FACILITY
ADDRESS: 111 Melton Road, Wilmington, NC 28412
PROPOSED USE: OFFICES AND WORKSHOPS
OWNER/AUTHORIZED AGENT: City of Wilmington, Dave Mayes, Director, Public Services Department
E-MAIL: dave.mayes@wilmingtonnc.gov
PHONE: 910.470.1919

OWNED BY: ■ CITY/COUNTY ☐ PRIVATE ☐ STATE
CODE ENFORCEMENT JURISDICTION: ■ CITY ■ COUNTY ☐ STATE

LEAD DESIGN PROFESSIONAL: Mirands Potthoff, Esse Architects

DESIGNER	FIRM	NAME	LICENSE #	PHONE #	EMAIL
ARCHITECTURAL	ESSE ARCHITECTS	MIRANDA POTTHOFF	11663	(919)270-6455	MIRANDA@ESSE-ARCHITECTS.COM
CIVIL	TIMMONS GROUP	BRANDON MCLAMB	034374	(919)866-4935	BRANDON.MCLAMB@TIMMONS.COM
ELECTRICAL	SIGMA ENGINEERED SOL	REGINALD ADAMS	19658	(919)840-9300	RADAMS@SIGMAES.COM
FIRE ALARM	SIGMA ENGINEERED SOL	REGINALD ADAMS	19658	(919)840-9300	RADAMS@SIGMAES.COM
PLUMBING	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
MECHANICAL	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
SPRINKLER	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
STRUCTURAL	LYSAGHT & ASSOCIATES	MICHAEL STONE	038727	(919)833-0495	MES@LYSAGHTASSOCIATES.COM
RETAINING WALLS > 5' HIGH	N/A	N/A	N/A	N/A	N/A
LANDSCAPE	TIMMONS GROUP	KEVIN BARNES	1251	(919)532-3252	KEVIN.BARNES@TIMMONS.COM

2018 NC BUILDING CODE: ■ NEW BUILDING ☐ ADDITION ☐ RENOVATION
☐ 1ST TIME INTERIOR COMPLETION
☐ SHELL/CORE
☐ PHASED CONSTRUCTION - SHELL/CORE

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 FLOOD HAZARD AREA: ■ NO ☐ YES
SPECIAL INSPECTIONS REQUIRED: ■ NO ☐ YES

GROSS BUILDING AREA TABLE:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3RD FLOOR	N/A	N/A	N/A
2ND FLOOR	N/A	N/A	N/A
MEZZANINE	N/A	1,214	1,214
1ST FLOOR	N/A	14,564	14,564
BASEMENT	N/A	N/A	N/A
TOTAL			15,778

ALLOWABLE AREA
PRIMARY OCCUPANCY CALCULATION
PRIMARY OCCUPANCY: ASSEMBLY: ☐ A-1 ☐ A-2 ■ A-3 ☐ A-4 ☐ A-5
■ BUSINESS ☐ EDUCATIONAL FACTORY-INDUSTRIAL: ■ F-1 ☐ F-2
HIGH-HAZARD: ☐ H-1 ☐ H-2 ☐ H-3 ☐ H-4 ☐ H-5
INSTITUTIONAL: ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 USE CONDITION: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ MERCANTILE RESIDENTIAL ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
STORAGE: ■ S-1 ☐ S-2 ☐ HIGH-PILED
S-1 SPECIAL CONDITION: ☐ REPAIR GARAGE (406.6)
S-2 SPECIAL CONDITION- PARKING GARAGE: ☐ OPEN (406.3) ☐ ENCLOSED (406.4)
☐ UTILITY AND MISCELLANEOUS

OTHER USES: ACCESSORY USES (INDICATE PERCENTAGES): _____
INCIDENTAL USES: _____

SPECIAL USES: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421

MIXED OCCUPANCY: ☐ NO ■ YES SEPARATION: _____ EXCEPTION: _____
■ NON-SEPARATED MIXED OCCUPANCY (508.3.2)
☐ SEPARATED MIXED OCCUPANCY (508.3.3)

ACTUAL AREA OF OCCUPANCY A / ALLOWABLE AREA OF OCCUPANCY A + ACTUAL AREA OF OCCUPANCY B / ALLOWABLE AREA OF OCCUPANCY B _ < 1

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[1] AREA	(C) AREA FOR FRONTAGE INCREASE	(D) ALLOWABLE AREA OR UNLIMITED	(E) MAXIMUM BUILDING AREA [4]
1	OFFICE/WORKSHOP	15,392	38,000	7,125	45,125	45,125
	(A-3 GOVERNS)					

1. FRONTAGE AREA INCREASES FROM SECTION 506.3 ARE COMPUTED THUS:
   A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM WIDTH = 678 FT (F)
   B. TOTAL BUILDING PERIMETER = 678 FT (P)
   C. RATIO (F/P) = 678/678 = 1 (F/P)
   D. W = MINIMUM WIDTH OF PUBLIC WAY = 30 FT (W)
   E. PERCENT OF FRONTAGE INCREASE = [= 100 [(678/678 - 0.25) x 30/30 = 100 [= 0.25] x 30/30 = 75(%)
2. UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTION 507.
3. MAXIMUM BUILDING AREA = TOTAL NUMBER OF STORIES IN THE BUILDING x D (MAXIMUM 3 STORIES) (506.2)
4. THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406.5.4
5. FRONTAGE INCREASE IS BASED ON THE UNSPRINKLERED AREA VALUE IN TABLE 506.2

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 504.3)	SHOWN ON PLANS	CODE REFERENCE
BLDG HEIGHT IN FEET	FEET 75	24'	T504.3
BLDG HEIGHT IN STORIES	STORIES 3	STORIES 1	T504.4

FIRE PROTECTION REQUIREMENTS
THIS SECTION REQUIRED FOR ALL PROJECTS
LIFE SAFETY PLAN SHEET #, IF PROVIDED: G102

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLIES	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
BEARING WALLS						
EXTERIOR						
NORTH	> 30'	N/A				
EAST	> 30'	N/A				
WEST	> 30'	N/A				
SOUTH	> 30'	N/A				
INTERIOR	N/A	N/A				
NON-BEARING WALLS						
EXTERIOR						
NORTH	N/A	NC				
EAST	N/A	NC				
WEST	N/A	NC				
SOUTH	N/A	NC				
INTERIOR WALLS & PARTITIONS	N/A	NC				
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	> 30'	NC				
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS: LIST CONSTRUCTION TYPE		N/A				
FLOOR CEILING ASSEMBLY		N/A				
COLUMNS SUPPORTING FLOORS		N/A				
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS**		NC				
ROOF CEILING ASSEMBLY		N/A				
COLUMNS SUPPORTING ROOF						
SHAFTS - EXIT ENCLOSURES	N/A	N/A				
SHAFT - OTHER (DESCRIBE)	N/A	N/A				
CORRIDOR SEPARATION	N/A	N/A				
OCCUPANCY SEPARATION	N/A	N/A				
PARTY/FIRE WALL SEPARATION	N/A	N/A				
INCIDENTAL USE SEPARATION	N/A	N/A				
DWELLING/SLEEPING UNIT SEPARATION	N/A	N/A				
SMOKE BARRIER SEPARATION	N/A	N/A				
TENANT SEPARATION	N/A	N/A				

* INDICATE SECTION NUMBER PERMITTING REDUCTION

PERCENTAGE OF WALL OPENING CALCULATIONS
THIS SECTION REQUIRED FOR ADDITIONS, NEW, AND CHANGE OF USE
ALLOWABLE OPENINGS PER TABLE 705.8
NO LIMIT

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 #: G102
N/A ☐ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7)
N/A ☐ ASSUMED & REAL PROPERTY LINE LOCATIONS
N/A ☐ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8)
N/A ☐ EXISTING STRUCTURES WITHIN 30' OF THE PROPOSED BUILDING
■ OCCUPANCY TYPES FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
■ OCCUPANT LOADS FOR EACH AREA
■ EXIT ACCESS TO TRAVEL DISTANCES (1017)
■ COMMON PATH OF TRAVEL DISTANCES (1017 & 1028.8)
N/A ☐ DEAD END LENGTHS (1018.4)
■ CLEAR EXIT WIDTHS FOR EACH DOOR
■ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)
■ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
N/A ☐ 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)
N/A ☐ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS & THE AMOUNT OF DELAY (1008.1.9.7)
N/A ☐ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1008.1.9.8)
N/A ☐ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES
N/A ☐ LOCATION OF EMERGENCY ESCAPE WINDOWS (1029)
■ THE SQUARE FOOTAGE OF EACH FIRE AREA (902)
N/A ☐ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.4)
N/A ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
MAIN PARKING AREA	75 MAX. ALLOWED	67			4	4
TOTAL	75 MAX. ALLOWED	67			4	4

THIS PARKING TOTAL COVERS THE WHOLE SITE. SEE PARKING CALCULATIONS ON SHEET L 200.

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATERCLOSETS MALE	WATERCLOSETS FEMALE	WATERCLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
ASSEMBLY (A-3)	0.8	1.6			0.5	0.5				
BUSINESS (B)	1.2	0.8			1.2	0.8				
FACTORY/IND. (F-1)	0.2	0.2			0.2	0.2				
STORAGE (S-1)	0.1	0.1			0.1	0.1				
SUBTOTAL	2.3	2.7			2.0	1.7				
TOTAL REQUIRED	3	3			2	2		0	1	1
TOTAL PROVIDED	3	3		1	3	3		2	1	1

RESTROOMS FOR THE WHOLE FACILITY ARE LOCATED IN THE ADMINISTRATIVE BUILDING. CALCULATIONS TAKE INTO ACCOUNT THE AREAS AND OCCUPANT LOADS OF THE OTHER OCCUPIED BUILDINGS AT THIS FACILITY.

SPECIAL APPROVALS
SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DHHS, ICC, ETC., DESCRIBE BELOW)
N/A

STRUCTURAL DESIGN
DESIGN LOADS
IMPORTANCE FACTORS: SNOW (I[S]): 1.0 SEISMIC (I[E]): 1.0
LIVE LOADS: ROOF 20 PSF; MEZZANINE 100 PSF (ELEVATED SLAB); FLOOR 100 PSF (SLAB ON GRADE)
GROUND SNOW LOAD: 10 PSF
WIND LOAD: ULTIMATE WIND SPEED 145 MPH (ASCE-7); EXPOSURE CATEGORY D
SEISMIC DESIGN CATEGORY: ☐ A ■ B ☐ C ☐ D
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:
RISK CATEGORY (TABLE 1604.5) I ■ II ☐ III ☐ IV
SPECTRAL RESPONSE ACCELERATION S_s 15.9 %g S_1 6.9 %g
SITE CLASSIFICATION (ASCE7) ☐ 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) 2000 PSF
PRESUMPTIVE BEARING CAPACITY N/A PSF
PILE SIZE, TYPE, AND CAPACITY N/A

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
THERMAL ZONE 3A
WINTER DRY BULB 24 DEGREES
SUMMER DRY BULB 91 DEGREES
SUMMER WET BULB 77 DEGREES
INTERIOR DESIGN CONDITIONS
WINTER DRY BULB 70 DEGREES
SUMMER DRY BULB 75 DEGREES
BUILDING HEATING LOAD 184 MBH
BUILDING COOLING LOAD 19 TONS
MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF UNIT SPLIT SYSTEM HEAT PUMP/GAS UNIT HEATERS IN WORKSHOPS
HEATING EFFICIENCY 96%
COOLING EFFICIENCY 14.1 SEER
HEAT OUTPUT OF UNIT 70MBH + 6! MBH ERV
COOLING OUTPUT OF UNIT 1S TONS + 4 TONS ERV
BOILER N/A
SIZE CATEGORY. IF OVERSIZED, STATE REASON
CHILLER N/A
SIZE CATEGORY. IF OVERSIZED, STATE REASON

ENERGY SUMMARY
ENERGY REQUIREMENTS: THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM & 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: SEE SHEETS A421-A427 AND A525-A529
STANDING SEAM METAL ROOFS WITH INSULATION ON WOOD OR METAL DECKING
U-VALUE OF TOTAL ASSEMBLY: SEE CALCULATIONS FOR EACH ROOF TYPE ON A421
R-VALUE OF INSULATION: MIN. R-25 CONTINUOUS
SKYLIGHTS IN EACH ASSEMBLY: N/A
U-VALUE OF SKYLIGHT: N/A
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY: N/A
EXTERIOR WALLS (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: SEE SHEETS A421-A427 MASONRY CAVITY WALLS WITH 4" MASONRY VENEER UP TO 4' OR 9'-4" AFF WITH MASONRY, METAL STUDS AND ALUMINUM WALL PANEL CLADDING ABOVE. SOME UPPER WALLS OF METAL STUDS WITH ALUMINUM PANEL CLADDING.
U-VALUE OF TOTAL ASSEMBLY: SEE CALCULATIONS ON A421 AND A422
R-VALUE OF INSULATION: R-7.6 CONTINUOUS W/ R-19 BATT INSULATION AT METAL STUD WALLS
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY: U-0.39 STOREFRONT WITH INSULATED GLASS WITH LOW-E AND ARGON
SOLAR HEAT GAIN COEFFICIENT: 0.35
PROJECTION FACTOR: 0
DOOR R-VALUES: R-2 MIN.
WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A
FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A
FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY: SEE A421-A427
U-VALUE OF TOTAL ASSEMBLY:
R-VALUE OF INSULATION: NOT REQUIRED
HORIZONTAL/VERTICAL REQUIREMENT: NOT REQUIRED
SLAB HEATED: N/A
SECTION 502 4.3 SEALING OF BUILDING ENVELOPE (INDICATE WHERE DETAILS ARE IN THE SET)
■ JOINT AROUND FENESTRATION AND DOOR FRAMES
■ JUNCTION BETWEEN WALLS AND FOUNDATIONS, WALLS AT BUILDING CORNERS, WALLS AND STRUCTURAL FLOORS OR ROOFS, WALLS AND ROOF OR WALL PANELS
■ OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH ROOFS, WALLS, AND FLOORS INCLUDING BUT NOT LIMITED TO ELECTRICAL, PLUMBING, MECHANICAL, SECURITY AND COMMUNICATIONS.
■ SITE BUILT FENESTRATION AND DOORS.
■ JOINTS, SEAMS AND PENETRATIONS OF AIR BARRIER SYSTEM.
☐ OTHER OPENINGS IN THE BUILDING ENVELOPE.
SEE SHEETS A421-A427, A501-A503, A521-A523, A525-A529 AND SELECT DETAILS ON MECHANICAL AND PLUMBING DRAWINGS.

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT
THIS SECTION REQUIRED FOR ALL PROJECTS THAT INCLUDE ELECTRICAL DESIGN.
METHOD OF COMPLIANCE: ENERGY CODE: ☐ PRESCRIPTIVE ■ PERFORMANCE
ASHRAE 90.1: ☐ PRESCRIPTIVE ☐ PERFORMANCE
LIGHTING SCHEDULE (EACH FIXTURE TYPE)
LAMP TYPE REQUIRED IN FIXTURE SEE LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE SEE LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE SEE LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE N/A
TOTAL WATTAGE PER FIXTURE SEE LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED 7595 VS 12122
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED 2650 VS 6412
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

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SEALS

5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MDP
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

G101

CODE SUMMARY ADMINISTRATION BUILDING

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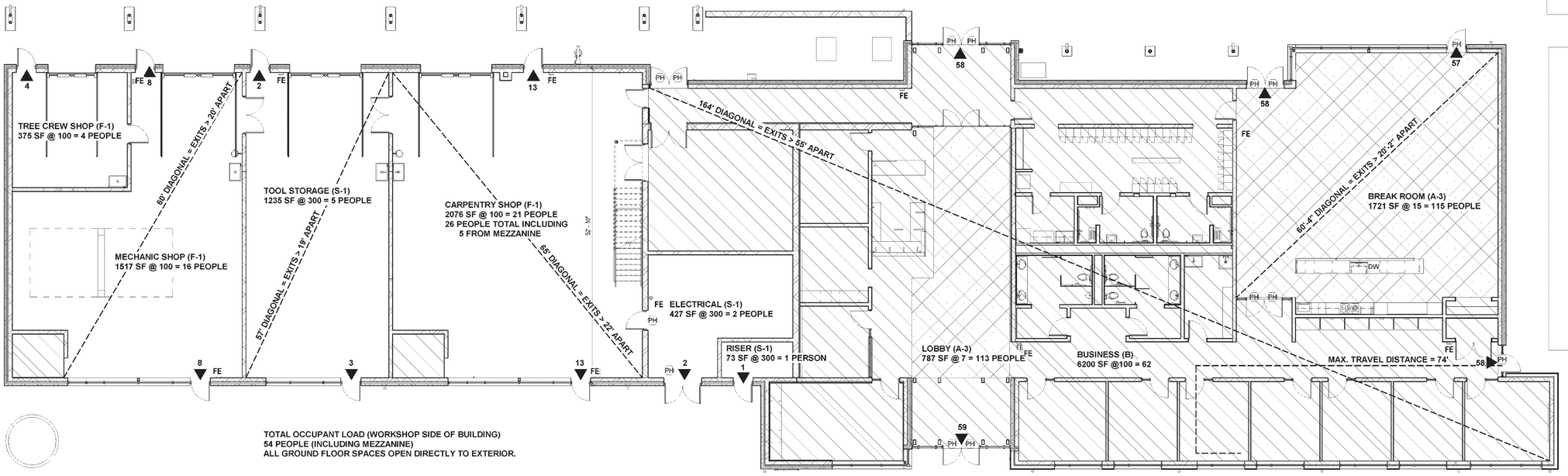


TOTAL OCCUPANT LOAD (WORKSHOP SIDE OF BUILDING)
54 PEOPLE (INCLUDING MEZZANINE)
ALL GROUND FLOOR SPACES OPEN DIRECTLY TO EXTERIOR.

TOTAL SQUARE FOOTAGE OF FIRE AREA =
15,392 SF (ENTIRE BUILDING FOOTPRINT)

TOTAL OCCUPANT LOAD (OFFICE SIDE OF BUILDING)
113 + 62 + 115 = 290 PEOPLE

DOOR EGRESS CAPACITIES:

EXTERIOR SINGLE DOORS ON THIS PLAN HAVE 33" CLEAR WIDTH.
33"/0.2 = 165 PEOPLE PER DOOR MAX.

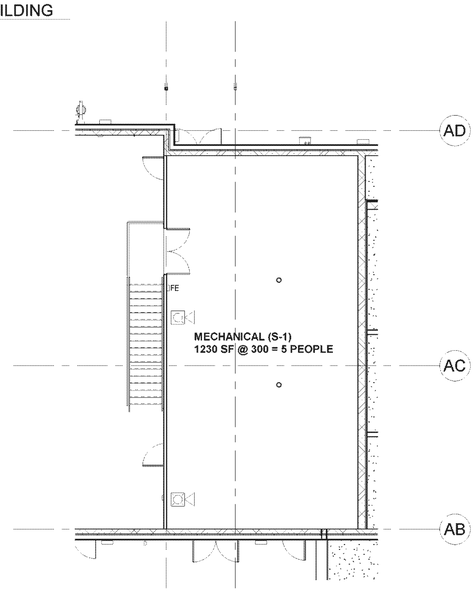
EXTERIOR DOUBLE DOORS ON THIS PLAN HAVE 66" CLEAR WIDTH.
66"/0.2 = 330 PEOPLE PER DOOR MAX.

EGRESS CAPACITIES EXCEED THE OCCUPANT LOAD OF THE BUILDING.

1 G102 LIFE SAFETY PLAN - ADMINISTRATION BUILDING
1/8" = 1'-0"

HAZARDOUS MATERIAL NOTES:

1. **THIS BUILDING WILL STORE NO MORE THAN 100 GAL OF GASOLINE IN APPROVED CONTAINERS. CONTAINERS OF GASOLINE WILL BE STORED UNSECURED IN THE MECHANIC SHOP. ACCORDING TO TABLE 307.1(1), STORAGE FOR CLASS 1 FLAMMABLE LIQUIDS SHALL NOT EXCEED 120GAL. FOOTNOTE d ALLOWS THIS TO BE INCREASED 100% SINCE THE BUILDING IS SPRINKLED.**
2. **THIS BUILDING WILL STORE NO MORE THAN 25 GALS OF DEISEL FUEL IN APPROVED CONTAINERS. ACCORDING TO TABLE 307.1(1), STORAGE OF CLASS II COMBUSTIBLE LIQUIDS SHALL NOT EXCEED 120 GAL. FOOTNOTE d ALLOWS THIS TO BE INCREASED 100% SINCE THE BUILDING IS SPRINKLED.**
3. **THEREFORE THE QUANTITIES OF GASOLINE AND DIESEL FUELS STORED IN THE BUILDING DOES NOT EXCEED THE MAXIMUM ALLOWABLE QUANTITIES IN TABLE 307.1(1) AND THE MECHANIC SHOP IS NOT CONSIDERED A HAZARDOUS OCCUPANCY.**



2 G102 LIFE SAFETY PLAN - MEZZANINE
1/8" = 1'-0"

LIFE SAFETY LEGEND

	ASSEMBLY (A-3)
	BUSINESS (B)
	FACTORY (F1)
	STORAGE (S1)

Esse Architects
632 PERSHING ROAD
RALEIGH, NORTH CAROLINA 27608
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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CONSULTANTS

LANDSCAPE ARCHITECTURE - CIVIL ENGINEERING
TIMMONS GROUP
5410 TRINITY RD, SUITE 102
RALEIGH NC 27607
919.866.4955

MECHANICAL, ELECTRICAL & PLUMBING
SIGMA ENGINEERED SOLUTIONS
5909 FALLS OF NEUSE RD, SUITE 101
RALEIGH NC 27609
919.840.5300

STRUCTURAL
LYSAGHT & ASSOCIATES
120 ST. MARY'S ST
RALEIGH, NC 27605
919.833.0495

SEALS

Esse Architects P.A. — 52498 — Raleigh, N.C.

REGINALD DOMINIQUE PATTERSON — 11593 — 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MDP
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

G102
LIFE SAFETY PLAN - ADMINISTRATION BUILDING

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2018 APPENDIX B BUILDING CODE SUMMARY - VEHICLE SHED

NAME OF PROJECT: CITY OF WILMINGTON PARKS MAINTENANCE FACILITY
ADDRESS: 111 Melton Road, Wilmington, NC 28412
PROPOSED USE: VEHICLE STORAGE SHED
OWNER/AUTHORIZED AGENT: City of Wilmington, Dave Mayes, Director, Public Services Department
E-MAIL: dave.mayes@wilmingtonnc.gov
PHONE: 910.470.1819

OWNED BY: ■ CITY/COUNTY ☐ PRIVATE ☐ STATE
CODE ENFORCEMENT JURISDICTION: ■ CITY ■ COUNTY ☐ STATE

LEAD DESIGN PROFESSIONAL: Miranda Potthoff, Esse Architects

DESIGNER	FIRM	NAME	LICENSE #	PHONE #	EMAIL
ARCHITECTURAL	ESSE ARCHITECTS	MIRANDA POTTHOFF	11663	(919)270-6455	MIRANDA@ESSE-ARCHITECTS.COM
CIVIL	TIMMONS GROUP	BRANDON MCLAMB	034374	(919)866-4935	BRANDON.MCLAMB@TIMMONS.COM
ELECTRICAL	SIGMA ENGINEERED SOL	REGINALD ADAMS	19658	(919)840-9300	RADAMS@SIGMAES.COM
FIRE ALARM	SIGMA ENGINEERED SOL	REGINALD ADAMS	19658	(919)840-9300	RADAMS@SIGMAES.COM
PLUMBING	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
MECHANICAL	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
SPRINKLER	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
STRUCTURAL	LYSAGHT & ASSOCIATES	MICHAEL STONE	038727	(919)833-0495	MES@LYSAGHTASSOCIATES.COM
RETAINING WALLS > 5' HIGH	N/A	N/A	N/A	N/A	N/A
LANDSCAPE	TIMMONS GROUP	KEVIN BARNES	1251	(910)532-3252	KEVIN.BARNES@TIMMONS.COM

2018 NC BUILDING CODE: ■ NEW BUILDING ☐ ADDITION ☐ RENOVATION
☐ 1ST TIME INTERIOR COMPLETION
☐ SHELL/CORE
☐ PHASED CONSTRUCTION - SHELL/CORE

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 FLOOD HAZARD AREA: ■ NO ☐ YES
SPECIAL INSPECTIONS REQUIRED: ■ NO ☐ YES

GROSS BUILDING AREA TABLE:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3RD FLOOR	N/A	N/A	N/A
2ND FLOOR	N/A	N/A	N/A
MEZZANINE	N/A	N/A	N/A
1ST FLOOR	N/A	7,681	7,681
BASEMENT	N/A	N/A	N/A
TOTAL			7,681

ALLOWABLE AREA

PRIMARY OCCUPANCY CALCULATION

PRIMARY OCCUPANCY: ASSEMBLY: ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ BUSINESS ☐ EDUCATIONAL FACTORY-INDUSTRIAL: ☐ F-1 ☐ F-2
HIGH-HAZARD: ☐ H-1 ☐ H-2 ☐ H-3 ☐ H-4 ☐ H-5
INSTITUTIONAL: ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 USE CONDITION: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ MERCANTILE RESIDENTIAL: ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
STORAGE: ☐ S-1 ☐ S-2 ☐ HIGH-PILED
S-1 SPECIAL CONDITION: ☐ REPAIR GARAGE (406.6)
S-2 SPECIAL CONDITION- PARKING GARAGE: ☐ OPEN (406.3) ☐ ENCLOSED (406.4)
■ UTILITY AND MISCELLANEOUS

OTHER USES: ACCESSORY USES (INDICATE PERCENTAGES):
INCIDENTAL USES:

SPECIAL USES: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421

MIXED OCCUPANCY: ■ NO ☐ YES SEPARATION: EXCEPTION:
☐ NON-SEPARATED MIXED OCCUPANCY (508.3.2)
☐ SEPARATED MIXED OCCUPANCY (508.3.3)

ACTUAL AREA OF OCCUPANCY A / ALLOWABLE AREA OF OCCUPANCY A + ACTUAL AREA OF OCCUPANCY B / ALLOWABLE AREA OF OCCUPANCY B ... < 1

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1]	(D) ALLOWABLE AREA OR UNLIMITED[2]	(E) MAXIMUM BUILDING AREA[3]
1	VEHICLE SHED	7,681	8,500	6,375	14,875	14,875

1. FRONTAGE AREA INCREASES FROM SECTION 506.3 ARE COMPUTED THUS:
A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM WIDTH = 450 FT (F)
B. TOTAL BUILDING PERIMETER = 450 FT (P)
C. RATIO (F/P) = 450/450 = 1 (F/P)
D. W = MINIMUM WIDTH OF PUBLIC WAY = 30 FT (W)
E. PERCENT OF FRONTAGE INCREASE, I = 100 [450/450 - 0.25] x 30/30 = 100 [1-0.25] x 30/30 = 75(%)
2. UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTION 507.
3. MAXIMUM BUILDING AREA = TOTAL NUMBER OF STORIES IN THE BUILDING x D (MAXIMUM 3 STORIES) (506.2)
4. THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406 5.4.
5. FRONTAGE INCREASE IS BASED ON THE UNSPRINKLERED AREA VALUE IN TABLE 506.2

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 504.3)	SHOWN ON PLANS	CODE REFERENCE
BLDG HEIGHT IN FEET	FEET 55	29'	T504.3
BLDG HEIGHT IN STORIES	STORIES 3	STORIES 1	T504.4

FIRE PROTECTION REQUIREMENTS
THIS SECTION REQUIRED FOR ALL PROJECTS

LIFE SAFETY PLAN SHEET #: IF PROVIDED: N/A - BUILDING IS A CANOPY WITH OPEN SIDES EXCEPT END WALLS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLIES	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
BEARING WALLS							
EXTERIOR							
NORTH	N/A	N/A					
EAST	N/A	N/A					
WEST	N/A	N/A					
SOUTH	N/A	N/A					
INTERIOR	N/A	N/A					
NON-BEARING WALLS							
EXTERIOR							
NORTH	N/A	NC					
EAST	N/A	NC					
WEST	N/A	NC					
SOUTH	N/A	NC					
INTERIOR WALLS & PARTITIONS	N/A	NC					
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	> 30'	NC					
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS: LIST CONSTRUCTION TYPE		N/A					
FLOOR CEILING ASSEMBLY		N/A					
COLUMNS SUPPORTING FLOORS		N/A					
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS**	> 30'	NC					
ROOF CEILING ASSEMBLY		N/A					
COLUMNS SUPPORTING ROOF	> 30'						
SHAFTS - EXIT ENCLOSURES	N/A	N/A					
SHAFT - OTHER (DESCRIBE)	N/A	N/A					
CORRIDOR SEPARATION	N/A	N/A					
OCCUPANCY SEPARATION	N/A	N/A					
PARTY/FIRE WALL SEPARATION	N/A	N/A					
INCIDENTAL USE SEPARATION	N/A	N/A					
DWELLING/SLEEPING UNIT SEPARATION	N/A	N/A					
SMOKE BARRIER SEPARATION	N/A	N/A					
TENANT SEPARATION	N/A	N/A					

* INDICATE SECTION NUMBER PERMITTING REDUCTION

PERCENTAGE OF WALL OPENING CALCULATIONS
THIS SECTION REQUIRED FOR ADDITIONS, NEW, AND CHANGE OF USE
ALLOWABLE OPENINGS PER TABLE 705.8
NO LIMIT

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 #: N/A - BUILDING SIDES ARE OPEN
N/A ☐ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7)
N/A ☐ ASSUMED & REAL PROPERTY LINE LOCATIONS
N/A ☐ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8)
N/A ☐ EXISTING STRUCTURES WITHIN 30' OF THE PROPOSED BUILDING
N/A ☐ OCCUPANCY TYPES FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.1)
N/A ☐ OCCUPANT LOADS FOR EACH AREA
N/A ☐ EXIT ACCESS TO TRAVEL DISTANCES (1016)
N/A ☐ COMMON PATH OF TRAVEL DISTANCES (1014.3 & 1028.8)
N/A ☐ DEAD END LENGTHS (1018.4)
N/A ☐ CLEAR EXIT WIDTHS FOR EACH DOOR
N/A ☐ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)
N/A ☐ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
N/A ☐ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION
N/A ☐ LOCATION OF DOORS WITH PANIC HARDWARE (1008.1.10)
N/A ☐ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS & THE AMOUNT OF DELAY (1008.1.9.7)
N/A ☐ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1008.1.9.8)
N/A ☐ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES
N/A ☐ LOCATION OF EMERGENCY ESCAPE WINDOWS (1029)
N/A ☐ THE SQUARE FOOTAGE OF EACH FIRE AREA (902)
N/A ☐ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.4)
N/A ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

ACCESSIBLE PARKING (SECTION 1106)

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

SEE PARKING CALCULATIONS ON SHEET L-200.

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATERCLOSETS MALE	WATERCLOSETS FEMALE	WATERCLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
ASSEMBLY (A-3)										
BUSINESS (B)										
FACTORY/IND. (F-1)										
STORAGE (S-1)										
SUBTOTAL										
TOTAL REQUIRED										
TOTAL PROVIDED										

RESTROOMS THAT SERVE THE ENTIRE FACILITY ARE LOCATED IN THE ADMINISTRATIVE BUILDING. SEE G101 FOR CALCULATIONS.
TRAVEL DISTANCE TO RESTROOMS FROM THE VEHICLE SHED IS LESS THAN 500'.

SPECIAL APPROVALS

SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DHHS, ICC, ETC., DESCRIBE BELOW)
N/A

STRUCTURAL DESIGN

DESIGN LOADS
IMPORTANCE FACTORS: SNOW (I_S): 1.0
SEISMIC (I_E): 1.0

LIVE LOADS: ROOF 20 PSF
MEZZANINE N/A PSF
FLOOR 100 PSF (SLAB ON GRADE)

GROUND SNOW LOAD: 10 PSF

WIND LOAD: ULTIMATE WIND SPEED 145 MPH (ASCE-7)
EXPOSURE CATEGORY D

SEISMIC DESIGN CATEGORY ☐ A ■ B ☐ C ☐ D
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:
RISK CATEGORY (TABLE 1604.5) I ■ II ☐ III ☐ IV ☐
SPECTRAL RESPONSE ACCELERATION S_S 15.9 %g S_1 6.9 %g

SITE CLASSIFICATION (ASCE7) ☐ 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") 2000 PSF
PRESUMPTIVE BEARING CAPACITY N/A PSF
PILE SIZE, TYPE, AND CAPACITY N/A

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

THERMAL ZONE 3A
WINTER DRY BULB N/A
SUMMER DRY BULB N/A
SUMMER WET BULB N/A

INTERIOR DESIGN CONDITIONS
WINTER DRY BULB N/A
SUMMER DRY BULB N/A

BUILDING HEATING LOAD N/A
BUILDING COOLING LOAD N/A
MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF UNIT N/A
HEATING EFFICIENCY N/A
COOLING EFFICIENCY N/A
HEAT OUTPUT OF UNIT N/A
COOLING OUTPUT OF UNIT N/A
BOILER N/A
SIZE CATEGORY. IF OVERSIZED, STATE REASON
CHILLER N/A
SIZE CATEGORY. IF OVERSIZED, STATE REASON

ENERGY SUMMARY

ENERGY REQUIREMENTS: THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM & 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: METAL PANELS ON WOOD STRUCTURE
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A
SKYLIGHTS IN EACH ASSEMBLY: N/A
U-VALUE OF SKYLIGHT: N/A
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY: N/A

EXTERIOR WALLS (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: MASONRY END WALLS ONLY - BUILDING IS OPEN AIR
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY: N/A
SOLAR HEAT GAIN COEFFICIENT: N/A
PROJECTION FACTOR: N/A
DOOR R-VALUES: N/A

WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A

FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A

FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY: CONCRETE PAVING
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A
HORIZONTAL/VERTICAL REQUIREMENT: NOT REQUIRED
SLAB HEATED: N/A

SECTION 502.4.3 SEALING OF BUILDING ENVELOPE (INDICATE WHERE DETAILS ARE IN THE SET)
☐ JOINT AROUND FENESTRATION AND DOOR FRAMES
☐ JUNCTION BETWEEN WALLS AND FOUNDATIONS, WALLS AT BUILDING CORNERS, WALLS AND STRUCTURAL FLOORS OR ROOFS, WALLS AND ROOF OR WALL PANELS;
☐ OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH ROOFS, WALLS, AND FLOORS INCLUDING BUT NOT LIMITED TO ELECTRICAL, PLUMBING, MECHANICAL, SECURITY AND COMMUNICATIONS.
☐ SITE-BUILT FENESTRATION AND DOORS.
☐ JOINTS, SEAMS AND PENETRATIONS OF AIR BARRIER SYSTEM.
☐ OTHER OPENINGS IN THE BUILDING ENVELOPE.

BUILDING IS OPEN AIR AND UNCONDITIONED. THIS IS A STORAGE SHED FOR MAINTENANCE VEHICLES.

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT
THIS SECTION REQUIRED FOR ALL PROJECTS THAT INCLUDE ELECTRICAL DESIGN.
METHOD OF COMPLIANCE: ENERGY CODE: ☐ PRESCRIPTIVE ■ PERFORMANCE
ASHRAE 90.1: ☐ PRESCRIPTIVE ☐ PERFORMANCE

LIGHTING SCHEDULE (EACH FIXTURE TYPE)
LAMP TYPE REQUIRED IN FIXTURE SEE LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE SEE LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE SEE LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE N/A
TOTAL WATTAGE PER FIXTURE SEE LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED 2150 VS 4840
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED N/A

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

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

LANDSCAPE ARCHITECTURE - CIVIL ENGINEERING
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MECHANICAL, ELECTRICAL & PLUMBING
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LYSAGHT & ASSOCIATES
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919.833.0495

SEALS

Esse Architects, P.A. 52498 Registered Architectural Corporation North Carolina Raleigh, N.C.

Brandon Dominic McLamb 034374 Engineer Raleigh, N.C. 5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MDP
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

G103
CODE SUMMARY
VEHICLE SHED

Docusign Envelope ID: 20224FDD-79D6-40E1-8728-B091AEBC6BD8

2018 APPENDIX B BUILDING CODE SUMMARY - POTTING SHED

NAME OF PROJECT: CITY OF WILMINGTON PARKS MAINTENANCE FACILITY
ADDRESS: 111 Melton Road, Wilmington, NC 28412
PROPOSED USE: PESTICIDE/FERTILIZER AND POTTING SUPPLIES STORAGE
OWNER/AUTHORIZED AGENT: City of Wilmington, Dave Mayes, Director, Public Services Department
E-MAIL: dave.mayes@wilmingtonnc.gov
PHONE: 910.470.1819

OWNED BY: ■ CITY/COUNTY ☐ PRIVATE ☐ STATE
CODE ENFORCEMENT JURISDICTION: ■ CITY ■ COUNTY ☐ STATE

LEAD DESIGN PROFESSIONAL: Mirands Potthoff, Esse Architects

DESIGNER	FIRM	NAME	LICENSE #	PHONE #	EMAIL
ARCHITECTURAL	ESSE ARCHITECTS	MIRANDA POTTHOFF	11663	(919)270-6455	MIRANDA@ESSE-ARCHITECTS.COM
CIVIL	TIMMONS GROUP	BRANDON MCLAMB	034374	(919)866-4935	BRANDON.MCLAMB@TIMMONS.COM
ELECTRICAL	SIGMA ENGINEERED SOL	REGINALD ADAMS	19658	(919)840-9300	RADAMS@SIGMAES.COM
FIRE ALARM	SIGMA ENGINEERED SOL	REGINALD ADAMS	19658	(919)840-9300	RADAMS@SIGMAES.COM
PLUMBING	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
MECHANICAL	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
SPRINKLER	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
STRUCTURAL	LYSAGHT & ASSOCIATES	MICHAEL STONE	038727	(919)833-0495	MES@LYSAGHTASSOCIATES.COM
RETAINING WALLS > 5' HIGH	N/A	N/A	N/A	N/A	N/A
LANDSCAPE	TIMMONS GROUP	KEVIN BARNES	1251	(919)532-3252	KEVIN.BARNES@TIMMONS.COM

2018 NC BUILDING CODE: ■ NEW BUILDING ☐ ADDITION ☐ RENOVATION
☐ 1ST TIME INTERIOR COMPLETION
☐ SHELL/CORE
☐ PHASED CONSTRUCTION - SHELL/CORE

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 FLOOD HAZARD AREA: ■ NO ☐ YES
SPECIAL INSPECTIONS REQUIRED: ■ NO ☐ YES

GROSS BUILDING AREA TABLE:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3RD FLOOR	N/A	N/A	N/A
2ND FLOOR	N/A	N/A	N/A
MEZZANINE	N/A	N/A	N/A
1ST FLOOR	N/A	1,535	1,535
BASEMENT	N/A	N/A	N/A
TOTAL			1,535

ALLOWABLE AREA

PRIMARY OCCUPANCY CALCULATION

PRIMARY OCCUPANCY ASSEMBLY: ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ BUSINESS ☐ EDUCATIONAL FACTORY-INDUSTRIAL: ☐ F-1 ☐ F-2
HIGH-HAZARD: ☐ H-1 ☐ H-2 ☐ H-3 ☐ H-4 ☐ H-5
INSTITUTIONAL: ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 USE CONDITION: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ MERCANTILE RESIDENTIAL: ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
STORAGE: ■ S-1 ☐ S-2 ☐ HIGH-PILED
S-1 SPECIAL CONDITION: ☐ REPAIR GARAGE (406.6)
S-2 SPECIAL CONDITION- PARKING GARAGE: ☐ OPEN (406.3) ☐ ENCLOSED (406.4)
☐ UTILITY AND MISCELLANEOUS

OTHER USES: ACCESSORY USES (INDICATE PERCENTAGES):
INCIDENTAL USES:

SPECIAL USES: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412
☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421

MIXED OCCUPANCY: ■ NO ☐ YES SEPARATION: EXCEPTION:
☐ NON-SEPARATED MIXED OCCUPANCY (508.3.2)
☐ SEPARATED MIXED OCCUPANCY (508.3.3)

ACTUAL AREA OF OCCUPANCY A / ALLOWABLE AREA OF OCCUPANCY A + ACTUAL AREA OF OCCUPANCY B / ALLOWABLE AREA OF OCCUPANCY B < 1

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[1] AREA	(C) AREA FOR FRONTAGE INCREASE[1]	(D) ALLOWABLE AREA OR UNLIMITED[2]	(E) MAXIMUM BUILDING AREA[3]
1	POTTING SHED (S-1)	1,533	17,500	13,125	30,625	30,625

1. FRONTAGE AREA INCREASES FROM SECTION 506.3 ARE COMPUTED THUS:
   A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM WIDTH = 195 FT (F)
   B. TOTAL BUILDING PERIMETER = 195 FT (P)
   C. RATIO (F/P) = 195/195 = 1 (F/P)
   D. W = MINIMUM WIDTH OF PUBLIC WAY = 30 FT (W)
   E. PERCENT OF FRONTAGE INCREASE [I = 100 [(F/P)678 - 0.25] x 30/30 = 100 [1-0.25] x 30/30 = 75(%)
2. UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTION 507.
3. MAXIMUM BUILDING AREA = TOTAL NUMBER OF STORIES IN THE BUILDING x D (MAXIMUM 3 STORIES) (506.2)
4. THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406.5.4.
5. FRONTAGE INCREASE IS BASED ON THE UNSPRINKLERED AREA VALUE IN TABLE 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 504.3)	SHOWN ON PLANS	CODE REFERENCE
BLDG HEIGHT IN FEET	FEET 55	29'	T504.3
BLDG HEIGHT IN STORIES	STORIES 3	STORIES 1	T504.4

FIRE PROTECTION REQUIREMENTS
THIS SECTION REQUIRED FOR ALL PROJECTS

LIFE SAFETY PLAN SHEET #, IF PROVIDED: G106

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D*	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLIES	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
BEARING WALLS						
EXTERIOR						
NORTH	N/A	N/A				
EAST	N/A	N/A				
WEST	N/A	N/A				
SOUTH	N/A	N/A				
INTERIOR	N/A	N/A				
NON-BEARING WALLS						
EXTERIOR						
NORTH	N/A	NC				
EAST	N/A	NC				
WEST	N/A	NC				
SOUTH	N/A	NC				
INTERIOR WALLS & PARTITIONS	N/A	NC				
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	> 30'	NC				
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS: LIST CONSTRUCTION TYPE		N/A				
FLOOR CEILING ASSEMBLY		N/A				
COLUMNS SUPPORTING FLOORS		N/A				
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS**	> 30'	NC				
ROOF CEILING ASSEMBLY		N/A				
COLUMNS SUPPORTING ROOF	> 30'					
SHAFTS - EXIT ENCLOSURES	N/A	N/A				
SHAFT - OTHER. (DESCRIBE)	N/A	N/A				
CORRIDOR SEPARATION	N/A	N/A				
OCCUPANCY SEPARATION	N/A	N/A				
PARTY/FIRE WALL SEPARATION	N/A	N/A				
INCIDENTAL USE SEPARATION	N/A	N/A				
DWELLING/SLEEPING UNIT SEPARATION	N/A	N/A				
SMOKE BARRIER SEPARATION	N/A	N/A				
TENANT SEPARATION	N/A	N/A				

* INDICATE SECTION NUMBER PERMITTING REDUCTION

PERCENTAGE OF WALL OPENING CALCULATIONS
THIS SECTION REQUIRED FOR ADDITIONS, NEW, AND CHANGE OF USE
ALLOWABLE OPENINGS PER TABLE 705.8

NO LIMIT

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 #: G106

N/A ☐ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7)
N/A ☐ ASSUMED & REAL PROPERTY LINE LOCATIONS
N/A ☐ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8)
N/A ☐ 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
N/A ☐ EXIT ACCESS TO TRAVEL DISTANCES (1016)
N/A ☐ COMMON PATH OF TRAVEL DISTANCES (1014.3 & 1028.8)
N/A ☐ DEAD END LENGTHS (1018.4)
■ CLEAR EXIT WIDTHS FOR EACH DOOR
■ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)
■ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
N/A ☐ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION
N/A ☐ LOCATION OF DOORS WITH PANIC HARDWARE (1008.1.10)
N/A ☐ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS & THE AMOUNT OF DELAY (1008.1.9.7)
N/A ☐ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1008.1.9.8)
N/A ☐ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES
N/A ☐ LOCATION OF EMERGENCY ESCAPE WINDOWS (1029)
N/A ☐ THE SQUARE FOOTAGE OF EACH FIRE AREA (902)
N/A ☐ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.4)
N/A ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

ACCESSIBLE PARKING (SECTION 1106)

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

SEE PARKING CALCULATIONS ON SHEET L-200.

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATERCLOSETS MALE	FEMALE	UNISEX	URINALS	LAVATORIES MALE	FEMALE	UNISEX	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	ACCESSIBLE
ASSEMBLY (A-3)										
BUSINESS (B)										
FACTORY/IND. (F-1)										
STORAGE (S-1)										
SUBTOTAL										
TOTAL REQUIRED										
TOTAL PROVIDED										

RESTROOMS FOR THE WHOLE FACILITY ARE LOCATED IN THE ADMINISTRATIVE BUILDING. SEE G101 FOR CALCULATIONS.
TRAVEL DISTANCE TO RESTROOMS FROM THE POTTING SHED IS LESS THAN 500'.

SPECIAL APPROVALS

SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DHHS, ICC, ETC., DESCRIBE BELOW)
N/A

STRUCTURAL DESIGN

DESIGN LOADS
IMPORTANCE FACTORS: SNOW (I_S): 1.0
SEISMIC (I_E): 1.0

LIVE LOADS: ROOF 20 PSF
MEZZANINE N/A PSF
FLOOR 100 PSF (SLAB ON GRADE)

GROUND SNOW LOAD: 10 PSF

WIND LOAD: ULTIMATE WIND SPEED 145 MPH (ASCE-7)
EXPOSURE CATEGORY D

SEISMIC DESIGN CATEGORY ☐ A ■ B ☐ C ☐ D
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:
RISK CATEGORY (TABLE 1604.5) I ■ II ☐ III ☐ IV ☐
SPECTRAL RESPONSE ACCELERATION S_S 15.9 %g S_1 6.9 %g

SITE CLASSIFICATION (ASCE7) ☐ 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) 2000 PSF
PRESUMPTIVE BEARING CAPACITY N/A PSF
PILE SIZE, TYPE, AND CAPACITY N/A

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

THERMAL ZONE 3A
WINTER DRY BULB N/A
SUMMER DRY BULB N/A
SUMMER WET BULB N/A

INTERIOR DESIGN CONDITIONS
WINTER DRY BULB N/A
SUMMER DRY BULB N/A

BUILDING HEATING LOAD N/A
BUILDING COOLING LOAD N/A
MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF UNIT N/A
HEATING EFFICIENCY N/A
COOLING EFFICIENCY N/A
HEAT OUTPUT OF UNIT N/A
COOLING OUTPUT OF UNIT N/A
BOILER N/A
SIZE CATEGORY. IF OVERSIZED, STATE REASON
CHILLER N/A
SIZE CATEGORY. IF OVERSIZED, STATE REASON

ENERGY SUMMARY

ENERGY REQUIREMENTS: THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM & 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: SEE SHEETS A429-A430 AND A532-A533
STANDING SEAM METAL ROOFS ON METAL DECKING
U-VALUE OF TOTAL ASSEMBLY: SEE CALCULATIONS ON A429
R-VALUE OF INSULATION: MIN. R-25 CONTINUOUS
SKYLIGHTS IN EACH ASSEMBLY: N/A
U-VALUE OF SKYLIGHT N/A
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY: N/A

EXTERIOR WALLS (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: SEE SHEETS A429-A430
MASONRY CAVITY WALLS WITH 4" MASONRY VENEER UP TO 9'-4" AFF
WITH MASONRY, METAL STUDS AND ALUMINUM WALL PANEL
CLADDING ABOVE.
U-VALUE OF TOTAL ASSEMBLY: SEE CALCULATIONS ON A429
R-VALUE OF INSULATION: R-7.6 CONTINUOUS
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY: 0.39 STOREFRONT WITH INSULATED GLASS WITH LOW-E AND ARGON
SOLAR HEAT GAIN COEFFICIENT: 0.35
PROJECTION FACTOR: 0
DOOR R-VALUES: R-2 MIN

WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A

FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A

FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY: SEE A429-A430
U-VALUE OF TOTAL ASSEMBLY:
R-VALUE OF INSULATION: NOT REQUIRED
HORIZONTAL/VERTICAL REQUIREMENT: NOT REQUIRED, VERTICAL SHOWN
SLAB HEATED: N/A

SECTION 502.4.3 SEALING OF BUILDING ENVELOPE (INDICATE WHERE DETAILS ARE IN THE SET)
■ JOINT AROUND FENESTRATION AND DOOR FRAMES.
■ JUNCTION BETWEEN WALLS AND FOUNDATIONS, WALLS AT BUILDING CORNERS, WALLS AND STRUCTURAL FLOORS OR ROOFS, WALLS AND ROOF OR WALL PANELS.
■ OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH ROOFS, WALLS, AND FLOORS INCLUDING BUT NOT LIMITED TO ELECTRICAL, PLUMBING, MECHANICAL, SECURITY AND COMMUNICATIONS.
■ SITE-BUILT FENESTRATION AND DOORS.
■ JOINTS, SEAMS AND PENETRATIONS OF AIR BARRIER SYSTEM.
☐ OTHER OPENINGS IN THE BUILDING ENVELOPE.

SEE SHEETS A429-A430, A504, A506, A532-A533 AND SELECT DETAILS ON MECHANICAL AND PLUMBING DRAWINGS.

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT
THIS SECTION REQUIRED FOR ALL PROJECTS THAT INCLUDE ELECTRICAL DESIGN.
METHOD OF COMPLIANCE: ENERGY CODE: ☐ PRESCRIPTIVE ■ PERFORMANCE
ASHRAE 90.1: ☐ PRESCRIPTIVE ☐ PERFORMANCE

LIGHTING SCHEDULE (EACH FIXTURE TYPE)
LAMP TYPE REQUIRED IN FIXTURE SEE LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE SEE LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE SEE LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE N/A
TOTAL WATTAGE PER FIXTURE SEE LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED 600 VS 910
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED 110 VS 590

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

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

LANDSCAPE ARCHITECTURE - CIVIL ENGINEERING
TIMMONS GROUP
5410 TRINITY RD. SUITE 102
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MECHANICAL, ELECTRICAL & PLUMBING
SIGMA ENGINEERED SOLUTIONS
5909 FALLS OF NEUSE RD. SUITE 101
RALEIGH NC 27609
919.840.9300

STRUCTURAL
LYSAGHT & ASSOCIATES
120 ST. MARY'S ST.
RALEIGH, NC 27605
919.833.0495

SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: MDP
CHECKED BY: MDP

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

G104
CODE SUMMARY
POTTING SHED

Docusign Envelope ID: 20224FDD-79D6-40E1-8728-B091AEBC6BD8

2018 APPENDIX B BUILDING CODE SUMMARY - GREENHOUSE + COLDFRAME

NAME OF PROJECT: CITY OF WILMINGTON PARKS MAINTENANCE FACILITY
ADDRESS: 111 Melton Road, Wilmington NC 28412
PROPOSED USE: GREENHOUSE FOR PLANT PRODUCTION
OWNER/AUTHORIZED AGENT: City of Wilmington, Dave Meyers, Director, Public Services Department
E-MAIL: dave.meyers@wilmingtonnc.gov
PHONE: 910.470.1919

OWNED BY: ■ CITY/COUNTY ☐ PRIVATE ☐ STATE
CODE ENFORCEMENT JURISDICTION: ■ CITY ■ COUNTY ☐ STATE

LEAD DESIGN PROFESSIONAL: Miranda Potthoff, Esso Architects

DESIGNER	FIRM	NAME	LICENSE #	PHONE #	EMAIL
ARCHITECTURAL	ESSE ARCHITECTS	MIRANDA POTTHOFF	11683	(919)270-6455	MIRANDA@ESSE-ARCHITECTS.COM
CIVIL	TIMMONS GROUP	BRANDON MCLAMB	034374	(919)665-4935	BRANDON.MCLAMB@TIMMONS.COM
ELECTRICAL	SIGMA ENGINEERED SOL	REGINALD ADAMS	19658	(919)840-9300	RADAMS@SIGMAES.COM
FIRE ALARM	SIGMA ENGINEERED SOL	REGINALD ADAMS	19658	(919)840-9300	RADAMS@SIGMAES.COM
PLUMBING	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
MECHANICAL	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
SPRINKLER	SIGMA ENGINEERED SOL	PAUL ROMITI	026581	(919)840-9300	PROMITI@SIGMAES.COM
STRUCTURAL	LYSAGHT & ASSOCIATES	MICHAEL STONE	038727	(919)833-0495	MES@LYSAGHTASSOCIATES.COM
GREENHOUSE *	TBD	TBD	TBD	TBD	TBD
LANDSCAPE	TIMMONS GROUP	KEVIN BARNES	1251	(919)532-3252	KEVIN.BARNES@TIMMONS.COM

(*GREENHOUSE STRUCTURE TO BE ENGINEERED AND CONSTRUCTED BY A GREENHOUSE MANUFACTURER UNDER SEPARATE PURCHASE ORDER.)

2018 NC BUILDING CODE: ■ NEW BUILDING ☐ ADDITION ☐ RENOVATION
☐ 1ST TIME INTERIOR COMPLETION
☐ SHELL/CORE
☐ PHASED CONSTRUCTION - SHELL/CORE

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 FLOOD HAZARD AREA: ■ NO ☐ YES
SPECIAL INSPECTIONS REQUIRED: ■ NO ☐ YES

GROSS BUILDING AREA TABLE:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3RD FLOOR	N/A	N/A	N/A
2ND FLOOR	N/A	N/A	N/A
MEZZANINE	N/A	N/A	N/A
1ST FLOOR	N/A	2,860	2,860
BASEMENT	N/A	N/A	N/A
TOTAL			2,860

ALLOWABLE AREA

PRIMARY OCCUPANCY CALCULATION
PRIMARY OCCUPANCY: ASSEMBLY: ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ BUSINESS ☐ EDUCATIONAL ☐ FACTORY-INDUSTRIAL ☐ F-1 ☐ F-2
HIGH HAZARD: ☐ H-1 ☐ H-2 ☐ H-3 ☐ H-4 ☐ H-5
INSTITUTIONAL: ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 USE CONDITION ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ MERCANTILE RESIDENTIAL: ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
STORAGE: ☐ S-1 ☐ S-2 ☐ HIGH-PILED
S-1 SPECIAL CONDITION: ☐ REPAIR GARAGE (406.6)
S-2 SPECIAL CONDITION- PARKING GARAGE: ☐ OPEN (406.3) ☐ ENCLOSED (406.4)
■ UTILITY AND MISCELLANEOUS

OTHER USES: ACCESSORY USES (INDICATE PERCENTAGES):
INCIDENTAL USES:

SPECIAL USES: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421

MIXED OCCUPANCY: ■ NO ☐ YES SEPARATION: _____ EXCEPTION: _____
☐ NON-SEPARATED MIXED OCCUPANCY (508.3.2)
☐ SEPARATED MIXED OCCUPANCY (508.3.3)

ACTUAL AREA OF OCCUPANCY A / ALLOWABLE AREA OF OCCUPANCY A + ACTUAL AREA OF OCCUPANCY B / ALLOWABLE AREA OF OCCUPANCY B _ < 1

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[5] AREA	(C) AREA FOR FRONTAGE INCREASE[1]	(D) ALLOWABLE AREA OR UNLIMITED[2]	(E) MAXIMUM BUILDING AREA[4]
1	GREENHOUSE (U)	2860	8,500	6,375	14,875	14,875

1. FRONTAGE AREA INCREASES FROM SECTION 506.3 ARE COMPUTED THUS:
   A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM WIDTH = 217 FT (F)
   B. TOTAL BUILDING PERIMETER = 212 FT (P)
   C. RATIO (F/P) = 217/212 = 1 (F/P)
   D. W = MINIMUM WIDTH OF PUBLIC WAY = 30 FT (W)
   E. PERCENT OF FRONTAGE INCREASE I = 100 [678/678 - 0.25] x 30/30 = 100 [1-0.25] x 30/30 = 75(%)
2. UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTION 507.
3. MAXIMUM BUILDING AREA = TOTAL NUMBER OF STORIES IN THE BUILDING x D (MAXIMUM 3 STORIES) (506.2)
4. THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406.5.4
5. FRONTAGE INCREASE IS BASED ON THE UNSPRINKLERED AREA VALUE IN TABLE 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 504.3)	SHOWN ON PLANS	CODE REFERENCE
BLDG HEIGHT IN FEET	FEET 55	29'	1504.3
BLDG HEIGHT IN STORIES	STORIES 3	STORIES 1	1504.4

FIRE PROTECTION REQUIREMENTS
THIS SECTION REQUIRED FOR ALL PROJECTS
LIFE SAFETY PLAN SHEET #, IF PROVIDED: G106

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLIES	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
BEARING WALLS							
EXTERIOR							
NORTH	N/A	N/A					
EAST	N/A	N/A					
WEST	N/A	N/A					
SOUTH	N/A	N/A					
INTERIOR	N/A	N/A					
NON-BEARING WALLS							
EXTERIOR							
NORTH	N/A	NC					
EAST	N/A	NC					
WEST	N/A	NC					
SOUTH	N/A	NC					
INTERIOR WALLS & PARTITIONS	N/A	NC					
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	> 30'	NC					
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS: LIST CONSTRUCTION TYPE		N/A					
FLOOR CEILING ASSEMBLY		N/A					
COLUMNS SUPPORTING FLOORS		N/A					
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS*	> 30'	NC					
ROOF CEILING ASSEMBLY		N/A					
COLUMNS SUPPORTING ROOF	> 30'						
SHAFTS - EXIT ENCLOSURES	N/A	N/A					
SHAFT - OTHER (DESCRIBE)	N/A	N/A					
CORRIDOR SEPARATION	N/A	N/A					
OCCUPANCY SEPARATION	N/A	N/A					
PART/FIRE WALL SEPARATION	N/A	N/A					
INCIDENTAL USE SEPARATION	N/A	N/A					
DWELLING/SLEEPING UNIT SEPARATION	N/A	N/A					
SMOKE BARRIER SEPARATION	N/A	N/A					
TENANT SEPARATION	N/A	N/A					

* INDICATE SECTION NUMBER PERMITTING REDUCTION

PERCENTAGE OF WALL OPENING CALCULATIONS
THIS SECTION REQUIRED FOR ADDITIONS, NEW, AND CHANGE OF USE
ALLOWABLE OPENINGS PER TABLE 705.8
NO LIMIT

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 #: G106
N/A ☐ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7)
N/A ☐ ASSUMED & REAL PROPERTY LINE LOCATIONS
N/A ☐ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8)
N/A ☐ 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
N/A ☐ EXIT ACCESS TO TRAVEL DISTANCES (1016)
N/A ☐ COMMON PATH OF TRAVEL DISTANCES (1014.3 & 1029.8)
N/A ☐ DEAD END LENGTHS (1018.4)
■ CLEAR EXIT WIDTHS FOR EACH DOOR
■ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)
■ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
N/A ☐ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION
N/A ☐ LOCATION OF DOORS WITH PANIC HARDWARE (1008.1.10)
N/A ☐ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS & THE AMOUNT OF DELAY (1008.1.9.7)
N/A ☐ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1008.1.9.6)
N/A ☐ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES
N/A ☐ LOCATION OF EMERGENCY ESCAPE WINDOWS (1029)
N/A ☐ THE SQUARE FOOTAGE OF EACH FIRE AREA (902)
N/A ☐ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.4)
N/A ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

ACCESSIBLE PARKING (SECTION 1106)

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

SEE PARKING CALCULATIONS ON SHEET L-200.

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATERCLOSETS MALE	FEMALE	UNISEX	URINALS	LAVATORIES MALE	FEMALE	UNISEX	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	ACCESSIBLE
ASSEMBLY (A-3)										
BUSINESS (B)										
FACTORY/IND. (F-1)										
STORAGE (S-1)										
SUBTOTAL										
TOTAL REQUIRED										
TOTAL PROVIDED										

RESTROOMS FOR THE WHOLE FACILITY ARE LOCATED IN THE OFFICE/WORKSHOP BUILDING. SEE G101 FOR CALCULATIONS.

SPECIAL APPROVALS

SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DHHS, ICC, ETC., DESCRIBE BELOW)
N/A

STRUCTURAL DESIGN

DESIGN LOADS
IMPORTANCE FACTORS: SNOW (I_S): 1.0 SEISMIC (I_E): 1.0

LIVE LOADS: ROOF 20 PSF; MEZZANINE N/A PSF; FLOOR 100 PSF

GROUND SNOW LOAD: 10 PSF

WIND LOAD: ULTIMATE WIND SPEED 145 MPH (ASCE-7); EXPOSURE CATEGORY D

SEISMIC DESIGN CATEGORY ☐ A ■ B ☐ C ☐ D
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:
RISK CATEGORY (TABLE 1604.5) I ■ II ☐ III ☐ IV
SPECTRAL RESPONSE ACCELERATION S_S .15.9 %g S_1 6.9 %g
SITE CLASSIFICATION (ASCE7) ☐ 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) 2000 PSF
PRESUMPTIVE BEARING CAPACITY N/A PSF
PILE SIZE, TYPE, AND CAPACITY N/A

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
THERMAL ZONE 3A
WINTER DRY BULB N/A
SUMMER DRY BULB N/A
SUMMER WET BULB N/A
INTERIOR DESIGN CONDITIONS
WINTER DRY BULB N/A
SUMMER DRY BULB N/A

BUILDING HEATING LOAD N/A
BUILDING COOLING LOAD N/A
MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF UNIT N/A
HEATING EFFICIENCY N/A
COOLING EFFICIENCY N/A
HEAT OUTPUT OF UNIT N/A
COOLING OUTPUT OF UNIT N/A
BOILER N/A
SIZE CATEGORY. IF OVERSIZED, STATE REASON
CHILLER N/A
SIZE CATEGORY. IF OVERSIZED, STATE REASON

ENERGY SUMMARY

ENERGY REQUIREMENTS: THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM & 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 - GREENHOUSES ARE EXEMPT PER C402.1.1 IN THE 2018 NC ENERGY CONSERVATION CODE.
☐ PRESCRIPTIVE (ENERGY CODE) ☐ PERFORMANCE (ENERGY CODE)
☐ PRESCRIPTIVE (ASHRAE 90.1) ☐ PERFORMANCE (ASHRAE 90.1)

THERMAL ENVELOPE
ROOF/CEILING ASSEMBLY (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A
SKYLIGHTS IN EACH ASSEMBLY: N/A
U-VALUE OF SKYLIGHT: N/A
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY: N/A

EXTERIOR WALLS (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A
OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY: N/A
SOLAR HEAT GAIN COEFFICIENT: N/A
PROJECTION FACTOR: N/A
DOOR R-VALUES: N/A

WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A

FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A

FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: N/A
HORIZONTAL/VERTICAL REQUIREMENT: N/A
SLAB HEATED: N/A

SECTION 502.4.3 SEALING OF BUILDING ENVELOPE (INDICATE WHERE DETAILS ARE IN THE SET)
☐ JOINT AROUND FENESTRATION AND DOOR FRAMES
☐ JUNCTION BETWEEN WALLS AND FOUNDATIONS, WALLS AT BUILDING CORNERS, WALLS AND STRUCTURAL FLOORS OR ROOFS, WALLS AND ROOF OR WALL PANELS.
☐ OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH ROOFS, WALLS, AND FLOORS INCLUDING BUT NOT LIMITED TO ELECTRICAL, PLUMBING, MECHANICAL, SECURITY AND COMMUNICATIONS.
☐ SITE BUILT FENESTRATION AND DOORS.
☐ JOINTS, SEAMS AND PENETRATIONS OF AIR BARRIER SYSTEM.
☐ OTHER OPENINGS IN THE BUILDING ENVELOPE.

GREENHOUSES ARE EXEMPT PER C402.1.1 IN THE 2018 NC ENERGY CONSERVATION CODE.

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT
THIS SECTION REQUIRED FOR ALL PROJECTS THAT INCLUDE ELECTRICAL DESIGN.
METHOD OF COMPLIANCE: ENERGY CODE: ☐ PRESCRIPTIVE ■ PERFORMANCE
ASHRAE 90.1: ☐ PRESCRIPTIVE ☐ PERFORMANCE
LIGHTING SCHEDULE (EACH FIXTURE TYPE)
LAMP TYPE REQUIRED IN FIXTURE SEE LIGHT FIXTURE SCHEDULE
NUMBER OF LAMPS IN FIXTURE SEE LIGHT FIXTURE SCHEDULE
BALLAST TYPE USED IN THE FIXTURE SEE LIGHT FIXTURE SCHEDULE
NUMBER OF BALLASTS IN FIXTURE N/A
TOTAL WATTAGE PER FIXTURE SEE LIGHT FIXTURE SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED 1440 VS 4200
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED N/A

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

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5/22/2025

PROJECT INFORMATION

PROJECT NO.: 2014
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DRAWN BY: MDP
CHECKED BY: MDP

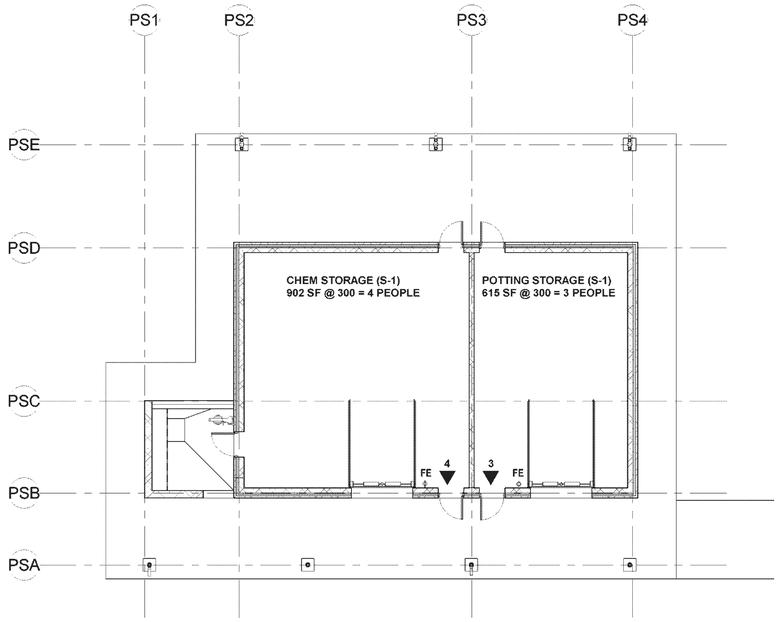
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

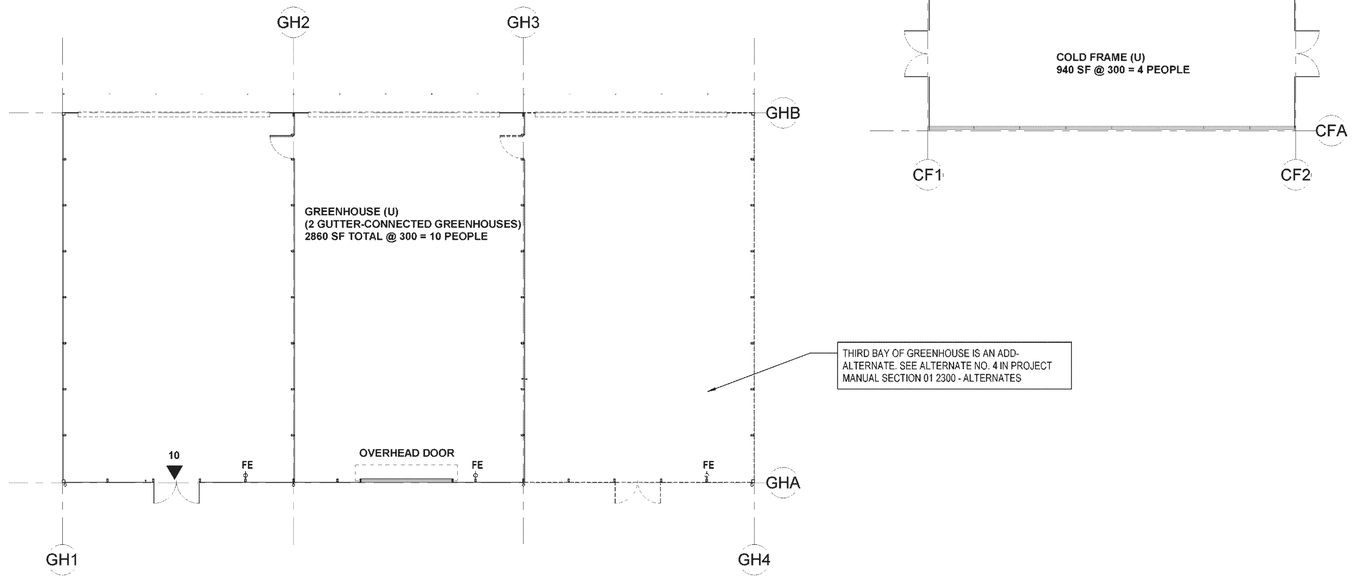
SHEET INFORMATION

G105
CODE SUMMARY
GREENHOUSE

Docusign Envelope ID: 20224FDD-79D6-40E1-8728-B091AEBC6BD8



1 G106 LIFE SAFETY PLAN - POTTING SHED
1/8" = 1'-0"



2 G106 LIFE SAFETY PLAN - GREENHOUSE AND COLD FRAME
1/8" = 1'-0"

HAZARDOUS MATERIAL NOTES:

1. **THE CITY OF WILMINGTON PARKS MAINTENANCE STAFF WILL PROVIDE AN INVENTORY LIST OF QUANTITIES OF STORED PESTICIDES AND FERTILIZERS. THESE ITEMS WILL BE STORED IN THE CHEM STORAGE ROOM ONLY.**

DOOR EGRESS CAPACITIES:

EXTERIOR SINGLE DOORS ON THIS PLAN HAVE 33" CLEAR WIDTH.
33"/0.2 = 165 PEOPLE PER DOOR MAX.

EXTERIOR DOUBLE DOORS ON THIS PLAN HAVE 66" CLEAR WIDTH.
66"/0.2 = 330 PEOPLE PER DOOR MAX.

EGRESS CAPACITIES EXCEED THE OCCUPANT LOAD OF THESE BUILDINGS.

