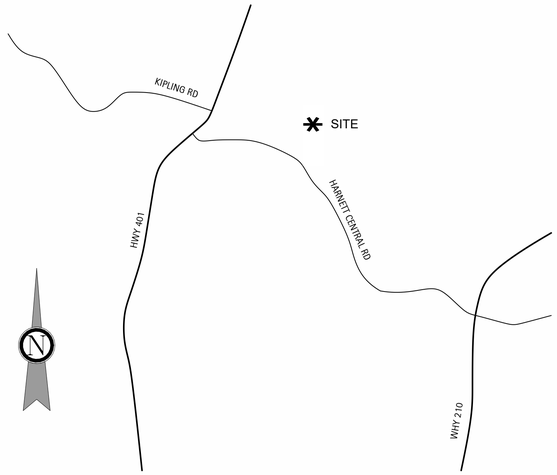
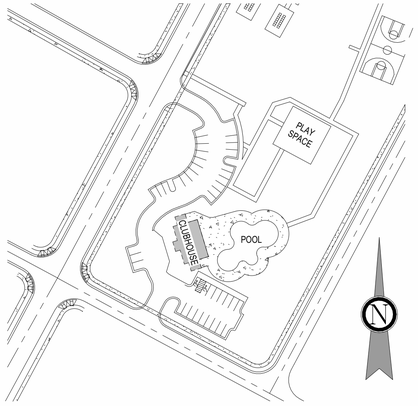
MATTHEWS LANDING

CLUBHOUSE & POOL

LILLINGTON, NC



VICINITY MAP



SITE MAP

DRAWING INDEX						
SHEET NUMBER	SHEET NAME	REV 01	REV 02	REV 03	REV 04	REV 05
0-GENERAL						
G0.1	COVER SHEET					
G0.2	BUILIDNG CODE SUMMARY					
G0.3	LIFE SAFETY PLAN					
G0.4	GENERAL NOTES					
1-CIVIL						
C0.0	COVER SHEET					
C2.0	OVERALL SITE PLAN					
C2.2	DETAILED SITE PLAN					
C3.0	OVERALL UTILITY PLAN					
C4.2	DETAILED GRADING PLAN					
C5.2	DETAILED PLANTING PLAN					
2-ARCHITECTURAL						
A1.0	FOUNDATION PLAN					
A1.1	MAIN LEVEL PLAN					
A1.2	ATTIC PLAN					
A1.3	REFLECTED CEILING PLAN					
A1.4	ROOF PLAN					
A2.0	EXTERIOR ELEVATIONS					
A2.1	EXTERIOR ELEVATIONS					
A3.0	BUILDING SECTIONS					
A3.1	BUILDING SECTIONS					
A3.2	WALL SECTIONS & DETAILS					
A4.0	ENLARGED PLANS & DETAILS					
A5.0	GENERAL BUILDING DETAILS					
A6.0	SCHEDULES & DETAILS					
A6.1	STOREFRONT ELEVATIONS AND DETAILS					
10-STRUCTURAL PLANS						
S1	SLAB AND FOUNDATION PLAN					
S2	CEILING FRAMING PLAN					
S3	ROOF FRAMING PLAN					
S4	STRUCTURAL NOTES & DETAILS					
13-PLUMBING PLANS						
P1	PLUMBING NOTES & SCHEDULES					
P2	PLUMBING PLANS & RISERS					
15-MECHANICAL						
M1	MECHANICAL PLAN					
16-ELECTRICAL						
E1	ELECTRICAL NOTES & SCHEDULES					
E2	LIGHTING AND POWER PLANS					
E3	POWER RISER AND PANEL SCHEDULE					
17-POOL						
SP1.0	CONTROL JOINT & DIMENSION					
SP2.0	OVERALL POOL LAYOUT PLAN					
SP3.0	PIPING & ELECTRICAL PLAN					
SP4.0	SECTIONS & DETAILS					
SP4.1	SECTIONS & DETAILS					
SP5.0	SPECIFICATIONS					
SP5.1	SPECIFICATIONS					
SP5.2	SPECIFICATIONS					

Kilian Engineering, Inc.
115 YOUNG STREET - HENDERSON, NC 27536
P: 252.438.8778
KILIANENGINEERING.COM

ROSS LINDEN ENGINEERS PC
709 W. JONES STREET - RALEIGH, NC 27603
TEL 919.832.5680 FAX 919.832.5675
INFO@ROSSLINDEN.COM

D.CLUGSTON
2506 RELIANCE AVE. APEX, NC 27539
(P) 919.629.7290
WWW.DCLUGSTON.COM

Perry Cox architect, p.a.
207 Hudson Avenue, Apex, NC 27502
P: 919.363.5411
www.pcoxdesign.com

D.CLUGSTON

I, PERRY GLENN COX, REGISTERED ARCHITECT, 10538, NORTH CAROLINA, APEX, N.C. 3/24/25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM
100% I.F.P.	

COVER SHEET

G0.1

APPENDIX B BUILDING CODE SUMMARY

FOR ALL COMMERCIAL PROJECTS

Name of Project: Homestead at Bryan Farms
Address: CW Matthews Road Zip Code: 27526
Owner or Authorized Agent: John Moxley Phone #: 919-691-1170
Email: john@dclugston.com Fax #: ____
Owned By: [x] Privately [ ] City/County [ ] State
Code Enforcement Jurisdiction: [ ] City [ ] County [x] City/County
Name of Jurisdiction: Harnett County, North Carolina

PROJECT SUMMARY: 1,724 SF Bath house and 3,182 SF Pool

Building Description: A-3 - PRIVATE RECREATIONAL FACILITY FOR RESIDENCE ONLY, POOL DESIGNED FOR USE FROM DAWN TO DUSK

Scope of Work: New Building full scope of architectural, structural, plumbing, mechanical,electrical, and pool plans

Lead Design Professional/Project Coordinator: John Moxley 919-691-1170

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #
Architectural:	Perry Cox Architect, PA	Perry Cox, AIA	9630	919-393-5411
Civil:				
Electrical:	Killian Engineering	Jacob L. Hamilton	048012	252-438-8778
Fire Alarm:				
Plumbing:	Killian Engineering	Jacob L. Hamilton	048012	252-438-8778
Mechanical:	Killian Engineering	Jacob L. Hamilton	048012	252-438-8778
Sprinkler-Standpipe				
Structural:	Ross Linden Engineers	Brian Ross, PE	25539	919-832-5680
Precast:				
Trusses:	Truss Builders	Eric A Gilbert, PE	036322	919-467-9988
Retaining Walls >5' High				
Other: Pool:	Killian Engineering	Jacob L. Hamilton	048012	252-438-8778

Note: Special Inspections and Inspectors to be listed at end of Appendix B

Building Code: [x] 2018 North Carolina State Building Code (NCSBC) [ ] 2009 North Carolina State Building Code [ ] 2009 NC Rehab [ ] 2006 NC Rehab [ ] 2006 North Carolina Building Code [ ] 2009 Chapter 34 [ ] 2006 Chaper 34 [ ] 1995 Existing Building Code

New Building: [x] New Building [ ] Shell Building [ ] First Time Interior Completion [ ] Addition [ ] Alteration to Shell

Existing Building: [ ] Renovation [ ] Interior Completion [ ] Tenant Alteration [ ] Reconstruction [ ] Repair [ ] Alteration to Shell [ ] Change of Use Tenant [ ] Change of Occupancy

Note: Zoning Review May Be Required for Change of Use or Occupancy
Original Occupancy: ____
Proposed Occupancy: A-3 Assembly

OCCUPANCY INFORMATION

Primary Occupancies:

Assembly: [ ] A-1 [ ] A-2 [x] A-3 [ ] A-4 [ ] A-5
Hazardous: [ ] H-1 [ ] H-2 [ ] H-3 [ ] H-4 [ ] H-5
Institutional: [ ] I-1 Condition [ ] 1 [ ] 2; [ ] I-2 Condition [ ] 1 [ ] 2; [ ] I-3 Condition [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5; [ ] I-4
Business: [ ]
Educational: [ ]
Factory: [ ] F-1 [ ] F-2
Mercantile: [ ]
Residential: [ ] R-1 [ ] R-2 [ ] R-3 [ ] R-4
Storage: [ ] S-1 Moderate [ ] S-2 Low [ ] High-piled [ ] Parking Garage: [ ] Open [ ] Enclosed [ ] Repair Garage
Utility and Miscellaneous [ ]

Special Occupancies: [ ] 402 [ ] 403 [ ] 404 [ ] 405 [ ] 406 [ ] 407 [ ] 408 [ ] 409 [ ] 410 [ ] 411 [ ] 412 [ ] 413 [ ] 414 [ ] 415 [ ] 416 [ ] 417 [ ] 418 [ ] 419 [ ] 420 [ ] 421

Mixed Occupancy: [x] No [ ] Yes Separation: ____Hr. Exception: ____

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

[ ] Separated Mixed Occupancy (508.3.3) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

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

____ + ____ +... = ____ < 1

ALLOWABLE AREA AND HEIGHT CALCULATIONS

THIS SECTION FOR NEW, ADDITION, CHANGE OF USE, AND INTERIOR COMPLETIONS

Exterior Wall	Actual Length		Open Length		[Pub]lic Way or Open Space 30'	
North						
South						
East						
West						
Total		**P**		**F**		**W**

NO INCREASE REQUIRED

INCREASE FRONTAGE ____%
SPRINKLERS ____%
FRONTAGE INCREASE FORMULA ALLOWABLE AREA FORMULA

$I_F = 100\left(\frac{F}{P} - 0.25\right)\frac{W}{30}$

BOTH BUILDING AND TENANT MUST BE INDICATED ON CHART BELOW

Story No.	DISCRIP. & USE	BLDG AREA PER STORY (ACTUAL SF)	TABLE 506.2 ALLOWABLE AREA (SF)	AREA FOR INCREASE FRONTAGE	SPRINKLER INCREASE	ALLOWABLE FLOOR AREA	RATE OF ACTUAL/ ALLOWABLE	MAXIMUM BUILDING AREA	SEPARATION RATING REQUIRED
Main Level	A3	1,724	6000	N/A	N/A	N/A	0.267	6000 SF	N/A

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 = ____ (F)
   b. Total Building Perimeter = ____ (P)
   c. Ratio (F/P) = ____ (F/P)
   d. W = Minimum width of public way = ____ (W)
   e. Percent of frontage increase I_F = 100 [F/P - 0.25] x W/30 = ____ (%)
2. Unlimited area applicable under conditions of Section 507.
3. Maximum Building Area = total number of stories in 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

MOST RESTRICTIVE (GROUP)	ALLOWABLE BUILDING HEIGHT (TABLE 504.3)	INCREASE FOR SPRINKLERS	ACTUAL BUILDING HEIGHT AS SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type VB	Type VB	Type VB	403.3.1
Building Height in Feet	H = 40'-0" FT	N/A	H= 23'-0"	403.3.1
Building Height in Stories	S= 1	N/A	S= 1	403.3.1

BUILDING DATA

THIS SECTION REQUIRED FOR ALL PROJECTS

Construction Type: [ ] I-A [ ] I-B [ ] II-A [ ] II-B [ ] III-A [ ] III-B [ ] IV-HT [ ] V-A [x] V-B

Mixed construction: [ ] Yes [x] No Types ____
Sprinklers: [ ] Yes [x] No [ ] NFPA 13 [ ] NFPA 13R [ ] Partially Sprinklered [ ] Special Suppression

Standpipes: [ ] Yes [x] No Class: [ ] I [ ] II [ ] III [ ] Wet [ ] Dry
Fire District: [ ] Yes [x] No (Appendix D) [ ] Floor Hazard
Building Height: 23' 1 Story
Basement: [ ] Yes [x] No
Mezzanine: [ ] Yes [x] No
High Rise: [ ] Yes [x] No Life Safety Plan Sheet # (if provided): G0.3

Gross Building Area:

FLOOR	EXISTING (SQFT)	NEW (SQFT)	SUB-TOTAL
MAIN LEVEL	N/A	1,724	1,724

Area of Project Tenant/Alteration/Renovation: ____
Area of Construction: ____

FIRE PROTECTION REQUIREMENTS

THIS SECTION REQUIRED FOR ALL PROJECTS

Life Safety Plan Sheet #, if Provided G0.3

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D*	RATING PROVIDED (W/____* REDUCTION)	DETAIL # & SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Bearing Walls Exterior							
North	>30'	0					
East	>30'	0					
West	>30'	0					
South	>30'	0					
Interior Bering walls		0					
Nonbearing Walls Exterior							
North	>30'	0					
East	>30'	0					
West	>30'	0					
South	>30'	0					
Interior Bering walls		0					
Structural Frame, including columns, girders, trusses							
Floor construction, including supporting beams and joists. List construction type.		0					
Floor Ceiling Assembly		0					
Columns Supporting Floors		0					
Roof construction, including supporting beams and joists**		0					
Roof Ceiling Assembly		0					
Columns Supporting Roof		0					
Shafts- Exit Enclosures		N/A					
Shafts- Other (describe)		N/A					
Corridor Separation		N/A					
Occupancy Separation		N/A					
Party/ Fire Wall Separation		N/A					
Incidental Use Separation		N/A					
Dwelling/ sleeping unit Separation		N/A					
Smoke Barrier Separation Tenant Separation		N/A					

* Indicate section number permitting reduction
** Indicated if using Table 601 Note C exception

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
>30'	NS, UP	NO LIMIT	NO LIMIT

WALL LEGENDS

THIS SECTION REQUIRED FOR ALL PROJECTS

CHECK IF THE FOLLOWING ARE PRESENT AND INDICATE BY A **WALL LEGEND** ON ALL PLANS

[ ] Fire Partitions 708 [ ] Fire Walls 705 [ ] Fire Barriers 706 [ ] Smoke Partitions 710
[ ] Smoke Barriers 709 [ ] Shaft Enclosure 707

LIFE SAFETY SYSTEMS REQUIREMENTS

THIS SECTION IS REQUIRED FOR ALL PROJECTS

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

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet # G0.3

- [ ] Fire and/or smoke rated wall locations (Chapter 7)
- [ ] Assumed and real property line locations (if not on the site plan)
- [ ] Exterior wall opening area with respect to distance to assumed property lines (705.8)
- [x] Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- [x] Occupant loads for each area
- [x] Exit access travel distance (1017)
- [ ] Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- [ ] Dead end lenghts (1020.4)
- [x] Clear exit widths for each exit door
- [x] Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- [x] Actual occupant load for each exit door
- [ ] A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- [x] Location of doors with panic hardware (1010.1.10)
- [ ] Location of doors with delayed ergess locks and the amount of delay (1010.1.9.7)
- [ ] Location of doors with electromagnetic egress locks (1010.1.9.9)
- [ ] Location of doors equipped with hold-open devices
- [ ] Location of emergency escape windows (1030)
- [ ] The square footage of each fire area (202)
- [ ] The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- [ ] Note any code exceptions or table notes that may have been utilized regarding the items above

EXIT REQUIREMENTS NUMBER AND ARRANGEMENT OF EXITS

THIS SECTION IS REQUIRED FOR ALL PROJECTS

FLOOR, ROOM AND/OR SPACE DESIGNATION	MINIMUM NUMBER OF EXITS: REQUIRED	MINIMUM NUMBER OF EXITS: SHOWN ON PLANS	TRAVEL DISTANCE: ALLOWABLE TRAVEL DISTANCE (TABLE 1016.1)	TRAVEL DISTANCE: ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	ARRANGEMENT MEANS OF EGRESS: REQUIRED DISTANCE BETWEEN EXIT DOORS	ARRANGEMENT MEANS OF EGRESS: ACTUAL DISTANCE SHOWN ON PLANS
CLUBHOUSE	2	3	200'	72'-8"	30'-4"	38'-3"
POOL	2	3	200'	110'-4"	62'-7"	100'-5"

1. Corridor dead ends (Section 1017.3)
2. Single exits (Section 1015.1; Section 1019.2)
3. Common Path of Egress Travel (Section 1014.3)

OCCUPANT LOAD AND EXIT WIDTH CLUBHOUSE

Room Name	Area	Occupancy: Load Factor	Occupancy: Load Count	Egress Width per Occupant(1005.3): Level	Egress Width per Occupant(1005.3): Stair	Required Width: Level	Required Width: Stair	Actual Width Shown: Level	Actual Width Shown: Stair
PUMP ROOM	119 SF	300 SF	1	0.2		0.2			
CHEM.	26 SF	300 SF	1	0.2		0.2			
WOMENS	193 SF	0 SF		0.2					
MENS	168 SF	0 SF		0.2					
GREAT ROOM	593 SF	15 SF	40	0.2		8		72	
HALL	107 SF	0 SF		0.2				36	
HALL	34 SF	0 SF		0.2					
FAMILY	46 SF	0 SF		0.2					
CLST.	11 SF	300 SF	1	0.2		0.2			
STORAGE	154 SF	300 SF	1	0.2		0.2			
CLST.	8 SF	300 SF	1	0.2		0.2			
CATERING	154 SF	200 SF	1	0.2		0.2			
REAR PORCH	461 SF	15 SF	31	0.2		6.2			
COVERED ENTRY	79 SF	0 SF		0.2					
Grand total	2153 SF		77	2.8		15.4		108	0

OCCUPANT LOAD AND EXIT WIDTH POOL

Room Name	Area	Occupancy: Load Factor	Occupancy: Load Count	Egress Width per Occupant(1005.3): Level	Egress Width per Occupant(1005.3): Stair	Required Width: Level	Required Width: Stair	Actual Width Shown: Level	Actual Width Shown: Stair
POOL DECK	4192 SF	15 SF	280	0.2		56		138	
8' CLEAR DECK**	2344 SF	0 SF		0.2					
POOL	3182 SF	50 SF	64	0.2		12.8			
Grand total	9718 SF		344			68.8		138	

1. See Table 1004.1.1 to determine whether net or gross area is applicable
2. Minimum stairway width (Section 1009.1); min. corridor width (Section 1017.2); min. door width (Section 1008.1.1)
3. Minimum width of exit passageway (Section 1021.2)
4. The loss of 1 means of egress shall not reduce the available capacity to less than 50% of the total required (Section 1005.1)
5. Assembly occupancies (Section 1025)

ASSEMBLY OCCUPANCY INFORMATION

Name	Type	Occupancy: Area	Occupancy: Load Factor	Occupancy: Load Count	Exit Width (inches)	Exit Quantity
GREAT ROOM	Assembly - Unconcentrated (tables and chairs)	593 SF	15 SF	40	8	
POOL DECK	Swiming Pool Deck	4192 SF	15 SF	280	56	
POOL	Swimming Pool water surface	3182 SF	50 SF	64	12.8	
REAR PORCH	Assembly - Unconcentrated (tables and chairs)	461 SF	15 SF	31	6.2	
Grand total				415	83	

PLUMBING FIXTURE REQUIREMENTS

THIS SECTION IS REQUIRED FOR ALL PROJECTS

USE		WATERCLOSETS: Male	WATERCLOSETS: Female	WATERCLOSETS: Unisex	URINALS	LAVATORIES: Male	LAVATORIES: Female	RINSE SHOWERS	DRINKING FOUNTAINS: REGULAR	DRINKING FOUNTAINS: ACCESSIBLE
SPACE	EXIST'G									
	NEW	2	3	1	1	2	2	1	1	1
Total Required		2	4	1	1	2	2	1	1	1
Total Provided		2	3	1	1	2	2	1	1	1

421 PERSONS / 2 = 211 M / 211 F
WATERCLOSETS: 211 MALE / 125 = 2 WC = 2 WC & 1 URINAL
211 FEMALE /65 = 4 WC = 3 WC + 1 FAMILY WC
LAVATORY: 211 MALE / 200 = 2 LAV. = 2 LAV
211 FEMALE / 200 = 3 LAV. = 2 LAV + 1 FAMILY WC

STRUCTURAL DESIGN LOADS

THIS SECTION IS REQUIRED FOR ALL PROJECTS

SEE STRUCTURAL DWGS.