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5/22/2025

PROJECT INFORMATION

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SHEET INFORMATION

G106

LIFE SAFETY PLAN - POTTING SHED AND GREENHOUSE

CITY OF WILMINGTON
PARKS MAINTENANCE FACILITY

CITY OF WILMINGTON

111 MELTON ROAD
WILMINGTON, NC 28412

CONSTRUCTION DRAWINGS

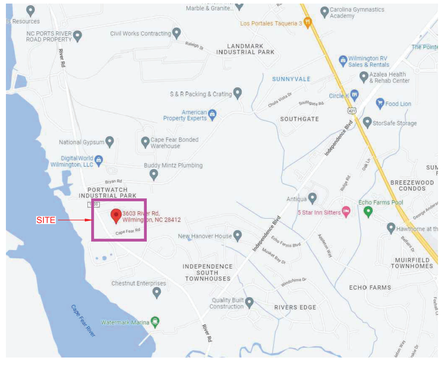
DRAWING LIST	
SHEET NO.	**SHEET NAME**
C001	COVER
L100	EXISTING CONDITIONS
L101	DEMOLITION PLAN
L102	TREE PRESERVATION PLAN
L103	TREE SHADING PLAN
L200	SITE LAYOUT PLAN
L201	STAKING PLAN
L202	TRUCK ACCESS PLAN
L300	LANDSCAPE PLAN
L301	LANDSCAPE NOTES AND DETAILS
L400	SITE DETAILS
L401	SITE DETAILS
L402	SITE DETAILS
L403	SITE DETAILS
C100	EROSION AND SEDIMENT CONTROL PLAN - PHASE 1
C101	EROSION AND SEDIMENT CONTROL PLAN - PHASE 2
C102	EROSION CONTROL NOTES AND DETAILS
C103	EROSION CONTROL NOTES AND DETAILS
C104	EROSION CONTROL NOTES AND DETAILS
C200	GRADING AND DRAINAGE PLAN
C201	SPOT ELEVATION PLAN
C202	STORM SEWER PROFILES
C203	STORM SEWER PROFILES
C204	STORM SEWER SCHEDULES
C205	WET POND PLAN AND PROFILE
C206	SCM (WET POND) DETAILS
C207	GRADING AND DRAINAGE DETAILS
C208	GRADING AND DRAINAGE DETAILS
U100	UTILITY PLAN
U101	WATERLINE PROFILE
U102	SEWER PROFILE
U200	UTILITY DETAILS
U201	UTILITY DETAILS
U202	UTILITY DETAILS
A101	OFFICE-WORKSHOP - FLOOR PLAN
A102	OFFICE-WORKSHOP - DIMENSIONED FLOOR PLAN
A103	AUXILIARY BUILDINGS - FLOOR PLANS
A201	OFFICE-WORKSHOP - EXTERIOR ELEVATIONS
A202	PULL-THROUGH SHED -EXTERIOR ELEVATIONS
A203	POTTING SHED AND PINE STRAW SHED - EXTERIOR ELEVATIONS
E101	SITE LIGHTING PLAN

SITE DATA TABLE	
PARCEL ID	**R07000-001-007-000** **R07000-001-008-000**
PARCEL OWNERSHIP	**CITY OF WILMINGTON**
SITE ACREAGE	**7.59 ACRES**
CURRENT ZONING	**GENERAL INDUSTRIAL**
PROPOSED ZONING	**GENERAL INDUSTRIAL**
PROPOSED USES / SF OF EACH	
ADMINISTRATIVE BUILDING	**14,564 SF**
GREENHOUSE	**2,860 SF** **FINAL BUILD OUT = 4,262 SF**
COLD FRAME	**960 SF**
POTTING SHED	**1,535 SF**
PULL-THROUGH VEHICLE SHED	**7,600 SF**
NUMBER OF UNITS	**N/A**
BUILDING CONSTRUCTION TYPE	
ADMINISTRATIVE BUILDING	**TYPE II-B**
GREENHOUSE	**TYPE II-B**
COLD FRAME	**TYPE II-B**
POTTING SHED	**TYPE II-B**
PULL-THROUGH VEHICLE SHED	**TYPE II-B**
BUILDING LOT COVERAGE	**8.32%**
BUILDING HEIGHT / # OF STORIES	
ADMINISTRATIVE BUILDING	**24'-6" / 1 STORY**
GREENHOUSE	**23' / 1 STORY**
COLD FRAME	**23' / 1 STORY**
POTTING SHED	**19'-4" / 1 STORY**
PULL-THROUGH VEHICLE SHED	**29' / 1 STORY**
BUILDING SETBACKS	**10' SIDE INTERIOR, 20' REAR INTERIOR, 35' STREET**
PARKING SPACES REQUIRED	**0**
MAXIMUM PARKING SPACES ALLOWED	**75**
PARKING SPACES PROVIDED	**+/- 67 (STAFF)**
ADA SPACES REQUIRED	**3 INCLUDING 1 VAN SPACE**
ADA SPACES PROVIDED	**4 (ALL VAN ACCESSIBLE)**
BICYCLE SPACES PROVIDED	**6 SPACES**
EX. IMPERVIOUS COVERAGE	**0AC**
PROPOSED IMPERVIOUS COVERAGE	**+/- 3.78 AC (49.8%)**
AMOUNT OF DISTURBED AREA	**6.62 AC**
ESTIMATED TRIP GENERATION	**112 (DAILY)**
REQUIRED PROPERTY SETBACKS	
FRONT	**35' | PROVIDED = 35'**
SIDE STREET	**35' | PROVIDED = 35'**
REAR INTERIOR	**20' | PROVIDED = 20'**
SIDE INTERIOR	**10' | PROVIDED = 10'**
CAMA LAND USE CLASSIFICATION	**URBAN**
PROPOSED BUILT UPON AREA (BUA)*	
BUILDING	**28,921 SF**
ASPHALT	**31,823 SF**
SIDEWALK	**10,437 SF**
CONCRETE	**19,058 SF**
STONE	**74,513 SF**

***DOES NOT INCLUDE PROPOSED IMPERVIOUS WITHIN RIGHT-OF-WAY**

ZONING	LAND USE (ITE CODE)	INTENSITY	AVERAGE WEEKDAY 2WAY, 24 HOUR VOLUME TRIPS (ADT)	AM PEAK HOURS TRIPS	PM PEAK HOURS TRIPS
GOVERNMENT OFFICE, PARKS	730	22,165 SF	501	74	38

AREA MAP



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PROJECT INFORMATION

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CHECKED BY:	K.BARNES

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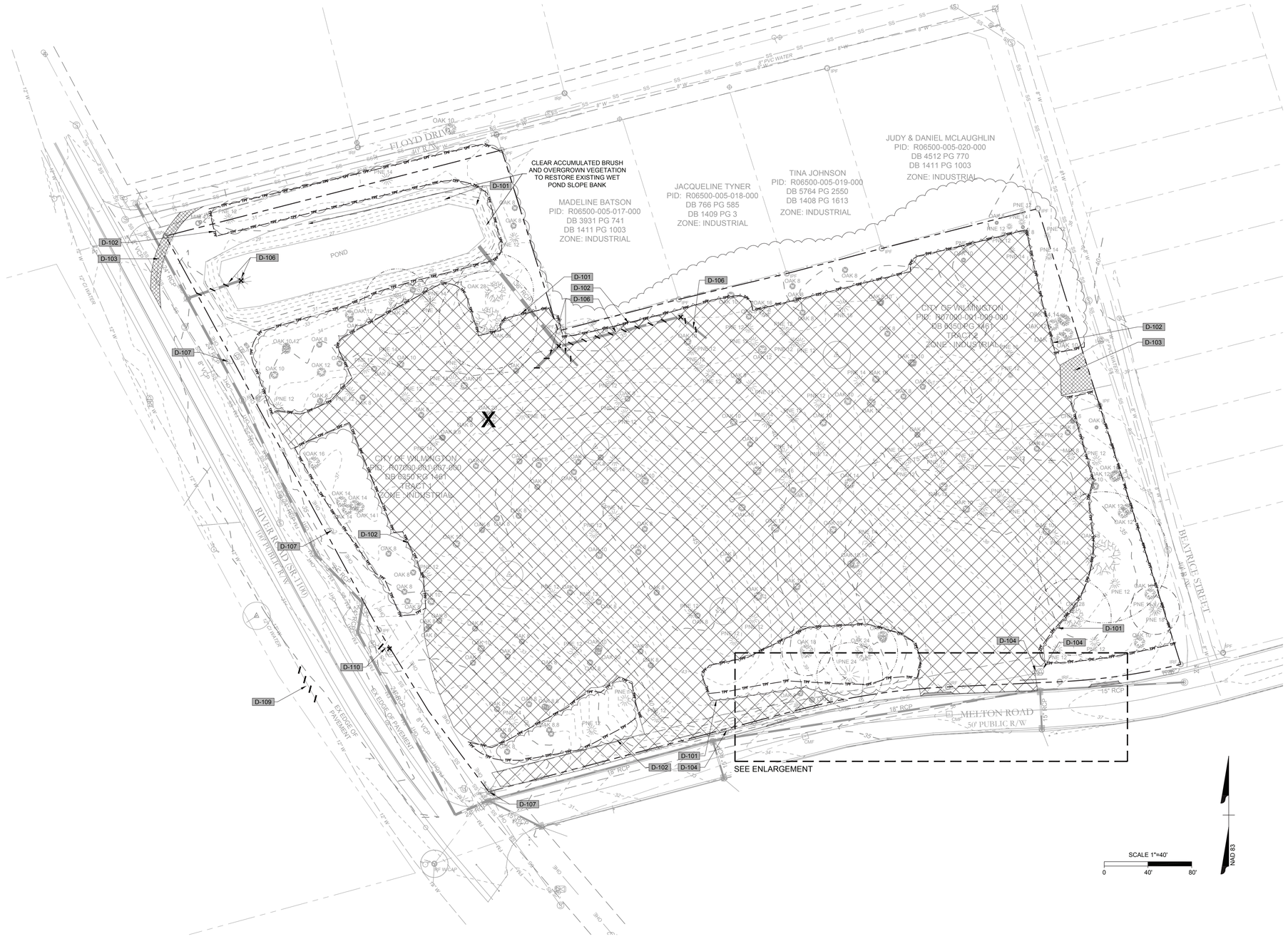
SHEET INFORMATION

G-000
COVER



GENERAL DEMOLITION NOTES:

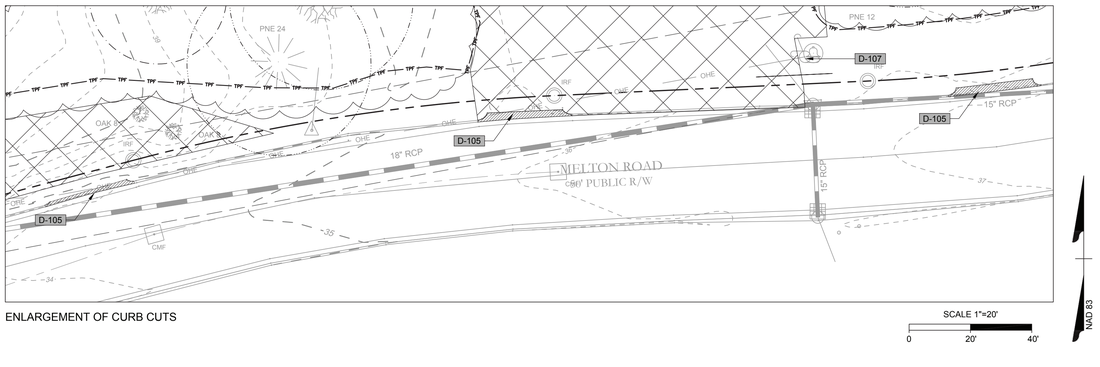
1. ALL MATERIALS NOTED FOR REMOVAL TO BE DISPOSED OF OFF SITE AND IN A LEGAL MANNER.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY NECESSARY TRAFFIC CONTROL.
3. ALL WORK IS TO BE DONE TO THE CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
4. PRIOR TO BEGINNING DEMOLITION CONTRACTOR SHOULD INSTALL REQUIRED EROSION CONTROL DEVICES AND CONDUCT ANY NECESSARY PRE-CONSTRUCTION MEETINGS WITH NEW HANOVER COUNTY.
5. ITEMS NOT NOTED FOR REMOVAL SHALL BE PROTECTED THROUGHOUT CONSTRUCTION. THIS INCLUDES TREES NOT NOTED FOR REMOVAL. DAMAGE TO THESE ITEMS SHALL BE CORRECTED IN KIND AT NO ADDITIONAL COST TO THE OWNER.
6. REFERENCE GRADING PLANS FOR LIMITS OF GRADING .
7. ALL UTILITIES NOT NOTED FOR REMOVAL TO BE PROTECTED THROUGHOUT CONSTRUCTION.
8. THE LOCATION OF EXISTING UNDERGROUND UTILITY AS SHOWN IS APPROXIMATE ONLY; UTILITIES MAY EXIST WHICH ARE NOT SHOWN. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PUBLIC OR PRIVATE UTILITIES WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE WITHIN THE LIMITS OF ANY GRADING OR EXCAVATION.
9. SEE DRAWINGS C-100, C-101, C-102, C-103, AND C-104 FOR EROSION CONTROL MEASURES & CONSTRUCTION SEQUENCE.
10. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL AND INITIATE CLEAN-UP OF LITTER AND REFUSE GENERATED BY HIMSELF AND ANY SUBCONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING, PLACING, AND MAINTAINING SUITABLE REFUSE CONTAINERS ONSITE. THE CLEANUP SHALL BE DONE ON A REGULAR BASIS AND AT NO ADDITIONAL COST TO THE OWNER.
11. PRIOR TO BEGINNING DEMOLITION WORK, CONTRACTOR TO INSTALL TREE PROTECTION FENCE AND HAVE IT INSPECTED BY THE CITY OF WILMINGTON.
12. THE CITY OF WILMINGTON RESERVES THE RIGHT TO REMOVE AND RELOCATE ANY EXISTING TREES WITHIN THE LIMITS OF DISTURBANCE FOR USE AT OTHER CITY OF WILMINGTON PUBLIC PROPERTIES. CONTRACTOR TO COORDINATE WITH OWNER PRIOR TO CONSTRUCTION / DEMOLITION.
13. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND THAT NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES SHALL BE PERMITTED WITHIN THE TREE PROTECTION FENCING.
14. IF THE ENTIRETY OF A TREE'S CRITICAL ROOT ZONE CANNOT BE PRESERVED AND ARE PROPOSED TO REMAIN, THE ROOTS MUST BE CLEANLY PRUNED, BY HAND, PRIOR TO ANY LAND DISTURBANCE. REFER TO TREE PRESERVATION PLAN (DRAWING L-102) FOR CRITICAL ROOT ZONE INFORMATION .
15. PRIOR TO GRADING, TREE ROOTS SHALL BE PRUNED ALONG ALL GRADE CUT LINES, INCLUDING EXCAVATION AND TRENCHES.

LEGEND:

- TREE CLEARING AREA TO BE DEMOLISHED
- GRAVEL AREA TO BE REMOVED
- DRIVEWAY CURB CUTS TO BE REMOVED
- TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE
- PROPOSED TREELINE

DEMOLITION SCHEDULE

SYMBOL	DESCRIPTION
D-101	CLEAR AND GRUB TREES WITHIN LIMITS SHOWN. REMOVE ALL VEGETATION.
D-102	TREE PROTECTION FENCE
D-103	GRAVEL AREA TO BE REMOVED, SEED AND STABILIZE AREAS NOT NOTED FOR IMPROVEMENT
D-104	POWER POLE TO BE RELOCATED, COORDINATE WITH DUKE ENERGY
D-105	REMOVE CURB AND GUTTER/DRIVEWAYS TO LIMITS SHOWN, OR NEAREST JOINT. SAW CUT TO CREATE CLEAN EDGE
D-106	STORM STRUCTURE / PIPE TO BE REMOVED
D-107	EXISTING POWER POLE AND PEDESTAL TO REMAIN. PROTECT DURING CONSTRUCTION.
D-108	EXISTING TELECOMMUNICATION EQUIPMENT TO BE RELOCATED, COORDINATE WITH PROVIDER
D-109	±35 LF OF WATERLINE TO BE REMOVED
D-110	SERVICE MUST BE ABANDONED PER CFPUA REQUIREMENT



ENLARGEMENT OF CURB CUTS

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SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1251 01/13/2025 KEVIN T. BARNES

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	S.DAVIS
CHECKED BY:	K.BARNES

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

L-101
DEMOLITION PLAN

CURVE	RADIUS	ARC LENGTH	DELTA	CHORD LENGTH	CHORD BEARING
C1	1581.97'	111.95'	1°48'39"	111.92'	S 81°43'58" W
C2	1544.86'	193.15'	7°09'59"	193.02'	S 81°15'24" W
C3	1856.92'	607.97'	18°45'56"	605.35'	N 78°40'39" W
C4	1617.24'	133.95'	4°44'50"	133.91'	S 81°11'46" W

LINE	BEARING	DISTANCE
L1	S 18°48'33" E	14.84'

LEGEND:

- IPF — IRON PIPE FOUND
- IRF — IRON ROD FOUND
- IRON ROD SET
- CMF — CONCRETE MONUMENT FOUND
- PKF — PK NAIL FOUND
- PKS — PK NAIL SET
- TV RISER
- TR — TRANSFORMER
- LIGHT POLE
- POWER POLE
- GUY ANCHOR
- TELEPHONE RISER
- WATER METER
- WV — WATER VALVE
- FIRE HYDRANT
- CLEAN-OUT
- SANITARY SEWER MANHOLE
- STORM DRAINAGE MANHOLE
- BACK FLOW PREVENTER
- CURB INLET
- SIGN
- TREES
- METER BOX
- 18 — EXISTING CONTOUR
- ESMT LINE
- ADJOINER PROPERTY LINE
- SETBACK LINE
- FM — FORCE MAIN
- SAN — SANITARY SEWER
- OHT — OVER HEAD TELEPHONE LINE
- OHP — OVER HEAD POWER LINE
- X — FENCE

LOT INFORMATION

TRACT 1

CURRENT OWNER: CITY OF WILMINGTON
DEED BOOK 6350, PAGE 1461
PID: R0700-001-007-000
ADDRESS: 3603 RIVER ROAD
ZONING: IND
TOTAL AREA = 257,241 ± SQ.FT. OR 5.905 ± ACRES

TRACT 2

CURRENT OWNER: CITY OF WILMINGTON
DEED BOOK 6350, PAGE 1461
PID: R0700-001-008-000
ADDRESS: 3628 RIVER ROAD
ZONING: IND
TOTAL AREA = 73390, ± SQ.FT. OR 1.685 ± ACRES

TRACT 1 & 2
AREA = 330,631SQ.FT.± OR 7.590 ± ACRES

NOTES

1. AREA CALCULATED BY COORDINATE METHOD.
2. HORIZONTAL DATUM BASED ON NAD 83 (2011). VERTICAL DATUM BASED ON NAVD 88 ESTABLISHED UTILIZING A TOPCON HYPER II GPS RECEIVER OBSERVING THE GEOID MODEL (GEOID 18) AND NGS BENCHMARKS.
3. THE PARCEL IS LOCATED IN ZONE X (AREA OF MINIMAL FLOOD HAZARD) AREA = AS SHOWN ON FEMA FLOOD MAP NO. 3720171400K (EFFECTIVE DATE OF 06/20/2018)
4. UTILITIES AS SHOWN ARE PLOTTED FROM INFORMATION VISIBLE IN THE FIELD AND FROM INFORMATION PROVIDED BY UTILITY COMPANIES. ADDITIONAL UTILITIES MAY EXIST WHICH WERE NOT LOCATED BY THIS COMPANY. ADDITIONAL UTILITIES NOT SHOWN MAY EXIST. THE APPROPRIATE UTILITY COMPANIES SHOULD BE CONTACTED PRIOR TO LAND DISTURBING ACTIVITIES.
5. THIS LOT IS SUBJECT TO ALL UTILITY EASEMENTS, RESTRICTIONS, OR COVENANTS OF RECORD.
6. CONTOUR INTERVAL IS 1'.

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SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1251 KEVIN T. BARNES 01/13/2025

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	S.DAVIS
CHECKED BY:	K.BARNES

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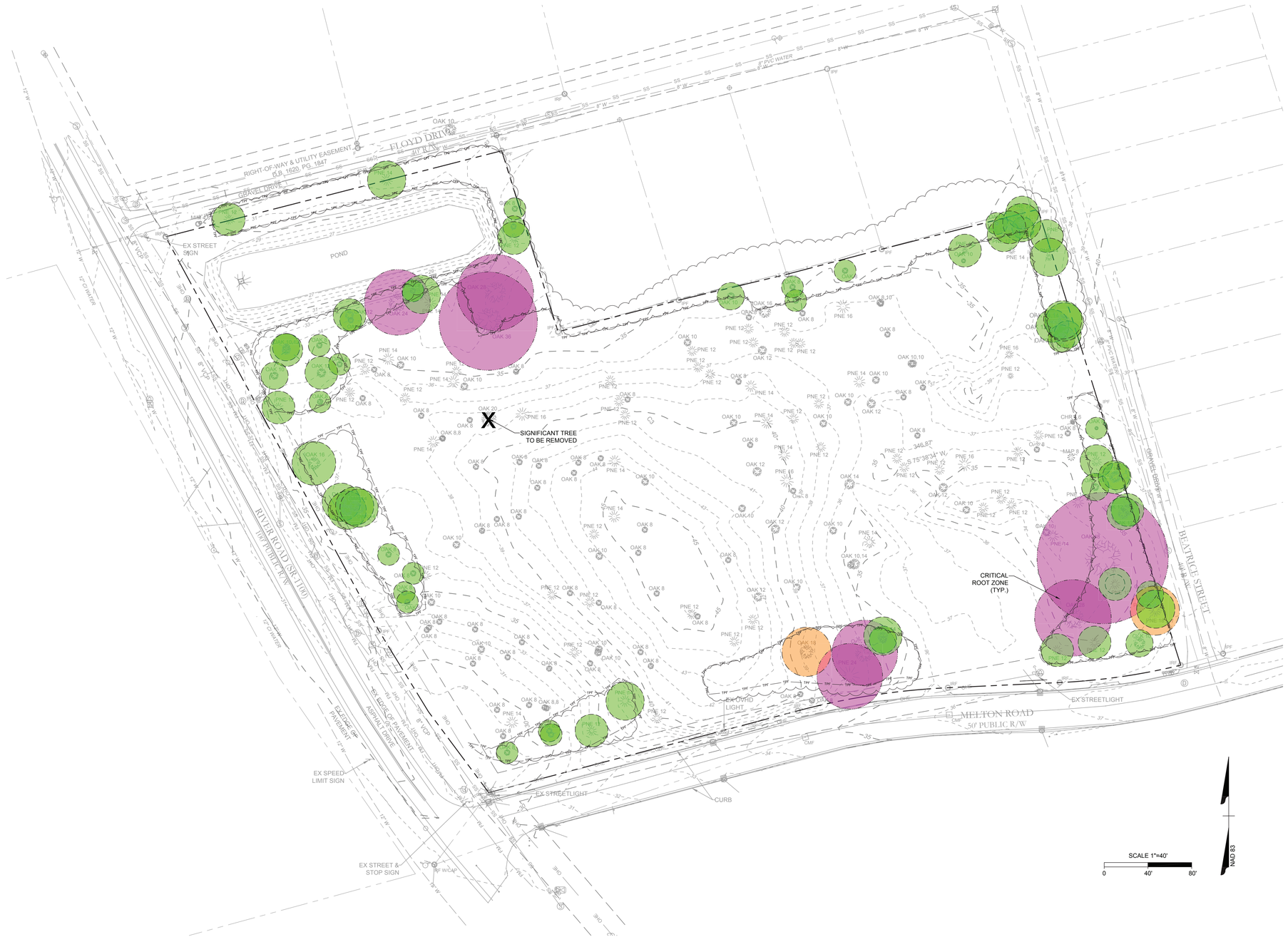
1	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

L-100

EXISTING CONDITIONS



TREE PROTECTION LEGEND:

- SPECIMEN TREES
- SIGNIFICANT TREES
- REGULATED TREES
- LOD — LOD — LIMITS OF DISTURBANCE. TREES LOCATED WITHIN LOD ARE NOTED FOR CLEARING
- TPF — TPF — TREE PROTECTION FENCE. TREES LOCATED WITHIN TPF ARE TO BE PRESERVED AND PROTECTED
- PROPOSED TREELINE

TREE PRESERVATION NOTES:

1. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND THAT NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES SHALL BE PERMITTED WITHIN THE TREE PROTECTION FENCING.
2. THE CITY OF WILMINGTON RESERVES THE RIGHT TO REMOVE AND RELOCATE ANY EXISTING TREES WITHIN THE LIMITS OF DISTURBANCE FOR USE AT OTHER CITY OF WILMINGTON PUBLIC PROPERTIES.
3. IF THE ENTIRETY OF A TREE'S CRITICAL ROOT ZONE CANNOT BE PRESERVED AND ARE PROPOSED TO REMAIN, THE ROOTS MUST BE CLEANLY PRUNED BY HAND, PRIOR TO ANY LAND DISTURBANCE.
4. PRIOR TO GRADING, TREE ROOTS SHALL BE PRUNED ALONG ALL GRADE CUT LINES, INCLUDING EXCAVATION AND TRENCHES.
5. SIGNIFICANT AND SPECIMEN TREES AND SPECIMEN TREES DETERMINED TO BE HEALTHY BY THE CITY MANAGER OR A CERTIFIED ARBORIST SHALL BE PRESERVED OR RELOCATED INSIDE THE LIMITS OF THE DISTURBANCE WHERE POSSIBLE. TREES REQUIRING REMOVAL SHALL BE MITIGATED.

TREE PROTECTION/IMPACT NOTES:

1. PROTECTING THE ROOT ZONES OF THE EXISTING TREES IS OF THE UTMOST IMPORTANCE. PROTECT EXISTING TREES TO REMAIN TO THE GREATEST EXTENTS POSSIBLE. MINIMIZE DISTURBANCE WITHIN CRITICAL ROOT ZONE OF EXISTING TREES.
2. TREE ROOTS LARGER THAN 1.5 INCHES IN DIAMETER TO BE HAND PRUNED, CLEANLY, IN AREAS OF DISTURBANCE. REFER TO SPECIFICATIONS.
3. ALL DEMOLITION WORK IN THE VICINITY OF SPECIMEN TREES SHALL BE EXECUTED WITH HAND TOOLS TO THE GREATEST EXTENT POSSIBLE.
4. ANY DEMOLITION WORK REQUIRING THE USE OF HEAVY EQUIPMENT SHALL MAKE USE OF LOW-GROUND PRESSURE TIRES AND/OR TRACKS.
5. UPON COMPLETION OF DEMOLITION WORK, CONTRACTOR SHALL BREAK UP ANY RESULTING COMPACTION IN THE SOIL WITH AN AIR SPADE OR SIMILAR LOW-IMPACT METHOD OR TOOL.

TREE TYPE	MIN. DBH
REGULATED TREES	
Dogwoods, magnolias, other ornamental flowering trees, and American hollies	4"
Hardwood trees, long leaf pine, pocosin (pond) pine, black pine, and non-pine conifer trees	8"
Other pine trees not specified	12"
SIGNIFICANT TREES	
Dogwoods, magnolias, other ornamental flowering trees, and American hollies	8"
Hardwood trees, long leaf pine, pocosin (pond) pine, black pine, and non-pine conifer trees	18"
Other pine trees not specified	24"
SPECIMEN TREES	
Live oak, pond cypress, bald cypress, and long leaf pine	24"

NOTE:
ALL REGULATED, SIGNIFICANT, AND SPECIMEN TREE SPECIES ARE ASSUMED TO BE THE MOST PROTECTED SPECIES. THE SITE CONSISTS OF, ALMOST EXCLUSIVELY, PINES AND OAKS AND ARE THEREFORE ASSUMED TO BE LIVE OAKS AND LONG LEAF PINES.

MITIGATION
SECTION 18-316.F

1. REMOVED PROTECTED TREES SHALL BE MITIGATED ON SITE USING THE SAME OR COMPARABLE SPECIES.
   A. MITIGATION FOR SIGNIFICANT AND SPECIMEN TREES SHALL OCCUR AT A RATE OF 200 PERCENT. FOR EVERY ONE INCH OF TREES REMOVED, MEASURED IN DIAMETER BREAST HEIGHT, TWO INCHES OF MITIGATION TREES, MEASURED IN CALIPER INCHES SHALL BE PLANTED. MITIGATION SHALL NOT BE REQUIRED FOR INVASIVE AND PROHIBITED TREES THAT ARE REMOVED.
   B. MITIGATION FOR REGULATED TREES SHALL BE AS PRESCRIBED IN TABLE 18-316.4: TREE REPLACEMENT BY SPECIES.
   C. ANY TREE PLANTED FOR MITIGATION SHALL MEASURE AT LEAST TWO CALIPER INCHES AT THE TIME OF PLANTING.

Table 18-316.4
TREE REPLACEMENT BY SPECIES

TREE CATEGORY	REQUIRED REPLACEMENT
Native/naturalized	100%
Non-native	75%
Invasive and prohibited	None

CREDIT FOR NON-PROTECTED TREES:
SECTION 18-316.C.5

CREDIT FOR TREES THAT ARE NOT OTHERWISE CLASSIFIED AS PROTECTED TREES BY THIS DIVISION AND TREES TRANSPLANTED BY SPADING MAY BE ALLOWED.

a. CREDIT TOWARDS LANDSCAPING REQUIREMENTS SHALL BE GRANTED BY THE TECHNICAL REVIEW COMMITTEE FOR HEALTHY TREES OF AT LEAST TWO-INCH CALIPER PRESERVED OR TRANSPLANTED BY SPADING FROM WITHIN THE LIMITS OF DISTURBANCE WITHIN THE IMPROVED AREA OF THE PROJECT BOUNDARIES.

b. CREDIT SHALL BE ALLOWED FOR THE RETENTION OF EXISTING NON-PROTECTED TREES IN ACCORDANCE WITH TABLE 18-316.2: CREDIT RATIOS FOR NON-PROTECTED TREES.

c. TO RECEIVE CREDIT, EXISTING TREES GROWING IN MATURE NATIVE FORESTS OR TREES GROWING IN STANDS OR NATURAL CLUSTERS, AS DETERMINED BY A CERTIFIED ARBORIST OR A NORTH CAROLINA LICENSED FORESTER, SHALL BE RETAINED.

d. EXISTING PROTECTED TREES MAY BE DONATED TO THE CITY TO BE PLANTED ON PUBLIC PROPERTY.

e. CREDIT MAY BE USED TO SATISFY STREETSCAPE LANDSCAPING OR PARKING LOT REQUIREMENTS.

f. CREDIT MAY BE USED TO OFFSET MITIGATION REQUIREMENTS.

MITIGATION CALCULATIONS:

SIGNIFICANT TREES TO BE REMOVED: 1
1 LIVE OAK @ 20" DBH (20" X 2)
= 40 REPLACEMENT INCHES REQUIRED
* MINIMUM 2" CALIPER TREES AT TIME OF PLANTING

SPECIMEN TREES TO BE REMOVED: 0

CANOPY TREES PROVIDED (IN EXCESS OF REQUIRED MAY COUNT TOWARDS MITIGATION REQUIREMENTS):
3 BETULA NIGRA 'DURA HEAT' @ 2" CAL. = 6 INCHES
6 MAGNOLIA GRANDIFLORA @ 2" CAL. = 12 INCHES
11 PINUS PAULSTRIS @ 2" CAL. = 22 INCHES

TOTAL: 40 INCHES PROVIDED

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SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1251 01/13/2025 KEVIN T. BARNES

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	S.DAVIS
CHECKED BY:	K.BARNES

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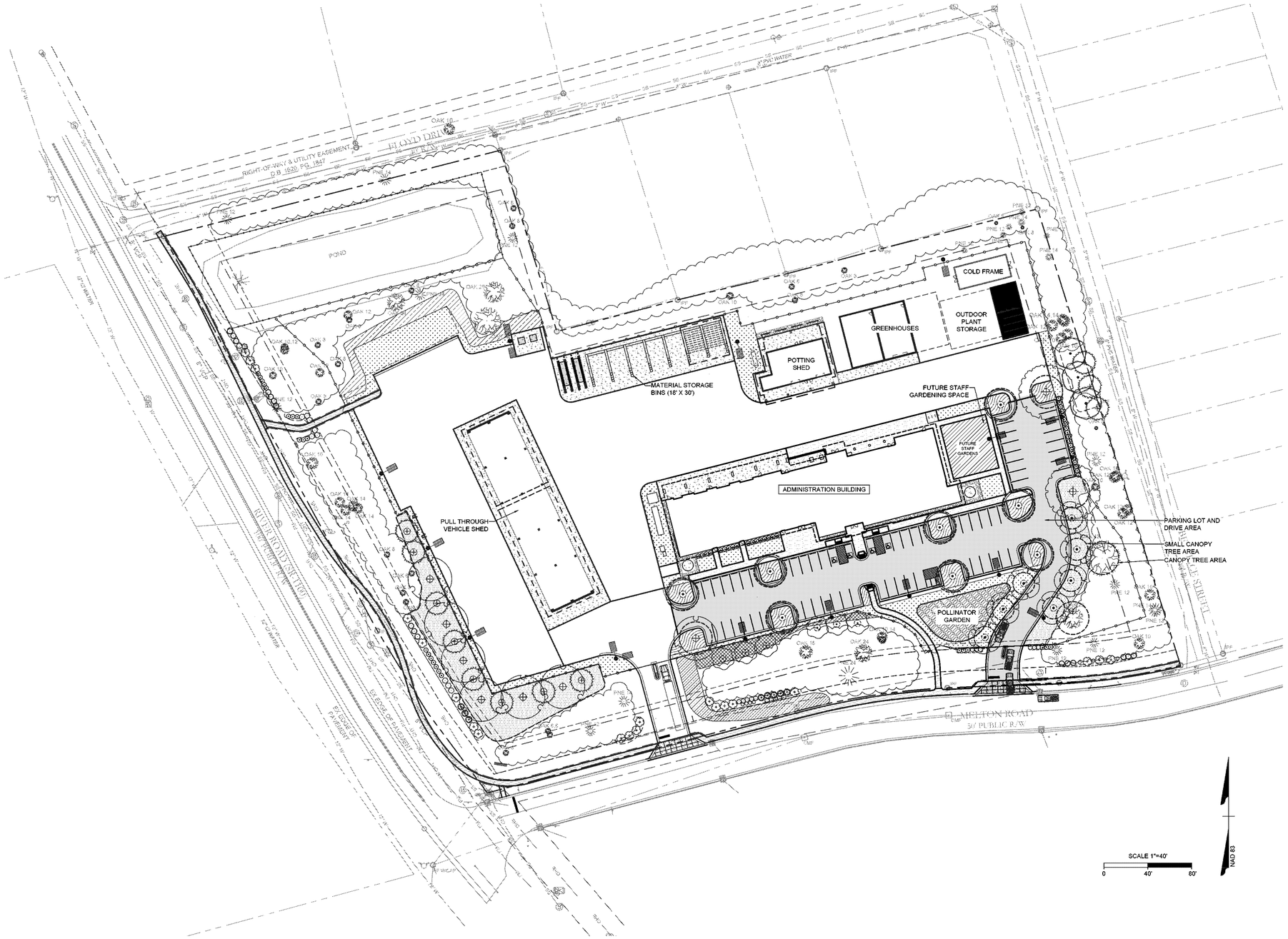
SHEET INFORMATION

L-102
TREE PRESERVATION PLAN



TREE SHADING LEGEND:

- CANOPY TREES = 707 SF
- SMALL CANOPY TREES = 314 SF
- PROPOSED TREELINE

TREE SHADING NOTES:

A. SHADING OF IMPERVIOUS SURFACE AREA SHALL BE REQUIRED. THE REQUIREMENTS OF THIS SECTION SHALL APPLY TO ANY OF THE FOLLOWING DEVELOPMENT ACTIVITIES WITHIN A MULTIPLE DWELLING, COMMERCIAL, AND INDUSTRIAL ZONING DISTRICTS:
A.1. CONSTRUCTION OF A NEW BUILDING OR STRUCTURE; AND
A.2. ANY INCREASE IN IMPERVIOUS SURFACE AREA OVER 2,500 SQUARE FEET WITHIN A ROLLING FIVE-YEAR PERIOD.
B. FOR PURPOSE OF DETERMINING IF A LANDSCAPE PLAN MEETS THE SHADING REQUIREMENTS OF THIS SECTION, EACH CANOPY TREE OF THE TYPE DESCRIBED SHALL BE PRESUMED TO SHADE A CIRCULAR AREA OF 707 SQUARE FEET. WHEN SMALLER SHADE TREES ARE PLANTED, EACH TREE SHALL BE PRESUMED TO SHADE A CIRCULAR AREA OF 314 SQUARE FEET. PERIMETER TREES SHALL BE CREDITED THAT PORTION OF THE AREA OF THE CANOPY THAT OVERLAYS THE LOT.
C. FOR EXISTING TREES, SHADING CREDIT SHALL BE GIVEN FOR THE CANOPY OVERHANG EXISTING WITHIN THE INTERIOR OF A LOT.
D. ALL PLANTINGS SHALL BE IN ACCORDANCE WITH SECTION 18-315: STANDARDS FOR LANDSCAPING.
E. TREES SHALL BE PLANTED TO SHADE IMPERVIOUS SURFACE AREA AS PRESCRIBED IN TABLE 18-318: CANOPY COVERAGE REQUIREMENTS.

Impervious surface area (sq. ft)	Required shading inside 1945 Corporate Limits (percent)	Required shading outside 1945 corporate limits (percent)
0-10,000	10	10
10,001-25,000	12	15
25,001-50,000	13	20
50,001-100,000	14	25
100,001+	15	30

TREE SHADING CALCULATIONS:

IMPERVIOUS AREA: ± 28,264 SF (PARKING AND DRIVE ISLES)

SHADE COVER AREA REQUIRED (@ 20%): ± 5,552 SF
SHADE COVER AREA PROVIDED: ± 11,388 SF

11,388 / 28,264 = 40.3%

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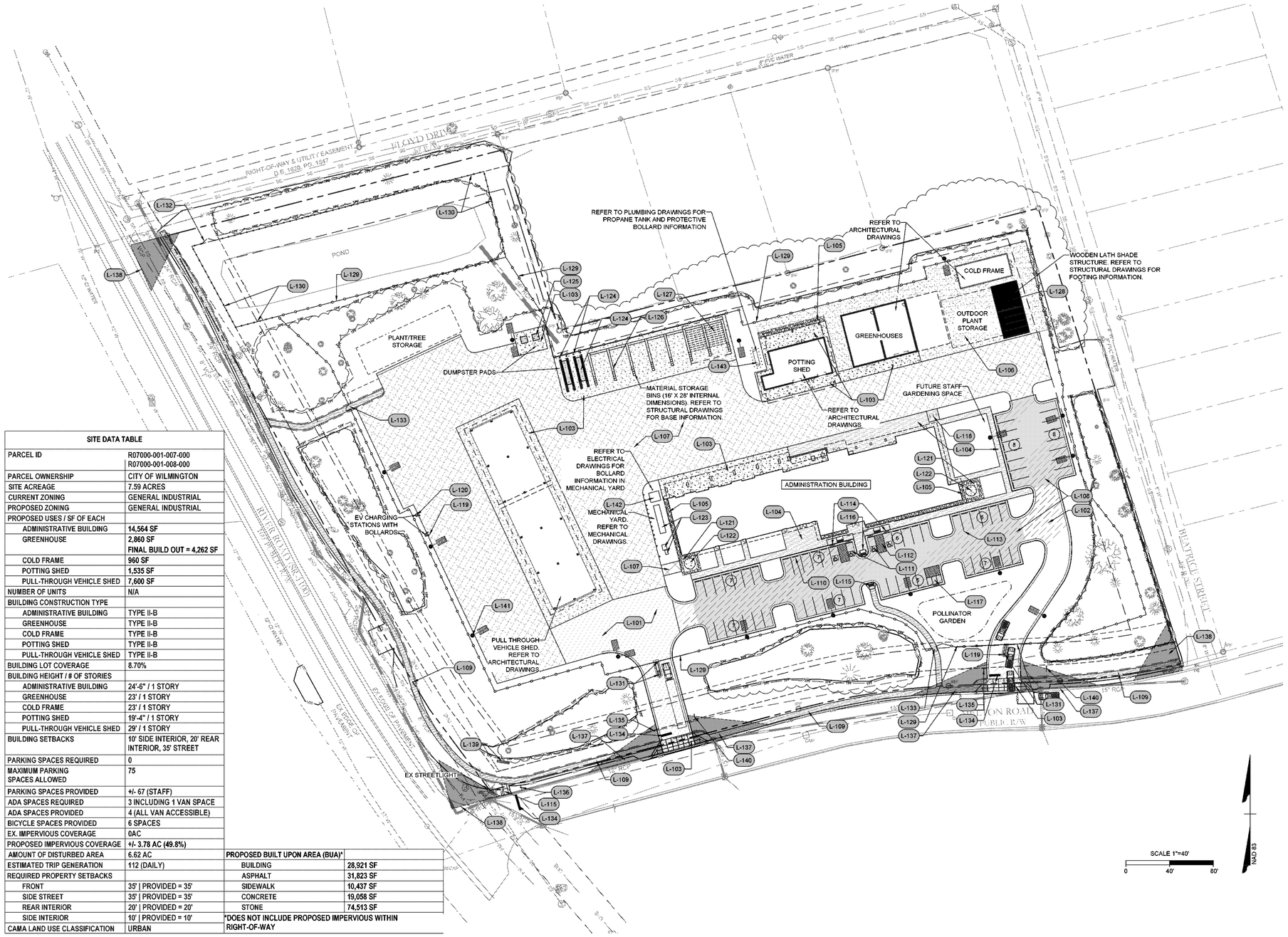
L-103
TREE SHADING PLAN



SITE DATA TABLE			
PARCEL ID	R07000-001-007-000 R07000-001-008-000		
PARCEL OWNERSHIP	CITY OF WILMINGTON		
SITE ACREAGE	7.59 ACRES		
CURRENT ZONING	GENERAL INDUSTRIAL		
PROPOSED ZONING	GENERAL INDUSTRIAL		
PROPOSED USES / SF OF EACH			
ADMINISTRATIVE BUILDING	14,564 SF		
GREENHOUSE	2,860 SF FINAL BUILD OUT = 4,262 SF		
COLD FRAME	960 SF		
POTTING SHED	1,535 SF		
PULL-THROUGH VEHICLE SHED	7,600 SF		
NUMBER OF UNITS	N/A		
BUILDING CONSTRUCTION TYPE			
ADMINISTRATIVE BUILDING	TYPE II-B		
GREENHOUSE	TYPE II-B		
COLD FRAME	TYPE II-B		
POTTING SHED	TYPE II-B		
PULL-THROUGH VEHICLE SHED	TYPE II-B		
BUILDING LOT COVERAGE	8.70%		
BUILDING HEIGHT / # OF STORIES			
ADMINISTRATIVE BUILDING	24'-6" / 1 STORY		
GREENHOUSE	23' / 1 STORY		
COLD FRAME	23' / 1 STORY		
POTTING SHED	19'-4" / 1 STORY		
PULL-THROUGH VEHICLE SHED	29' / 1 STORY		
BUILDING SETBACKS	10' SIDE INTERIOR, 20' REAR INTERIOR, 35' STREET		
PARKING SPACES REQUIRED	0		
MAXIMUM PARKING SPACES ALLOWED	75		
PARKING SPACES PROVIDED	+/- 67 (STAFF)		
ADA SPACES REQUIRED	3 INCLUDING 1 VAN SPACE		
ADA SPACES PROVIDED	4 (ALL VAN ACCESSIBLE)		
BICYCLE SPACES PROVIDED	6 SPACES		
EX. IMPERVIOUS COVERAGE	0AC		
PROPOSED IMPERVIOUS COVERAGE	+/- 3.78 AC (49.8%)		
AMOUNT OF DISTURBED AREA	6.62 AC	PROPOSED BUILT UPON AREA (BUA)*	
ESTIMATED TRIP GENERATION	112 (DAILY)	BUILDING	28,921 SF
REQUIRED PROPERTY SETBACKS		ASPHALT	31,823 SF
FRONT	35' | PROVIDED = 35'	SIDEWALK	10,437 SF
SIDE STREET	35' | PROVIDED = 35'	CONCRETE	19,058 SF
REAR INTERIOR	20' | PROVIDED = 20'	STONE	74,513 SF
SIDE INTERIOR	10' | PROVIDED = 10'	*DOES NOT INCLUDE PROPOSED IMPERVIOUS WITHIN RIGHT-OF-WAY	
CAMA LAND USE CLASSIFICATION	URBAN		

GENERAL SITE NOTES:

1. ANY REQUIRED INSTALLATION OR RELOCATED OF TRAFFIC SIGNS/PAVEMENT MARKINGS IS THE RESPONSIBILITY OF THE PROJECT DEVELOPER. PLEASE COORDINATE WITH CITY TRAFFIC SIGNS AND PAVEMENT MARKINGS MANAGER/SUPERVISOR PRIOR TO INSTALLATION/RELOCATION OF ANY TRAFFIC SIGNS OR MARKING IN EXISTING OR PROPOSED PUBLIC ROW.
2. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
3. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
4. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
5. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
6. CONTACT 811 PRIOR TO CONTACTING CITY OF WILMINGTON, TRAFFIC ENGINEERING REGARDING THE UTILITIES IN ROW.
7. NO PARKING SPACES, FENCES, WALLS, POSTS, LIGHTS, SHRUBS, TREES, OR OTHER TYPE OF OBSTRUCTIONS NOT SPECIFICALLY EXEMPTED SHALL BE PERMITTED IN THE SPACE BETWEEN 30 INCHES AND ABOVE GROUND AND 10 FEET ABOVE GROUND LEVEL WITHIN A TRIANGULAR SIGHT DISTANCE.
8. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
9. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
10. ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
11. CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL COMMERCIAL BUILDINGS THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET SECTION 510 REQUIREMENTS OF THE 2018 NC FIRE CODE.
12. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
13. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.

PARKING CALCULATIONS:

VEHICULAR PARKING REQUIREMENTS (SEC. 18-341.2):
GOVERNMENT FACILITY (WITH NO PUBLIC USE OR ACCESS) =
1 SPACE 400 SF OF BUILDING AREA (GFA = ± 30,090 SF+ 30,090 SF / 400 SF=
75 - MAXIMUM PARKING ALLOWED
68 - PARKING SPACES PROVIDED *QUANTITY BASED ON PROGRAMMING FOR CITY USE AND FUTURE EXPANSION*

BICYCLE PARKING REQUIREMENTS (SEC. 18-342):
6 - BICYCLE PARKING SPACES PROVIDED

MOTORCYCLE PARKING REQUIREMENTS (SEC. 18-344 A.1):
1 SPACE FOR EVERY 25 PARKING SPACES (70 / 25) =
3 - MOTORCYCLE PARKING SPACES REQUIRED
3 - MOTORCYCLE PARKING SPACES PROVIDED

ELECTRONIC VEHICLE PARKING REQUIREMENTS (SEC. 18-344 A.2):
2% OF PROVIDED PARKING SPACES TO BE E.V. READY (70 * 0.02) =
2 - E.V. READY PARKING SPACES REQUIRED
2 - E.V. READY PARKING SPACES PROVIDED

ZONING	LAND USE (ITE CODE)	INTENSITY	AVERAGE WEEKDAY 2WAY, 24 HOUR VOLUME TRIPS (ADT)	AM PEAK HOURS TRIPS	PM PEAK HOURS TRIPS
GOVERNMENT OFFICE, PARKS	730	22,165 SF	501	74	38

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING INFORMATION.
2. REFER TO UTILITY DRAWINGS FOR ALL UTILITY CONNECTIONS.

HARDSCAPE LEGEND
- HEAVY DUTY ASPHALT
- STANDARD DUTY ASPHALT
- HEAVY DUTY CONCRETE
- STANDARD DUTY CONCRETE
- 12" COMPACTED ABC
- 8" COMPACTED ABC
- TENNESSEE RIVER ROCK (3-5")

LEGEND
GUARDTOP® COOLSEAL (OR APPROVED EQUAL) COATED AREA (REFER TO L-401 FOR DETAILS)

SITE ALTERNATE:
ALTERNATE NO. 2-A:
HEAVY DUTY ASPHALT w/ GUARDTOP® COOLSEAL (OR APPROVED EQUAL) COATING

ALTERNATE NO. 2-B:
HEAVY DUTY CONCRETE

ALTERNATE NO. 4:
THIRD BAY CONCRETE SLAB

ALTERNATE NO. 5:
MATERIAL STORAGE BIN SHED ROOF

LAYOUT SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
L-101	HEAVY DUTY ASPHALT. ASPHALT SHALL MEET EXISTING AND PROPOSED PAVEMENTS FLUSH.	2/L-402
L-102	STANDARD DUTY ASPHALT. ASPHALT SHALL MEET EXISTING AND PROPOSED PAVEMENTS FLUSH.	1/L-402
L-103	6" HEAVY DUTY CONCRETE PAVING	4/L-402
L-104	4" STANDARD DUTY CONCRETE PAVING	3/L-402
L-105	STONE SURROUND; 3-5" TENNESSEE RIVER ROCK	5/L-402
L-106	8" COMPACTED ABC	6/L-402
L-107	12" COMPACTED ABC	7/L-402
L-108	GUARDTOP® COOLSEAL COATED AREA (OR APPROVED EQUAL) APPLY PER MANUFACTURER'S RECOMMENDATIONS	4/L-401
L-109	5' WIDE SIDEWALK	4/L-400
L-110	CONCRETE WHEEL STOP	8/L-402
L-111	ADA VAN ACCESSIBLE PARKING SPACE	2/L-401
L-112	ACCESSIBLE PARKING SPACE STRIPING	2/L-401
L-113	PARKING SPACE STRIPING	
L-114	ACCESSIBLE PARKING SPACE SIGN	6/L-400
L-115	ADA RAMP (ADJACENT TO WALK)	2/L-400
L-116	ADA RAMP (ADJACENT TO PLAZA)	3/L-400
L-117	MOTORCYCLE PARKING SPACES (3)	3/L-401
L-118	BICYCLE PARKING	3/L-403
L-119	HEAVY DUTY STEEL BOLLARD	9/L-402
L-120	E.V. READY CHARGING STATIONS, REFER TO ELECTRICAL DRAWINGS	
L-121	6" CISTERN CONCRETE PAD - REFER TO STRUCTURAL DRAWINGS	
L-122	5,160 GAL. CISTERN	4/C-207
L-123	GENERATOR, REFER TO ELECTRICAL DRAWINGS	
L-124	20-30 CUBIC YARD ROLL-OFF DUMPSTERS WITH STEEL RUNNERS	4/L-403
L-125	8 CUBIC YARD DUMPSTERS	
L-126	MATERIAL STORAGE BAYS	1/L-403
L-127	COVERED MATERIAL STORAGE BAYS, REFER TO ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS	
L-128	WOODEN LATH SHADE STRUCTURE (24.5' X 49')	2/L-403
L-129	8' TALL SCH. 40 GALVANIZED CHAINLINK SECURITY FENCING	11/L-402
L-130	4' TALL SCH. 40 GALVANIZED CHAINLINK FENCING	12/L-402
L-131	ELECTRIC GATE AND KEYCARD READERS TO MATCH EXISTING CITY OF WILMINGTON OPERATIONS FACILITY. CONTRACTOR TO DESIGN, COORDINATE, SUPPLY AND INSTALL.	1/L-401
L-132	12' WIDE VEHICLE POND ACCESS GATE	13/L-402
L-133	PEDESTRIAN ACCESS GATE (4' WIDE)	10/L-402
L-134	VEHICLE STOP BAR	10/L-400
L-135	NEW STOP SIGN, GALVANIZED U-CHANNEL POST	
L-136	RELOCATED EXISTING STOP SIGN	
L-137	20' X 70' SIGHT DISTANCE TRIANGLE (CITY OF WILMINGTON)	
L-138	45' X 45' SIGHT DISTANCE TRIANGLE (CITY OF WILMINGTON)	
L-139	FACILITY MONUMENT SIGN, REFER TO ARCHITECTURAL DRAWINGS	
L-140	FACILITY DIRECTIONAL SIGN, REFER TO ARCHITECTURAL DRAWINGS	
L-141	LIGHT POLES, REFER TO LIGHTING PLAN ON ELECTRICAL DRAWINGS	
L-142	TRANSFORMER, REFER TO ELECTRICAL DRAWINGS	
L-143	PROPANE TANK, REFER TO PLUMBING DRAWINGS	

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CITY OF WILMINGTON NORTH CAROLINA

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SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1251 01/13/2025 KEVIN T. BARNES

PROJECT INFORMATION

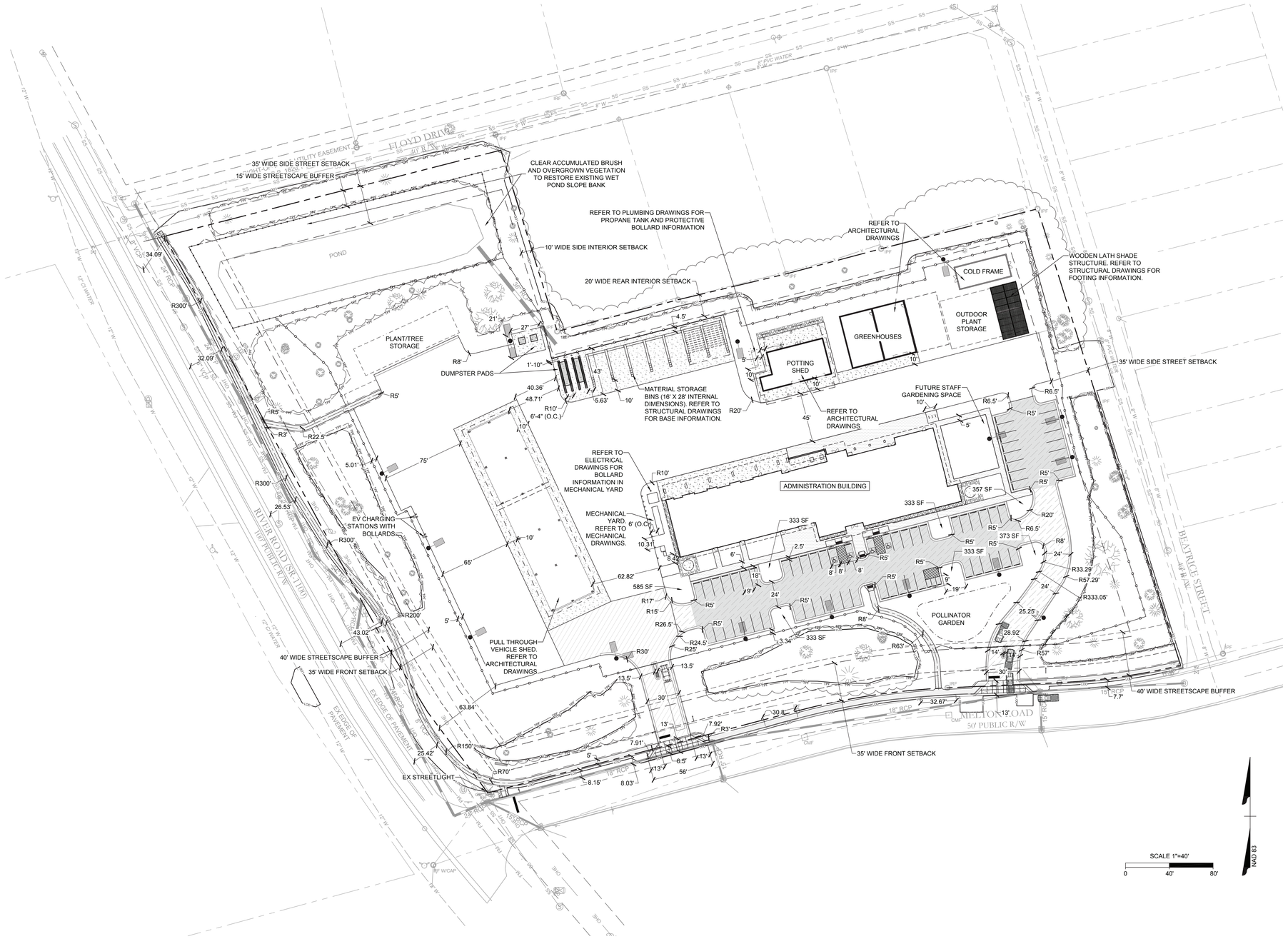
PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	S.DAVIS
CHECKED BY:	K.BARNES

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	01.21.2025

SHEET INFORMATION

L-200
SITE LAYOUT



NOTES:

1. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING INFORMATION.
2. COORDINATE WITH UTILITY DRAWINGS FOR ALL UTILITY CONNECTIONS.
3. (O.C.) = ON CENTER

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SEALS

PROJECT INFORMATION

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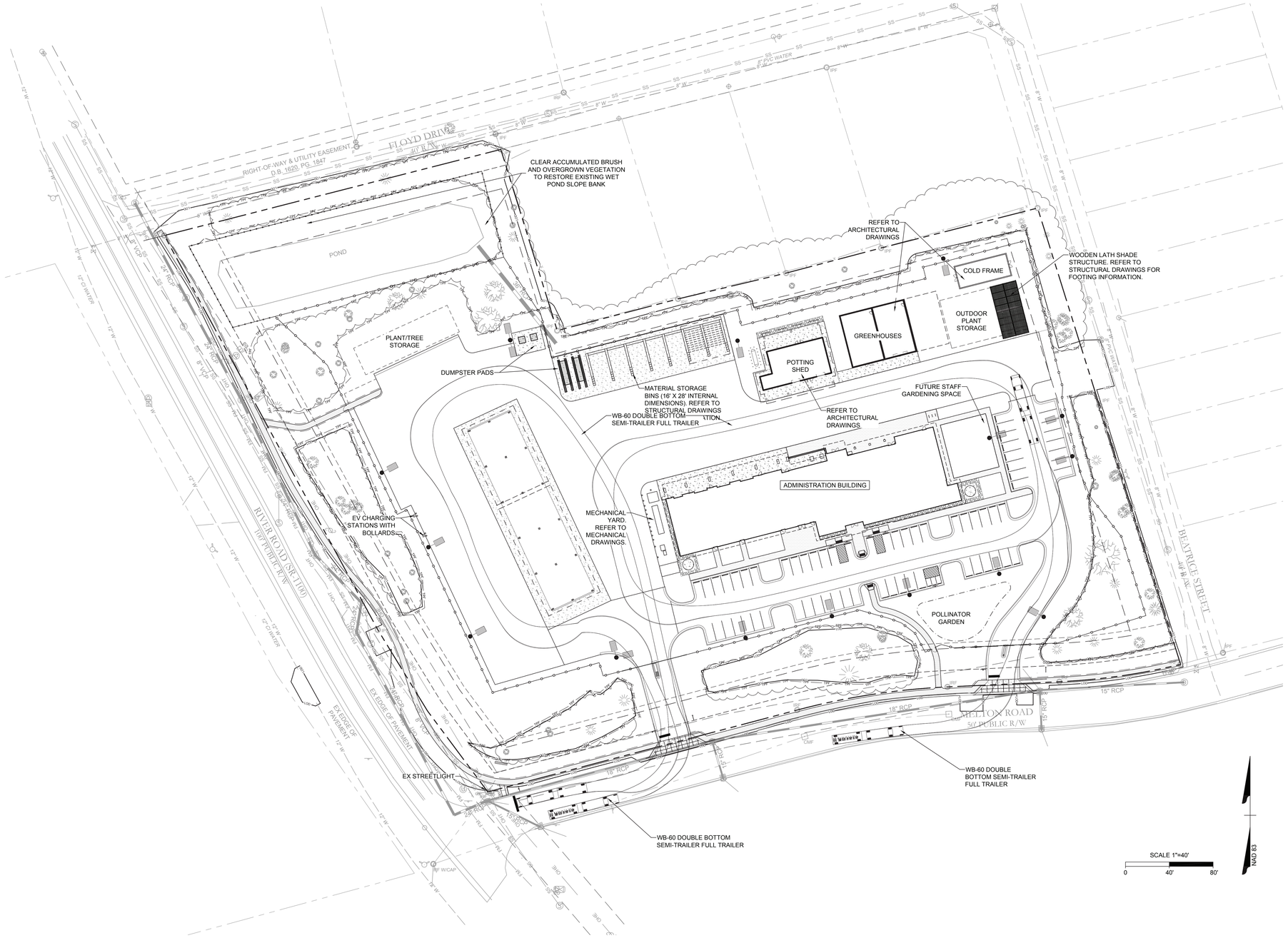
SHEET INFORMATION

L-201
STAKING PLAN



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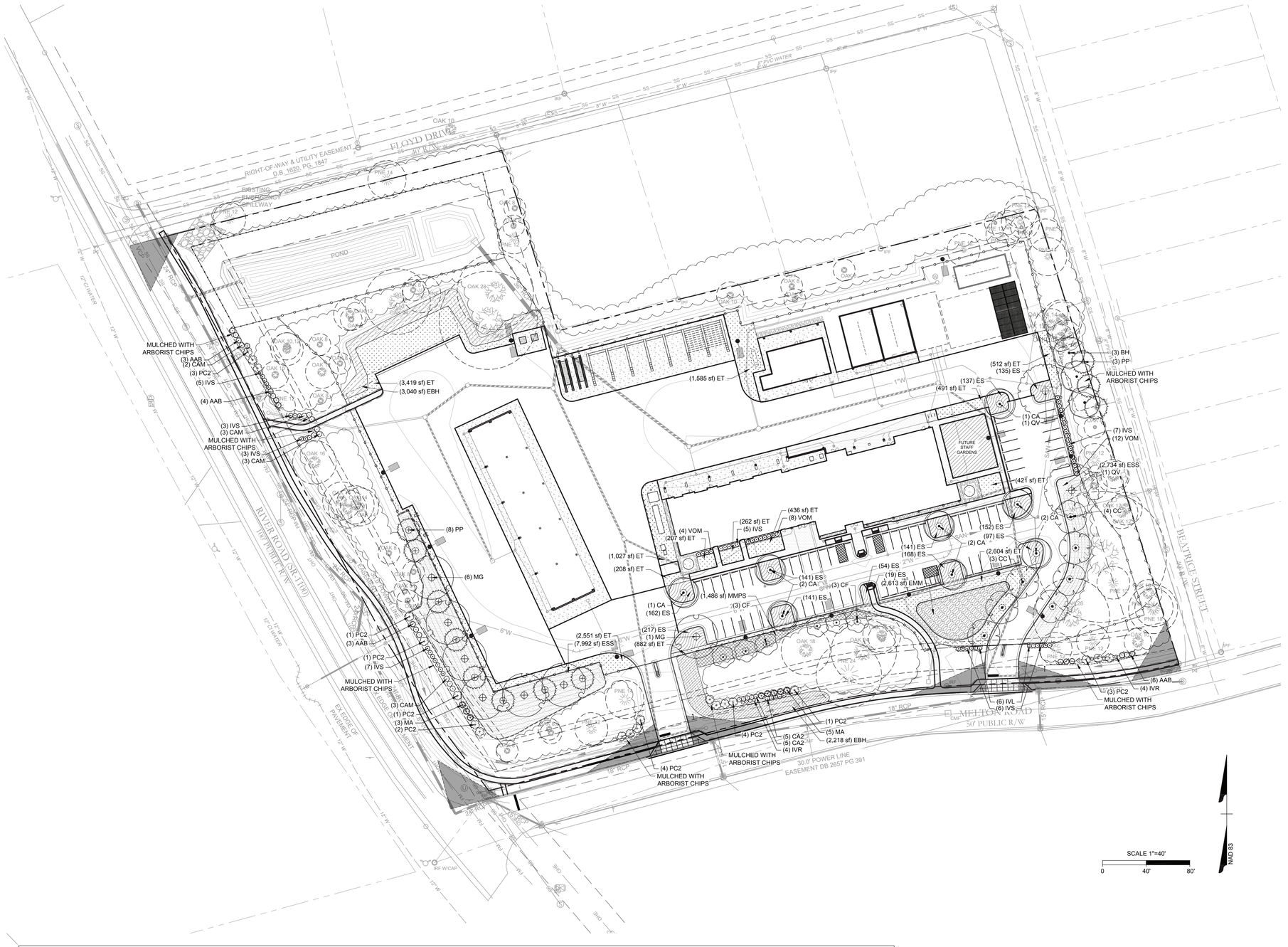
SHEET INFORMATION

L-202
TRUCK ACCESS



LANDSCAPE CALCULATIONS

STREETSCAPE
SEC. 18-319

- SHALL BE INSTALLED ABUTTING A STREET RIGHT-OF-WAY
- INSTALLED ALONG STREETS SANS AREAS USED FOR DRIVEWAYS, INGRESS, AND EGRESS.
- PLANT MATERIALS MAY BE GROUPED OR MASSED WITHIN STREETSCAPE AREAS.
- SUBSTITUTIONS FOR CANOPY TREES WITHIN 50' OF OVERHEAD UTILITIES AT A RATE OF 2 UNDERSTORY TREES FOR EVERY CANOPY TREE REQUIRED.
- SUBSTITUTION OPTIONS: 1 CANOPY TREE IN LIEU OF 8 SHRUBS, 1 UNDERSTORY TREE IN LIEU OF 5 SHRUBS.

REQUIREMENTS (OUTSIDE OF 1945 CORPORATE LIMITS):

MIN. DEPTH: 15'
MAX. DEPTH: 40'
CANOPY TREES PER 100 LF: 1
UNDERSTORY TREES PER 100 LF: 6
SHRUBS REQUIRED PER 100 LF: 9

MELTON RD FRONTAGE (645.81 LF) - DRIVEWAYS (60 LF) = 585.81 LF

REQUIRED:		PROVIDED:	
6 CANOPY TREES		*N/A	EXISTING TREES (8-24" DIA.)*
35 UNDERSTORY TREES		*N/A	UNDERSTORY TREES*
53 SHRUBS		53	SHRUBS

RIVER RD FRONTAGE (588.75 LF)

REQUIRED:		PROVIDED:	
6 CANOPY TREES		*N/A	EXISTING TREES (8-16" DIA.)*
35 UNDERSTORY TREES		*N/A	UNDERSTORY TREES*
50 SHRUBS		50	SHRUBS

NEW PLANTINGS FOR STREETSCAPE BUFFERS ARE LIMITED TO SHRUBS ONLY, DUE TO EXISTING VEGETATION TO REMAIN, EXISTING UTILITIES, EASEMENTS, AND PROPOSED SIDEWALKS.

EXISTING UNDERSTORY TREES TO REMAIN AND CLAIMED FOR STREETSCAPE BUFFERS ARE DEMONSTRATED IN PHOTOGRAPHS PROVIDED TO THE CITY OF WILMINGTON.

STREET TREES
SEC. 18-320

*STREET TREES NOT PROVIDED DUE TO EXISTING VEGETATION TO REMAIN, EXISTING UTILITIES, EASEMENTS, PROPOSED SIDEWALKS, SIGHT DISTANCE TRIANGLES, GRADING, AND OTHER EXISTING CONDITIONS. THIS HAS BEEN CLEARED WITH THE CITY OF WILMINGTON PLANNING.

PARKING LOT - SCREENING
SEC. 18-321

- WHEN A PARKING LOT IS WITHIN 50 FEET OF A RIGHT-OF-WAY, A LOW SCREEN SHALL BE INCORPORATED INTO THE STREETSCAPE LANDSCAPING.
- THE SCREEN SHALL CONSIST OF SHRUBBERY, A GRADE CHANGE, LOW WALL, OR PLANTED BERM OR ANY COMBINATION THAT SERVES TO SCREEN THE PARKING LOT FROM THE ADJACENT ROADWAY.
- THE SCREEN SHALL BE A MINIMUM OF 3' TALL AND 4' DEEP.

PARKING LOT - INTERIOR AREA LANDSCAPING
SEC. 18-321

- 1 LANDSCAPE ISLAND, MEDIAN, OR PENINSULA PER 12 PARKING SPACES REQUIRED
- MUST CONTAIN 1 CANOPY TREE AND VEGETATIVE GROUND COVER.

FOUNDATION PLANTINGS
SEC. 18-322

- THE BUILDING FACE AREA OF THE GROUND-FLOOR MULTIPLIED BY 12% DETERMINES THE TOTAL REQUIRED AREA (SF).
- EXEMPTION APPLIED:
  * LESS THAN 10 OF THE TOTAL PARKING PROVIDED IS LOCATED BEHIND THE BUILDING AND THERE IS NO PUBLIC RIGHT-OF-WAY.

GROUND FLOOR HEIGHT = 12.667'

SOUTHERN FACE =
261.5 x 12.667 = ± 3,312 SF

EASTERN FACE =
71.6 x 12.667 = ± 907 SF

WESTERN FACE =
71.6 x 12.667 = ± 907 SF

NORTHERN FACE = N/A *SEE ABOVE*

TOTAL = 5,128 x .12 = 615 SF REQUIRED
= 2,493 SF PROPOSED

PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALLED SIZE	ROOT	TYPE	TYPE		REMARKS
BH	3	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	2" CAL.	B&B OR CONTAINER	CANOPY TREE	NATIVE		UNIFORM BRANCHING, TREE MITIGATION
CA	8	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2" CAL.	B&B OR CONTAINER	CANOPY TREE	NATIVE		SINGLE STRAIGHT LEADER
CC	7	CERCIS CANADENSIS	EASTERN REDBUD	8` HT. MIN.	B&B OR CONTAINER	UNDERSTORY TREE	NATIVE		UNIFORM BRANCHING
CF	6	CORNUS FLORIDA	FLOWERING DOGWOOD	8` HT. MIN.	B&B OR CONTAINER	UNDERSTORY TREE	NATIVE		UNIFORM BRANCHING
MG	7	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	2" CAL., 8` HT. MIN.	B&B OR CONTAINER	EVERGREEN	NATIVE		FULL AND DENSE, TREE MITIGATION
PP	11	PINUS PALUSTRIS	LONGLEAF PINE	2" CAL., 8` HT. MIN.	B&B OR CONTAINER	CANOPY TREE	NATIVE		UNIFORM IN SHAPE, TREE MITIGATION
QV	2	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	2" CAL.	B&B OR CONTAINER	CANOPY TREE	NATIVE		UNIFORM BRANCHING
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALLED SIZE	ROOT	TYPE	TYPE		REMARKS
AAB	16	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	BRILLIANT RED CHOKEBERRY	18" HT./SPRD.	CONTAINER	DECIDUOUS	NATIVE		FULL AND DENSE
CAM	11	CALLICARPA AMERICANA	AMERICAN BEAUTYBERRY	18" HT./SPRD.	CONTAINER	DECIDUOUS	NATIVE		FULL AND DENSE
CA2	10	CEANOTHUS AMERICANUS	NEW JERSEY TEA	18" HT./SPRD.	CONTAINER	DECIDUOUS	NATIVE		FULL AND DENSE
IVR	8	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	18" HT./SPRD.	CONTAINER	DECIDUOUS	NATIVE		FULL AND DENSE
IVS	36	ILEX VOMITORIA `SCHILLINGS`	SCHILLINGS YAUPON HOLLY	18" HT./SPRD.	CONTAINER	EVERGREEN	NATIVE		FULL AND DENSE
IVL	6	ITEA VIRGINICA 'LITTLE HENRY"	VIRGINIA SWEETSPIRE	18" HT./SPRD.	CONTAINER	DECIDUOUS	NATIVE		FULL AND DENSE
MA	8	MYRICA CERIFERA	SOUTHERN WAX MYRTLE	18" HT./SPRD.	CONTAINER	EVERGREEN	NATIVE		FULL AND DENSE
PC2	20	PRUNUS CAROLINIANA `COMPACTA`	COMPACT CAROLINA CHERRY LAUREL	18" HT./SPRD.	CONTAINER	EVERGREEN	NATIVE		FULL AND DENSE
VOM	24	VIBURNUM OBOVATUM 'MRS. SCHILLER'S DELIGHT'	MRS. SCHILLERS DELIGHT WALTER'S VIBURNUM	18" HT./SPRD.	CONTAINER	EVERGREEN	NATIVE		FULL AND DENSE
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALLED SIZE	ROOT	TYPE	TYPE	SPACING	REMARKS
ES	1,564	ERAGROSTIS SPECTABILIS	PURPLE LOVEGRASS	4" POT	CONTAINER		NATIVE	18" o.c.	
ET	14,605 SF	EREMOCHLOA OPHIUROIDES `TIF BLAIR`	CENTIPEDE GRASS	SEED		LAWN	NOT NATIVE		
ESS	10,726 SF	SEED MIX	ERNST NC STEEP SLOPE MIX (ERNMX-310)	SEED			NATIVE		
MMPS	1,486 SF	SEED MIX	MELLOW MARSH POLLINATOR SHADE MIX	SEED			NATIVE		
EBH	5,258 SF	SEED MIX	ERNST BUTTERFLY & HUMMINGBIRD (ERNMX-179	SEED			NATIVE		
EMM	2,613 SF	SEED MIX	ERNST NC COASTAL MEADOW MIX (ERNMX-300)	SEED			NATIVE		

NOTES:

1. NO PARKING SPACES, FENCES, WALLS, POSTS, LIGHTS, SHRUBS, TREES, OR OTHER TYPE OF OBSTRUCTIONS NOT SPECIFICALLY EXEMPTED SHALL BE PERMITTED IN THE SPACE BETWEEN 30 INCHES AND ABOVE GROUND AND 10 FEET ABOVE GROUND LEVEL WITHIN A TRIANGULAR SIGHT DISTANCE .
2. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. ANY LANDSCAPING WORK TO BE PERFORMED BY CLIENT MUST BE COORDINATED PRIOR TO CONSTRUCTION.

LANDSCAPE NOTES:

1. THE CITY OF WILMINGTON STAFF WILL SELF PERFORM PROPOSED LANDSCAPING. CONTRACTOR IS RESPONSIBLE FOR ALL LANDSCAPING ASSOCIATED WITH THE STORMWATER CONTROL MEASURE, LAWN SEEDING, AND ALL WORK NOT PERFORMED BY THE OWNER.
2. NO PLANTINGS OVER THIRTY (30) INCHES IN HEIGHT ALLOWED IN VISION CLEARANCE.
3. PROTECTION FROM VEHICULAR TRAFFIC PROVIDED AROUND ALL LANDSCAPING WITH A MINIMUM HEIGHT OF SIX (6) INCHES.
4. OWNER IS RESPONSIBLE FOR MAINTENANCE TO ENSURE PLANT MATERIAL LIVES AND PROSPERS.
5. PLANTING PLANS SHALL BE APPROVED BY LANDSCAPE DESIGNER PRIOR TO INSTALLATION.
6. LANDSCAPING SHALL BE REQUIRED AT THE ENDS OF ALL PARKING ROWS.
7. A LOW BUFFER SHALL BE REQUIRED WHERE PARKING IS WITHIN FIFTY (50) FEET OF THE RIGHT-OF-WAY.
8. LANDSCAPED ISLANDS SHALL BE A MINIMUM WIDTH OF TWELVE (12) FEET (BACK OF CURB TO BACK OF CURB) AND A MINIMUM OF TWO HUNDRED AND SIXTEEN (216) SQUARE FEET.
9. A MINIMUM OF FIFTEEN (15) TREES 2 INCHES OR GREATER IN DIAMETER AS MEASURED 6 INCHES ABOVE GROUND PER DISTURBED AREA.
10. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.

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SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1251 01/13/2026 KEVIN T. BARNES

PROJECT INFORMATION

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CHECKED BY:	K.BARNES

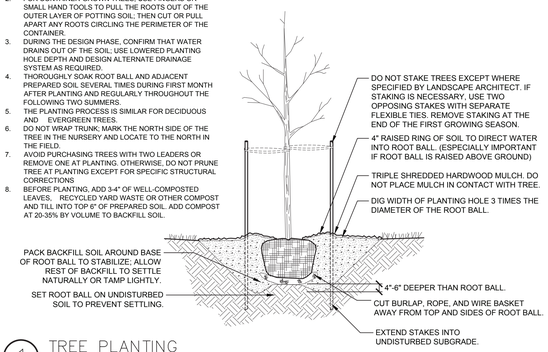
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

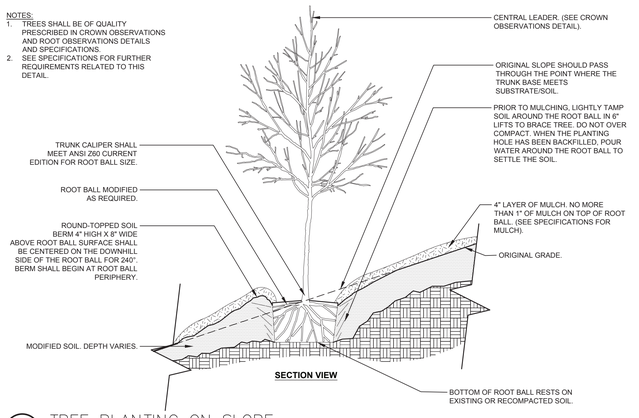
L-300
LANDSCAPE PLAN

NOTES:
1. WHERE SEVERAL TREES WILL BE PLANTED CLOSE TOGETHER SUCH THAT THEY WILL LIKELY SHARE ROOT SPACE, TILL IN SOIL AMENDMENTS TO A DEPTH OF 4-6" (10-15CM) OVER THE ENTIRE AREA.
2. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
3. DURING THE DESIGN PHASE, CONFIRM THAT WATER DRAINS OUT OF THE SOIL; USE LOWERED PLANTING HOLE DEPTH AND DESIGN ALTERNATE DRAINAGE SYSTEM AS REQUIRED.
4. THOROUGHLY SOAK ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5. THE PLANTING PROCESS IS SIMILAR FOR DECIDUOUS AND EVERGREEN TREES.
6. DO NOT WRAP TRUNK; MARK THE NORTH SIDE OF THE TREE IN THE NURSERY AND LOCATE TO THE NORTH IN THE FIELD.
7. AVOID PURCHASING TREES WITH TWO LEADERS OR REMOVE ONE AT PLANTING. OTHERWISE, DO NOT PRUNE TREE AT PLANTING EXCEPT FOR SPECIFIC STRUCTURAL CORRECTIONS
8. BEFORE PLANTING, ADD 3-4" OF WELL-COMPOSTED LEAVES, RECYCLED YARD WASTE OR OTHER COMPOST AND TILL INTO TOP 6" OF PREPARED SOIL. ADD COMPOST AT 20-35% BY VOLUME TO BACKFILL SOIL.



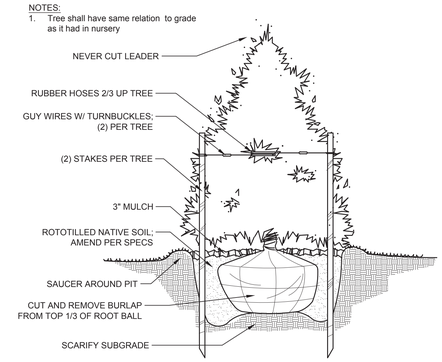
1 TREE PLANTING
NTS

NOTES:
1. TREES SHALL BE OF QUALITY PRESCRIBED IN CROWN OBSERVATIONS AND ROOT OBSERVATIONS DETAILS AND SPECIFICATIONS.
2. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS RELATED TO THIS DETAIL.

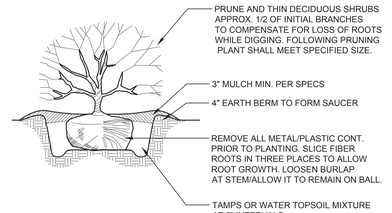


2 TREE PLANTING ON SLOPE
1/2" = 1'-0"

NOTES:
1. Tree shall have same relation to grade as it had in nursery

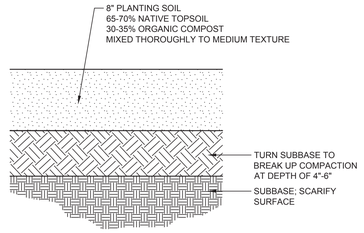


3 EVERGREEN PLANTING
NTS



NOTES:
1. SOIL MIX: 1/3 ORGANIC MATTER, 2/3 EXIST SOIL.
2. WIDTH OF PLANT PIT: SANDY SOIL, 24" WIDER THAN PLANT BALL; CLAY SOIL, 12" WIDER THAN PLANT BALL
3. FOR PLANTING AREAS WHERE SOIL HAS BEEN COM-PACTED BY EQUIP. CONTACT LA PRIOR TO PLANTING.
4. FOR CAMELLIAS, RHODOS, AZALEAS, AND LAURELS: SOIL MIX, 2/3 ORGANIC AND 1/3 EXISTING SOIL
5. SHRUB SHALL BEAR SAME RELATIONSHIP TO GRADE AS IT DID PRIOR TO DIGGING.

4 SHRUB PLANTING
NTS



NOTES:
1. All material to be free of toxic substances, weed seed, stones, sticks or other material harmful to plant growth. Topsoil: ph range of 6.0 to 7.0, min. 6% organic matter.
2. Compost: well-composted, stable, weed-free organic matter, ph range of 5.5 to 8.
3. Submit soil sample for analysis ... provide amendments per recommendations.
4. Remove any debris, rocks, or clumps 2" or larger.
5. Do not spread if planting soil, topsoil or subgrade is frozen, muddy, or excessively wet.

5 PLANTING SOIL PROFILE
NTS

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

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STRUCTURAL
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SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1251 01/13/2025 KEVIN T. BARNES

PROJECT INFORMATION

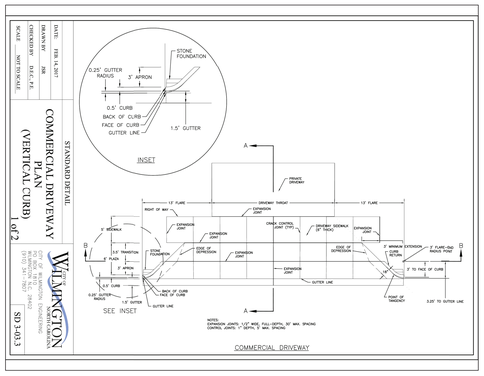
PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	S.DAVIS
CHECKED BY:	K.BARNES

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

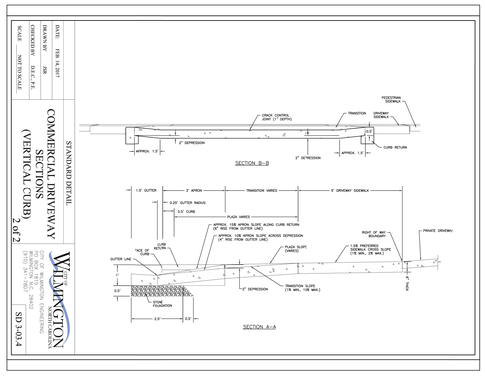
SHEET INFORMATION

L-301
LANDSCAPE NOTES AND DETAILS



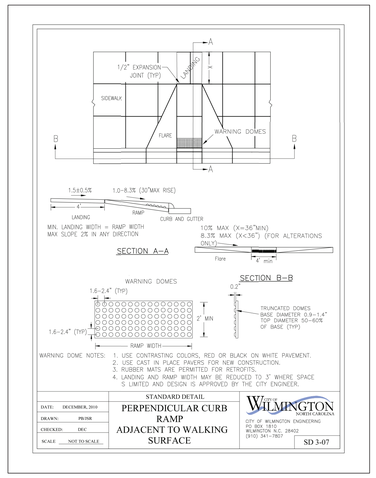
1 CITY OF WILMINGTON - COMMERCIAL DRIVEWAY - VERTICAL CURB

NTS



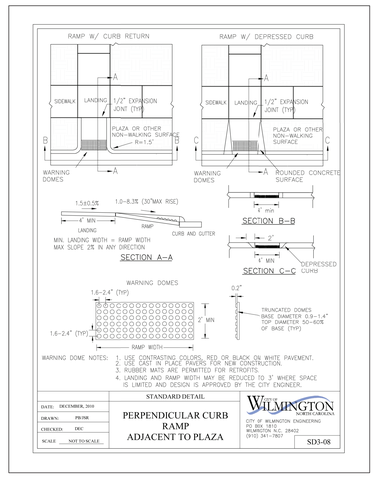
2 CITY OF WILMINGTON - COMMERCIAL DRIVEWAY - VERTICAL CURB

NTS



2 CITY OF WILMINGTON - RAMP ADJACENT TO WALK

NTS



3 CITY OF WILMINGTON - RAMP ADJACENT TO PLAZA

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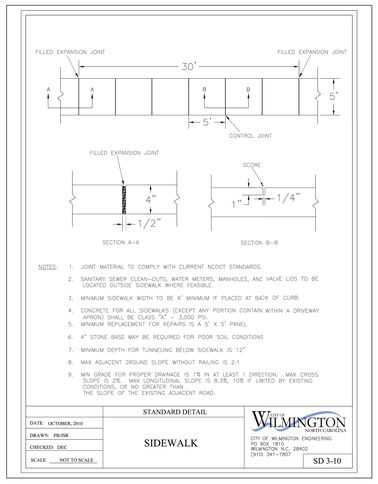
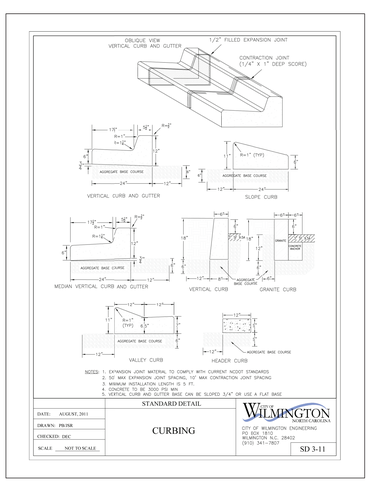


4 CITY OF WILMINGTON - SIDEWALK

NTS



5 CITY OF WILMINGTON - CURBING

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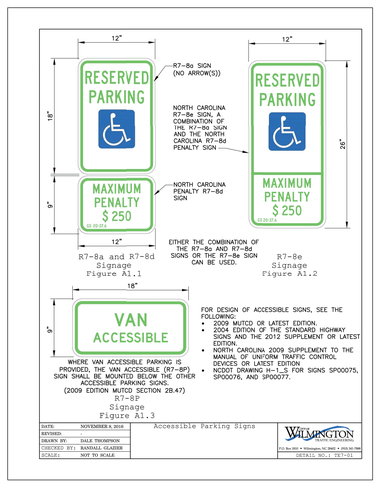
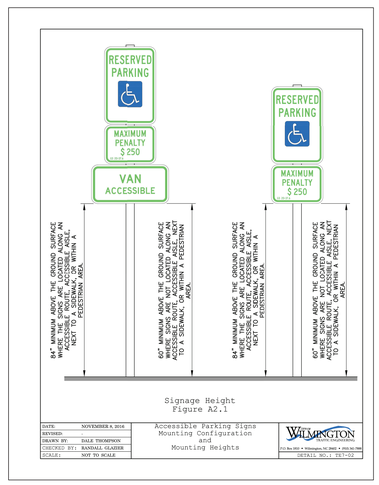


6 CITY OF WILMINGTON - ACCESSIBLE PARKING SIGNS

NTS



7 CITY OF WILMINGTON - SIGN HEIGHT

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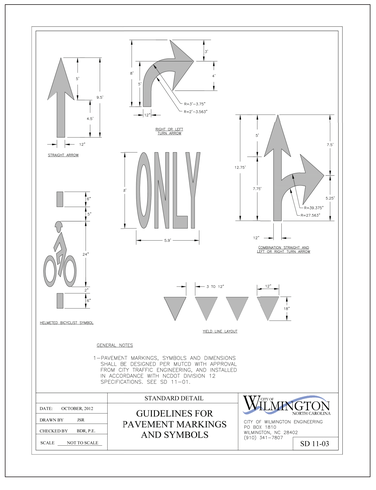
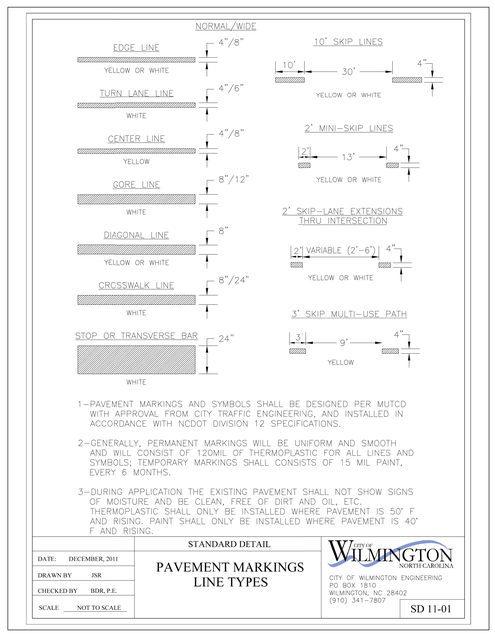


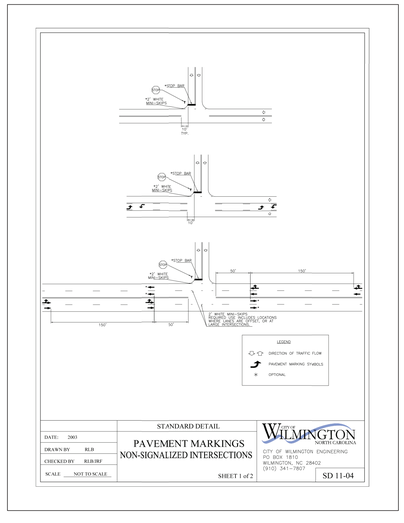
8 CITY OF WILMINGTON - PAVEMENT MARKINGS

NTS



9 CITY OF WILMINGTON - PAVEMENT MARKINGS - LINE TYPES

NTS



10 COW- PAVEMENT MARKINGS SD 11-04

NTS

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SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1251 01/13/2025 KEVIN T. BARNES

PROJECT INFORMATION

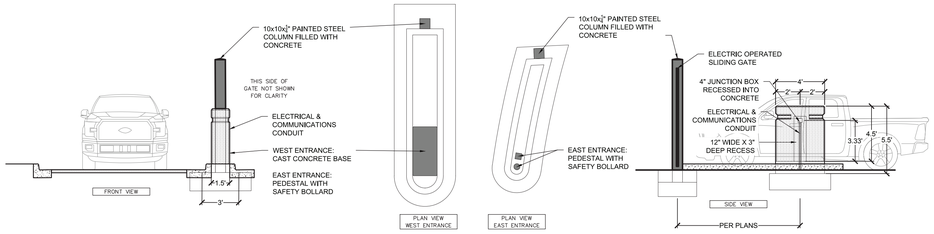
PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	S.DAVIS
CHECKED BY:	K.BARNES

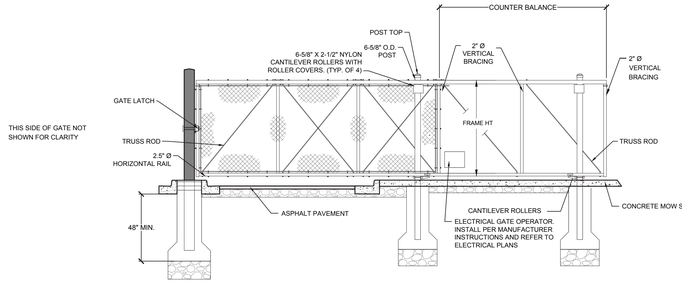
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

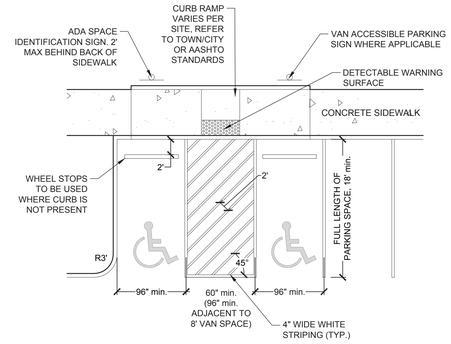
L-400
SITE DETAILS





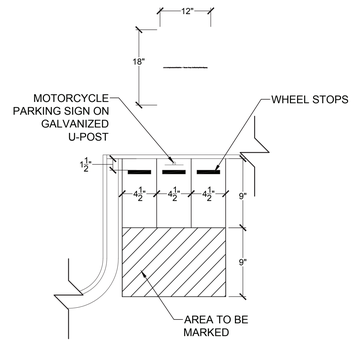
NOTES:
1. SPECIFICATIONS SHOWN CAN BE CHANGED BY THE MANUFACTURER ONLY. ADDITIONAL BRACING OR FOOTING DEPTH OR DIAMETER SHALL BE PROVIDE AS RECOMMENDED OR DESIGNED BY THE MANUFACTURER AT NO ADDITIONAL COST TO OWNER.
2. FOOTING WIDTH TO BE 36"Ø AND INCREASE BY 6"Ø CREATING A BELL-SHAPED HOLE. MIN DEPTH TO BE 42".
3. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW. ANY BUILDING PERMITTING REQUIRED BY THE CITY OF WILMINGTON SHALL BE HANDLED BY THE CONTRACTOR.
4. GATES WILL HAVE AN ELECTRICAL OPERATOR. PROVIDE HARDWARE FOR GATE WITH OPERATOR.
5. FENCE FABRIC SHALL BE HOT DIPPED GALVANIZED CHAIN LINK. ALL GATE PARTS AND FEATURES SHALL BE HOT DIPPED GALVANIZED TO MEET SPECIFICATIONS.

1 SECURITY GATE AND FENCING
1" = 5'



NOTE:
1. ALL PARKINGS STALL MARKINGS SHALL BE THERMOPLASTIC.

2 ADA PARKING - TYPICAL
1/8" = 1'-0"



3 MOTORCYCLE PARKING
NTS

*** NOTE: PRODUCT OR APPROVED EQUAL TO BE USED FOR ALTERNATE NO. 2-A**

OR LEED APPROVED EQUAL

Phoenix Gray
CoolSeal by GuardTop® RTU
Ready to Use, Solar Reflective
Asphalt Based Sealcoat

Revised May 2023

GuardTop's commitment to sustainability has guided the development of CoolSeal by GuardTop®. CoolSeal an ultra-high-performance, water-based, asphalt emulsion sealcoat designed to achieve lower asphalt pavement surface temperatures. CoolSeal is applied like conventional sealcoats to asphalt surfaces to protect and maintain the quality and longevity of the pavement. While most cool pavements on the market are polymer based, CoolSeal is a water-based, asphalt emulsion. Perfect for residential roads, parking lots and LEED-eligible building projects.

Specifications	Minimum	Maximum	Test Method
Typical Density-lbs./gal	9.5	12	ASTM D 2939.07
Nonvolatile Components by Weight	50%	70%	ASTM D 2939.08
Asphalt Content by Weight	10%	50%	ASTM D 2939.21
Fine Aggregate Content by Weight	32%	50%	GuardTop Report
Polymer Content by Weight	1.8%	50%	GuardTop Report
VOC Content by Volume	0%	3%	ASTM D 244-89
	Requirements	**Results**	
Solar Reflective Index (SRI)	> 33	Passes/Excellent	ASTM E 1980 ASTM E 903
Solar Reflectance (SR)	> 0.33	Passes/Excellent	ASTM C1549
Accelerated Weathering (2 yrs)	No Material Deterioration After Exposure	Passes/Excellent	Federal Spec TT-C-555B
Resistance to Wind Driven Rain (98mph)	No Leaks or Weight Gain	Passes/Excellent	Federal Spec TT-C-555B
Ultraviolet Resistance (12 yrs.)	No Cracking, Peeling, Chipping, or Flaking	Passes/Excellent	GuardTop Report
Color as Received	Gray, unless tinted per customer	Pass	GuardTop Report
Cured Film	Gray, unless tinted per customer	Pass	GuardTop Report
Material Uniformity	Uniform	Pass	ASTM D 2939.05
Flashpoint	> 450°F	Pass	ASTM D 2939.12
Softening point	> 210°F	Pass	ASTM D 36
Drying Time, firm set	Within 8 Hours	Pass	ASTM D 2939.13
Resistance to Heat	No Sagging or Slipping	Pass/None	ASTM D 2939.14
Resistance to Water	No Cracking	Pass	ASTM D 2939.15
Flexibility	Pass	Pass	ASTM D 2939.16 (1)
Direct Flame Test	No continued combustion or slippage and run-down	Pass/None	ASTM D 2939.20
Wet Film Continuity	Uniform consistency	Pass	ASTM D 2939.22
Wet Flow	Uniformly homogenous	Report appearance and flow value	ASTM D 2939.19 (2)
Wet Track Abrasion (1 hr.)	< 20 g / sqft loss	Pass	ASTM 3910
Wet Track Abrasion (6 day)	Report	Report	ASTM 3910

(1) Flexibility test (ASTM D 2939.16) performed at 23° C.
(2) Wet flow test (ASTM D 2939.19) performed at an angle 10° above horizontal. Report visual appearance and consistency, looking for any contamination or deleterious material. Record and report flow, past the reference line.

Specifications for base asphalt	Minimum	Maximum	Test Method
Flashpoint	> 450° F	Pass	ASTM D 92
Softening Point	> 140° F	Pass	ASTM D 36

This product meets and exceeds the California Greenbook (2000) 203-9 specification (except dried film color)

Phoenix Gray
CoolSeal by GuardTop® RTU
Ready to Use, Solar Reflective
Asphalt Based Sealcoat

Revised May 2023

Surface Preparation
1. Clean and fill all cracks 1/4" and larger with crack filler. Larger cracks may require several applications. For best results, it is recommended that all broken asphalt be removed and patched with new asphalt. It is also suggested that extreme low spots be filled with new asphalt. **New and replaced asphalt should cure for at least 180 days before application of CoolSeal by GuardTop.**
2. Sealcoats will not adhere to surfaces with excessive oil and grease. For a quality application, clean all oil and grease deposits with a degreasing solution using a stiff bristle broom or a power operated cleaner. Areas completely saturated are recommended to be removed and replaced with new asphalt. Then apply GuardTop Oil Seal to all oil and grease stained surfaces with a small broom insuring full coverage over the stain.
3. After all pavement repairs have been completed, the surface should be clean and free of all dirt, debris and loose graveled particles. Please not that dirt and loose debris will restrict the adherence of the sealcoat. To clean the surface, use a power broom, power blower and/or flush the surface with high pressure water.
4. It is recommended that the surface be sprayed with a mist of water in an amount that will leave the surface damp and free of standing water or puddles. The misting procedure is critical when the ambient temperature is hot and on bright sunny days or when the pavement is excessively aged and porous.
5. For excessively weathered surfaces, a primer or fog seal should be applied to the surface. The primer should consist of a 50/50 mixture of SS1-h and water. Apply the mixture to the surface by spray and let dry before applying GuardTop material.

Surface Compatibility
1. CoolSeal by GuardTop must be applied to asphalt pavement surfaces. CoolSeal is not formulated for concrete, composite pavement, thermoplastic, or polymeric surfaces.
2. Before applying other products such as road slurry over the top of existing CoolSeal you must ensure that there is sufficient void structure within the asphalt surface for proper adhesion. CoolSeal must be allowed to wear for 2-3 years after initial application for this to occur. For best results GuardTop recommends reapplying CoolSeal or any asphalt based sealcoat.

Application
1. CoolSeal by GuardTop® RTU material should not be further diluted with water. CoolSeal by GuardTop® RTU is specifically formulated to provide superior performance and consistency without the need for added water. Apply CoolSeal by GuardTop RTU using a truck mounted tank, wheeled container, or can. Spread in continuous parallel lines by means of rubber faced squeegees, brooms or spray technique. On excessively rough areas consult your manufacturer's representative.

It is required that two coats of CoolSeal by GuardTop be used during application to ensure a long lasting surface. One coat applications may not meet the performance specifications and are not covered by a manufacturers warranty.

2. CoolSeal by GuardTop RTU should be allowed to dry a minimum of 24 hours before heavy traffic is permitted. Please note that when asphalt is cold, in shade or the ambient temperature is below 75ºF, drying time may need to be extended. CoolSeal by GuardTop RTU should not be applied in temperatures below 60ºF and extra care should be taken in temperatures exceeding 105ºF. Material should not be applied within 48 hours of forecasted rain, as rain may affect curing of asphalt sealcoat products.

Application Rates
The following table can be used as a guideline of CoolSeal by GuardTop RTU coverage. This table is based on two coat application of ready to use product. Please note that this is only a guideline and exact coverage depends upon both the condition of existing pavement and the surface condition desired after application.

Phoenix Gray
CoolSeal by GuardTop® RTU
Ready to Use, Solar Reflective
Asphalt Based Sealcoat

Revised May 2023

Surface	Gallons Per square foot	Gallons per square yard
Extremely smooth surface	0.020	0.180
Smooth dense surface	0.0235	0.225
Medium surface	0.030	0.270
Rough, aged surface	0.035	0.315
Excessively rough surface	Consult manufacturer's representative	

Caution
Do not store in extremely warm conditions. Keep from freezing.

Packaging: 5 gallon pails, 55 gallon drums, 250 gallon totes, and bulk

CoolSeal By GuardTop® is covered by U.S. Patent No. 10,435,561 B2 and other pending applications and foreign patents.

4 GUARDTOP® COOL SEAL COATING*
NTS

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1251 01/13/2025 KEVIN T. BARNES

PROJECT INFORMATION

PROJECT NO.:	2014
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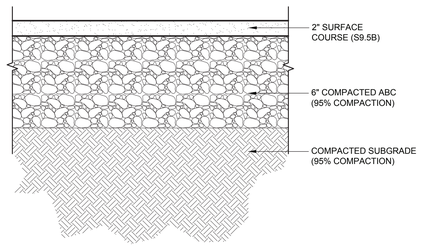
DATE:	01.13.2025
DRAWN BY:	S.DAVIS
CHECKED BY:	K.BARNES

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

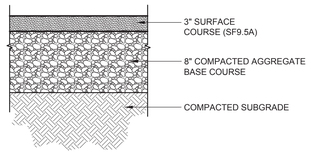
SHEET INFORMATION

L-401
SITE DETAILS

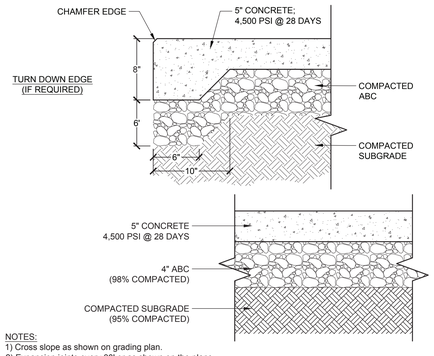


1 ASPHALT PAVING (STANDARD DUTY)
NTS

*** NOTE: PAVEMENT SECTION TO BE USED FOR ALTERNATE NO. 2-A**



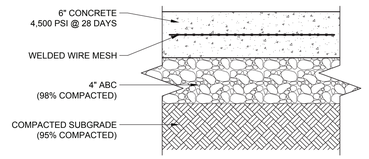
2 ASPHALT PAVING (HEAVY DUTY)*
NTS



NOTES:
1) Cross slope as shown on grading plan.
2) Expansion joints every 30' or as shown on the plans.
3) Control joints every 5' or as shown on the layout plans
4) Broom finish

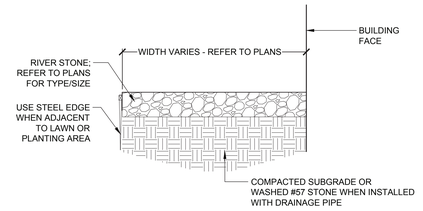
3 CONCRETE PAVING (STANDARD DUTY ON STONE)
1 1/2" = 1'-0"

*** NOTE: PAVEMENT SECTION TO BE USED FOR ALTERNATE NO. 2-B**



NOTES:
1) Cross slope as shown on grading plan.
2) Expansion joints every 30' or as shown on the plans.
3) Control joints every 10' or as shown on the layout plans
4) Broom Finish

4 CONCRETE PAVING (HEAVY DUTY)*
1 1/2" = 1'-0"

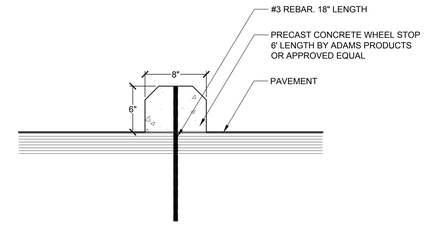


NOTE:
1) Contractor to provide sample of stone to landscape architect for approval prior to installation.

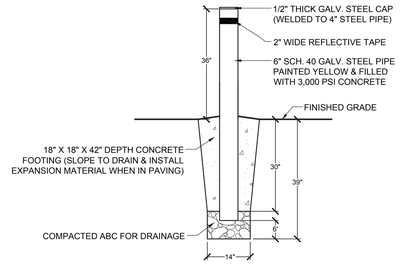
5 STONE SURROUND
1" = 1'-0"

6 8" COMPACTED ABC
1 1/2" = 1'-0"

7 12" COMPACTED ABC
1/8" = 1'-0"

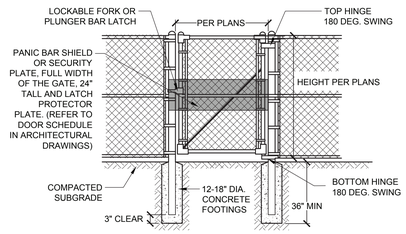


8 CONCRETE WHEEL STOP
1 1/2" = 1'-0"



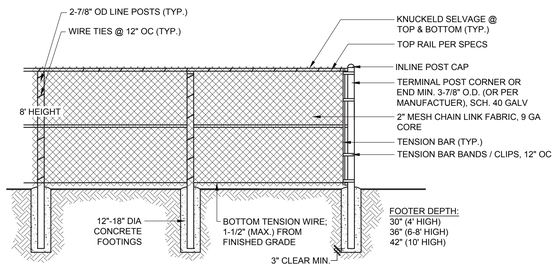
9 3' STEEL BOLLARD (HEAVY DUTY)
NTS

NOTES:
1. FENCE FABRIC SHALL BE SECURED TO GATE FRAMES WITH KNUCKLED SELVAGE ALONG ALL EDGES FOR ALL TYPES CHAIN LINK FENCE INSTALLATIONS.
2. REFER TO SPECIFICATIONS FOR ALL PIPE SIZING
3. ALL CONCRETE FOOTINGS AROUND POSTS AT GROUND LINE SHALL BE MOUNDED & SLOPED FOR POSITIVE DRAINAGE.
4. ALL POSTS & HARDWARE TO BE HOT DIPPED GALVANIZED SCH. 40.
5. ALL GATES TO BE SECURED WITH A KEYPAD LOCK IN DOOR HARDWARE FURNISHED BY OWNER.

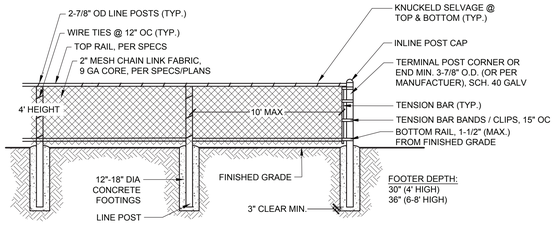


10 PEDESTRIAN FENCE GATE - SINGLE
1/4" = 1'-0"

NOTES:
1. FENCE FABRIC SHALL BE SECURED TO GATE FRAMES WITH KNUCKLED SELVAGE ALONG ALL EDGES FOR ALL TYPES CHAIN LINK FENCE INSTALLATIONS.
2. ALL CONCRETE FOOTINGS AROUND POSTS AT GROUND LINE SHALL BE MOUNDED & SLOPED FOR POSITIVE DRAINAGE.
3. ALL POSTS & HARDWARE TO BE HOT DIPPED GALVANIZED SCH. 40.
4. GATES TO BE SECURED WITH PADLOCK FURNISHED BY OWNER.



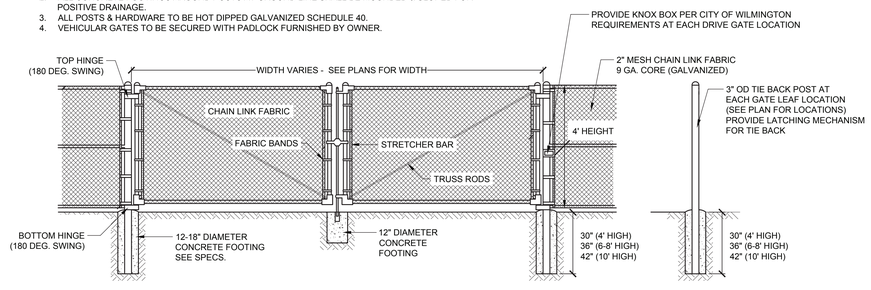
11 8' CHAINLINK FENCE
1/4" = 1'-0"



NOTES:
1. FENCE FABRIC SHALL BE SECURED TO GATE FRAMES WITH KNUCKLED SELVAGE ALONG ALL EDGES FOR ALL TYPES CHAIN LINK FENCE INSTALLATIONS.
2. ALL CONCRETE FOOTINGS AROUND POSTS AT GROUND LINE SHALL BE MOUNDED & SLOPED FOR POSITIVE DRAINAGE.
3. ALL POSTS & HARDWARE TO BE HOT DIPPED GALVANIZED SCH. 40 AND/OR PAINTED TO MATCH FABRIC COLOR
4. GATES TO BE SECURED WITH PADLOCK FURNISHED BY OWNER.

12 4' CHAINLINK FENCE
1/4" = 1'-0"

NOTES:
1. FENCE FABRIC SHALL BE SECURED TO GATE FRAMES WITH KNUCKLED SELVAGE ALONG ALL EDGES FOR ALL TYPES CHAIN LINK FENCE INSTALLATIONS.
2. ALL CONCRETE FOOTINGS AROUND POSTS AT GROUND LINE SHALL BE MOUNDED & SLOPED FOR POSITIVE DRAINAGE.
3. ALL POSTS & HARDWARE TO BE HOT DIPPED GALVANIZED SCHEDULE 40.
4. VEHICULAR GATES TO BE SECURED WITH PADLOCK FURNISHED BY OWNER.



13 FENCE GATE - VEHICLE ACCESS AT POND
1/4" = 1'-0"

3231–05

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SEALS

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	S.DAVIS
CHECKED BY:	K.BARNES

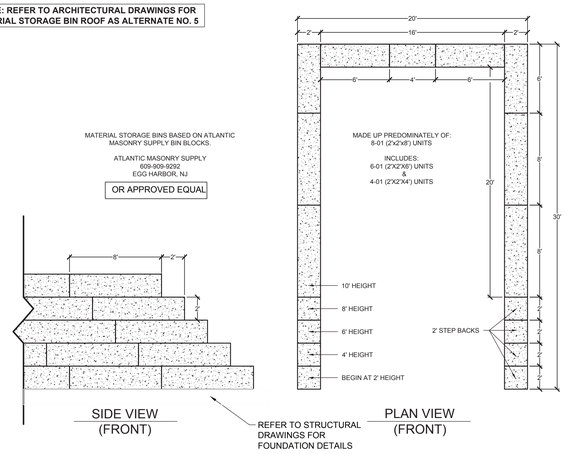
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

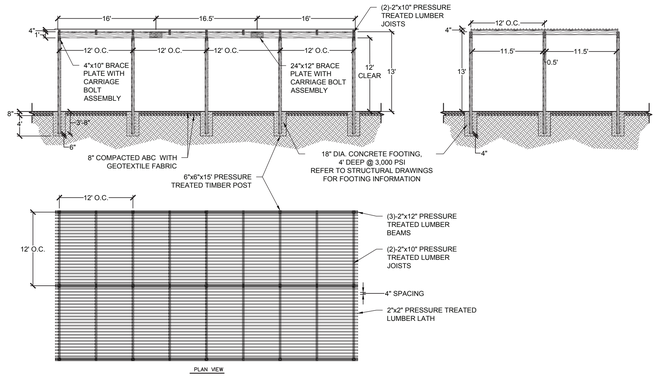
L-402
SITE DETAILS

*** NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR MATERIAL STORAGE BIN ROOF AS ALTERNATE NO. 5**



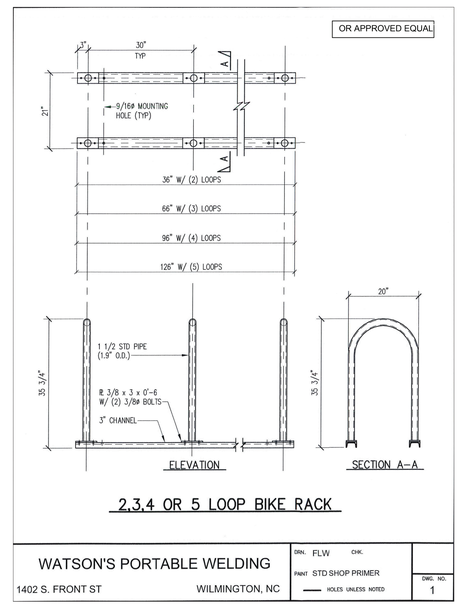
1 MATERIAL STORAGE BIN - MASONRY BIN BLOCKS*

3/16" = 1'-0"



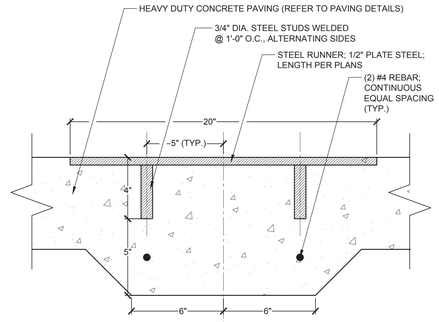
2 WOODEN LATH SHADE STRUCTURE

1" = 10'



3 BIKE RACK

NTS



NOTES:
1. RUNNERS TO BE INSTALLED AT 6'-4" O.C.
2. CENTER OF RUNNER CLOSEST TO BOLLARDS TO BE 1'-10" FROM FACE OF BOLLARD.

4 STEEL RUNNERS

3" = 1'-0"

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SHEET INFORMATION

L-403

SITE DETAILS 4

MECHANICAL SYSTEMS ENERGY CODE COMPLIANCE

PRESCRIPTIVE: [X] ENERGY COST BUDGET: [ ]

THERMAL ZONE: 3A

EXTERIOR DESIGN CONDITIONS:
WINTER DRY BULB: 24°F
SUMMER DRY BULB: 91°F
SUMMER WET BULB: 77°F

INTERIOR DESIGN CONDITIONS:
WINTER DRY BULB: 70°F
SUMMER DRY BULB: 75°F

AREA HEAT LOAD: 184 MBH

AREA COOLING LOAD: 19 TONS

MECHANICAL CONDITIONING SYSTEM:

DESCRIPTION OF UNIT: SPLIT SYSTEM HEAT PUMP
GAS UNIT HEATERS IN WORKSHOPS
HEATING EFFICIENCY: 95%
COOLING EFFICIENCY: 14.1SEER
HEATING OUTPUT: 703 MBH + 61 MBH ERV
COOLING OUTPUT: 15 TONS + 4 TONS ERV

BOILER OUTPUT: N/A
CHILLER TOTAL CAPACITY: N/A

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, 2018 ENERGY CONSERVATION CODE.

SIGNED:
NAME: PAUL J ROMITI, PE
TITLE MECHANICAL ENGINEER

MECHANICAL LEGEND

PIPING SYMBOLS

- REMOVE EXISTING PIPE
- EXISTING PIPE TO REMAIN
- PIPE ELBOW TURNS DOWN; UP
- PIPE TEES DOWN; UP
- PIPE CAP
- BALL VALVE
- CHECK VALVE
- CONDENSATE
- GAS
- REFRIGERANT

DUCTWORK SYMBOLS

- DUCT DROP
- DUCT RISE
- SUPPLY OR MAKE-UP AIR
- RETURN OR RELIEF AIR
- EXHAUST AIR
- MANUAL BALANCE DAMPER
- FLEXIBLE DUCT
- DOUBLE WALLED SPIRAL DUCT, PAINTED COLOR BY ARCHITECT

NOTES:
ALL DUCT DIMENSIONS SHOWN ARE IN INCHES
AND ARE SHEET METAL SIZES UNLESS OTHERWISE SHOWN.

- 21X12 RECTANGULAR DUCT
- 12"Ø ROUND DUCT
- 21X12 Ø FLAT OVAL DUCT

- AIR MONITORING STATION
- DUCT MOUNTED SMOKE DETECTOR
- DUCT MOUNTED CO2 SENSOR
- VERTICAL FIRE DAMPER W/ACCESS DOOR
- HORIZONTAL FIRE DAMPER W/ACCESS DOOR
- COMBINATION VERTICAL FIRE DAMPER/SMOKE DAMPER WITH ACCESS DOOR
- COMBINATION HORIZ. FIRE DAMPER/SMOKE DAMPER WITH ACCESS DOOR
- DUCT MOUNTED HUMIDISTAT
- MANUAL VOLUME DAMPER
- STEAM HUMIDIFIER

MISCELLANEOUS SYMBOLS AND ABBREVIATIONS

- THERMOSTAT OR TEMPERATURE INDICATOR
- HUMIDITY SENSOR
- CARBON DIOXIDE SENSOR

DEVICES WITH OPERABLE CONTROLS SUCH AS THERMOSTATS SHALL BE MOUNTED BETWEEN 44" AND 48" A.F.F COMPLIANT WITH ADA HEIGHTS COORDINATE WITH OTHER DEVICES.

- REVISION NOTES
- SPECIFIC OR NEW WORK NOTES

- SIDEWALL DIFFUSER, GRILLE OR REGISTER
- EXHAUST GRILLE OR REGISTER
- SUPPLY GRILLE OR DIFFUSER
- RETURN GRILLE OR REGISTER
- DIFFUSER TYPE (e.g. SX 200) — GRILLE, REGISTER OR DIFFUSER DESIGNATION; CFM
- AIRFLOW DIRECTION

MECHANICAL ABBREVIATIONS

AC	Air Conditioning
ACH	Air Changes per Hour
AEE	Association of Energy Engineers
AFD	Adjustable Frequency Drive
AFUE	Annual Fuel Efficiency Ratio
AHU	Air Handling Unit
BI	Backward Incline
BTU	British Thermal Unit
BTUH	British Thermal Units / Hour
CAV	Constant Air Volume
CFC	ChloroFluoroCarbon
CFM	Cubic Feet per Minute
COP	Coefficient Of Performance
CRAC	Computer Room Air Conditioner
CV	Constant Volume
DA	Discharge Air
DB	Dry Bulb
DH	Duct Heater
DN	Down
DP	Dew Point
DX	Direct Expansion
EAT	Entering Air Temperature
EC	Electrical Contratror (Div 26, 27 or 28)
ECM	Electronically Commutated Motor
EDH	Electric Duct Heater
EER	Energy Efficiency Ratio
EF	Exhaust Fan
EH	Electric Heater
EHC	Electric Heating Coil
ESP	External Static Pressure
ETR	Existing to Remove
EUH	Electric Unit Heater
EX	Existing
FC	Forward Curve
FCU	Fan Coil Unit
FLA	Full Load Amps
FPM	Feet Per Minute
FW	Feed Water
GC	General Contractor
GPM	Gallons Per Minute
GUI	Graphical User Interface
HCFC	Hydrochlorocfuorocarbon
HEPA	High Efficiency Particulate Arresting
HFC	HydroFluoroCarbon
HL	High Limit
HP	Horsepower
HR	Heat Recovery
HRU	Heat Recovery Unit
HRV	Heat Recovery Ventilator
HSPF	Heating Seasonal Performance Factor
HVAC	Heating Ventilation and Air Conditioning
HX	Heat Exchanger
I/O	Input Output
IAQ	Indoor Air Quality
IR	Infra-Red

LAT	Leaving Air Temperature
LL	Low Limit
LON	Local Operating Network
LP	Low Pressure
LRA	Locked Rotor Amps
LWBT	Leaving Wet Bulb Temperature
LWT	Leaving Water Temperature
M&V	Measurement and Verification
MA	Mixed Air
MAT	Mixed Air Temperature
MC	Mechanical Contratror (Div 23)
MCC	Motor Control Center
MUA	Make-up Air Unit
MVD	Manual Volume Damper
MZ	Multi-Zone
N/A	Not Applicable
NEMA	National Electrical Manufacturers Association
OA	Outside Air
OAT	Outside Air Temperature
OC	On Center
ODP	Open Drip Proof
PC	Plumbing Contratror (Div 22)
PH	Pre-Heat
PHC	Pre-heat Coil
PTAC	Packaged Terminal Air Conditioner
QTY	Quantity
RA	Return Air
REF	Refrigerant
RF	Return Fan
RH	Reheat
RH	Relative Humidity
RHC	Re-heat Coil
RPM	Revolutions Per Minute
RTD	Resistance Temperature Detector
RTU	Roof Top Unit
SA	Supply Air
SAT	Supply Air Temperature
SC	Shading Coefficient
SEER	Seasonal Energy Efficiency Ratio
SF	Supply Fan
SHFG	Solar Heat Gain Factor
TEV	Thermostatic Expansion Valve
TSP	Total Static Pressure
TXV	Thermostatic Expansion Valve
UC	Undercut
UH	Unit Heater
UV	UltraViolet
UV	Unit Ventilator
VAV	Variable Air Volume
VFD	Variable Frequency Drive
VSD	Variable Speed Drive
WB	Wet Bulb
WC	Water Column
XFER	Transfer

CONTROLS ABBREVIATIONS	
AI	Analog Input
AO	Analog Output
BACnet	Building Automation and Control Network Protocol
BAS	Building Automation System
DCV	Demand Controlled Ventilation
DDC	Direct Digital Control
DI	Digital Input
DO	Digital Output
DP	Differential Pressure
dP	Pressure Differential
dT	Temperature Differential
EMS	Energy Management System
NC	Normally Closed
NO	Normally Open
OWS	Operator Work Station
PID	Proportional Integral Derivative
SP	Set Point
SP	Static Pressure
T	Thermostat

GENERAL NOTES:

1. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, DUCTWORK, PIPING, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL INSTALLATION WITH THE STRUCTURE AND OTHER TRADES AND SHALL PROVIDE ADDITIONAL OFFSETS AND FITTINGS AS NECESSARY.
2. THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS SHALL COMPLY WITH THE 2018 NORTH CAROLINA MECHANICAL CODE AND NFPA 90A.
3. DUCT DIMENSIONS ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL CLEARANCES PRIOR TO FABRICATION OR INSTALLATION OF EQUIPMENT, DUCTWORK, AND PIPING SYSTEMS. WHERE CONDITIONS REQUIRE A CHANGE IN DUCT OR PIPE ROUTING, NOTIFY THE ENGINEER FOR AN ACCEPTABLE ALTERNATIVE METHOD. AVOID ROUTING DUCTWORK DIRECTLY OVER LIGHT FIXTURES, DIFFUSERS, AND OTHER CEILING MTD. DEVICES. LOCATE ALL MECHANICAL EQUIPMENT SO THAT FILTERS AND COMPONENTS REQUIRING ACCESS (SERVICE AND MAINTENANCE) ARE FULLY ACCESSIBLE.
5. PROVIDE CURVED RADIUS ELBOW AT FIRST SUPPLY & RETURN FITTING FOR ALL HVAC UNITS. PROVIDE TURNING VANES IN ALL 90 DEGREE ELBOWS IN ALL RECTANGULAR SUPPLY/RETURN/EXHAUST DUCT SYSTEMS. ANY OFFSETS REQUIRED IN DUCT SYSTEMS SHALL BE INSTALLED PER SMACNA STANDARDS. SHARP ANGLED TRANSITIONS OR OFFSETS WILL NOT BE ALLOWED. PROVIDE DUCT ACCESS DOORS AT LOCATIONS SPECIFIED.
6. INSTALL ALL DUCT MOUNTED DEVICES (DAMPERS, ACCESS DOORS, ETC.) AND PIPING SPECIALTIES IN EASILY ACCESSIBLE LOCATIONS. ADVISE THE ENGINEER IN ADVANCE OF INSTALLATION IF ACCESS WILL BE HINDERED SO AN ALTERNATE LOCATION CAN BE SELECTED.
7. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH PRESCRIBED CLEARANCES FOR SERVICE AND MAINTENANCE. THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER IF RECOMMENDED CLEARANCES ARE NOT POSSIBLE BEFORE INSTALLING EQUIPMENT.
8. ALL ROTATING MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATION. PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS BETWEEN DUCTWORK AND ISOLATED MECHANICAL EQUIPMENT.
9. THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF FIRE RATED WALLS/FLOORS/CEILINGS BY DUCTWORK PIPING, ETC., WITH U.L. LISTED FIRE STOPPING MATERIAL TO MAINTAIN FIRE RATING OF THE BARRIER.
10. BALANCE ALL AIR DISTRIBUTION DEVICES, EXHAUST FANS, AND OUTSIDE AIR QUANTITIES AS SCHEDULED OR SHOWN ON THE DRAWINGS. PROVIDE MARKERS AT ALL DAMPER LOCATIONS SHOWING FULL OPEN/CLOSED POSITIONS AND DAMPER SETTING FOR REQUIRED AIRFLOW. PROVIDE FINAL TEST AND BALANCE REPORT ALONG W/ SCHEMATIC DRAWINGS SHOWING DIFFUSER LOCATION W/ DESIGN AND ACTUAL CFM. THE DIFFUSER TAGS ON THE DRAWINGS SHALL CORRESPOND TO THE DIFFUSER TAGS ON THE REPORT. THIS REPORT SHALL BE SUBMITTED BEFORE THE FINAL INSPECTION IS PERFORMED. SEE SPECIFICATION SECTIONS FOR FURTHER INFORMATION. DO NOT BALANCE FOR DIVERSITY.
11. IN THE AREA OF WORK, ANY "OPEN" DUCTWORK INCLUDING INLET AND OUTLET REGISTERS AND DIFFUSERS SHALL BE COVERED WITH FILTRATING MATERIAL OR VISQUINE TO PROTECT INSIDE OF THE SYSTEM AGAINST DUST AND DEBRIS.
12. ANY DAMAGE OF EXTERIOR PIPE AND DUCT INSULATION CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AND RESTORED AT NO EXTRA COST TO THE OWNER.

OUTSIDE AIR SUMMARY:

Multiple zone

AHU-1

System name and number	AHU-1
Condition analyzed (impacts Ez, Voz, Vpz and Vps)	Heating
All zones are included in the VRP calculation	Yes

Zone Name and Number	Occupancy Category	Zone Floor Area Az (sq ft)	Are you using default value for zone population?	Zone Population Pz (people)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow Voz (cfm)	Zone Discharge Airflow Vdz (cfm)	Zone Primary Airflow Vpz (cfm)	Zone Secondary Recirculation Fraction Er	Zone Primary Air Fraction Ep
VVT1-1	Corridors	281	Yes	0.00	0.80	19.58	250	75	0.00	0.30
VVT1-2 - Restroom/Locker/Shower -->	Telephone closets	1,290	Yes	0.00	0.80	0.00	575	175	0.00	0.30
VVT1-3	Corridors	219	Yes	0.00	0.80	16.42	250	75	0.00	0.30
VVT1-4&5	Conference / meeting	1,792	No	76.00	0.80	609.40	1,700	1,020	0.00	0.60
VVT1-6	Corridors	210	Yes	0.00	0.80	15.75	175	53	0.00	0.30

System area	As	(sq ft)	3,772
System population	Ps	(people)	76.00
Sum of zone population	sum of Pz	(people)	76.00
Occupant diversity	D		1.00
Uncorrected outdoor air intake	Vou	(cfm)	528.92
System primary airflow (at condition analyzed)	Vps	(cfm)	2,775
Average outdoor air fraction	Xs		0.19

Which method from ASHRAE 62.1 is being used to determine system ventilation efficiency (EvT)		Appendix A
Ventilation efficiency	Ev	0.63
Outdoor air intake flow (required by 62.1)	Vot	(cfm) 840
Outdoor air intake flow provided (measured or design)		(cfm) 850

Multiple zone

AHU-2

System name and number	AHU-2
Condition analyzed (impacts Ez, Voz, Vpz and Vps)	Heating
All zones are included in the VRP calculation	Yes

Zone Name and Number	Occupancy Category	Zone Floor Area Az (sq ft)	Are you using default value for zone population?	Zone Population Pz (people)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow Voz (cfm)	Zone Discharge Airflow Vdz (cfm)	Zone Primary Airflow Vpz (cfm)	Zone Secondary Recirculation Fraction Er	Zone Primary Air Fraction Ep
VVT2-1	Office space	476	No	2.00	0.80	48.20	300	90	0.00	0.30
FLEX SPACE	Office space	500	Yes	2.50	1.80	23.61	500	150	0.00	0.30
ADMIN 100	Office space	1,132	No	1.00	0.80	91.15	775	775	0.00	1.00
SOUTH CORRIDOR	Corridors	589	Yes	0.00	0.80	44.18	200	200	0.00	1.00
SUPT 104	Conference / meeting	290	No	15.00	0.80	115.50	300	210	0.00	0.70
SUPT 104 S5	Office space	154	No	1.00	0.80	29.80	100	30	0.00	0.30
PARKS SV OFFICE 105 S5	Office space	154	No	1.00	0.80	17.80	100	30	0.00	0.30
LANDSCAPE SV OFFICE 106 S5	Office space	156	No	1.00	0.80	17.95	100	30	0.00	0.30
FUTURE OFFICE 107 S5	Office space	156	No	1.00	0.80	17.95	100	30	0.00	0.30
TREE CREW SV OFFICE 108 S5	Office space	155	No	1.00	0.80	17.86	100	30	0.00	0.30
FORESTRY MGM SV OFFICE 109 S5	Office space	154	No	1.00	0.80	17.80	100	30	0.00	0.30
SMALL CONFERENCE 110 S5	Conference / meeting	191	No	10.00	0.80	78.83	150	105	0.00	0.70

System area	As	(sq ft)	4,147
System population	Ps	(people)	15.00
Sum of zone population	sum of Pz	(people)	36.50
Occupant diversity	D		0.41
Uncorrected outdoor air intake	Vou	(cfm)	323.64
System primary airflow (at condition analyzed)	Vps	(cfm)	2,950
Average outdoor air fraction	Xs		0.10

Which method from ASHRAE 62.1 is being used to determine system ventilation efficiency (EvT)		Appendix A
Ventilation efficiency	Ev	0.41
Outdoor air intake flow (required by 62.1)	Vot	(cfm) 769
Outdoor air intake flow provided (measured or design)		(cfm) 800

Single zone

Single Zone

System Name and Number	Condition Analyzed (impacts Ez)	Occupancy Category	Zone Floor Area Az (sq ft)	Are you using default value for zone population?	Zone Population Pz people	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow Voz (cfm)	Outdoor air intake flow provided (measured or design) (cfm)
EF-1	Other (specify)	Wood / metal shop	376	No	3.00	0.50	195	400
EF-2	Other (specify)	Wood / metal shop	1,586	No	5.00	0.80	419	1,700
EF-3	Other (specify)	Occupiable storage rooms for dry materia	1,230	No	2.00	0.80	105	1,300
EF-4	Other (specify)	Wood / metal shop	2,158	No	5.00	0.80	548	2,000

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PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: AMR
CHECKED BY:

REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

M001

MECHANICAL LEGENDS AND SCHEDULES

SPLIT SYSTEM HEAT PUMPS

TAG INDOOR/OUTDOOR	*MANUFACTURER/MODEL INDOOR/OUTDOOR	PERFORMANCE										INDOOR UNIT											OUTDOOR UNIT			
		COOLING						HEATING				FAN			HEAT (STRIP HEAT)					ELECTRICAL			POWER SUPPLY			
		NOMINAL CAPACITY	TOTAL CAPACITY BTU/h	SENS CAPACITY BTU/h	EAT DB (°F)	EAT WB (°F)	AMB. AIR TEMP DB (°F)	TOTAL CAPACITY BTU/h	EAT DB (°F)	AMB. AIR TEMP DB (°F)	MIN. IEER	SUPPLY AIR CFM	OUTSIDE AIR CFM	MOTOR SIZE	CAPACITY BTU/h	OUTPUT/STAGE (KW)	STAGES	EAT (°F)	LAT (°F)	MCA	MOCP	VOLT/ PHASE	MCA	MOCP	VOLT/ PHASE	NOTES
AHU-1/HP-1	TRANE TWE09043B/TWA09043B	7.5 TONS	90,000	65,000	80	66	96	84,000	58	42	14.1	2950	850	3HP	40,000 KW	11.24 KW	1	58	95	48A	50A	208V/3P	36A	60A	208V/3P	ALL
AHU-2/HP-2	TRANE TWE09043B/TWA09043B	7.5 TONS	90,000	65,000	80	66	96	84,000	58	42	14.1	2750	800	3HP	40,000 KW	11.24 KW	1	58	95	48A	50A	208V/3P	36A	60A	208V/3P	ALL

*PROVIDE EQUAL PRODUCTS BY TRANE, CARRIER OR YORK.
NOTES:
1. PROVIDE ALL UNITS WITH TWO SPEED AIR HANDLING SECTIONS, PROVIDE A COOLING COIL SECTION COMPATIBLE WITH AHU, PROVIDE DUAL CIRCUIT, PROVIDE BAC-NET COMPATIBLE ELECTRONIC 7-DAY PROGRAMMABLE THERMIDISTAT, MODEL SE8650 OR EQUAL, AND DISCONNECTING MEANS FOR ALL EQUIPMENT.
2. ALL UNITS SHALL BE AGA CERTIFIED AND UL LISTED. ALL COILS EVAPORATOR AND CONDENSER COILS SHALL BE PLATE FIN.
3. PROVIDE COIL GUARDS ON ALL OUTDOOR UNITS.
4. UNIT SHALL OPERATE WITH ZONE DAMPERS, PROVIDE BYPASS DAMPER SIZED FOR 60% OF FULL SUPPLY AIRFLOW.
5. UNITS SHALL HAVE AN AVERAGE REFRIGERANT IMPACT PER TON LOWER THAN 100 TO MEET LEED ENHANCED REFRIGERANT MANAGEMENT CREDIT.

ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MANUFACTURER/MODEL	FAN INFORMATION				SUMMER PERFORMANCE				WINTER PERFORMANCE				ELECTRICAL					NOTES
		OUTDOOR VOLUME	SUPPLY SP	EXHAUST VOLUME	EXHAUST SP	OUTSIDE WB/DB	EXHAUST WB/DB	SUPPLY WB/DB	RECOVERY LOAD	OUTSIDE DB	EXHAUST DB	SUPPLY DB	RECOVERY LOAD	SUPPLY HP	EXHAUST HP	VOLTAGE	MCA	MOCP	
ERV-1	GREENHECK ECV-20-P-H	1650 CFM	0.5"	1650 CFM	0.5"	92/77°F	75/63°F	81/70°F	48.3 MBH	16°F	72°F	50°F	60.9 MBH	1	1	208V/1P	13.5	15	1, 2, 3

PROVIDE EQUAL BY ALDES, RENEWAIRE, OR GREENHECK.
NOTES:
1. PROVIDE UNIT COMPLETE WITH MERV 8 FILTERS.
2. ERV-1 SHALL OPERATE IN CONJUNCTION WITH AHU-1 & AHU-2 DURING OCCUPIED HOURS, DETERMINED BY AHU 7-DAY PROGRAMMABLE THERMOSTAT.
3. PROVIDE WITH PRESSURE-ACTUATED MOTORIZED DAMPER TO RELIEVE UN-NEEDED TREATED AIR INTO THE MEZZANINE.

EXHAUST FAN SCHEDULE

TAG	SERVICE	*MANUFACTURER/MODEL	MAX AIRFLOW	SP	TYPE	BHP	RPM	DRIVE	POWER	NOTES
EF-1	TREE CREW SHOP	GREENHECK	SQ130HP-VG	400 CFM	0.5	DNBLAST	0.08 HP	1037	DIRECT	120V	1,2,3,4,5,6
EF-2	MECHANIC SHOP	GREENHECK	SQ160-VG	1700 CFM	0.5	DNBLAST	0.25 HP	879	DIRECT	120V	1,2,3,4,5,8
EF-3	TOOL SUPPLY	GREENHECK	SQ160-VG	1300 CFM	0.5	DNBLAST	0.18 HP	803	DIRECT	120V	1,2,3,4,5,8
EF-4	CARPENTER SHOP	GREENHECK	SQ160-VG	2000 CFM	0.5	DNBLAST	0.32HP	942	DIRECT	120V	1,2,3,4,5,8
EF-5	CARPENTER POINT OF USE	GREENHECK	BDF-80	800 CFM	1.0	INLINE	0.28 HP	1437	BELT	120V	1,2,3,4,5,9
EF-6	NOT USED										
EF-7	ELECTRICAL ROOM	GREENHECK	CSP-A390-VG	200 CFM	0.5	INLINE	0.05 HP	1241	DIRECT	120V	1,2,3,4,5,7
EF-8	FERTILIZER ROOM	GREENHECK	SQ130HP-VG	500 CFM	0.5	DNBLAST	0.09 HP	1089	DIRECT	120V	1,2,3,4,5,7

PROVIDE EQUAL PRODUCTS BY GREENHECK, COOK, OR TWIN CITY.
1. PROVIDE UNIT MOUNTED DISCONNECT AND BACKDRAFT DAMPER.
2. PROVIDE FAN WITH SPRING ISOLATORS AND FLEXIBLE DUCT CONNECTIONS.
3. PROVIDE STARTER AND DISCONNECTS AS REQUIRED FOR ALL FANS.
5. ASSOCIATED LOUVER DAMPERS SHALL BE CONTROLLED BY FAN STARTER.
6. FANS SHALL OPERATE WITH OCCUPANCY SENSOR PROVIDED BY DIVISION 26.
7. FANS SHALL OPERATE ON FACTORY PROVIDED THERMOSTAT.
8. PROVIDE OCCUPANCY SENSOR TO CONTROL FANS.
9. FANS SHALL OPERATE ON MANUAL SWITCH.

ELECTRIC UNIT HEATER SCHEDULE

TAG	SERVICE	*MANUFACTURER/MODEL		MOUNT	CFM	WATTS	VOLTS/PHASE	AMPS	NOTES
EUH-1	SPRINKLER RISER ROOM	QMARK	CWH3180F	SURFACE	50	1800	120V/1P	15.0	1, 2, 4, 7

NOTES:
1. PROVIDE WITH MOUNTING BRACKET, WALL MOUNTED THERMOSTAT EQUAL TO HONEYWELL T4398A-1021 WITH PROTECTIVE COVER, AND UNIT MOUNTED DISCONNECT.

HIGH-EFFICIENCY UNIT HEATER SCHEDULE (PROPANE)

TAG	SERVICE	*MANUFACTURER/MODEL		MOUNT	CFM	INPUT	OUTPUT	TURN DN	EFF	MCA	MOCP	VOLTS/PHASE	NOTES
UH-1	TREE CREW SHOP	TRANE	HI050	CABINET	790	50000	48600	3 TO 1	95%	11.5 A	14.1 A	120V	ALL
UH-2	MECHANICS WEST	TRANE	HI100	CABINET	1616	100000	96000	3 TO 1	95%	11.8 A	17.8 A	120V	ALL
UH-3	MECHANICS EAST	TRANE	HI100	CABINET	1616	100000	96000	3 TO 1	95%	11.8 A	17.8 A	120V	ALL
UH-4	TOOL STORAGE	TRANE	HI100	CABINET	1616	100000	96000	3 TO 1	95%	11.8 A	17.8 A	120V	ALL
UH-5	CARPENTER WEST	TRANE	HI100	CABINET	1616	100000	96000	3 TO 1	95%	11.8 A	17.8 A	120V	ALL
UH-6	CARPENTER EAST	TRANE	HI100	CABINET	1616	100000	96000	3 TO 1	95%	11.8 A	17.8 A	120V	ALL

NOTES:
1. PROVIDE WITH MOUNTING BRACKET AND UNIT MOUNTED DISCONNECT.
2. PROVIDE WALL MOUNTED THERMOSTAT EQUAL TO HONEYWELL TR50-5D WITH HEAVY DUTY PROTECTIVE TRANSPARENT BREATHABLE COVER. COVER MAY NOT BE LOCKABLE OR MUST HAVE LOCK REMOVED FOR LEED CERTIFICATION.

HEAT PUMP SEQUENCE OF OPERATION

HEAT PUMP SHALL OPERATE ON A 24HR, 365-DAY PROGRAMMABLE THERMOSTAT AND SHALL HAVE THE FOLLOWING SETPOINTS:

OCCUPIED SETPOINTS: COOLING: 75 °F HEATING: 70°F

UNOCCUPIED SETPONTS: COOLING: 85 °F HEATING: 55°F

SETPOINTS SHALL BE USER ADJUSTABLE AT THE MASTER THERMOSTAT, HOWEVER WHICHEVER SETPOINT IS ADJUSTED, THE DEAD-BAND BETWEEN HEATING AND COOLING SETPOINTS SHALL BE AT LEAST 5°F PER NCECC.

THE UNITS SHALL OPERATE USING THE FOLLOWING SCHEDULED MODES:

MORNING WARM-UP: TO BEGIN 1HR (USER ADJUSTABLE) PRIOR TO SCHEDULED OCCUPANCY. DURING THIS CYCLE, THE HEAT PUMP SHALL SET OPERATE TO MAINTAIN A MASTER THERMOSTAT TEMPERATURE EQUAL TO THE OCCUPIED SETPOINT. HOWEVER, DURING MORNING WARM-UP THE UNITS SHALL CIRCULATE 100% RETURN AIR.

OCCUPIED MODE: CONSULT WITH THE OWNER WHEN DEVELOPING THE OCCUPANCY SCHEDULES. DURING THIS CYCLE, THE HEAT PUMP SHALL USE INTERNAL CONTROLS TO MAINTAIN A MASTER THERMOSTAT TEMPERATURE EQUAL TO THE OCCUPIED SETPOINTS. HEAT PUMP FANS SHALL OPERATE CONTINUOUSLY DURING ALL OCCUPIED TIMES TO MAINTAIN MINIMUM VENTILATION RATES.

UNOCCUPIED MODE: DURING THIS CYCLE, THE HEAT PUMP SHALL USE INTERNAL CONTROLS TO MAINTAIN A MASTER THERMOSTAT TEMPERATURE EQUAL TO THE UNOCCUPIED SETPOINTS.

SAFETIES: A DUCT DETECTOR IN EACH UNIT SHALL BE LOCATED BEFORE OUTSIDE AIR CONNECTIONS AND SHALL BE HARD-WIRED TO THE FAN STARTER CIRCUITRY. UPON A DETECTION OF SMOKE, THE HEAT PUMPO SHALL BE DEENERGIZED AND AN ALARM SHALL BE GENERATED IN THE FIRE ALARM CONTROL PANEL.

ENERGY RECOVERY VENTILATOR SEQUENCE OF OPERATION

ERV SHALL MONITOR OPERATING SCHEDULES OF BOTH HEAT PUMPS. IF EITHER HEAT PUMP IS IN OCCUPIED MODE, THE ERV FANS SHALL BE STARTED, AND THE UNIT SHALL EXHAUST FROM THE BUILDING AND US THE EXHAUST AIR TO PRE-CONDITION THE OUTSIDE AIR SERVING BOTH AIR HANDLERS. ERV SHALL CONTINUE OPERATING DURING ALL OCCUPIED TIMES, REGARDLESS OF HEAT PUMP FAN STATUS. WHEN BOTH HEAT PUMPS ENTER INTO UNOCCUPIED OR MORNING WARM-UP MODE, THE ERV FANS SHALL BE DEENERGIZED.

ZONE DAMPER SEQUENCE OF OPERATION

TYPICAL OF VVT DAMPERS AND MODULATING DIFFUSERS.

ZONE DAMPERS SHALL COMMUNICATE WITH THE HEAT PUMPS SERVING THEIR ZONES AND SHALL DETERMINE IF ITS MASTER UNIT IS OPERATING IN HEATING OR COOLING. IT SHALL THEN MODULATE OPEN OR CLOSED IN ORDER TO MAINTAIN TEMPERATURE SETPOINT AS SENSED BY ITS OWN INTERNAL THERMOSTAT.

OCCUPIED SETPOINTS: COOLING: 75 °F HEATING: 70°F

UNOCCUPIED SETPONTS: COOLING: 85 °F HEATING: 55°F

SETPOINTS SHALL BE LOCALLY ADJUSTABLE.

AIR DISTRIBUTION SCHEDULE

TAG	*MANUFACTURER/MODEL		FACE SIZE	MOUNT	MATERIAL	FINISH	DAMPER	TYPE	NC	NOTES
S1	TITUS	OMNI	24X24	ACT	ALUMINUM	WHITE	NONE	PLAQUE	< 20	1, 2
S2	TITUS	OMNI	12X12	ACT	ALUMINUM	WHITE	NONE	PLAQUE	< 20	1, 2
S3	PRICE	SDGE	10X4	SIDEWALL	ALUMINUM	WHITE	SCOOP	LOUVERED	< 20	1
S4	TITUS	300RL	10X6	SIDEWALL	ALUMINUM	WHITE	FACE	LOUVERED	< 20	1
S5	TITUS	T3SQ	24X24	ACT	ALUMINUM	WHITE	NONE	VAV	< 20	1, 2, 3, 4, 5
S6	PRICE	SDGE	12X6	SIDEWALL	ALUMINUM	WHITE	SCOOP	LOUVERED	< 20	1
S7	TITUS	TRMA	8"Ø	DUCT	ALUMINUM	WHITE	NONE	LOUVERED	< 20	1
R1	TITUS	50	24X24	ACT	ALUMINUM	WHITE	NONE	EGGCRATE	< 20	1, 2
R2	TITUS	50	24X12	ACT	ALUMINUM	WHITE	NONE	EGGCRATE	< 20	1, 2
R3	TITUS	301RL	14X10	SIDEWALL	ALUMINUM	WHITE	FACE	LOUVERED	< 20	1
R4	TITUS	301RL	70X12	SIDEWALL	ALUMINUM	WHITE	FACE	LOUVERED	< 20	1
E1	TITUS	50	24X24	ACT	ALUMINUM	WHITE	NONE	EGGCRATE	< 20	1, 2
E2	TITUS	50	12X12	ACT	ALUMINUM	WHITE	NONE	EGGCRATE	< 20	1, 2
E3	TITUS	301RL	14X10	SIDEWALL	ALUMINUM	WHITE	FACE	LOUVERED	< 20	1
E4	TITUS	50	24X12	ACT	ALUMINUM	WHITE	NONE	EGGCRATE	< 20	1, 2
E5	PRICE	SDGE	10X4	SIDEWALL	ALUMINUM	WHITE	SCOOP	LOUVERED	< 20	1

*PROVIDE EQUAL PRODUCTS BY TITUS, PRICE, OR METALAIRE.
1. SEE PLANS FOR NECK SIZE
2. BALANCE DAMPER TO BE INSTALLED IN THE BRANCH TAKE-OFF.
3. PROVIDE COMPLETE WITH FACTORY INSULATED BACKPAN AND HANGER BRACKETS.
4. PROVIDE COMPLETE WITH 7 DAY PROGRAMMABLE LCD THERMOSTAT THAT DISPLAYS TEMPERATURE, HUMIDITY, CO2 CONCENTRATION, AND IS COMPATIBLE WITH FURNACE. THERMOSTAT MUST HAVE A VISUAL INDICATOR THAT DISPLAYS WHEN CO2 CONCENTRATION EXCEEDS 700PPM BY MORE THAN 10%.
5. COORDINATE POWER REQUIREMENTS WITH DIV26 INCLUDING THE NUMBER OF CONTROL TRANSFORMERS BEING PROVIDED FOR THE VAV DIFFUSERS. COORDINATE LOCATION AND QUANTITY OF 120V CONTROLS JUNCTION BOXES FOR THESE UNITS WITH DIV26. FINAL CONNECTIONS TO UNITS BY DIV23.

VVT BOX SCHEDULE

GENERAL INFORMATION						AIRFLOW			
TAG	SYSTEM	*MANUFACTURER/MODEL		SIZE	TYPE	MAX AIRFLOW	MIN AIRFLOW	SOUND RATING	NOTES
VVT1-B	AHU-1	HONEYWELL	BD16X16TZ	16X16	BYPASS	1665	0	<NC30	1,2
VVT1-1	AHU-1	HONEYWELL	ZD10x10TZ	10X10	ZONE	250	75	<NC30	1,3
VVT1-2	AHU-1	HONEYWELL	ZD12X10TZ	12X10	ZONE	575	175	<NC30	1,3
VVT1-3	AHU-1	HONEYWELL	ZD10x10TZ	10X10	ZONE	250	75	<NC30	1,3
VVT1-4	AHU-1	HONEYWELL	ZD14x12TZ	14X12	ZONE	800	520	<NC30	1,3
VVT1-5	AHU-1	HONEYWELL	ZD14x14TZ	14X14	ZONE	900	585	<NC30	1,3
VVT1-6	AHU-1	HONEYWELL	ZD10x10TZ	10X10	ZONE	175	75	<NC30	1,3
VVT2-B	AHU-2	HONEYWELL	BD14X14TZ	16X16	BYPASS	1440	0	<NC30	1,2
VVT2-1	AHU-2	HONEYWELL	ZD10x10TZ	10X10	ZONE	300	90	<NC30	1,3
VVT2-2	AHU-2	HONEYWELL	ZD10x10TZ	10X10	ZONE	300	280	<NC30	1,3
VVT2-3	AHU-2	HONEYWELL	ZD10x10TZ	10X10	ZONE	400	120	<NC30	1,3
VVT2-4	AHU-2	HONEYWELL	ZD14x12TZ	14X12	ZONE	775	233	<NC30	1,3

NOTES:
1. PROVIDE WITH TRANSFORMER.
2. PROVIDE WITH CONTROL PANEL COMPATIBLE WITH FURNACE. CONTROL PANEL SHALL CONTROL, AT MINIMUM, 10 ZONES. PROVIDE DISCHARGE AIR TEMPERATURE SENSOR.
3. PROVIDE COMPLETE WITH 7 DAY PROGRAMMABLE LCD THERMOSTAT THAT DISPLAYS TEMPERATURE, HUMIDITY, CO2 CONCENTRATION, AND IS COMPATIBLE WITH FURNACE. THERMOSTAT MUST HAVE A VISUAL INDICATOR THAT DISPLAYS WHEN CO2 CONCENTRATION EXCEEDS 700PPM BY MORE THAN 10%.