DESIGN LOADS:
Importance Factors: Snow (I_s) ____; Seismic (I_e) ____
Live Loads: Roof ____ psf; Mezzanine ____ psf; Floor ____ psf
Ground Snow Load: ____ psf
Wind Load: Ultimate Wind Speed ____ mph (ASCE-7); Exposure Category ____

SEISMIC DESIGN CATEGORY: A B C D
Provide the following Seismic Design Parameters:
Risk Category (Table1604.5)
Spectral Response Ac[celeration] ... S_1 ____%g
Site Classification (A... A B C D
Data Source: Field Test Presumptive Historical Data
Basic Structural System: Bearing Wall; Dual w/ Special Moment Frame; Building Frame; Dual w/ Intermidate R/C or Special Steel; Moment Frame; Inverted Pendulum
Analysis Procedure: Simplified Equivalent Lateral Force Dynamic
Architectural, Mechanical, Components anchored? Yes No

LATERAL DESIGN CONTROL: Earthquake Wind

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) ____ psf
Presumptive Bearing Capacity ____ psf
Pile size, type, and capacity ____

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

THIS SECTION FOR NEW, ADDITION, CHANGE OF USE, AND INTERIOR COMPLETION

SEE MECHANICAL DWGS.

Thermal Zone:
Winter Dry Bulb: ____
Summer Dry Bulb: ____

Interior Design Conditions:
Winter Dry Bulb: ____
Summer Dry Bulb: ____
Relative Humidity: ____

Building Heating Load:
Unitary
Descri[ption of Unit]: ____
Heating Efficiency: ____
Cooling Efficiency: ____
Size Category of Unit: ____
Boiler
Size Category. If oversized, state reason: ____
Chiller
Size Category. If oversized, state reason: ____

List equipment efficiencies: ____

ACCESSIBLE PARKING

SEE CIVIL DWGS.

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES: REQUIRED	TOTAL # OF PARKING SPACES: PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR W/...	VAN SPACES WITH 132" ACCESS	VAN SPACES WITH 8' ACCESS	TOTAL # ACCESSIBLE PROVIDED
TOTAL						

ELECTRICAL SUMMARY

THIS SECTION FOR NEW, ADDITION, CHANGE OF USE, AND INTERIOR COMPLETION

ELECTRICAL SYSTEM AND EQUIPMENT

SEE ELECTRICAL DWGS.

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

Lighting Schedule (each fixture type)
Lamp type required in fixture
Number of lamps in fixture
Ballast type used in the fixture
Number of ballasts in fixture
Total wattage ...
Total inte[rior] ... allowed (whole building or space by space)
Total exte[rior] ... specified vs. allowed

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
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

COMcheck Software Version 4.1.5.3

Envelope Compliance Certificate

Project Information

Energy Code:	90.1 (2013) Standard
Project Title:	Matthews Landing
Location:	Lillington, North Carolina
Climate Zone:	4a
Project Type:	New Construction
Vertical Glazing / Wall Area:	21%
Performance Sim. Specs:	EnergyPlus 8.1.0.009 (EPW: USA_NC_Raleigh-Durham.Intl.AP.723060_TMY3.epw)

Construction Site: CW Matthews Road, Lillington, NC 27526
Owner/Agent: DR Horton, 2000 Aerial Center Parkway, Suite 110, Morrisville, NC 27560
Designer/Contractor: Perry Cox, 207 Hudson Avenue, Apex, NC 27502, 919-691-1170

Building Area	Floor Area
1-Gymnasium : Nonresidential	1724

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Floor 1: Slab-On-Grade:Unheated, Horizontal with vertical 1 ft., [Bldg. Use 1 - Gymnasium] (c)	243	---	15.0	0.710	0.520
Roof 1: Insulation Entirely Above Deck, [Bldg. Use 1 - Gymnasium]	1724	---	42.0	0.023	0.032
NORTHEAST					
Exterior Wall 2: Wood-Framed, 16" o.c., [Bldg. Use 1 - Gymnasium]	655	15.0	3.0	0.064	0.064
Window 2 copy 1: Metal Frame:Fixed, Perf. Specs.: Product ID KAW-8853, SHGC 0.34, PF 0.70, VT 0.62, [Bldg. Use 1 - Gymnasium] (b)	25	---	---	0.360	0.420
Window 1 copy 1: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID PEL-N-000522-00001, SHGC 0.25, PF 0.70, VT 0.46, [Bldg. Use 1 - Gymnasium] (b)	36	---	---	0.290	0.350
Door 1 copy 1: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Product ID KAW-8853, SHGC 0.34, PF 0.70, VT 0.62, [Bldg. Use 1 - Gymnasium] (b)	24	---	---	0.360	0.770
Door 3: Insulated Metal, Swinging, [Bldg. Use 1 - Gymnasium]	48	---	---	0.600	0.500
SOUTHEAST					
Exterior Wall 3: Wood-Framed, 16" o.c., [Bldg. Use 1 - Gymnasium]	218	15.0	3.0	0.064	0.064
Door 1 copy 2: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Product ID KAW-8853, SHGC 0.34, PF 0.70, VT 0.62, [Bldg. Use 1 - Gymnasium] (b)	24	---	---	0.360	0.770
Door 3 copy 1: Insulated Metal, Swinging, [Bldg. Use 1 - Gymnasium]	28	---	---	0.600	0.500
SOUTHWEST					
Exterior Wall 1: Wood-Framed, 16" o.c., [Bldg. Use 1 - Gymnasium]	655	15.0	3.0	0.064	0.064
Window 1: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID PEL-N-000522-00001, SHGC 0.25, PF 0.20, VT 0.46, [Bldg. Use 1 - Gymnasium] (b)	108	---	---	0.290	0.350
Window 2: Metal Frame:Fixed, Perf. Specs.: Product ID KAW-8853,	25	---	---	0.360	0.420

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
SHGC 0.34, PF 0.70, VT 0.62, [Bldg. Use 1 - Gymnasium] (b)					
Door 1: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Product ID KAW-8853, SHGC 0.34, PF 0.70, VT 0.62, [Bldg. Use 1 - Gymnasium] (b)	24	---	---	0.360	0.770
NORTHWEST					
Exterior Wall 4: Wood-Framed, 16" o.c., [Bldg. Use 1 - Gymnasium]	242	15.0	3.0	0.064	0.064
Door 3 copy 2: Insulated Metal, Swinging, [Bldg. Use 1 - Gymnasium]	24	---	---	0.600	0.500

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 3% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 90.1 (2013) Standard requirements in COMcheck Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title ____ Signature ____ Date ____

D.CLUGSTON

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

DATE	
REVISION	
NO.	

PROJECT #: 2025004
DATE ISSUED: 03/24/2025
DRAWING BY: JGM
CHECKED BY: PGC/JGM
100% I.F.P.

BUILIDNG CODE SUMMARY

G0.2

OCCUPANCY SCHEDULE CLUBHOUSE					
Room Number	Room Name	Type	Occupancy Area	Occupancy Load Factor	Occupancy Load Count
100	COVERED ENTRY	N/A	79 SF	0 SF	
101	GREAT ROOM	Assembly - Unconcentrated (tables and chairs)	593 SF	15 SF	40
102	CATERING	Kitchens Commercial	154 SF	200 SF	1
103	HALL	N/A	34 SF	0 SF	
104	CLST.	Accessory Storage Areas, Mechanical Equipment Room	11 SF	300 SF	1
105	FAMILY	N/A	46 SF	0 SF	
106	CLST.	Accessory Storage Areas, Mechanical Equipment Room	8 SF	300 SF	1
107	HALL	N/A	107 SF	0 SF	
108	MENS	N/A	168 SF	0 SF	
109	WOMENS	N/A	193 SF	0 SF	
110	REAR PORCH	Assembly - Unconcentrated (tables and chairs)	461 SF	15 SF	31
111	PUMP ROOM	Accessory Storage Areas, Mechanical Equipment Room	119 SF	300 SF	1
112	CHEM.	Accessory Storage Areas, Mechanical Equipment Room	26 SF	300 SF	1
113	STORAGE	Accessory Storage Areas, Mechanical Equipment Room	154 SF	300 SF	1
Grand total					77

OCCUPANCY SCHEDULE POOL					
Room Number	Room Name	Type	Occupancy Area	Occupancy Load Factor	Occupancy Load Count
PL100	POOL	Swimming Pool water surface	3182 SF	50 SF	64
PL101	8' CLEAR DECK**	N/A	2344 SF	0 SF	
PL102	POOL DECK	Swiming Pool Deck	4192 SF	15 SF	280
Grand total			9718 SF		344

POOL DECK AREA
4,192 SQ FT / 15 SQ FT PER PERSON:
280 PEOPLE

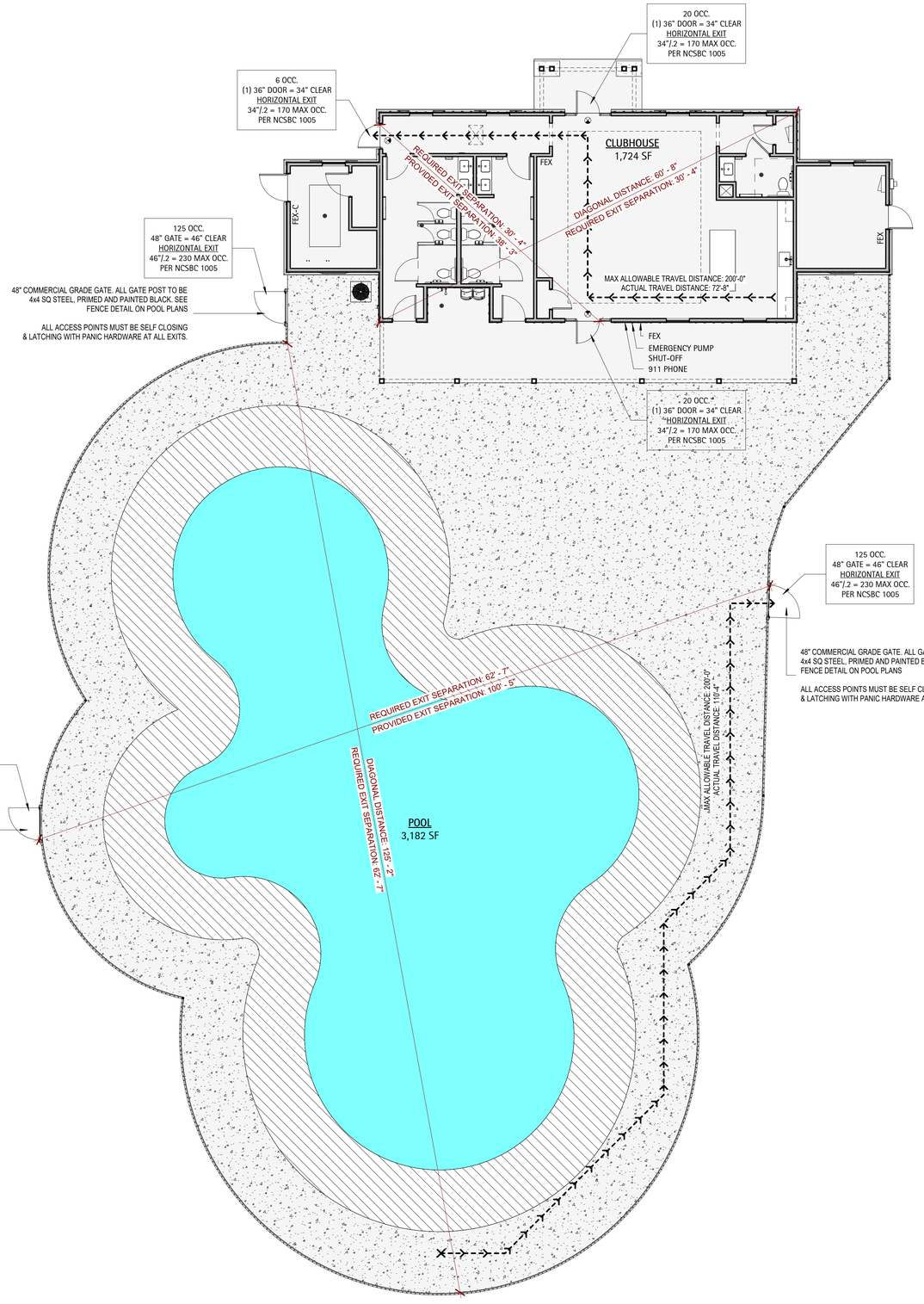
8' CLEAR DECK AREA**
2,344 SQ FT / 0 SQ FT PER PERSON:
0 PEOPLE

POOL AREA
3,182 SQ FT / 50 SQ FT PER PERSON:
64 PEOPLE

REAR PORCH AREA
461 SQ FT / 15 SQ FT PER PERSON:
31 PEOPLE

TOTAL A-3 OCCUPANT (INSIDE FENCE) LOAD:
375 PEOPLE

LIFE SAFETY SYMBOL LEGEND	
	EMERGENCY EXIT
FEX	SEMI-RECESSED 'ABC' TYPE FIRE EXTINGUISHER TO MEET NFPA-10 STANDARDS. MOUNT @ 15" MIN. - 48" MAX A.F.F.
FEX-C	BRACKET MOUNTED WATER TYPE FIRE EXTINGUISHER TO MEET NFPA-10 STANDARDS. MOUNT @ 15" MIN. - 48" MAX A.F.F.
-->	INDICATES TRAVEL DIRECTION



GENERAL BUILDING LIFE SAFETY NOTES:

USE:	A-3 (ASSEMBLY)
PRIMARY LOAD FACTOR:	UNCONCENTRATED TABLES & CHAIRS (15 SF)
OCCUPANT LOAD:	77 PPL
CONSTRUCTION TYPE:	V-B
SPRINKLERS:	NO
REQUIRED EXITS:	2
PROVIDED EXITS:	3
DIAGONAL DISTANCE:	60'-8"
REQUIRED EXIT SEPARATION:	60'-8"/2 = 30'-4"
PROVIDED EXIT SEPARATION:	38'-3"
REQUIRED EGRESS WIDTH:	15.4"
PROVIDED EGRESS WIDTH:	108"
MAXIMUM COMMON PATH OF TRAVEL:	75'-0"
MAXIMUM ALLOWABLE TRAVEL DISTANCE:	200'-0"
ACTUAL MAX TRAVEL DISTANCE:	72'-8"

GENERAL POOL DECK LIFE SAFETY NOTES:

USE:	A-3 (ASSEMBLY)
PRIMARY LOAD FACTOR:	UNCONCENTRATED TABLES & CHAIRS (15 SF)
OCCUPANT LOAD:	501 PPL
CONSTRUCTION TYPE:	V-B
SPRINKLERS:	NO
REQUIRED EXITS:	2
PROVIDED EXITS:	3
DIAGONAL DISTANCE:	125'-2"
REQUIRED EXIT SEPARATION:	125'-2"/2 = 62'-7"
PROVIDED EXIT SEPARATION:	100'-5"
REQUIRED EGRESS WIDTH:	75"
PROVIDED EGRESS WIDTH:	138"
MAXIMUM COMMON PATH OF TRAVEL:	75'-0"
MAXIMUM ALLOWABLE TRAVEL DISTANCE:	200'-0"
ACTUAL MAX TRAVEL DISTANCE:	110'-4"

GENERAL PLUMBING NOTES:

USE:	A-3 (ASSEMBLY)
OCCUPANT LOAD:	421** PPL / 2 = 211 PPL
REQUIRED MALE WATER CLOSETS:	3 (1 PER 125 PPL)
REQUIRED FEMALE WATER CLOSETS:	4 (1 PER 65 PPL)
REQUIRED UNISEX WATER CLOSETS:	1 (NCSBC 1109.2.1)
PROVIDED MALE WATER CLOSETS:	1 WC & 2 URINAL
PROVIDED FEMALE WATER CLOSETS:	3 (+1 FAMILY)
PROVIDED UNISEX WATER CLOSETS:	1 (NCSBC 1109.2.1)
REQUIRED MALE LAVATORIES:	2 (1 PER 200)
REQUIRED FEMALE LAVATORIES:	2 (1 PER 200)
REQUIRED UNISEX LAVATORIES:	1
PROVIDED MALE LAVATORIES:	2
PROVIDED FEMALE LAVATORIES:	2
REQUIRED UNISEX LAVATORIES:	1
REQUIRED WATERCOOLERS:	1 (1 PER 500)
PROVIDED WATERCOOLERS:	2
REQUIRED SERVICE SINKS:	1
PROVIDED SERVICE SINKS:	1(1 HOSE BIB & FLOOR DRAIN)

**NCBC TABLE 1004.1.2 - *" OCCUPANT CIRCULATION AREA REQUIRED BY 15A NCAC 18A .2522 AROUND THE EDGE OF SWIMMING POOL SHALL NOT BE INCLUDED IN THE DECK GROSS FLOOR AREA.* 15A NCAC 18A .2522 SECTION (A) READS; OUTDOOR SWIMMING POOLS SHALL HAVE A CONTINOUS DECK EXTENDING COMPLETELY AROUND THE SWIMMING POOL. THE WIDTH OF THE DECK OR WALKWAY SHALL PROVIDE AT LEAST SIX FEET OF CLEAR WALKING SPACE AT ALL POINTS. IF THE SWIMMING AREA OF THE POOL IS 1600 SQUARE FEET OR LARGER, AT LEAST EIGHT FEET OF CLEAR WALKING SPACE IS REQUIRED.

1 G0.3 **Life Safety Plan**
1/8" = 1'-0"

D.CLUGSTON

JERRY GLENN COX
REGISTERED LANDSCAPE ARCHITECT
3059
NORTH CAROLINA
APEX, N.C.
03/24/25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	JGM
CHECKED BY:	PGC/JGM
100% I.F.P.	

LIFE SAFETY PLAN

G0.3

GENERAL NOTES

1 The General Contractor shall be both licensed and bonded in North Carolina and shall provide documents upon the Architect's request.

2 The Work shall be done in accordance with all rules and regulations of the North Carolina State Building Code 2018 along with city, county, and state regulations. The General Contractor is responsible for securing and paying for all permits required for the Work and for the scheduling of all required inspections during the course of the Work.

3 General Contractor shall be responsible for the provisions for job safety. These drawoings do not contain provisions for job safety.

4 Dimensions are to to face of framing unless otherwise noted.

5 Do not scale drawings. Stated & written dimensions govern. The General Contractor shall verify all dimensions in the field and shall be responsible for their accuracy. No extra charge or compensation shall be allowed because of difference between actual dimensions and those indicated on the drawings, unless they contribute to a change in the scope of the Work. Any difference which may be found shall be submitted to the Architect for decision prior to ordering, manufacturing, or proceeding with the Work. Horizontal dimensions indicated are to/from face of finish, unless noted otherwise. Vertical dimensions are from top of floor slab except where noted to be above finished floor (AFF). Dimensions are not adjustable without approval of Architect unless noted +/-.

6 General Contractor shall be responsible for comparing all dimensions in the construction documents and existing conditions in the field.

7 Framing Subcontractor shall coordinated framing with locations of HVAC vents, plumbing and light fixtures so as to avoid conflict.

8 The General Contractor shall provide protection and be responsible for any existing finishes to remain and shall repair or replace any damaged areas as a result of the work. All existing finishes to remain shall be cleaned at the completion of construction.

9 All materials and systems shall be installed as per manufacturer's specifications and all construction shall be of industry standard or better. The Architect shall be ultimate judge of quality.

10 Only new items of recent manufacture, of standard quality, free from defects, will be permitted in the Work, unless otherwise noted. Rejected items shall be removed immediately form the Work and replaced with items of the quality specified. Failure to remove rejected materials and equipment shall not relieve the General Contractor from the responsibility for quality of items used nor from any other obligation imposed on him by the Contract.

11 The General Contractor shall be responsible for notifying the Architect immedeitely of construction deviating from depicted or implied information here-in. In the event of conflict between data shown on drawings and data shown in the specification, the specification shall govern. Detail drawings take precedent over drawings of larger scope. Should the General Contractor at any time discover an error in a drawing or specification, or any discrepancy, or variation between dimensions on the drawings and measurements at site, or lack of dimensions or other information, the Contractor shall not proceed with the work affected until clarification has been made by the Architect. In case of an inconsistency between Drawings and Specifications or within either Document, not clarified by addendum, the more specific provision will take precedence over less specific; more specific will take precedence over less stringent; more expensive item will take precedence over less expensive. Better quality or greater quantity of Work shall be provided in accordance with Architect's interpretation. On Drawings, figures take precedence over scaled dimensions. Scaling of dimensions, if done, is done at the Contractor's own risk.

12 General Contractor shall verify that no conflicts exist in locations of any and all mechanical, telephone, electrical, plumbing and sprinkler equipment (to include all piping, duct work, sprinklers structural members and conduit) and that clearances for installation and maintenance of above equipment is provided. Elements in conflict shall be determined and reviewed with the Architect prior to work proceeding. Contractor to coordinate new work with existing conditions.

13 The General Contractor shall provide shop drawings for the Architect's review and approval for the following: All shop fabricated millwork, carpet layout, flooring, light fixtures, doors, misc. steel, metal fabrication, glass/glazing, sprinkler layouts, hardware. Shop drawings shall be submitted in the form of 3 sets of prints. Shop drawings shall not be reproductions of Contract Documents. Material Submittals (3 samples) shall be provided for wood, fasteners, acrylic, carpet, tile, base, paint, laminate and any other materials indicated in the shop drawing.

14 The General Contractor shall provide the Architect with manufacturer's cut sheets and specifications for all equipment including but not limited to: light fixtures, plumbing equipment, electrical equipment, fans, supplementary heating and cooling elements, all hardware and security equipment. General contractor shall be responsible for verifying all field dimensions prior to ordering equipment and/or casework.

15 The General Contractor shall not proceed with work for which he expects additional compensation beyond the contract amount with out written authorization from the Architect and Owner. Failure to obtain such authorization shall invalidate a claim for extra compensation. The Contractor shall not proceed with work which, if completed in strict conformance with the Construction Documents, will result in additional work beyond the scope of the Contract without written authorization from the Architect and Owner. Any field conditions that significantly vary from the Contract Documents or will result in additional work, shall be brought to the attention of the Architect prior to proceeding with work.

16 Contractor shall include all x-ray and core drill costs. All core drilling of the slab shall be approved by the Landlord's Structural Engineer prior to proceeding with the Work. Contractor shall submit proposed locations to Architect and Structural Engineer for review prior to proceeding with the work.

17 Patch, repair and install all fireproofing as required by code. Fireproof any new penetrations required by the work.

18 General Contractor to coordinate and review size and location of all slab penetrations. All required penetrations shall be made in accordance with the Owner's standard approval procedures and methods. All penetrations shall be properly sealed according to the Architect and the Owner's requirements and applicable codes.

19 The General Contractor shall continuously check architectural and structural clearances for accessibility of equipment and mechanical and electrical systems. No allowances of any kind will be made for the General Contractor's negligence to foresee means of installing equipment into position.

21 The finished work shall be firm, well-anchored, in true alignment, plumb, level, with smooth, clean, uniform, appearance without waves, distortions, holes, marks cracks, stains, or discoloration. Jointing shall be close fitting, neat and well scribed. The finished work shall have no exposed unsightly anchors or fasteners and shall not present hazardous, unsafe corners. All work shall have the provision for expansion, contraction and shrinkage as necessary to prevent cracks, buckling, and warping due to temperature and humidity conditions.

22 Attachments, connections or fasteners of any nature are to properly and permanently be secured in conformance with best practice and the General Contractor is responsible for improving them accordingly. The drawings highlight special conditions only and by no means illustrate every connection. The Contractor is responsible for improving connection accordingly.

23 General Contractor shall waive "Common Practice" and "Common Usage" as construction criteria wherever details and Contract Documents of governing codes, ordinances, etc. require quantity or better quality than common practice or common usage would require.

GENERAL NOTES

24 The General Contractor shall submit shop drawings and submittals order and schedule delivery of materials in ample time to avoid delays in construction. If an item is found to be unavailable or to have a long lead time, the General Contractor shall notify Architect immediately with a proposed alternative.

25 The General Contractor shall notify the Owner, the Landlord, and the Architect in writing of any deficiencies, errors, conflicts or omissions found in the construction documents and/or specifications prior to the commencement of the work in this area. Any unreported deficiencies will become the responsibility of the General Contractor to correct.

26 The General Contractor shall exercise extreme care and precaution during the construction of the Work, and schedule work, to minimize disturbances to adjacent spaces and /or structures and their occupants, property, public thoroughfares, etc. The General Contractor shall take precautions and be responsible for the safety of all building occupants from construction procedures. The General Contractor shall be responsible for any overtime costs incurred thereby.

27 All debris shall be removed from the site on a daily basis when possible. Upon completion of the work, remove all debris from the building created by the work provided under this Contract and leave all areas clean. Trash is not permitted to be burned on site.

28 All abandoned miscellaneous nails, hangers, staples, wires, conduits and debris shall be removed from the walls and areas of exposed ceilings. Remove all abandoned pipe sleeves in floor slabs. Patch existing slab as req. to maintain UL fire rating of floor slab where pipes and conduits have been removed.

29 Slab penetrations less than 2" around new and existing piping, conduit, ductwork, etc. shall be filled with acoustic foam and/or sealant to ensure acoustical separation between floor slabs. Slab penetrations greater than 2" around new and existing piping, conduit, ductwork, etc. shall be filled with concrete. All piping, conduit, ductwork, etc. shall be wrapped with expansion material prior to filling with concrete. Expansion material shall be approved by the MEP Engineer.

30 Contractor shall provide the Team with a construction schedule showing the proposed phasing. Any long lead items that will affect the Substantial Completion date shall be brought to the Architect's attention immediately.

31 Provide protection for existing finishes to remain, including restrooms, lobbies and corridors and repair damages as a result of construction. Document any existing conditions or damages prior to the start of construction

32 General Contractor shall be responsible for providing exhaust for dryers, bathrooms, and ranges to exterior with proper terminus (not to be located on street side elevation). Verify terminus type and laction with owner prior to installation.

33 The Architect shall not be responsible for constructed variations from the information contained here-in unless reviewed and approved by Architect.

34 Do not scale drawings, but rather inquire of Architect. Reproduction of these drawings is prohibited unless written permission is obtained from the Architect.

35 All Trades to caulk with Manicapality Approved "Fire Caulk" at all top plate penitrations.

FLOOR FINISH NOTES

1. Refer to Finish Plan & Schedule for extent and type of all floor finishes.

2. GC to flashpatch floor to provide a level surface that shall not exceed 1/4± over 10 feet cumulative. At floor finish transitions flash patch to smooth transition of finished material to maintain level finished floor surface.

3. All floors to slope to floor drains - 1/4" per 1'-0" U.N.O

4 All exterior floor slabs to recieve a light broom concrete finish. U.N.O.

5 SEE STRUCTURAL DRAWINGS FOR ALL FOUNDATION SPECIFICATIONS.

INTERIOR FINISH NOTES

1. Refer to Finish Schedule and Finish Plan for extent and type. All wall surfaces, metal frames, and trim shall be painted, UON. All surfaces to be painted shall be prepared for priming in accordance with the manufacturer's specifications.

2. All painted surfaces shall receive 1 prime and 2 finish coats as follows:
   GWB surfaces - Interior eggshell latex paint
   GWB ceiling surfaces - Interior flat latex paint
   Hollow Metal/Wood - Odorless interior semi-gloss alkyd latex

3. Paint is to be applied by a roller or brush on all surfaces. Only the prime coat may be spray applied. Provide a 12"x12" GWB sample for each color for Owner's approval prior to the start of the Work.

4. Toilet and bathing room floors shall have a smooth, hard, non-absorbant surface that extends upward onto the walls at least 6"

5. Walls within 2' of urinals and waterclosets shall have a smooth, hard, non-absorbant surface to the height of 4' above the finish floor. Verify material with room schedule and/or Architect

WALL SECTION NOTES

1 Bituminous Damp Proofing shall be applied to exterior foundations of all habitable spaces.

2 All treated lumber shall bear the designation AWPA C22. Pressure treated lumber shall be used in the following locations:
   a. Wood in contact with concrete or masonry;
   b. Siding within 6" of the ground;
   c. Wood exposed to weather.

4 Install 5/8" Densglass sheathing behind all tub and shower walls, use water-resistant GWB for all bathroom ceilings UNO.

TILE NOTES

1. Tile shall be installed by a qualified installer with experience in commercial applications. The General Contractor shall submit dimensioned shop drawings showing layout and 3 samples of each type and color of tile and grout selected for review by Architect and in accordance with the Construction Documents. Mount tiles on plywood backing and grout to demonstrate tile patterns.

2. It is the responsibility of the General Contractor to obtain accurate field measurements and to verify dimensions. Any dimensions or field conditions which vary from the design intent of the drawings shall be brought to the attention of the Architect by the General Contractor for review prior to proceeding with work. It is the responsibility of the General contractor to provide all necessary blocking.

3. Tile shall be manufactured in compliance with Standard Grade Requirements of ANSI A137.1. Installation of tile shall be in compliance with requirements set forth in Handbook for Ceramic Tile Installation produced by the Tile Council of America. Provide all necessary caps, stops, returns, trimmers, and other shapes to complete installation (color and finish to match adjacent tile). Provide a quantity equal to 2% of each type and color of tile from same production run as installed material for attic stock.
   a. Floors: Thin set, TCA F122
   b. Walls: Organic adhesive, TCA W242
   c. Expansion Joints: TCA EJ171
   d. Epoxy Adhesive: TCA F116

   Ceramic Tile: ANSI A137.1
   Selections: Refer to Schedule of Finishes
   Floor Tile: Unglazed, Wall Tile: Glazed
   Trim Tiles: Furnish type, size, and color, to match field.
   Wainscot Cap: Bullnose
   Base: Cove bottom/Straight top with matching wall tile above
   Inside Corners: Square, Outside Corners: Bullnose
   Jambs: Bullnose where tiles project from jamb.

4. For tile exhibiting color variations, blend tile in factory and package accordingly so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples. Where factory-mounted tile is required, provide back-face or edge-mounted tile assemblies as standard with manufacturer unless another mounting method is indicated.

5. Natural Stone Tile Marble to meet requirements of ASTM C503 Granite; ASTM C615. Abrasive Resistance: ASTM C241; 12 Ha minimum. Marble Threshold, ASTM C503 to be White Georgia, Imperial Black or Antique Silver and Honed. Refer to Schedule of Finishes for size, finish and thickness.

6. Thin Set Mortar: ANSI A118.1, Commercially prepared dry mixture of Portland cement, inert fillers, and chemical additive. Do not use water-based adhesive setting methods with green-colored stone. General Contractor to obtain setting instructions from supplier. Organic Adhesive: ANSI A136.1; Type 1, High performance, multi-purpose floor and wall adhesive. Epoxy Adhesive: factory prepared, 100% epoxy resin and hardener with sand or mineral filler material to complying with ANSI A118.3 for thin-set applications for chemical resistant, water cleanable quarry tile installations. Grout: Latex portland cement; ANSI A118.6, Commercially prepared dry mixture of portland cement, sand, mineral fillers, and chemical additives.
   Color: Refer to Schedule of Finishes

7. Mix materials and prepare surface in accordance with manufacturer's recommendations. Grind or fill concrete substrates as needed to comply with TCA allowable variations. Areas scheduled to receive tile flooring shall receive membrane application. Crack Isolation Membrane to be one-part elastomeric seamless membrane, 30 mil (cured thickness), and no water permeability as manufactured by Custom or Mapei.

8. Comply with manufacturer's instructions for installation of each material needed as well as ANSI and TCA requirements. Extend tile work into recesses and under or behind equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges and corners without disrupting pattern or joint alignments. Layout tile work and center tile fields in both directions in each space or on each wall area. Avoid tiles less than one half size. Align joints when adjoining tiles on floor, base, walls and trim that are the same size. Provide uniform joint widths at ceramic tile to be not less than 1/16" or greater than 1/8". Natural Stone Tile to be butt jointed. Where stone tile abuts dissimilar flooring materials, provide terrazzo divider strips or other similar metal angle device to help prevent edge chipping caused by impact: Terrazzo Divider Strip or Schluter Trims #E100.

9. Thin Set Application shall be per ANSI A108.5. Organic Adhesive Application shall be per ANSI A108.4. Use Latex portland cement grout conforming to ANSI A108.10. Tile shall be firmly set before grouting, allow a minimum of 48 hours. Remove mortar or adhesive from face and edges of tile.

10. Provide expansion joints as follows: Natural Stone Tile same as grout joint; but not less than 1/4". Ceramic Tile not less than 1/8". Install expansion joints at 24' max. in each direction, where tile work abuts restraining surfaces such as perimeter walls, dissimilar floors, curbs, columns, and pipes, where changes occur in backing materials, at expansion, control, construction, cold and seismic joints in structure. Expansion joints shall be constructed during installation of tile. Do not cut joints after tile installation.

11. Use clean water in initial cleaning. Remove surface laitance with a dry polishing cloth. Do not use acid in final cleaning of tile. Provide a non-yellowing, penetrating sealer on floor ceramic tile which does not leave a film or visible coating. Keep floor areas free from general traffic for at least 72 hours following installation. Protect walls from impact, vibrations and heavy hammering on adjacent and opposite walls.

MILLWORK NOTES

1. Millwork shall be fabricated and installed by a qualified woodworker with experience in commercial applications of the scope of the job. The General Contractor shall submit shop drawings and hardware catalogue cuts of all millwork and hardware for review by Architect and in accordance with the Construction Documents. Shop drawings shall show the design and the dimensions and clearly indicate at a large scale to the Architect the method and means of construction. Fabrication of millwork shall not proceed until shop drawings have been reviewed by the Architect. Shop drawings shall be submitted with 3 sets of prints. Cabinet designer/ installer shall field measure area of work after installation of gypsum wallboard for proper fitting.

2. The method of manufacturing, fabricating and installing millwork, equipment, and its structural components defined in the contract documents is representative and indicates design intent only. If the materials, details or dimensioned properties are at variance with the General Contractor's or manufacturer's recommendations, alternate details will be considered for review by the Architect. It is the responsibility of the General contractor to guarantee that the millwork and equipment will have proper support, stability and fault-free performance and provide all necessary blocking. All work shall conform to American Woodworking Institute (AWI) standards for premium grade construction.

3. All cabinets shall be of flush overlay construction with 4" satin chrome wire pulls UON. Interior surfaces of cabinets not exposed to view shall be melamine with plastic laminate edgebanding to match melamine. All cabinet exterior surfaces exposed to view shall be plastic laminate. All open cabinet shelving shall be plastic laminate with plastic laminate edgebanding to match. All counter supports shall be plastic laminate. All counters used as work surfaces and all paneling shall be balanced and have phenolic backer laminated to entire underside or back face. Cabinet doors shall have plastic laminate on all faces and edges. All casework shall comply with AWI Section 400 for premium grade construction.

4. Millwork covered with plastic laminate shall be fabricated and assembled by skilled workmen to the satisfaction of the Architect. Exposed surfaces shall be free from dents, tool marks, warpage, buckling, or open joints. All joints, corners and mitered connections shall be made tightly so the edges are entirely concealed. It is the responsibility of the General Contractor to obtain accurate field measurements and to verify dimensions and to provide shop drawings to ensure an accurate fit.

5. Only exposed hardware is specified in this document. The Contractor is to supply all other necessary hardware to complete the Work. All unspecified hardware shall be of the highest quality commercial grade heavy duty. The Contractor is to provide catalog cuts of all hardware for review by Architect. Provide plastic grommets at cabinetry and counters for wire management as noted in the drawings. Submit catalog and samples to Architect for approval.

6. Install millwork to be plumb, level, true and straight with no distortions. Shim as required using concealed shims. Provide all required blocking at new or existing construction for installation of millwork. Scribe and cut millwork to fit adjoining work. Provide sealant to match adjacent surfaces at all gaps. All exposed anchors, nail heads, screw heads, chips, indentations or imperfection in the wood surface to be painted shall be filled, sanded, sealed and prepared for painting. All lumber, particle board, finish wood, plywood, blocking, etc. shall be fire retardent treated (FRT) where required by local building codes, as interpreted by the local Code Official. No exposed fasteners.

7. The General Contractor shall be responsible for making certain that the millwork items are not delivered until areas are sufficiently dry so that the millwork will not be damaged by excessive changes in moisture content. All delivered units shall match the final approved shop drawings and samples. Units which are marred, chipped or otherwise damaged shall be repaired or replaced as determined by the Architect. Units shall be protected during shipment and installation. After installation of units in their proper location and substantial completion of the Work, all protection shall be removed and all surfaces thoroughly cleaned to the complete satisfaction of the Architect. Surfaces shall then be covered and protected.

8. Wood cabinets, countertops, trim and rails are to comply with AWI Section 400 and other applicable American Woodworking Institute Standards (AWI) for custom grade.