THERMOSTAT REQUIREMENTS

MANUFACTURER *	MODEL	QTY
HONEYWELL	TR50-5D	25
MONITORING POINTS	NOTES	REQUIRED
TEMPERATURE	°F	YES
HUMIDITY	%RH	YES
CARBON DIOXIDE	PPM	YES
OCCUPANCY SENSOR	BINARY	YES
PARTICULATES	PPM	YES
TVOC	PPB	YES
DISPLAY		
DIGITAL TEMPERATURE DISPLAY	°F	YES
RELATIVE HUMIDITY	%RH	YES
OCCUPIED/UNOCCUPIED STATUS	OCC/UNOCC	YES
AIR QUALITY ALARM (CO2,PM2.5,TVOC)	ALARM	YES
INDOOR AIR QUALITY	1-100	YES
CONTROLS		
PROGRAMMABLE SCHEDULE	24/HR / 7DAY (NOTE 1)	YES
OVERRIDE REQUEST	2HR	YES
SET POINT ADJUST	+/- 4 °F	YES
SECURITY		
PASSWORD PROTECTED	PIN	NO
SECURITY COVER	LOCKABLE	NO
COMMUNICATIONS		
BACNET COMPATIBLE	MS/TP	YES
STAND-ALONE		YES

*BASIS OF DESIGN: PROVIDE EQUAL PRODUCTS BY SIEMENS, SCHNEIDER ELECTRIC.
NOTES:
1. MODES SHALL INCLUDE OCCUPIED, UNOCCUPIED, MORNING WARM-UP

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SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: AMR/MAA
CHECKED BY:

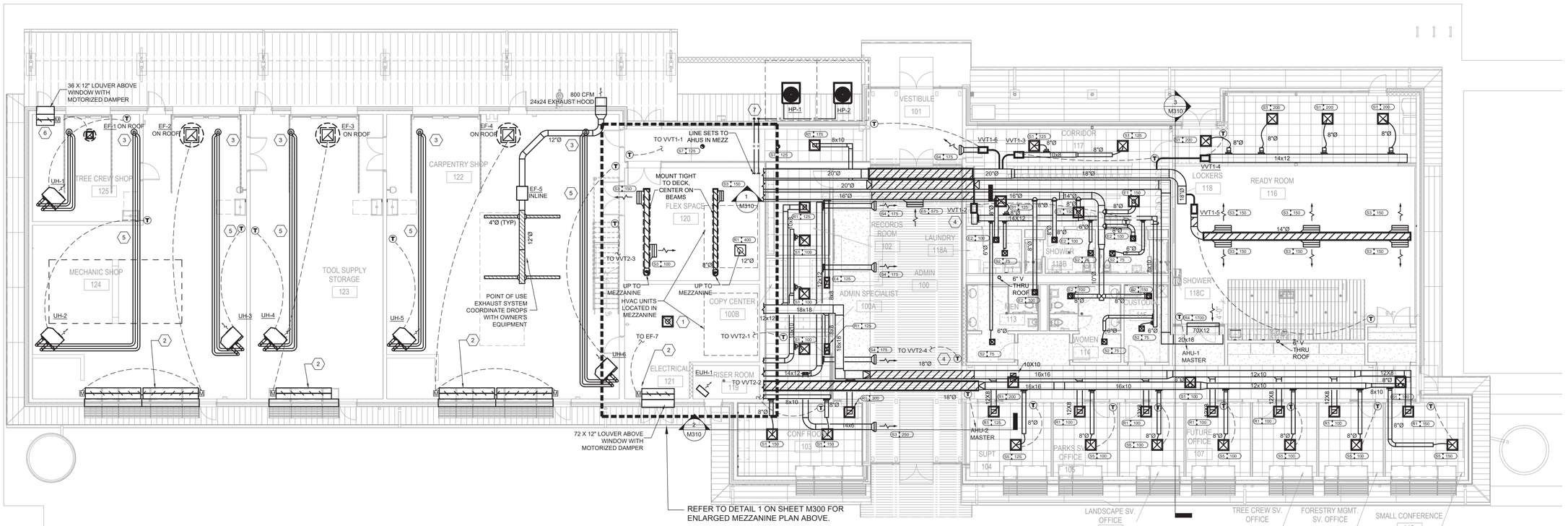
REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

M002
MECHANICAL SCHEDULES

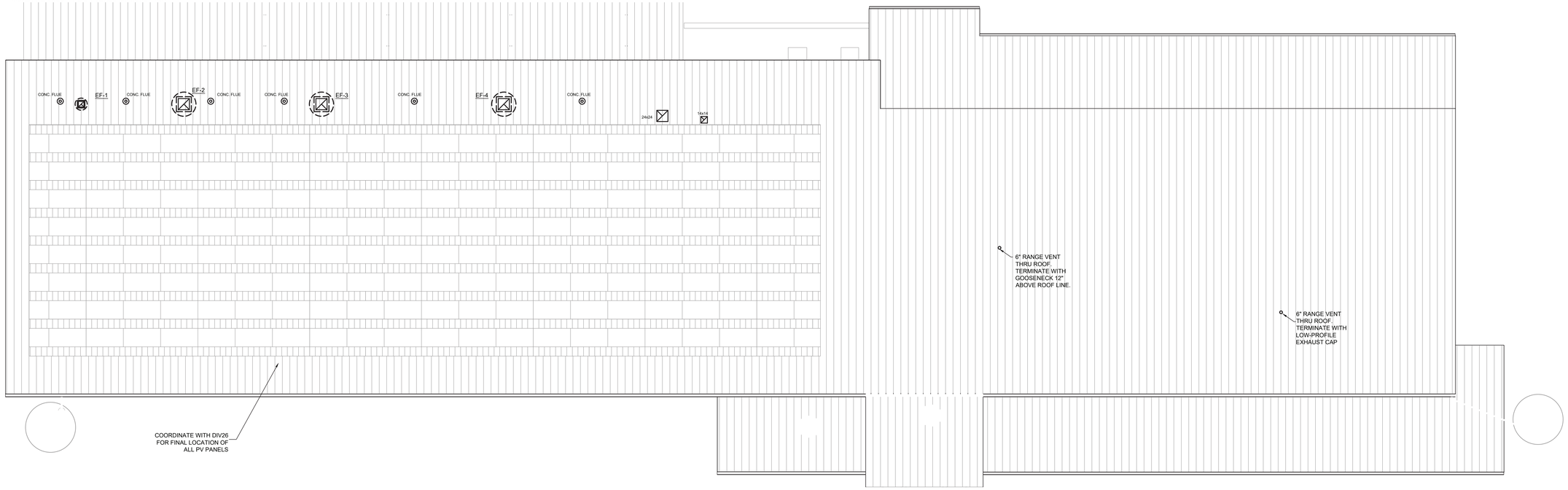
COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 230500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



1 M200 OFFICE/WORKSHOP BUILDING MECHANICAL PLAN
1/8" = 1'-0"

KEYED NOTES:

1. TERMINATE EXHAUST DUCT WITH E1 GRILLE
2. 120 X 12" LOUVER REFER TO ARCHITECTURAL FOR MORE INFORMATION.CONSTRUCT 120X12 PLENUM BOX 12" DEEP BEHIND LOUVER. INSTALL MOTORIZED DAMPER AS SHOWN. UNUSED PORTION OF LOUVER SHALL BE BLANKED OFF WITH 1" METAL INSULATED PANEL.
3. COMBINATION FLUE/VENT THROUGH ROOF IN THIS LOCATION. COORDINATE WITH PV PANELS.
4. SPIRAL DUCTS CROSSING THE ADMIN SHALL BE NEATLY ARRANGED AND GROUPED WITH OTHER SERVICES AS SHOWN. DUCTS SHALL BE G60 FINISH AND PAINTED PER ARCHITECT. SUPPLY SHALL BE DOUBLE-WALLED WITH SOLID INNER DUCT AND 2" FIBERGLASS INSULATION.
5. UH FLUE AND COMBUSTION AIR DUCT TO BE ROUTED TIGHT TO ROOF STRUCTURE.
6. 36 X 24" LOUVER REFER TO ARCHITECTURAL FOR MORE INFORMATION.CONSTRUCT 120X12 PLENUM BOX 12" DEEP BEHIND LOUVER. INSTALL MOTORIZED DAMPER AS SHOWN. UNUSED PORTION OF LOUVER SHALL BE BLANKED OFF WITH 1" METAL INSULATED PANEL.
7. ROUTE LINESETS EXPOSED DOWN OUTSIDE WALL AND COVER WITH ALUMINUM GETTER MATERIAL. SUPPRT VERTICALLY AND HORIZONTALLY ALONG WALL. REFER TO DETAILS SHEET M502



2 M200 OFFICE/WORKSHOP BUILDING MECHANICAL ROOF PLAN
1/8" = 1'-0"

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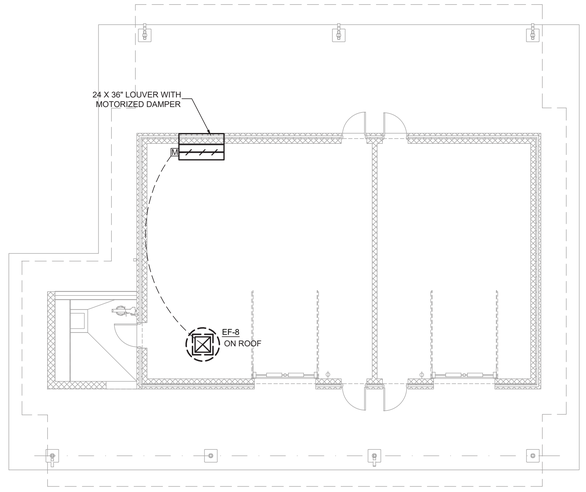
SHEET INFORMATION

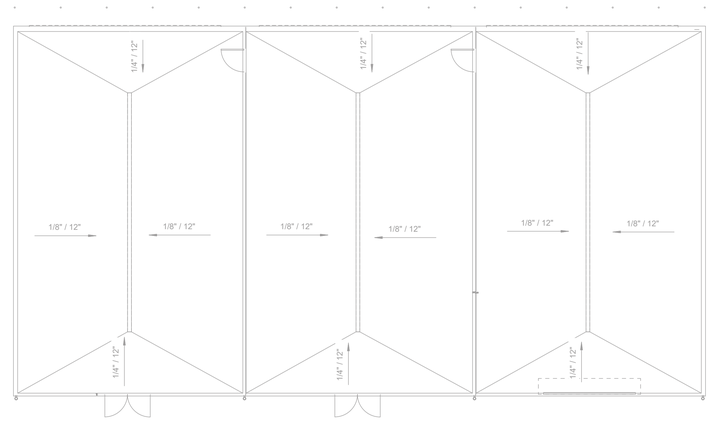
M200

MECHANICAL NEW WORK PLAN

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 230500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



1 M210 STORAGE PLAN
1/8" = 1'-0"



2 M210 GREENHOUSE PLAN
1/8" = 1'-0"

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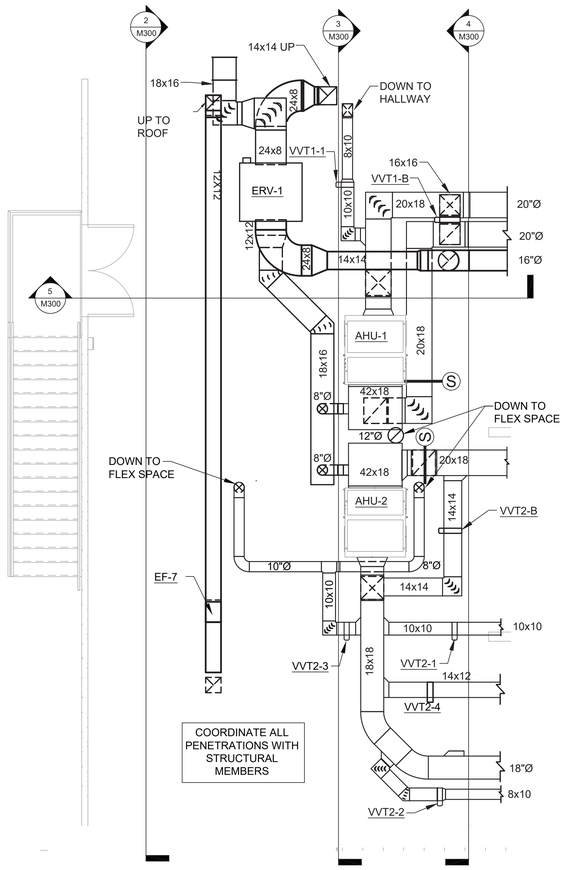
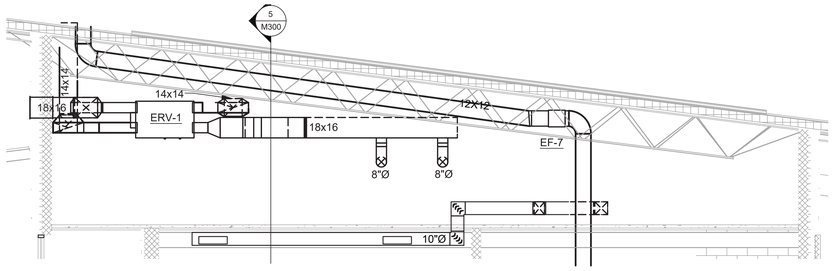
SHEET INFORMATION

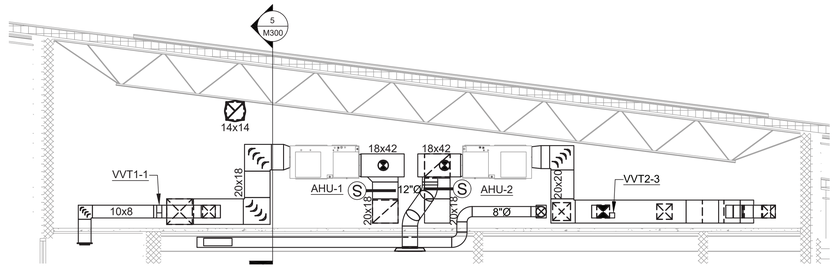
M210
MECHANICAL NEW WORK PLAN



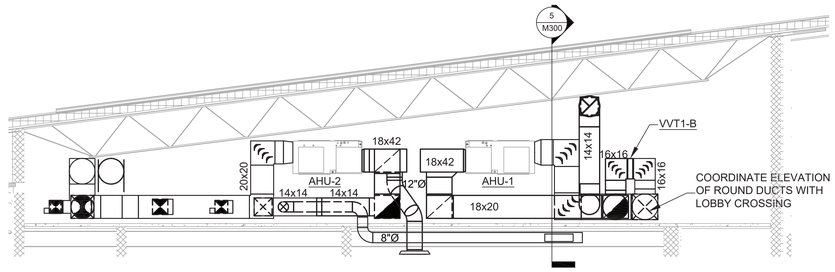
1 M300 OFFICE/WORKSHOP BUILDING MEZZANINE PLAN
1/4" = 1'-0"



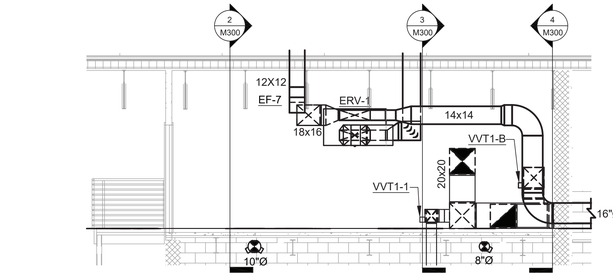
2 M300 OFFICE/WORKSHOP BUILDING MEZZANINE SECTION
1/4" = 1'-0"



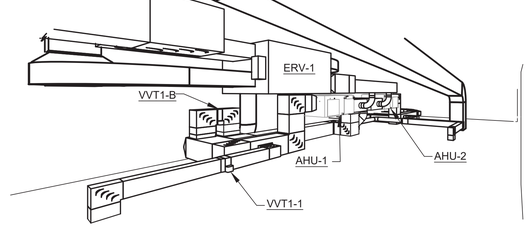
3 M300 OFFICE/WORKSHOP BUILDING MEZZANINE SECTION
1/4" = 1'-0"



4 M300 OFFICE/WORKSHOP BUILDING MEZZANINE SECTION
1/4" = 1'-0"



5 M300 OFFICE/WORKSHOP BUILDING MEZZANINE SECTION
1/4" = 1'-0"



6 M300 3D VIEW OF MEZZANINE AT TOP OF STAIRS
NO SCALE

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

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SEALS

PROJECT INFORMATION

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CHECKED BY:

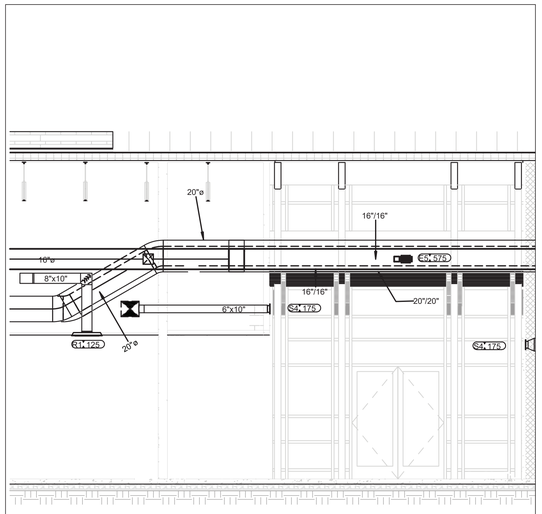
REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

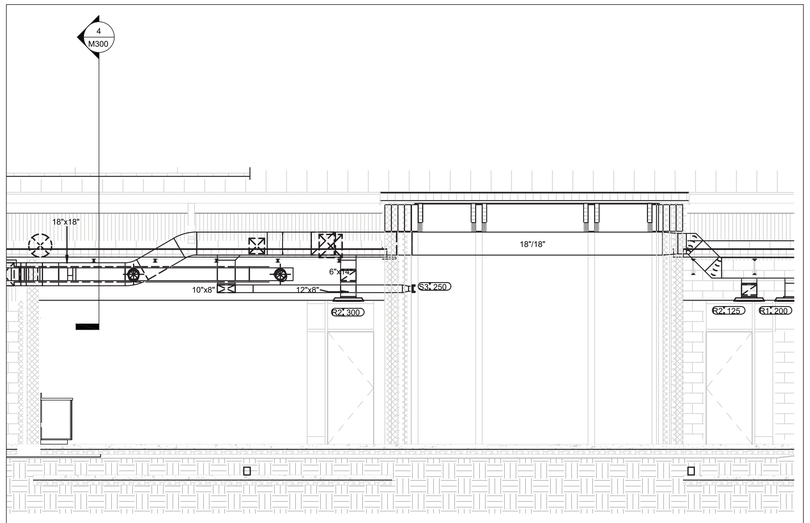
SHEET INFORMATION

M300

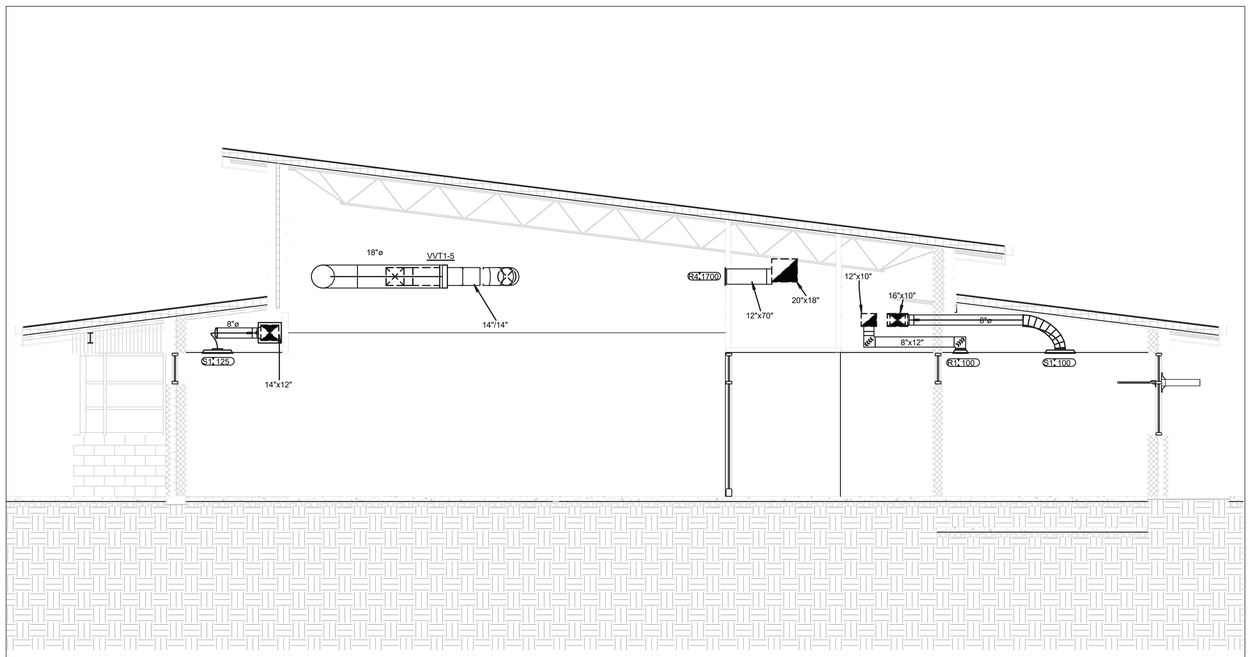
MECHANICAL NEW WORK ENLARGED PLANS AND SECTIONS



1 M310 OFFICE/WORKSHOP BUILDING ADMIN SECTION
1/4" = 1'-0"



2 M310 OFFICE/WORKSHOP BUILDING ADMIN SECTION
1/4" = 1'-0"



3 M310 OFFICE/WORKSHOP BUILDING READY ROOM SECTION
1/4" = 1'-0"

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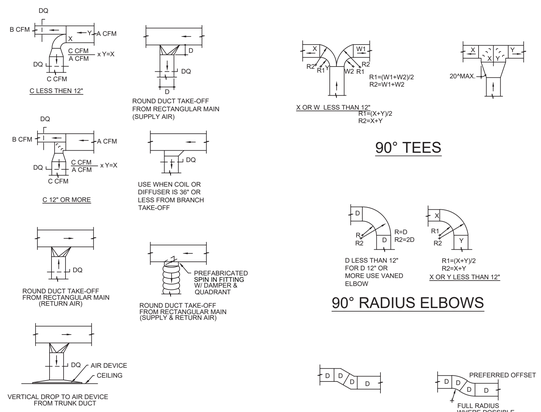
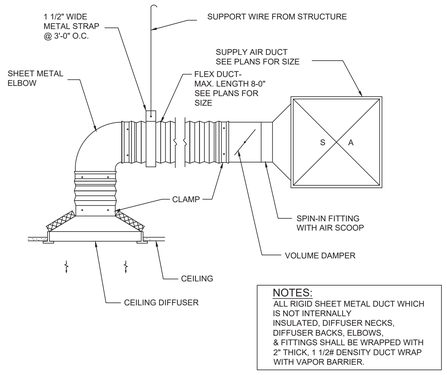
M310

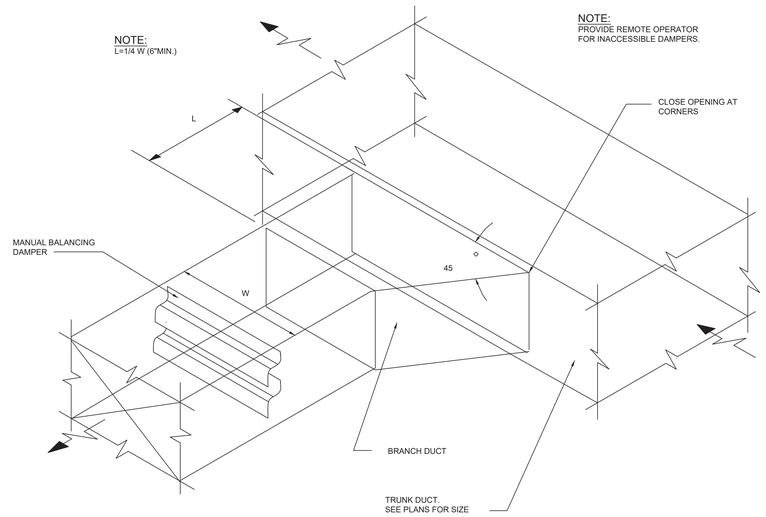
MECHANICAL NEW WORK ENLARGED PLANS AND SECTIONS



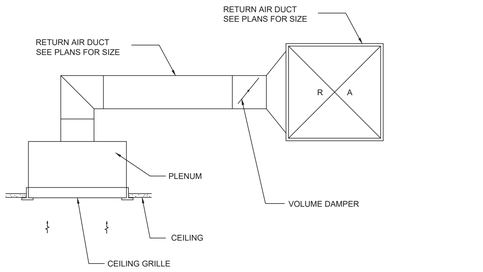
1 LOW PRESSURE DUCTWORK
NO SCALE



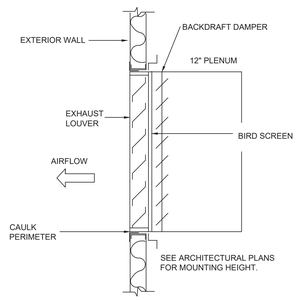
2 SUPPLY DIFFUSER RUNOUT DETAIL
NO SCALE



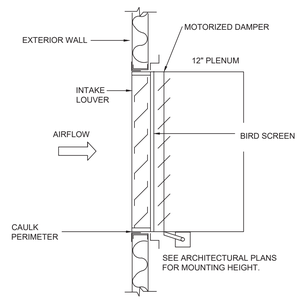
3 BRANCH DUCT TAKE-OFF DETAIL
NO SCALE



4 RETURN GRILLE DETAIL
NO SCALE



5 EXHAUST LOUVER DETAIL
NO SCALE



6 INTAKE LOUVER INSTALLATION DETAIL
NO SCALE

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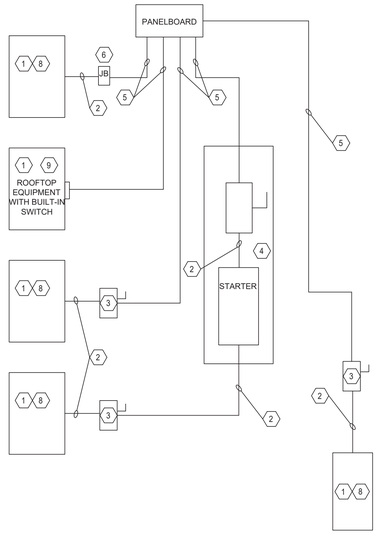
SHEET INFORMATION

M500
MECHANICAL DETAILS

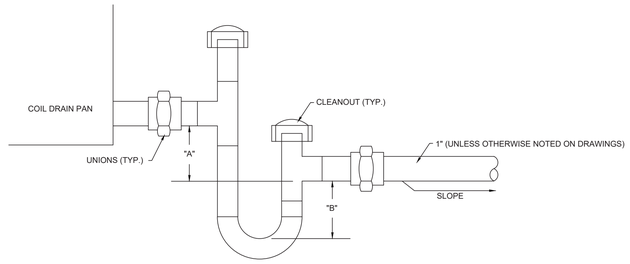
KEYED NOTES:

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
2. CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
4. A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATED ADJACENT TO EQUIPMENT.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
6. JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
7. NOT USED.
8. IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
9. IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.



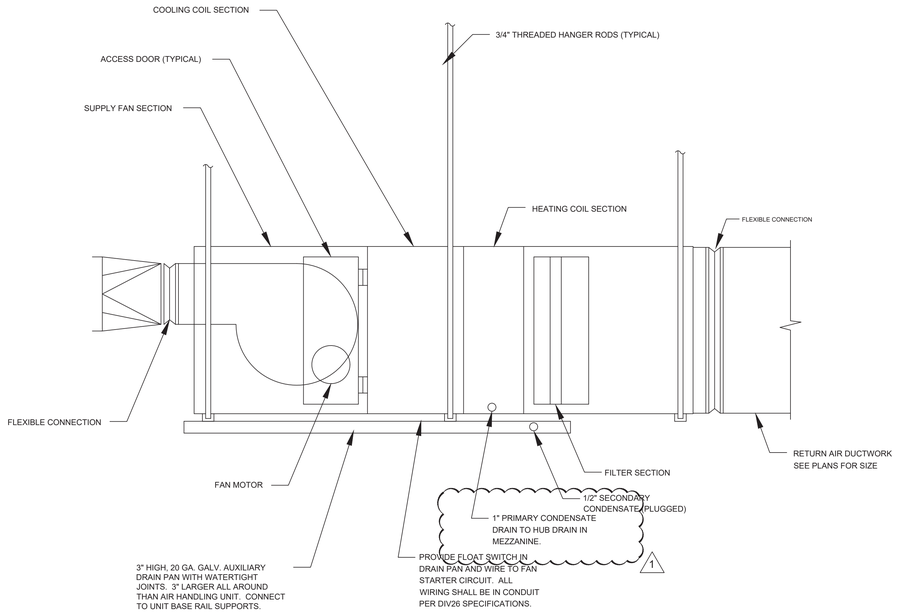
NOTES:
DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DIRECTION OF ROTATION FOR ALL THREE PHASE EQUIPMENT.

1 ELECTRICAL CONNECTIONS TO MECHANICAL EQUIP
NO SCALE

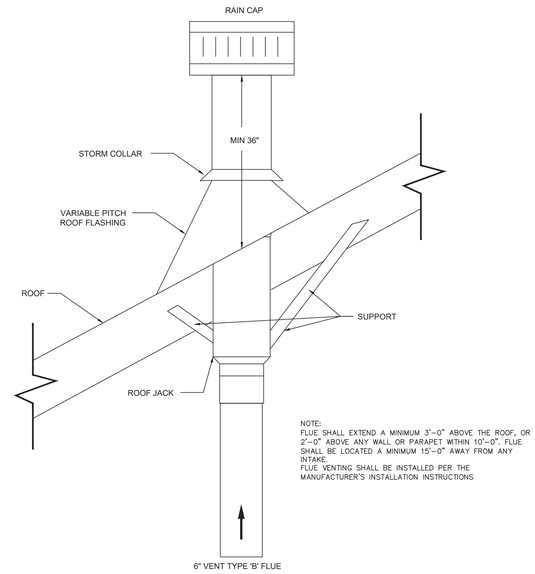


NOTES:
1. ``A" = SYSTEM STATIC IN INCHES, AT DRAIN POINT.
2. ``B" = 1/2 SYSTEM STATIC IN INCHES, AT DRAIN POINT.
3. SIZE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

2 CONDENSATE DRAIN DETAIL
NO SCALE



3 HORIZONTAL AHU INSTALLATION DETAIL
NO SCALE



4 TYPICAL PITCHED ROOF FLUE DETAIL
NO SCALE

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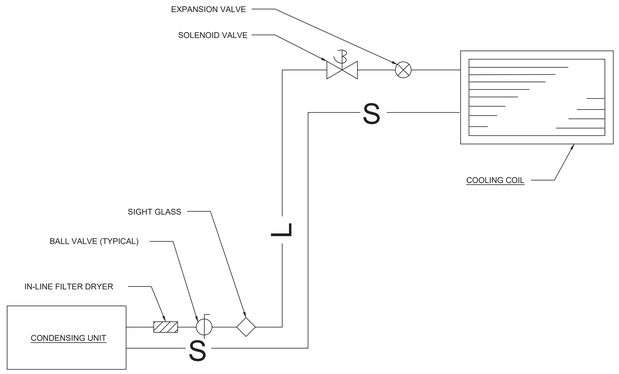
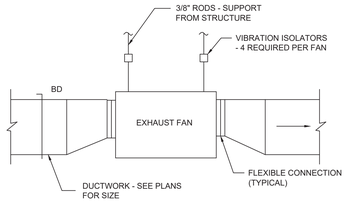
SHEET INFORMATION

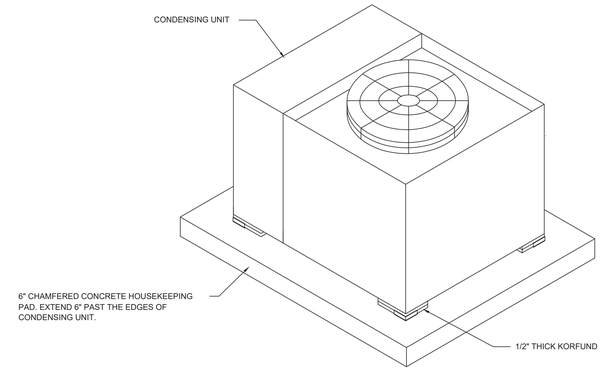
M501
MECHANICAL DETAILS



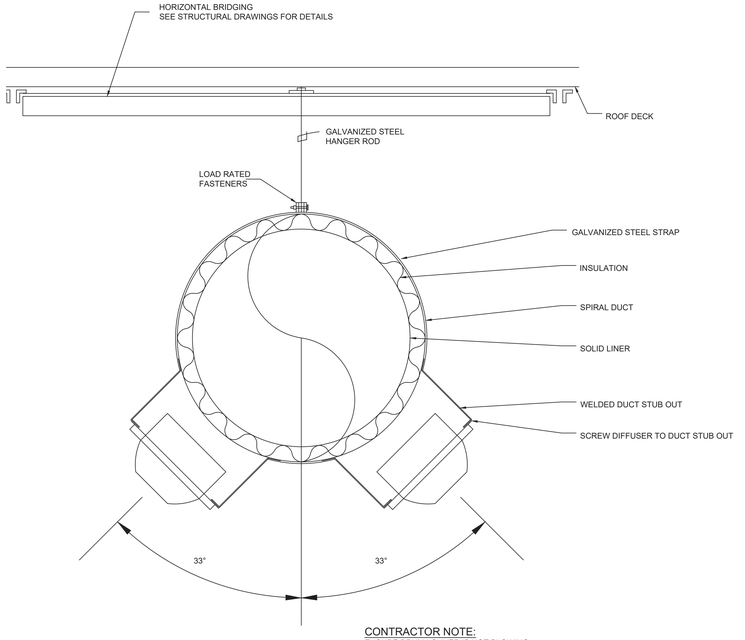
1 REFRIGERANT PIPING DETAIL
NO SCALE



2 INLINE EXHAUST FAN DETAIL
NO SCALE

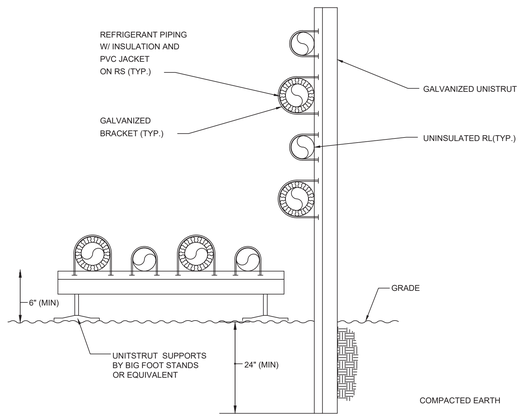


3 CONDENSING UNIT DETAIL
NO SCALE

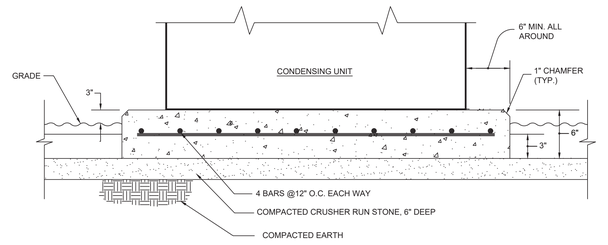


CONTRACTOR NOTE:
ENSURE DRUM LOUVER IS NOT BLOWING ONTO BOTTOM CHORD OF JOISTS

4 SPIRAL DUCT HANGING DETAIL
NO SCALE



5 REFRIGERANT PIPE SUPPORT DETAIL
NO SCALE



6 CONDENSING UNIT CONCRETE PAD DETAIL
NO SCALE

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SHEET INFORMATION

M502
MECHANICAL DETAILS

PLUMBING LEGEND

SYMBOL SCHEDULE

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER SUPPLY
- DOMESTIC HOT WATER RETURN
- GAS
- WASTE
- VENT
- PIPE ELBOW TURNS DOWN; UP
- PIPE TEES DOWN; UP
- PIPE CAP
- BALL VALVE
- CHECK VALVE
- CIRCUIT SETTER
- FCO — FLOOR CLEANOUT
- CO — END-OF-LINE CLEANOUT
- CLEANOUT AT FINISH WALL (WCO)

ABBREVIATIONS

AFC	ABOVE FINISH CEILING	HD	HUB DRAIN
AFF	ABOVE FINISH FLOOR	GCO	GRADE CLEANOUT
AFG	ABOVE FINISH GRADE	HWS	HOT WATER SUPPLY
AFH	ANTI-FREEZE HYDRANT	HWR	HOT WATER RETURN
AAV	AIR ADMITTANCE VALVE	IW	INDIRECT WASTE
BFF	BELOW FINISHED FLOOR	IWH	INSTANTANEOUS WATER HEATER
CI	CAST IRON		
CO	CLEANOUT	LAV	LAVATORY
CW	COLD WATER	TYP	TYPICAL
DNT	DO NOT TAP	UR	URINAL
EWC	ELECTRIC WATER COOLER	V	VENT
(EX)	EXISTING	VTR	VENT THRU ROOF
FCO	FLOOR CLEANOUT	W	WASTE
FD	FLOOR DRAIN	WC	WATER CLOSET
FDP	FLOOR DRAIN PARKING	WCO	WALL CLEANOUT
FPHB	FREEZE-PROOF HOSE BIBB	WHA	WATER HAMMER ARRESTOR
GPH	GALLONS PER HOUR		
HB	HOSE BIBB	YCO	YARD CLEANOUT

- CONNECT TO EXISTING
- POINT OF DEMOLITION

GENERAL PLUMBING NOTES

1. NOT ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING MAY BE USED ON THIS PROJECT.
2. ALL PLUMBING WORK SHALL BE FURNISHED AND INSTALLED PER THE STATE OF NORTH CAROLINA BUILDING CODE: PLUMBING CODE 2018.
3. UNLESS OTHERWISE NOTED ON DRAWINGS, ALL 1½"-2½" SANITARY WASTE AND VENT PIPING SHALL BE RUN AT ¼" PER FT SLOPE. ALL 3"-6" SANITARY WASTE AND VENT PIPING SHALL BE RUN AT ⅛" PER FT SLOPE. ALL WASTE AND VENT PIPING 8" OR LARGER SHALL BE RUN AT 1/16" PER FT SLOPE. ALL STORM DRAINAGE PIPING SHALL BE RUN AT ½" PER FT SLOPE.
4. THE DESIGN/DETAIL/SCHEDULE SHOWN IS BASED ON (MANUFACTURER, MODEL) EQUIPMENT AND IS INTENDED ONLY TO SHOW THE GENERAL SIZE, CONFIGURATION, LOCATION, CONNECTIONS, AND/OR SUPPORT FOR EQUIPMENT OR SYSTEMS SPECIFIED WITH RELATION TO THE OTHER BUILDING SYSTEMS.
5. INSTALL ALL PIPING AT THE MAXIMUM ELEVATION POSSIBLE. PROVIDE ALL FITTINGS, TRANSITIONS AND MATERIALS REQUIRED TO ACHIEVE MAXIMUM ELEVATION. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO THE START OF WORK TO AVOID CONFLICTS.
6. CONTRACTOR SHALL FURNISH ALL DISCONNECTS REQUIRED FOR PLUMBING EQUIPMENT.
7. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL MANUFACTURER SUBSTITUTIONS OF PLUMBING EQUIPMENT. SUBMIT A DESCRIPTION OF ANY/ALL CHANGES REQUIRED BY THE SUBSTITUTION, INCLUDING ELECTRICAL AND MECHANICAL CONNECTIONS, SIZES, WEIGHTS, AND CLEARANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COST ASSOCIATED WITH THE SUBSTITUTION.
8. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS. THE CONTRACTOR SHALL INFORM THE ARCHITECT AND/OR ENGINEER OF ANY CONFLICTS AS SOON AS THEY ARE DETECTED.
9. CONTRACTORS MUST CAREFULLY COORDINATE THE ARRANGEMENT AND INSTALLATION OF THE DUCT, PIPING, AND CONDUIT IN THE MECHANICAL CHASES PRIOR TO THE START OF WORK. ALL PENETRATIONS SHALL BE SLEEVED AND FIRE-PROOFED.
10. THESE DRAWINGS ARE NECESSARILY DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS, OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING AND INCLUDE ALL FITTINGS, OFFSETS, VENTS, AND DRAINS AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.

INSTANTANEOUS GAS FIRED WATER HEATER SCHEDULE

MARK	LOCATION	MANUFACTURER/ MODEL #	GAS BURNER DATA					INTAKE/ EXHAUST FLUE SIZE	SUPPLY AIR FAN		CONTROL CIRCUIT		REMARKS
			GAS TYPE AND PRESSURE, INCHES W.C.	GALLONS STORAGE	BTU/HR INPUT	FLOW RANGE	% Et		VOLTS	PHASE	AMPS	PH	
GWH-1	MECH COURTYARD	NORITZ NCC199CDV	PROPANE	119	199,900	0.5 GPM - 11.1 GPM	96%	4"/4"	120	1	15	1	PROVIDE WATER HEATER PAN W/ DRAIN. PROVIDE WITH HEAT TRAP NIPPLES. WATER HEATER TO BE SET AT A MAX TEMP OF 120°

NOTES:
1. PROVIDE VENT KIT FROM MANUFACTURER.
2. PROVIDE RECIRCULATING PUMP AT FURTHEST LAVATORY TO CIRCULATE HW DURING OPERATING HOURS.

ELECTRIC TANKLESS WATER HEATER SCHEDULE

MARK	LOCATION	SPECIFICATION/DESCRIPTION	GALLONS PER MINUTE	ENERGY FACTOR MIN.	ELECTRICAL SERVICE			DIMENSIONS			REMARKS
					VOLTS	PHASE	KW	WIDTH	DEPTH	HEIGHT	
IWH	LAVATORIES (TYPICAL)	CHRONOMITE ELECTRIC TANKLESS WATER HEATER MODEL#M-20L/120	0.4	0.99	120	1	2.4	2¾"	9⅝"	6½"	INSTALL PER MANUFACTURERS SPECIFICATIONS. SET MAX TEMP TO 110°

ESTIMATED BUILDING WATER DEMANDS

Load Values in Water Supply Fixture Units

FIXTURE TYPE	No.	Hot	Cold	Total	SUBTOTAL F.U.'s
WATER CLOSET (F.V.) Public	4		10	10	40
WATER CLOSET (F.V.) Private			6	6	
WATER CLOSET (F.T.)Public			5	5	
WATER CLOSET (F.T.)Private			2.2	2.2	
URINALS (F.V.)1"	1		10	10	10
URINALS (F.V.)3/4"			5	5	
LAVATORY (PUBLIC)	6	1.5	1.5	2	12
LAVATORY (PRIVATE)		0.5	0.5	0.7	
SHOWER HEAD (PUBLIC)	2	3	3	4	8
SHOWER HEAD (PRIVATE)		1	1	2	
BATH TUB(Private)		1	1	1.4	
BATH TUB(public)		3	3	4	
Custom Fixture					
COMMERCIAL SINK - 3 COMP.		3	3	4	
COMMERCIAL SINK - FOOD PREP		2.25	2.25	3.4	
COMMERCIAL SINK - 2 COMP		2	2	3	
COMMERCIAL SINK - 1 COMP		1.5	1.5	2	
KITCHEN SINK(private)		1	1	1.4	
KITCHEN SINK(hotel-rest.)	1	3	3	4	4
Custom Fixture					
DISHWASHER COMMERCIAL		6		6	
DISHWASHER - RESIDENTIAL	1	1.4		1.4	1.4
WASHING MACHINE (Private-8lb)		1	1	1.4	
WASHING MACHINE (Public 8lb)		2.25	2.25	3	
WASHING MACHINE (Public 15lb)	1	3	3	4	4
MOP SINK/Service sink	5	2.25	2.25	3	15
ELECTRIC WATER COOLER	1		0.25	0.25	0.25
HOSE BIBB / WALL HY DRANT	9		2	2	18
Add 5 GPM to Continuous Flow per Fixture					
		33.65			112.65
					TOTAL F.U.'s
Fixture Demand (GPM)	72.6325				
Continuous Demands					
SERVICE LINE FLOW	72.6325				
BUILDING LINE SIZE	2"				

SANITARY SERVICE CALCULATIONS

BUILDING D.F.U. DEMANDS

FIXTURE TYPE	No.	DFU VALUE	SUBTOTAL DFU
WATER CLOSET (F.V.) Public	4	4	16
WATER CLOSET (F.V.) Private		4	
WATER CLOSET (F.T.)		4	
URINALS (F.V.)	1	2	2
LAVATORY (PUBLIC)	6	1	6
LAVATORY (PRIVATE)		1	
SHOWER HEAD (PUBLIC)	2	2	4
SHOWER HEAD (PRIVATE)		2	
BATH TUB		2	
Custom Fixture			
COMMERCIAL SINK - 3 COMP.		3	
COMMERCIAL SINK - FOOD PREP		3	
COMMERCIAL SINK - 2 COMP		3	
COMMERCIAL SINK - 1 COMP		3	
HAND WASH SINK		2	
KITCHEN SINK No DW	1	2	2
KITCHEN SINK w / DW		2	
Custom Fixture			
DISHWASHER COMMERCIAL		6	
DISHWASHER - RESIDENTIAL	1	2	2
WASHING MACHINE (Private)		3	
WASHING MACHINE (Public)	1	2	2
MOP SINK	5	2	10
FLOOR DRAINS	6	2	12
ELECTRIC WATER COOLER	1	0.5	0.5
Waste calculated on Trap Sizing:			
TRAP < 1-1/4		1	
UP TO 1-1/2		2	
UP TO 2		3	
UP TO 2-1/2		4	
UP TO 3		5	
UP TO 4		6	

CODE	NCPC 2018	**TOTAL DFU**	56.5
BUILDING SEWER SIZE	4	**SLOPE**	0.125
SLAB THICKNESS	4	**LENGTH**	
COVER (CLEAR)	3	**FALL**	1/8
MATERIAL THICKNESS	11	**DEPTH (FT)**	0.93

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SHEET INFORMATION

P001

PLUMBING LEGENDS AND SCHEDULES

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	FIXTURE SPECIFICATION/DESCRIPTION	SAN	VENT	FIXTURE PICTURE	FAUCET DESCRIPTION	COLD WATER	HOT WATER	FLOW RATE	FAUCET PICTURE	REMARKS	COMPLIES WITH ADA
WC-1	WATER CLOSET FLOOR-MOUNT FLUSH VALVE	AMERICAN STANDARD 3043.001 "MADERA FLOWISE" 15" HEIGHT OR EQUAL. WHITE VIT CHINA. PROVIDE HIGH EFFICIENCY ELONGATED BOWL WITH 2⅛" TRAPWAY, 12" ROUGH-IN AND TOP SPUD.	4"	2"		SLOAN "REGAL" 111-1.28 OR EQUAL MANUAL FLUSH VALVE. CHROME 1.28GPF PROVIDE WITH NON-HOLD OPEN HANDLE AND SELF-CLEANING BRASS PISTON.	1"	-	1.28GPF		PROVIDE ANTI-MICROBIAL, HEAVY DUTY, OPEN FRONT SEAT, COLOR WHITE.	-
WC-1A	WATER CLOSET FLOOR-MOUNT FLUSH VALVE ADA COMPLIANT	AMERICAN STANDARD 3043.001 "MADERA FLOWISE" 17" HEIGHT OR EQUAL. WHITE VIT CHINA. PROVIDE HIGH EFFICIENCY ELONGATED BOWL WITH 2⅛" TRAPWAY, 12" ROUGH-IN AND TOP SPUD.	4"	2"		SLOAN "REGAL" 111-1.28 OR EQUAL MANUAL FLUSH VALVE. CHROME 1.28GPF PROVIDE WITH NON-HOLD OPEN HANDLE AND SELF-CLEANING BRASS PISTON.	1"	-	1.28GPF		PROVIDE ANTI-MICROBIAL, HEAVY DUTY, OPEN FRONT SEAT, COLOR WHITE.	
UR-1	URINAL	SLOAN SU-7009 OR EQUAL WHITE VIT CHINA, WALL MOUNTED WASHDOWN URINAL WITH 2" TRAPWAY, TOP SPUD AND VANDAL RESISTANT STRAINER ASSEMBLY.	2"	½"		SLOAN "REGAL" 186-0.125 OR EQUAL MANUAL FLUSH VALVE. CHROME 0.125GPF PROVIDE WITH NON-HOLD OPEN HANDLE AND SELF-CLEANING BRASS PISTON.	¾"	-	0.125GPF		REFER TO ARCH ELEVATIONS FOR MOUNTING HEIGHTS.	
LAV-1	UNDERMOUNT SINK	KHOLER BACHATA K-2609-SU STAINLESS STEEL UNDERCOUNTER MOUNT SINK. COORDINATE WITH ARCHITECTURAL FOR SOLID SURFACE CONDITIONS	1½"	1¼"		T&S "CHEKPOINT" EC-3103 (OR EQUAL) THREE-HOLE ELECTRONIC SENSOR FAUCET. PROVIDE WITH 0.35 GPM VANDAL RESISTANT AERATOR, MATCHING STRAINER, AND BELOW DECK THERMOSTATIC MIXING VALVE.	½"	½"	0.35GPM		PROVIDE WITH KEYED ½" STOPS, AND P-TRAP w/CLEANOUT. PROVIDE WITH AMERICAN STANDARD THERMOSTATIC MIXING VALVE MODEL#605XTMV. SET TEMPERATURE TO 110° MAX.	
LAV-2	WALL HUNG SINK	AMERICAN STANDARD "LUCERNE" WALL HUNG SINK MODEL# 0355.912 4" CENTERSET, WHITE LAVATORY WITH FRONT OVERFLOW. PROVIDE WITH AMERICAN STANDARD SELECTRONIC "INNSBROOK" METERING.	1½"	1¼"		T&S "CHEKPOINT" EC-3103 (OR EQUAL) THREE-HOLE ELECTRONIC SENSOR FAUCET. PROVIDE 0.35GPM VANDAL RESISTANT AERATOR, MATCHING STRAINER, AND BELOW DECK THERMOSTATIC MIXING VALVE.	½"	½"	0.35GPM		PROVIDE WITH KEYED ½" STOPS, AND P-TRAP w/CLEANOUT. PROVIDE WITH AMERICAN STANDARD THERMOSTATIC MIXING VALVE MODEL#605XTMV. SET TEMPERATURE TO 110° MAX.	
KS-1	DOUBLE BOWL KITCHEN SINK	ELKAY CROSSTOWN ECTRUAD311755 STAINLESS STEEL 31½"X18½"X5½", EQUAL DOUBLE BOWL, DROP-IN, 18GA, ADA SINK. PROVIDE 4-HOLE CONFIGURATION.	1½"	1¼"		ELKAY LKD2433C 8" CENTERSET CONCEALED DECK MOUNT FAUCET WITH ARC SPOUT, LEVER HANDLERS, AND SPRAYER.	½"	½"	1.5GPM		PROVIDE TURN BALL VALVES, AND P-TRAP w/CLEANOUT.	
US-1	SCULLERY SINK	ELKAY B1C OR EQUAL STAINLESS STEEL 36"X24 1/2X42 18 GAUGE FREE STANDING UTILITY SINK	2"	1½"		8" CENTERSET BACKSPLASH MOUNT FAUCET WITH 44" FLEXIBLE HOSE ELKAY LK945GN08T6T OR EQUAL.	½"	½"	1.6GPM		18 GAUGE, CENTER DRAIN. PROVIDE QUARTER-TURN BALL VALVES WITH ANGLED STOPS. COMBINE DRAINS INTO SINGLE COMMON	-
EWC-1	DRINKING FOUNTAIN	ELKAY LZSTL8WSLK WATER REFILLING STATION, BI-LEVEL REVERSIBLE, WITH FILTER. TOUCHLESS SENSOR ACTIVATION.	1¼"	1¼"		SINGLE-POINT WASTE AND WATER CONNECTIONS.	½"	-	-	-	MOUNT IN COMPLIANCE WITH ADA REQUIREMENTS.	
SH-1A	SHOWER	REFER TO FLOOR DRAIN CALLED OUT IN THIS AREA FOR DRAIN INFORMATION. SHOWER ENCLOSURE IS BUILT IN PLACE, COORDINATE WITH GC.	-	-		DELTA T14H333 COMMERCIAL SHOWER KIT 1.5 GPM WITH SHOWER VALVE, 3-F HAND SHOWER, 24" SLIDE BAR AND 69" METAL SHOWER HOSE.	½"	½"	1.5GPM		INSTALL SUCH THAT CENTER LINE OF SHOWER HEAD IS MOUNTED 88" AFF.	
PF-1	POT FILLER	-	-	-		ELKAY "EXPLORE" WALL MOUNT SINGLE HOLE POT FILLER OR EQUAL.	½"	½"	4 GPM		PROVIDE WITH WINTERIZATION DRAIN DOWN.	

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	FIXTURE SPECIFICATION/DESCRIPTION	SAN	VENT	FIXTURE PICTURE	FAUCET DESCRIPTION	COLD WATER	HOT WATER	FLOW RATE	FAUCET PICTURE	REMARKS	COMPLIES WITH ADA
MS-1	JANITORS SINK	STERN WILLIAMS - MODEL SB-802. 28"X26" TERRAZO MOP SINK BASIN.	3"	2"		PROVIDE STERN WILLIAMS T-10-VB SERVICE SINK FAUCET WITH ADJUSTABLE TOP BRACE VACUUM BREAKER AND BUCKET HOOK	½"	½"	1.6GPM		REFER TO ARCHITECTURAL PLANS FOR WALL FINISHES AND ADDITIONAL DETAILS AT MOP SINK. PROVIDE WITH BOBRICK B-223X36 OR EQUAL MOP RACK.	-
EWS-1	EMERGENCY EYEWASH AND SHOWER	HAWS MODEL 8309WC AXION MSP COMBINATION SHOWER AND EYE/FACE WASH	1¼"	1¼"		PROVIDE WITH THERMOSTATIC MIXING VALVE HAWS 9201 E SHOWER	½"	½"	20GPM		PROVIDE SCALD PROTECT BLEED VALVE MOUNTED ON WALL BEHIND SHOWER.	
IMB-1	ICE MAKER BOX	IPS 82412 ICE MAKER BOX. FIRE-RATED RECESSED PVC RESIN ICEMAKER OUTLET BOX, INCLUDE INTUMESCENT PAD AT BACK OF BOX ETL CERTIFIED SNAP-ON FRAME.	-	-		PROVIDE WITH QUARTER TURN BALL SHUTT-OFF VALVE.	½"	-	-		COORDINATE MOUNTING HEIGHT WITH ICE MAKER ON APPLIANCE. PROVIDE WITH APPLIANCE BACKFLOW PREVENTOR.	-
WMB-1	WASHING MACHINE BOX	ZURN WM2961-34 ENCASED WASHING MACHINE BOX. HEAVY-DUTY MOUNTING STRAPS, KNOCKOUTS FOR A RIGHT OR LEFT MOUNTING, AND A 1-1/2" [38MM] X 2" [51MM] TAILPIECE	2"	1¼"		PROVIDE WITH SINGLE LEVER HANDLE VALVE.	½"	½"	-		COORDINATE MOUNTING HEIGHT WITH WASHING MACHINE. INSTALL TRAP AND VENT INSIDE WALL.	-
HB-1	HOSE BIBB	INTERIOR DUTY, POLYCARBONATE WHEEL HANDLE AND LOOSE TEE KEY	-	-		WOODFORD 24 FINISH: POLISHED CHROME	¾"	-	-	-	MOUNT ON PIPE END. MOUNT 18" A.F.F. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR PRECISE MOUNTING LOCATION	-
NFWH-1	NON-FREEZE WALL HYDRANT	FREEZELESS, BRASS	-	-		B65 FINISH: BRASS	¾"	-	-	-	COORDINATE MOUNTING HEIGHT WITH WITH OWNER.	-
FD-1	FLOOR DRAIN	WATTS FD-100-A FLOOR DRAIN WITH ADJUSTABLE STRAINER. 6" ROUND NICKEL BRONZE STRAINER. PROVIDE WITH P-TRAP.	3"	2"		-	-	-	-	-	REFER TO DRAWING DETAILS COORDINATE WITH GEN. CONSTR. WORK TO SET THE FLOOR DRAIN FLUSH WITH FIN. FLOOR ADJUSTED FOR FLOOR SLOPE REQUIRED.	-
FD-2	SHOWER FLOOR DRAIN	WATTS FD-100-B FLOOR DRAIN WITH ADJUSTABLE STRAINER. 6" ROUND NICKEL BRONZE STRAINER. PROVIDE WITH P-TRAP.	3"	2"		-	-	-	-	-	REFER TO DRAWING DETAILS COORDINATE WITH GEN. CONSTR. WORK TO SET THE FLOOR DRAIN FLUSH WITH FIN. FLOOR ADJUSTED FOR FLOOR SLOPE REQUIRED.	-
HD-1	HUB DRAIN	WATTS FD-100-ER FLOOR DRAIN WITH ADJUSTABLE STRAINER. 7" ROUND NICKEL BRONZE EXTENDED STRAINER.	2"	-		-	-	-	-	-	COORDINATE LOCATION OF HUB DRAIN CENTRAL TO AIR HANDLER DISCHARGE	-
FD-3	HUB DRAIN	FD-1193-A-PR6-60 PVC FLOOR DRAIN WITH ADJUSTABLE STRAINER. 6" STAINLESS STEEL ADJUSTABLE STRAINER.	3"	-		-	-	-	-	-	COORDINATE INSTALLATION WITH PROVIDER OF WALK OFF MATS. REFER TO ARCHITECTURAL PLANS FOR MORE INFORMATION.	-

NOTES:
1. PLUMBING FIXTURES SPECIFIED ARE GENERALLY AMERICAN STANDARD. FIXTURES AS MANUFACTURED BY KOHLER, ELKAY OR TOTO MAY BE SUBMITTED FOR APPROVAL PROVIDED THE SELECTION IS STRICTLY APPROVED EQUIVALENT.
2. PLUMBING FAUCETS SPECIFIED ARE GENERALLY DELTA. FAUCETS AS MANUFACTURED BY T&S BRASS OR CHICAGO MAY BE SUBMITTED FOR APPROVAL PROVIDED THE SELECTION IS STRICTLY APPROVED EQUIVALENT.
3. PLUMBING FLUSH VALVES SPECIFIED ARE GENERALLY AMERICAN STANDARD. FLUSH VALVES AS MANUFACTURED BY SLOAN OR DELANEY MAY BE SUBMITTED FOR APPROVAL PROVIDED THE SELECTION IS STRICTLY APPROVED EQUIVALENT.
4. FLOOR DRAINS AND FLOOR SINKS ARE GENERALLY ZURN. DRAINS AS MANUFACTURED BY JAY R. SMITH, JOSAM OR WATTS MAY BE SUBMITTED FOR APPROVAL PROVIDED THE SELECTION IS STRICTLY APPROVED EQUIVALENT.

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CHECKED BY:

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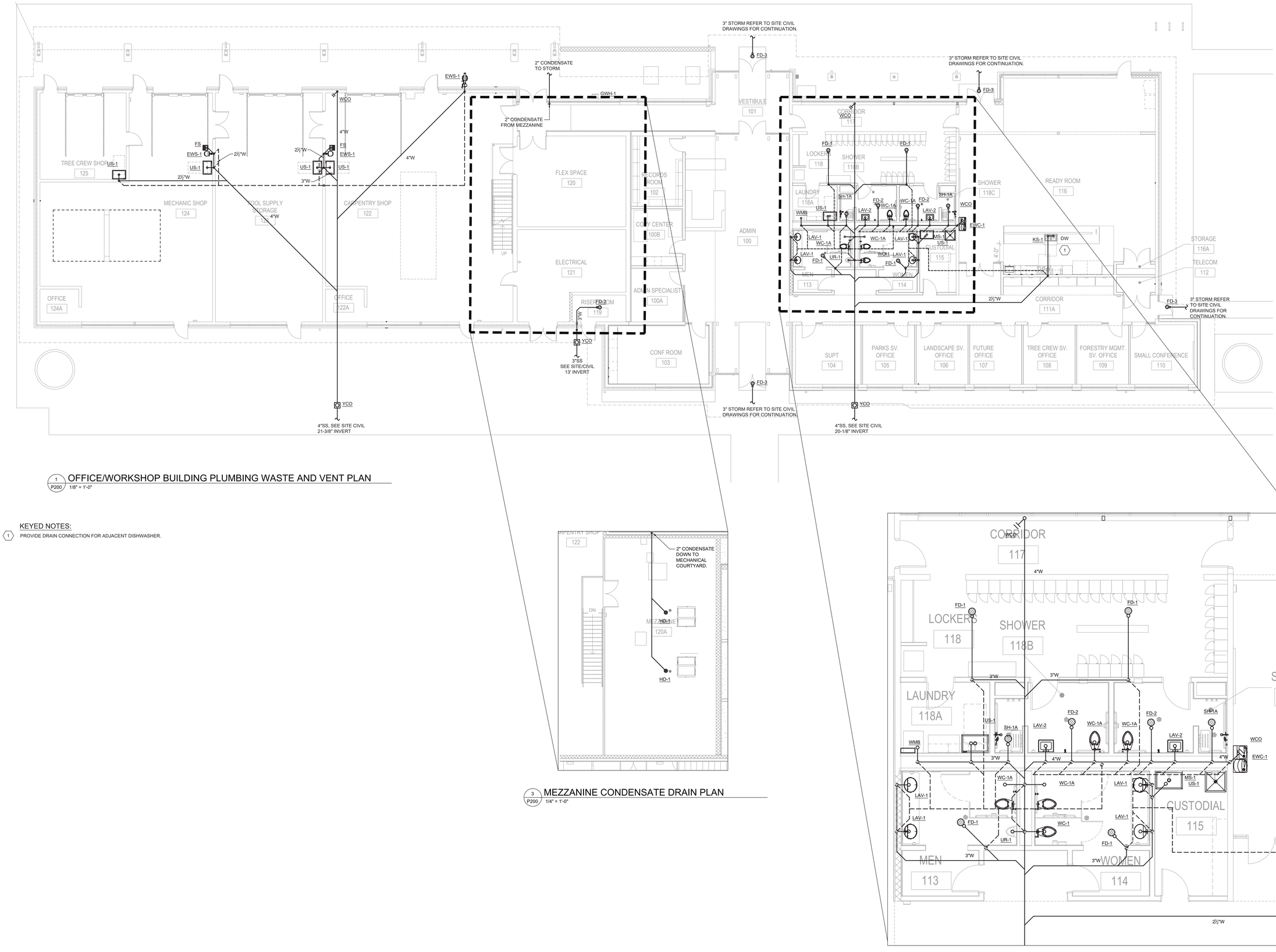
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

P002

PLUMBING LEGENDS AND SCHEDULES

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 220500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



1 / P200 OFFICE/WORKSHOP BUILDING PLUMBING WASTE AND VENT PLAN

1/8" = 1'-0"

KEYED NOTES:

1. PROVIDE DRAIN CONNECTION FOR ADJACENT DISHWASHER.

3 / P200 MEZZANINE CONDENSATE DRAIN PLAN

1/4" = 1'-0"

2 / P200 ENLARGED PLUMBING WASTE AND VENT PLAN

1/4" = 1'-0"

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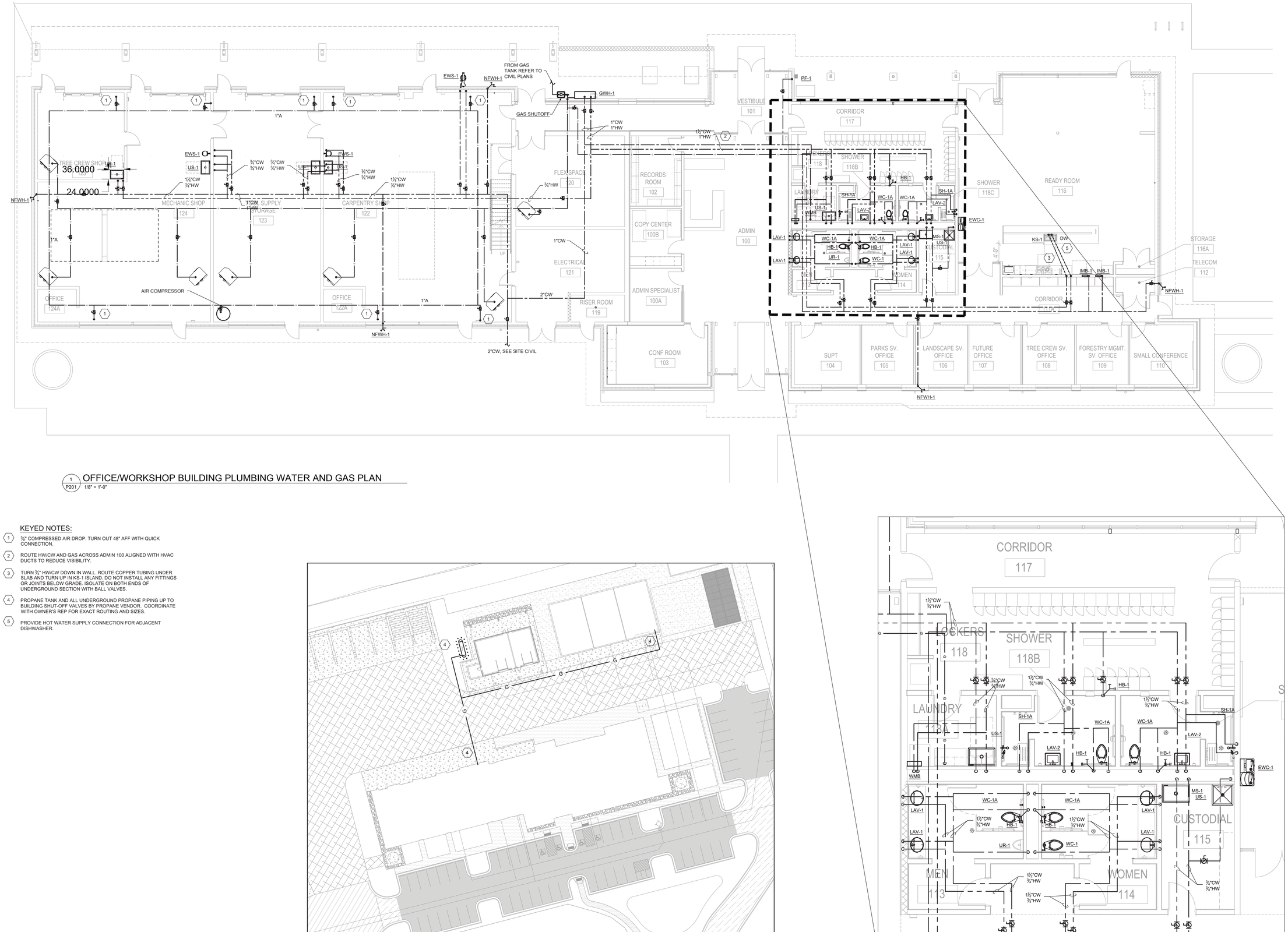
SHEET INFORMATION

P200

PLUMBING WASTE AND VENT NEW WORK PLAN

COORDINATE LOCATIONS OF ALL EQUIPMENT, DEVICES, ETC. WITH ARCHITECT PRIOR TO BEGINNING WORK. REFERENCE SECTION 220500 FOR REQUIRED PRE-INSTALLATION MEETINGS.



1 / P201 OFFICE/WORKSHOP BUILDING PLUMBING WATER AND GAS PLAN
1/8" = 1'-0"

KEYED NOTES:

1. ¾" COMPRESSED AIR DROP. TURN OUT 48" AFF WITH QUICK CONNECTION.
2. ROUTE HW/CW AND GAS ACROSS ADMIN 100 ALIGNED WITH HVAC DUCTS TO REDUCE VISIBILITY.
3. TURN ¾" HW/CW DOWN IN WALL. ROUTE COPPER TUBING UNDER SLAB AND TURN UP IN KS-1 ISLAND. DO NOT INSTALL ANY FITTINGS OR JOINTS BELOW GRADE. ISOLATE ON BOTH ENDS OF UNDERGROUND SECTION WITH BALL VALVES.
4. PROPANE TANK AND ALL UNDERGROUND PROPANE PIPING UP TO BUILDING SHUT-OFF VALVES BY PROPANE VENDOR. COORDINATE WITH OWNER'S REP FOR EXACT ROUTING AND SIZES.
5. PROVIDE HOT WATER SUPPLY CONNECTION FOR ADJACENT DISHWASHER.

3 / P201 PLUMBING SITE PLAN
1/32" = 1'-0"

2 / P201 ENLARGED PLUMBING WATER AND GAS PLAN
1/4" = 1'-0"

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P201

PLUMBING WATER AND GAS NEW WORK PLAN

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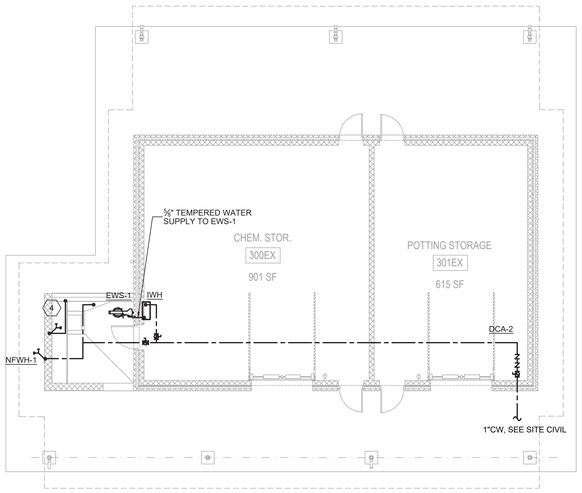
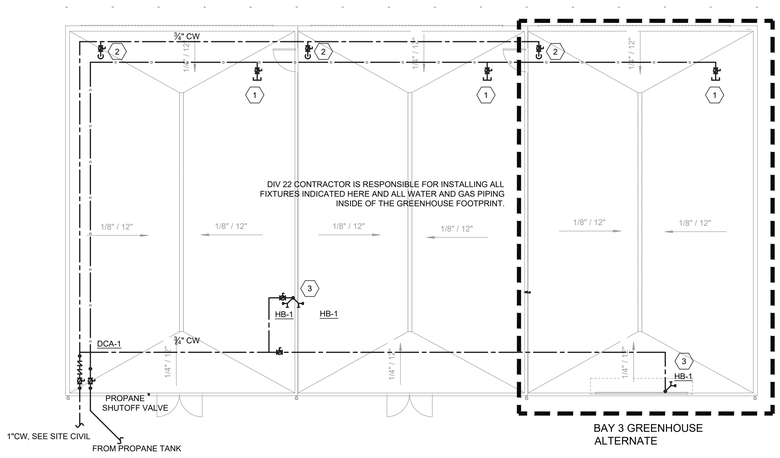


1 P210 STORAGE PLUMBING PLAN
1/8" = 1'-0"



2 P210 GREENHOUSE PLUMBING PLAN
1/8" = 1'-0"

KEYED NOTES:

1. INSTALL ¾" GAS VALVE AND DIRT LEG. STUB OUT FOR UH. COORDINATE WITH GREENHOUSE SUPPLIER. FINAL CONNECTION BY DIV 22.
2. ROUTE ¾" TYPE 'L' COPPER PIPE DOWN TO PAD WALL FLOAT SWITCH. ALL EXPOSED WATER PIPING SHALL BE INSULATED WITH 3/4" FIBERGLASS AND 6MIL PVC JACKET. COORDINATE WITH GREENHOUSE SUPPLIER
3. ROUTE ¾" TYPE 'L' COPPER PIPE DOWN OUTSIDE OF WALL TURN OUT 18" AFF AND TERMINATE WITH QUARTER-TURN HOSE BIB. ALL EXPOSED WATER PIPING SHALL BE INSULATED WITH 3/4" FIBERGLASS AND 6MIL PVC JACKET.
4. 2" COPPER TYPE 'L' FROM SUMP PUMP DISCHARGE. REDUCE TO ¾" AND TERMINATE INTO HOSEBIB FOR DISPOSAL MANAGEMENT.

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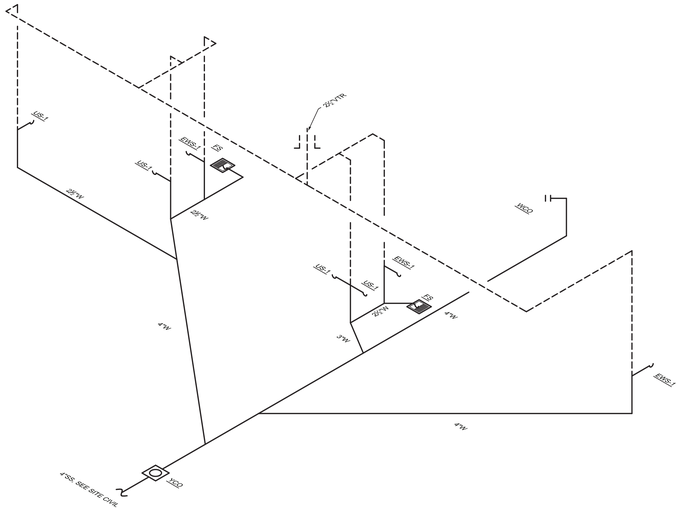
SHEET INFORMATION

P210

PLUMBING WATER AND GAS NEW WORK PLAN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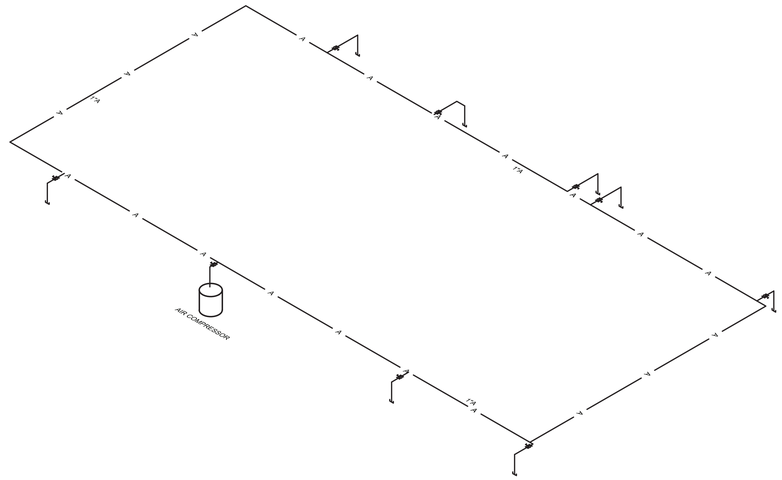
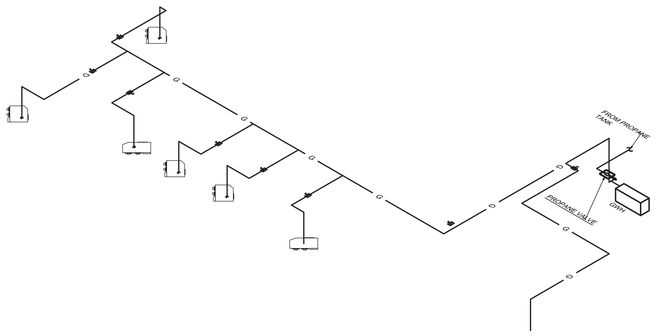
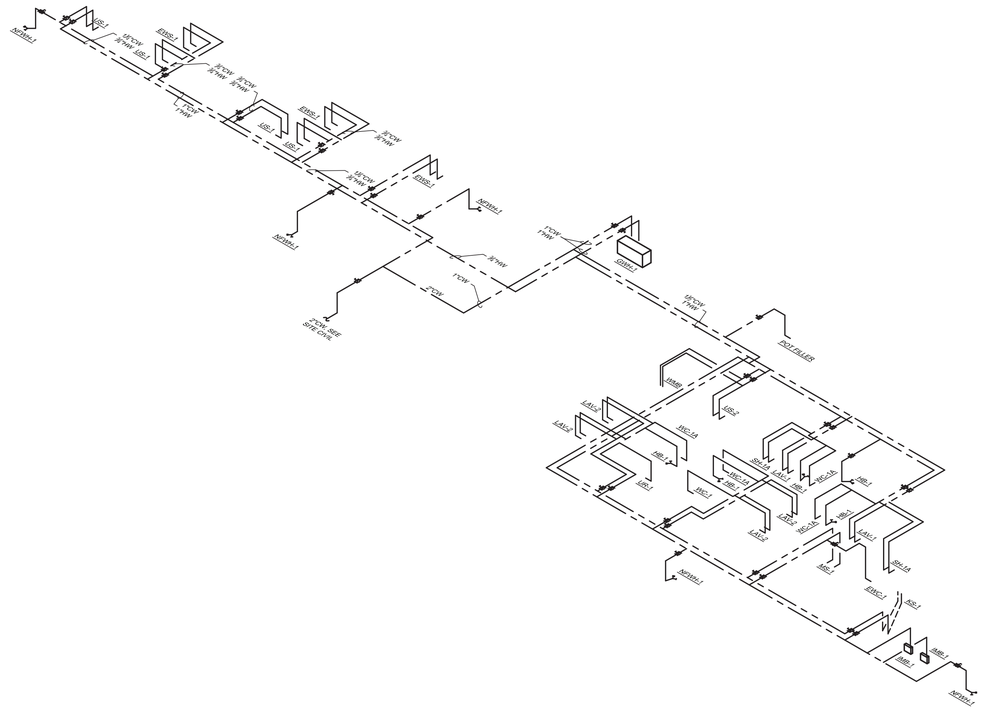
4"W

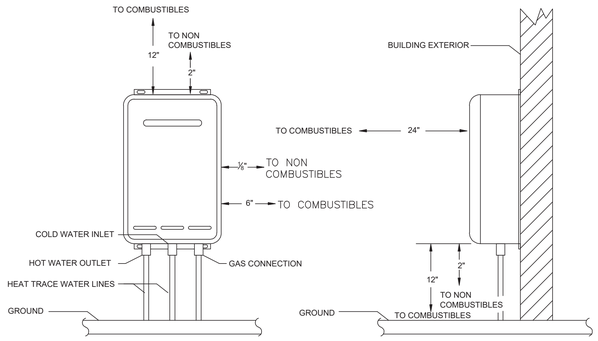


3 P301 OFFICE/WORKSHOP BUILDING PLUMBING COMPRESSED AIR RISER
NO SCALE



1 P301 OFFICE/WORKSHOP BUILDING PLUMBING GAS RISER
NO SCALE

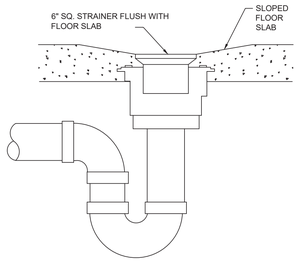




NOTES:
1. THE CLEARANCE FOR SERVICING IS 24" IN FRONT OF THE WATER HEATER.

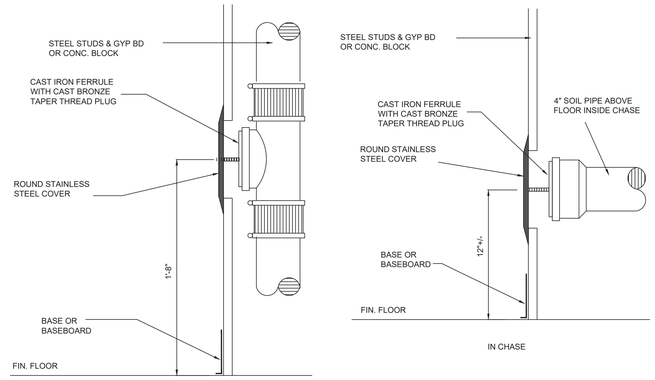
GAS INSTANTANEOUS WATER HEATER DETAIL

NO SCALE 06



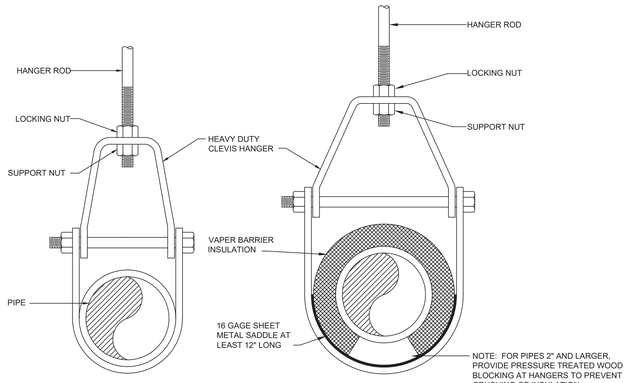
FLOOR DRAIN DETAIL

NO SCALE 05



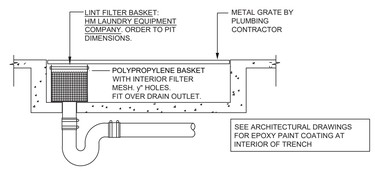
WALL CLEAN OUT DETAIL

NO SCALE 04



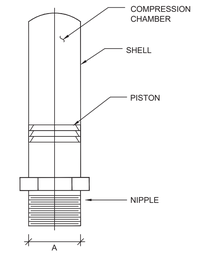
CLEVIS HANGER DETAIL

NO SCALE 03



TD-1 WASHER EXTRACTOR DRAIN DETAIL

NO SCALE 02



PLUMBING CONTRACTOR SHALL INSTALL SHOCK ARRESTOR ACCORDING TO THE NORTH CAROLINA STATE BUILDING CODE: PLUMBING CODE 2018. FLUSH VALVES SHALL BE CONSIDERED AS A QUICK CLOSING VALVE ALSO P.C. SHALL INSTALL IN AN UPRIGHT POSITION AND EITHER IN AN ACCESSIBLE PIPE CHASE OR ABOVE THE CEILING OUTSIDE THE PIPE CHASE. PROVIDE AN APPROVED TYPE CEILING ACCESS DOOR IF THE SHOCK ARRESTOR IS NOT ABOVE A LAY-IN CEILING.

JOSAM NO.	P.D.I. SIZE	FIXTURE UNIT RATING	A SIZE
75001-S	A	1-11	1/2
75002-S	B	12-32	3/4
75003-S	C	33-60	1
75004-S	D	61-113	1
75005-S	E	114-154	1
75006-S	F	155-330	1

WATER HAMMER ARRESTOR DETAIL

NO SCALE 01

Esse Architects
632 PERSHING ROAD
RALEIGH, NORTH CAROLINA 27608
P 919.270.6455
www.esse-architects.com

CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

LANDSCAPE ARCHITECTURE + CIVIL ENGINEERING
TIMMONS GROUP
5410 TRINITY RD, SUITE 102
RALEIGH NC 27607
919.866.4935

MECHANICAL, ELECTRICAL, & PLUMBING
SIGMA ENGINEERED SOLUTIONS
5909 FALLS OF NEUSE RD, SUTE 101
RALEIGH, NC 27609
919.840.9300

STRUCTURAL
LYSAGHT & ASSOCIATES
120 ST. MARY'S ST
RALEIGH, NC 27605
919.833.0495

SEALS

PROJECT INFORMATION

PROJECT NO.: 2014
PHASE: BID DOCUMENTS
DATE: 01.13.2025
DRAWN BY: AMR
CHECKED BY:

REVISIONS

NO.	DESCRIPTION	DATE
1	PRE BID MODIFICATION/PERMIT REVIEW	03.15.2025
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

P500
PLUMBING DETAILS AND NOTES

GENERAL STRUCTURAL NOTES

GENERAL

THESE DRAWINGS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF LYSAGHT & ASSOCIATES, P.A., FOR USE SOLELY WITH THIS PROJECT AND SHALL NOT BE REPRODUCED FOR OTHER PURPOSES.

THE PROFESSIONAL ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS IS THE PROJECT STRUCTURAL ENGINEER-OF-RECORD (SER) WHO BEARS LEGAL RESPONSIBILITY FOR THE PERFORMANCE OF THE STRUCTURAL FRAMING RELATING TO PUBLIC HEALTH, SAFETY, AND WELFARE. NO OTHER PARTY, WHETHER OR NOT A PROFESSIONAL ENGINEER, MAY COMPLETE, CORRECT, REVISE, DELETE, OR ADD TO THESE CONSTRUCTION DOCUMENTS OR PERFORM INSPECTIONS OF THE WORK WITHOUT THE WRITTEN PERMISSION OF THE STRUCTURAL ENGINEER OF RECORD.

USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH JOB SPECIFICATIONS, AND OTHER DRAWINGS.

SECTIONS AND DETAILS SHOWN SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

ALL NON-STRUCTURAL ELEMENTS INDICATED ON THE STRUCTURAL DRAWINGS HAVE BEEN SHOWN IN GENERAL RELATIONSHIP TO THE STRUCTURAL ELEMENTS. THEY SHALL NOT BE ASSUMED TO BE ACCURATE AND REFERENCE MUST BE MADE TO THE APPROPRIATE CONSULTANT(S) PLANS AND SPECIFICATIONS.

GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD AND TAKE ALL NECESSARY FIELD MEASUREMENTS.

THE STRUCTURE SHOWN ON THESE DRAWINGS IS STRUCTURALLY SOUND ONLY IN ITS COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACING TO STABILIZE THE BUILDING DURING CONSTRUCTION.

SCOPE OF STRUCTURAL ENGINEERING SERVICES

LYSAGHT & ASSOCIATES, P.A. HAS PERFORMED THE STRUCTURAL DESIGN AND PREPARED THE STRUCTURAL WORKING DRAWINGS FOR THIS PROJECT. "CONSTRUCTION REVIEW" SERVICES ARE ALSO A PART OF OUR CONTRACT. THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER AT THE FOLLOWING STAGES OF CONSTRUCTION FOR A FIELD REVIEW OF THE WORK, AS REQUESTED BY THE OWNER OR UNDER THE APPROVAL OF THE ARCHITECT, OR THIS SERVICE WILL BE EXCLUDED FROM THE SCOPE.

A "CONSTRUCTION REVIEW REPORT" WILL BE SENT TO THE ARCHITECT AND GENERAL CONTRACTOR FOLLOWING EACH FIELD TRIP.

PORTIONS OF THE STRUCTURAL DESIGN (AS NOTED ON THE DRAWINGS AND IN THESE NOTES) ARE THE RESPONSIBILITY OF THE MATERIAL SUPPLIERS. SHOP DRAWINGS FOR EACH OF THE STRUCTURAL COMPONENTS MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION AND ERECTION. SPECIAL INSPECTIONS IS ALSO REQUIRED, AND IS LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS.

THE STRUCTURAL ENGINEER IS RESPONSIBLE FOR THE DESIGN OF THE PRIMARY STRUCTURAL SYSTEM, EXCEPT FOR THE COMPONENTS NOTED ABOVE. RESPONSIBILITY FOR ANY SECONDARY STRUCTURAL AND NON-STRUCTURAL SYSTEMS NOT SHOWN ON THE STRUCTURAL PLANS RESTS WITH SOMEONE OTHER THAN THE STRUCTURAL ENGINEER.

THE STRUCTURAL ENGINEER HAS NOT DONE A SUBSURFACE INVESTIGATION (HE IS NOT A SOILS SPECIALIST). THE FOUNDATION DESIGN IS BASED UPON THE ALLOWABLE BEARING PRESSURE AS NOTED IN THE GEOTECHNICAL REPORT. IF PROBLEMS ARE ENCOUNTERED, THE GENERAL CONTRACTOR SHALL CONTACT THE GEOTECHNICAL ENGINEER AND THE STRUCTURAL ENGINEER TO EVALUATE THE CONDITIONS ON SITE, AND RECOMMEND THE APPROPRIATE FOUNDATION SYSTEM.

THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK; NOR WILL HE BE RESPONSIBLE FOR THE GENERAL CONTRACTOR'S (OR SUBCONTRACTORS) FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

FIELD MEASUREMENTS AND THE VERIFICATION OF FIELD DIMENSIONS ARE NOT PART OF THE STRUCTURAL ENGINEER'S RESPONSIBILITY. THE GENERAL CONTRACTOR SHALL CHECK ALL (ASSUMED) EXISTING CONDITIONS SHOWN ON THESE DRAWINGS FOR ACCURACY AND NOTIFY THE DESIGN TEAM OF ANY DISCREPANCIES.

CODE

NORTH CAROLINA STATE BUILDING CODE - 2018 EDITION (IBC 2015 ED.)