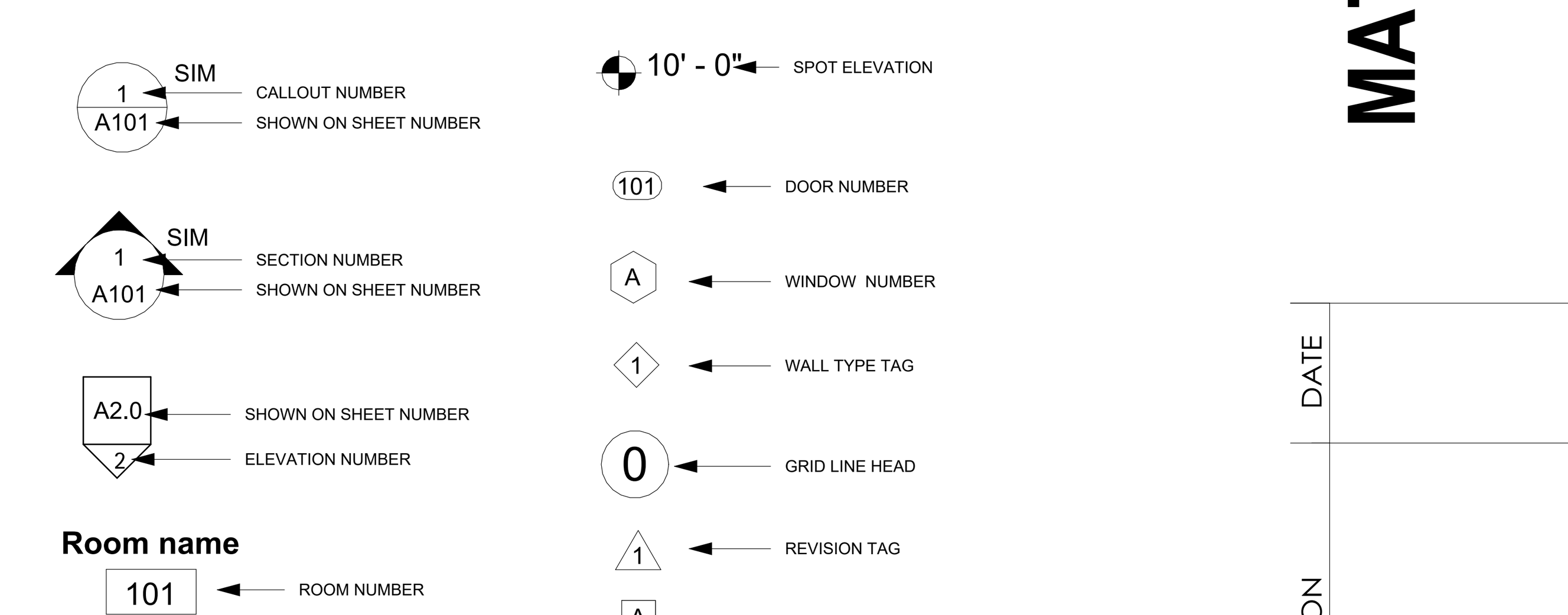
9. Install millwork in compliance with AWI Section 1700, Premium Grade unless otherwise indicated. Flush wood paneling shall conform to AWI Section 500, Premium. Wood veneer to have "AA" face with 3/4" MDF core. See drawings for species and cut. Veneer shall be book matched, balance match panel faces and sequence between adjacent panels. Exposed edges to be veneered same species and finish as face. Provide sound back of similar species.

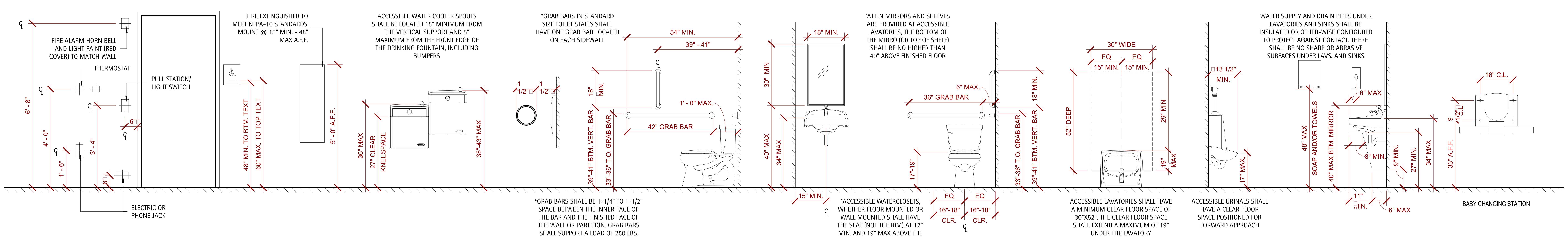
10. To the greatest extent possible, furnish millwork with shop applied finishes. Defer only final touch-up, cleaning, and polishing until after installation. Shop applied finishes shall comply with AWI 1500, Premium Grade, TR-2 catalyzed lacquer, semi-filled.

REFERENCED BUILIDNG CODES

BUILDING:	2018 NORTH CAROLINA STATE BULDING CODE
ENERGY:	2018 NORTH CAROLINA ENERGY CONSERVATION CODE
FIRE:	2018 NORTH CAROLINA FIRE PREVENTION CODE
PLUMBING:	2018 NORTH CAROLINA STATE PLUMBING CODE
MECHANICAL:	2018 NORTH CAROLINA STATE MECHANICAL CODE
ELECTRICAL:	2020 NATIONAL ELECTRICAL CODE
ACCESSIBILITY:	2009 ANSI A117.1
POOL:	2015 INTERNATIONAL SWIMMING POOL AND SPA CODE NCDENR - 15A NCAC 18A.2500

SYMBOLS





TYPICAL MOUNTING HEIGHTS

*PROVIDE REQD' BLOCKING FOR GRAB BARS, WALL HUNG TOILETS, AND ACCESORIES DURING FRAMING

D.CLUGSTON

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

DATE	REVISION	NO.

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM
100% I.F.P.	

GENERAL NOTES

G0.4

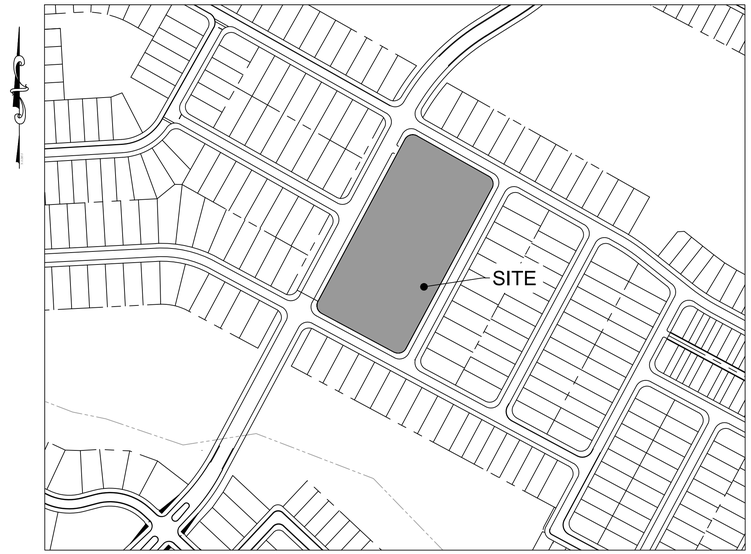
THE GROVE AT MATTHEWS LANDING AMENITY

CONSTRUCTION DRAWINGS

LILLINGTON, HARNETT COUNTY, NORTH CAROLINA

SITE DATA TABLE

PROJECT NAME:	MATTHEWS LANDING AMENITY
PROPERTY OWNER:	MATTHEWS LANDING DEVELOPMENT, LLC 4925 GREENVILLE AVENUE DALLAS, TX 75206-4026 PHONE: 989-255-4526 CONTACT: RICHARD CRITTENDEN
DEVELOPER:	MATTHEWS LANDING DEVELOPMENT, LLC 4925 GREENVILLE AVENUE DALLAS, TX 75206-4026 RICHARD CRITTENDEN
PROJECT ADDRESS:	PART OF PIN 0652-69-7689
PIN:	PART OF PIN 0652-69-7689
DEED REFERENCE:	DB 4074 PG 0356
TOWNSHIP:	BLACK RIVER
ZONING:	CD-RS10
WATERSHED:	CAPE FEAR WS-IV
CURRENT USE:	RESIDENTIAL, COMMERCIAL, & VACANT
PROPOSED USE:	RESIDENTIAL/AMENITY
TOTAL PROJECT AREA:	3.58 AC
EXISTING IMPERVIOUS SURFACE AREA:	0.20 AC
PROPOSED IMPERVIOUS SURFACE AREA:	1.01 AC (28.2%)
PARKING REQUIRED:	NONE
PARKING PROVIDED:	TOTAL: 44 SPACES VAN ACCESSIBILITY: 4 SPACES



VICINITY MAP
1"=200'

Sheet List Table

Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	EXISTING CONDITIONS
C2.0	OVERALL SITE PLAN
C2.1	DETAILED SITE PLAN (SHEET 1 OF 2)
C2.2	DETAILED SITE PLAN (SHEET 2 OF 2)
C3.0	OVERALL UTILITY PLAN
C4.0	OVERALL GRADING PLAN
C4.1	DETAILED GRADING PLAN (SHEET 1 OF 2)
C4.2	DETAILED GRADING PLAN (SHEET 2 OF 2)
C4.3	STORM DRAINAGE PROFILES
C5.0	OVERALL PLANTING PLAN
C5.1	DETAILED PLANTING PLAN (SHEET 1 OF 2)
C5.2	DETAILED PLANTING PLAN (SHEET 2 OF 2)
C6.0	NOTES AND DETAILS
C6.1	NOTES AND DETAILS
C6.2	NOTES AND DETAILS

TOWN OF LILLINGTON SPECIFIC NOTES:
1. ALL PUBLIC FACILITIES, INCLUDING UTILITIES, SIDEWALKS, AND HANDICAP RAMPS ARE TO BE CONSTRUCTED ON ALL STREETS AS SPECIFIED BY TOWN OR NCDOT STANDARDS. THESE FACILITIES HAVE BEEN APPROVED BY THE TOWN OF LILLINGTON AND SHALL BE SO INSTALLED UNLESS A CHANGE IS APPROVED BY THE TOWN OF LILLINGTON.
2. OWNER HEREBY CERTIFIES AND AGREES TO TAKE SUCH ACTIONS AS MAY BE REQUIRED BY THE TOWN OF LILLINGTON TO CORRECT ANY ERRORS, OMISSIONS OR NON-COMPLIANCE WITH TOWN STANDARDS AND/OR CONDITIONS DESCRIBED IN THIS CONSTRUCTION PLAN, INCLUDING RE-SUBMISSION OR RE-EXECUTION OF THIS CONSTRUCTION PLAN WITH THE APPROPRIATE CORRECTIONS AND/OR REVISIONS.

CONTRACTOR NOTES

PRIOR TO ANY LAND DISTURBANCE OR IMPROVEMENTS, CONTRACTOR TO NOTIFY AND COORDINATE WITH ALL UTILITY PROVIDERS FOR LOCATION OF UTILITIES, REQUIRED IMPROVEMENTS, OR REMEDIATION IN AFFECTED WORK AREAS. CONTRACTOR IS TO NOTIFY PROJECT ENGINEER OF ANY REQUIRED ADJUSTMENTS TO THE PLANS BASED ON ANY UTILITY PROVIDER'S REQUIREMENTS AND IS TO REMEDIATE OR UNDERTAKE WORK ONLY AFTER CONSULTATION WITH THE UTILITY PROVIDER, OWNER, AND PROJECT ENGINEER.

CONTRACTOR IS TO NOTIFY THE ENGINEER OF ANY CHANGES TO THE PLANS REQUIRED DUE TO APPLICABLE CODES, STANDARDS, AND OR PRACTICES WHICH MIGHT TAKE PRECEDENCE OVER THE DRAWING PLANS PRIOR TO DISTURBANCE AND INSTALLATION OF IMPROVEMENTS. CONTRACTOR WILL BE HELD LIABLE AND WILL INCUR ALL COST ASSOCIATED WITH CORRECTING INSTALLED IMPROVEMENTS IF CONTRACTOR PROCEEDS WITHOUT WITH NOTIFICATION AND/OR IN VIOLATION OF KNOWN CODES, STANDARDS, OR PRACTICES.

CONTRACTOR IS TO NOTIFY THE PROJECT ENGINEER IF CONFLICTS ARE FOUND WITHIN THE PLAN SET PRIOR TO ANY DISTURBANCE AND INSTALLATION OF IMPROVEMENTS. CONTRACTOR WILL BE HELD LIABLE AND WILL INCUR ALL COST ASSOCIATED WITH RECTIFYING IMPROVEMENTS IF CONTRACTOR PROCEEDS WITHOUT WITH NOTIFICATION.

GENERAL NOTES:

1. FIELD TOPOGRAPHIC SURVEY PERFORMED BY BATEMAN CIVIL SURVEY COMPANY ON APRIL 12, 2021.
2. THE CONTRACTOR SHALL CONTACT NC ONE CALL CENTER PRIOR TO ANY DIGGING.
3. ALL PUBLIC WATER AND SANITARY SEWER IMPROVEMENTS SHALL CONFORM TO ALL TOWN OF LILLINGTON PUBLIC WORKS DEPT. AND NCDEQ PWS AND DWQ STANDARDS AND SPECIFICATION.
4. **THE CONTRACTOR SHALL CHECK PLANS AND FIELD CONDITIONS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICT BEFORE PERFORMING WORK IN THE AFFECTED AREA.**
5. THE CONTRACTOR IS RESPONSIBILITY FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE AND BELOW GROUND THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED BY THE CONTRACTOR.
6. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATION AGAINST COLLAPSE AND SHALL PROVIDE BRACING,SHEETING, OR SHORING AS NECESSARY. TRENCHES SHALL BE KEPT DRY WHILE PIPES ARE BEING PLACED, DEWATERING SHALL BE USED AS REQUIRED, AND PERMITTED THROUGH LOCAL GOVERNMENT AGENCIES AND WATER MANAGEMENT DISTRICT PER CURRENT REGULATIONS AT THE SOLE COST OF THE CONTRACTOR.
8. WORK BEING PERFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH OTHER WORK BEING PERFORMED IN THE AREA BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT WILL BE NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY, WITH OTHER CONTRACTORS AND UTILITY COMPANIES.

IMPERVIOUS SURFACE

EXISTING IMPERVIOUS

IMPERVIOUS ASPHALT PAVEMENT =	5,629 SF
IMPERVIOUS SIDEWALK =	1,085 SF
MAIL KIOSK IMPERVIOUS AREA =	1,922 SF
TOTAL EXISTING SURFACE =	8,636 SF

PROPOSED IMPERVIOUS

IMPERVIOUS ASPHALT PAVEMENT =	20,723 SF
IMPERVIOUS PICKLEBALL COURT =	3,526 SF
IMPERVIOUS BASKETBALL COURT =	5,640 SF
IMPERVIOUS SIDEWALK =	5,675 SF
BUILDING SURFACE =	2,400 SF
POOL DECK =	6,198 SF
TOTAL PROPOSED SURFACE =	44,162 SF

INFRASTRUCTURE DATA

LF OF PUBLIC STREETS	0 LF
LF OF PUBLIC SIDEWALK	0 LF
LF OF PUBLIC CURB AND GUTTER	0 LF
NUMBER OF SCM'S	0
LF 4" SDR 35 PVC SANITARY SEWER	153 LF
LF 1-1/4" DIP WATERMAIN	157 LF
LF 8" DIP WATERMAIN	0 LF
3/4" DOMESTIC WATER SERVICE	0
1" DOMESTIC WATER SERVICE	0
3" DOMESTIC WATER SERVICE	0
6" FIRE SERVICE	0
4" SEWER SERVICE	0
FIRE HYDRANTS	0

OWNER:

MATTHEWS LANDING DEVELOPMENT, LLC
4925 GREENVILLE AVENUE
DALLAS, TX 75206-4026
989-255-4526
CONTACT: RICHARD CRITTENDEN

DEVELOPER:

MATTHEWS LANDING DEVELOPMENT, LLC
4925 GREENVILLE AVENUE
DALLAS, TX 75206-4026
989-255-4526
CONTACT: RICHARD CRITTENDEN

ARCHITECT:

D. CLUGSTON, INC.
2506 RELIANCE AVE.
APEX, NC 27529
CONTACT: DERIK JONES
PHONE: 304-761-0140

CIVIL ENGINEER:

TIMMONS GROUP
5410 TRINITY ROAD
SUITE 102
RALEIGH, NC 27607

ENGINEER OF RECORD:
ALLISON STONE, P.E.
PHONE: 919-866-4518
EMAIL: ALLISON.STONE@TIMMONS.COM

TIMOTHY HESS, RLA
PHONE: 984-255-2367
EMAIL: TIM.HESS@TIMMONS.COM

NOTE:
WATER AND SANITARY SEWER UTILITIES TO BE INSPECTED, OWNED, OPERATED, AND MAINTAINED BY HARNETT REGIONAL WATER

811 Know what's below. Call before you dig.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF TOWN OF LILLINGTON, HARNET COUNTY, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 530 TIMOTHY S. HESS

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION

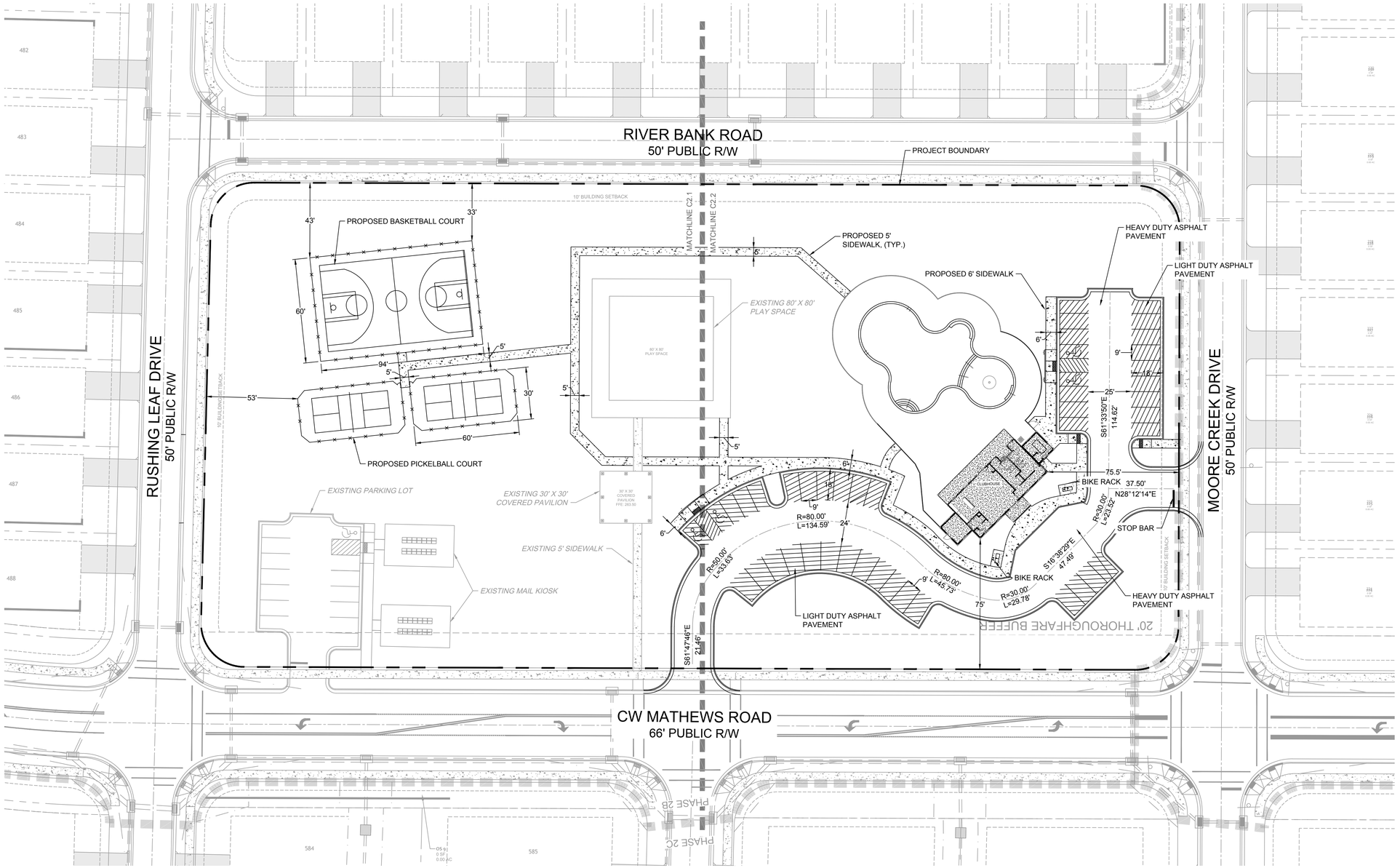
DATE

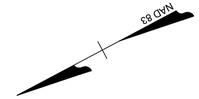
DATE 03/21/2025
DRAWN BY 331
DESIGNED BY 331
CHECKED BY T. HESS
SCALE

TIMMONS GROUP

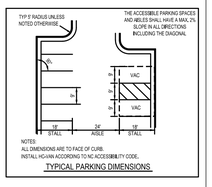
THE GROVE AT MATTHEWS LANDING AMENITY
LILLINGTON, HARNETT COUNTY, NORTH CAROLINA
COVER SHEET

JOB NO. 54948
SHEET NO. C0.0





SCALE 1"=30'
0 30' 60'



TYPICAL PARKING DIMENSIONS

SITE LAYOUT NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF LILLINGTON, HARNETT COUNTY AND NCDOT STANDARDS AND SPECIFICATIONS.
2. ALL DIMENSIONS ARE TO FACE OF CURB, EDGE OF PAVING, BUILDING WALL FACE OR PROPERTY LINE UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, UTILITIES AND GRADES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY EXISTING DISCREPANCIES PRIOR TO COMMENCING ANY RELATED CONSTRUCTION.
4. AT LEAST 3-12 BUSINESS DAYS PRIOR TO CONSTRUCTION OR EXCAVATION THE CONTRACTOR SHALL NOTIFY "NORTH CAROLINA ONE CALL" (811) OR (1-800-632-4949) TO HAVE EXISTING UTILITIES LOCATED.
5. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF THE BUILDING.
6. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DIMENSIONAL CONFLICTS PRIOR TO THE BEGINNING OF CONSTRUCTION.
7. ALL CURB AND GUTTER ONSITE SHALL BE 30" WIDE.
8. ALL DISTURBED CURB & GUTTER AND ASPHALT SHALL BE REPLACED PER TOWN OF LILLINGTON, HARNETT COUNTY OR NCDOT STANDARDS AND SPECIFICATIONS.
9. ALL DRIVEWAY DESIGN AND CONSTRUCTION MUST COMPLY WITH TOWN OF LILLINGTON. DRIVEWAYS SHALL BE PERMITTED SEPARATELY.
10. DRIVEWAYS SHALL BE A MINIMUM OF 20-FEET FROM ANY INTERSECTION MEASURED ALONG THE RIGHT OF WAY.
11. NO SIGHT OBSTRUCTING OR PARTIALLY OBSTRUCTING WALL, FENCE, FOLIAGE, BERMING, PARKED VEHICLES OR SIGN BETWEEN THE HEIGHTS OF TWENTY-FOUR (24) INCHES AND EIGHT (8) FEET ABOVE THE CURB LINE ELEVATION, OR THE NEAREST TRAVELED WAY IF NO CURBING EXISTS, SHALL BE PLACED WITHIN A SIGHT TRIANGLE OF A PUBLIC STREET, PRIVATE STREET OR DRIVEWAY CONTAINED EITHER ON THE PROPERTY OR ON AN ADJOINING PROPERTY.
12. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THEIR ACTIVITIES. CALL UTILITY LOCATOR SERVICE BEFORE DIGGING.
13. ALL STREETS SHALL BE PUBLIC.
14. ALL UTILITIES SHALL BE UNDERGROUND.
15. ALL PRIVATE DRAINAGE WILL BE MAINTAINED BY THE HOA.
16. EACH LOT WILL BE SERVED BY HARNETT COUNTY PUBLIC WATER.
17. EACH LOT WILL BE SERVED BY HRW WATER AND SEWER.
18. NCDEQ EROSION CONTROL PERMIT WILL BE REQUIRED, AND ALL EROSION CONTROL REGULATIONS WILL BE COMPLIED WITH.
19. CONSTRUCTION DRAWINGS MUST BE APPROVED AND STAMPED 'RELEASED FOR CONSTRUCTION' PRIOR TO CONSTRUCTION.
20. SIGNAGE SHALL BE APPROVED PRIOR TO INSTALLATION OF ANY SIGNAGE.
21. STREET NAMES MUST BE APPROVED BY HARNETT COUNTY GIS PRIOR TO FINAL PLAT.
22. CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL MATERIALS ORDERED PRIOR TO FINAL, APPROVED PLANS THAT ARE RELEASED FOR CONSTRUCTION, AND IS RESPONSIBLE FOR MAKING ALL ADJUSTMENTS TO THOSE MATERIALS TO MEET THE FINAL, APPROVED DESIGN, SUCH AS STRUCTURE HEIGHTS, ANGLES, PIPE MATERIALS, ETC., WITHOUT ADDITIONAL COST TO DEVELOPER OR ENGINEER.
23. THERE SHALL BE NO UNPERMITTED DISTURBANCE WITHIN THE WETLANDS.

CONTRACTOR NOTES

PRIOR TO ANY LAND DISTURBANCE OR IMPROVEMENTS, CONTRACTOR TO NOTIFY AND COORDINATE WITH ALL UTILITY PROVIDERS FOR LOCATION OF UTILITIES, REQUIRED IMPROVEMENTS, OR REMEDIATION IN AFFECTED WORK AREAS. CONTRACTOR IS TO NOTIFY PROJECT ENGINEER OF ANY REQUIRED ADJUSTMENTS TO THE PLANS BASED ON ANY UTILITY PROVIDER'S REQUIREMENTS AND IS TO REMEDIATE OR UNDERTAKE WORK ONLY AFTER CONSULTATION WITH THE UTILITY PROVIDER, OWNER, AND PROJECT ENGINEER.

CONTRACTOR IS TO NOTIFY THE ENGINEER OF ANY CHANGES TO THE PLANS REQUIRED DUE TO APPLICABLE CODES, STANDARDS, AND OR PRACTICES WHICH MIGHT TAKE PRECEDENCE OVER THE DRAWING PLANS PRIOR TO DISTURBANCE AND INSTALLATION OF IMPROVEMENTS. CONTRACTOR WILL BE HELD LIABLE AND WILL INCUR ALL COST ASSOCIATED WITH CORRECTING INSTALLED IMPROVEMENTS IF CONTRACTOR PROCEEDS WITHOUT WITH NOTIFICATION AND/OR IN VIOLATION OF KNOWN CODES, STANDARDS, OR PRACTICES.

CONTRACTOR IS TO NOTIFY THE PROJECT ENGINEER IF CONFLICTS ARE FOUND WITHIN THE PLAN SET PRIOR TO ANY DISTURBANCE AND INSTALLATION OF IMPROVEMENTS. CONTRACTOR WILL BE HELD LIABLE AND WILL INCUR ALL COST ASSOCIATED WITH RECTIFYING IMPROVEMENTS IF CONTRACTOR PROCEEDS WITHOUT WITH NOTIFICATION.

TRAFFIC CONTROL NOTES

1. ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

SIGN	MUTCD STD.	SIZE
ACCESSIBLE PARKING	R7-1	12"x18"
STOP	R1-1	30"x30"

2. ALL SIGNS SHALL BE MOUNTED WITH 5-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2-LB. GALV. STEEL U-CHANNEL POST SET IN 18-IN DEEP x 8-IN DIA. CONCRETE FOOTING. SIGNS MOUNTED ADJACENT TO SIDEWALKS MUST BE MOUNTED WITH 7-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF SIGN.

3. ALL PAVMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACE	–	4-IN	WHT.
NO PARKING – FIRE LANE *		4-IN	YEL.
CROSSWALK	1205.07	4-IN	WHT.

* NO PARKING – FIRE LANE MARKING SHALL CONSIST OF A 4" SOLID YELLOW STRIPE AND 8" HIGH YELLOW TEXT "NO PARKING – FIRE LANE" AT 40' INTERVALS. STRIPING SHALL BE PLACED AS INDICATED BY THE FOLLOWING LINETYPE – – – – –

4. ALL PAVMENT MARKINGS SHALL BE RESIN TYPE PAINT AS REQUIRED BY THE COUNTY.

LEGEND

- PROJECT BOUNDARY
- EXISTING RIGHT OF WAY
- EXISTING ROAD CENTELRINE
- PROPOSED ROAD CENTERLINE
- PROPOSED UTILITY EASEMENT
- PROPOSED EOP

Know what's below. Call before you dig.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF TOWN OF LILLINGTON, HARNET COUNTY, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 530 TIMOTHY S. HESS

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE 03/21/2025
DRAWN BY 331
DESIGNED BY 331
CHECKED BY T. HESS
SCALE

TIMMONS GROUP

THE GROVE AT MATTHEWS LANDING AMENITY

LILLINGTON, HARNETT COUNTY, NORTH CAROLINA

OVERALL SITE PLAN

JOB NO. 54948
SHEET NO. C2.0

S:\331\54948-Matthews_Landing\DWG\AMENITY\Sheet\CD\54948-331C-C2.0-SITE-AMEN.dwg | Plotted by Selena Burchette

RIVER BANK ROAD
50' PUBLIC R/W

PROJECT BOUNDARY

10' BUILDING SETBACK

MATCHLINE C2.1

MATCHLINE C2.2

PROPOSED 5' SIDEWALK, (TYP.)

HEAVY DUTY ASPHALT PAVEMENT

LIGHT DUTY ASPHALT PAVEMENT

PROPOSED 6' SIDEWALK

EXISTING 80' X 80' PLAY SPACE

80' X 80' PLAY SPACE

5'

30'

5'

5'

6'

9'

18'

25'

S61°33'50"E
114.62'

75.5'

CLUBHOUSE

BIKE RACK

37.50'
N28°12'14"E

R=30.00'
L=23.62'

STOP BAR

MOORE CREEK DRIVE
50' PUBLIC R/W

EXISTING 30' X 30' COVERED PAVILION

30' X 30' COVERED PAVILION
FFE: 263.50

6'

18'

9'

R=80.00'
L=134.59'

24'

EXISTING 5' SIDEWALK

R=50.00'
L=33.83'

S16°38'29"E
47.49'

R=80.00'
L=45.73'

9'

BIKE RACK

R=30.00'
L=29.78'

75'

10' BUILDING SETBACK

EXISTING MAIL KIOSK

LIGHT DUTY ASPHALT PAVEMENT

HEAVY DUTY ASPHALT PAVEMENT

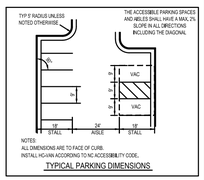
20' THOROUGHFARE BUFFER

S61°47'46"E
21.46'

CW MATHEWS ROAD
66' PUBLIC R/W

NAD 83

SCALE 1"=30'
0 30' 60'



TYPICAL PARKING DIMENSIONS

LEGEND

- PROJECT BOUNDARY
- EXISTING RIGHT OF WAY
- EXISTING ROAD CENTELRINE
- PROPOSED ROAD CENTERLINE
- PROPOSED UTILITY EASEMENT
- PROPOSED EOP

811 Know what's below. Call before you dig.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF TOWN OF LILLINGTON, HARNETT COUNTY, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 530 TIMOTHY S. HESS

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION

DATE

DATE
03/21/2025

DRAWN BY
331

DESIGNED BY
331

CHECKED BY
T. HESS

SCALE

TIMMONS GROUP

THE GROVE AT MATTHEWS LANDING AMENITY

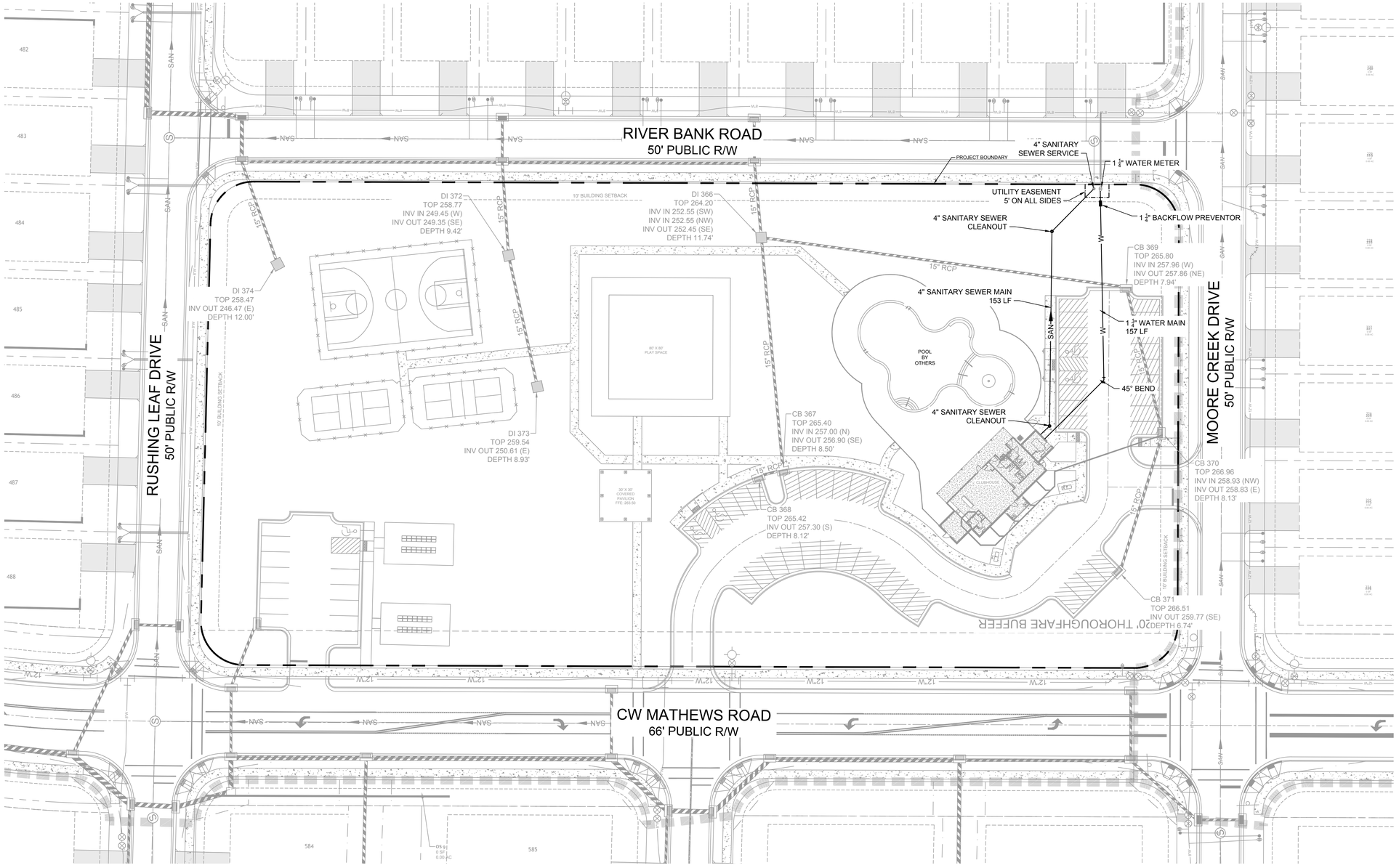
LILLINGTON, HARNETT COUNTY, NORTH CAROLINA

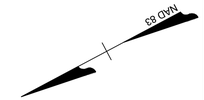
DETAILED SITE PLAN (SHEET 2 OF 2)

JOB NO.
54948

SHEET NO.
C2.2

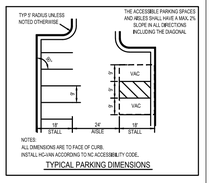
S:\53154948-Matthews_Landing\DWG\AMENITY\Sheet\CD\54948-331C-C2.0-SITE-AMEN.dwg | Plotted by Selena Burchette





SCALE 1"=30'

0 30' 60'



TYPICAL PARKING DIMENSIONS

LEGEND

- PROJECT BOUNDARY
- EXISTING RIGHT OF WAY
- EXISTING ROAD CENTELRINE
- PROPOSED ROAD CENTERLINE
- PROPOSED UTILITY EASEMENT
- PROPOSED EOP
- 999 EXISTING GRADE
- 000 PROPOSED GRADE

LEGEND

SEWER

- SAN EXISTING SANITARY SEWER
- SAN SANITARY SEWER
- (S) SANITARY MANHOLE

WATER

- W EXISTING WATER LINE
- W PROPOSED WATER LINE
- WATER VALVE
- FIRE HYDRANT
- BLOWOFF ASSEMBLY

CONTRACTOR NOTES

PRIOR TO ANY LAND DISTURBANCE OR IMPROVEMENTS, CONTRACTOR TO NOTIFY AND COORDINATE WITH ALL UTILITY PROVIDERS FOR LOCATION OF UTILITIES, REQUIRED IMPROVEMENTS, OR REMEDIATION IN AFFECTED WORK AREAS. CONTRACTOR IS TO NOTIFY PROJECT ENGINEER OF ANY REQUIRED ADJUSTMENTS TO THE PLANS BASED ON ANY UTILITY PROVIDER'S REQUIREMENTS AND IS TO REMEDIATE OR UNDERTAKE WORK ONLY AFTER CONSULTATION WITH THE UTILITY PROVIDER, OWNER, AND PROJECT ENGINEER.

CONTRACTOR IS TO NOTIFY THE ENGINEER OF ANY CHANGES TO THE PLANS REQUIRED DUE TO APPLICABLE CODES, STANDARDS, AND OR PRACTICES WHICH MIGHT TAKE PRECEDENCE OVER THE DRAWING PLANS PRIOR TO DISTURBANCE AND INSTALLATION OF IMPROVEMENTS. CONTRACTOR WILL BE HELD LIABLE AND WILL INCUR ALL COST ASSOCIATED WITH CORRECTING INSTALLED IMPROVEMENTS IF CONTRACTOR PROCEEDS WITHOUT WITH NOTIFICATION AND/OR IN VIOLATION OF KNOWN CODES, STANDARDS, OR PRACTICES.

CONTRACTOR IS TO NOTIFY THE PROJECT ENGINEER IF CONFLICTS ARE FOUND WITHIN THE PLAN SET PRIOR TO ANY DISTURBANCE AND INSTALLATION OF IMPROVEMENTS. CONTRACTOR WILL BE HELD LIABLE AND WILL INCUR ALL COST ASSOCIATED WITH RECTIFYING IMPROVEMENTS IF CONTRACTOR PROCEEDS WITHOUT WITH NOTIFICATION.