BUILDING OCCUPANCY CATEGORIES
ADMINISTRATION BUILDING II
POTTING SHED II
VEHICLE SHED II
GREENHOUSE STRUCTURES (BY OTHERS) II

DESIGN LOADS

ROOF DEAD LOAD	20	PSF
ROOF LIVE LOAD	20	PSF
MEZZANINE DEAD LOAD	50	PSF
FLOOR LIVE LOAD (ADMINISTRATION, UNIFORM)	100	PSF
FLOOR LIVE LOAD (ADMINISTRATION, CONCENTRATED)	2000	LBS
FLOOR LIVE LOAD (MEZZANINE, UNIFORM)	100	PSF
FLOOR LIVE LOAD (POTTING SHED, UNIFORM)	100	LBS

SNOW LOAD DATA :
GROUND SNOW LOAD 10 PSF

ADMINISTRATION BUILDING & POTTING SHED
SNOW EXPOSURE FACTOR 0.9
SNOW LOAD IMPORTANCE FACTOR 1.0
THERMAL FACTOR 1.1
FLAT ROOF SNOW LOAD 10.0 PSF
ROOF SLOPE FACTOR 1.0
PITCHED ROOF SNOW LOAD 10.0 PSF

VEHICLE SHED
SNOW EXPOSURE FACTOR 0.9
SNOW LOAD IMPORTANCE FACTOR 0.8
THERMAL FACTOR 1.2
FLAT ROOF SNOW LOAD 8.0 PSF
ROOF SLOPE FACTOR 1.0
PITCHED ROOF SNOW LOAD 8.0 PSF

WIND LOAD DATA :
ADMINISTRATION BUILDING & POTTING SHED
BASIC WIND SPEED (ASCE 7-16) 145 MPH
NOMINAL WIND SPEED (ASD) 113 MPH
WIND RISK CATEGORY II
WIND EXPOSURE D
INTERNAL PRESSURE COEFFICIENTS +0.18, -0.18
COMPONENTS & CLADDING PRESSURES - SEE TABLE
WIND BASE SHEAR (ADMIN BUILDING) Vx ASD 37 KIPS
Vy ASD 152 KIPS
WIND BASE SHEAR (POTTING SHED) Vx ASD 19 KIPS
Vy ASD 34 KIPS

VEHICLE SHED
BASIC WIND SPEED (ASCE 7-16) 145 MPH
NOMINAL WIND SPEED (ASD) 113 MPH
WIND RISK CATEGORY I
WIND EXPOSURE D
INTERNAL PRESSURE COEFFICIENTS +0.0, -0.0
COMPONENTS & CLADDING PRESSURES - SEE TABLE, THIS SHEET

SEISMIC LOAD DATA :
ALL BUILDINGS
MAPPED SPECTRAL RESPONSE ACCELERATION, Ss 0.159
MAPPED SPECTRAL RESPONSE ACCELERATION, S1 0.069
SOIL SITE CLASS PER GEOTECH D
SPECTRAL RESPONSE COEFFICIENT, SDS 0.170
SPECTRAL RESPONSE COEFFICIENT, SD1 0.111
SEISMIC DESIGN CATEGORY B

ADMINISTRATION BUILDING & POTTING SHED
SEISMIC RISK CATEGORY II
SEISMIC IMPORTANCE FACTOR I 1.00
BASIC STRUCTURAL SYSTEM BEARING WALL SYSTEM
SEISMIC RESISTING SYSTEM INTERMEDIATE REINF. MASONRY SHEAR WALL
RESPONSE MODIFICATION COEFFICIENT, R 3.50
SYSTEM OVERSTRENGTH FACTOR, Omega 2.50
DEFLECTION AMPLIFICATION FACTOR, Cd 2.25
SEISMIC RESPONSE COEFFICIENT, Cs 0.068
ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE
SEISMIC BASE SHEAR (ADMINISTRATION BUILDING) 80.1 KIPS
SEISMIC BASE SHEAR (POTTING SHED) 13.6 KIPS

VEHICLE SHED
SEISMIC RISK CATEGORY I
SEISMIC IMPORTANCE FACTOR I 1.00
BASIC STRUCTURAL SYSTEM CANT. COLUMN SYSTEM
SEISMIC RESISTING SYSTEM STEEL ORDINARY CANT. COLUMN SYSTEMS
RESPONSE MODIFICATION COEFFICIENT, R 1.25
SYSTEM OVERSTRENGTH FACTOR, Omega 1.25
DEFLECTION AMPLIFICATION FACTOR, Cd 1.25
SEISMIC RESPONSE COEFFICIENT, Cs 0.191
ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE
SEISMIC BASE SHEAR (VEHICLE SHED) 14.5 KIPS

FOUNDATIONS

GENERAL CONTRACTOR SHALL REFER TO ECS SOUTHEAST, LLP GEOTECHNICAL ENGINEERING REPORT NO. 22:32557 DATED DECEMBER 22, 2022, FOR ALL SUBSURFACE INFORMATION AND REQUIREMENTS.

ALL BUILDING FOOTINGS ARE DESIGNED BASED ON A SAFE ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF. GEOTECHNICAL ENGINEER SHALL CONFIRM ON SITE, AND GENERAL CONTRACTOR TO CONTACT STRUCTURAL ENGINEER AND GEOTECHNICAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED.

FOOTINGS SHALL BE CARRIED TO A LOWER ELEVATION THAN THOSE INDICATED ON THESE DRAWINGS IF NECESSARY TO REACH FIRM UNDISTURBED SOIL.

THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 12" BELOW FINISHED GRADE UNLESS NOTED OTHERWISE.

SLAB ON GRADE SHALL BE FOUNDED ON STABLE NATURAL SOIL OR CONTROLLED COMPACTED FILL, IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.

ALL FILL SHALL BE PLACED IN 8" MAXIMUM LOOSE LIFTS AND SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-698 (STANDARD PROCTOR METHOD). THIS REQUIREMENT SHOULD BE INCREASED TO 98 PERCENT OF ASTM D-698 IN THE FINAL FOOTING BENEATH FOOTINGS AND FLOOR SLABS. RECOMMENDATIONS IN GEOTECHNICAL REPORT SHALL CONTROL.

CONCRETE

CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS". ANY ADMIXTURES MUST BE APPROVED BY THE STRUCTURAL ENGINEER.

ADMIXTURES CONTAINING CHLORIDE SALTS ARE NOT PERMITTED.

CONCRETE EXPOSED TO EXTERIOR CONDITIONS SHALL BE AIR-ENTRAINED WITH A TOTAL AIR CONTENT OF 6 PERCENT (+/- 1.5%). INTERIOR SLAB ON GRADE SHALL NOT BE AIR ENTRAINED BUT IS PERMITTED TO HAVE UP TO 3% ENTRAPPED AIR.

DO NOT CAST CONCRETE IN WATER OR ON FROZEN GROUND. FOR SLABS ON GRADE, LIGHTLY DAMPEN THE SUBGRADE BEFORE PLACING CONCRETE TO PREVENT THE SUBGRADE FROM ABSORBING WATER FROM THE CONCRETE MIX. APPLY WATER AT NEARLY THE SAME RATE IT SOAKS INTO THE SUBGRADE SURFACE.

CRACK CONTROL JOINTS SHALL BE PLACED IN SLABS ON GRADE IN SQUARE PATTERNS AT A MAXIMUM SPACING OF 12' FOR 4" SLAB AND 15' FOR 6" SLAB, UNLESS NOTED OTHERWISE. GENERAL CONTRACTOR TO PLACE CONTROL JOINTS TO AVOID REENTRANT CORNERS. MAKE SAWCUTS TO FORM WEAKENED PLANE CONTROL JOINTS AS SOON AFTER CONCRETE PLACEMENT AS POSSIBLE, GENERALLY 4 - 8 HOURS AFTER PLACEMENT.

START CURING FOR SLABS ON GRADE AS SOON AS THE FINISHERS ARE DONE. APPLY THE CURING COMPOUND IN TWO COATS AT RIGHT ANGLES TO EACH OTHER AND NOT MORE THAN 300 SQUARE FEET PER GALLON, ABOUT 15 MINUTES APART. DURING HOT WEATHER, USE A FOG SPRAY TO KEEP THE SURFACE DAMP BEFORE APPLYING A CURING COMPOUND.

CONCRETE DURABILITY REQUIREMENTS

USE	WEIGHT	EXPOSURE CATEGORY	MAX W/CM	MIN f'c (PSI)	MAX AGG SIZE (IN)	AIR CONTENT (%)
FOOTINGS	NORMAL	F0	0.58	3,000	3/4"	N/A
INT SOG	NORMAL	F1	0.55	3,500	3/4"	3
EXT SOG	NORMAL	F2	0.45	4,500	3/4"	6
MEZZANINE	NORMAL	F0	0.58	3,500	3/4"	N/A
CISTERN	NORMAL	F2	0.45	4,500	3/4"	6

REINFORCING STEEL

ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.

REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60.

"GFRP" GLASS FIBER REINFORCING BARS ARE AN ACCEPTABLE ALTERNATIVE ,AS THEY ARE LIGHTER, STRONGER, AND DO NOT RUST LIKE TRADITIONAL NEW BILLET REBAR.

CLEAR CONCRETE COVER OVER BARS SHALL BE 3" FOR FOOTINGS, TYPICAL.

PROVIDE CORNER BARS AT ALL FOOTING STEPS AND CORNERS. BARS SHALL BE A MINIMUM OF 2'-6" LONG AND SHALL HAVE THE SAME SIZE AND SPACING AS HORIZONTAL REINFORCING.

LAP ALL SPLICES IN CAST-IN-PLACE CONCRETE AS SPECIFICALLY CALLED FOR, BUT AT LEAST 48 BAR DIAMETERS. LAP ALL SPLICES IN MASONRY 48 BAR DIAMETERS MINIMUM, UNLESS NOTED OTHERWISE.

PROVIDE DOWELS IN WALL FOOTINGS EQUIVALENT IN SIZE AND NUMBER TO VERTICAL STEEL EXTENDING 24 BAR DIAMETERS INTO FOOTING (UNLESS A HOOKED BAR IS PROVIDED) AND 48 BAR DIAMETERS INTO WALL, UNLESS NOTED OTHERWISE.

SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

SLAB ON GRADE CONSTRUCTION

UNLESS NOTED OTHERWISE IN PLANS, CONCRETE SLABS ON GRADE SHALL HAVE THE FOLLOWING REINFORCING PLACED MID-DEPTH IN THE SLAB:

SLAB THICKNESS	REINFORCING
4"	WELDED WIRE FABRIC - 4x4xW2.1xW2.1
6"	WELDED WIRE FABRIC - 6x6xW2.1xW2.1

#4 REBAR AT 18" O.C. GRID IS AN ACCEPTABLE ALTERNATIVE TO W.W.F. (WELDED WIRE FABRIC). REINFORCING TO BE PLACED MID-DEPTH OF THE SLAB. PROVIDE CHAIRS TO ENSURE W.W.F. OR BAR PLACEMENT.

CALCIUM CHLORIDE OR ADMIXTURES CONTAINING MORE THAN 0.05% CHLORIDE IONS ARE NOT PERMITTED. FLY ASH, SLAG, AND BOTTOM ASH ARE NOT PERMITTED.

INTERIOR CURING
MOISTURE RETAINING COVER: ALL INTERIOR CONCRETE SLABS SHALL BE PROTECTED FROM PREMATURE DRYING FOR A MINIMUM OF FIVE DAYS, AS REQUIRED IN ACI 301 USING MOISTURE-RETAINING COVER. FLOOD THE INTERIOR SLAB WITH SUFFICIENT WATER TO COVER THE SLAB. COVER CONCRETE SURFACES WITH MOISTURE-RETAINING COVER, PLACED IN WIDEST PRACTICAL WIDTH WITH SIDES AND ENDS LAPPED AT LEAST 3" AND SEALED BY WATERPROOF TAPE OR ADHESIVE. IMMEDIATELY REPAIR ANY HOLES OR TEARS DURING CURING PERIOD USING COVER MATERIAL AND WATERPROOF TAPE. REMOVE ANY AIR BUBBLES IN BETWEEN THE COVER AND THE INTERIOR SLAB. AFTER THE MINIMUM FIVE DAY CURING PERIOD, REMOVE MOISTURE-RETAINING COVER AND IMMEDIATELY SCRUB THE ENTIRE AREA WITH AUTO-SCRUBBER AND INTERIOR CONCRETE FLOOR CLEANER. AFTER INTERIOR CONCRETE SLAB IS THOROUGHLY CLEANED OF ALL SALTS, LAITANCE, DIRT, AND DEBRIS, ALLOW DRYING FOR AT LEAST SIX (6) HOURS.

PLACE FLOOR SLAB ON A WELL COMPACTED BASE. THE SUBGRADE SHALL BE GRANULAR, NON-EXPANSIVE SOIL (THAT IS, WITHOUT CLAY) WHICH HAS BEEN COMPACTED TO AT LEAST 95% AND VERIFIED BY ON-SITE TESTING.

WHERE REQUIRED, START CURING FOR SLABS ON GRADE AS SOON AS THE FINISHERS ARE DONE. APPLY THE CURING COMPOUND IN TWO COATS AT RIGHT ANGLES TO EACH OTHER AND NOT MORE THAN 300 SQUARE FEET PER GALLON, ABOUT 15 MINUTES APART. DURING HOT WEATHER, USE A FOG SPRAY TO KEEP THE SURFACE DAMP BEFORE APPLYING A CURING COMPOUND.

FOR SLABS ON GRADE TO RECEIVE A POLISHED CONCRETE, COORDINATE WITH PROJECT SPECIFICATIONS. IT IS RECOMMENDED TO HAVE A FLOOR FLATNESS (FL) OF 50 AND FLOOR LEVELNESS OF 35, MINIMUM. FLOORS THAT ARE NOT LEVEL MAY RESULT IN INCONSISTENT FINISHES, AND THIS IS ON THE GENERAL CONTRACTOR AND CONCRETE SUBCONTRACTOR TO COORDINATE.

POLISHED CONCRETE IS REQUIRED TO HAVE A DYNAMIC COEFFICIENT OF FRICTION (DCOP) OF 0.42 TO ENSURE IT IS NOT OVERLY SLIPPERY. THE CONCRETE SUBCONTRACTOR SHALL USE A CONCRETE DENSIFIER, OR A SEALER, AS NOTED IN THE PROJECT SPECIFICATIONS, BUT NOT BOTH. THE DESIGN TEAM RECOMMENDS A DENSIFIER AS THIS WILL HELP KEEP FINISHED FLOOR FROM STAINING MORE EASILY, AS WELL AS FUTURE SLAB MAINTENANCE.

THE CONCRETE SUBCONTRACTOR SHALL SUBMIT QUALIFICATIONS WITH 5 YEARS OF EXPERIENCE, SPECIFICALLY WITH POLISHED CONCRETE AND WORK EXPERIENCE.

GENERAL CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR ALL CONCRETE REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, COLOR, FINISH, TEXTURE, SLOPE, ETC.

OWNER SHALL BE AWARE THAT TRADITIONAL CAST-IN-PLACE CONCRETE IS HARD, GRAY, AND IT CRACKS. SAW CUT JOINTS ARE PART OF THE 'CRACK CONTROL' PLAN, BUT THIS IS NOT 'CRACK PREVENTION'. POST-TENSIONED CONCRETE IS THE BETTER METHOD TO LIMIT CRACKS AND THIS WAS ASSUMED TO BE COST PROHIBITIVE.

STRUCTURAL STEEL

FABRICATE AND ERECT ALL STRUCTURAL STEEL IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (ANSI/AISC 360-10)". SEE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF RUST-INHIBITIVE PAINT. STEEL COLUMNS BELOW GRADE THAT ARE NOT ENCASED IN CONCRETE SHALL BE FIELD PAINTED WITH A WATERPROOF MASTIC COMPOUND TO PREVENT CORROSION. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL PAINTING AND COATING REQUIREMENTS.

THE STEEL USED SHALL HAVE THE FOLLOWING MINIMUM YIELD STRESS:
WIDE FLANGE SHAPES ('W' SHAPES) 50 KSI (A992)
CHANNELS, ANGLES, PLATES, MISC. SHAPES 36 KSI (A36)
STRUCTURAL PIPE SHAPES 35 KSI (A53, B)
HSS TUBE SHAPES 46 KSI (A500, C)

USE 3/4" DIAMETER A-325N BOLTS FOR ALL STEEL TO STEEL CONNECTIONS U.N.O. BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION UNLESS NOTED OTHERWISE. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT.

USE F1554 (GRADE 36) BOLTS FOR ALL ANCHOR BOLTS U.N.O. HEADED WELD STUDS SHALL BE MADE OF MATERIAL CONFORMING TO ASTM A108. USE E-70 ELECTRODES FOR ALL SHOP AND FIELD WELDING.

THE STEEL FABRICATOR SHALL DETAIL ALL STEEL TO STEEL CONNECTIONS IN ACCORDANCE WITH THESE DRAWINGS. USE 6.0k MINIMUM REACTION DESIGN, UNLESS NOTED OTHERWISE. WHERE SINGLE SHEAR PLATES ARE USED, CONNECTIONS FOR WIDE FLANGE BEAMS SHALL HAVE THE FOLLOWING MINIMUM ROWS OF BOLTS:
W8, W10 BEAMS (2) ROWS OF BOLTS
W12, W14 BEAMS (3) ROWS OF BOLTS
W16 BEAMS (4) ROWS OF BOLTS
W18 BEAMS (5) ROWS OF BOLTS

THE STEEL SUPPLIER SHALL DESIGN ALL STEEL STAIRS AND LADDERS IN ACCORDANCE WITH THE N.C. STATE BUILDING CODE. STAIR SHOP DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA.

FOR MISCELLANEOUS STEEL NOT SHOWN ON THESE DRAWINGS, SEE ARCHITECTURAL AND OTHER ENGINEERING DRAWINGS.

CONNECTIONS BETWEEN STRUCTURAL STEEL MEMBERS SHALL BE AS SHOWN ON STRUCTURAL DRAWING DETAILS. ALTERNATE CONNECTION DETAILS MUST BE APPROVED IN WRITING, BY THE STRUCTURAL ENGINEER OF RECORD, PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS.

SUBMIT ERECTION AND SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

OPEN WEB JOISTS

DESIGN, FABRICATION AND ERECTION OF STEEL JOISTS SHALL CONFORM WITH THE LATEST EDITION OF THE STEEL JOIST INSTITUTE SPECIFICATION.

THE OPEN WEB JOIST DETAILS SHOWN ON THESE DRAWINGS ARE FROM THE VULCRAFT "STEEL JOISTS & JOIST GIRDERS" DESIGN MANUAL.

WELD EACH JOIST TO BEAM, JOIST GIRDER OR WELD PLATE WITH A FILLET WELD EACH SIDE OF JOIST. WELD LENGTH SHALL BE A MINIMUM OF 1 1/2" UNLESS NOTED OTHERWISE.

USE BRIDGING AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE STEEL JOIST INSTITUTE. CONTINUE ALL BRIDGING TO ROLLED STEEL SHAPES AND/OR WALLS WHICH ARE PARALLEL TO THE JOISTS AND ANCHOR IN ACCORDANCE WITH STEEL JOIST INSTITUTE SPECIFICATIONS.

ALL BRIDGING SHALL BE SECURED TO TOP AND BOTTOM OF ALL JOISTS AND BEAMS AND SHALL BE IN ACCORDANCE WITH STEEL JOIST INSTITUTE SPECIFICATIONS.

SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS, AND OTHER UTILITIES OR FINISHES SHALL NOT BE SUPPORTED BY JOIST BRIDGING MEMBERS.

JOISTS SHALL BEAR 4" MINIMUM ON MASONRY AND 2-1/2" MINIMUM ON STEEL UNLESS OTHERWISE NOTED. PROVIDE ANCHORAGE AT MASONRY BEARING IN ACCORDANCE WITH STEEL JOIST INSTITUTE SPECIFICATIONS.

WHEN A STANDING SEAM ROOF SYSTEM IS USED, WITHOUT ANY VULCRAFT STYLE DECK, THE JOIST MANUFACTURER SHALL CHECK THE SYSTEM AND PROVIDE BRIDGING AS REQUIRED TO ADEQUATELY BRACE THE TOP CHORDS AGAINST LATERAL MOVEMENT UNDER A FULL LOADING CONDITION.

JOIST MANUFACTURER MUST CHECK THE SYSTEM FOR A NET UPLIFT PRESSURE OF 21 PSF AND PROVIDE BRIDGING AS REQUIRED TO ADEQUATELY BRACE THE BOTTOM HORDS AGAINST LATERAL MOVEMENT.

THE JOIST SUPPLIER SHALL DESIGN ALL K-SERIES JOIST SEATS FOR A "ROLL-OVER" RESISTANCE OF 1,500 LBS.

DO NOT WELD BOTTOM CHORD STRUTS OF JOIST GIRDERS OR BOTTOM CHORD EXTENSIONS OF BAR JOISTS TO COLUMN STABILIZER PLATES UNTIL ALL DEAD LOAD HAS BEEN APPLIED.

JOIST GIRDER BOTTOM CHORD BRACES MAY BE REQUIRED TO LIMIT THE BOTTOM CHORD L/r RATIO TO 240. ADDITIONAL BRACES MAY BE REQUIRED TO TRANSMIT COMPRESSIONAL FORCES DUE TO FIXED END MOMENTS AND/OR UPLIFT PRESSURES. JOIST SUPPLIER SHALL INDICATE THE NUMBER OF BRACES REQUIRED BY DESIGN IN THE APPROVAL DRAWINGS. BOTTOM CHORD BRACES MAY BE EITHER WELDED OR BOLTED TO THE GIRDER, BUT ARE ALWAYS WELDED TO THE JOIST.

ALL JOIST GIRDERS SHALL BE DESIGNED FOR A 2000 LB. CONCENTRATED LOAD APPLIED TO ANY BOTTOM CHORD PANEL POINT IN COMBINATION WITH THE FULL ROOF DEAD LOAD AND 1/2 OF THE ROOF LIVE LOAD. THIS LOAD COMBINATION IS IN ADDITION TO LOAD REQUIREMENTS SHOWN ELSEWHERE ON THE PLANS.

ALL JOISTS SHALL RECEIVE A SHOP-COAT OF HIGH QUALITY RUST INHIBITIVE PRIMER.

GENERAL CONTRACTOR AND SUPPLIER SHALL SUBMIT ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

CONCRETE MASONRY

GENERAL CONTRACTOR SHALL SUBMIT MASONRY REINFORCEMENT SHOP DRAWINGS, FOR ARCHITECT AND STRUCTURAL ENGINEER TO REVIEW AND APPROVE, PRIOR TO CONSTRUCTION. THIS IS TO ENSURE PROPER REBAR SIZE, PLACEMENT, AND SPLICE LENGTHS OF REINFORCING. PLAN VIEWS, ELEVATIONS, AND SECTIONS ARE REQUIRED.

CONCRETE MASONRY UNITS SHALL BE ERECTED AS LOAD BEARING CONCRETE MASONRY. COMPLY WITH THE REQUIREMENTS OF ACI 530.1 / ASCE 6 / TMS 602 SPECIFICATION FOR MASONRY STRUCTURES. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM SPECIFICATIONS FOR HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS (ASTM C90, ASA A79.1). MORTAR SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD SPECIFICATIONS FOR MORTAR FOR UNIT MASONRY (ASTM C270), TYPE "M" OR "S". THE MINIMUM NET COMPRESSIVE STRENGTH OF MASONRY UNITS SHALL BE 3750 PSI (f'm = 2500 PSI FOR MASONRY SYSTEM).

ALL GROUT USED TO FILL REINFORCED MASONRY CAVITIES AND SHOWN AT OTHER LOCATIONS ON THE PLANS SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.

LOW LIFT GROUTING IS RECOMMENDED TO ENSURE PROPER BOND AND STRUCTURAL INTEGRITY OF THE WALL. PRIOR TO GROUTING, ALL CMU CELLS SHALL BE THOROUGHLY CLEANED TO REMOVE ANY DEBRIS OR LOOSE MATERIAL. REINFORCING STEEL SHALL BE PROPERLY POSITIONED AND SECURED WITHIN THE WALL CAVITY. AFTER EACH LIFT IS PLACED, THE GROUT IS RECOMMENDED TO BE LIGHTLY CONSOLIDATED USING A MECHANICAL VIBRATOR (OR OTHER APPROVED METHOD) TO ENSURE COMPLETE FILLING OF THE CELLS WITHOUT VOIDS OR AIR POCKETS.

THE GENERAL CONTRACTOR SHALL COORDINATE INSPECTION ACCESS FOR VERIFYING AND OBSERVING THE GROUT BEING PLACED IN ACCORDANCE WITH THE SPECIFIED METHODS AND MATERIALS. GROUT SAMPLING AND TESTING FOR COMPRESSIVE STRENGTH SHALL BE CONDUCTED IN ACCORDANCE WITH ASTC C109, OR OTHER RELEVANT STANDARD

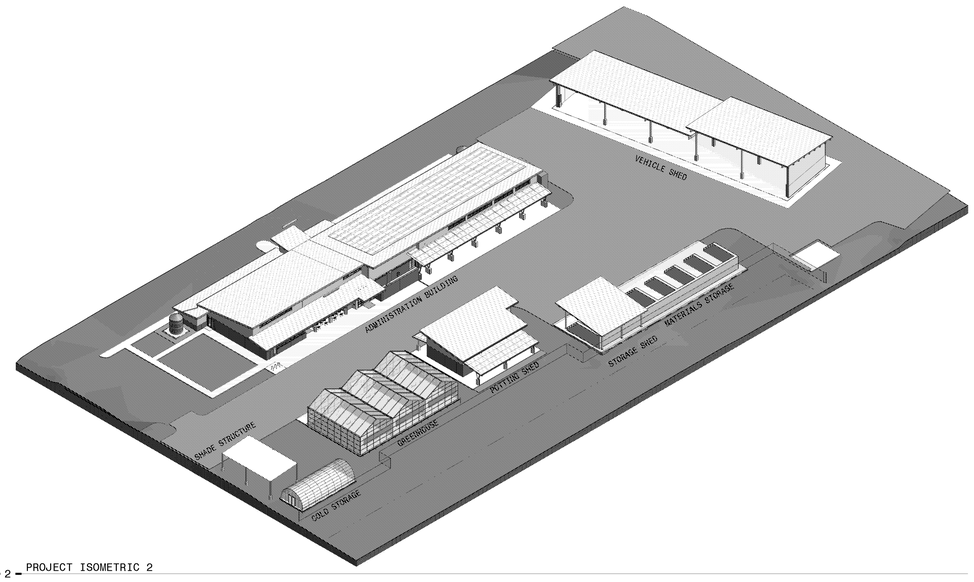
PROVIDE HORIZONTAL JOINT REINFORCEMENT AT 16" O.C. IN ALL CMU WALLS UNLESS NOTED OTHERWISE ON THE DRAWINGS. USE LADDER TYPE DUR-O-WALL REINFORCEMENT, HOT DIP GALVANIZED AFTER FABRICATION. LONGITUDINAL WIRES SHALL BE A MINIMUM OF (2) NO. 9 GAGE. LOCATE JOINT REINFORCEMENT IN FIRST AND SECOND BED JOINTS, 8" APART IMMEDIATELY ABOVE LINTELS AND BELOW SILLS AT OPENINGS. REINFORCEMENT SHALL NOT EXTEND THROUGH VERTICAL MASONRY CONTROL JOINTS.

ALL STEEL BEARING SHALL BE ON A BOND BEAM OR SOLID BLOCK. WHERE INTERIOR CONCRETE MASONRY PARTITIONS MEET OTHER INTERIOR PARTITIONS OR EXTERIOR WALLS, PROVIDE A CONTROL JOINT WITH METAL STRAP ANCHORS BETWEEN WALLS.

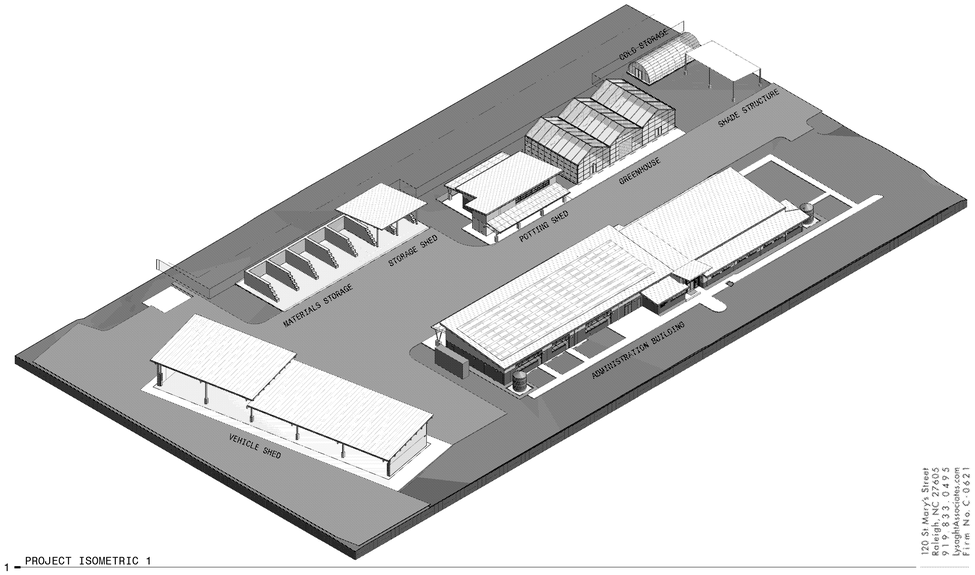
PROVIDE BOND BEAMS AT THE TOP OF MASONRY ELEVATIONS AS SHOWN ON THE DRAWINGS. BOND BEAMS TO HAVE (2) #5 BARS CONTINUOUS UNLESS OTHERWISE NOTED. WHERE THE BOND BEAM IS INTERSECTED BY A CONTROL JOINT, CHANGE THE BARS TO SMOOTH ROUND BARS AND GREASE ONE END SO THAT LATERAL MOVEMENT WILL NOT BE RESTRAINED.

MASONRY WALLS ARE TO BE LATERALLY BRACED DURING CONSTRUCTION IN ACCORDANCE WITH "STANDARD PRACTICE FOR BRACING MASONRY WALLS UNDER CONSTRUCTION" BY THE COUNCIL FOR MASONRY WALL BRACING AND THE MASON CONTRACTORS ASSOCIATION OF AMERICA. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL PERMANENT SUPPORTING ELEMENTS OF THE STRUCTURE ARE IN PLACE.

REFER TO THE ARCHITECTURAL PLANS FOR LOCATIONS OF MASONRY CONTROL JOINTS, OR IF NOT SHOWN, COORDINATE WITH ARCHITECT. IN GENERAL, CONTROL JOINTS SHOULD BE LOCATED WITH A MAXIMUM SPACING OF 30'-0".



- 2 - PROJECT ISOMETRIC 2



- 1 - PROJECT ISOMETRIC 1

STRUCTURAL SHEET LIST

SHEET NUMBER	SHEET NAME	REVISION #
S001	GENERAL STRUCTURAL NOTES	
S002	GENERAL NOTES AND LEGENDS	
S101	ADMINISTRATION BUILDING FOUNDATION PLAN	
S102	ADMINISTRATION BUILDING MEZZANINE AND HEADER PLAN	
S103	ADMINISTRATION BUILDING ROOF PLAN	
S104	ADMINISTRATION BUILDING EXTERIOR ELEVATIONS	
S105	ADMINISTRATION BUILDING SECTIONS	
S106	ADMINISTRATION BUILDING SECTIONS	
S107	ADMINISTRATION BUILDING SECTION	
S

METAL DECK

DESIGN, FABRICATION AND ERECTION OF METAL DECK SHALL CONFORM TO THE STEEL DECK INSTITUTE "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS".

METAL ROOF DECK SHALL BE TYPE "B" BY VULCRAFT, WIDE RIB STEEL WITH 1 1/2" NOMINAL CORRUGATION DEPTH, OR APPROVED EQUAL. THE MINIMUM YIELD STRESS SHALL BE 33 KSI. SEE PLANS FOR DECK GAUGE.

UNLESS NOTED OTHERWISE, WELD METAL ROOF DECK IN A 36/4 WELD PATTERN, AS SPECIFIED BY VULCRAFT: FOUR PUDDLE WELDS AT EACH SUPPORT MEMBER WITH (1) #10 TEK SCREW SIDELAP FASTENER AT THE MID-POINT OF DECK SPANS. LOCATE PUDDLE WELDS WITH A 12" MAXIMUN SPACING AT THE DIAPHRAGM PERIMETER. PROVIDE 20ga FILLER SHEETS WHERE NECESSARY TO ACHIEVE DECK WELD AT THE DIAPHRAGM PERIMETER.

AT ADMINSTRATIVE BUILDING, ELEVATED MEZZANINE FLOOR DECK SHALL BE 2-VLI-20 COMPOSITE DECK (2" NOMINAL DEPTH, 20 GAGE), AS MANUFACTURED BY VULCRAFT, OR APPROVED EQUAL. THE DECK SHALL BE WELDED AT 12" O.C. TO STEEL SUPPORTS. WELDING WASHERS ARE NOT REQUIRED. SIDELAPS SHALL BE FASTENED WITH SCREWS OR BUTTON PUNCHING AT A SPACING NOT TO EXCEED 36".

SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS, AND OTHER UTILITIES OR FINISHES SHALL NOT BE SUPPORTED BY THE METAL DECK.

ALL ROOF DECK SHALL RECEIVE A SHOP-COAT OF HIGH QUALITY RUST INHIBITIVE PRIMER, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL FLOOR DECK SHALL BE GALVANIZED IN CONFORMANCE WITH ASTM A653-94, G60 MINIMUM.

SUBMIT ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

LIGHT GAGE STRUCTURAL STEEL FRAMING

LIGHT GAGE STRUCTURAL STEEL INCLUDES ALL AXIALLY OR WIND LOADED LIGHT GAGE STEEL STUDS, TRACK, JOISTS, TRUSSES, BRIDGING AND RELATED ACCESSORIES AS INDICATED ON THE DRAWINGS.

DESIGN, FABRICATION AND ERECTION OF LIGHT GAGE STRUCTURAL STEEL FRAMING SHALL BE IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".

THE STEEL USED SHALL HAVE THE FOLLOWING MINIMUM YIELD STRESS:

LIGHT GAGE STEEL STUDS	33 KSI
TRACKS FOR STEEL STUDS	33 KSI
LIGHT GAGE STEEL JOISTS & HEADERS	33 KSI

THE MEMBER DESIGNATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE FROM THE DIETRICH "CURTAIN WALL AND LIGHT GAGE STRUCTURAL" DESIGN MANUAL. ANY MANUFACTURER SUBSTITUTIONS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER IN WRITING. THE GENERAL CONTRACTOR SHALL SUBMIT THE PROPOSED MATERIAL SUPPLIER'S PHYSICAL STRUCTURAL PROPERTIES AND LOAD TABLES FOR REVIEW.

ALL LIGHT GAGE STRUCTURAL STEEL FRAMING SHALL BE GALVANIZED, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SPLICES IN STEEL STUDS, JOISTS, AND HEADERS SHALL NOT BE PERMITTED EXCEPT WHERE SPECIFICALLY SHOWN ON THE DRAWINGS.

FASTENING OF COMPONENTS SHALL BE WITH SELF TAPPING SCREWS OR WELDS. WELDING SHALL BE IN ACCORDANCE WITH SECTION 6.0 OF THE AMERICAN WELDING SOCIETY'S "STRUCTURAL WELDING CODE - SHEET METAL" (AWS D1.3-6). ALL WELDS SHALL BE TOUCHED UP WITH A ZINC RICH PAINT.

ALL EXTERIOR LIGHT-GAGE STUDS BEHIND METAL PANELS SHALL BE MINIMUM 20 GAGE, SPACED AT NO MORE THAN 16" ON CENTER HORIONTALLY ALONG WALL, WITH BUCKLE BRIDGING AT 48" O.C. VERTICALLY. ALL EXTERIOR LIGHT-GAGE STUDS SHALL BE ATTACHED TO PRIMARY MASONRY BACKUP WITH LIGHT-GAGE CLIP ANGLES, BY LIGHT-GAGE SUPPLIER, AT NO MORE THAN 16" O.C. VERTICALLY.

SUBMIT ERECTION DRAWINGS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. ERECTION DRAWINGS SHALL INCLUDE SECTIONS, PLANS OR ELEVATIONS DEPICTING COMPONENT LOCATION AND CONNECTION DETAILS SHOWING SCREW TYPES AND LOCATIONS, WELD LENGTHS AND LOCATIONS, OR OTHER RELATED FASTENER REQUIREMENTS.

STRUCTURAL GLUED LAMINATED WOOD

MATERIALS, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH AMERICAN NATIONAL STANDARD ANSI/AITC A190.1-2002, "STRUCTURAL GLUED LAMINATED TIMBER".

LAMINATING COMBINATIONS SHALL MEET THE REQUIREMENTS OF ANSI/AITC A190.1-1992 , AND SHALL PROVIDE ALLOWABLE DESIGN VALUES OF 2400 PSI IN BENDING, 1700 PSI IN COMPRESSION PARALLEL TO GRAIN, 1150 PSI IN TENSION PARALLEL TO GRAIN, 740 PSI IN COMPRESSION PERPENDICULAR TO GRAIN, 200 PSI IN HORIZONTAL SHEAR, AND 1700000 PSI IN MODULUS OF ELASTICITY FOR DRY CONDITIONS OF SERVICE.

ADHESIVES SHALL MEET THE REQUIREMENTS FOR WET CONDITION OF SERVICE.

MEMBERS SHALL BE MARKED WITH QUALITY MARK, AND, IN ADDITION, A CERTIFICATE OF CONFORMANCE SHALL BE PROVIDED TO INDICATE CONFORMANCE WITH ANSI/AITC A190.1-2002.

CAREFULLY UNLOAD AND HANDLE THE LAMINATED MEMBERS AT JOBSITE TO PREVENT SURFACE MARRING AND DAMAGE. IF LAMINATED WOOD IS TO BE STORED BEFORE ERECTION, PLACE IT ON BLOCKS WELL OFF THE GROUND WITH INDIVIDUAL MEMBERS SEPARATED BY STRIPS SO THAT AIR MAY CIRCULATE. COVER THE TOP AND SIDES OF STORAGE PILES WITH MOISTURE-RESISTANT COVERING. DO NOT USE CLEAR POLYETHYLENE FILMS). WHEN HOISTING MEMBERS INTO PLACE USE PADDED OR NON-MARRING SLINGS, AND PROTECT CORNERS WITH WOOD BLOCKING. ADEQUATELY BRACE MEMBERS AS THEY ARE ERECTED TO HOLD THEM IN A SAFE POSITION UNTIL FULL STABILITY IS PROVIDED.

SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

LAMINATED WOOD ROOF DECK

DOUBLE TONGUE AND GROOVE SOLID WOOD ROOF DECK

THICKNESS: 2" NOMINAL, 1-1/2" ACTUAL THICKNESS
SPECIES: SOUTHERN PINE
LAYUP: RANDOM LENGTH CONTINUOUS

ROOF DECKING IS TO BE INSTALLED WITH TONGUES UP ON SLOPED OR PITCHED ROOFS, AND OUTWARD IN THE DIRECTION OF LAYING ON FLAT ROOFS. IT IS TO BE LAID WITH THE PATTERN FACES DOWN AND EXPOSED ON THE UNDERSIDE. EACH PIECE SHOULD BE TOE-NAILED AT EACH SUPPORT, AND SCREWED DOWN THROUGH FACE OF DECKING, PER THE DETAILS. THINNER DECK (1 1/4" OR 1 3/8" IS NOT PERMITTED)

POST-INSTALLED ANCHORS

1) EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI, INC., OR APPROVED EQUAL. THE GENERAL CONTRACTOR SHALL CONTACT HILTI AT (800)-879-8000 FOR PRODUCT RELATED QUESTIONS.

A) ANCHORAGE TO CONCRETE - USE "HILTI HIT-HY 200 V3 SAFE SET SYSTEM" UNLESS NOTED OTHERWISE ON PLANS, OR REQUIRED BY HILTI PER APPLICATION.
- A.1) ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
  - A.1.1) HILTI "HILTI HIT-RE 500 V3 SAFE SET" EPOXY ADHESIVE ANCHORING SYSTEM PER ICC ESR-3814 FOR SLOW CURE APPLICATIONS.
  - A.1.2) HILTI "HIT-HY 200 V3 SAFE SET" ADHESIVE ANCHOR SYSTEM (CRACKED AND UNCRACKED CONCRETE) PER ICC ESR-4868 FOR FAST CURE APPLICATIONS.
  - A.1.3) STEEL ANCHOR ELEMENT SHALL BE HILTI "HIS-N" INTERNALLY THREADED INSERTS (USED WITH "RE 500-V3" AND "HY 200 V3" ONLY), HILTI "HAS-E" CONTINUOUSLY THREADED ROD, OR CONTINUOUSLY DEFORMED STEEL REBAR.
- A.2) MEDIUM DUTY MECHANICAL ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
  - A.2.1) HILTI "KWIK HUS EZ" AND "KWIK HUS EZ-1" SCREW ANCHOR SAFE SET SYSTEMS PER ICC ESR-3027
  - A.2.2) HILTI "KWIK BOLT-TZ2 EXPANSION ANCHOR" SAFE SET SYSTEM PER ICC ESR-4266
  - A.2.3) HILTI "KWIK BOLT-1 EXPANSION ANCHOR" SAFE SET SYSTEM PER ICC ESR-678
- A.3) HEAVY DUTY MECHANICAL ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
  - A.3.1) HILTI "HDA" UNDERCUT ANCHORS PER ICC ESR 1546
  - A.3.2) HILTI "HSL-3" EXPANSION ANCHORS PER ICC ESR 1545
  - A.3.3) HILTI "HSL4 EXPANSION ANCHORS" PER ESR 4386

B) ANCHORAGE TO SOLID GROUTED MASONRY
- B.1) ADHESIVE ANCHORS USE:
  - B.1.1) HILTI "HIT-HY 200 V3" SAFE SET ADHESIVE ANCHORING SYSTEM PER ICC ESR-4868
  - B.1.2) HILTI "HIT-HY 270" SAFE SET SYSTEM PER ICC ESR-4143
  - B.1.3) STEEL ANCHOR ELEMENT SHALL BE HILTI "HAS-E" CONTINUOUSLY THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REBAR
- B.2) MECHANICAL ANCHORS USE:
  - B.2.1) HILTI "KWIK BOLT-TZ2 EXPANSION ANCHOR" PER ICC ESR-4561
  - B.2.2) HILTI "KWIK BOLT-1 EXPANSION ANCHOR" PER ICC ER-677

C) ANCHORAGE TO HOLLOW CMU MASONRY, WITH ANCHOR AND SLEEVE:
- C.1) ADHESIVE ANCHORS USE:
  - C.1.1) HILTI "HIT-HY 270" SAFE SET SYSTEM PER ICC ESR-4143
  - C.1.2) STEEL ANCHOR ELEMENT SHALL BE HILTI HAS-E CONTINUOUSLY THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REBAR
  - C.1.3) THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER ADHESIVE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS

2) ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI (OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD). SUBSTITUTION REQUESTS FOR ALTERNATIVE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.

3) INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGE.

4) OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING THE HILTI PROFI PISTON PLUG SYSTEM.

5) THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

6) ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

7) EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS. G.C. SHALL CONTACT S.E.R. WITH CONFLICTS IN THE FIELD, PRIOR TO CONSTRUCTION.

8) USE OF DIAMOND CORE BIT WITH ROUGHENING TOOL FOR ANCHOR HOLES REQUIRES APPROVAL FROM ENGINEER OF RECORD PRIOR TO DRILLING. UNLESS OTHERWISE SHOWN IN THE DRAWINGS, ALL HOLES SHALL BE DRILLED PERPENDICULAR TO THE CONCRETE SURFACE.

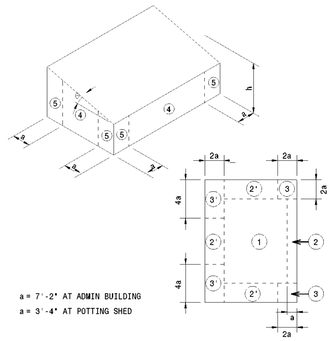
SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE. ALL SPECIAL INSPECTORS SHALL BE QUALIFIED FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION REQUIRING SPECIAL INSPECTION AND SHALL BE APPROVED BY THE BUILDING OFFICIAL. SPECIAL INSPECTORS SHALL PERFORM THE DUTIES AND RESPONSIBILITIES OUTLINED IN CHAPTER 17. FIELD REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL, ARCHITECT, AND ENGINEER OF RECORD IN A TIMELY MANNER.

2. TYPES OF WORK REQUIRING SPECIAL INSPECTION:CONCRETE PER CHAPTER 17:
   - A. CONCRETE WORK PER CHAPTER 17:
     - a. PERIODIC INSPECTION OF HTE PLACEMENT OF REINFORCING STEEL.
     - b. CONTINUOUS INSPECTION OF THE PLACEMENT OF ANCHORS IN CONCRETE INCLUDING, SIZE, LENGTH, PROJECTION, AND LOCATION.
     - c. SAMPLING OF FRESH CONCRETE. PERFORM TESTS FOR SLUMP, AIR CONTENT, AND TEMPERATURE. CAST SPECIMENS FOR STRENGTH TESTS.
     - d. PERIODIC INSPECTION OF ANCHORS INSTALLED VERTICALLY DOWNWARD AND CONTINUOUS INSPECTION OF ANCHORS INSTALLED HORIZONTAL OR OVERHEAD IN HARDENED CONCRETE.
     - e. INSPECTIONS SHALL INCLUDE HOLE SIZE AND DEPTH, CLEANING PROCEDURE, MATERIALS, AND LOCATION. ALL ANCHORS INSTALLED IN HARDENED CONCREE ARE SUBJECT TO INSPECTION:
       - PERIODIC INSPECTION FOR MAINTENANCE OF CURING AND TEMPERATURE TECHNIQUES.
       - PERIODIC INSPECTION OF FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS.
   - B. MASONRY PER CHAPTER 17:
     - a. AT THE BEGINNING OF MASONRY CONSTRUCTION, ONE MASONRY UNIT AND ONE GROUT SAMPLE SHALL BE TAKEN FOR TESTING. MASONRY UNITS SHALL BE TESTED IN ACCORDANCE WITH ASTM C140. GROUT SHALL BE TESTED IN ACCORDANCE WITH ASTM C1019.
     - b. HIGH LIFT GROUTING IS NOT PERMITTED.
     - c. DURING CONSTRUCTION, ONE MASONARY UNIT AND ONE GROUT SAMPLE SHALL BE TAKEN EVERY 1,500 SQUARE FEET OF WALL.
     - d. THE PLACEMENT OF VERTICAL REINFORCEMENT AND THE GROUTING OF WALLS SHALL BE OBSERVED DURING THE INITIAL AND FINAL GROUT POURS, AND PERIODICALLY BETWEEN, AT LEAST ONCE FOR EVERY 5,000 SQUARE FEET OF WALL CONSTRUCTION.
     - e. CMU MORTAR SAMPLES AND INSPECTION OF JOINTS SHALL OCCUR AT THE BEGINNING OF MASONRY CONSTRUCTION AND AT LEATS ONCE FOR EVERY 5,000 SQUARE FEET OF WALL CONSTRUCTED.
     - f. ANCHOR BOLT PLACEMENT AND GROUTING BELOW BEAMS OR BEARING PLATES AT ALL BEAM BEARING LOCATIONS SHALLBE INSPECTED PRIOR TO THE INITIAL AND FINAL GROUT POURS, AND PERIODICALLY BETWEN, AT LEAST ONCE FOR EVERY 5,000 SQUARE FEET OF WALL CONSTRUCTED.
     - g. PERIODIC INSPECTION OF THE PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING CODE OR HOT WEATHER CONDITIONS.
   - C. STRUCTURAL STEEL PER CHAPTER 17:
     - a. PERIODIC INSPECTION FOR MATERIAL VERIFICATIONS.
     - b. HIGH STRENGTH BOLTS, NUTS, AND WASHERS.
     - c. STRUCTURAL STEEL IDENTIFICATION.
     - d. COLD FORMED STEEL DECK IDENTIFICATION.
     - e. PERIODIC INSPECTION OF BEARING-TYPE BOLTED CONNECTIONS. BOLTS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION AND OBSERVED ONLY TO ENSURE THAT ALL PLIESOF THE CONNECTED ELEMENT HAVE BEEN BROUGHT INTO SNUG CONTACT.
     - f. QUALIFICATIONS OF WELDING PROCEDURES AND WELDERS SHALL BE VERIFIED PRIOR TO START OF WORK. PERIODIC INSPECTIONS SHALL BE MADE OF WORK IN PROGRESS AND A VISUAL INSPECTION OF ALL WELDS SHALL BE MADE PRIOR TO COMPLETION.
     - g. PERIODIC INSPECTION OF SINGLE-PASS WELDS.
     - h. PERIODIC INSPECTION OF STEEL DECK ATTACHMENTS.
     - i. CONTINUOUS INSPECTION OF FILLET WELDS EXCEEDING 5/16" AND COMLETE OR PARTIAL JOINT PENETRATION WELDS (NONE ON THIS PROJECT PRESENTLY).
     - j. PERIODIC INSPECTION OF WELD FILLER MATERIALS.

D. OBSERVATION OF SUBGRADE PREPARATION AND FOUNDATION PREPARATION OPERATIONS BY A LICENSED GEOTECHNICAL ENGINEER. SEE THE GEOTECHNICAL INVESTIGATION REPORT FOR ADDITIONAL INFORMATION.

E. INSTALLATION OF EXPANSION, EPOXY, OR OTHER TYPES OF CHEMICAL ADHESIVE ANCHORS PER MANUFACTURER SPECIFICATIONS.



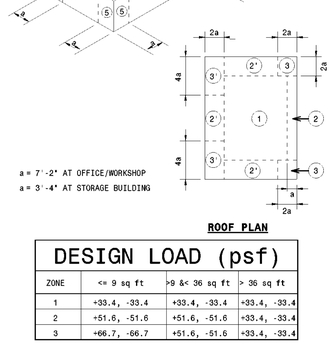
ROOF PLAN

DESIGN LOAD (psf)

ZONE	0-10 sq ft	>100 sq ft
1	+24.9, -66.5	+19.7, -66.5
2	+24.9, -76.9	+19.7, -71.7
2'	+24.9, -76.9	+19.7, -71.7
3	+24.9, -102.9	+19.7, -71.7
3'	+24.9, -144.4	+19.7, -92.5
ZONE	0-10 sq ft	>500 sq ft
4	+61.3, -66.5	+45.7, -50.9
5	+61.3, -82.1	+45.7, -50.9

NOTES:
1. (0-10 sq ft) EXAMPLE DENOTES EFFECTIVE WIND AREA.
2. + AND - SIGNS SIGNIFY PRESSURES ACTING TOWARD OR AWAY FROM THE SURFACES, RESPECTIVELY.
3. WIND PRESSURES MAY BE INTERPOLATED FOR EFFECTIVE WIND AREAS BETWEEN THE SPECIFIED RANGES.

-1- COMPONENTS & CLADDING WIND LOADS - ADMINISTRATION BUILDING AND POTTING SHED
D0072 12" = 1'-0"



ROOF PLAN

DESIGN LOAD (psf)

ZONE	<= 9 sq ft	>9 &< 36 sq ft	> 36 sq ft
1	+33.4, -33.4	+33.4, -33.4	+33.4, -33.4
2	+51.6, -51.6	+51.6, -51.6	+33.4, -33.4
3	+66.7, -66.7	+51.6, -51.6	+33.4, -33.4

NOTES:
1. (0-10 sq ft) EXAMPLE DENOTES EFFECTIVE WIND AREA.
2. + AND - SIGNS SIGNIFY PRESSURES ACTING TOWARD OR AWAY FROM THE SURFACES, RESPECTIVELY.
3. WIND PRESSURES MAY BE INTERPOLATED FOR EFFECTIVE WIND AREAS BETWEEN THE SPECIFIED RANGES.

-2- COMPONENTS & CLADDING WIND LOADS - VEHICLE SHED
D0072 12" = 1'-0"

STRUCTURAL ABBREVIATIONS

@	AT	LSH	LONG SIDE HORIZONTAL
AB	ANCHOR BOLT	LSV	LONG SIDE VERTICAL
ACI	AMERICAN CONCRETE INSTITUTE	LW	LIGHT WEIGHT
ADDL	ADDITIONAL	LWIC	LIGHT WEIGHT INSULATING CONCRETE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MAS	MASONRY
		MATL	MATERIAL
ALT	ALTERNATE	MAX	MAXIMUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MECH	MECHANICAL
AR	ANCHOR ROD	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL	MFR	MANUFACTURER
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	MIN	MINIMUM
BJ	BOTTOM OF	MISC	MISCELLANEOUS
BAL	BALANCE	MK	MARK
BD	BOARD	MO	MASONRY OPENING
BLK	BLOCK OR BLOCKING	MPH	MILE PER HOUR
BLDG	BUILDING	MTL	METAL
BM	BEAM	NF	NEAR FACE
BOT	BOTTOM	NIC	NOT IN CONTRACT
BRDG	BRIDGING	NO	NUMBER
BRG	BEARING	NS	NEAR SIDE
BRK	BRICK	NTS	NOT TO SCALE
BTWN	BETWEEN	NW	NORMAL WEIGHT
BYND	BEYOND	OC	ON CENTER
CFMF	COLD FORMED METAL FRAMING	OD	OUTSIDE DIAMETER
CG	CENTER OF GRAVITY	OF	OUTSIDE FACE
CIP	CAST IN PLACE	OPH	OPPOSITE HAND
CJ	CONTRACTION OR CONSTRUCTION JOINT	OPNG	OPENING
CJP	COMPLETE JOINT PENETRATION	OPP	OPPOSITE
CL	CENTERLINE	OSHA	OCCUPATIONAL SAFETY AND HEALTH ASSOCIATION
CLR	CLEAR		
CMU	CONCRETE MASONRY UNIT	PC	PIECE OR PORTLAND CEMENT
COL	COLUMN	PCA	PORTLAND CEMENT ASSOCIATION
COMP	COMPOSITE	PCI	PRECAST/PRESTRESSED CONCRETE INSTITUTE
CONC	CONCRETE	PDF	POWDER DRIVEN FASTENER
CONN	CONNECTION	PL	PLATE
CONSTR	CONSTRUCTION	PLF	POUNDS PER LINEAR FOOT
CONT	CONTINUOUS	PLYWD	PLYWOOD
CTR	CENTER	PRCST	PRECAST
DBA	DEFORMED BAR ANCHOR	PSF	POUNDS PER SQUARE FOOT
DET	DETAIL	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	QTY	QUANTITY
DIM	DIMENSION	R	RADIUS
DIR	DIRECTION	RD	ROOF DRAIN
DK	DECK	REF	REFERENCE
DL	DEAD LOAD	REINF	REINFORCED OR REINFORCING
DN	DOWN	REM	REMAINDER
DO	DITTO	REQD	REQUIRED
DP	DEEP	RET	RETURN
DS	DECK SPAN	REV	REVISION
DWG	DRAWING	RO	ROUGH OPENING
EA	EACH	SCHED	SCHEDULE
EE	EACH END	SECT	SECTION
EF	EACH FACE	SIM	SIMILAR
EJ	EXPANSION JOINT	SHT	SHEET
EL	ELEVATION	SJ	SLIP JOINT
EQ	EQUAL	SJI	STEEL JOIST INSTITUTE
EMBED	EMBEDDED	SLBB	SHORT LEG BACK TO BACK
EW	EACH WAY	SOG	SLAB ON GRADE
EXIST	EXISTING	SPA	SPACES OR SPACING
EXP	EXPANSION	SPEC	SPECIFICATION
EXT	EXTERIOR	SST	STAINLESS STEEL
FC	FACE	SSH	SHORT SLOTTED HOLE
FD	FLOOR DRAIN	STD	STANDARD
FDTN	FOUNDATION	STIFF	STIFFENER
FF	FAR FACE	STIR	STIRRUP
FIN	FINISHED	STL	STEEL
FLR	FLOOR CONSTRUCTION	STRUCT	STRUCTURAL
FS	FAR SIDE	SYM	SYMMETRICAL
FTG	FOOTING	T/	TOP OF
FX	FOOTING DESIGNATION	T&B	TOP AND BOTTOM
GA	GAGE	T&G	TONGUE AND GROOVE
GALV	GALVANIZED	THK	THICK
GC	GENERAL CONTRACTOR	TOB	TOP OF BEAM
GL	GRID LINE	TOC	TOP OF CONCRETE
HEF	HORIZONTAL EACH FACE	TOF	TOP OF FOOTING
HK	HOOK NORTZ HORIZONTAL	TOJ	TOP OF JOIST
HSS	HOLLOW STRUCTURAL SHAPE	TOS	TOP OF STEEL
HWS	HEAD WELDED STUD	TOW	TOP OF WALL
ID	INSIDE DIAMETER	TYP	TYPICAL
IF	INSIDE FACE	UN	UNLESS NOTED
INFO	INFORMATION	UN	UNLESS NOTED OTHERWISE
INTER	INTERMEDIATE	VAR	VARIES
INT	INTERIOR	VEF	VERTICAL EACH FACE
JST	JOIST	VERT	VERTICAL
JT	JOINT	VIF	VERIFY IN FIELD
K	KIP=1000 LB	W/	WITH
L	ANGLE	W/O	WITHOUT
LB	POUND	WAF	WELDED ANGLE FRAME
LG	LONG	WCF	WELDED CHANNEL FRAME
LL	LIVE LOAD	WF	WIDE FLANGE
LLBB	LONG LEG BACK TO BACK	WLD	WELDED
LLH	LONG LEG HORIZONTAL	WP	WORK POINT
LLV	LONG LEG VERTICAL	WWF	WELDED WIRE FABRIC

STRUCTURAL PLAN LEGEND

PIT	NEW COLUMN GRID DESIGNATION
SLAB/ROOF DECK OPENING	EXISTING COLUMN GRID DESIGNATION
BEAM TO COLUMN WEB CONNECTION	PLAN OR DETAIL REFERENCE DRAWING / SHEET LOCATION
BEAM TO COLUMN FLANGE CONNECTION	BUILDING SECTION DRAWING / SHEET LOCATION
COLUMN BELOW BEAM OR COLUMN TRANSFER	SECTION DRAWING / SHEET LOCATION
MOMENT CONNECTION AT COLUMN	BRACED FRAME OR SHEAR WALL ELEVATION DRAWING/SHEET LOCATION
MOMENT CONNECTION AT BEAM	NEW SPOT ELEVATION
FOOTING STEP	REVISION NUMBER REFERENCE
CHANGE IN SLAB THICKNESS	CONSTRUCTION BULLETIN REFERENCE
CHANGE IN ELEVATION	GENERAL SHEET NOTE REFERENCE

STRUCTURAL MATERIAL LEGEND

UNDISTURBED EARTH	ENGINEERED FILL
GROUT	ROCK
SAND	CONCRETE
CONCRETE MASONRY UNIT	BRICK
STEEL	PLYWOOD
STONE	

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1-13-2024

PROJECT INFORMATION

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CHECKED BY: MES

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SHEET INFORMATION

S002
GENERAL NOTES AND LEGENDS

FOUNDATION PLAN NOTES

1. SEE FOOTING SCHEDULE FOR FOOTING DIMENSIONS AND REINFORCEMENT.
2. 'P1' & 'P2' DENOTE TYPICAL CONCRETE PIERS. TOP OF PIER = 48" ABOVE INTERIOR FINISHED FLOOR ELEVATION. SEE DET 11/S301 FOR PIER SIZE AND REINFORCEMENT.
3. 'F3.0' (EXAMPLE) DENOTES CONCRETE FOOTING. SEE "STRUCTURAL FOUNDATION SCHEDULE, THIS SHEET.
4. 'S1' (EXAMPLE) DENOTES CMU SHEAR WALL. SEE "CMU SHEAR WALL SCHEDULE" THIS SHEET FOR SIZE AND REINFORCING.
5. SEE DET 1/S401 FOR TYPICAL CMU SHEAR WALL SIZE AND REINFORCING.
6. SAWCUT SLAB ON GRADE PER DET 3/S301, TYP.
7. PROVIDE SLAB BLOCKOUT PER DET 4/S301 FOR COLUMNS EXTENDING THRU SLAB.
8. SEE DET 9/S301 FOR TYPICAL COLUMN FOOTING INSTALLATION.
9. INSTALL SLAB TURNDOWN PER DET 7/S301 FOR ALL DOOR OPENINGS AND EDGE OF SLAB NOT ABUTTING WALL.
10. RAIN CISTERN FOUNDATION BASED ON RAINFLO 903 TANK. SEE MAUF
11. RAIN CISTERN SLAB EXPOSURE CLASS = F2 WITH f'c = 4,500 PSI. APPLY BROOM FINISH.
12. WHERE NOTED, DEPRESS SLAB FOR WALK-OFF MAT. COORDINATE SIZE AND LOCATION OF DEPRESSED SLAB AREAS WITH ARCHITECTURAL DRAWINGS. NOTE THAT SLAB THICKNESS SHALL REMAIN MIN. 4", SO BOTTOM OF SLAB WILL RECESS DEPTH.
13. FOR ALL CONCRETE SLABS OUTSIDE OF BUILDING FOOTPRINT, GENERAL CONTRACTOR SHALL REFERENCE SITE DRAWINGS BY TIMMONS.

STRUCTURAL FOUNDATION SCHEDULE

MARK #	SIZE	REINFORCING	NOTES
TS2.0	24" WIDE X 12" THICK	(2) #5 EACH WAY, BOTTOM ONLY	1 - 5
F3.0	36" X 36" X 12" THICK	(3) #5 EACH WAY, TOP AND BOTT.	1 - 4
F4.0	48" X 48" X 12" THICK	(4) #5 EACH WAY, TOP AND BOTT.	1 - 4
F5.0	60" X 60" X 12" THICK	(5) #5 EACH WAY, TOP AND BOTT.	1 - 4
F6.0	72" X 72" X 12" THICK	(6) #5 EACH WAY, TOP AND BOTT.	1 - 4
WF2.0	CONT. 24" WIDE X 12" THICK	(3) #5 CONT, BOTTOM ONLY	1 - 5
WF3.0	CONT. 36" WIDE X 12" THICK	(3) #6 CONT, BOTTOM ONLY	1 - 5
WF5.0	CONT. 60" WIDE X 14" THICK	(5) #6 CONT, BOTTOM ONLY	1 - 5

STRUCTURAL NOTES:

1. ALL REBAR IS GRADE 60 KSI STEEL, TYPICAL.
2. ALL BOTTOM REBAR TO MAINTAIN 3" CLEAR COVER FROM GRADE.
3. ALL TOP REBAR TO MAINTAIN MINIMUM 2" CLEAR FROM EDGE OF CONCRETE.
4. CONCRETE TO BE 3,500 PSI NORMAL WEIGHT.
5. PROVIDE #4 STIRRUPS ON CHAIRS AT 32" ON CENTER, TYPICAL

CMU SHEAR WALL SCHEDULE

WALL MARK #	UNIT WIDTH	VERTICAL REINFORCEMENT	NOTES
SW1	7 5/8"	#6 @ 8" OC	1,4
SW2	7 5/8"	#6 @ 24" OC	2,3,4
SW3	7 5/8"	#6 @ 32" OC	2,3,4
SW4	7 5/8"	#6 @ 48" OC	2,3,4
SW5	11 5/8"	#6 @ 48" OC	2,3,4

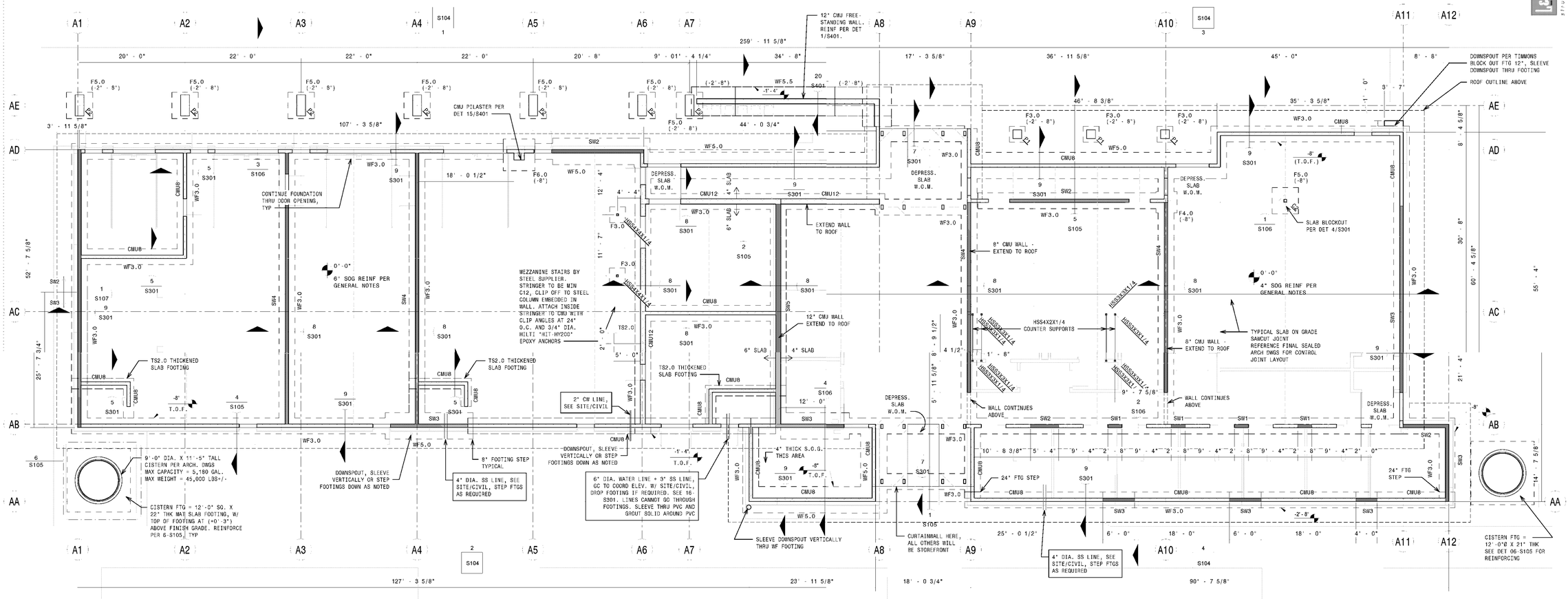
CMU SHEAR WALL NOTES:

1. FILL ALL CELLS FULL WITH GROUT.
2. FILL ALL CONTAINING REBAR FULL WITH GROUT.
3. FILL END (4) CELLS WITH GROUT (32" MIN).
4. INSTALL HORIZONTAL REINF PER DET 1/S401 CONTINUOUS WITH COLINEAR WALLS.

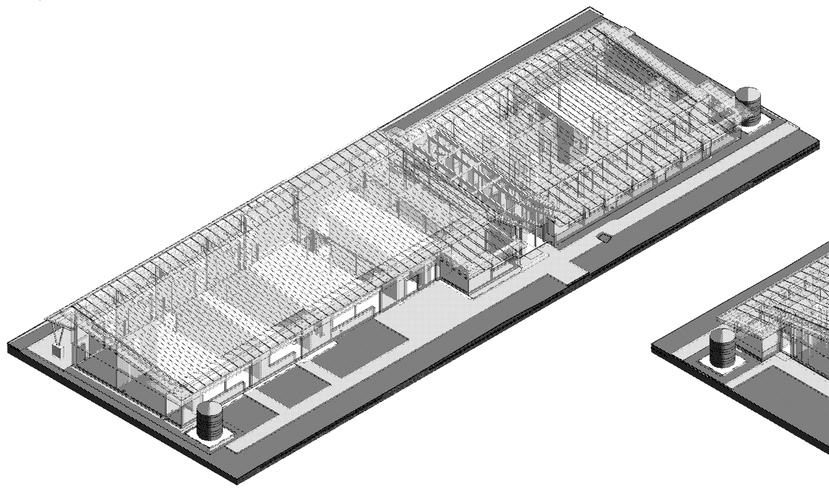
BATHROOM COUNTER SUPPORT NOTES

1. ALL STEEL IN BATHROOMS 'MEN 113' AND 'WOMEN 114' TO BE SUPPORTED ON SLAB ON GRADE.
2. BASEPLATES SHALL BE HIDDEN WITHIN LIGHT-GAGE WALL FRAMING.
3. ALL STEEL TO BE 46 KSI GRADE B OR C, TYPICAL.
4. ALTERNATE ALUMINUM SECTIONS (6061) MAY BE SUITABLE, AS DETAILED AND SUPPLIED BY STEEL FABRICATOR.
5. ALL HSS BEAMS SHALL BE WELDED TO HSS COLUMNS WITH 3/16" FILLET WELDS, ALL AROUND, TYPICAL.
6. BASEPLATES SHALL BE 3 1/2" WIDE X 10" LONG X 3/8" THICK, ATTACHED TO SLAB WITH (2) 3/4" DIA. HILTI "HIT-HY200" EPOXY ANCHORS, SPACED 7 1/2" APART, CENTERED IN PLATE.
7. GENERAL CONTRACTOR AND FABRICATOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD, PRIOR TO FABRICATION, WITH LATEST ARCHITECTURAL SECTIONS AND AS BUILT CONDITIONS, TO ENSURE NEW COLUMNS AND COUNTER SUPPORT BEAMS ARE WITHIN WALL ELEMENTS.
8. ATTACH LIGHT-GAGE SECTIONS EACH SIDE OF HSS SECTION WITH POWDER ACTUATED FASTENERS AT 6" O.C. TYPICAL FULL HEIGHT, AND BLOCK SOLID BETWEEN STUDS AT COUNTER LEVEL WITH LIGHT-GAGE BUCKLE-BRIDGE BLOCKING, OR APPROVED EQUAL, TO AVOID ROTATION OR TRANSLATION OF COUNTER HSS ELEMENTS.

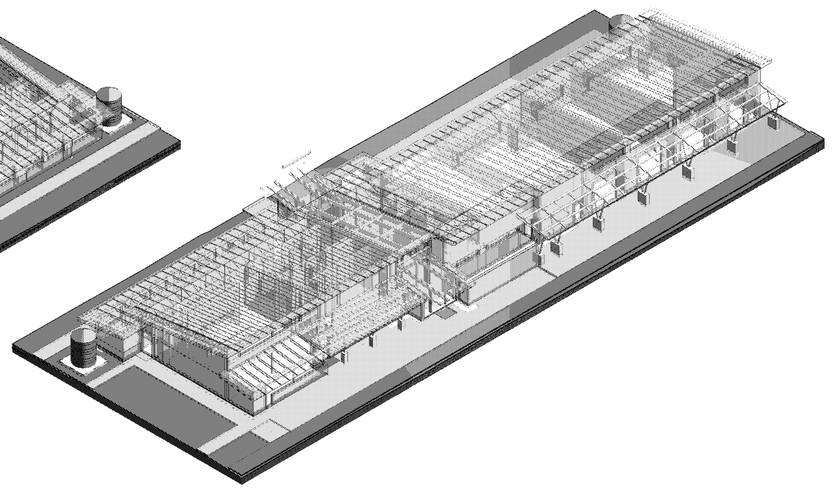
NOTE TO GENERAL CONTRACTOR:
FOOTINGS ON GRID 'AE' AND OTHER LOCATIONS WITH DOWNSPOUTS, ARE DROPPED DOWN TO COORDINATE WITH DOWNSPOUT BOOT LOCATIONS PER TIMMONS DRAWINGS. COORDINATE IN THE FIELD AS REQUIRED. PIPING HORIZONTALLY THROUGH CONCRETE FOOTINGS IS NOT PERMITTED.



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



3 ADMINISTRATION BUILDING ISOMETRIC 1



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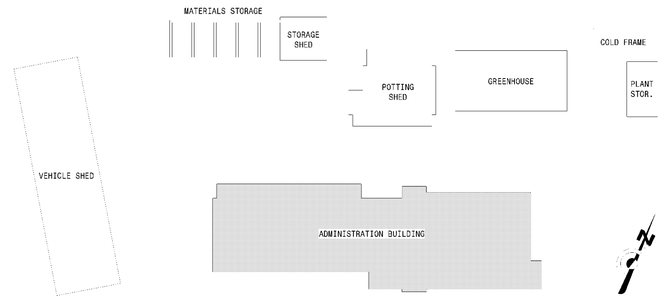

KEYPLAN - ADMINISTRATION BUILDING
1" = 50'-0"

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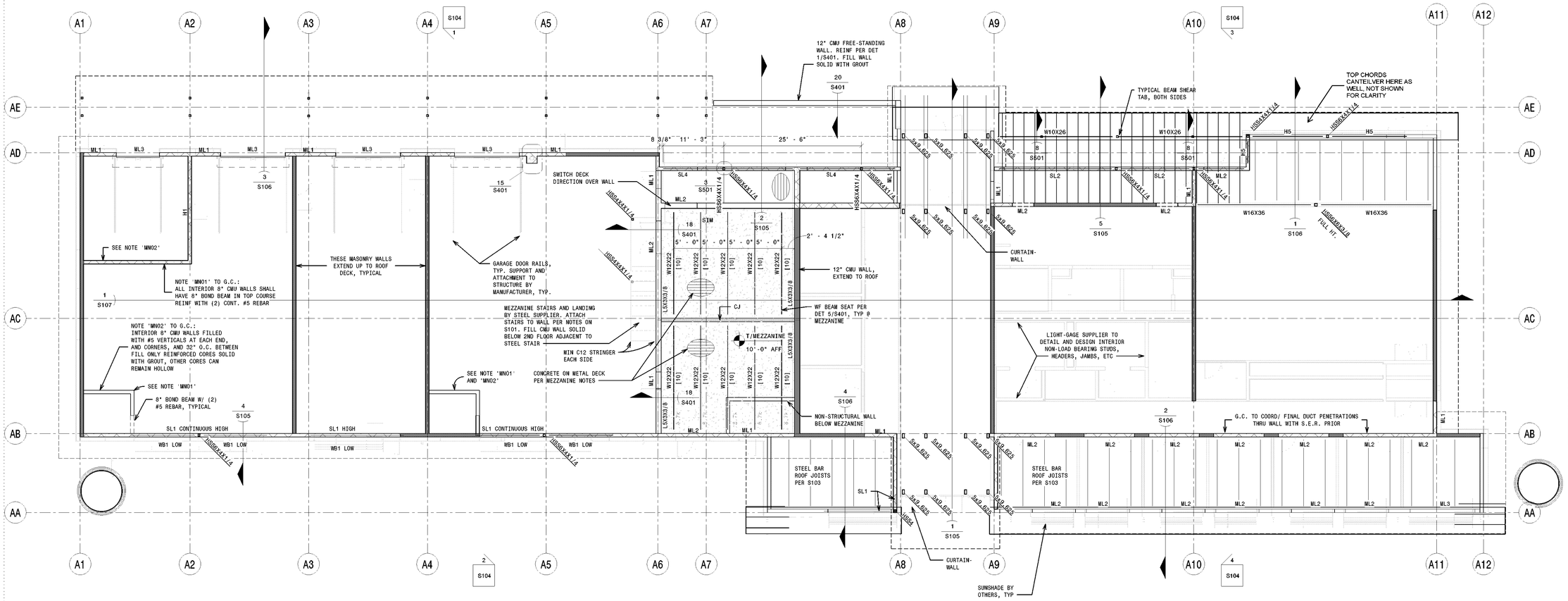
SHEET INFORMATION

S101

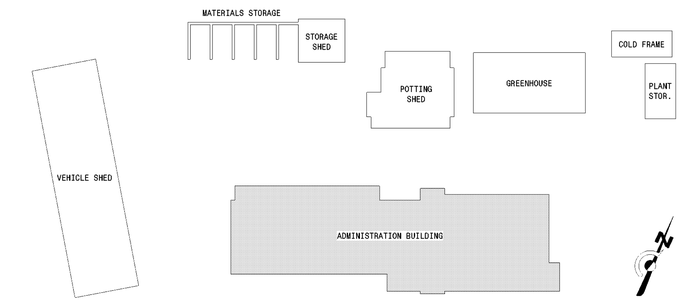
ADMINISTRATION BUILDING FOUNDATION PLAN



1 ADMINISTRATION MEZZANINE AND HEADER FRAMING PLAN
1/8" = 1'-0"

MEZZANINE AND LINTEL PLAN NOTES

1. ALL ELEVATION REFRENCE FINISHED MAIN INTERIOR TOP OF SLAB ON GRADE AT (0'-0") ELEVATION.
2. ELEVATION AT TOP OF STRUCTURAL MEZZANINE SLAB = +10'-0", U.N.O.
3. ELEVATION AT TOP OF STRUCTURAL STEEL BEAMS = +9'-6", U.N.O.
4. MEZZANINE SLAB IS 4" THICK TOTAL NORMAL WEIGHT CONCRETE.
5. ELEVATED CONCRETE SLAB SHALL BE SUPPORTED ON "1 1/2 - VLR - 20 GAGE" COMPOSITE DECK BY VULCRAFT, OR APPROVED EQUAL. PROVIDE 2 1/2" THICK NORMAL WEIGHT CONCRETE STRUCTURAL SLAB ON TOP OF G60 GALVANIZED DECK (4" TOTAL SLAB THICKNESS). USE MINIMUM (3)-SPAN CONTINUOUS LAYOUT, TYPICAL.
6. REINFORCE SLAB WITH 6X6 - W1.4 x W1.4 WELDED WIRE FABRIC (W.W.F.) LOCATED 1" BELOW TOP OF SLAB.
7. CONTROL JOINTS IN ELEVATED SLAB ARE NOT REQUIRED. THE ONLY CONTROL OR COLD JOINT NECESSARY IS CENTERED OVER CMU WALL AT MID-SPAN, AS THIS IS NATURAL LOCATION FOR CONCRETE TO CRACK.
8. [10] DESIGNATES 10 EVENLY SPACED 3/4" DIA. X 3 1/2" TALL SHEAR STUDS, WELDED THROUGH DECK TO TOP OF STEEL BEAM TOP FLANGE.
9. THE STEEL STAIRS SHALL BE DESIGNED BY THE STEEL SUPPLIER IN ACCORDANCE WITH THE NORTH CAROLINA STATE BUILDING CODE FOR 100 PSF LIVE LOAD MINIMUM, DEFLECTING LESS THAN L/480. SHOP DRAWINGS FOR ALL SECONDARY COMPONENTS, INCLUDING RAILINGS, STAIRS, AND LADDERS IS BY THE STEEL SUPPLIER.
10. PROVIDE CONTINUOUS CLOSER ANGLES (L4X4X1/4), OR APPROVED EQUAL, AROUND ALL MEZZANINE SLAB EDGES AND OPENINGS.
11. SEE PLANS FOR BEAM SIZES, REACTIONS, HEADED SHEAR STUDS, ETC.
12. "WB1" DENOTES AN HSS6X4X1/4 LSH PLACED AS SHOWN IN THE VARIOUS WALL SECTIONS.
13. "H1" (EXAMPLE) DENOTES HEADER OVER WALL OPENING. SEE DETAILS 6/S401, 7/S401, & 8/S401 FOR FRAMING REQUIREMENTS.
14. STEEL STAIRS TO MEZZANINE ARE TO BE DESIGNED AND SUPPLIED BY THE STEEL SUPPLIER, CAPABLE OF SUPPORTING THE DESIGN LOADS AS SHOWN ON SHEET S001.
15. MEZZANINE DECK = 2-1/2" CONCRETE ON 1.5B22 METAL DECK. INSTALL DOUBLE SPAN CONDITION, MIN. WELD TO SUPPORTS W/ 5/8" PUDDLE WELD IN 36/4 WELD PATTERN.
16. MEZZANINE FRAMING EMBED IN CMU WALL PER DET 5/S401, TYP.
17. 'ML1' DESIGNATES MASONRY LINTEL TYPE 1, SEE DETAILS IN 6 AND 7 ON S401.
18. 'SL1' DESIGNATES STEEL HSS LINTEL TYPE 1, SEE DETAILS IN DETAIL 8 ON S401.