811 Know what's below. Call before you dig.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF TOWN OF LILLINGTON, HARNETT COUNTY, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 530 TIMOTHY S. HESS

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE 03/21/2025
DRAWN BY 331
DESIGNED BY 331
CHECKED BY T. HESS
SCALE

TIMMONS GROUP

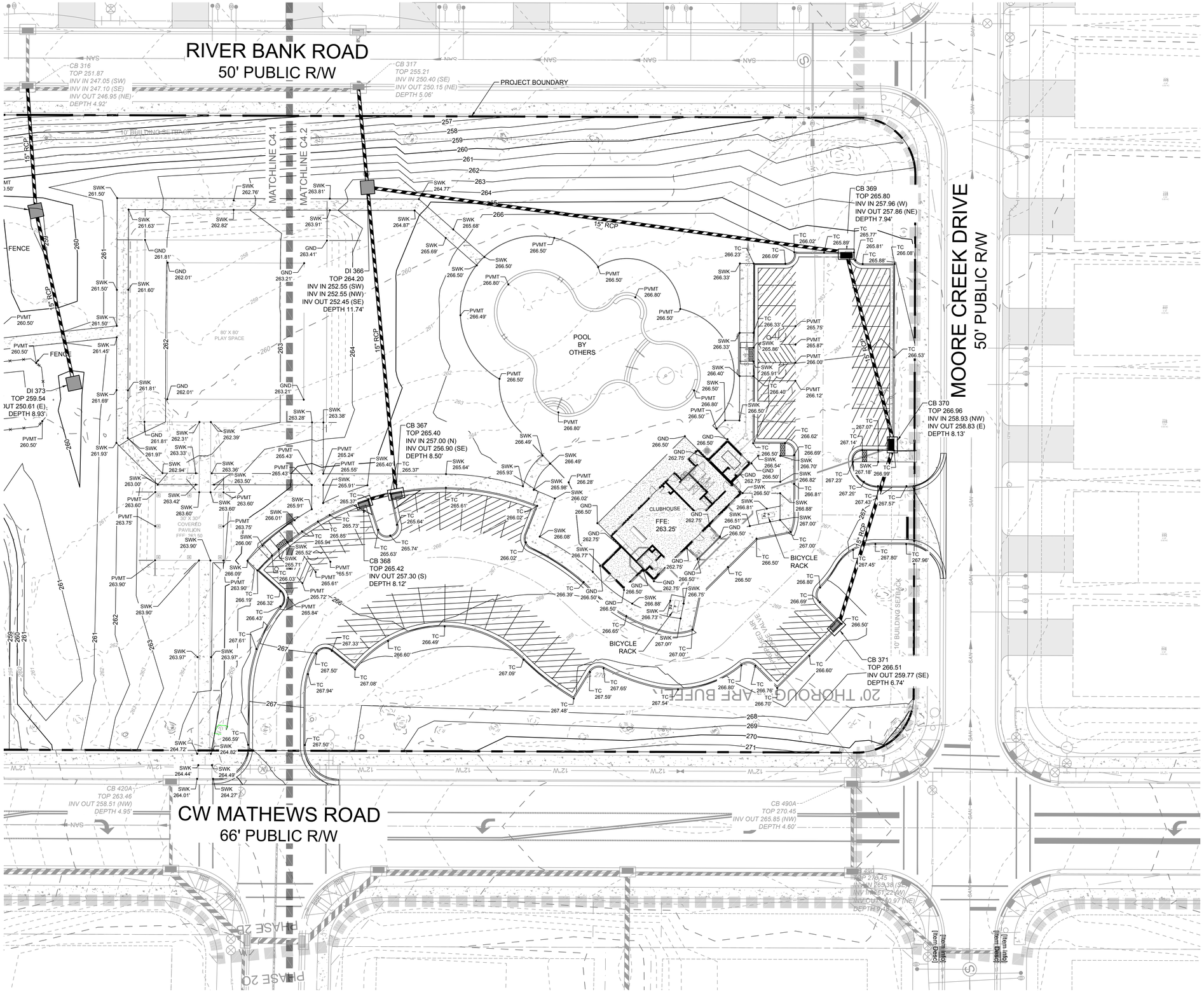
THE GROVE AT MATTHEWS LANDING AMENITY

LILLINGTON, HARNETT COUNTY, NORTH CAROLINA

OVERALL UTILITY PLAN

JOB NO. 54948
SHEET NO. C3.0

S:\33154\54948-Matthews_Landing\DWG\AMENITY\Sheet\CD\54948-331C-C3.0-UTIL-AMEN.dwg | Plotted by Selena Burchette



TYP 9' RADIUS UNLESS NOTED OTHERWISE

THE ACCESSIBLE PARKING SPACES AND AISLES SHALL HAVE A MAX. 2% SLOPE IN ALL DIRECTIONS INCLUDING THE DIAGONAL

NOTES:
ALL DIMENSIONS ARE TO FACE OF CURB.
INSTALL HC-VAN ACCORDING TO NC ACCESSIBILITY CODE.

TYPICAL PARKING DIMENSIONS

LEGEND

- PROJECT BOUNDARY
- EXISTING RIGHT OF WAY
- EXISTING ROAD CENTELRINE
- PROPOSED ROAD CENTERLINE
- PROPOSED UTILITY EASEMENT
- PROPOSED EOP
- EXISTING GRADE
- PROPOSED GRADE

LEGEND

SEWER

- EXISTING SANITARY SEWER
- SANITARY SEWER
- SANITARY MANHOLE

WATER

- EXISTING WATER LINE
- PROPOSED WATER LINE
- WATER VALVE
- FIRE HYDRANT
- BLOWOFF ASSEMBLY

811 Know what's below. Call before you dig.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF TOWN OF LILLINGTON, HARNETT COUNTY, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 530 TIMOTHY S. HESS

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE
	03/21/2025

DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: T. HESS
SCALE:

TIMMONS GROUP

THE GROVE AT MATTHEWS LANDING AMENITY

LILLINGTON, HARNETT COUNTY, NORTH CAROLINA

DETAILED GRADING PLAN (SHEET 2 OF 2)

JOB NO. 54948
SHEET NO. C4.2

S:\33115\54948-Matthews_Landing\DWG\AMENITY\Sheet\CD\54948-331C-C4.0-GRAD-AMEN.dwg | Plotted by Selena Burchette

RIVER BANK ROAD
50' PUBLIC R/W

MOORE CREEK DRIVE
50' PUBLIC R/W

CW MATHEWS ROAD
66' PUBLIC R/W

CB 316
TOP 251.87
INV IN 247.05 (SW)
INV IN 247.10 (SE)
INV OUT 246.95 (NE)
DEPTH 4.92'

CB 317
TOP 255.21
INV IN 250.40 (SE)
INV OUT 250.15 (NE)
DEPTH 5.06'

CB 420A
TOP 263.46
INV OUT 258.51 (NW)
DEPTH 4.95'

CB 490A
TOP 270.45
INV OUT 265.85 (NW)
DEPTH 4.60'

10' BUILDING SETBACK

MATCHLINE C4.1

MATCHLINE C4.2

80' X 80'
PLAY SPACE

OS 2 (AMENITY)
0 SF
0.00 AC

30' X 30'
COVERED
PAVILION
FFE: 263.50

CLUBHOUSE

20' THROUGHFARE BUFFER

PHASE 2B

PHASE 2C

5-LI-H
12-AG
12-R-AA
4-AS
12-AG
10-AG
10-LC-M
5-AG
1-CA
9-MS
4-R-AA
1-MG
5-AG
2-AG
3-MS
1-CA
3-AG
1-CA
4-AS
2-AG
1-CA
7-AG
10-R-AA
7-AG
10-AG
1-CA
10-AG
1-CA
4-R-AA

NAD 83

SCALE 1"=20'
0 20' 40'

TYP 5' RADIUS UNLESS NOTED OTHERWISE

THE ACCESSIBLE PARKING SPACES AND AISLES SHALL HAVE A MAX. 2% SLOPE IN ALL DIRECTIONS, INCLUDING THE DIAGONAL

VAC

18' STALL | 24' AISLE | 18' STALL

NOTES
ALL DIMENSIONS ARE TO FACE OF CURB.
INSTALL HC-SIGN ACCORDING TO NC ACCESSIBILITY CODE.

TYPICAL PARKING DIMENSIONS

LEGEND

- PROJECT BOUNDARY
- EXISTING RIGHT OF WAY
- EXISTING ROAD CENTELRINE
- PROPOSED ROAD CENTERLINE
- PROPOSED UTILITY EASEMENT
- PROPOSED EOP
- 609 EXISTING GRADE
- 000 PROPOSED GRADE

811 Know what's below. Call before you dig.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF TOWN OF LILLINGTON, HARNETT COUNTY, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 530 TIMOTHY S. HESS

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION

DATE

DATE 03/21/2025
DRAWN BY 331
DESIGNED BY 331
CHECKED BY T. HESS
SCALE

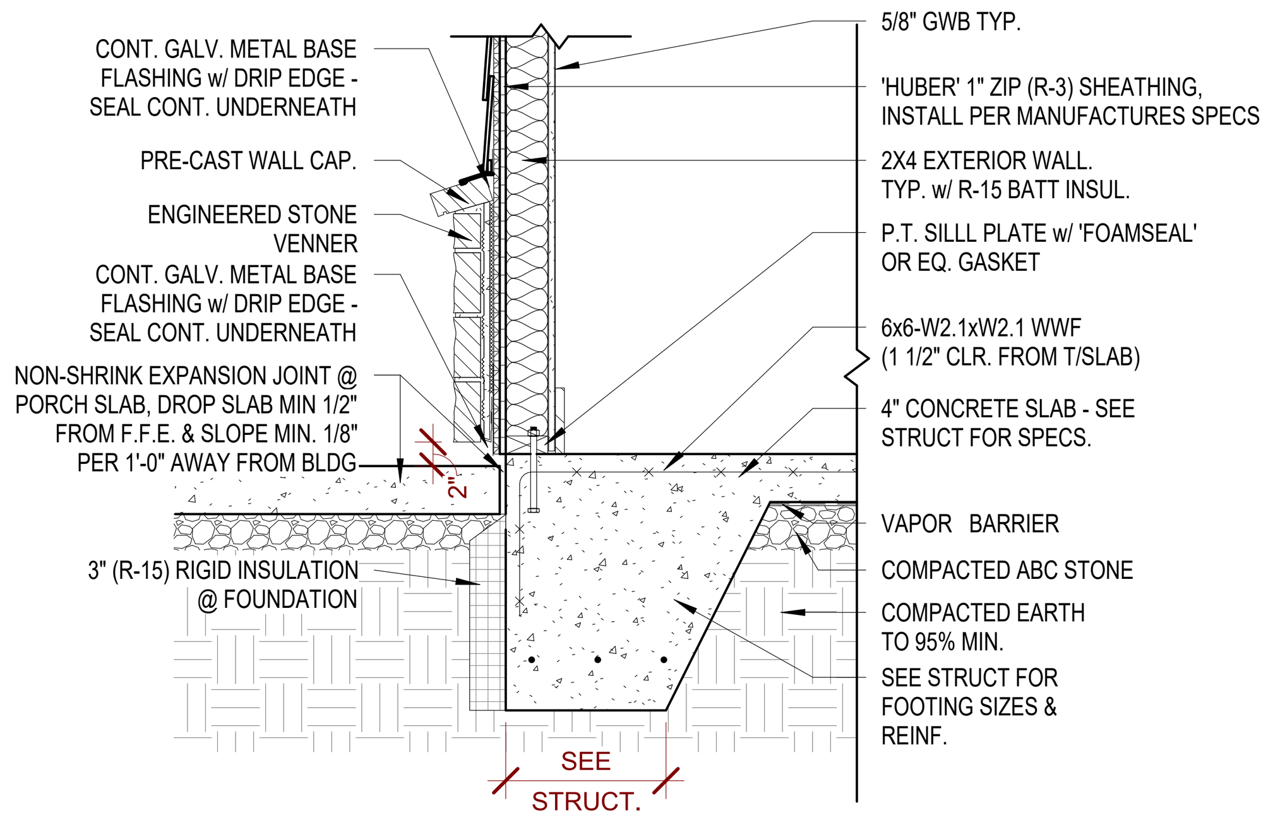
TIMMONS GROUP

THE GROVE AT MATTHEWS LANDING AMENITY

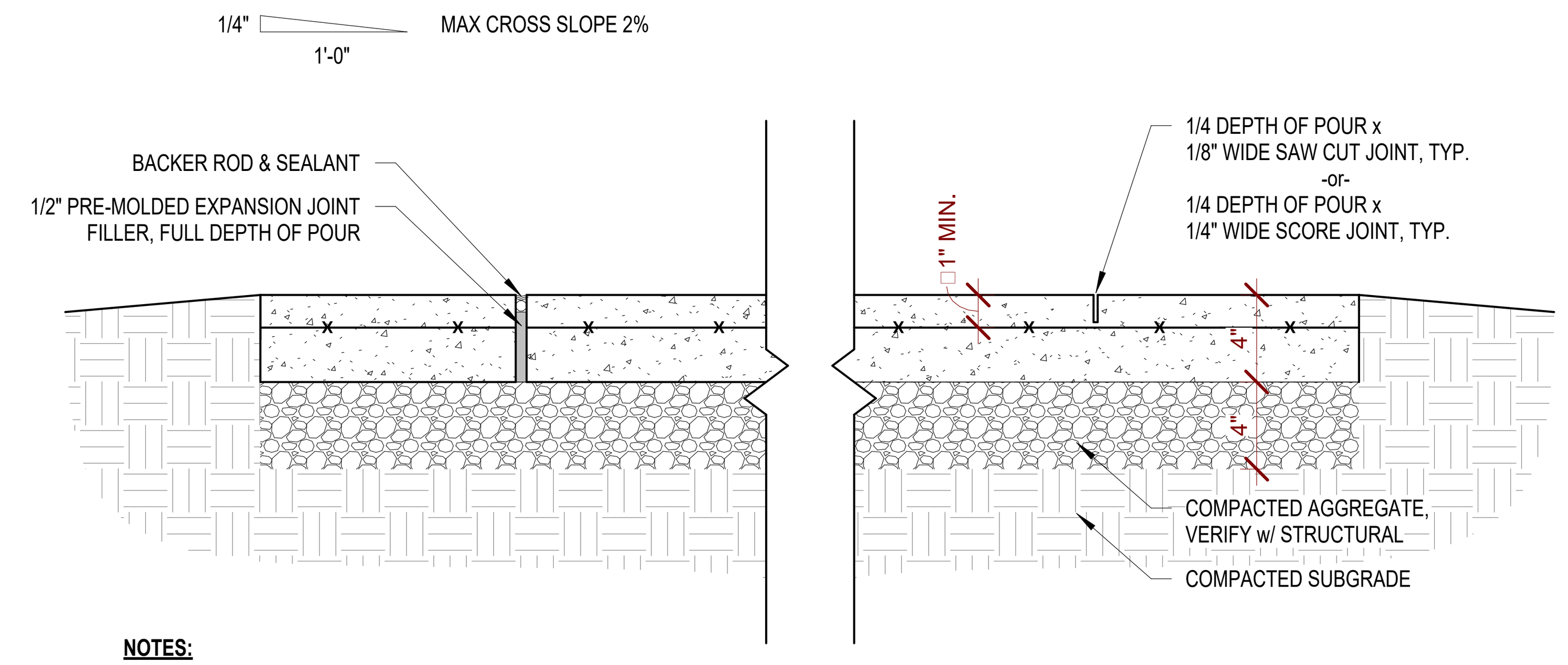
LILLINGTON, HARNETT COUNTY, NORTH CAROLINA

DETAILED PLANTING PLAN (SHEET 2 OF 2)

JOB NO. 54948
SHEET NO. C5.2



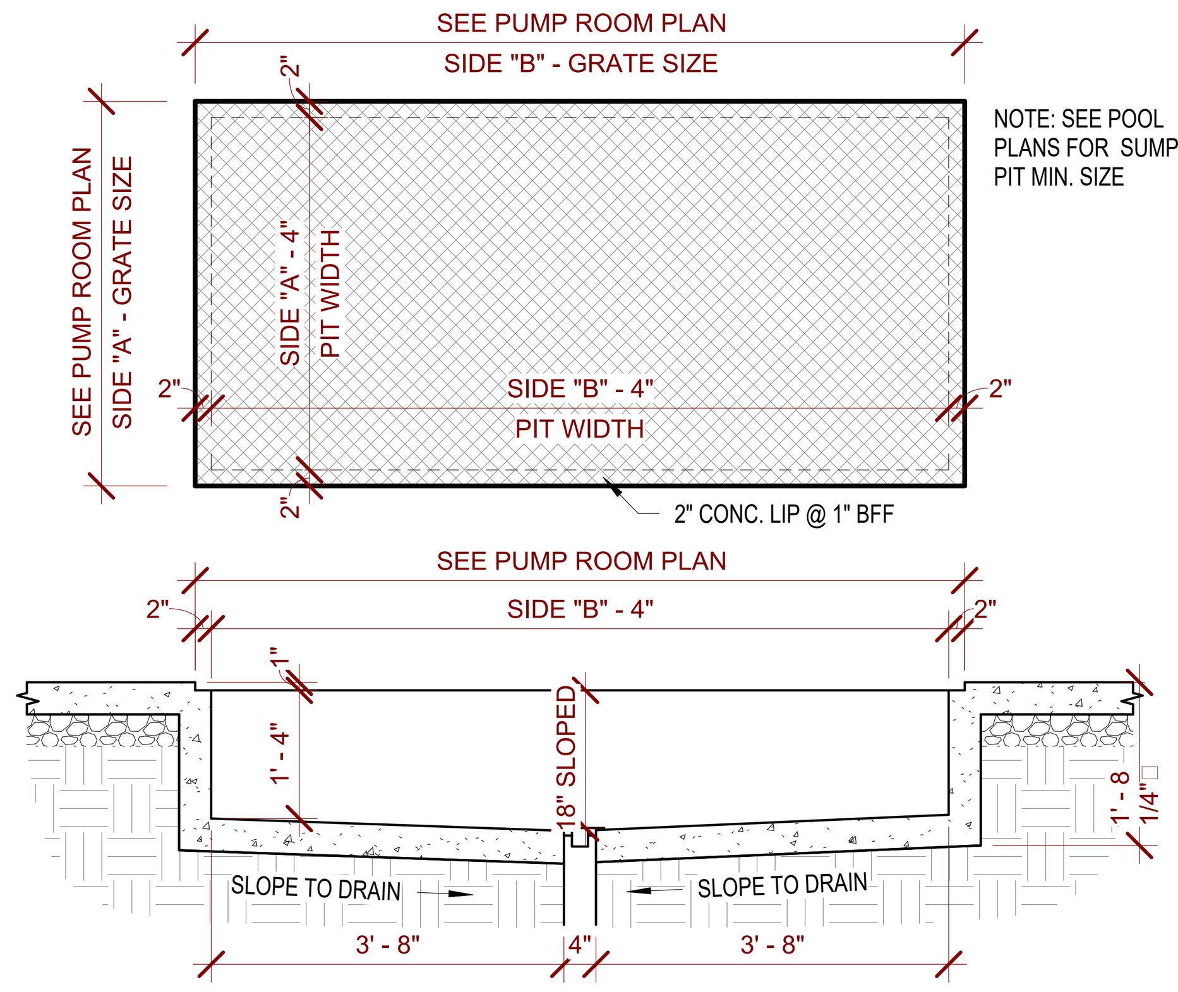
7 A1.0 Detail - Stone Veneer @ Hardscapes
3/4" = 1'-0"