KEYPLAN - ADMINISTRATION BUILDING
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1-13-2024

PROJECT INFORMATION

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SHEET INFORMATION

S102

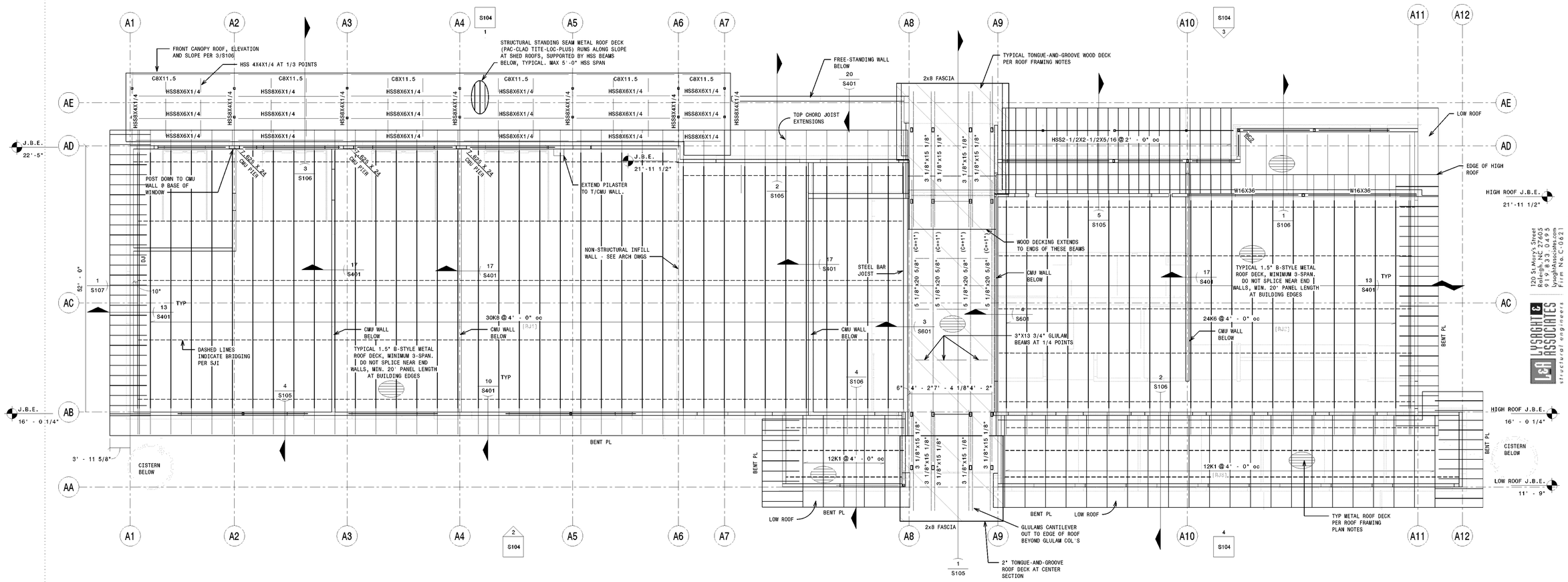
ADMINISTRATION BUILDING MEZZANINE AND HEADER PLAN

ADMINISTRATIVE BUILDING - ROOF FRAMING PLAN NOTES

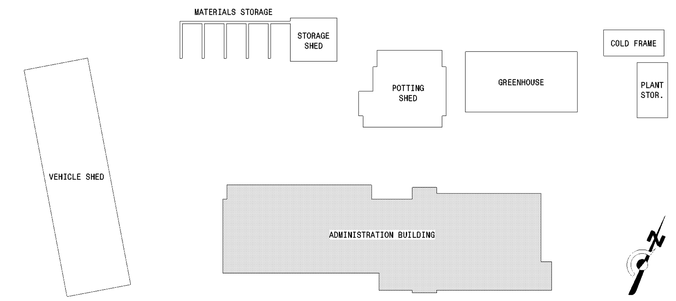
1. ROOF DECK AT HIGH ROOF SHALL BE 1 1/2" DEEP WIDE RIB, 20 GAGE, 660 GALVANIZED DECK. SEE DETAILS FOR GAGE AND ROOF DIAPHRAGM CONNECTION REQUIREMENTS.
2. [ ] DENOTES PRESSURE-TREATED 2X6 TONGUE AND GROOVE (T&G) SOUTHERN-YELLOW PINE (SYP) ROOF DECK. DECK SHALL BE FASTENED TO GLULAM SUPPORTS WITH (1) 12d TOE-NAILED THROUGH THE TONGUE, AND (1) 0.25" DIA. X 4" LONG TIMBERLOK / SDWS WOOD SCREW, OR APPROVED EQUAL.
3. J.B. = JOIST BEARING ELEVATION ABOVE FINISH FLOOR, TYPICAL.
4. D.B.E. = METAL ROOF DECK BEARING ELEVATION, TYPICAL.
5. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS, INCLUDING TO PROVIDE AND INSTALL TEMPORARY BRACING OF STEEL AGAINST WIND LOADING UNTIL ALL MASONRY WALLS ARE IN PLACE AND WALL-TO-ROOF CONNECTIONS HAVE BEEN COMPLETED.
6. HIGH ROOF BAR JOISTS AT HIGH ROOF TO HAVE 5" SLOPED ENDSEATS, AND DESIGNED FOR 1500 LBS ROLLOVER RESISTANCE
7. INSTALL STEEL ANGLE AT ALL METAL ROOF DECK PERIMETERS, PER DETAIL 9-S501, TYPICAL.
8. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN ON THESE PLANS.
9. SEE MECHANICAL DRAWINGS FOR ANY P.M.E. REQUIREMENTS AT ROOF LEVELS.
10. SEE DETAILS FOR JOIST CHORD REINFORCEMENT REQUIRMENTS AT SUSPENDED EQUIPMENT, EXHAUST FANS, OR CURBS, IF REQUIRED.
11. LB# - LINTEL BEAM MARK, REFER TO DETAILS AND SCHEDULES.
12. "DJ" DESIGNATES DOUBLE STEEL BAR JOIST.
13. SHIP HSS OUTLOOKERS LOOSE SO THEY CAN BE COORDINATED WITH METAL DECK FLUTES. FIELD WELD TO STEEL BAR JOISTS BELOW THROUGH METAL DECK WITH 1/8" FILLET, 2" LONG, TYPICAL.

ADMINISTRATIVE BUILDING - STEEL BAR JOIST FRAMING NOTES

1. SEE 'OPEN WEB JOIST' NOTES ON S001 FOR GENERAL REQUIREMENTS.
2. USE L 2 X 2 X 1/4 BRIDGING ANGLES, OR APPROVED EQUAL IN ACCORDANCE WITH SJI SPECIFICATIONS. ALL JOISTS WITHIN A PARTICULAR BAY SHALL HAVE PANEL POINTS WHICH ARE ALIGNED.
3. JOIST SUPPLIER SHALL CHECK JOISTS FOR WIND LOAD UPLIFT SHOWN IN THE GENERAL NOTES. USE ONE EXTRA LINE OF BRIDGING AT BOTH ENDS OF JOIST AT FIRST PANEL POINT FROM SUPPORT, TYPICAL.
4. THE ROW OF BRIDGING NEAREST THE MID-SPAN SHALL BE DIAGONAL BRIDGING WITH BOLTED CONNECTIONS AT THE CHORDS AND MIDSPAN.
5. THE JOISTS HAVE BEEN DESIGNED WITH AN ALLOWANCE OF 4 PSF UNIFORM LOAD FOR THE SPRINKLER SYSTEM. IF CONCENTRATED LOADS FROM SPRINKLER MAINS OR OTHER PIPING EXCEED THIS ALLOWANCE, THE THE JOIST SUPPLIER SHALL DESIGN THOSE JOISTS FOR THE INGREASED LOAD.
6. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ALSO VERIFY NO LARGE SUSPENDED LOADS ARE HUNG FROM THE JOISTS WITHOUT THE WRITTEN PERMISSION OF THE JOIST SUPPLIER AND THE STRUCTURAL ENGINEER OF RECORD.
7. THIS ROOF FRAMING PLAN IS NOT A ROOF JOIST LAYOUT PLAN. THE JOIST SUPPLIER SHALL SUBMIT SHOP DRAWINGS SHOWING PROPER PLACEMENT AND BAR JOIST REQUIREMENTS, FOR REVIEW AND APPROVAL. JOIST SPACING SHOWN IS MAXIMUM SPACING, AND JOIST SUPPLIER SHALL ADJUST LOCATIONS TO ACCOMMODATE CMU WALLS PARALLEL TO JOISTS THAT EXTEND UP TO ROOF.



1 ADMINISTRATION ROOF PLAN
1/8" = 1'-0"



KEYPLAN - ADMINISTRATION BUILDING
1" = 50'-0"

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SEALS

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NORTH CAROLINA PROFESSIONAL SEAL 034727 ENGINEER MICHAEL EDWIN SCOTT

1-13-2024

PROJECT INFORMATION

PROJECT NO.: LA-13090
PHASE: BID SET
DATE: 01.13.2025
DRAWN BY: MES
CHECKED BY: MES

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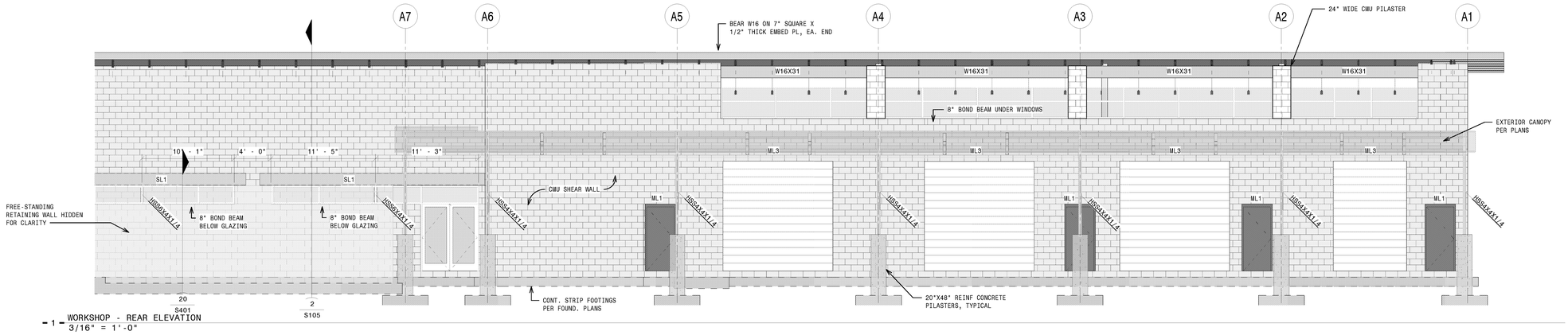
2	TITLE BLOCK REVISION	05.21.2025

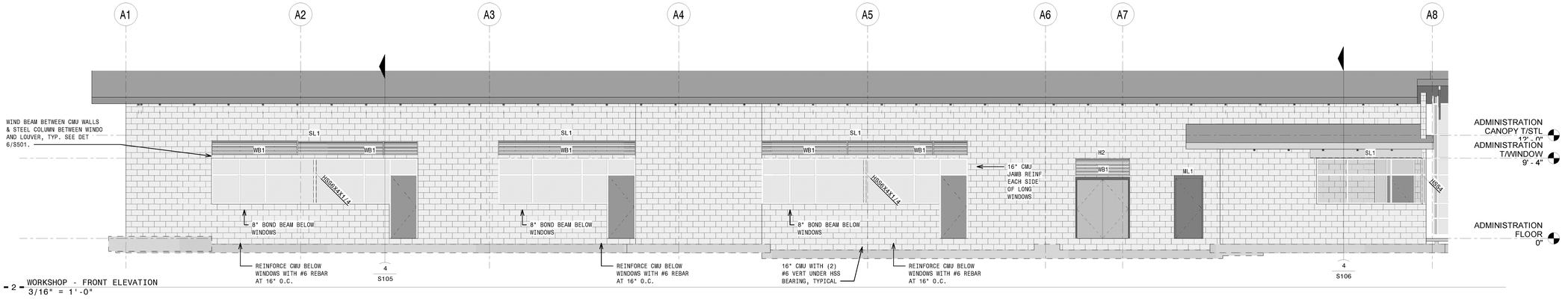
SHEET INFORMATION

S103

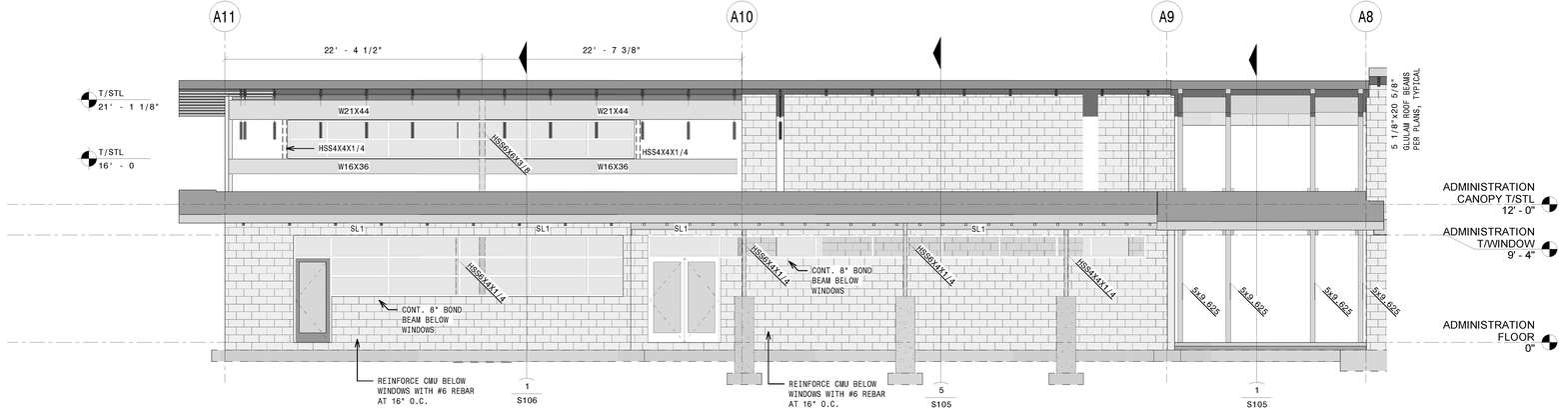
ADMINISTRATION BUILDING ROOF PLAN



1 WORKSHOP - REAR ELEVATION
3/16" = 1'-0"

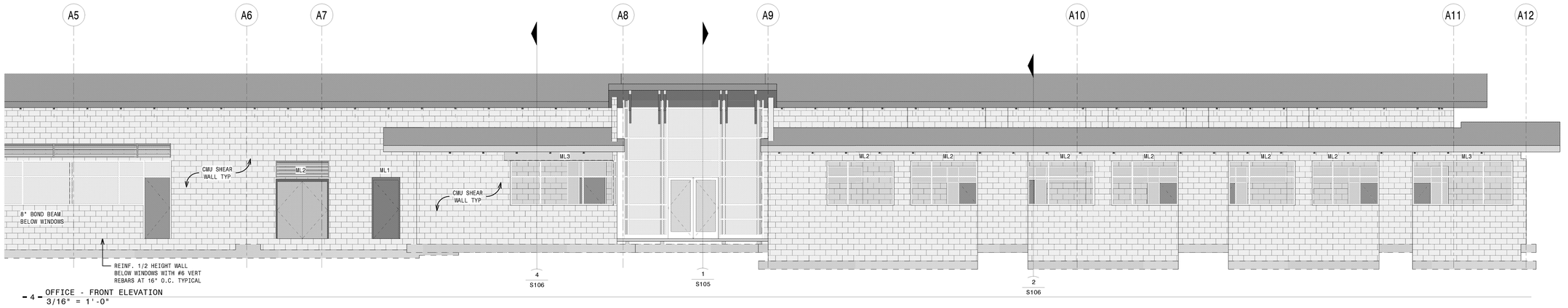


2 WORKSHOP - FRONT ELEVATION
3/16" = 1'-0"



SEE ARCHITECTURAL SECTIONS AND ELEVATIONS FOR ADDITIONAL CLARITY

3 OFFICE - REAR ELEVATION
3/16" = 1'-0"



4 OFFICE - FRONT ELEVATION
3/16" = 1'-0"

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LYSAGHT & ASSOCIATES structural engineers

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NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 036727 ENGINEER MICHAEL EDWIN STONE
1-13-2024

PROJECT INFORMATION

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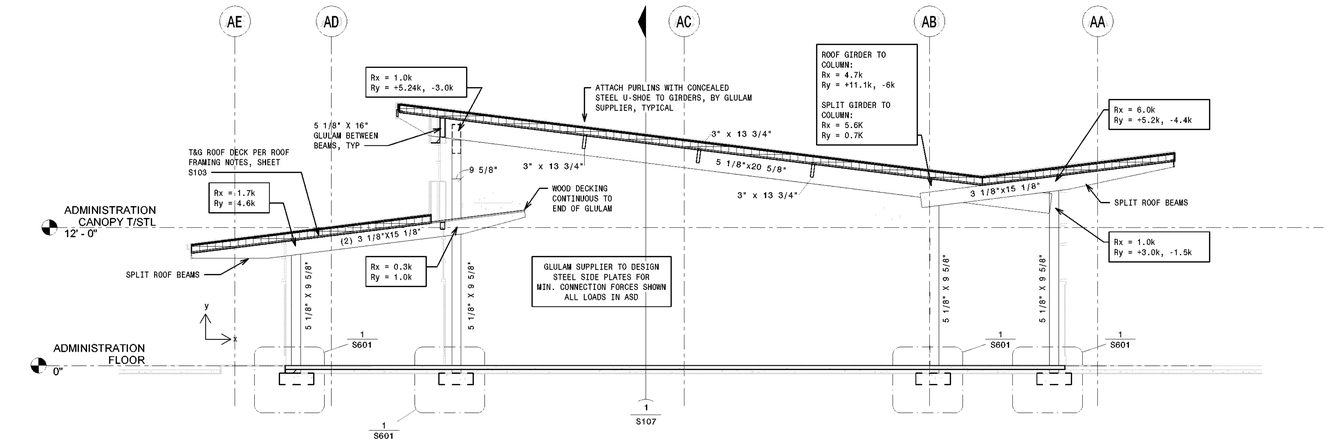
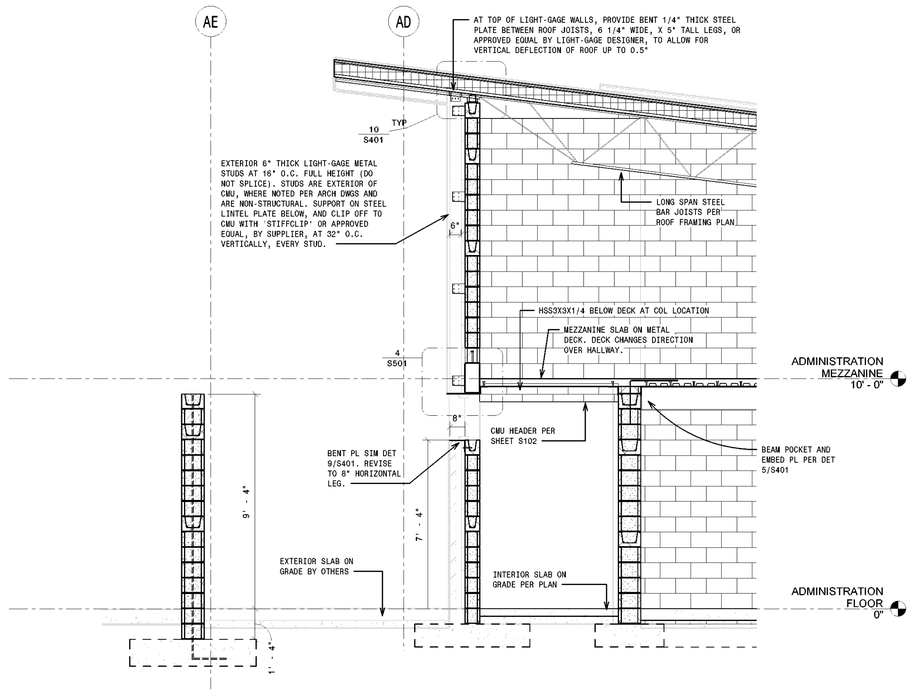
SHEET INFORMATION

S104

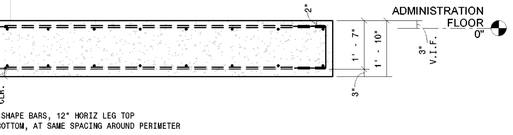
ADMINISTRATION BUILDING EXTERIOR ELEVATIONS



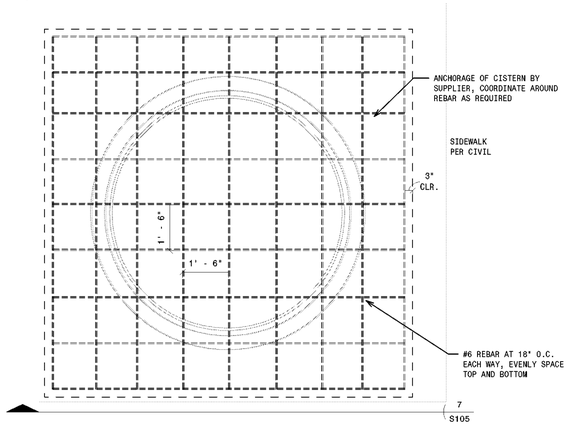
1 GLULAM FRAME ELEVATION
3/16" = 1'-0"



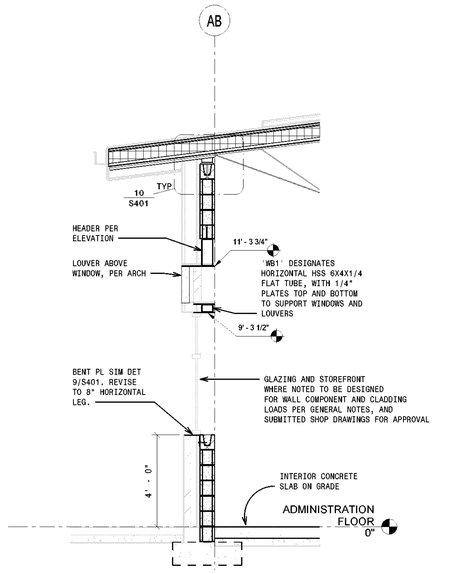
2 SECTION THROUGH ADMIN BUILDING - GRID AD
3/8" = 1'-0"



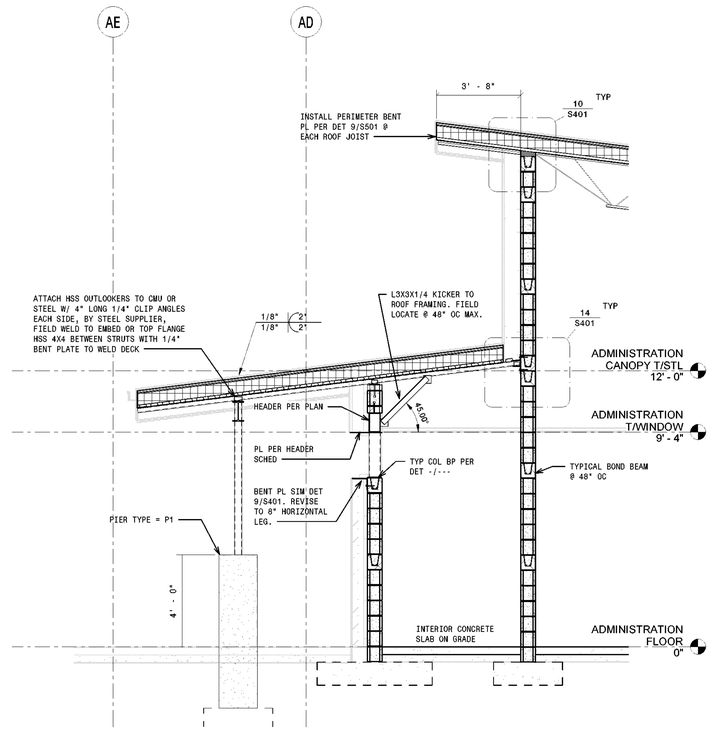
7 SECTION VIEW AT CISTERN FOUNDATION
1/2" = 1'-0"



6 PLAN VIEW AT CISTERN FOUNDATION
1/2" = 1'-0"



4 SECTION THRU ADMIN BUILDING - GRID AB
3/8" = 1'-0"



5 SECTION THRU ADMIN BUILDING - GRID AD2
3/8" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 058727 ENGINEER MICHAEL EDWIN STONE
1-13-2024

PROJECT INFORMATION

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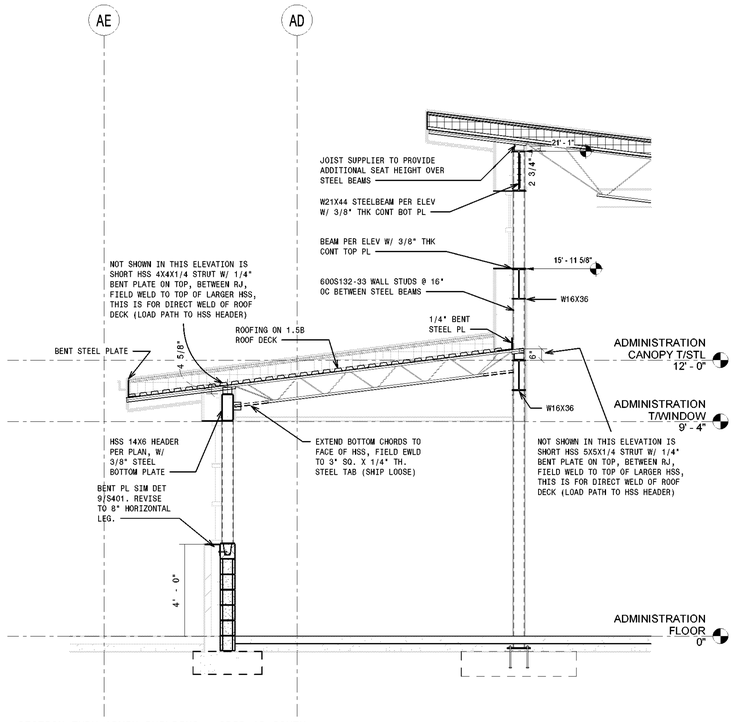
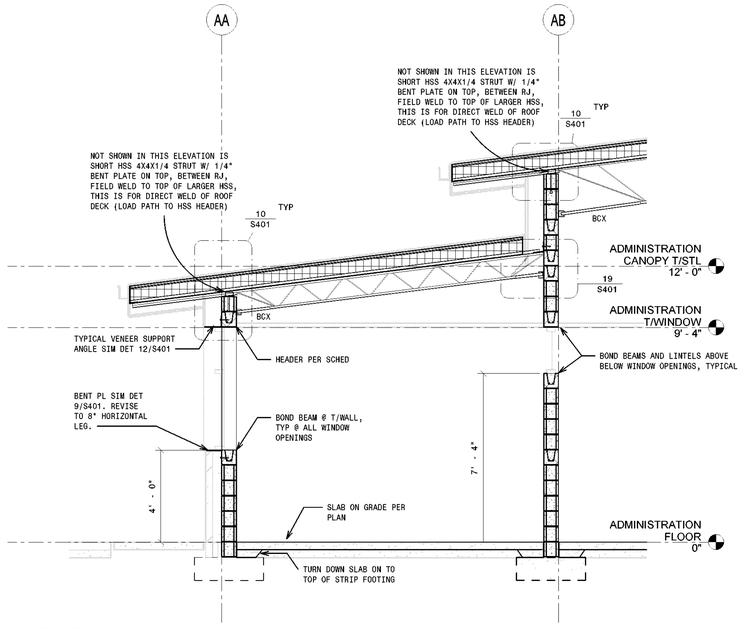
SHEET INFORMATION

S105

ADMINISTRATION BUILDING SECTIONS

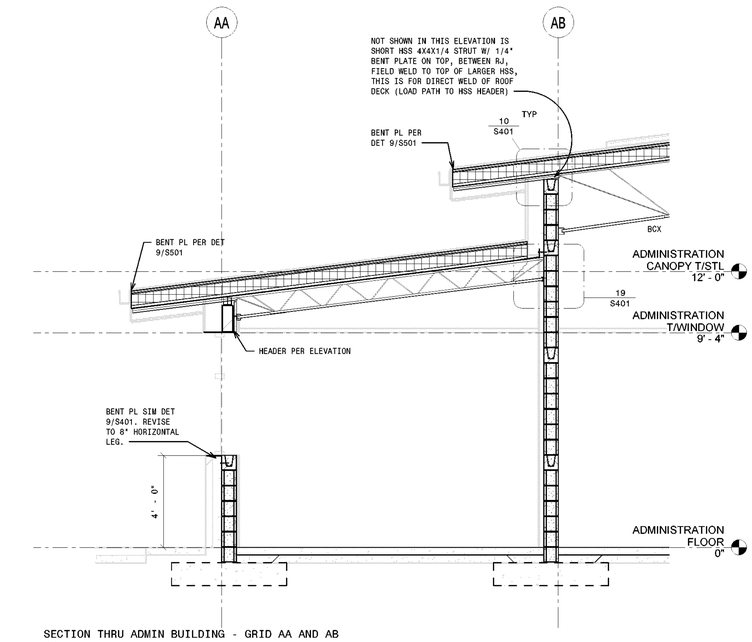


1 SECTION THRU ADMIN BUILDING - GRID AD SOUTH
3/8" = 1'-0"



2 SECTION THRU ADMIN BUILDING - GRID AA AND AB
3/8" = 1'-0"

3 SECTION AT ADMIN BUILDING LOW SHED ROOF
3/8" = 1'-0"



4 SECTION THRU ADMIN BUILDING - GRID AA AND AB SOUTH
3/8" = 1'-0"

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1-13-2024

PROJECT INFORMATION

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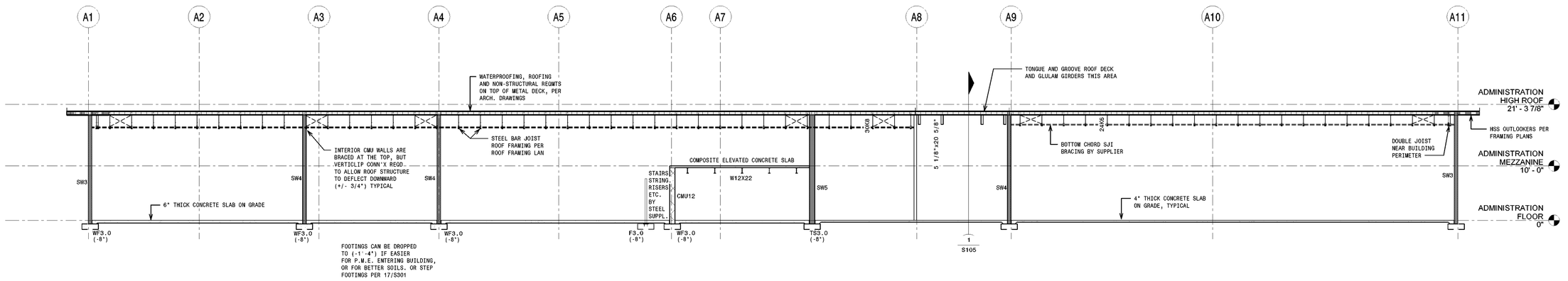
SHEET INFORMATION

S106
ADMINISTRATION BUILDING SECTIONS



1 SECTION THRU LENGTH OF ADMINISTRATIVE BUILDING
1/8" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 038727 ENGINEER MICHAEL EDWIN STONE

1-13-2024

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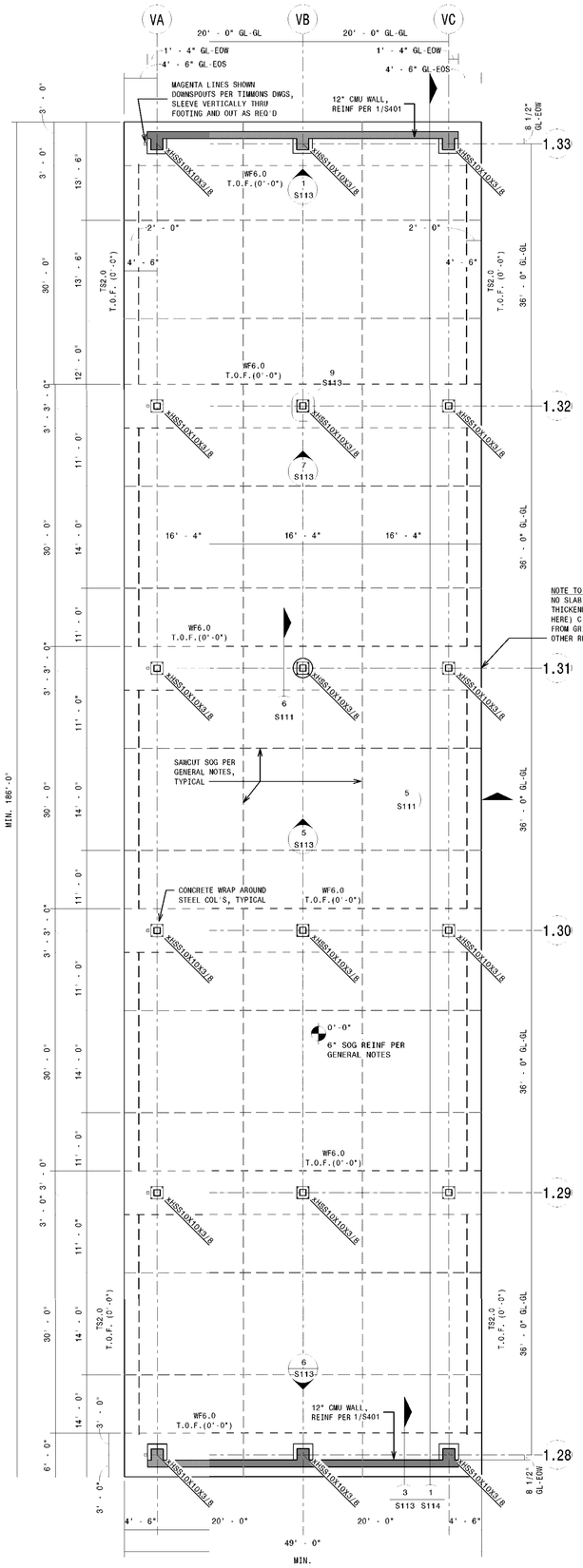
S107

ADMINISTRATION BUILDING SECTION



- 1 - VEHICLE SHED FOUNDATION PLAN
1/8" = 1'-0"

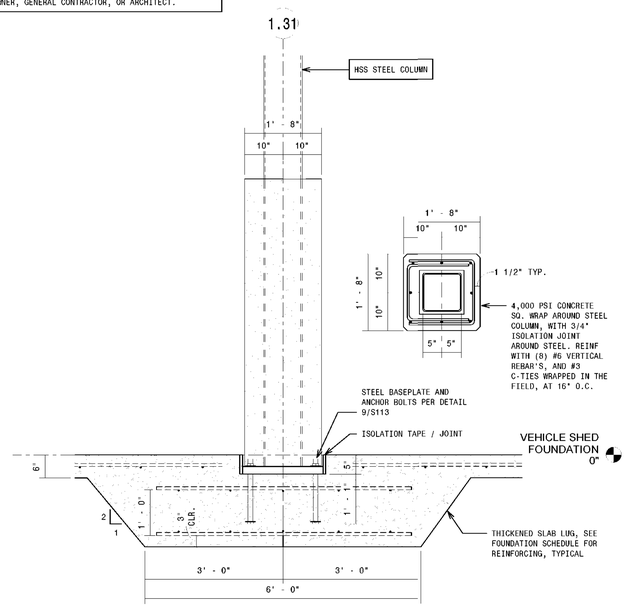
MASONRY WALL CONSTRUCTION NOTES - VEHICLE SHED

1. CONSTRUCT CMU (CONCRETE MASONRY UNIT) WALL EACH END USING 12" BLOCK (11 5/8" ACTUAL), REINFORCED WITH #6 VERTICAL REBAR AT 24" O.C. IN GROUT FILLED CORES. UN-REINFORCED CORES CAN REMAIN HOLLOW, OR FILLED SOLID (G.C. OPTION)
2. ALL REBAR SHALL BE CENTERED IN THE BLOCK (+/- 1" MAX.)
3. ALL GROUT TO BE 3,000 PSI NON-SHRINK.
4. HOLLOW CORES TO REMAIN AS IS (NO INSULATION SINCE EXTERIOR).
5. BEAR CMU WALL ON FLAT CONCRETE, TYPICAL.
6. VERTICAL REBAR SHALL BE SHOP BENT WITH 9" HOOK, LAPPED WITH VERTICAL DOWEL'S AS REQUIRED IN THE GENERAL NOTES.
7. IT IS PERMITTED TO DOWEL VERTICAL REBARS INTO CONCRETE IF REQUIRED, USING HILTI "HIT-HY200" EPOXY, WITH MINIMUM 9" EMBEDMENT, PER MANUFACTURER SPECIFICATION.
8. PROVIDE HORIZONTAL LADDER WIRE REINFORCING AT 16" O.C. VERTICALLY.
9. SEE GENERAL NOTES FOR MORTAR STRENGTH AND REQUIREMENTS.
10. PROVIDE BOND BEAMS IN WALL, WITH (2) HORIZONTAL #4 GFRP REBAR, PER ELEVATIONS ON S113.
11. STEEL COLUMN L5X5X1/4 CLIPS SHALL ATTACH TO 8" BOND BEAMS, AS DETAILED.
12. TOP OF WALL IS CURRENTLY SHOWN AS SLOPED, TO MATCH BOTTOM OF GLULAM BEAM ELEVATION. IT IS PERMITTED TO STOP THIS WALL SHORT IF REQUESTED BY OWNER, GENERAL CONTRACTOR, OR ARCHITECT.

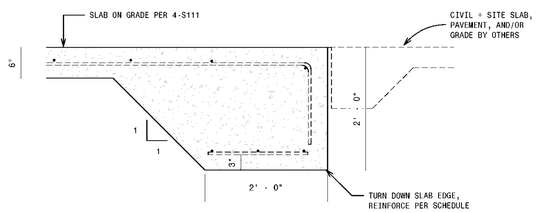
FOUNDATION PLAN NOTES - VEHICLE SHED

1. ALL ELEVATIONS ARE MEASURED FROM A REFERENCED FINISH SLAB ELEVATION OF 0'-0". GENERAL CONTRACTOR SHALL REFERENCE CIVIL SITE PLANS, AS GLOBAL SLAB ELEVATION MAY NEED TO BE ADJUSTED UP OR DOWN TO SUIT ACTUAL SITE AND DRAINAGE REQUIREMENTS. TOP OF SLAB MAY NEED TO SLOPE SLIGHTLY AS WELL, FOR PROPER DRAINAGE.
2. CONCRETE SLAB TO BE POURED MONOLITHICALLY, WITH 24" THICK TURN DOWN (TS2.0) AT SLAB EDGES, TYPICAL.
3. SEE DETAIL 4-S111 FOR TYPICAL SLAB ON GRADE CONSTRUCTION. REINFORCE WITH #5 REBAR'S AT 18" O.C. EACH WAY, CENTERED IN SLAB DEPTH.
4. THE CONCRETE SLAB IS DESIGNED FOR 100 PSF UNIFORM LIVE LOAD WITH NO PROVISIONS FOR HEAVY CONCENTRATED POINT LOADS.
5. SEE DETAIL 4-S401 FOR TYPICAL MASONRY CONTROL JOINT (MCJ) DETAIL. REFER TO ARCHITECTURAL PLANS FOR MCJ LOCATIONS. HORIZONTAL SPACING OF VERTICAL CONTROL JOINTS SHALL NOT EXCEED 3X THE WALL HEIGHT, UNLESS IN WRITING BY THE STRUCTURAL ENGINEER.
6. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS NOT SHOWN ON THIS PLAN.
7. ALL STEEL BASEPLATES SHALL BE RECESSED INTO CONCRETE SLAB 6", TO ENSURE ANCHOR BOLTS AN DBASEPLATE DO NOT INTERFERE WITH CONCRETE WRAPS.
8. ANCHOR BOLTS TO EXTEND MINIMUM 13" INTO CONCRETE, WITH NUTS AND WASHERS, TOP AND BOTTOM.
9. FOR ALL CONCRETE SLABS OUTSIDE OF BUILDING FOOTPRINT, GENERAL CONTRACTOR SHALL REFERENCE SITE DRAWINGS BY TIMMONS.

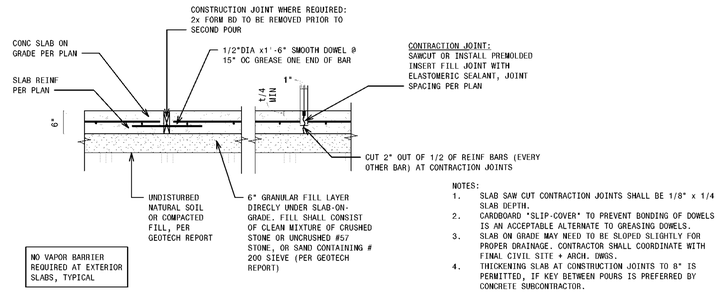
NOTE TO G.C.:
NO SLAB CONTROL JOINT PARALLEL TO THICKENED SLAB (IT WOULD NOT CRACK HERE) C.J.'S ARE LOCATED AS DIM'D FROM GRID LINES (+/-), STOP EVERY OTHER REBAR IN SLAB TO INDUCE CRACK



- 6 - SECTION THRU TS6.0 FOOTING
3/4" = 1'-0"



- 5 - SECTION THROUGH VEHICULAR EDGE OF SLAB
1" = 1'-0"

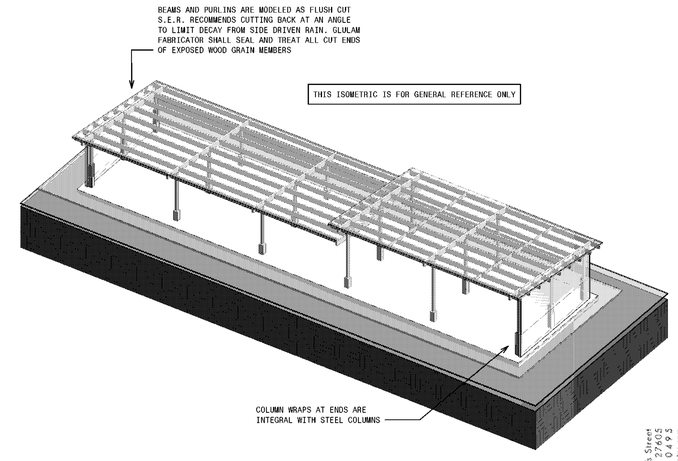


NOTES:
1. SLAB SAW CUT CONTRACTION JOINTS SHALL BE 1/8" x 1/4 SLAB DEPTH.
2. CARDBOARD "SLIP-COVER" TO PREVENT BONDING OF DOWELS IS AN ACCEPTABLE ALTERNATE TO GREASING DOWELS.
3. SLAB ON GRADE MAY NEED TO BE SLOPED SLIGHTLY FOR PROPER DRAINAGE. CONTRACTOR SHALL COORDINATE WITH FINAL CIVIL SITE + ARCH. DWGS.
4. THICKENING SLAB AT CONSTRUCTION JOINTS TO 8" IS PERMITTED, IF KEY BETWEEN POURS IS PREFERRED BY CONCRETE SUBCONTRACTOR.

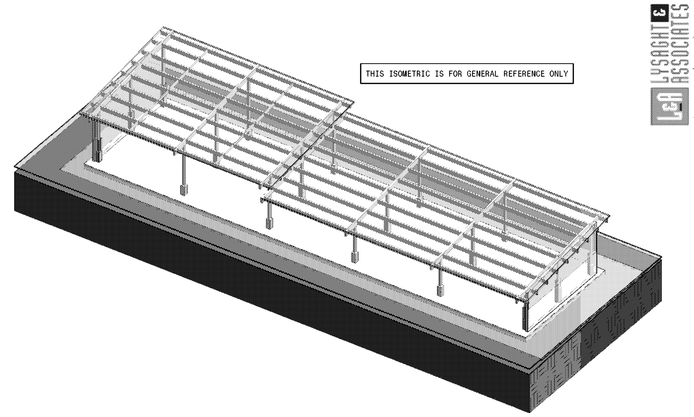
- 4 - SLAB ON GRADE DETAIL AT VEHICLE SHED
3/4" = 1'-0"

FOUNDATION SCHEDULE			
MK#	SIZE	REINFORCING	NOTES
TS6.0	6'-0" X 24" THICK CONT. STRIP FOOTING	(6) #5 CONT BARS TOP AND BOTTOM	1,2,4,5
TS2.0	2'-0" X 24" THICK TURN DOWN SLAB	(2) #5 BOTTOM BARS	1,3,5

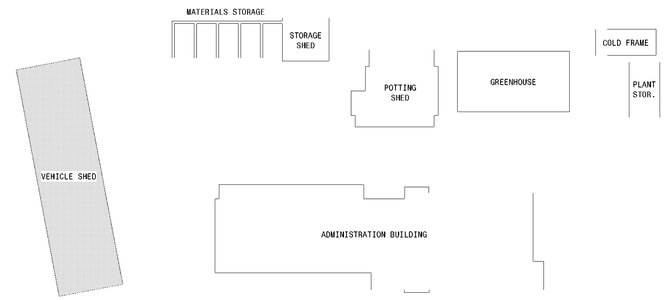
NOTES:
1. BOTTOM BARS ARE TO BE LOCATED 3" CLEAR FROM BOTTOM OF FOOTING.
2. TOP REBARS ARE LOCATED 2" CLEAR FROM TOP OF FOOTING.
3. USE #4 TIES AT 48" O.C. BELOW BOTTOM BARS.
4. USE #3 CLOSED STIRRUPS AROUND TOP AND BOTTOM BARS AT 24" OC.
5. REBAR'S TO BE NORMAL GRADE 60. GFRP (GLASS FIBER REINFORCED POLYMER) BY MST-BAR IS BID-ALTERNATE FOR G.C. AND OWNER REVIEW, OR APPROVED EQUAL. GFRP REBAR'S ARE LESS SUSPEPTIBLE TO DETERIORATION IN THESE ENVIRONMENTS FOR EXTERIOR SLABS.



- 3 - VEHICLE SHED ISOMETRIC 2



- 2 - VEHICLE SHED ISOMETRIC 1



- - KEYPLAN - VEHICLE SHED
1" = 50'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 035727 ENGINEER MICHAEL EDWIN STONE

1-13-2024

PROJECT INFORMATION

PROJECT NO.: LA-13090
PHASE: BID SET
DATE: 01.13.2025
DRAWN BY: ABT
CHECKED BY: MES

REVISIONS

NO	DESCRIPTION	DATE
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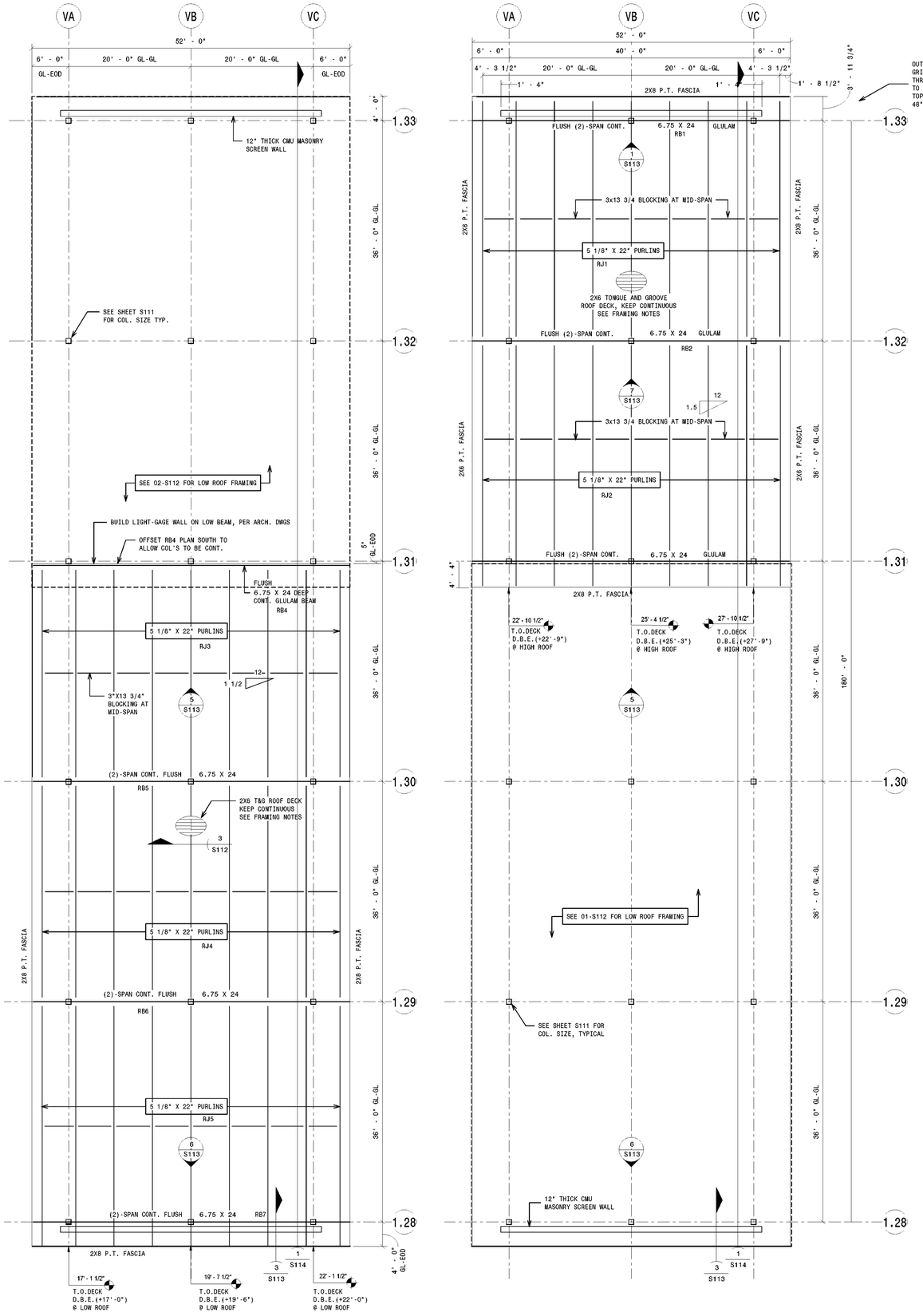
SHEET INFORMATION

S111

VEHICLE SHED FOUNDATION PLAN

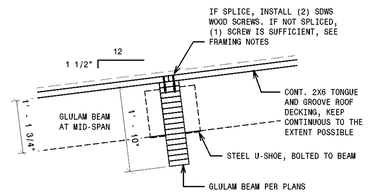


- 1 - VEHICLE SHED - LOW ROOF PLAN
1/8" = 1'-0"

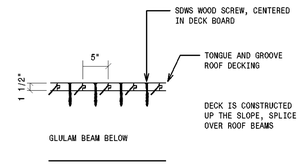
- 2 - VEHICLE SHED - HIGH ROOF PLAN
1/8" = 1'-0"

VEHICLE SHED - ROOF FRAMING PLAN NOTES

1. GENERAL CONTACTOR SHALL COORDINATE WATERPROOFING, ROOFING FINISH, AND ALL NON-STRUCTURAL ROOFING REQUIREMENTS WITH ARCHITECTURAL DRAWINGS.
2. METAL ROOFING FASTENERS SHALL BE AS REQUIRED BY THE SUPPLIER SPECIFICATIONS, FOR THE WIND COMPONENT AND CLADDING LOADS SPECIFIED (IE. SCREWS WITH PROPER EMBEDMENT. ROOFING FASTENERS SHALL NOT PENETRATE ROOF DECK, IN ANY LOCATION.
3. THE STRUCTURE BELOW THE METAL ROOFING IS 2" TONGUE-AND-GROOVE WOOD DECKING (1 1/2" ACTUAL THICKNESS), WHICH IS CONTINUOUS OVER 3 OR MORE SUPPORTS.
4. DO NOT SPLICE ROOF DECKING AT SAME LOCATIONS, BUT STAGGER SPLICE LOCATIONS. DECKING SHALL SPLICE OVER BEAM SUPPORTS IN ALL LOCATIONS. SPLICING BETWEEN SUPPORTS IS NOT PERMITTED.
5. ATTACH TONGUE-AND-GROOVE DECKING TO GLULAM STRUCTURE WITH 0.25" DIA. SIMPSON-STRONG TIE "SDWS" WOOD SCREWS - OR APPROVED EQUAL, AS INDICATED IN DETAILS, WITH MINIMUM 3" THREAD EMBEDMENT (MIN. 4 1/2" LONG). IN ADDITION TO SCREWS, ATTACH WITH (1) 12d RING-SHANK NAIL THROUGH THE TONGUE AT EACH BEARING LOCATION.
6. PROVIDE 2X6 PRESSURE-TREATED FASCIAS AT ALL ROOF DECK EDGES.
7. ATTACH FASCIA TO TONGUE AND GROOVE WITH RING-SHANK NAILS AT 12" ON CENTER.
8. GLULAM FABCRICATOR SHALL PROVIDE SHOP DRAWINGS FOR FOR ALL BEAMS, PURLINS, COLUMNS, AND CONNECTIONS.
9. ALL GLULAM MEMBERS SHALL BE 24F-V5, OR APPROVED EQUAL.
10. THE ROOF DECK SLOPES PER THE ARCHITECTURAL DRAWINGS.
11. TOP OF BEAM ELEVATIONS ARE PROVIDED FOR CLARITY, AND SHALL BE COORDINATED WITH FINAL SEALED ARCHITECTURAL DRAWINGS.
12. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS NOT SHOWN ON THIS PLAN.
13. SEE ELEVATIONS FOR STRUCTURAL BEAM AND COLUMN LENGTHS, AND BEARING ELEVATIONS.
14. BEVEL CUT AND CAULK ALL END JOINTS OF PRESSURE-TREATED FASCIA BOARDS.
15. "RJ" REFERS TO STRUCTURAL ROOF JOIST DESIGNATION, AND IS ONLY FOR ENGINEER REFERENCES.
16. "RB" DESIGNATES ROOF BEAM, AND IS ONLY FOR ENGINEER REFERENCES.

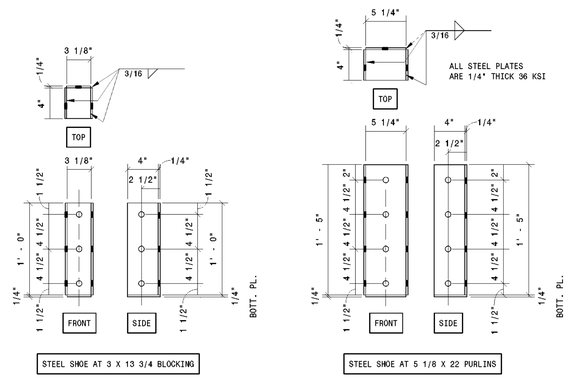


- 3 - SECTION THROUGH TONGUE-AND-GROOVE DECKING
3/4" = 1'-0"

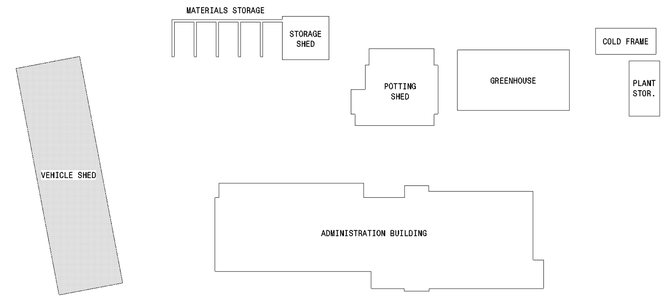


- 5 - ROOF DECKING SECTION
1" = 1'-0"

FABRICATOR NOTES:
1. ALL STEEL PLATES ARE 1/4" THICK 36 KSI.
2. ALL WELDS ARE E70X ELECTRODES.
3. ALL WELDS ARE DONE IN THE SHOP, GROUND SMOOTH, AND FULL LENGTH OF CONNECTING PLATES, EACH SIDE



- 4 - ROOF FRAMING CONNECTIONS (VEHICLE SHED)
1 1/2" = 1'-0"



- KEYPLAN - VEHICLE SHED
1" = 50'-0"

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038727 MICHAEL EDWIN STONE
1-13-2024

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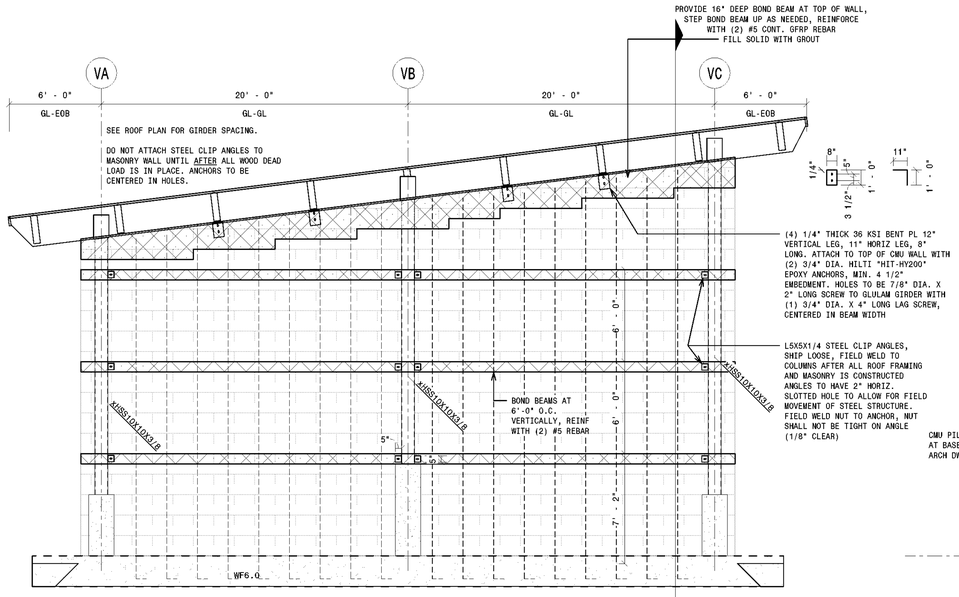
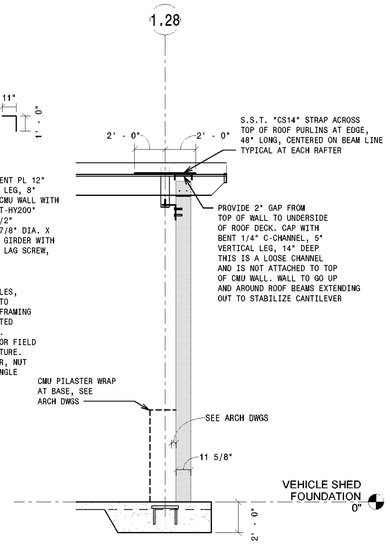
S112

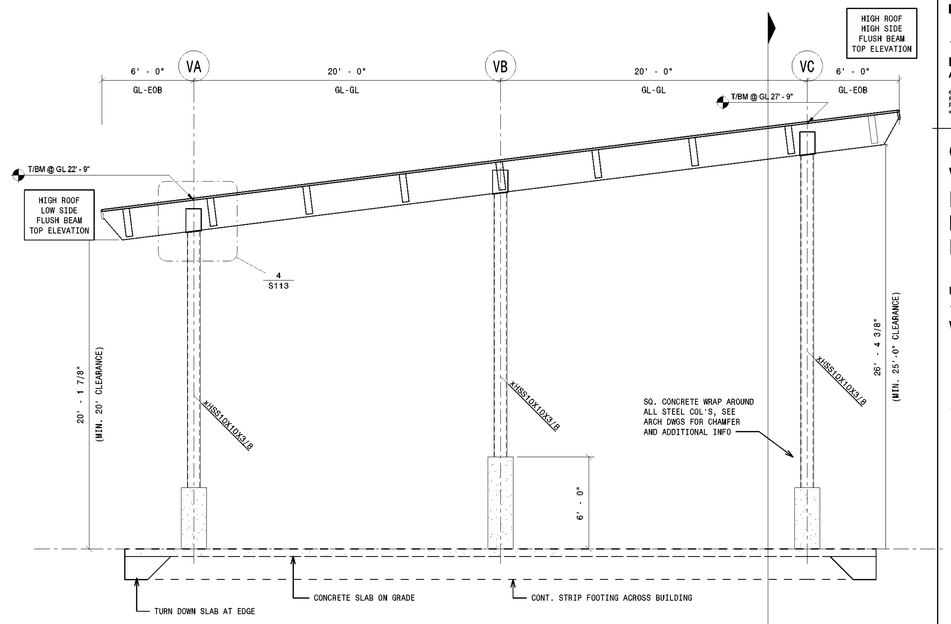
VEHICLE SHED ROOF FRAMING PLANS



1 — VEHICLE SHED - HIGH ROOF GL-1
1/4" = 1'-0"

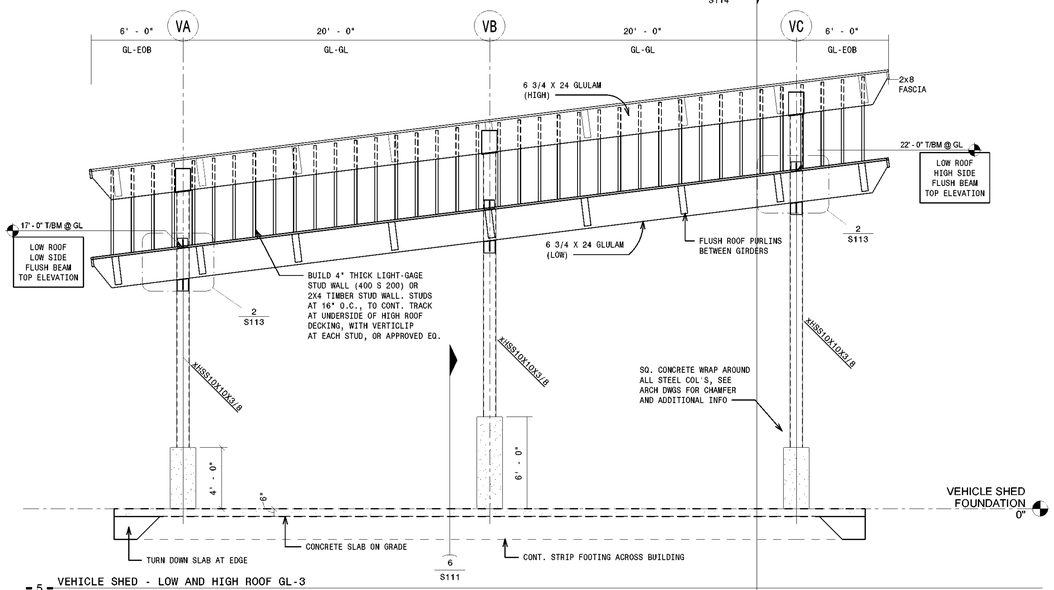


3 — Section 27
1/4" = 1'-0"

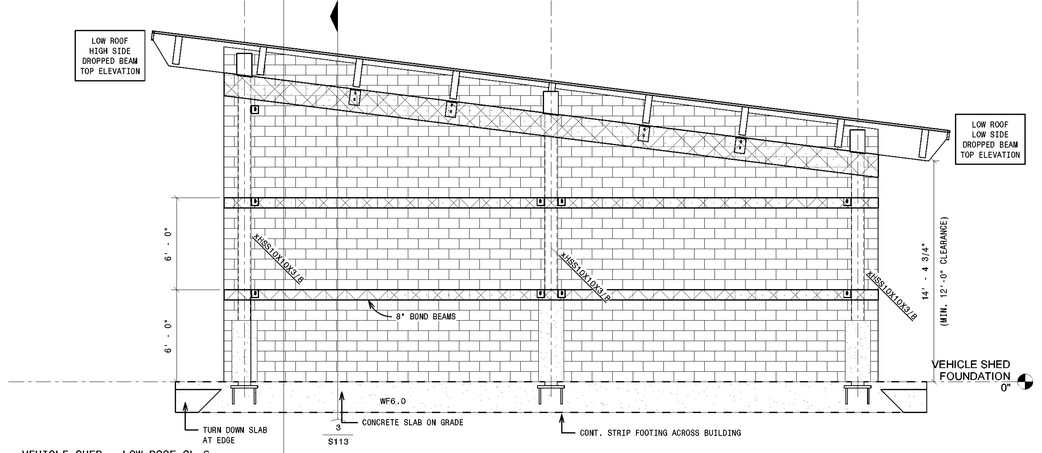


7 — VEHICLE SHED - HIGH ROOF GL-2
1/4" = 1'-0"

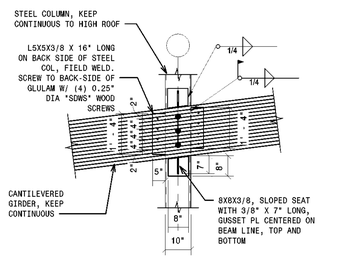
1
S114



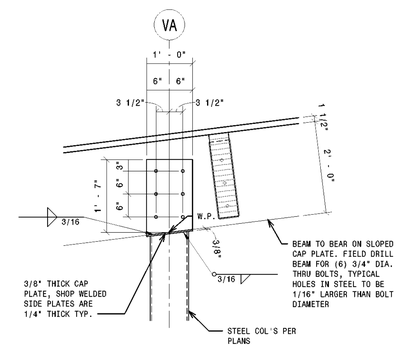
5 — VEHICLE SHED - LOW AND HIGH ROOF GL-3
1/4" = 1'-0"



6 — VEHICLE SHED - LOW ROOF GL-6
1/4" = 1'-0"

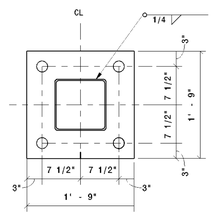


2 — VEHICLE SHED GIRDER MOMENT CONNECTION
1/2" = 1'-0"



4 — VEHICLE SHED - HIGH ROOF CALLOUT
3/4" = 1'-0"

FABRICATOR NOTES:
a. BASEPLATE TO BE 1" THICK, 36 KSI STEEL.
b. ATTACH WITH (4) 1" DIA. A307 THREADED RODS.
c. EMBED RODS INTO CONCRETE MIN. 12" PRIOR TO PLACEMENT, OR POST INSTALL WITH HILTI "HIT-HY200" EPOXY.4
d. HOLES IN BASEPLATE TO BE 1 1/8" DIA, TYPICAL



9 — STEEL COLUMN BASEPLATE
1" = 1'-0"

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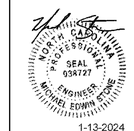

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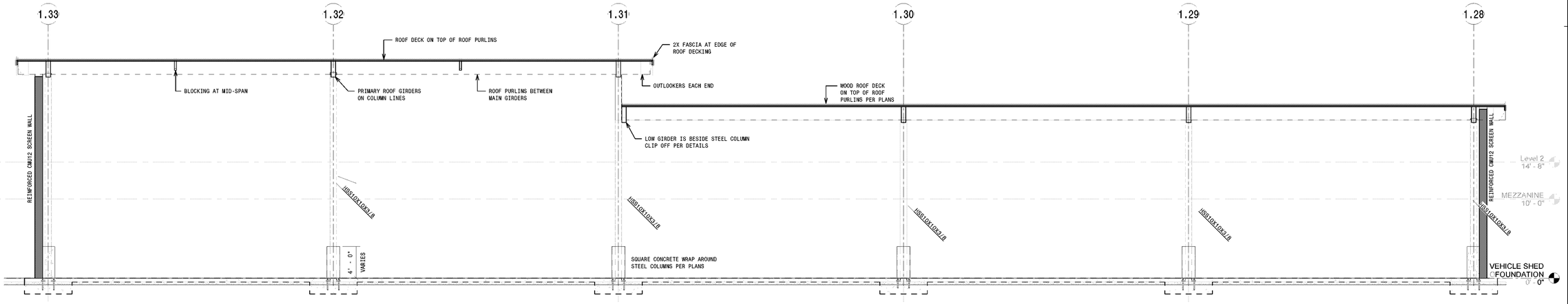
SHEET INFORMATION

S113

VEHICLE SHED ELEVATIONS AND DETAILS



-1- LONGITUDINAL SECTION THRU VEHICLE SHED
3/16" = 1'-0"

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S114

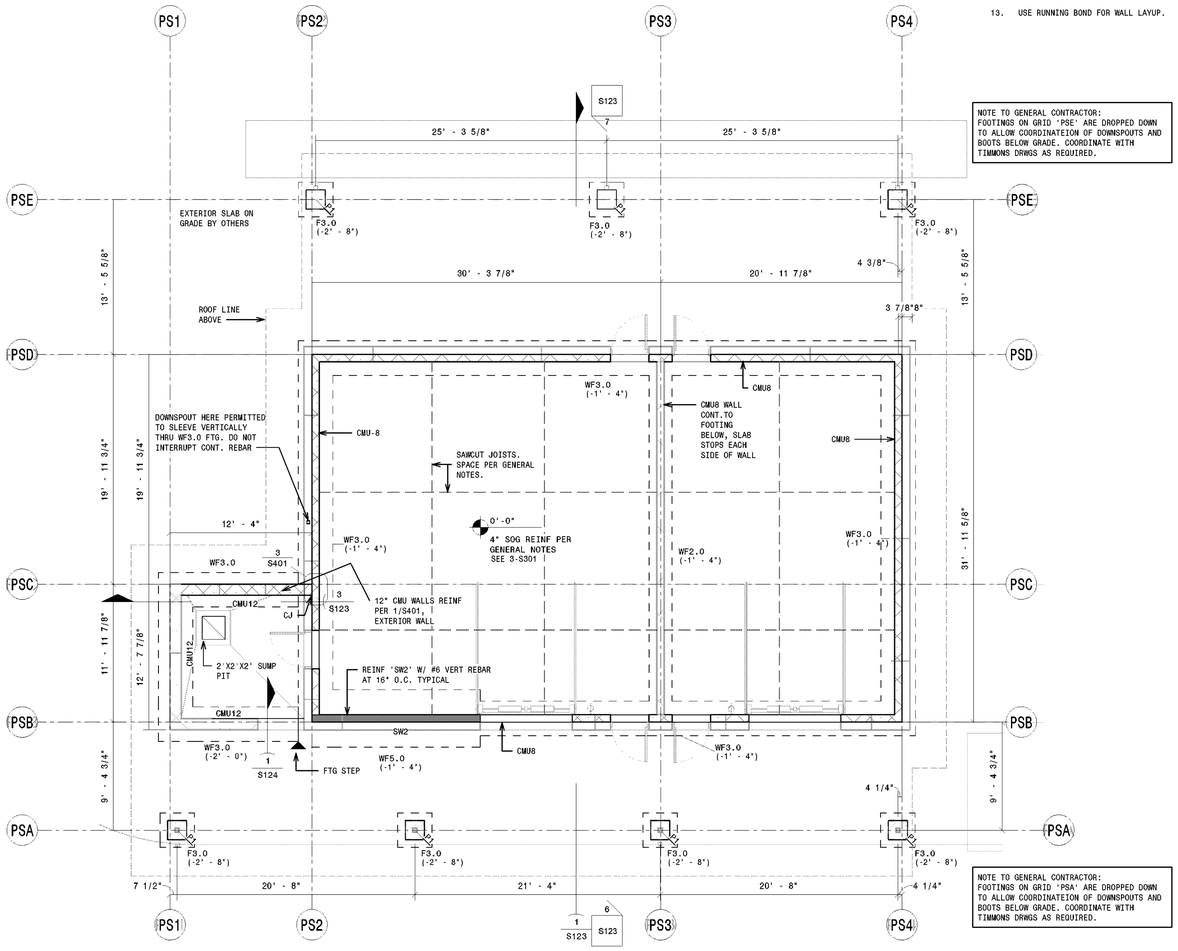
VEHICLE SHED ELEVATION

FOUNDATION PLAN NOTES - POTTING SHED

1. ALL ELEVATIONS ARE MEASURED FROM A REFERENCED FINISH SLAB ELEVATION OF 0'-0", GENERAL CONTRACTOR SHALL REFERENCE CIVIL SITE PLANS, AS GLOBAL SLAB ELEVATION MAY NEED TO BE ADJUSTED UP OR DOWN TO SUIT ACTUAL SITE AND DRAINAGE REQUIREMENTS.
2. SEE DETAIL 3-S301 FOR TYPICAL SLAB ON GRADE CONSTRUCTION. REINFORCE WITH 4X4 X W2.1xW2.1 W.W.F. OR #5 REBAR AT 18" O.C. EACH WAY, CENTERED IN SLAB DEPTH. ALL INTERIOR SLABS TO HAVE 10 MIL VAPOR BARRIER BELOW.
3. THE CONCRETE SLAB IS DESIGNED FOR 100 PSF UNIFORM LIVE LOAD WITH NO PROVISIONS FOR HEAVY CONCENTRATED POINT LOADS.
4. SEE DETAIL 4-S401 FOR TYPICAL MASONRY CONTROL JOINT (MCJ) DETAIL. REFER TO ARCHITECTURAL PLANS FOR MCJ LOCATIONS. HORIZONTAL SPACING OF VERTICAL CONTROL JOINTS SHALL NOT EXCEED 3X THE WALL HEIGHT, UNLESS IN WRITING BY THE STRUCTURAL ENGINEER.
5. T.O.F. (-1'-4") DENOTES A TOP OF FOOTING AT -1'-4" BELOW FINAL FINISHED SLAB. TURN DOWN INTERIOR SLAB ONTO SPREAD FOOTING, WITH RIGID INSULATION AND WATERPROOFING PER ARCHITECTURAL DRAWINGS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS NOT SHOWN ON THIS PLAN.
7. GENERAL CONTRACTOR SHALL STEP FOOTINGS DOWN AS REQUIRED FOR P.M.E. UTILITIES ENTERING THE BUILDING. SEE DETAIL 17-S301.
8. FOR ALL CONCRETE SLABS OUTSIDE OF BUILDING FOOTPRINT, GENERAL CONTRACTOR SHALL REFERENCE SITE DRAWINGS BY TIMMONS.