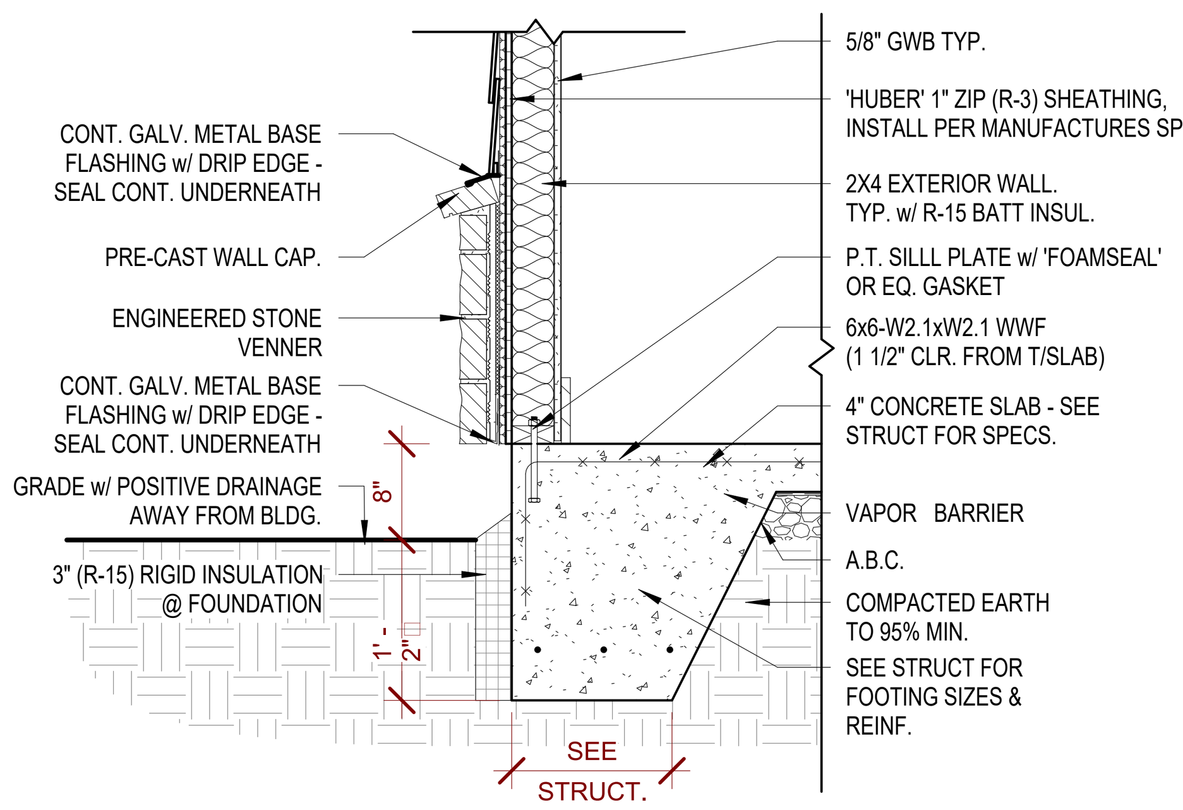
NOTES:

1. ALL JOINTS TO BE CUT w/ WET WALK BEHIND SAW TO ENSURE ALL CUTS ARE PERPENDICULAR W/ FACE OF CONCRETE
2. MAXIMUM CONTROL JOINT SPACING SHALL BE 10 FT. IN EACH DIRECTION UNLESS SHOWN OTHERWISE ON PLAN, SEE STRUCT.
3. PROVIDE EXPANSION JOINT WHERE SLABS ARE POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS AND AS SPECIFIED ON PLANS OR 25'-0" MAX O.C.

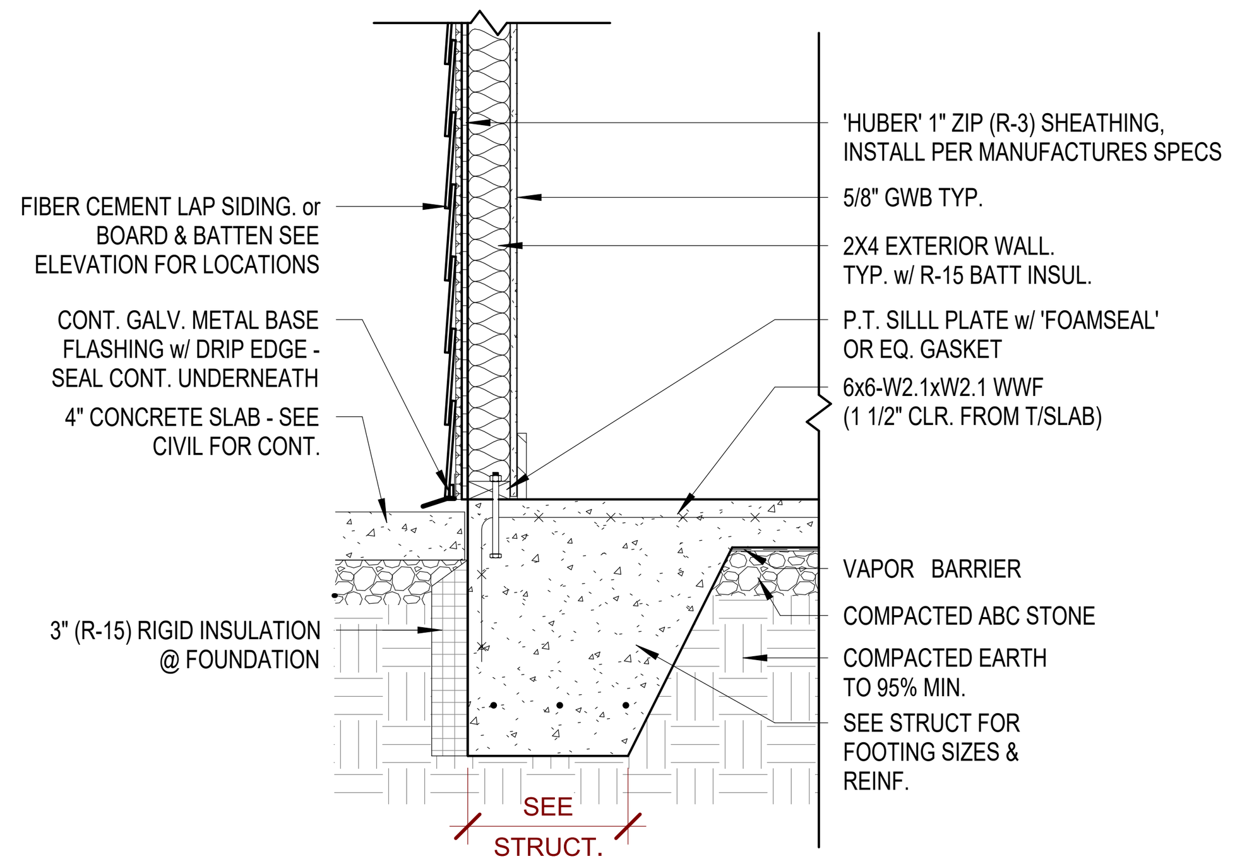
3 A1.0 Detail - Typ. Concrete Control Joint
1 1/2" = 1'-0"



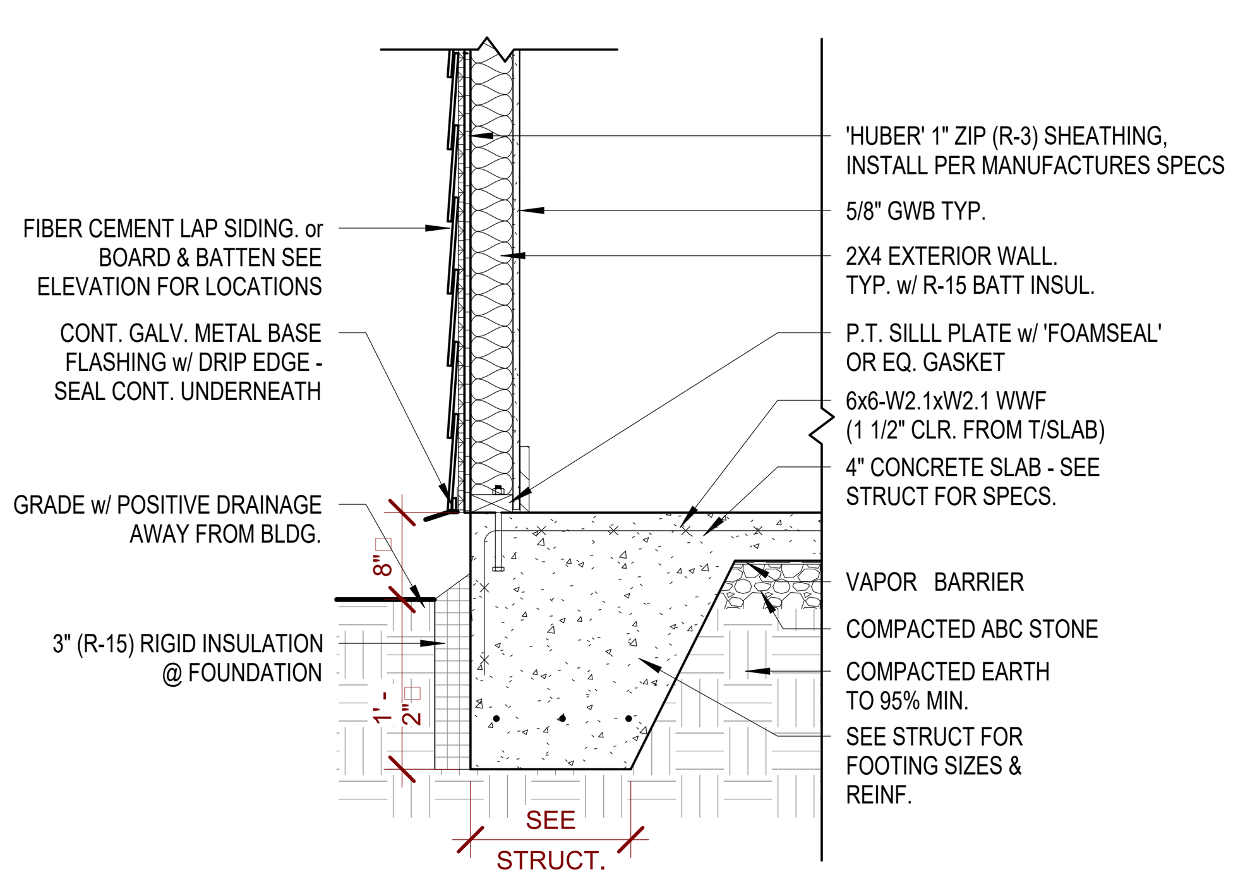
2 A1.0 Detail - Sump Pit
1/2" = 1'-0"



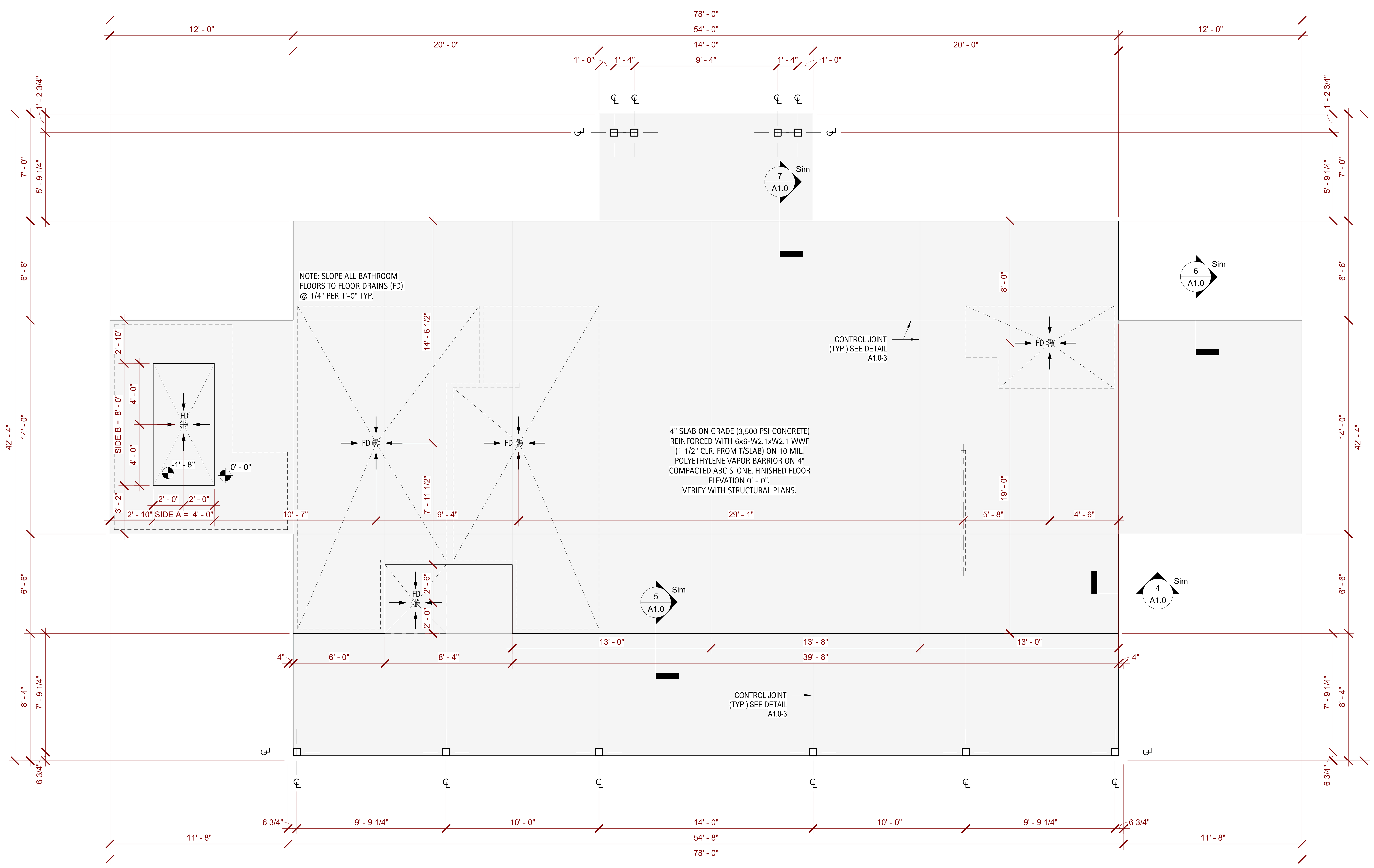
6 A1.0 Detail - Stone Veneer @ Grade
3/4" = 1'-0"



5 A1.0 Detail - Siding @ Hardscapes
3/4" = 1'-0"



4 A1.0 Detail - Siding @ Grade
3/4" = 1'-0"



1 A1.0 Foundation Plan
1/4" = 1'-0"

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

DATE

REVISION

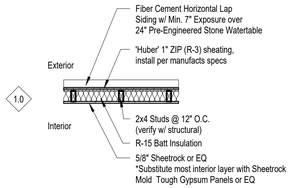
NO.

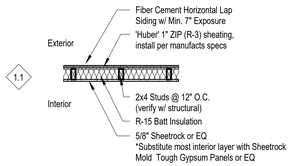
PROJECT #: 2025004
DATE ISSUED: 03/24/2025
DRAWING BY: LBG
CHECKED BY: PGC/JJGM
100% I.F.P.

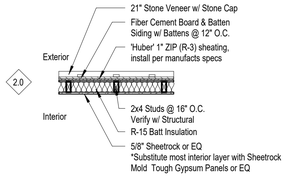
FOUNDATION PLAN

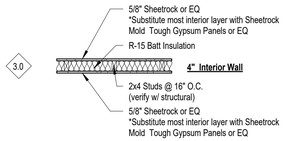
A1.0

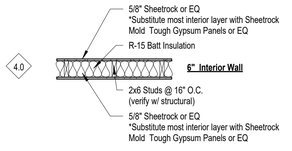
WALL TYPE DETAILS





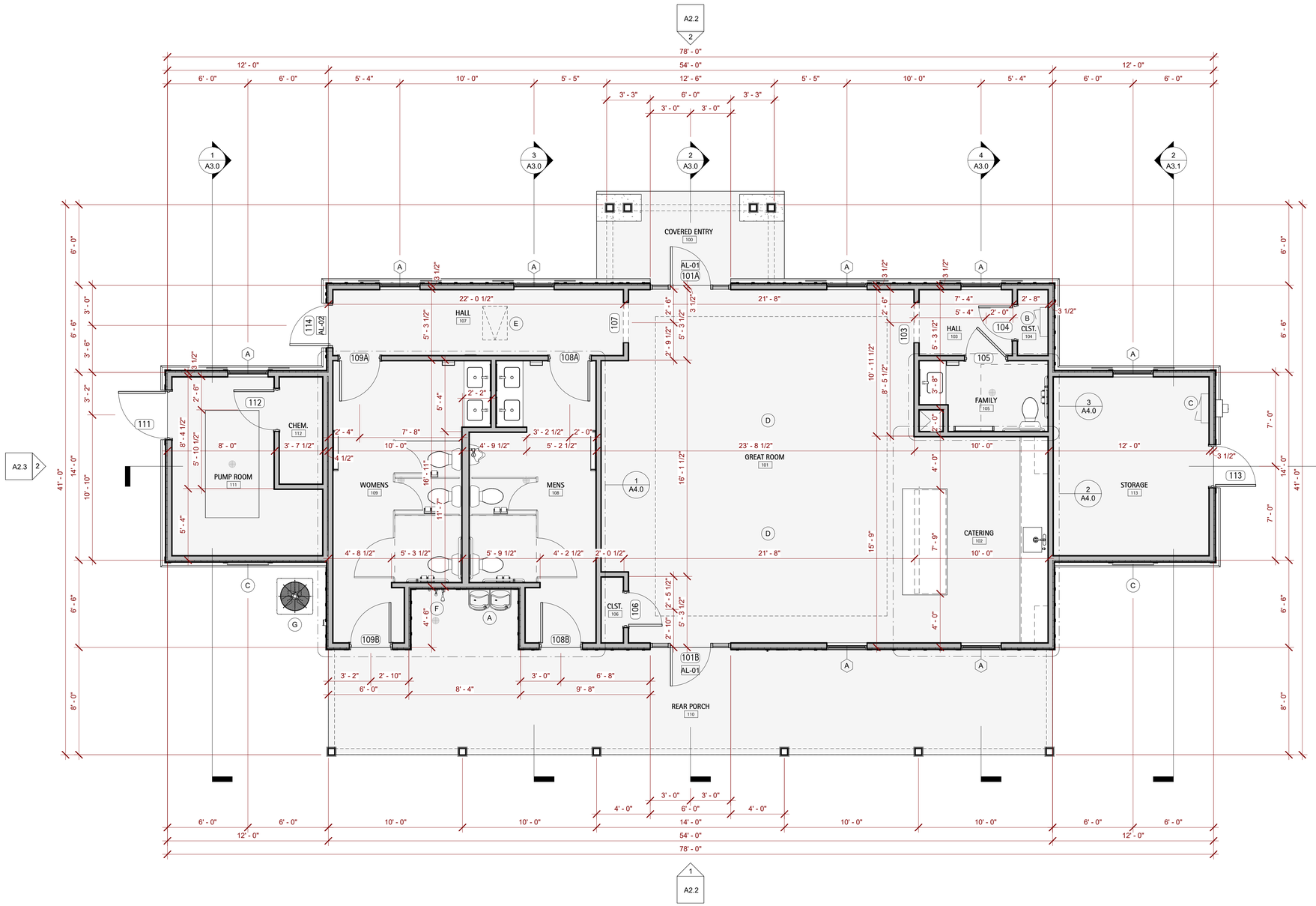






KEYNOTES

TAG	DISCRIPTION	PROVIDED BY
A	HIGH / LOW WATER COOLER. SEE PLUMBING PLANS FOR SELECTIONS. SEE TYPICAL MOUNTING HEIGHT DETAILS.	C.P.C.I
B	LOW VOLTAGE PANEL TO BE INSTALLED ON WALL. CONTRACTOR TO VERIFY LOW VOLTAGE LAYOUT w/ GC PRIOR TO INSTALLATIONS	C.P.C.I
C	METER BASE & PANELS. SEE ELECTRICAL DWGS.	C.P.C.I
D	OPTIONAL FLOOR RECEPTICAL, SEE ELECTRICAL DWGS. CONTRACTOR TO VERIFY LOCATION w/ GC & OWNER PRIOR TO SLAB INSTALL	C.P.C.I
E	'BEST ACCESS DOORS' BA-PFI 22"X36" OR EQUAL FIRE RATED ACCESS DOOR IN CEILING. COORDINATE LOCATION w/ TRUSS MANUFACTURER	C.P.C.I
F	EXTERIOR RINSE SHOWER UNDER ROOF OVERHANG, SHOWER DRAIN TO DISCHARGE INTO SANITARY. SEE PLUMB DWGS.	C.P.C.I
G	MECHANICAL CONTRACTOR TO VERIFY THAT CONDENSATE LINES DO NOT DISCHARGE OVER HARDSCAPES, IF REQUIRED MC TO TIE DISCHARGE LINES INTO SANITARY.	C.P.C.I



1 First Floor Plan

1/4" = 1'-0"

D.CLUGSTON

PERRY GLENN COX REGISTERED ARCHITECT 16538 NORTH CAROLINA APEX, N.C. 27502 03/24/25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

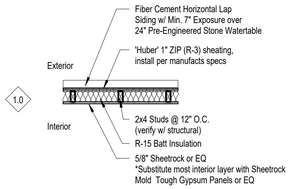
NO.	REVISION	DATE

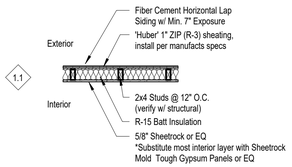
PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG / JGM
CHECKED BY:	PGC/JGM
100% I.F.P.	