MASONRY WALL CONSTRUCTION NOTES

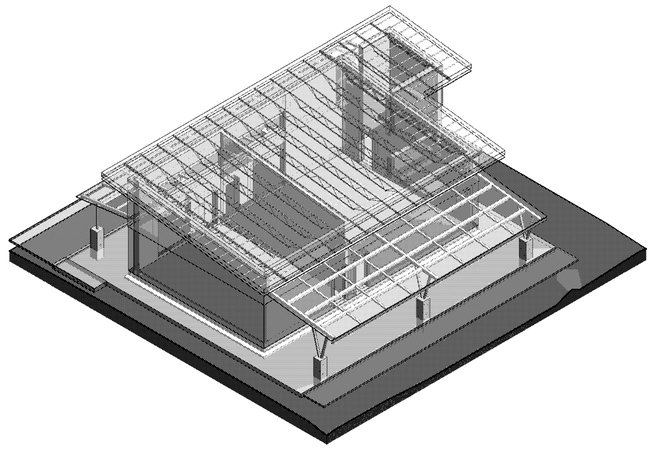
1. EXTERIOR WALLS SHALL BE REINFORCED FULL HEIGHT WITH (3) #5 REBAR'S AT EACH BUILDING CORNER, EACH SIDE OF OPENINGS, AND INTERMEDIATE 32" O.C.
2. ALL VERTICAL REBAR'S ARE GRADE 60, AND SHALL BE DOWELED OR WET-SET, INTO THE FOOTINGS A MINIMUM OF 8", TYPICAL.
3. INTERIOR WALLS SHALL BE REINFORCED FULL HEIGHT WITH #5'AT 48" O.C.
4. REINFORCED CORES SHALL BE FILLED SOLID WITH MINIMUM 3,000 PSI GROUT.
5. PROVIDE EXTRA FULL HEIGHT REBARS ON EACH SIDE OF EACH OPENINGS, INTERSECTING WALLS, ON EACH SIDE OF MASONRY CONTROL JOINTS AND AT EACH CORNER. SUBMIT SHOP DRAWINGS FOR DESIGN TEAM REVIEW AND APPROVAL, PRIOR TO CONSTRUCTION, SHOWING ELEVATIONS, REBAR PLACEMENT, LAP LENGTHS, ETC.
6. PROVIDE HORIZONTAL LADDER-STYLE H.D.G. JOINT REINFORCEMENT AT 16" O.C. VERTICALLY WITH EXTRA REINFORCEMENT ABOVE AND BELOW EACH OPENING.
7. PROVIDE AN 8" DEEP BOND BEAM REINFORCED WITH (2) #5'S CONTINUOUS ALL AROUND PERIMETER OF BUILDING AT THE ROOF JOIST BEARING ELEVATION. STEP BOND BEAMS AS REQUIRED.
8. THE ROOF FRAMING SHALL BE TIED TO THE WALL AS SHOWN AT THE STRUCTURAL DETAILS.
9. PROVIDE TEMPORARY BRACING FOR THE WALLS UNTIL THE STRUCTURAL ROOF FRAMING HAS BEEN COMPLETED.
10. SEE ARCHITECTURAL PLANS FOR VENEER AND NON-STRUCTURAL REQUIREMENTS.
11. COORDINATE MASONRY CONTROL JOINT LOCATIONS WITH ARCHITECTURAL DRAWINGS.
12. SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF CONTROL JOINTS AND SEE PILASTER SCHEDULE FOR RESTRICTIONS ON PLACEMENT OF JOINTS NEAR LINTELS.
13. USE RUNNING BOND FOR WALL LAYUP.



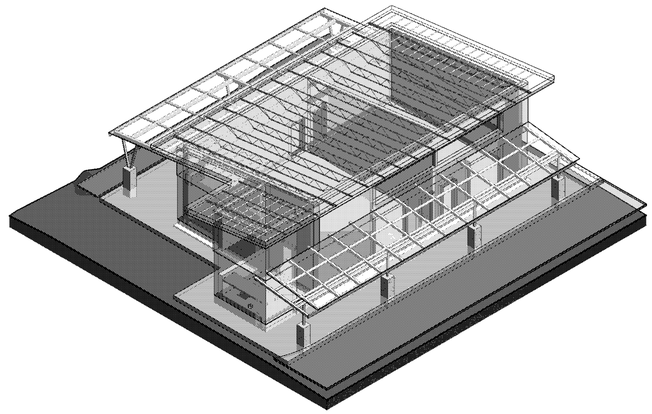
- 1 - POTTING SHED - FOUNDATION PLAN
3/16" = 1'-0"

POTTING SHED FOUNDATION SCHEDULE			
MK#	SIZE	REINFORCING	NOTES
WF3.0	3'-0" X 12" THICK STRIP FOOTING	(3) #5 CONT BARS TOP AND BOTTOM	1,2,4,5
F3.0	3'-0" X 3'-0" X 16" SQUARE FOOTING	(3) #5 BOTTOM BARS EA. WAY TOP AND BOTTOM	1,2,3,5

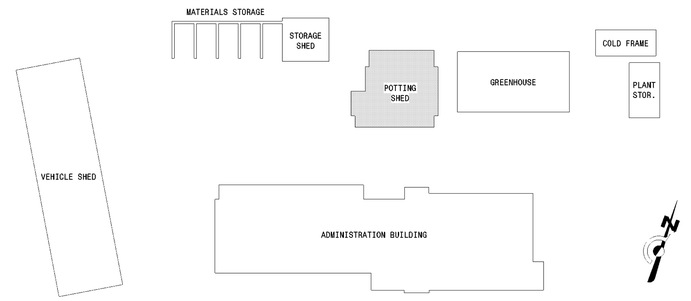
NOTES:
1. BOTTOM BARS ARE TO BE LOCATED 3" CLEAR FROM BOTTOM OF FOOTING.
2. TOP REBARS ARE LOCATED 2" CLEAR FROM TOP OF FOOTING.
3. USE #4 TIES AT 48" O.C. BELOW BOTTOM BARS.
4. USE #3 CLOSED STIRRUPS AROUND TOP AND BOTTOM BARS AT 24" OC.
5. REBAR'S TO BE NORMAL GRADE 60. GFRP (GLASS FIBER REINFORCED POLYMER) BY MST-BAR IS BID-ALTERNATE FOR G.C. AND OWNER REVIEW, OR APPROVED EQUAL. GFRP REBAR'S ARE LESS SUSPEPTIBLE TO DETERIORATION IN THESE ENVIRONMENTS FOR EXTERIOR SLABS.



- 4 - POTTING SHED ISOMETRIC 2



- 3 - POTTING SHED ISOMETRIC 1



- - KEYPLAN - POTTING SHED
1" = 50'-0"

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S121
POTTING SHED FOUNDATION PLAN

POTTING SHED ROOF FRAMING PLAN NOTES

1. ROOF DECK AT HIGH ROOF SHALL BE 1 1/2" DEEP WIDE RIB, 20 GAGE, G90 GALVANIZED DECK. SEE DETAILS FOR GAGE AND ROOF DIAPHRAGM CONNECTION REQUIREMENTS.
2. J.B. = JOIST BEARING ELEVATION ABOVE FINISH FLOOR, TYPICAL.
3. D.B.E. = METAL ROOF DECK BEARING ELEVATION, TYPICAL.
4. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS, INCLUDING TO PROVIDE AND INSTALL TEMPORARY BRACING OF STEEL AGAINST WIND LOADING UNTIL ALL MASONRY WALLS ARE IN PLACE AND WALL-TO-ROOF CONNECTIONS HAVE BEEN COMPLETED.
5. HIGH ROOF BAR JOISTS AT HIGH ROOF TO HAVE 5" SLOPED ENDSEATS, AND DESIGNED FOR 1500 LBS ROLLOVER RESISTANCE.
6. INSTALL STEEL ANGLE AT ALL METAL ROOF DECK PERIMETERS, PER DETAIL 9-S501, TYPICAL.
7. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN ON THESE PLANS.
8. SEE MECHANICAL DRAWINGS FOR ANY P.M.E. REQUIREMENTS AT ROOF LEVELS.
9. SEE DETAILS FOR JOIST CHORD REINFORCEMENT REQUIRMENTS AT SUSPENDED EQUIPMENT, EXHAUST FANS, OR CURBS, IF REQUIRED.
10. LB# - LINTEL BEAM MARK, REFER TO DETAILS AND SCHEDULES.
11. "DJ" DESIGNATES DOUBLE STEEL BAR JOIST.
12. SHIP HSS OUTLOOKERS LOOSE SO THEY CAN BE COORDINATED WITH METAL DECK FLUTES. FIELD WELD TO STEEL BAR JOISTS BELOW THROUH METAL DECK WITH 1/8" FILLET, 2" LONG, TYPICAL.

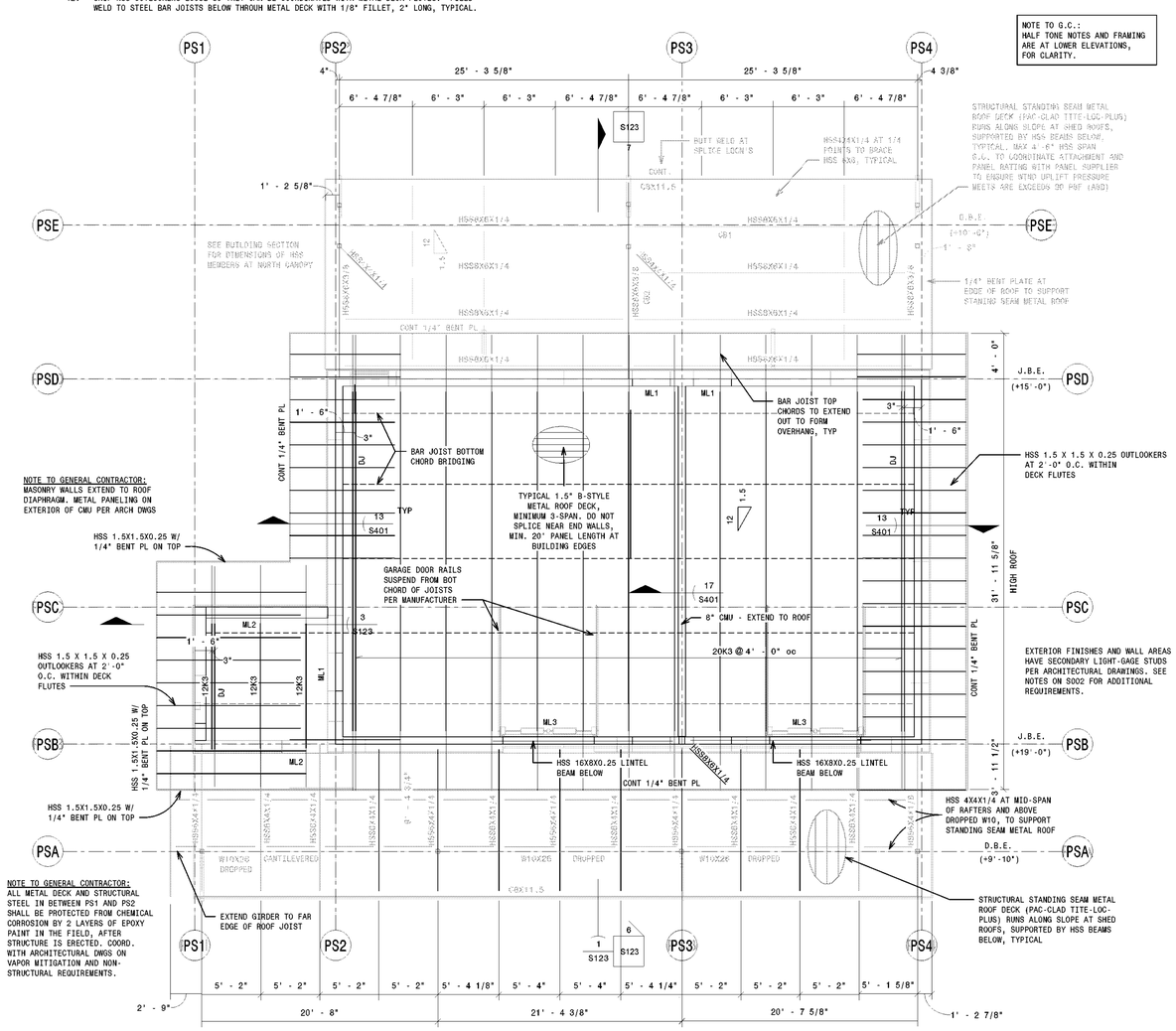
POTTING SHED - STEEL BAR JOIST FRAMING NOTES

1. SEE 'OPEN WEB JOIST' NOTES ON S001 FOR GENERAL REQUIREMENTS.
2. USE L 1 1/2 X 1 1/2 X 7/16 BRIDGING ANGLES, OR APPROVED EQUAL. ALL JOISTS WITHIN A PARTICULAR BAY SHALL HAVE PANEL POINTS WHICH ARE ALIGNED.
3. JOIST SUPPLIER SHALL CHECK JOISTS FOR WIND LOAD UPLIFT SHOWN IN THE GENERAL NOTES. USE ONE EXTRA LINE OF BRIDGING AT BOTH ENDS OF JOIST AT FIRST PANEL POINT FROM SUPPORT, TYPICAL.
4. THE ROW OF BRIDGING NEAREST THE MID-SPAN SHALL BE DIAGONAL BRIDGING WITH BOLTED CONNECTIONS AT THE CHORDS AND MIDSPAN.
5. THE JOISTS HAVE BEEN DESIGNED WITH AN ALLOWANCE OF 4 PSF UNIFORM LOAD FOR THE SPRINKLER SYSTEM. IF CONCENTRATED LOADS FROM SPRINKLER MAINS OR OTHER PIPING EXCEED THIS ALLOWANCE, THE THE JOIST SUPPLIER SHALL DESIGN THOSE JOISTS FOR THE INCREASED LOAD.
6. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ALSO VERIFY NO LARGE SUSPENDED LOADS ARE HUNG FROM THE JOISTS WITHOUT THE WRITTEN PERMISSION OF THE JOIST SUPPLIER AND THE STRUCTURAL ENGINEER OF RECORD.
7. THIS ROOF FRAMING PLAN IS NOT A ROOF JOIST LAYOUT PLAN. THE JOIST SUPPLIER SHALL SUBMIT SHOP DRAWINGS SHOWING PROPER PLACEMENT AND BAR JOIST REQUIREMENTS, FOR REVIEW AND APPROVAL.

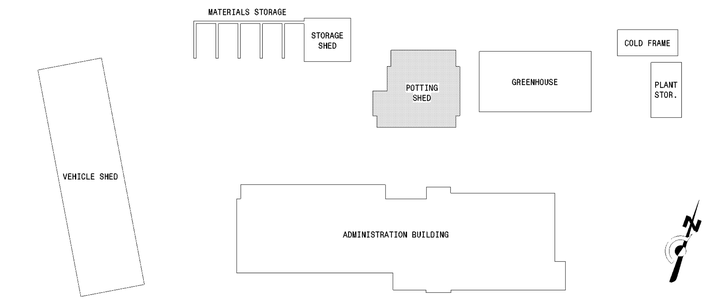
POTTING SHED - LINTEL BEAM SCHEDULE

LINTEL #	SIZE	BOTTOM OF LINTEL	LINTEL LENGTH	BEARING LENGTH	NOTES
LB1	HSS 16X8X1/4	+16'-0"	+16'-8"	15"	1-6

LINTEL SCHEDULE NOTES:
1. UNITS - SPAN=FEET, BEARING=INCHES (EACH END)
2. Fy = 46 KSI FOR HSS SECTIONS
3. PROVIDE CONT. 3/8" BOTTOM PLATE TO SUPPORT LIGHT-GAGE EXTERIOR STUD WALL, PLATE TO BE SET BACK FROM EDGE OF FINISH WALL 1/2".
4. BEAR HSS BEAM ON 7 5/8" WIDE X 16" LONG X 1/2" THICK 36 KSI BEARING PLATE, WITH (2) 3/4" DIA. X 10" NELSON STUDS CENTERED IN PLATE, INTO GROUT FILLED CORES.
5. DOUBLE MASONRY CORES BEYOND EACH END OF HSS TO REINFORCED FULL HEIGHT.
6. ATTACH 3/4" DIA. X 8" TALL NELSON STUDS AT 32" O.C. CENTERED ON TOP OF HSS, TO LAP WITH VERTICAL REINFORCING.



1 POTTING SHED - ROOF FRAMING PLANS
3/16" = 1'-0"



KEYPLAN - POTTING SHED
1" = 50'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 034727 ENGINEER MICHAEL EDWIN LYSAGHT

1-13-2024

PROJECT INFORMATION

PROJECT NO.: LA-13090
PHASE: BID SET
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DRAWN BY: MES
CHECKED BY: MES

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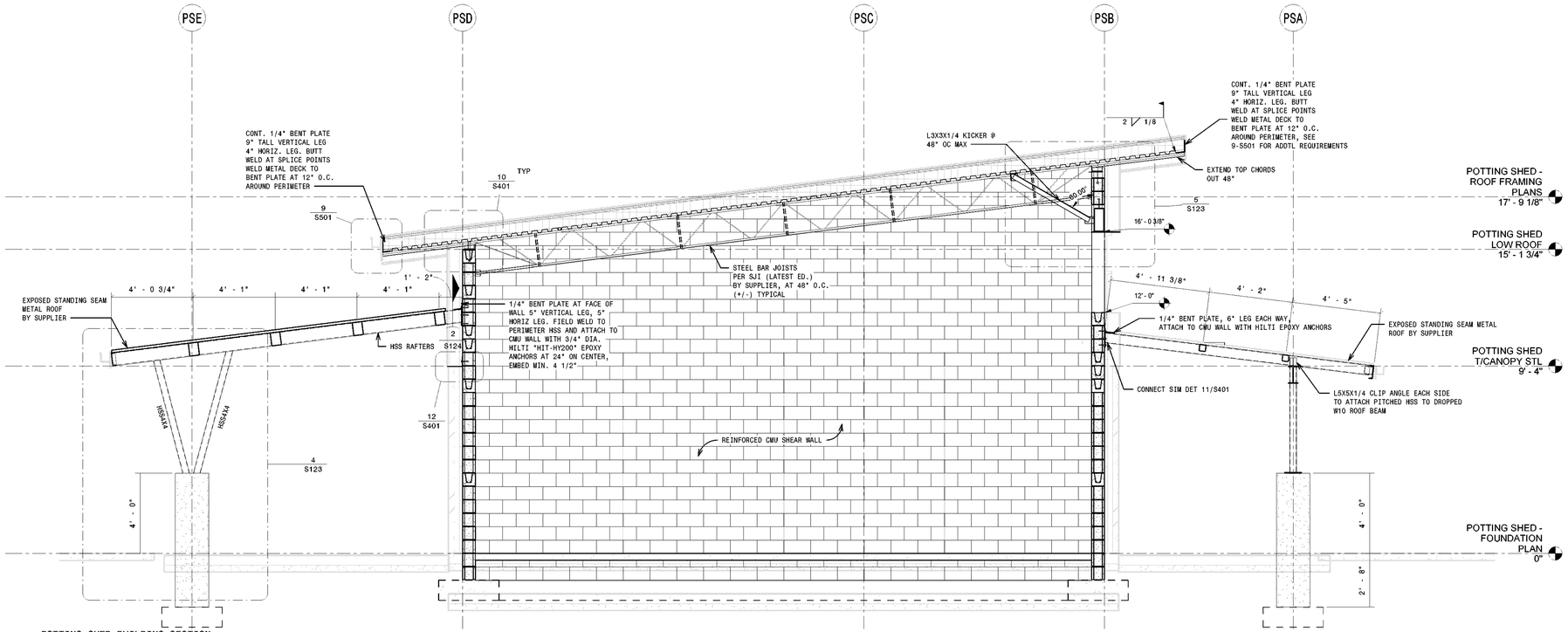
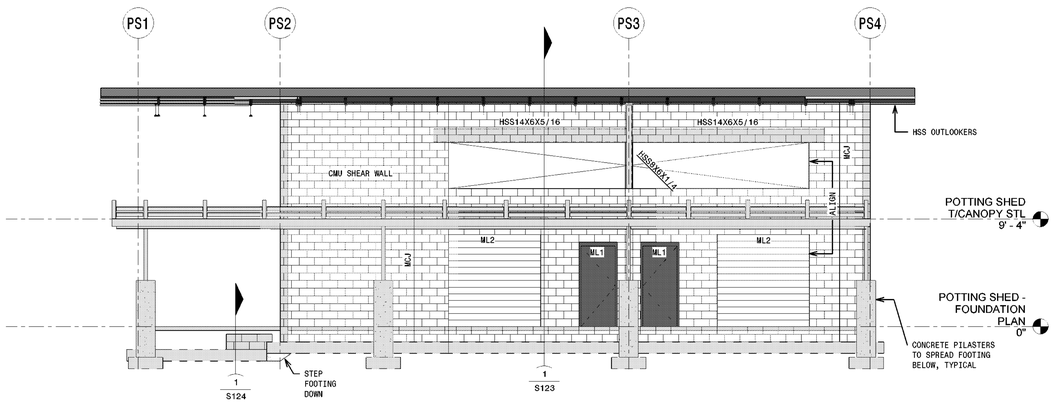
SHEET INFORMATION

S122

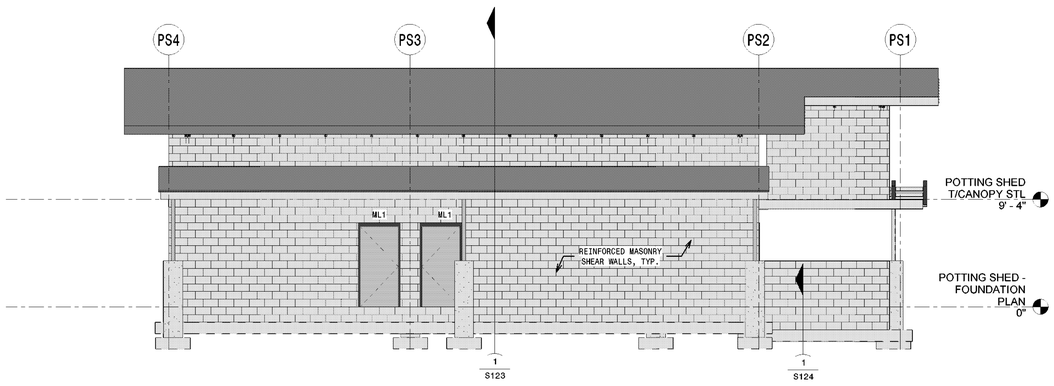
POTTING SHED
ROOF FRAMING



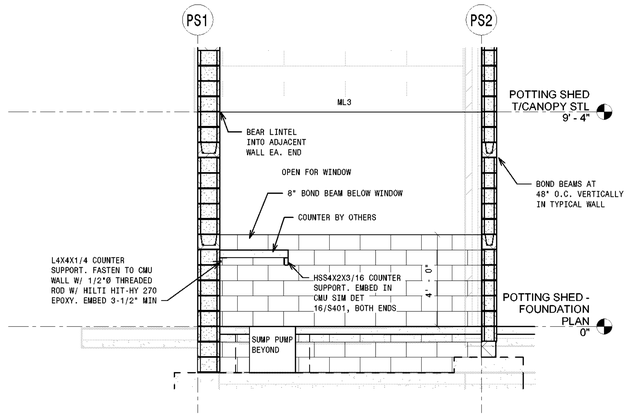
1 POTTING SHED BUILDING SECTION
3/8" = 1'-0"



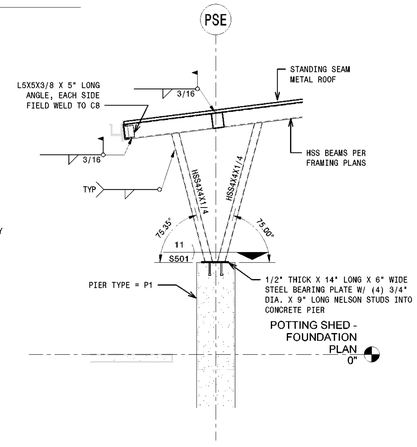
6 POTTING SHED - FRONT ELEVATION
3/16" = 1'-0"



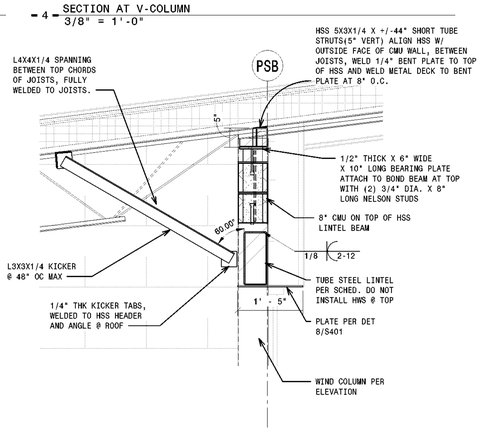
7 POTTING SHED - REAR ELEVATION
3/16" = 1'-0"



3 SECTION THROUGH PESTICIDE MIXING ROOM
3/8" = 1'-0"



4 SECTION AT V-COLUMN
3/8" = 1'-0"



5 HEADER BEAM SECTION
3/4" = 1'-0"

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ENGINEER
MICHAEL EDWIN STONE

1-13-2024

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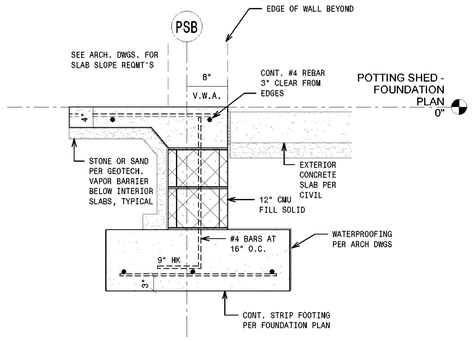
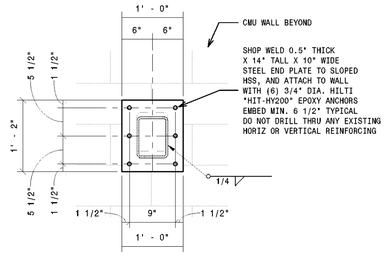
SHEET INFORMATION

S123

POTTING SHED SECTIONS



1 SECTION THRU SLAB AT DOOR
1" = 1'-0"



2 HSS END PLATE CONNECTION
1" = 1'-0"

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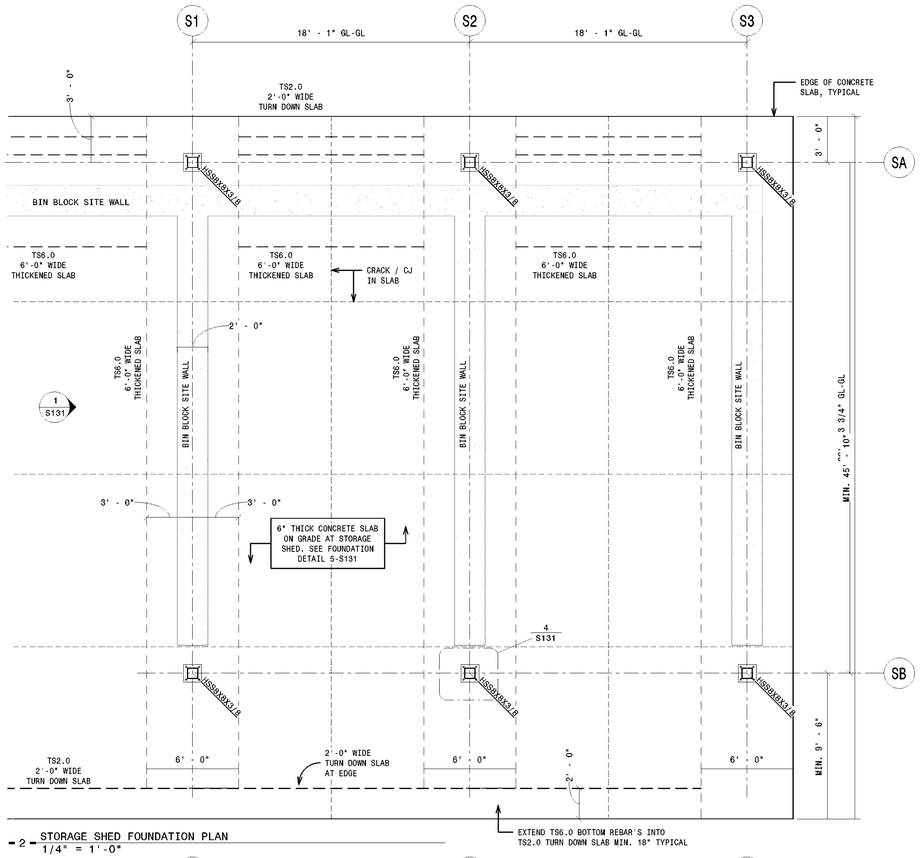
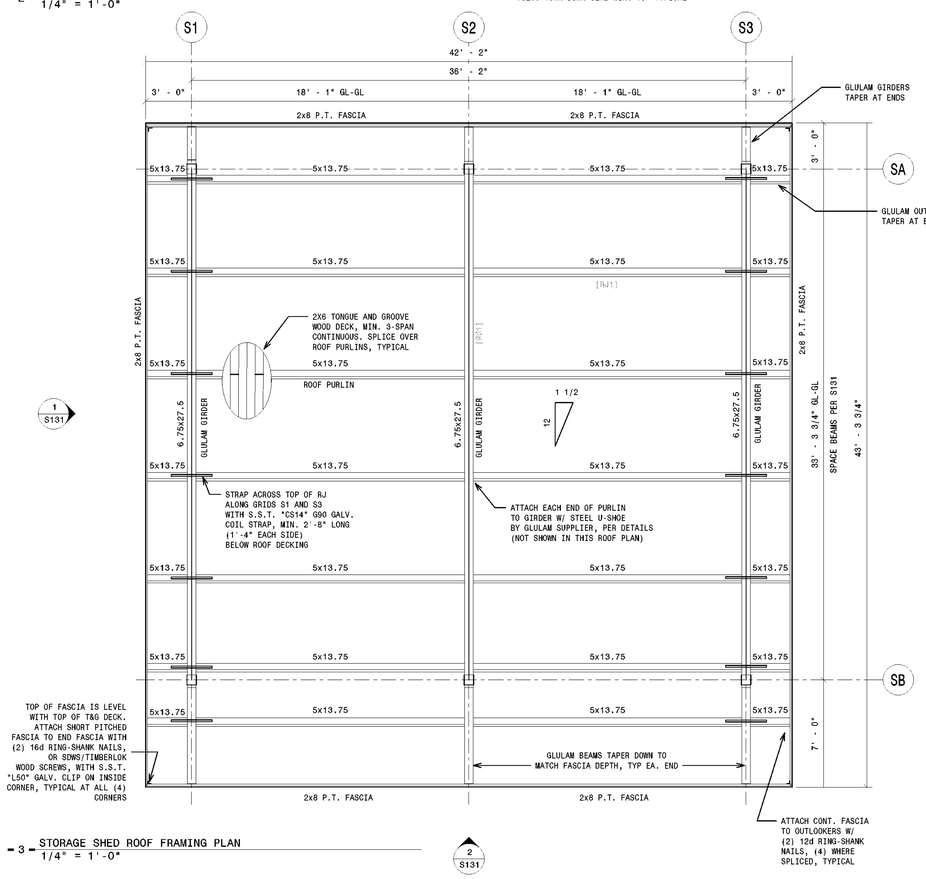
SHEET INFORMATION

S124

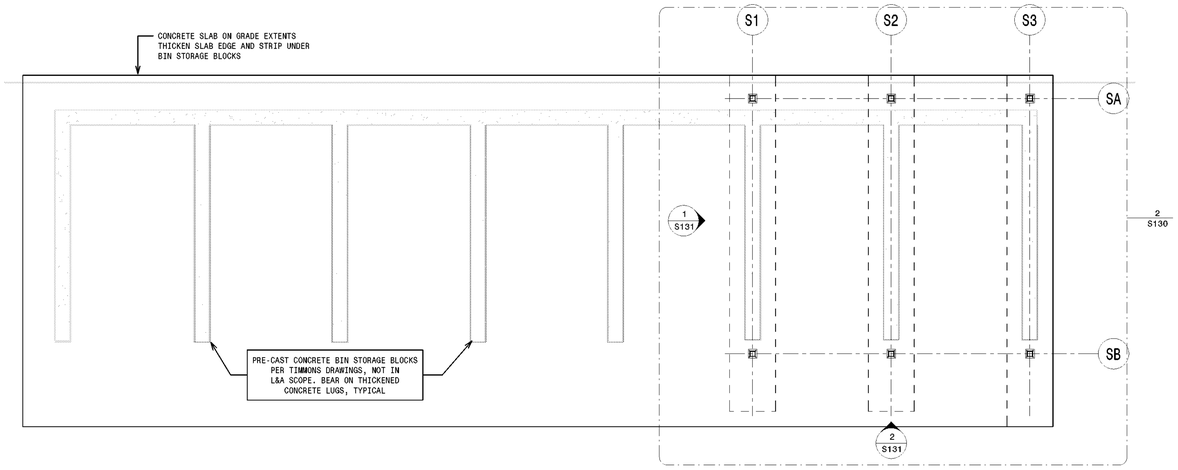
POTTING SHED DETAILS



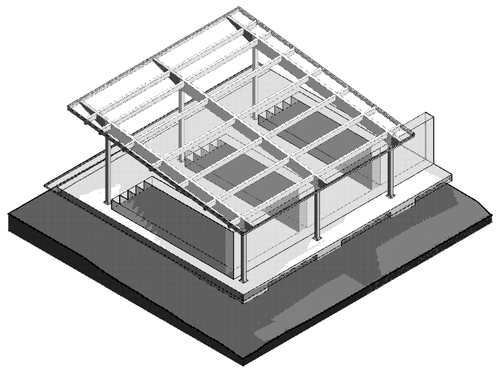
- 2 - STORAGE SHED FOUNDATION PLAN
1/4" = 1'-0"



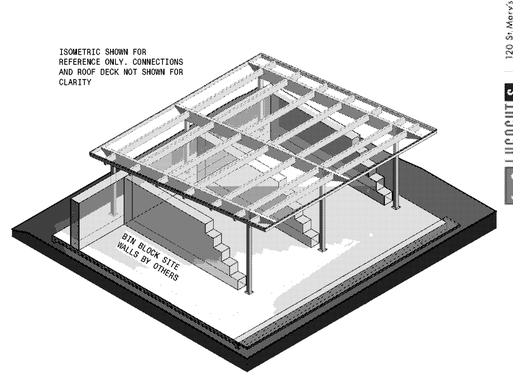
- 3 - STORAGE SHED ROOF FRAMING PLAN
1/4" = 1'-0"



- 1 - MATERIALS STORAGE PLAN
1/8" = 1'-0"



- 7 - STORAGE SHED ISOMETRIC 2



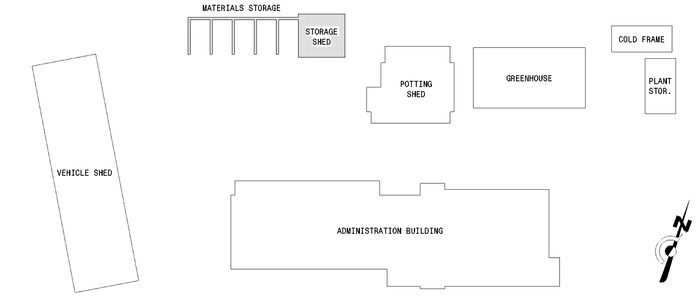
- 6 - STORAGE SHED ISOMETRIC 1

FOUNDATION SCHEDULE			
MK#	SIZE	REINFORCING	NOTES
TS6.0	6'-0" X 24" THICK CONT. STRIP FOOTING	(6) #5 CONT BARS TOP AND BOTTOM	1,2,4,5
TS2.0	2'-0" X 24" THICK TURN DOWN SLAB	(2) #5 BOTTOM BARS	1,3,5

NOTES:
1. BOTTOM BARS ARE TO BE LOCATED 3" CLEAR FROM BOTTOM OF FOOTING.
2. TOP REBARS ARE LOCATED 2" CLEAR FROM TOP OF FOOTING.
3. USE #4 TIES AT 48" O.C. BELOW BOTTOM BARS.
4. USE #3 CLOSED STIRRUPS AROUND TOP AND BOTTOM BARS AT 24" OC.
5. REBAR'S TO BE NORMAL GRADE 60. GFRP (GLASS FIBER REINFORCED POLYMER) BY MST-BAR IS BID-ALTERNATE FOR O.C. AND OWNER REVIEW, OR APPROVED EQUAL. GFRP REBAR'S ARE LESS SUSPEPTIBLE TO DETERIORATION IN THESE ENVIRONMENTS FOR EXTERIOR SLABS.

FOUNDATION PLAN NOTES - STORAGE SHED

1. ALL ELEVATIONS ARE MEASURED FROM A REFERENCED FINISH SLAB ELEVATION OF 0'-0". GENERAL CONTRACTOR SHALL REFER TO CIVIL SITE PLANS, AS GLOBAL SLAB ELEVATION MAY NEED TO BE ADJUSTED UP OR DOWN TO SUIT ACTUAL SITE AND DRAINAGE REQUIREMENTS. GENERAL CONTRACTOR TO COORDINTAE SLAB SLOPE AND TAPER IF NECESSARY WITH CIVIL PLANS.
2. CONCRETE SLAB TO BE POURED MONOLITHICALLY, WITH 24" THICK TURN DOWN (TS2.0) AT EDGES OF SLAB, TYPICAL.
3. SEE DETAIL 5-S131 FOR TYPICAL SLAB ON GRADE CONSTRUCTION. REINFORCE WITH #5 REBAR AT 18" O.C. EACH WAY, CENTERED IN SLAB DEPTH.
4. THE CONCRETE SLAB IS DESIGNED FOR 100 PSF UNIFORM LIVE LOAD WITH NO PROVISIONS FOR HEAVY CONCENTRATED POINT LOADS.
5. GENERAL CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS NOT SHOWN ON THIS PLAN.
6. ALL STEEL BASEPLATES BEAR ON TOP OF FLAT CONCRETE SLAB, OR ON 1 1/2" NON-SHRINK GROUT BASE, WITH LEVELING NUTS.
7. ALL STEEL AT STORAGE SHED TO BE HOT-DIPPED GALVANIZED, OR PRIMED AND PAINTED WITH HIGH-PERFORMANCE COATING, PER ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. THIS IS TO RESIST CORROSION FROM THE ELEMENTS.
8. GENERAL CONTRACTOR SHALL COORDINATE FINAL STORAGE BIN MATERIALS WITH OWNER. IF MATERIALS ARE CORROSIVE, MASTIC COMPOUND, OR COAL-TAR EPOXY MAY BE RECOMMENDED AT BASE OF STEEL COLUMNS TO PREVENT CORROSION.



- - KEYPLAN OVERALL - STORAGE SHED
1" = 50'-0"

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1-13-2024

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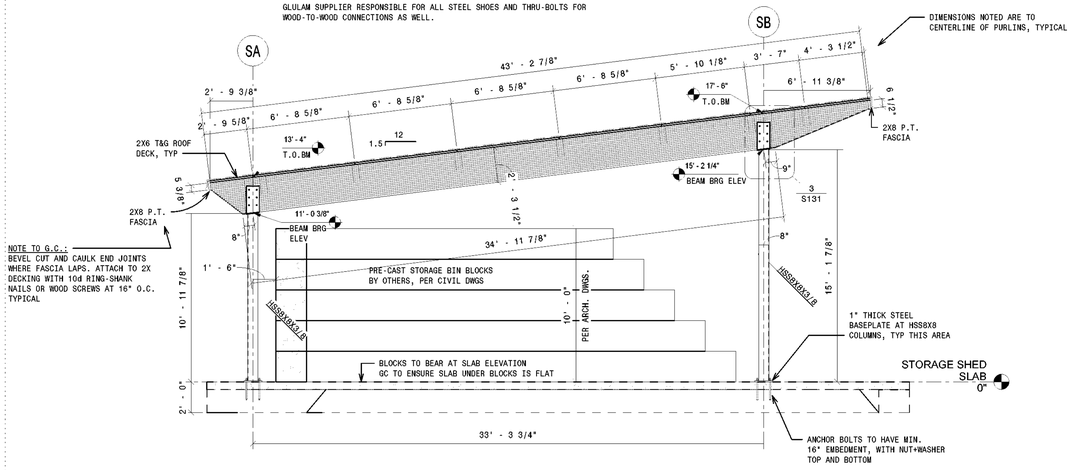
SHEET INFORMATION

S130
STORAGE SHED

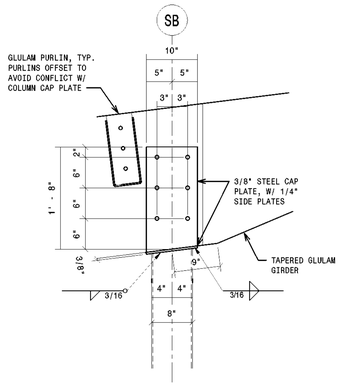
NOTE TO GENERAL CONTRACTOR:
GLULAM SUPPLIER TO SUBMIT SHOP DRAWINGS CONFIRMING ALL PURLIN AND GIRDER DIMENSIONS AND GEOMETRY, CUTS, AND END CONDITIONS, PRIOR TO FABRICATION. GLULAM GIRDERS AND PURLINS TO BE 24F-V4 SOUTHERN PINE NO.1 GRADE, BALANCED LAYUP, PRESSURE-TREATED FOR ABOVE GROUND USE, TYPICAL.

GLULAM SUPPLIER RESPONSIBLE FOR ALL STEEL SHOES AND THRU-BOLTS FOR WOOD-TO-WOOD CONNECTIONS AS WELL.



GENERAL CONTRACTOR TO COORDINATE AND REVIEW BASEPLATE BEARING CONDITIONS ON FINISHED CONCRETE SLAB. IT IS RECOMMENDED STRUCTURALLY TO BEAR BASEPLATES ON LEVELING NUTS WITH 1 1/2" THICK (+/-) NON-SHRINK GROUT PAD, WITH MIN. 9,000 PSI COMPRESSIVE STRENTH. THIS HELPS TO PROTECT BASEPLATES LONG TERM, BUT HAS NOT BEEN DETAILED IN THIS ELEVATION. IT IS ALSO PERMITTED TO BEAR DIRECTLY ON CONCRETE SLAB, AS LONG AS BASEPLATE SITS FLUSH ON CONCRETE, HOWEVER, STANDING WATER WILL CAUSE BASEPLATES TO RUST FASTER OVER THE LIFE OF THE STRUCTURE, VS IF THEY ARE RAISED 1 1/2".

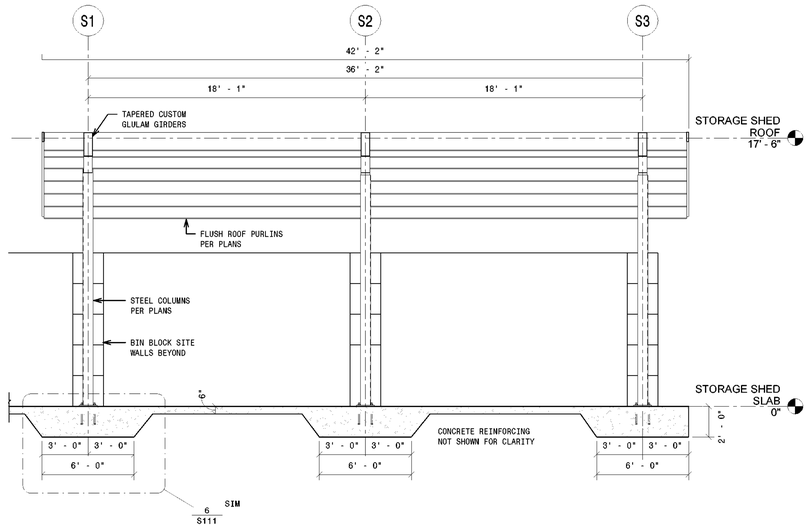
- 1 - STORAGE SHED ELEVATION 1
1/4" = 1'-0"



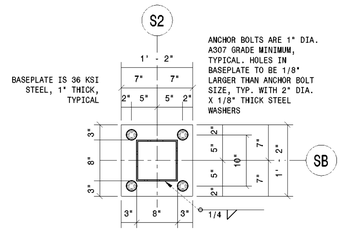
- 3 - COLUMN CAP CONNECTION
1" = 1'-0"

STORAGE SHED - ROOF FRAMING PLAN NOTES

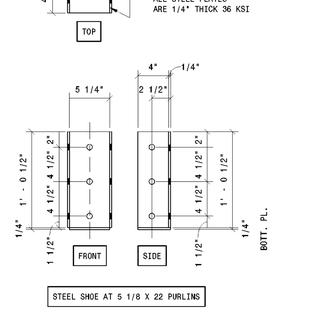
1. GENERAL CONTACTOR SHALL COORDINATE WATERPROOFING, ROOFING FINISH, AND ALL NON-STRUCTURAL ROOFING REQUIREMENTS WITH ARCHITECTURAL DRAWINGS.
2. METAL ROOFING FASTENERS SHALL BE AS REQUIRED BY THE SUPPLIER SPECIFICATIONS, FOR THE WIND COMPONENT AND CLADDING LOADS SPECIFIED (IE. SCREWS WITH PROPER EMBEDMENT. ROOFING FASTENERS SHALL NOT PENETRATE ROOF DECK, IN ANY LOCATION.)
3. THE STRUCTURE BELOW THE METAL ROOFING IS 2" TONGUE-AND-GROOVE WOOD DECKING (1 1/2" ACTUAL THICKNESS), WHICH IS CONTINUOUS OVER 3 OR MORE SUPPORTS.
4. DO NOT SPLICE ROOF DECKING AT SAME LOCATIONS, BUT STAGGER SPLICE LOCATIONS. DECKING SHALL SPLICE OVER BEAM SUPPORTS IN ALL LOCATIONS. SPLICING BETWEEN SUPPORTS IS NOT PERMITTED.
5. ATTACH TONGUE-AND-GROOVE DECKING TO GLULAM STRUCTURE WITH 0.25" DIA. SIMPSON-STRONG TIE 'SDWS' WOOD SCREWS - OR APPROVED EQUAL, AS INDICATED IN DETAILS, WITH MINIMUM 3" THREAD EMBEDMENT (MIN. 4 1/2" LONG). IN ADDITION TO SCREWS, ATTACH WITH (1) 12d RING-SHANK NAIL THROUGH THE TONGUE AT EACH BEARING LOCATION.
6. PROVIDE 2X8 PRESSURE-TREATED FASCIAS AT ALL ROOF DECK EDGES.
7. ATTACH FASCIA TO TONGUE AND GROOVE WITH RING-SHANK NAILS AT 16" ON CENTER.
8. GLULAM FABCRICATOR SHALL PROVIDE SHOP DRAWINGS FOR FOR ALL BEAMS, PURLINS, COLUMNS, AND CONNECTIONS.
9. ALL GLULAM MEMBERS SHALL BE 24F-V5, OR APPROVED EQUAL.
10. THE ROOF DECK SLOPES PER THE ARCHITECTURAL DRAWINGS.
11. TOP OF BEAM ELEVATIONS ARE PROVIDED FOR CLARITY, AND SHALL BE COORDINATED WITH FINAL SEALED ARCHITECTURAL DRAWINGS.
12. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS NOT SHOWN ON THIS PLAN.
13. SEE ELEVATIONS FOR STRUCTURAL BEAM AND COLUMN LENGTHS, AND BEARING ELEVATIONS.
14. BEVEL CUT AND CAULK ALL END JOINTS OF PRESSURE-TREATED FASCIA BOARDS.
15. "RJ" REFERS TO STRUCTURAL ROOF JOIST DESIGNATION, AND IS ONLY FOR ENGINEER REFERENCES.
16. "RG" DESIGNATES ROOF GIRDER, AND IS ONLY FOR ENGINEER REFERENCES.



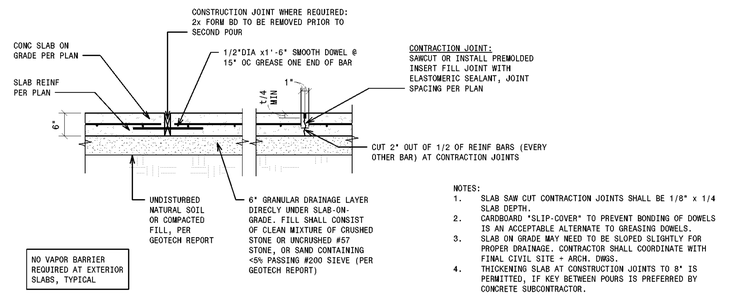
- 2 - STORAGE SHED ELEVATION 2
1/4" = 1'-0"



- 4 - STORAGE SHED COLUMN BASEPLATE CALLOUT
1" = 1'-0"

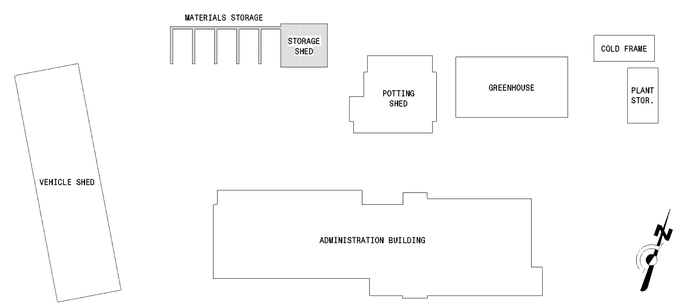


- 6 - ROOF FRAMING CONNECTIONS (STORAGE SHED)
1 1/2" = 1'-0"



NOTES:
1. SLAB SAW CUT CONTRACTION JOINTS SHALL BE 1/8" x 1/4 SLAB DEPTH.
2. CARDBOARD "SLIP-COVER" TO PREVENT BONDING OF DOWELS IS AN ACCEPTABLE ALTERNATE TO GREASING DOWELS.
3. SLAB ON GRADE MAY NEED TO BE SLOPED SLIGHTLY FOR PROPER DRAINAGE. CONTRACTOR SHALL COORDINATE WITH FINAL CIVIL SITE + ARCH. DWGS.
4. THICKENING SLAB AT CONSTRUCTION JOINTS TO 8" IS PERMITTED, IF KEY BETWEEN POURS IS PREFERRED BY CONCRETE SUBCONTRACTOR.

- 5 - SLAB ON GRADE AT STORAGE SHED
3/4" = 1'-0"



- - KEYPLAN OVERALL - STORAGE SHED
1" = 50'-0"

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

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structural engineers

SEALS

STRUCTURAL

NORTH CAROLINA PROFESSIONAL SEAL 034727 ENGINEER MICHAEL EDWIN STONE

1-13-2024

PROJECT INFORMATION

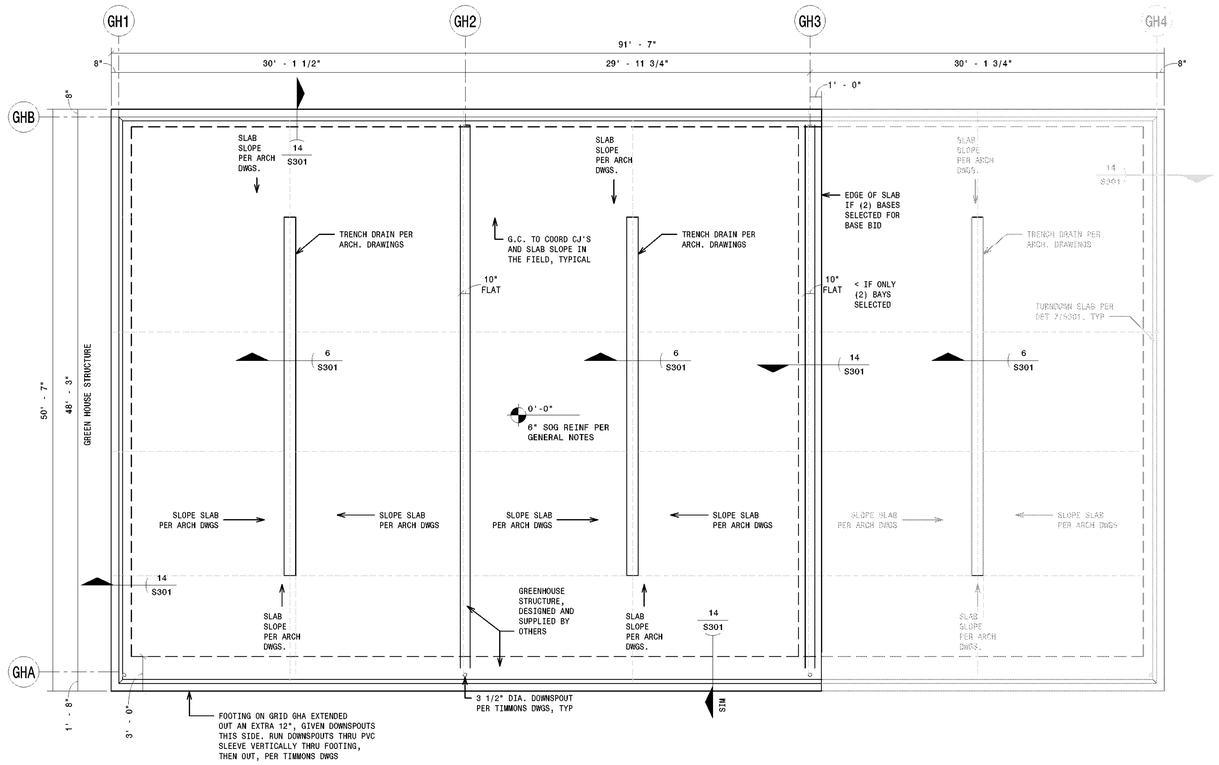
PROJECT NO.: LA-13090
PHASE: BID SET
DATE: 01.13.2025
DRAWN BY: MES
CHECKED BY: MES

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

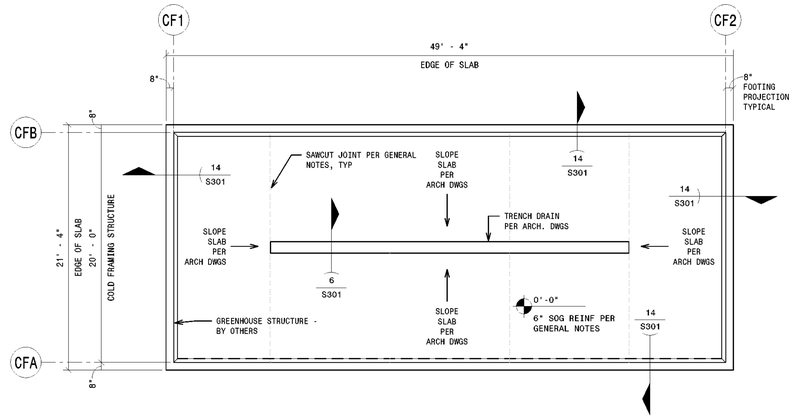
S131
STORAGE SHED DETAILS



3 GREENHOUSE FOUNDATION
3/16" = 1'-0"

GREEN HOUSE FOUNDATION PLAN NOTES

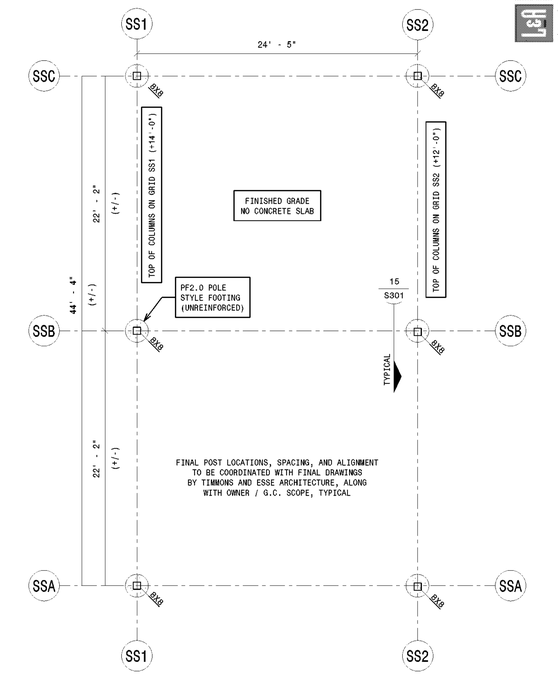
1. ALL ELEVATIONS ARE MEASURED FROM A REFERENCE TOP OF SLAB ELEVATION OF 0'-0".
2. THIS IS THE BEARING ELEVATION FOR THIS STRUCTURE, AS SLAB SLOPES DOWN ON INTERIOR AND EXTERIOR, FOR PROPER DRAINAGE.
3. BOTTOM OF TURN DOWN SLAB SHALL BEAR (-1'-4") BELOW FINISHED GRADE.
4. THE SLAB IS DESIGNED FOR 100 PSF UNIFORM LIVE LOAD, WITH NO PROVISION FOR HEAVY CONCENTRATED LOADS.
5. TRENCH DRAIN AND UNDERGROUND UTILITIES SHALL EXTEND AT LEAST 12" BELOW BOTTOM OF TURN DOWN SLAB. GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE ON SITE, AS RUNNING UNDERGROUND PIPE THROUGH TURN DOWN SLAB IS NOT PERMITTED.
6. REFER TO FINAL SEALED ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.



4 COLD FRAME FOUNDATION
3/16" = 1'-0"

COLD FRAME FOUNDATION PLAN NOTES

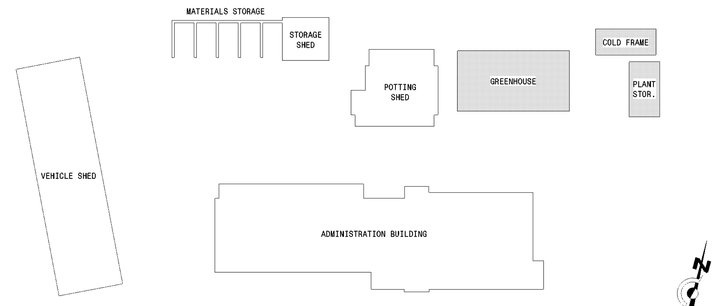
1. ALL ELEVATIONS ARE MEASURED FROM A REFERENCE TOP OF SLAB ELEVATION OF 0'-0".
2. THIS IS THE BEARING ELEVATION FOR THIS STRUCTURE, AS SLAB SLOPES DOWN ON INTERIOR AND EXTERIOR, FOR PROPER DRAINAGE.
3. BOTTOM OF TURN DOWN SLAB SHALL BEAR (-1'-4") BELOW FINISHED GRADE.
4. THE SLAB IS DESIGNED FOR 100 PSF UNIFORM LIVE LOAD, WITH NO PROVISION FOR HEAVY CONCENTRATED LOADS.
5. TRENCH DRAIN AND UNDERGROUND UTILITIES SHALL EXTEND AT LEAST 12" BELOW BOTTOM OF TURN DOWN SLAB. GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE ON SITE, AS RUNNING UNDERGROUND PIPE THROUGH TURN DOWN SLAB IS NOT PERMITTED.
6. REFER TO FINAL SEALED ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.



EXTERIOR SHADE STRUCTURE - PLAN NOTES

1. EXTERIOR POSTS ARE MINIMUM 8X8 SOUTHERN PINE #1 GRADE, PRESSURE-TREATED TO THE RETENTIONS REQUIRED IN THE NORTH CAROLINA BUILDING CODE.
2. EMBED POSTS IN POLE-STYLE UNREINFORCED CONCRETE FOOTING PER DETAIL 15-33.01.
3. SEE GENERAL NOTES FOR CONCRETE STRENGTH AND DURABILITY REQUIREMENTS.
4. MAXIMUM HEIGHT OF POSTS IS +12'-0", AND HAS BEEN SIZED TO SUPPORT FABRIC CANOPY IN MODERATE TENSION.
5. FABRIC CANOPY IS ASSUMED TO BE REMOVED DURING HIGH WIND / HURRICANE EVENTS.
6. ATTACHMENT OF FABRIC CANOPY TO POSTS IS ASSUMED TO BE THROUGH EYE-BOLT LAG SCREW, OR SIMILAR, BY GENERAL CONTRACTOR.

2 OUTDOOR PLANT STORAGE FOUNDATION PLAN
3/16" = 1'-0"



KEYPLAN - AUXILIARY STRUCTURES
1" = 50'-0"

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SEALS

STRUCTURAL

NORTH CAROLINA PROFESSIONAL SEAL 038727 ENGINEER MICHAEL EDWIN SIGMA
1-13-2024

PROJECT INFORMATION

PROJECT NO.:	LA-13090
PHASE:	BID SET
DATE:	01.13.2025
DRAWN BY:	MES
CHECKED BY:	MES

REVISIONS

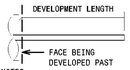
NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

S140
AUXILIARY STRUCTURES

TENSION DEVELOPMENT LENGTH
GR. 60 UNCOATED BARS, N.W. CONCRETE, SORTED BY f'c BELOW

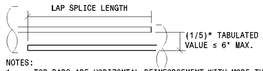
BAR SIZE	3,000 PSI TOP	3,000 PSI BOT	3,500 PSI TOP	3,500 PSI BOT	4,000 PSI TOP	4,000 PSI BOT	4,500 PSI TOP	4,500 PSI BOT	≥ 5,000 PSI TOP	≥ 5,000 PSI BOT
#3	1'-10"	1'-5"	1'-8"	1'-4"	1'-7"	1'-3"	1'-6"	1'-2"	1'-5"	1'-1"
#4	2'-5"	1'-10"	2'-3"	1'-9"	2'-1"	1'-7"	2'-0"	1'-6"	1'-11"	1'-5"
#5	3'-0"	2'-4"	2'-9"	2'-2"	2'-7"	2'-0"	2'-6"	1'-11"	2'-4"	1'-10"
#6	3'-7"	2'-9"	3'-4"	2'-7"	3'-1"	2'-5"	2'-11"	2'-3"	2'-10"	2'-2"
#7	5'-3"	4'-0"	4'-10"	3'-9"	4'-6"	3'-6"	4'-3"	3'-4"	4'-1"	3'-2"
#8	6'-0"	4'-7"	5'-6"	4'-3"	5'-2"	4'-0"	4'-11"	3'-9"	4'-8"	3'-7"
#9	6'-9"	5'-2"	6'-3"	4'-10"	5'-10"	4'-6"	5'-6"	4'-3"	5'-3"	4'-0"
#10	7'-7"	5'-10"	7'-0"	5'-5"	6'-7"	5'-1"	6'-2"	4'-9"	5'-11"	4'-6"
#11	8'-5"	6'-6"	7'-9"	6'-0"	7'-3"	5'-7"	6'-10"	5'-4"	6'-6"	5'-0"



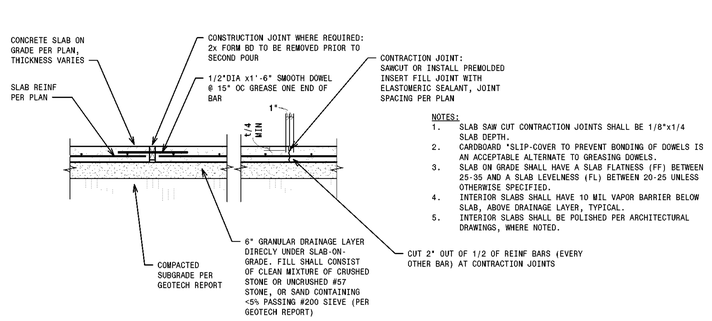
NOTES:
1. TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF FRESH CONCRETE BELOW THEM.
2. TENSION DEVELOPMENT LENGTH SHALL NOT BE LESS THAN 12".
3. TABULATED VALUES FOR DEVELOPMENT LENGTH TO BE MULTIPLED BY THE FOLLOWING FACTORS:
   A. 1.5 FOR EPOXY COATED BOTTOM REBAR.
   B. 1.31 FOR EPOXY COATED TOP REBAR.
   C. 1.33 FOR LIGHTWEIGHT CONCRETE.
   D. FOR REINFORCEMENT OTHER THAN GRADE 60 MULTIPLY THE TABULATED VALUES BY THE YIELD STRENGTH DIVIDED BY 60 KSI.
   E. 1.5 IF THE REQUIREMENTS BELOW ARE NOT MET.
4. TABULATED VALUES ARE CORRECT ONLY IF A OR B BELOW ARE MET:
   A.
      a. CLEAR SPACING IS MORE THAN THE BAR DIAMETER AND
      b. CLEAR COVER IS MORE THAN THE BAR DIAMETER AND
      c. STIRRUPS OR TIES ARE PRESENT AT CODE MINIMUM SPACINGS.
   B.
      a. CLEAR SPACING IS MORE THAN TWICE THE BAR DIAMETER AND
      b. CLEAR COVER IS MORE THAN THE BAR DIAMETER.
5. IF INSUFFICIENT LENGTH IS PRESENT FOR DEVELOPMENT, USE STANDARD ACI HOOKS.

TENSION LAP SPLICE LENGTH, CLASS B
GR. 60 UNCOATED BARS, N.W. CONCRETE, SORTED BY f'c BELOW

BAR SIZE	3,000 PSI TOP	3,000 PSI BOT	3,500 PSI TOP	3,500 PSI BOT	4,000 PSI TOP	4,000 PSI BOT	4,500 PSI TOP	4,500 PSI BOT	≥ 5,000 PSI TOP	≥ 5,000 PSI BOT
#3	2'-5"	1'-11"	2'-2"	1'-9"	2'-1"	1'-8"	2'-0"	1'-7"	1'-11"	1'-5"
#4	3'-2"	2'-5"	3'-0"	2'-4"	2'-9"	2'-1"	2'-8"	2'-0"	2'-6"	1'-11"
#5	3'-11"	3'-1"	3'-7"	2'-10"	3'-5"	2'-8"	3'-3"	2'-6"	3'-1"	2'-5"
#6	4'-8"	3'-7"	4'-4"	3'-5"	4'-1"	3'-2"	3'-10"	3'-0"	3'-9"	2'-10"
#7	6'-10"	5'-3"	6'-4"	4'-11"	5'-11"	4'-7"	5'-7"	4'-4"	5'-4"	4'-2"
#8	7'-10"	6'-0"	7'-2"	5'-7"	6'-9"	5'-3"	6'-5"	4'-11"	6'-1"	4'-8"
#9	8'-10"	6'-9"	8'-2"	6'-4"	7'-7"	5'-11"	7'-2"	5'-7"	6'-10"	5'-3"
#10	9'-9"	7'-6"	9'-0"	7'-0"	8'-6"	6'-6"	7'-11"	6'-1"	7'-6"	5'-11"
#11	10'-8"	8'-3"	9'-11"	7'-7"	9'-3"	7'-2"	8'-8"	6'-9"	8'-3"	6'-5"

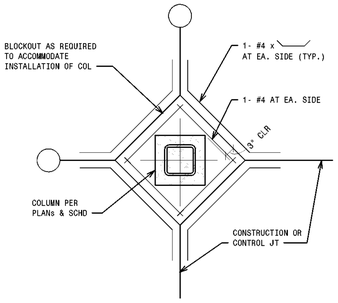


NOTES:
1. TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF FRESH CONCRETE BELOW THEM.
2. LAP SPLICE LENGTH SHALL NOT BE LESS THAN 12".
3. TABULATED VALUES FOR DEVELOPMENT LENGTH TO BE MULTIPLED BY THE FOLLOWING FACTORS:
   A. 1.5 FOR EPOXY COATED BOTTOM REBAR.
   B. 1.31 FOR EPOXY COATED TOP REBAR.
   C. 1.33 FOR LIGHTWEIGHT CONCRETE.
   D. FOR REINFORCEMENT OTHER THAN GRADE 60 MULTIPLY THE TABULATED VALUES BY THE YIELD STRENGTH DIVIDED BY 60 KSI.
   E. 1.5 IF THE REQUIREMENTS BELOW ARE NOT MET.
4. TABULATED VALUES ARE CORRECT ONLY IF A OR B BELOW ARE MET:
   A.
      a. CLEAR SPACING IS MORE THAN THE BAR DIAMETER AND
      b. CLEAR COVER IS MORE THAN THE BAR DIAMETER AND
      c. STIRRUPS OR TIES ARE PRESENT AT CODE MINIMUM SPACINGS.
   B.
      a. CLEAR SPACING IS MORE THAN TWICE THE BAR DIAMETER AND
      b. CLEAR COVER IS MORE THAN THE BAR DIAMETER.
5. WHEN SPLICING BARS OF DIFFERENT SIZE, SPLICE LENGTH SHALL BE THE GREATER OF "DEVELOPMENT LENGTH OF LARGER BAR" AND "SPLICE LENGTH OF SMALLER BAR".
6. IF INSUFFICIENT LENGTH IS PRESENT TO LAP, USE A MECHANICAL SPLICE W/ 125% YIELD CAPACITY OF THE REINFORCEMENT.



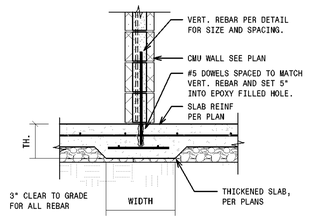
NOTES:
1. SLAB SAW CUT CONTRACTION JOINTS SHALL BE 1/8*x1/4 SLAB DEPTH.
2. CARDBOARD *SLIP-COVER TO PREVENT BONDING OF DOWELS IS AN ACCEPTABLE ALTERNATE TO GREASING DOWELS.
3. SLAB ON GRADE SHALL HAVE A SLAB FLATNESS (FF) BETWEEN 25-35 AND A SLAB LEVELNESS (FL) BETWEEN 20-25 UNLESS OTHERWISE SPECIFIED.
4. INTERIOR SLABS SHALL HAVE 10 MIL VAPOR BARRIER BELOW SLAB, ABOVE DRAINAGE LAYER, TYPICAL.
5. INTERIOR SLABS SHALL BE POLISHED PER ARCHITECTURAL DRAWINGS, WHERE NOTED.

- 3 - TYPICAL SLAB ON GRADE AND JOINT DETAIL
3/4" = 1'-0"
D1001

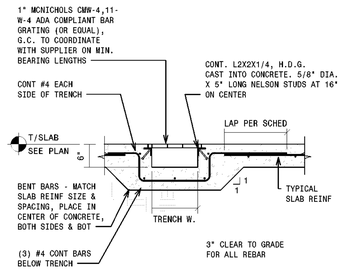


- 4 - TYPICAL SLAB BLOCK-OUT DETAIL
3/4" = 1'-0"
D1006

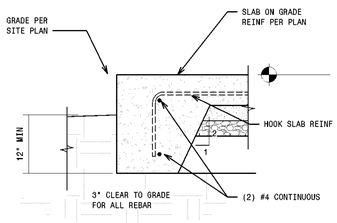
NOTE TO GENERAL CONTRACTOR:
ALL EPOXY USED IN CONCRETE SHALL BE HILTI "HIT-HY200", "RE-500", OR APPROVED EQUAL, AS NOTED IN SPECS ON S002

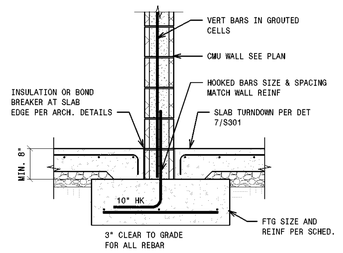


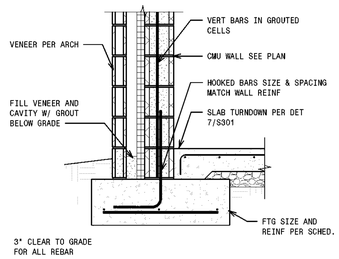
- 5 - TYPICAL CMU FOUNDATION AT THICKENED SLAB
3/4" = 1'-0"
D1010



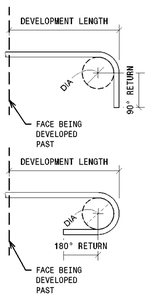
USE THIS SLAB ON GRADE TURN-DOWN AT EDGES OF NON-STRUCTURAL SLABS ON GRADE. FOR TURN-DOWNS WITH STRUCTURE ABOVE, SEE 14-S301







- 1 - REINFORCEMENT LENGTHS
3/4" = 1'-0"
D0001

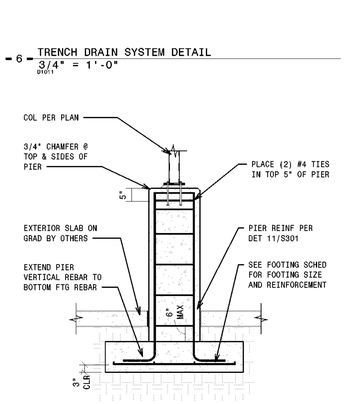


HOOKED REINFORCEMENT LENGTHS
GR. 60 UNCOATED BARS, N.W. CONCRETE

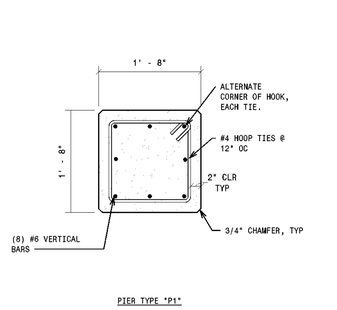
BAR SIZE	DIA	90° RETURN	180° RETURN	DEVELOPMENT LENGTH BY CONCRETE STRENGTH (f'c) IN PSI 3,000	3,500	4,000	4,500	≥5,000
#3	2 1/4"	4 1/2"	2 1/2"	0'-9"	0'-8"	0'-8"	0'-7"	0'-7"
#4	3"	6"	2 1/2"	0'-11"	0'-11"	0'-10"	0'-9"	0'-9"
#5	3 3/4"	7 1/2"	2 1/2"	1'-2"	1'-1"	1'-0"	1'-0"	0'-11"
#6	4 1/2"	9"	3"	1'-5"	1'-4"	1'-3"	1'-2"	1'-1"
#7	5 1/4"	10 1/2"	3 1/2"	1'-8"	1'-6"	1'-5"	1'-4"	1'-3"
#8	6"	12"	4"	1'-10"	1'-9"	1'-7"	1'-6"	1'-5"
#9	9 1/4"	13 5/8"	4 5/8"	2'-1"	1'-11"	1'-10"	1'-9"	1'-8"
#10	10 1/4"	15 1/4"	5 1/4"	2'-4"	2'-2"	2'-1"	1'-11"	1'-10"
#11	11 1/2"	17"	5 3/4"	2'-7"	2'-5"	2'-3"	2'-2"	2'-0"

NOTES:
1. DEVELOPMENT LENGTH SHALL NOT BE LESS THAN THE SMALLER OF 8*Db AND 6".
2. Db DENOTES THE NOMINAL DIAMETER OF THE BAR BEING DEVELOPED.
3. VALUES DO NOT APPLY TO TIES OR STIRRUPS.
4. TABULATED VALUES FOR DEVELOPMENT LENGTH ONLY TO BE MULTIPLED BY THE FOLLOWING FACTORS:
   A. 1.2 FOR EPOXY COATED REBAR.
   B. 1.33 FOR LIGHTWEIGHT CONCRETE.
   C. 0.7 FOR SIDE COVER MORE THAN 2 1/2" AND END COVER MORE THAN 2".
   D. 0.8 FOR STIRRUPS OR TIES ENCLOSING THE HOOK SPACED LESS THAN 3*Db WITH THE TIE CLOSEST TO THE BENT PORTION OF THE HOOK SPACED LESS THAN 2*Db MEASURED FROM THE OUTSIDE OF THE RADIUS BEND.
   E. FOR REINFORCEMENT OTHER THAN GRADE 60 MULTIPLY THE TABULATED VALUES BY THE YIELD STRENGTH DIVIDED BY 60 KSI.

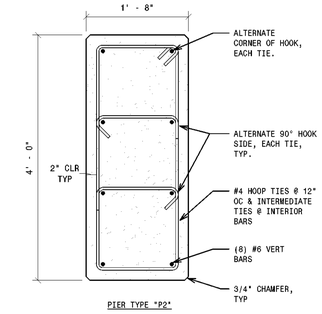
- 2 - HOOKED REINFORCEMENT LENGTHS
3/4" = 1'-0"
D0010



- 6 - TRENCH DRAIN SYSTEM DETAIL
3/4" = 1'-0"
D1011



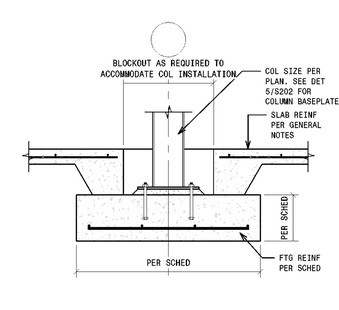
PIER TYPE "P1"



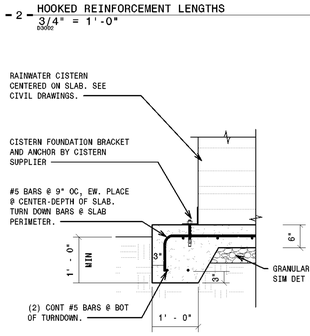
PIER TYPE "P2"

- 7 - SLAB ON GRADE TURNDOWN
1 1/2" = 1'-0"
D1030

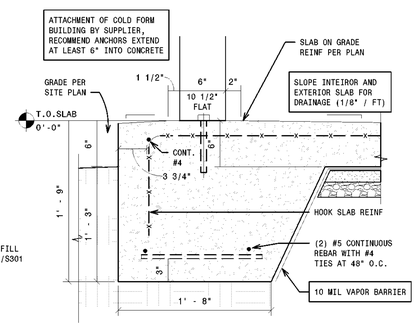
- 8 - TYPICAL CMU FOUNDATION DETAIL - INTERIOR
3/4" = 1'-0"
D1050



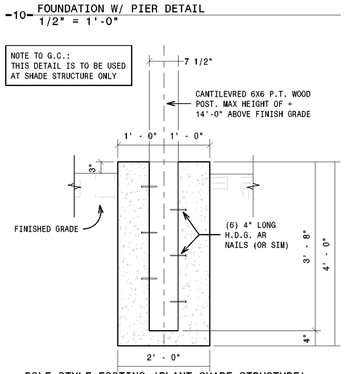
- 9 - TYPICAL CMU FOUNDATION DETAIL - EXTERIOR
3/4" = 1'-0"
D1050-1



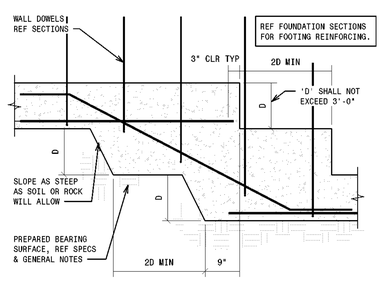
- 13 - ADMINISTRATION FOUNDATION PLAN - Section 1
3/4" = 1'-0"



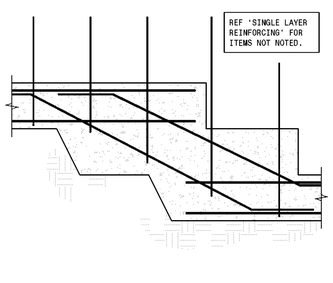
- 14 - SLAB ON GRADE TURN DOWN (BUILDING)
1 1/2" = 1'-0"



- 15 - POLE STYLE FOOTING (PLANT SHADE STRUCTURE)
3/4" = 1'-0"

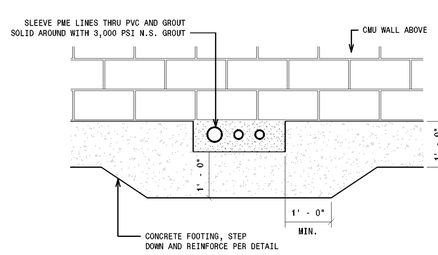


SINGLE LAYER REINFORCING



DOUBLE LAYER REINFORCING

- 16 - STEPPED FOOTING DETAIL
3/4" = 1'-0"



- 12 - TYPICAL COLUMN TO SPREAD FTG DETAIL
3/4" = 1'-0"
D1201

- 17 - STEP FOOTING DETAIL AT PME
3/4" = 1'-0"

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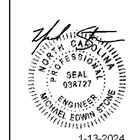
919.833.0495

SEALS

STRUCTURAL



1-13-2024

PROJECT INFORMATION

PROJECT NO.: LA-13090
PHASE: BID SET
DATE: 01.13.2025
DRAWN BY: MES
CHECKED BY: MES

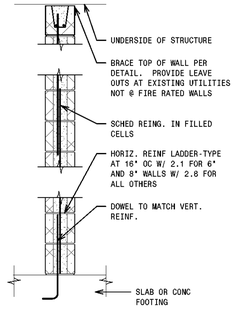
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

S301
FOUNDATION DETAILS

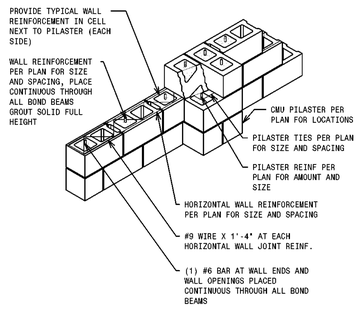
REBAR LAP SPLICE	
BAR SIZE	LAP SPICE
#3	18"
#4	24"
#5	30"
#6	36"
#7	42"
#8	48"



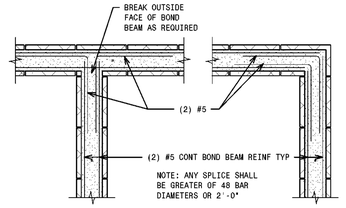
NON-SHEAR WALL REINFORCING SCHEDULE	
WALL DESCRIPTION	REINFORCING
8" CMU - 20'-0" MAX. HEIGHT EXTERIOR WALL	#6 @ 32" OC
8" CMU - 24'-0" MAX. HEIGHT EXTERIOR WALL	#6 @ 24" OC
8" CMU - 24'-0" MAX. HEIGHT INTERIOR WALL	#6 @ 48" OC
12" CMU - 24'-0" MAX. HEIGHT INTERIOR WALL	#6 @ 48" OC
12" CMU - 24'-0" MAX. HEIGHT EXTERIOR WALL	#6 @ 32" OC

NOTES:
1. SEE ARCHITECTURAL DRAWINGS FOR THICKNESS AND LOCATION OF CMU WALLS.
2. THE MAXIMUM HEIGHT OF WALL SHOULD BE LIMITED TO THE HEIGHT SCHEDULED ABOVE OR H/T: (HEIGHT/THICKNESS RATIO) AS SPECIFIED BY PREVAILING BUILDING CODES.
3. THE HORIZONTAL REINFORCEMENT OF THE INTERIOR PARTITION WALLS CAN BE W1.7.
4. #5 VERTICAL BAR SHALL BE PROVIDED 16" FROM CORNERS AND 8" FROM MOVEMENT JOINTS OR OPENING.
5. SEE MASONRY SECTION IN GENERAL NOTES.

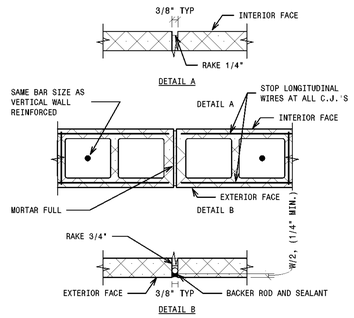
-1- TYPICAL CMU WALL MINIMUM REINFORCEMENT
3/4" = 1'-0" D4001



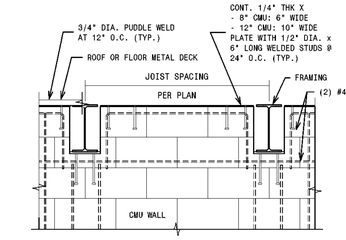
-2- REINFORCED MASONRAY WALL REINFORCING
1" = 1'-0" D4002



-3- BOND BEAM INTERSECTION & CORNER
1" = 1'-0" D4003



-4- CMU CONTROL JOINT (C.J.)
1 1/2" = 1'-0"

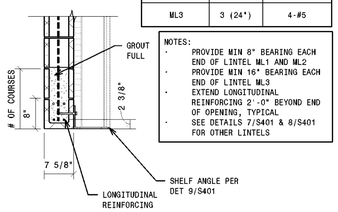


BEAMS TO BEAR INTO POCKET. WHERE BEAMS ALIGNED OVER CENTER WALL, PROVIDE 3 1/2" BEARING FROM EACH SIDE. FIELD WELD BEAM TO EMBED BEARING PLATE WITH 3/16" FILLET MIN. 3" LONG, EACH SIDE, TYPICAL. FILL SOLID BELOW BEAM BEARING EMBED PLATES, TO FOOTING, REINF. WITH (2) FULL HEIGHT #5 REBAR'S

-5- TYP CMU WALL JOIST SEAT
3/4" = 1'-0"

8" MASONRY LINTEL SCHEDULE		
HEADER MK#	NUMBER OF COURSES	LONGITUDINAL REINFORCING
ML1	1 (8")	2-#5
ML2	2 (16")	2-#5
ML3	3 (24")	4-#5

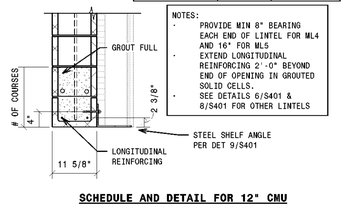
NOTES:
- PROVIDE MIN 8" BEARING EACH END OF LINTEL ML1 AND ML2
- PROVIDE MIN 16" BEARING EACH END OF LINTEL ML3
- EXTEND LONGITUDINAL REINFORCING 2'-0" BEYOND END OF OPENING, TYPICAL
- SEE DETAILS 7/S401 & 8/S401 FOR OTHER LINTELS



-6- 8" CMU LINTEL
3/4" = 1'-0" D4012

12" MASONRY LINTEL SCHEDULE		
HEADER MK#	NUMBER OF COURSES	LONGITUDINAL REINFORCING
ML4	2	2-#5
ML5	3	4-#5

NOTES:
- PROVIDE MIN 8" BEARING EACH END OF LINTEL FOR ML4 AND 16" FOR ML5
- EXTEND LONGITUDINAL REINFORCING 2'-0" BEYOND END OF OPENING IN GROUTED SOLID CELLS.
- SEE DETAILS 6/S401 & 8/S401 FOR OTHER LINTELS

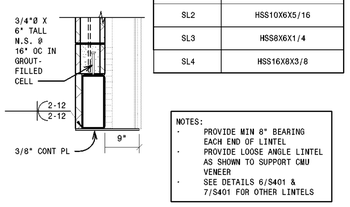


SCHEDULE AND DETAIL FOR 12" CMU

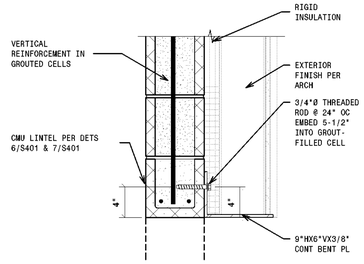
-7- 12" CMU LINTEL
3/4" = 1'-0" D4013

STEEL LINTEL SCHEDULE	
HEADER MK#	STEEL MEMBER
SL1	HSS14X6X3/8
SL2	HSS10X6X5/16
SL3	HSS8X6X1/4
SL4	HSS16X8X3/8

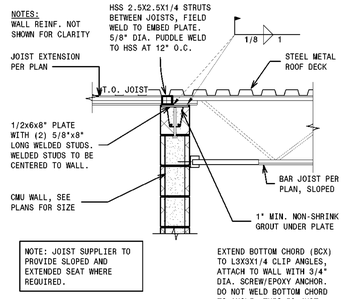
NOTES:
- PROVIDE MIN 8" BEARING EACH END OF LINTEL
- PROVIDE LOOSE ANGLE LINTEL AS SHOWN TO SUPPORT CMU VENEER
- SEE DETAILS 6/S401 & 7/S401 FOR OTHER LINTELS



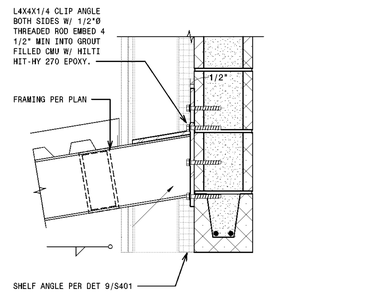
-8- STEEL LINTEL
3/4" = 1'-0" D4014



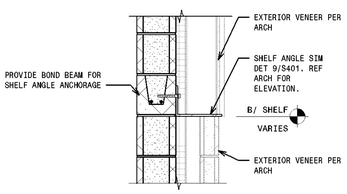
-9- LINTEL SECTION FOR VENEER SUPPORT
1 1/2" = 1'-0"



-10- TYP OWJ/CMU SEAT
3/4" = 1'-0"

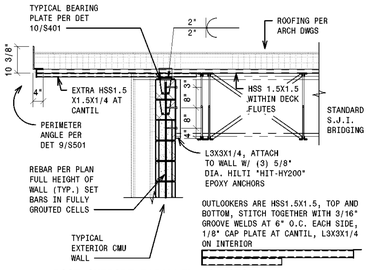


-11- FRONT CANOPY GIRDER CONNECTION @ WALL
1 1/2" = 1'-0"

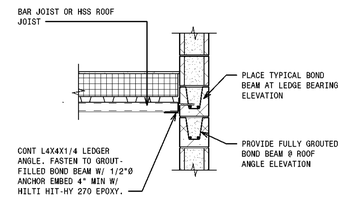


-12- TYPICAL EXTERIOR FINISH SUPPORT ANGLE
1" = 1'-0"

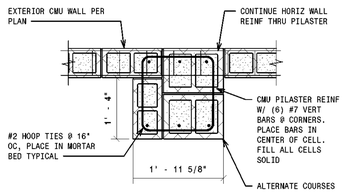
16" BOND BEAM AT TOP OF WALL, SLOPE BLOCK AND LAP REINFORCING AS REQ'D FILL SOLID WITH 3,000 PSI GROUT. PROVIDE HSS 3X3X1/4 STRUTS BETWEEN OUTLOOKERS, AND WELD ROOF DECK AT 6" O.C. TO STRUTS. STRUTS TO ATTACH TO EMBED PLATES SPACED AT 24" O.C., TYPICAL



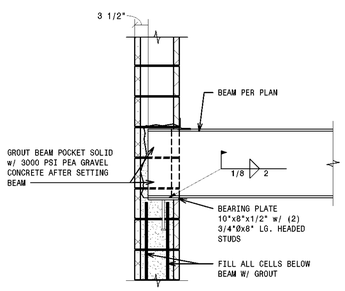
-13- ROOF SUPPORT PARALLEL TO JOIST
1/2" = 1'-0"



-14- TYPICAL ROOF FRAMING LEDGE
3/4" = 1'-0"

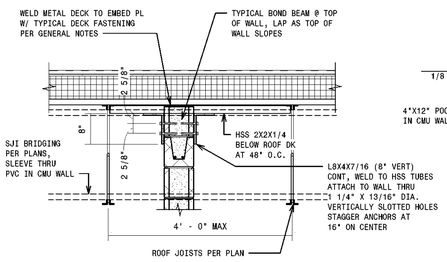


-15- CMU PILASTER @ WORKSHOP
3/4" = 1'-0"

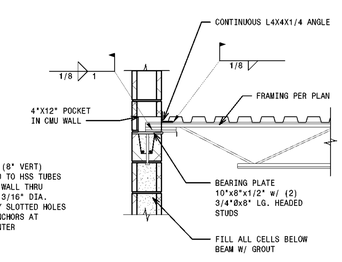


-16- WF BEAM POCKET
3/4" = 1'-0" D4103

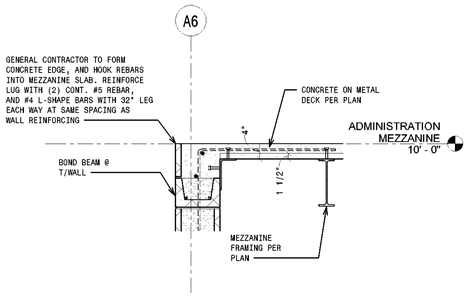
NOTE TO G.C. - CMU WALL IS NOT TIGHT TO ROOF DECK. MAINTAIN 1" GAP AT TOP OF WALL. VERTICALL SLOTTED HOLES WILL ALLOW ROOF STRUCTURE TO DEFLECT UP OR DOWN DURING HIGH WIND EVENTS. ANCHORS ARE 3/4" DIA. HILTI "MIT-HY200", INSTALLED AFTER ALL DEAD LOAD IS IN PLACE



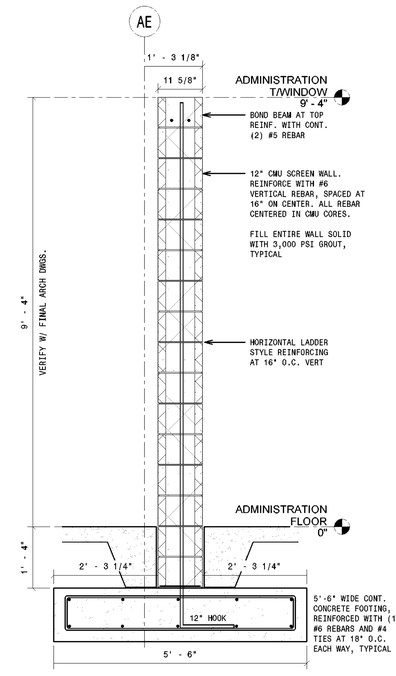
-17- METAL DECK OVER CMU
3/4" = 1'-0"



-19- LOW ROOF JOIST BEARING
3/4" = 1'-0"



-18- EDGE OF MEZZANINE DETAIL
3/4" = 1'-0"



-20- SECTION THRU SCREEN WALL (ADMIN BLDG)
3/4" = 1'-0"

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SEALS

STRUCTURAL

1-13-2024

PROJECT INFORMATION

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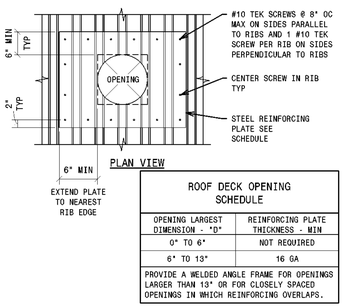
DRAWN BY: MES
CHECKED BY: MES

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

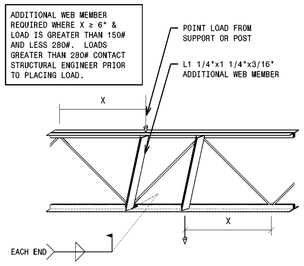
S401
MASONRY DETAILS



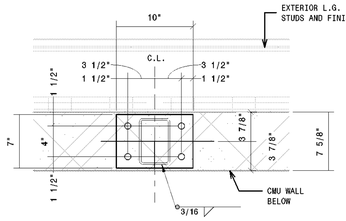
PLAN VIEW

ROOF DECK OPENING SCHEDULE	
OPENING LARGEST DIMENSION - "D"	REINFORCING PLATE THICKNESS - MIN
0" TO 6"	NOT REQUIRED
6" TO 13"	16 GA
PROVIDE A WELDED ANGLE FRAME FOR OPENINGS LARGER THAN 13" OR FOR CLOSELY SPACED OPENINGS IN WHICH REINFORCING OVERLAPS.	

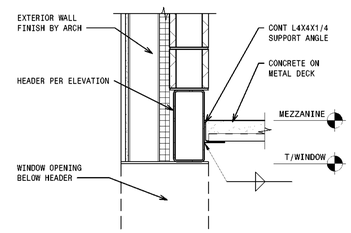
- 1 - OPENING DETAIL - ROOF DECK
3/4" = 1'-0"
D50f12



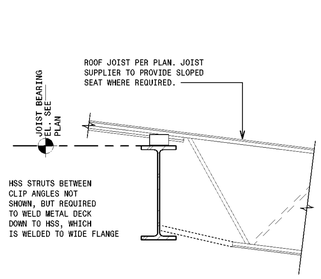
- 2 - JOIST REINFORCEMENT DETAIL
3/4" = 1'-0"
D50b4



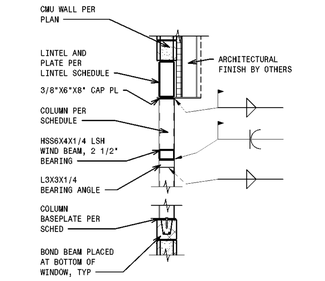
- 3 - HSS 6X4 COLUMN BEARING PLATE
1 1/2" = 1'-0"



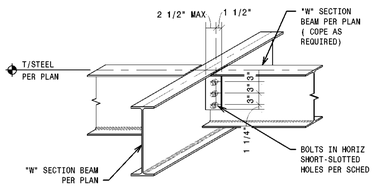
- 4 - MEZZANINE SUPPORT AT HEADER
1" = 1'-0"



- 5 - TYPICAL ROOF JOIST BEARING AT WIDE FLANGE BEAM
3/4" = 1'-0"
D50f19



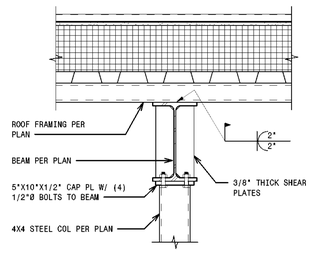
- 6 - REAR WINDOW COLUMN AND HEADER
1/2" = 1'-0"



CONNECTION SCHEDULE			
BEAM SIZE	"N" NO. OF 3/4"Ø BOLTS A325-N	SHEAR TAB "T" PLATE THICKNESS	SHEAR TAB "w" WELD SIZE
W8, W8, W10	2	1/4"	3/16"
W12, W14	3	1/4"	3/16"
W16	4	3/8"	5/16"
W18, W21	5	7/16"	3/8"

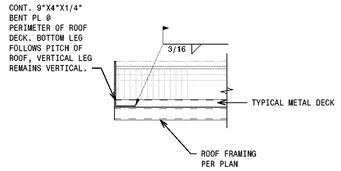
NOTES:
1. FOR DEEP COPES AND GIRDERS WITH LARGE "k" DIMENSIONS ADJUST FIRST HOLE BELOW TOP OF BEAM AS REQUIRED TO MAINTAIN EDGE DISTANCES SHOWN
2. 3" BOLT SPACING, TYPICAL.
3. "S" BEAM USE THE SAME DEPTH AS "W"

- 7 - TYPICAL WF BEAM TO WF BEAM CONNECTIONS
3/4" = 1'-0"

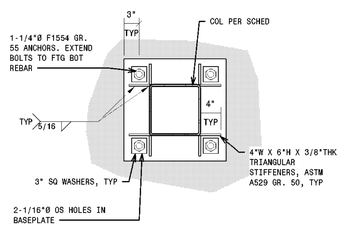


- 8 - TYPICAL WF BEAM OVER COL
1 1/2" = 1'-0"

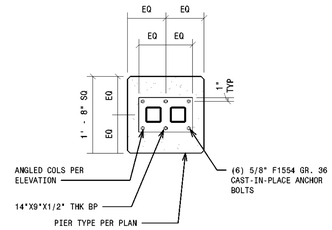
NOTE TO GENERAL CONTRACTOR:
STEEL EDGE ANGLES REQUIRED AT ALL DECK DIAPHRAGM PERIMETERS. SUPPORTING STEEL VARIES. WELD 1" AT HSS 1.5X1.5 SUPPORTING MEMBERS, AND 2" AT LARGER MEMBERS. ATTACH METAL ROOF DECK TO BENT PLATE WITH 5/8" DIA. PUDDLE WELDS AT 12" O.C. AROUND PERIMETER, UNLESS NOTED OTHERWISE.



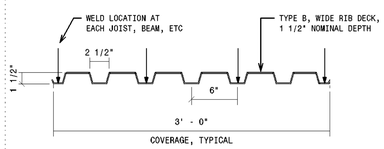
- 9 - TYPICAL ANGLE @ ROOF FRAMING
1" = 1'-0"



-10- VEHICLE SHED COLUMN BASEPLATE PLAN VIEW
1" = 1'-0"



-11- ANGLED COL T/PIER
3/4" = 1'-0"



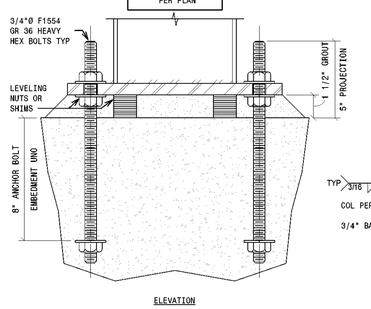
ROOF DECK ATTACHMENT NOTES:
1. ROOF DECK DIAPHRAGM TO CONFIRM TO "VULCRAFT DESIGN MANUAL" OR APPROVED EQUAL.
2. WELD PATTERN TO BE 36/4, TYPICAL UNLESS NOTED OTHERWISE. FOUR 5/8" DIA. PUDDLE WELDS AT EACH SUPPORT, AND (2) #10 TEK SCREWS PER SPAN AT SIDE LAPS.
3. USE 12" MAXIMUM WELD SPACING AROUND PERIMETER OF BUILDING AT CONTINUOUS EDGE ANGLES.

-12- ROOF DECK WELD PATTERN
1 1/2" = 1'-0"

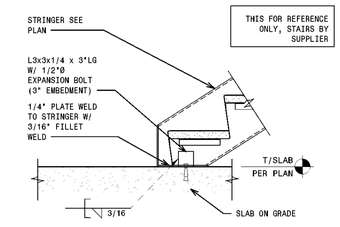
STEEL COLUMN SCHEDULE					
PLAN MARK	COLUMN SIZE	BASEPLATE	ANCHOR BOLTS	BOLT PATTERN	SCHEDULE NOTES
SC1	HSS 4X4X1/4	10"X10"X1/2" THICK	(4) 3/4" DIA.	7"X7"	1-4
SC2	HSS 6X4X1/4	7"X10"X1/2" THICK	(4) 3/4" DIA.	SEE DETAIL 14-S501	1-4
SC3	HSS 6X6X1/4	14"X14"X3/4" THICK	(4) 1" DIA.	10"X10"	1-4
SC4	HSS 10X10X3/8	20"X20"X1 1/4" THICK	(6) 1 1/4" DIA.	SEE DETAIL 10-S501	1-4

NOTES:
1. TUBE COLUMNS ARE A500 (Fy = 46 KSI)
2. USE A36 ANCHOR BOLTS WITH HEAVY HEX HEAD NUTS ON BOTH ENDS.
3. SUPPLIER TO DETERMINE ANCHOR BOLT LENGTH TO VERIFY BOTTOM NUT IS WITHIN 1" OF BOTTOM REBAR MAT.
4. SEE DETAILS FOR COLUMN BASE PLATE CONNECTIONS, FOR EACH BUILDING.

-13- STEEL COLUMN SCHEDULE
12" = 1'-0"



-14- HSS COLUMN BASE DETAILS
3" = 1'-0"
S01d1



-15- STAIR STRINGER TO SLAB ON GRADE
1" = 1'-0"
S1a402

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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
111 MELTON RD
WILMINGTON, NC

CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

LANDSCAPE ARCHITECTURE + CIVIL ENGINEERING
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120 St Mary's Street
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Firm No. C-0621

SEALS

STRUCTURAL

NORTH CAROLINA PROFESSIONAL SEAL 038727 ENGINEER MICHAEL EDWIN STOKES

1-13-2024

PROJECT INFORMATION

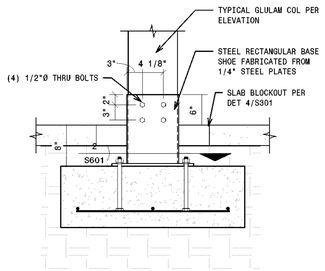
PROJECT NO.: LA-13090
PHASE: BID SET
DATE: 01.13.2025
DRAWN BY: MES
CHECKED BY: MES

REVISIONS

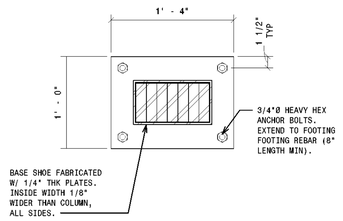
NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

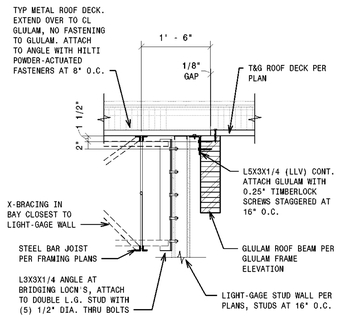
S501
STEEL DETAILS



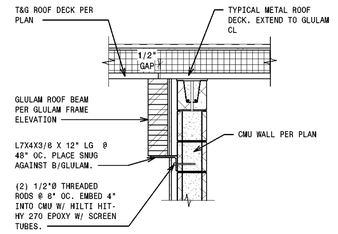
- 1 - GLULAM COL BASE SHOE ELEVATION
1" = 1'-0"



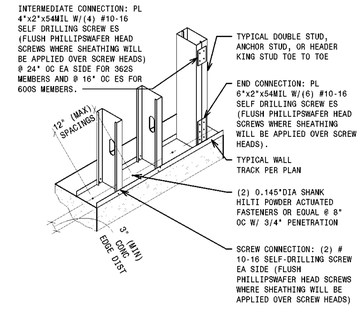
- 2 - GLULAM COL BASE PLAN VIEW
1 1/2" = 1'-0"



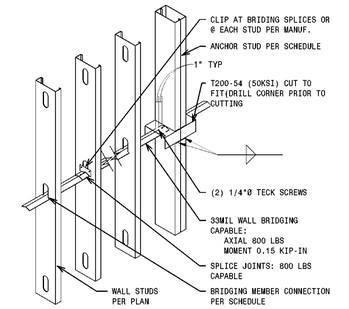
- 3 - ROOF DECK SPLICE AT BAR JOIST & GLULAM
3/4" = 1'-0"



- 4 - ROOF DECK SPLICE AT GLULAM & CMU
3/4" = 1'-0"



- 5 - TYPICAL COLD FORMED TRACK TO CONC CONNECTION
3/4" = 1'-0"
05504



- 6 - TYPICAL WALL BRIDGING DETAIL
3/4" = 1'-0"
05505

- 7 - TYPICAL LOAD BEARING WALL TOP PLATE DETAIL
3/4" = 1'-0"
05507

COLD FORM METAL HEADER SCHEDULE

ROUGH OPENING WIDTH	HEADER MEMBER SIZE	HEADER FASTENERS	JAM STUDS MEMBER SIZE
TYPICAL OPENING	(1) 600JS350-118 + (1) 600T125-43	AL600 W/ (3) # 12 SCREWS	(1) 600JS350-68
> 9'-0" WIDE OPENING	(2) 550JS250-97 + (2) 600T125-43	AL600 W/ (2) #12 SCREWS	(1) 600JS250-54

NOTE ALL FRAMING MEMBERS TO HAVE FY = 50 KSI, UNO

- 8 - TYPICAL TRACK HEADER DETAIL
3/4" = 1'-0"
05511

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L&A LYSAGHT & ASSOCIATES
structural engineers

SEALS

STRUCTURAL

NORTH CAROLINA PROFESSIONAL SEAL 038727 ENGINEER MICHAEL EDWIN STONE

1-13-2024

PROJECT INFORMATION

PROJECT NO.:	LA-13090
PHASE:	BID SET
DATE:	01.13.2025
DRAWN BY:	MES
CHECKED BY:	MES

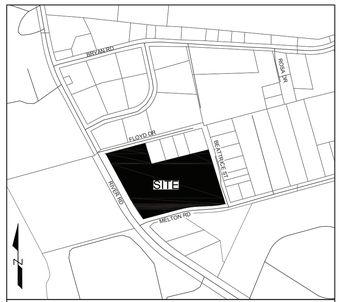
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

S601

WOOD AND LIGHT-GAGE DETAILS



VICINITY MAP
(NOT TO SCALE)

LOT INFORMATION

TRACT 1

CURRENT OWNER: CITY OF WILMINGTON
DEED BOOK 6350, PAGE 1461
PID: R0700-001-007-000
ADDRESS: 3603 RIVER ROAD
ZONING: IND
TOTAL AREA = 257,241 ± SQ.FT. OR 5.905 ± ACRES

TRACT 2

CURRENT OWNER: CITY OF WILMINGTON
DEED BOOK 6350, PAGE 1461
PID: R0700-001-008-000
ADDRESS: 3628 RIVER ROAD
ZONING: IND
TOTAL AREA = 73390, ± SQ.FT. OR 1.685 ± ACRES

TRACT 1 & 2
AREA = 330,631SQ.FT.± OR 7.590 ± ACRES

NOTES

1. AREA CALCULATED BY COORDINATE METHOD.
2. HORIZONTAL (NAD 83-2011) AND VERTICAL (NAVD 88) DATUM WERE ESTABLISHED UTILIZING A TOPCON HIPER-V GPS RECEIVER OPERATING IN VRS MODE WITH REPEAT OBSERVATIONS.
3. THIS PARCEL IS LOCATED IN ZONE X – NOT A SPECIAL FLOOD HAZARD AREA – AS SHOWN ON FEMA FLOOD MAP NO. 3720311500I BEARING AN EFFECTIVE DATE OF 08/28/2018.
4. UTILITIES AS SHOWN ARE PLOTTED FROM INFORMATION VISIBLE IN THE FIELD AND FROM INFORMATION PROVIDED BY UTILITY COMPANIES. ADDITIONAL UTILITIES NOT SHOWN MAY EXIST. THE APPROPRIATE UTILITY COMPANIES SHOULD BE CONTACTED PRIOR TO LAND DISTURBING ACTIVITIES.
5. THIS LOT IS SUBJECT TO ALL UTILITY EASEMENTS, RESTRICTIONS, OR COVENANTS OF RECORD.
6. CONTOUR INTERVAL =1'.
7. FIELD WORK COMPLETED 4/3/24.

LINE	BEARING	DISTANCE
L1	S 18°48'33" E	14.84'

CURVE	RADIUS	ARC LENGTH	DELTA	CHORD LENGTH	CHORD BEARING
C1	581.87'	111.96'	11°01'26"	111.78'	S 81°49'55" W
C2	654.66'	139.15'	12°10'28"	138.89'	S 81°15'44" W
C3	855.37'	207.87'	13°55'25"	207.35'	N 38°40'39" W
C4	617.24'	133.56'	12°23'50"	133.29'	S 81°11'40" W

SCALE: 1"=50'
0 25 50 100 150 200

LEGEND:

- IPF IRON PIPE FOUND
- IRF IRON ROD FOUND
- IRON ROD SET
- CMF CONCRETE MONUMENT FOUND
- PKF PK NAIL FOUND
- PKS PK NAIL SET
- TV TV RISER
- TR TRANSFORMER
- LIGHT POLE
- POWER POLE
- GUY ANCHOR
- TELEPHONE RISER
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- CLEAN-OUT
- SANITARY SEWER MANHOLE
- STORM DRAINAGE MANHOLE
- BACK FLOW PREVENTER
- CURB INLET
- SIGN
- TREES
- METER BOX
- 18 EXISTING CONTOUR
- ESMT LINE
- ADJOINER PROPERTY LINE
- SETBACK LINE
- FM FM FORCE MAIN
- SS SS SANITARY SEWER
- OHT OVER HEAD TELEPHONE LINE
- OHE OVER HEAD POWER LINE
- X X FENCE

CERTIFICATE OF ACCURACY AND MAPPING

I, JOSHUA W. TAYLOR, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTIONS RECORDED IN THE REFERENCES NOTED ON THIS DRAWING); THAT THE BOUNDARIES NOT SURVEYED ARE SHOWN AS DASHED LINES AS DRAWN FROM INFORMATION NOTED; THAT THE RATIO OF PRECISION IS 1:10,000; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56. 1600). THIS 5TH DAY OF APRIL, A.D., 2024.

I, JOSHUA W. TAYLOR, CERTIFY THAT THIS SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND OR ONE OR MORE EXISTING EASEMENTS AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.

JOSHUA W. TAYLOR, PLS LICENSE NO. L-5217

REVISIONS:
1.) ADDITIONAL DATA 4/5/24

CLIENT INFORMATION:
TIMMONS GROUP

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

EXISTING CONDITIONS SURVEY
3603 & 3628 RIVER ROAD
PIN: R07000-001-007-000, R07000-001-008-000
CITY OF WILMINGTON
NEW HANOVER COUNTY, NC

PROJECT STATUS:
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

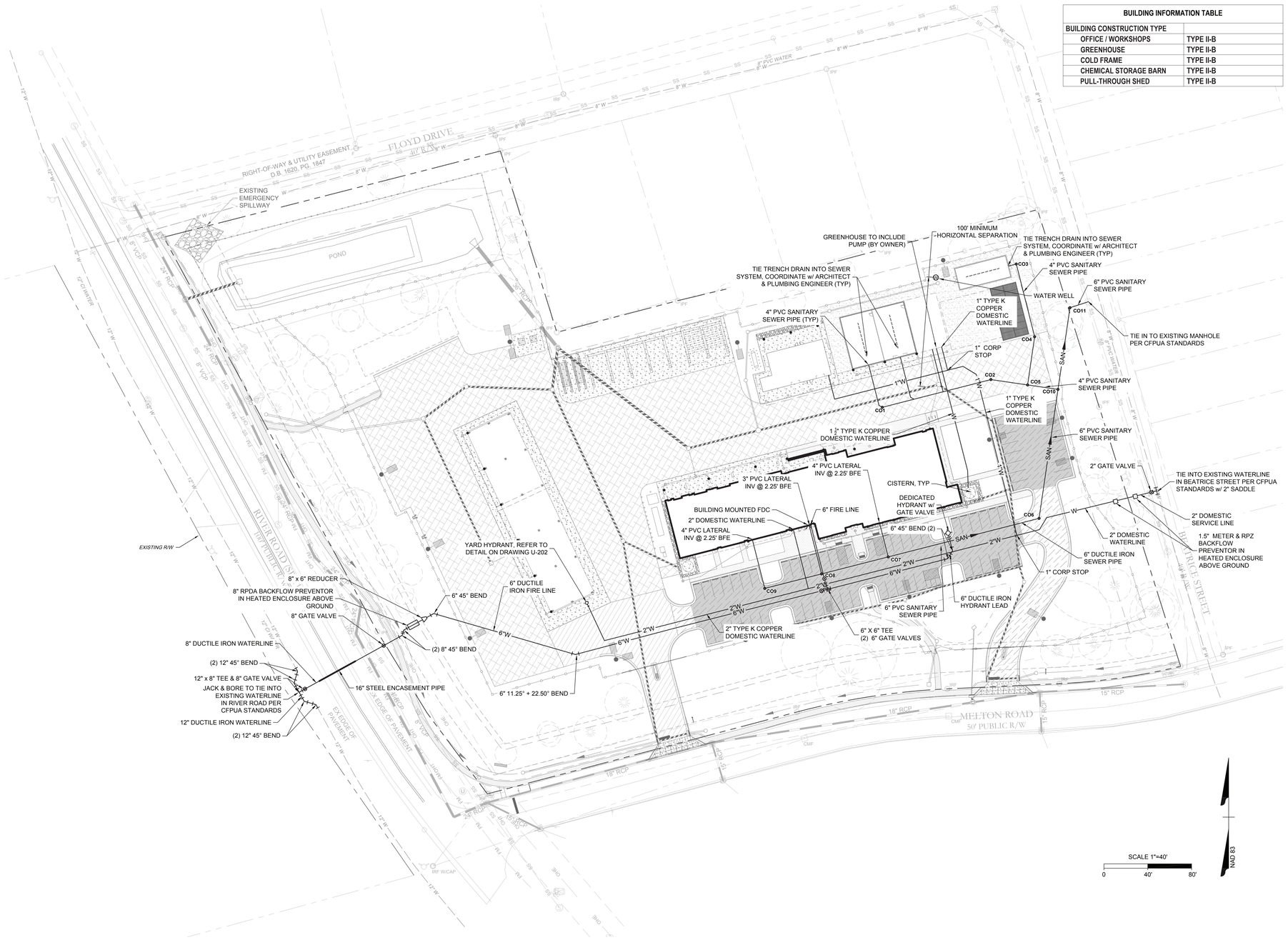
DRAWING INFORMATION
DATE: 4/5/2024
SCALE: 1"= 50'
DESIGNED: SCL/KPN
DRAWN: JWT
CHECKED:

SEAL
NORTH CAROLINA PROFESSIONAL SEAL L-5217 LAND SURVEYOR JOSHUA W. TAYLOR

SV-1

PEI JOB#: 21195.PE

BUILDING INFORMATION TABLE	
BUILDING CONSTRUCTION TYPE	
OFFICE / WORKSHOPS	TYPE II-B
GREENHOUSE	TYPE II-B
COLD FRAME	TYPE II-B
CHEMICAL STORAGE BARN	TYPE II-B
PULL-THROUGH SHED	TYPE II-B



FIRE & LIFE SAFETY NOTES:

1. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
2. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
3. A HYDRANT MUST BE WITHIN 150' OF THE FDC (MEASURED AS THE TRUCK DRIVES FOR PRACTICAL USE).
4. FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
5. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FDC'S OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL ALWAYS BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC'S.
6. ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
7. PRIVATE UNDERGROUND FIRE LINES REQUIRE A SEPARATE UNDERGROUND FIRE LINE PERMIT FROM THE CITY OF WILMINGTON FIRE MARSHAL'S OFFICE. CONTACT STAFF @ 910-343-0696 FOR INFORMATION AND COORDINATION.
8. CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL MULTI-STORY COMMERCIAL BUILDINGS AND ALL SINGLE-STORY COMMERCIAL BUILDINGS EXCEEDING 7500 SQ/FT THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SECTION 510 OF THE 2018 NC FIRE CODE.
9. ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED.
10. CONTRACTOR SHALL NOTIFY PROPERTY OWNERS ALONG BEATRICE STREET REGARDING UTILITY WORK WITHIN THE STREET FOR UTILITY CONNECTIONS.

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CITY OF WILMINGTON NORTH CAROLINA

CONSULTANTS

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STRUCTURAL
LYSAGHT & ASSOCIATES
120 ST. MARY'S ST.
RALEIGH, NC 27605
919.833.0495

SEALS

PROJECT INFORMATION

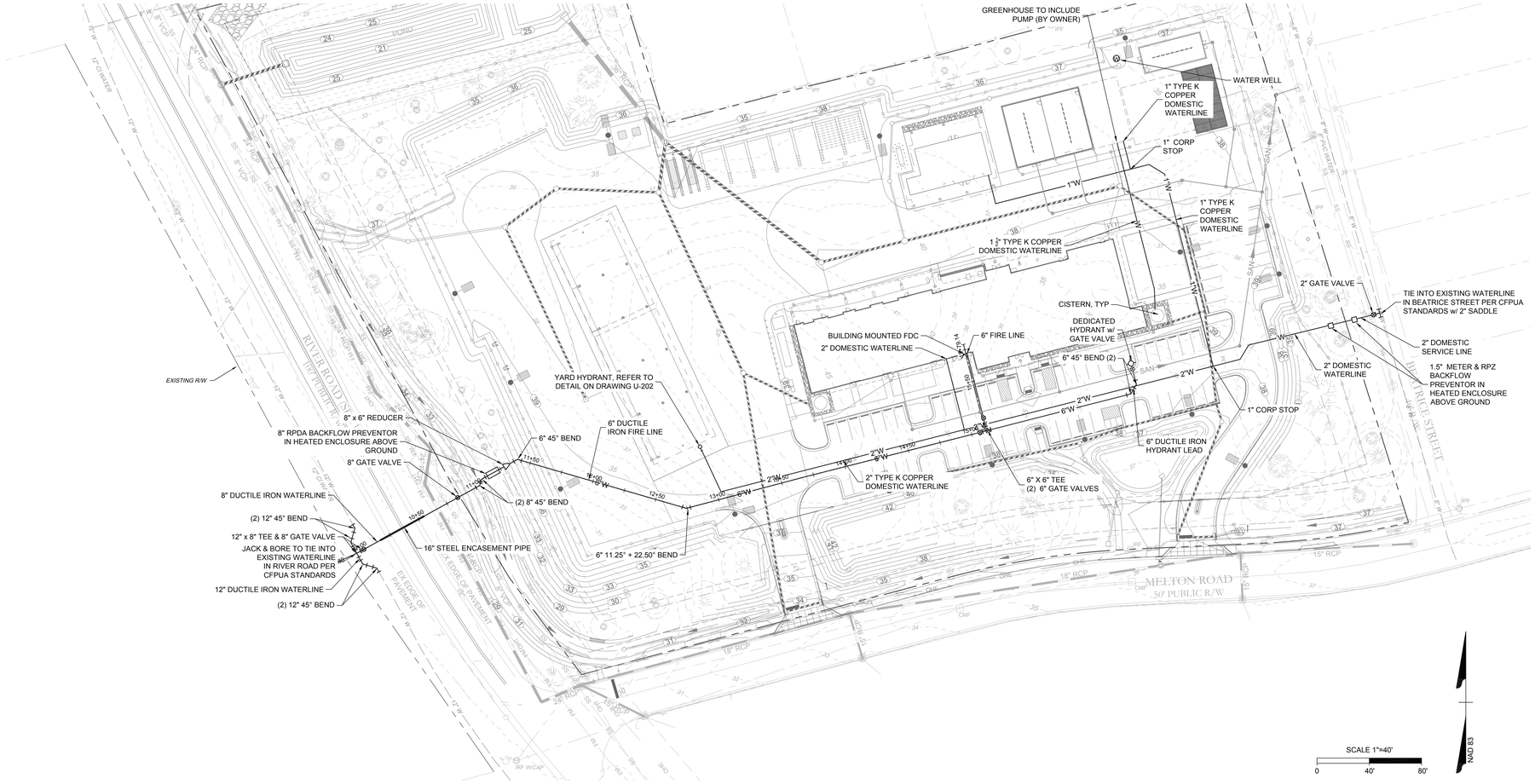
PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

U-100
UTILITY PLAN



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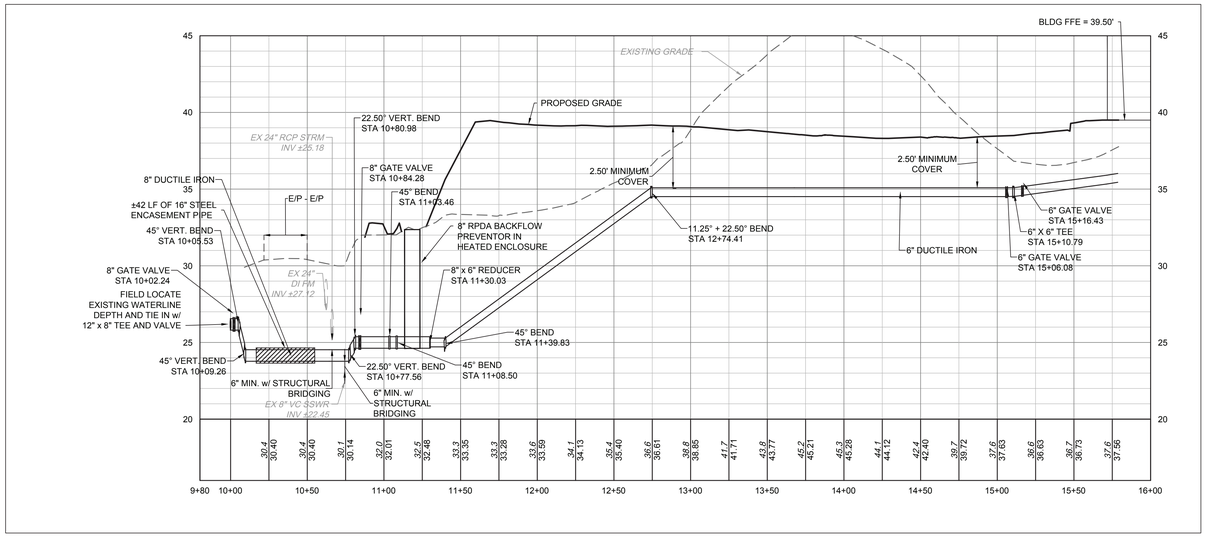
9. ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED.
10. CONTRACTOR SHALL NOTIFY PROPERTY OWNERS ALONG BEATRICE STREET REGARDING UTILITY WORK WITHIN THE STREET FOR UTILITY CONNECTIONS.



PROFILE SCALE
0
40
4
0

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LYSAGHT & ASSOCIATES
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919.833.0495

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034374 01/13/2025 Brandon L. McLamb

PROJECT INFORMATION

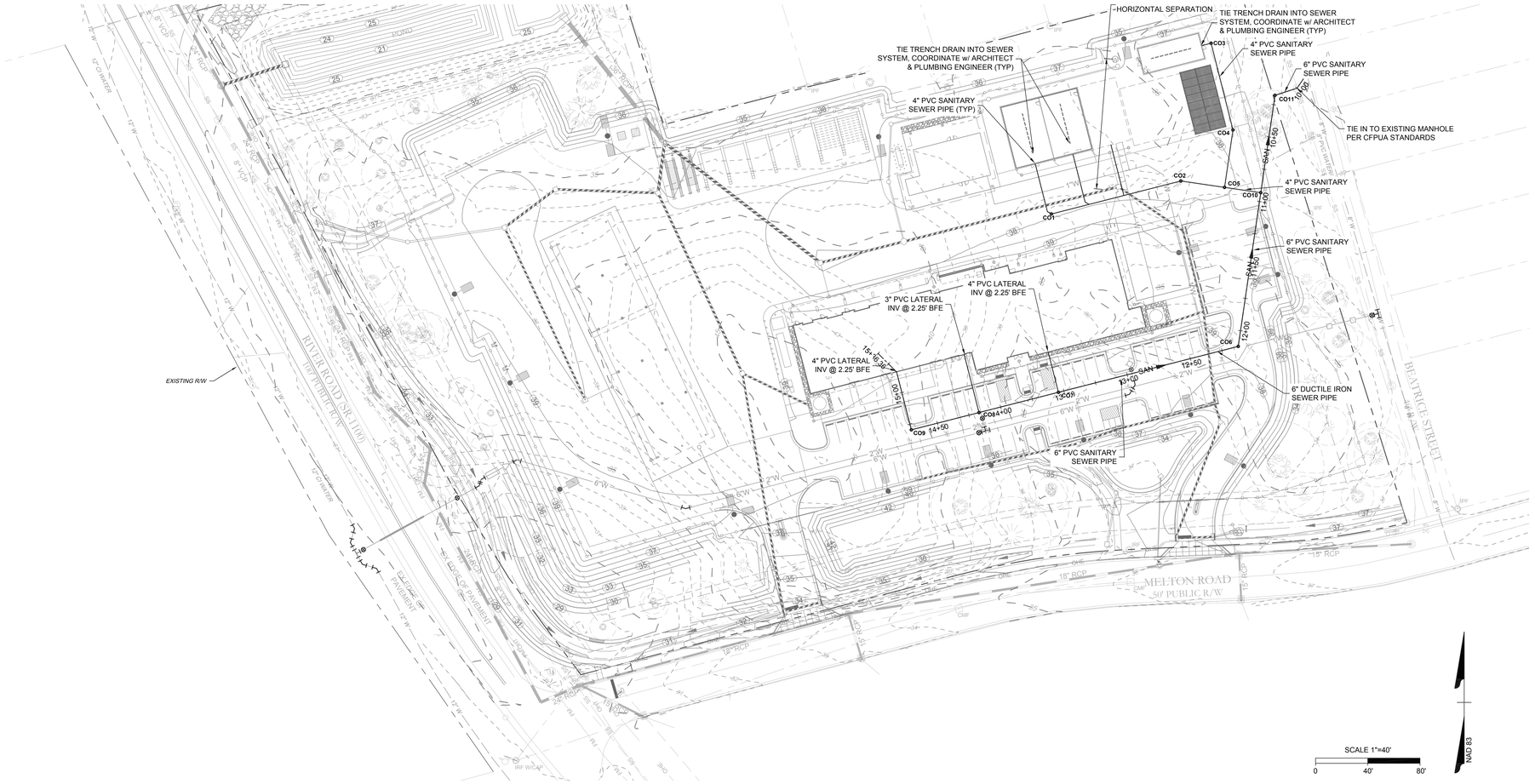
PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

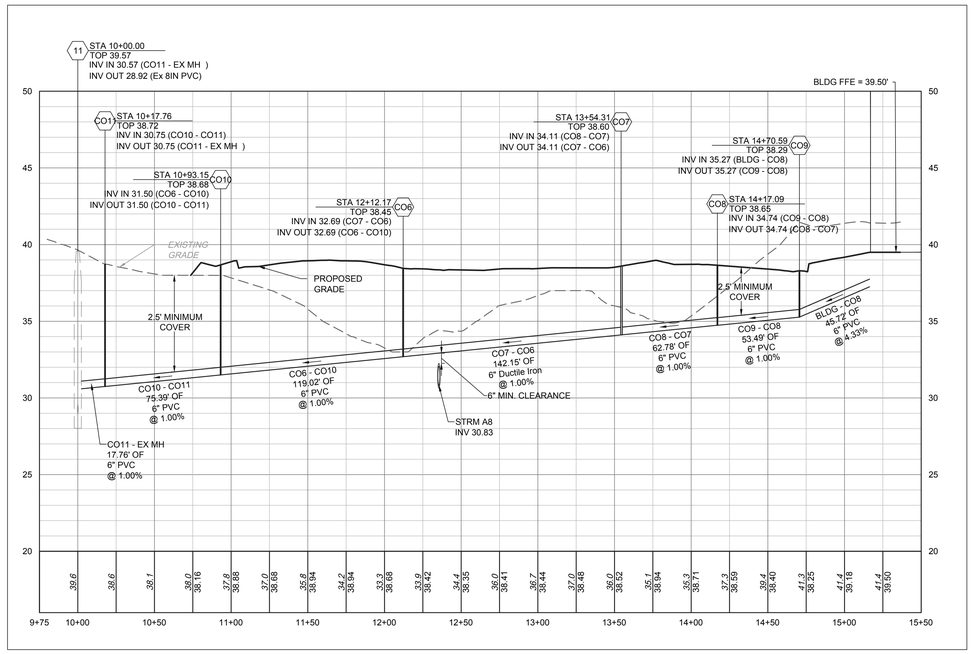
SHEET INFORMATION

U-101
WATERLINE PROFILE



FIRE & LIFE SAFETY NOTES:

1. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
2. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
3. A HYDRANT MUST BE WITHIN 150' OF THE FDC (MEASURED AS THE TRUCK DRIVES FOR PRACTICAL USE).
4. FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
5. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FDC'S OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL ALWAYS BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC'S.
6. ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
7. PRIVATE UNDERGROUND FIRE LINES REQUIRE A SEPARATE UNDERGROUND FIRE LINE PERMIT FROM THE CITY OF WILMINGTON FIRE MARSHAL'S OFFICE. CONTACT STAFF @ 910-343-0696 FOR INFORMATION AND COORDINATION.
8. CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL MULTI-STORY COMMERCIAL BUILDINGS AND ALL SINGLE-STORY COMMERCIAL BUILDINGS EXCEEDING 7500 SQ/FT THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SECTION 510 OF THE 2018 NC FIRE CODE.
9. ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED.
10. CONTRACTOR SHALL NOTIFY PROPERTY OWNERS ALONG BEATRICE STREET REGARDING UTILITY WORK WITHIN THE STREET FOR UTILITY CONNECTIONS.



PROFILE SCALE
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CITY OF WILMINGTON PARKS MAINTENANCE FACILITY

PROJECT LOCATION
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CONSULTANTS

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 034374 01/13/2025 ENGINEER Brandon L. McLamb

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
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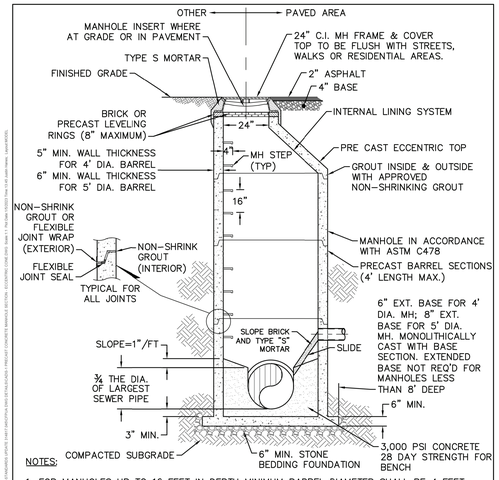
REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

U-102
SEWER PROFILE

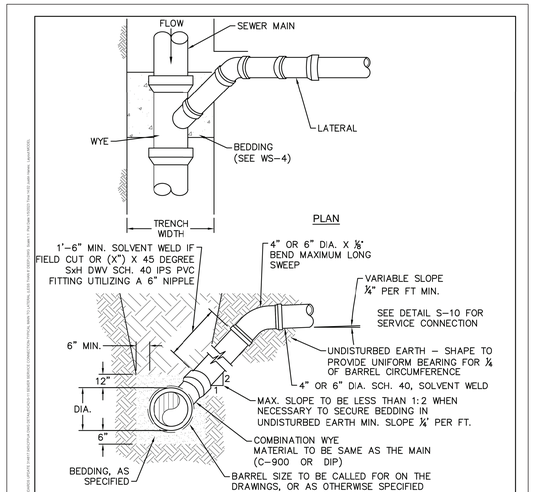


NOTES:

1. FOR MANHOLES UP TO 12 FEET IN DEPTH MINIMUM BARREL DIAMETER SHALL BE 4 FEET. MANHOLES GREATER THAN 12 FEET IN DEPTH SHALL BE A MINIMUM OF 5 FEET IN DIAMETER.
2. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT ALLOWED.
3. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

FOR LESS THAN 30" INSIDE DROP

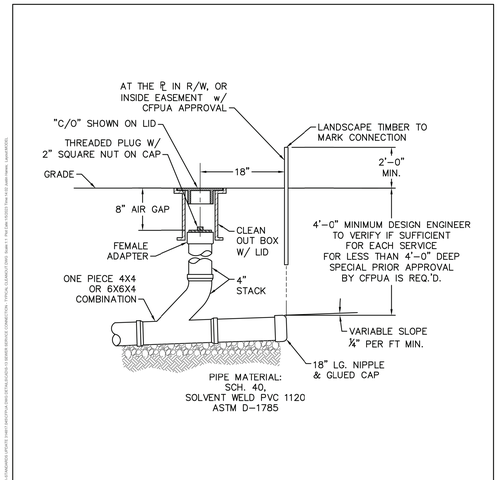
DETAIL: PRECAST CONCRETE MANHOLE SECTION - ECCENTRIC CONE		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: S-1
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -



NOTES:

1. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.
2. ALL SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF DIP, WITH PROTECTIVE LINING.

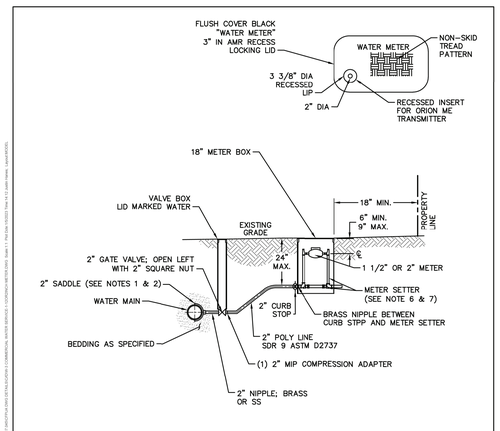
DETAIL: SEWER SERVICE CONNECTION - MAIN to LATERAL (LESS THAN 8' DEEP)		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: S-11
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -



NOTES:

1. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.
2. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.

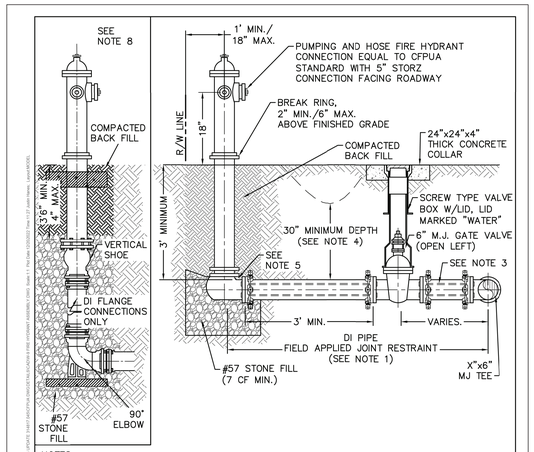
DETAIL: SEWER SERVICE CONNECTION - TYPICAL CLEAN-OUT		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: S-13
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -



NOTES:

1. WATER SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE THE RIGHT-OF-WAY LINE.
2. SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY.
3. METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS.
4. NON-TRAFFIC METER BOXES SHALL BE PER CFPUA STANDARD MATERIAL.
5. 3" CLEAN FILL REQUIRED ALL AROUND 2" POLY SERVICE LINE.
6. 1 1/2" METER – NL METER SETTER SHALL BE PER CFPUA STANDARD MATERIAL.
7. 2" METER – NL METER SETTER SHALL BE PER CFPUA STANDARD MATERIAL.
8. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNERS.
9. SERVICE PIPING AND METER SETTER TO BE CENTERED IN THE METER BOX.

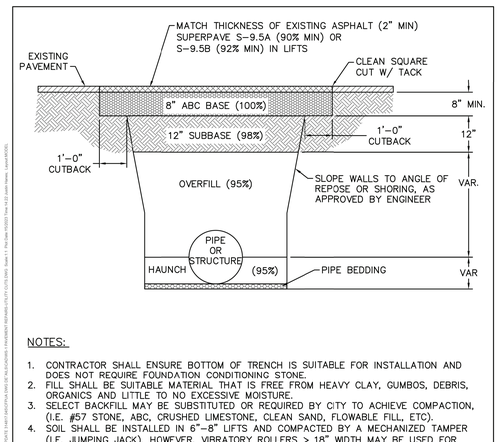
DETAIL: COMMERCIAL WATER SERVICE - 1 1/2 OR 2-INCH METERS		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: W-3
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -



NOTES

1. JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI.
2. WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
3. CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH 316 STAINLESS STEEL MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
4. HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
5. WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.
6. MJ TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS MAIN VALVES, FITTING, OR JOINTS WITHIN 10-FEET OF MJ TEE.
7. TRACING WIRE SHALL EXTEND ALONG HYDRANT LATERAL AND UP TO FINISHED GRADE WITH 2-FEET EXTENDED ABOVE THE BREAK RING OF HYDRANT.
8. HYDRANT TO UTILIZE A VERTICAL SHOE WHEN INSTALLED 5' IN DEPTH OR GREATER.

DETAIL: FIRE HYDRANT ASSEMBLY		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: W-9
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -



NOTES:

1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. FILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
3. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57 STONE, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
4. SOIL SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
5. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
6. COMPACT MATERIALS TO MINIMUM % DENSITY SHOWN IN DIAGRAM AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D-698-A FOR SOILS, AND ASTM D-698-C FOR ABC STONE, AND BY NUCLEAR GAGE OR CORE SAMPLE FOR ASPHALT.
7. CUTBACKS OF ASPHALT SHALL BE PREPARED ON EDGE OF EXCAVATION OVER TOP OF UNDISTURBED SOIL.

(FOR PRIVATE ROADS AND PAVED AREAS, CONTRACTOR TO MEET MINIMUM REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)

DETAIL: CITY OF WILMINGTON PAVEMENT REPAIRS-UTILITY CUTS		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: WS-1
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -

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SEALS

PROJECT INFORMATION

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CHECKED BY:	BLM

REVISIONS

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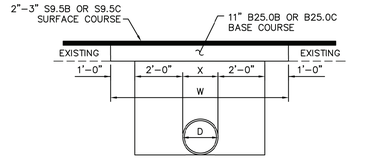
2	TITLE BLOCK REVISION	05.21.2025

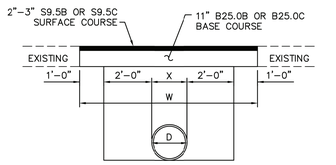
SHEET INFORMATION

U-200
UTILITY DETAILS



D	X	W
12"	1'–4"	7'–4"
15"	1'–7"	7'–7"
18"	1'–10"	7'–10"
24"	2'–6"	8'–6"
30"	3'–1"	9'–1"
36"	3'–8"	9'–8"
42"	4'–5"	10'–5"
48"	5'–0"	11'–0"

PAVEMENT REPAIRS ON ROADS TO BE RESURFACED
(PIPE IS PLACED UNDER EXISTING PAVEMENT)

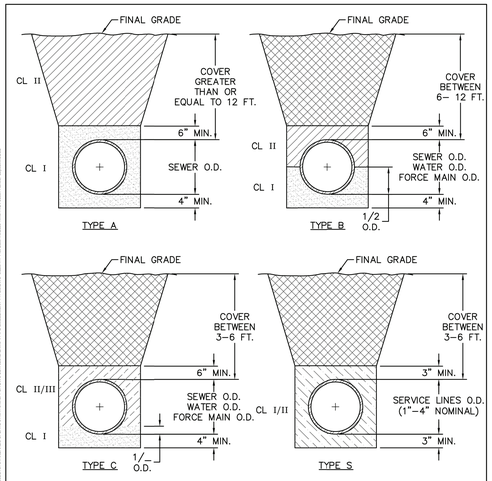


PAVEMENT REPAIRS ON ROADS NOT TO BE RESURFACED
(PIPE IS PLACED UNDER EXISTING PAVEMENT)

NOTE:

1. FOR REFERENCE, SEE NCDOT STANDARD 654.01

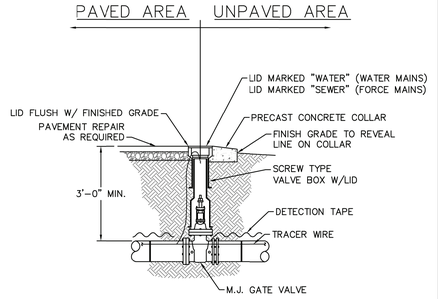
DETAIL: NCDOT-PAVEMENT REPAIRS		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: WS-3
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -



COMPACTION NOTES:

1. ALL ZONES: 95% STD EFFORT PER ASTM D698, EXCEPT AS STATED IN COMPACTION NOTE 2.
2. 12" SUBGRADE UNDER PAVEMENT: 98% STD EFFORT PER ASTM D698.
3. BEDDING REQUIREMENTS FOR SEWER FORCE MAINS AND WATER MAINS WITHIN TYPE A THROUGH TYPE S CONDITIONS, SHALL BE FOLLOWED IF IT HAS BEEN DETERMINED THAT UNSUITABLE SOILS EXIST WITHIN THE EXCAVATED TRENCH. OTHERWISE BEDDING FOR SEWER FORCE MAINS AND WATER MAINS MAY BE CLASS I OR CLASS II.

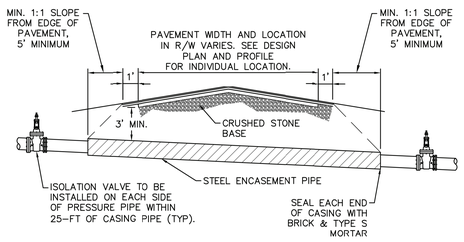
DETAIL: PIPE EMBEDMENT TYPES		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: WS-4
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -



NOTES:

1. TRACER WIRE SHALL PENETRATE VALVE BOX THROUGH DRILLED HOLE APPROX. 6" BELOW GRADE WITH MINIMUM 2–FEET EXTRA LENGTH COILED IN THE VALVE BOX. SEE WS–6.

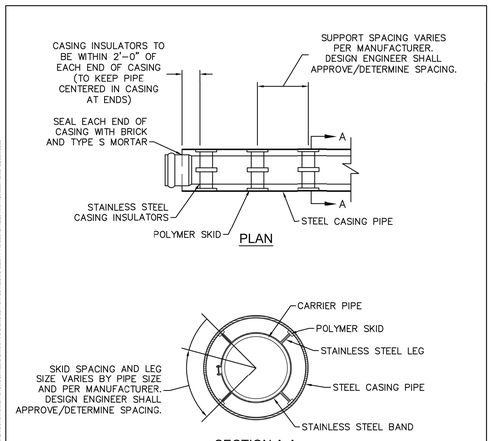
DETAIL: VALVE DETAIL		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: WS-5
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -



NOTES:

1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.
2. TRACER WIRE SHALL BE TAPED AT 12' INTERVALS THROUGHOUT THE CASING.
3. PRESSURE AND NON–PRESSURE PIPING THROUGH CASING SHALL BE RESTRAINED JOINT.
4. SEE DETAIL WS–8 FOR PIPE CASING SUPPORT DETAILS.

DETAIL: TYPICAL BORING & JACKING DETAIL		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: WS-7
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2024		SHEET NO: -



NOTES:

1. PIPE SUPPORTS TO BE PLACED TO PROVIDE PROPER SPACING, ALIGNMENT, AND GRADE AS SPECIFIED. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.
2. WHEN CARRIER PIPE REQUIRES FULL PIPE SECTIONS, AN OVER BELL RESTRAINT SYSTEM SHALL BE UTILIZED.

DETAIL: PIPE CASING SUPPORT DETAIL		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: WS-8
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2024		SHEET NO: -

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

1. ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
2. SEWER MANHOLE INSERTS REQUIRED AT ALL MANHOLES. STAINLESS STEEL MANHOLE INSERTS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
3. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT–OF–WAY LINE. SEWER SERVICES IN CUL–DE–SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE 18" INSIDE RIGHT–OF–WAY LINE.
4. ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
5. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
6. NO FLEXIBLE COUPLINGS SHALL BE USED.
7. ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
8. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
9. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
10. UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
11. A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM SHALL BE REPLACED FOR NEW SEWER SERVICE CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
12. A MINIMUM OF 20' OF MAIN LINE, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS
13. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED
14. WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CFPUA.
15. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

DETAIL: STANDARD NOTES (REQUIRED ON ALL PLAN AND PROFILE SHEETS)		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: WS-14
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2023		SHEET NO: -

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SEALS

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SHEET INFORMATION

U-201
UTILITY DETAILS

FREEZE FLOW™ Hoeptner Products

Executive Sanitary Yard Hydrant Installation and Operating Instructions

****OR APPROVED EQUAL**

Installation

1. It is most important to Flush supply lines before installing hydrant. Failure to do so may permanently damage sealing surface causing leaks and possible freeze-ups.
2. Install hydrant so that the Adapter or Bushing is above grade for servicing. Figure 1.
3. Attach hydrant to supply lines using Teflon Tape or an approved thread sealant for PVC.
4. Do not over tighten PVC portion of hydrant to supply lines as it will damage hydrant.

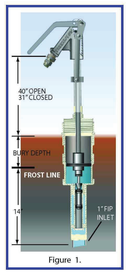

Figure 1.

Operation

1. No winterization is required to prevent hydrant from freezing.
2. Lift up on lever to turn on, push down on lever to turn off.
3. As hydrant is turned on some water will come out port holes in vacuum breaker, this is normal.
4. When the hydrant is shut off it will drain to the reservoir to prevent freezing, even if a hose with pistol grip nozzle is attached. However, the hose will not drain.
5. DO NOT remove, discard, or bypass Backflow Preventer as Hydrant will not function properly.

See Maintence: "Field Testing the Backflow Preventer" for further information on the Backflow Preventer.

HOEPTNER PRODUCTS
7796 Oak Spring Circle, Gilroy, CA 95020 * Ph 408-847-7615 / Fax 408-847-0675
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Executive Sanitary Yard Hydrant Maintenance Instructions

REMOVAL AND REPLACEMENT OF SEALS

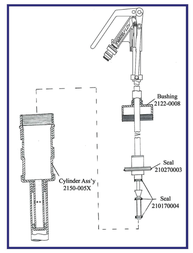
In the unlikely event that your hydrant needs repair, it will be necessary to unscrew Bushing and lift entire mechanism out of the Cylinder. Follow the steps below being careful not to damage the plastic piston.

1.) Apply a wrench to the Bushing and a second wrench to the 4" pvc Cylinder to prevent the Cylinder from turning.
2.) Remove and replace the four seals shown.
3.) Lubricate all four seals with Vaseline.
4.) Carefully reinstall mechanism into Cylinder.

- Do not over tighten Bushing as it does not see any water pressure and future removal will be difficult.

No adjustment is necessary providing locking collar, at base of head, has not been moved.

Proper location of locking collar is when the top of collar is in line with shoulder (step) in 1" galvanized riser pipe.



FIELD TESTING THE BACKFLOW PREVENTER

If the Backflow Preventer is not operating normally the Hydrant will not function properly.

To field test backflow preventer:

- Raise hose above hydrant head.
- Turn on hydrant until water flows from hose
- Hose should remain full of water.

If hose drains down then repair or replace backflow preventer.

NOTE: If the hydrant has not been used for a long period of time, it is advisable to flush the hydrant for 60 seconds when the water is used for drinking.

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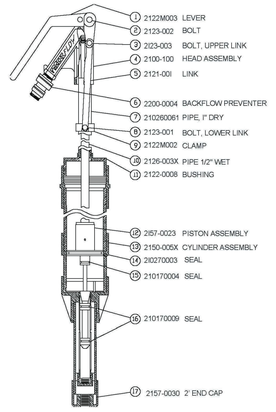
Executive Sanitary Yard Hydrant Parts



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FREEZE FLOW™ Hoeptner Products

MANUFACTURER'S LIMITED ONE YEAR WARRANTY

Hoeptner Perfected Products warrants this product to be free from defects in material or workmanship for a period of one year from date of original shipment. Hoeptner Perfected Products will, at its option, repair or replace any part of this product that proves, upon our inspection, and within one year from date of shipment, to be defective in material or workmanship. Transportation costs or charges incidental to warranty service are to be borne by the purchaser-user. This warranty does not apply to goods or parts not manufactured by Hoeptner Perfected Products, instead Hoeptner Perfected Product's obligation for these parts is limited to the actual warranty extended to Hoeptner Perfected Products by the manufacturer. This shall constitute the exclusive remedy for breach of warranty, and Hoeptner Perfected Products shall not be responsible for any incidental or consequential damages, including without limitation, damages or other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemicals, or any other circumstances over which Hoeptner Perfected Products has no control. This warranty shall be invalidated by any abuse, misuse, misapplication or improper installation of the product.
Hoeptner Perfected Products makes no other warranties express or implied of any kind with respect to the goods, parts and materials, including but not limited to, any implied warranty as to merchantability or as to the fitness of the merchandise for a particular use and shall not be liable for any loss or damage, directly or indirectly, arising from the use of such merchandise or for consequential or incidental damages

RETURN POLICY

All products returned must be in new, perfect condition in their original packaging. We will not accept returns after 30 days. All returns are subject to a 25% restocking fee. Shipping charges will not be refunded.
All returns must be authorized in advance and be issued a Return Authorization Number - please call or e-mail us before sending returns. Returns sent to us without prior authorization will be refused delivery.

IMPLIED WARRANTY

There is no warranty other than the Manufacture's Limited One Year Warranty.

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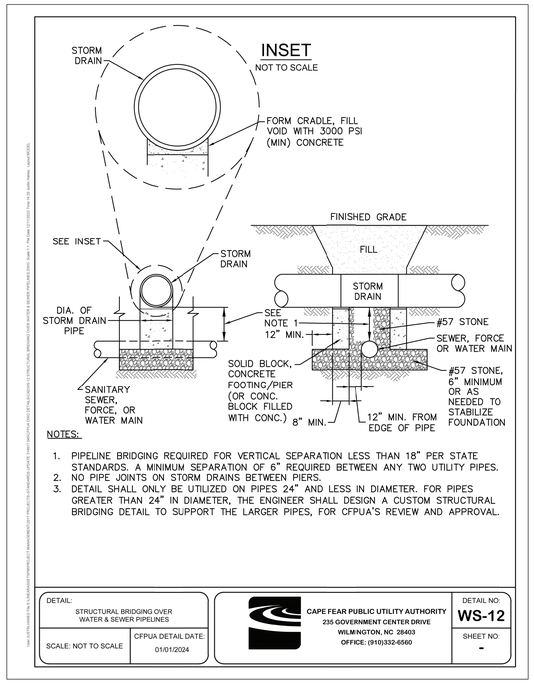
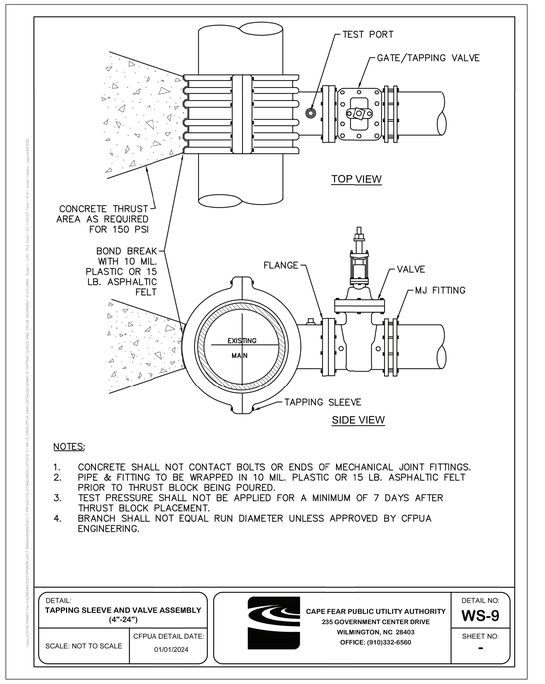


NOTES:

1. PIPELINE BRIDGING REQUIRED FOR VERTICAL SEPARATION LESS THAN 18" PER STATE STANDARDS. A MINIMUM SEPARATION OF 6" REQUIRED BETWEEN ANY TWO UTILITY PIPES.
2. NO PIPE JOINTS ON STORM DRAINS BETWEEN PIERS.
3. DETAIL SHALL ONLY BE UTILIZED ON PIPES 24" AND LESS IN DIAMETER. FOR PIPES GREATER THAN 24" IN DIAMETER, THE ENGINEER SHALL DESIGN A CUSTOM STRUCTURAL BRIDGING DETAIL TO SUPPORT THE LARGER PIPES, FOR CFPUA'S REVIEW AND APPROVAL.

DETAIL: STRUCTURAL BRIDGING OVER WATER & SEWER PIPELINES		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO. WS-12
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2024		SHEET NO. -



NOTES:

1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. PIPE & FITTING TO BE WRAPPED IN 10 MIL. PLASTIC OR 15 LB. ASPHALTIC FELT PRIOR TO THRUST BLOCK BEING POURED.
3. TEST PRESSURE SHALL NOT BE APPLIED FOR A MINIMUM OF 7 DAYS AFTER THRUST BLOCK PLACEMENT.
4. BRANCH SHALL NOT EQUAL RUN DIAMETER UNLESS APPROVED BY CFPUA ENGINEERING.

DETAIL: **TAPPING SLEEVE AND VALVE ASSEMBLY (4"-24")**		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO. WS-9
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2024		SHEET NO. -

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SEALS

PROJECT INFORMATION

PROJECT NO.:	2014
PHASE:	BID DOCUMENTS
DATE:	01.13.2025
DRAWN BY:	KHL
CHECKED BY:	BLM

REVISIONS

NO.	DESCRIPTION	DATE
2	TITLE BLOCK REVISION	05.21.2025

SHEET INFORMATION

U-202
UTILITY DETAILS