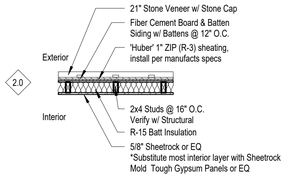
MAIN LEVEL PLAN

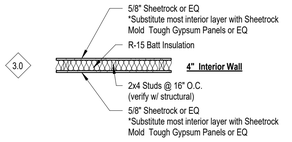
A1.1

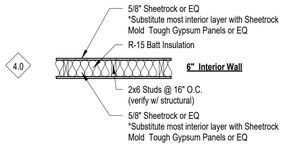
WALL TYPE DETAILS

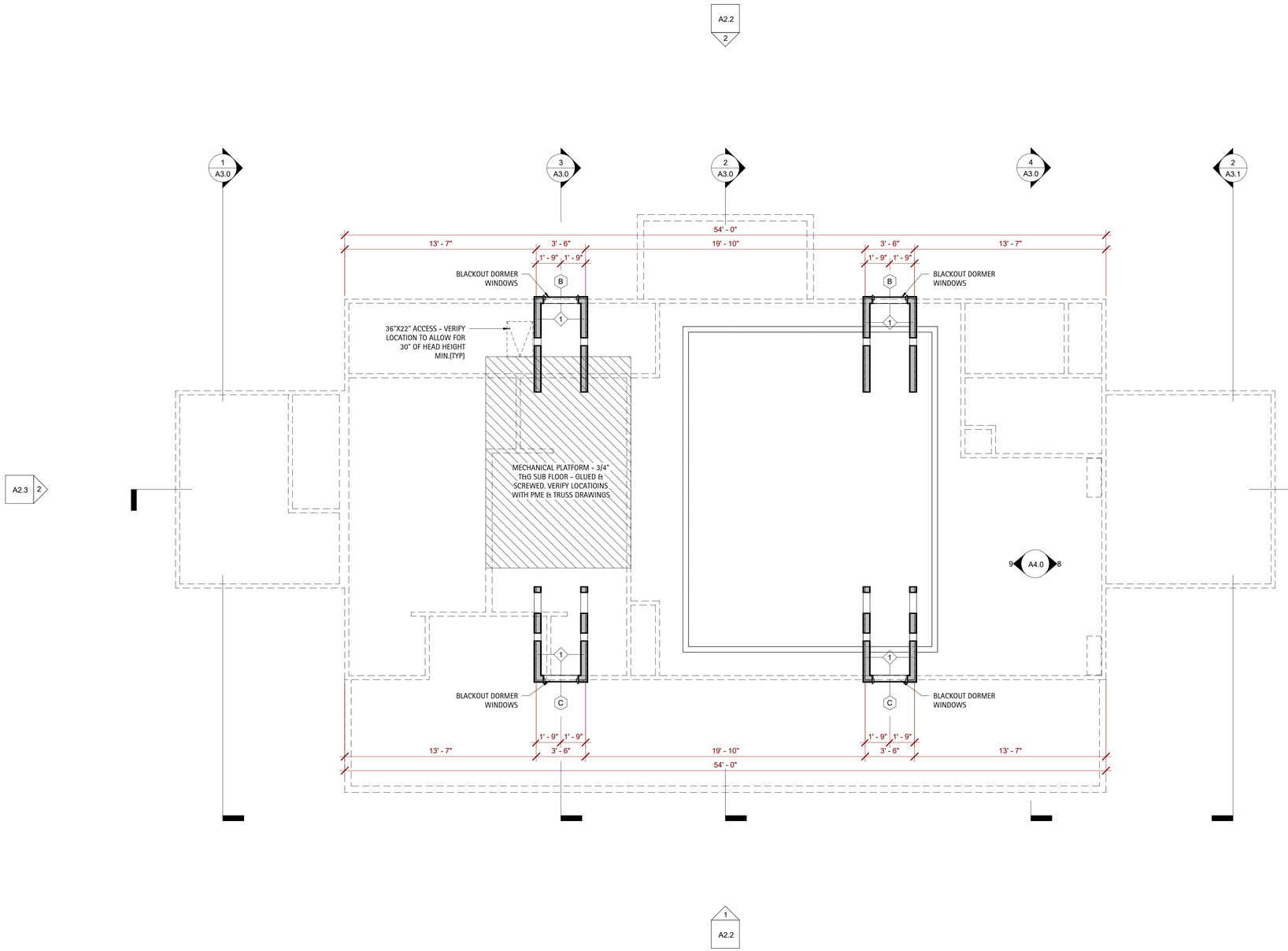












Attic Plan

1/4" = 1'-0"

D.CLUGSTON

PERRY GLENN COX REGISTERED ARCHITECT 10538 NORTH CAROLINA APEX, N.C.

MATTHEWS LANDING

DR HORTON

LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG / JGM
CHECKED BY:	PGC/JGM

100% I.F.P.

ATTIC PLAN

A1.2

ROOF NOTES

1. Roof decks shall be covered with approved roof coverings secured to the building or structure in accordance with the NCSBC. Roof coverings shall be designed and installed in accordance with the building code and the approved manufacturer's instructions.
2. Crickets or saddles shall be installed on the ridge side of any chimney or penetration greater than 30 inches wide as measured perpendicular to the slope. Cricket or saddle coverings shall be sheet metal or of the same material as the roof covering.
3. Asphalt shingles shall only be used on roof slopes of 2:12 or greater.
4. Roof slopes from 2:12 to 4:12, underlayment shall be two layers applied in the following manner. Apply a minimum 19' wide strip of underlayment felt parallel with and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply 36-inch-wide sheets of underlayment overlapping successive sheets 19 inches minimum and fasten in place.
5. Roof slopes from 4:12 or greater, underlayment shall be a minimum of one layer.
6. Flashing shall be installed at the wall and roof intersections, at gutters, and wherever there is a change in roof slope or direction and around roof openings. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019in (No. 26 galvanized sheet)
7. Areas prone to ice formation along eaves causing a backup of water shall have an ice barrier that consists of at least (2) two layers of underlayment cemented together or of a self-adhering polymer-modified bitumen sheet. Extend ice barrier min. 18" each side of valleys and other ice prone areas. .
8. Overhangs: Truss manufacturer to provide shorter gable end trusses where overhangs exceed 1'-0" to allow for outriggers to be framed over the top cord of the end truss and attached to the top cord of the secondary truss towards the interior of the gable. GC to verify prior to manufacturing of trusses.
9. Light Location: Truss manufacturere to cooridinate truss layout with reflected ceiling plans, electrical plans, and mechical plans to avoid conflicts

CEILING LEGEND

MD - MOTION DETECTOR
LOCATE IN CEILING
FL - EXTERIOR FLOOD LIGHT
EE - EMERGENCY EXIT SIGN w/ SPOTLIGHTS
EL - EMERGENCY LIGHT w/ BATTERY BACKUP
EF - EXHAUST FAN
A - NOT USED
B - NOT USED
C - 6" I..E.D. CAN LIGHT
C1 - 6" L.E.D. CAN LIGHT w/ BATTERY BACKUP
D - 1'x4' TROFFER LIGHT
E - EXTERIOR 72" DIA. FAN w/o LIGHT KIT
F - FAN w/o LIGHT KIT

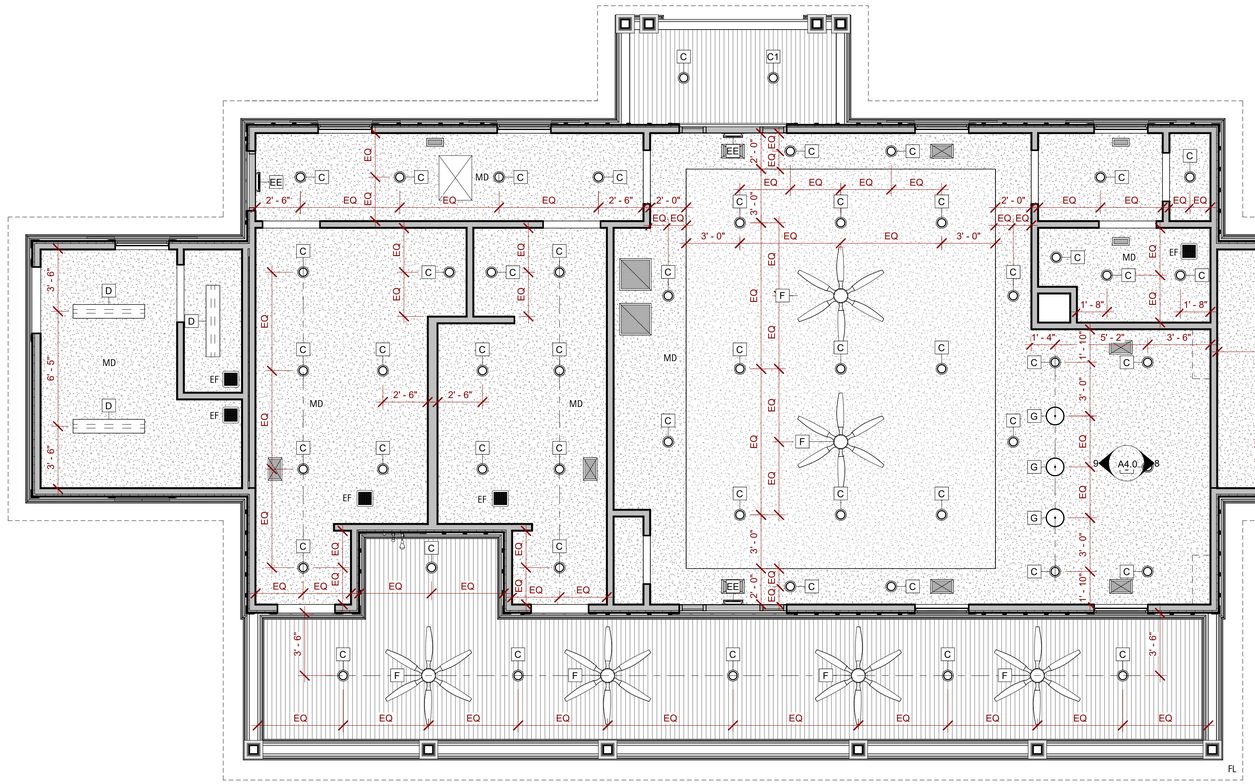
* VERIFY ALL SELECTIONS
WITH OWNER / GC PRIOR TO ORDER

*VERIFY ATTIC ACCESS LOCATIONS WITH
APPROVED TRUSS LAYOUTS AND PROFILES

CEILING MOUNTED SUPPLY REGISTER, SEE MECH. PLANS FOR SIZING

CEILING MOUNTED RETURN REGISTER, SEE MECH. PLANS FOR SIZING

A2.2 / 2



A2.3 / 2

1 / A2.3

1 / A2.2

1 / A1.3 Reflected Ceiling Plan

1/4" = 1'-0"

D.CLUGSTON

PERRY GLENN COX
REGISTERED ARCHITECT
NORTH CAROLINA
APEX, N.C.

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM
100% I.F.P.	

REFLECTED CEILING PLAN

A1.3

ROOF NOTES

1. Roof decks shall be covered with approved roof coverings secured to the building or structure in accordance with the NCSBC. Roof coverings shall be designed and installed in accordance with the building code and the approved manufacturer's instructions.

2. Crickets or saddles shall be installed on the ridge side of any chimney or penetration greater than 30 inches wide as measured perpendicular to the slope. Cricket or saddle coverings shall be sheet metal or of the same material as the roof covering.

3. Asphalt shingles shall only be used on roof slopes of 2:12 or greater.

4. Roof slopes from 2:12 to 4:12, underlayment shall be two layers applied in the following manner. Apply a minimum 19' wide strip of underlayment felt parallel with and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply 36-inch-wide sheets of underlayment overlapping successive sheets 19 inches minimum and fasten in place.

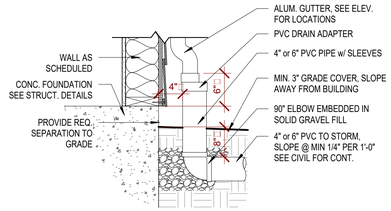
5. Roof slopes from 4:12 or greater, underlayment shall be a minimum of one layer.

6. Flashing shall be installed at the wall and roof intersections, at gutters, and wherever there is a change in roof slope or direction and around roof openings. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019in (No. 26 galvanized sheet)

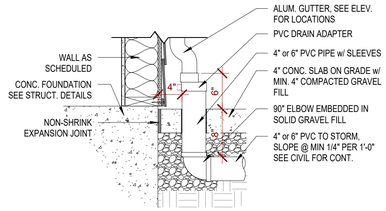
7. Areas prone to ice formation along eaves causing a backup of water shall have an ice barrier that consists of at least (2) two layers of underlayment cemented together or of a self-adhering polymer-modified bitumen sheet. Extend ice barrier min. 18" each side of valleys and other ice prone areas. .

8. Overhangs: Truss manufacturer to provide shorter gable end trusses where overhangs exceed 1'-0" to allow for outriggers to be framed over the top cord of the end truss and attached to the top cord of the secondary truss towards the interior of the gable. GC to verify prior to manufacturing of trusses.

9. Light Location: Truss manufacturere to cooridinate truss layout with reflected ceiling plans, electrical plans, and mechical plans to avoid conflicts



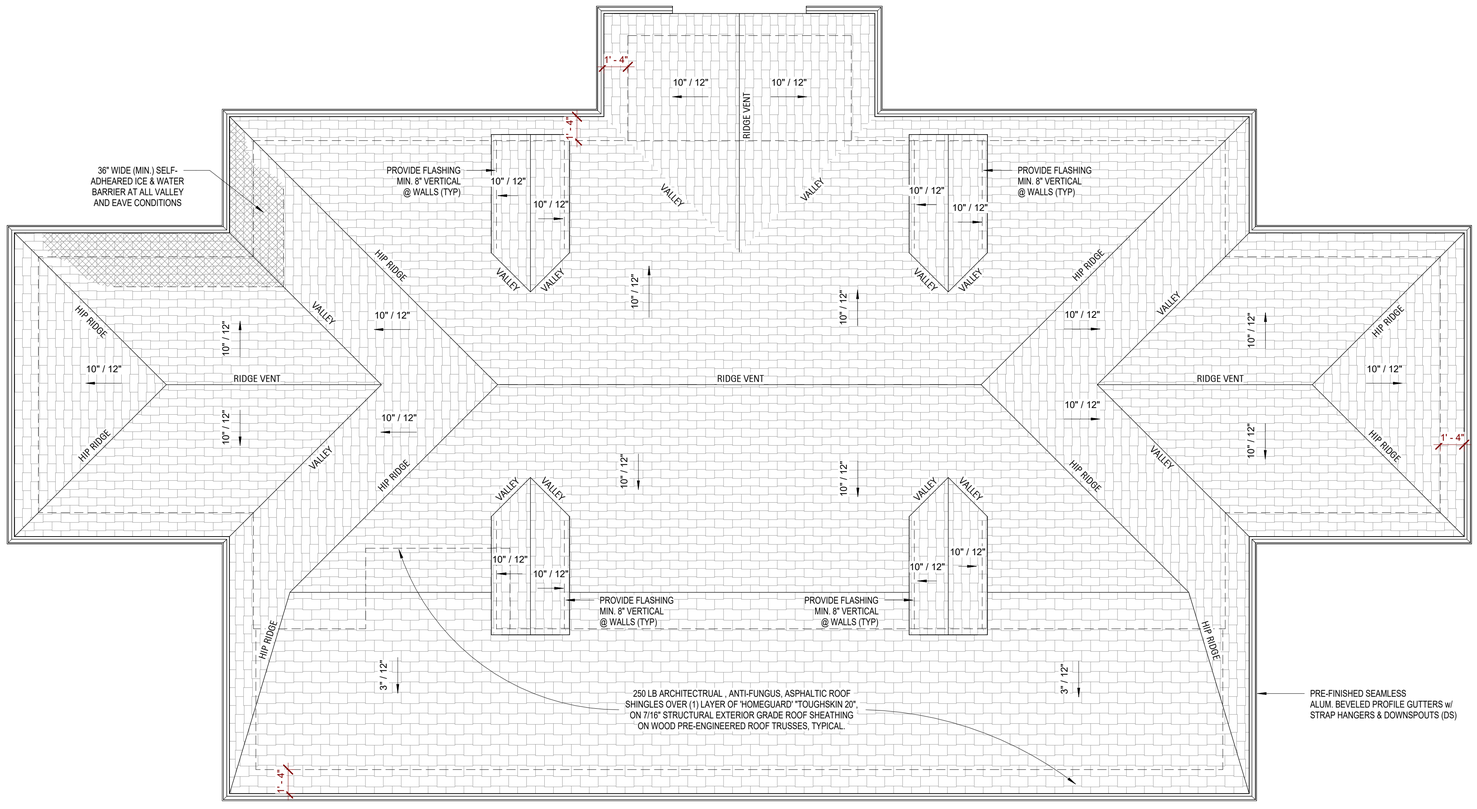
CONNECTION @ GRADE



CONNECTION @ SLABS

2 / A1.4 Detail - Downspout to Storm

1" = 1'-0"



1 / A1.4 Roof Plan

1/4" = 1'-0"

D CLUGSTON

PERRY GLENN COX REGISTERED ARCHITECT 16538 NORTH CAROLINA APEX, N.C.

MATTHEWS LANDING

DR HORTON

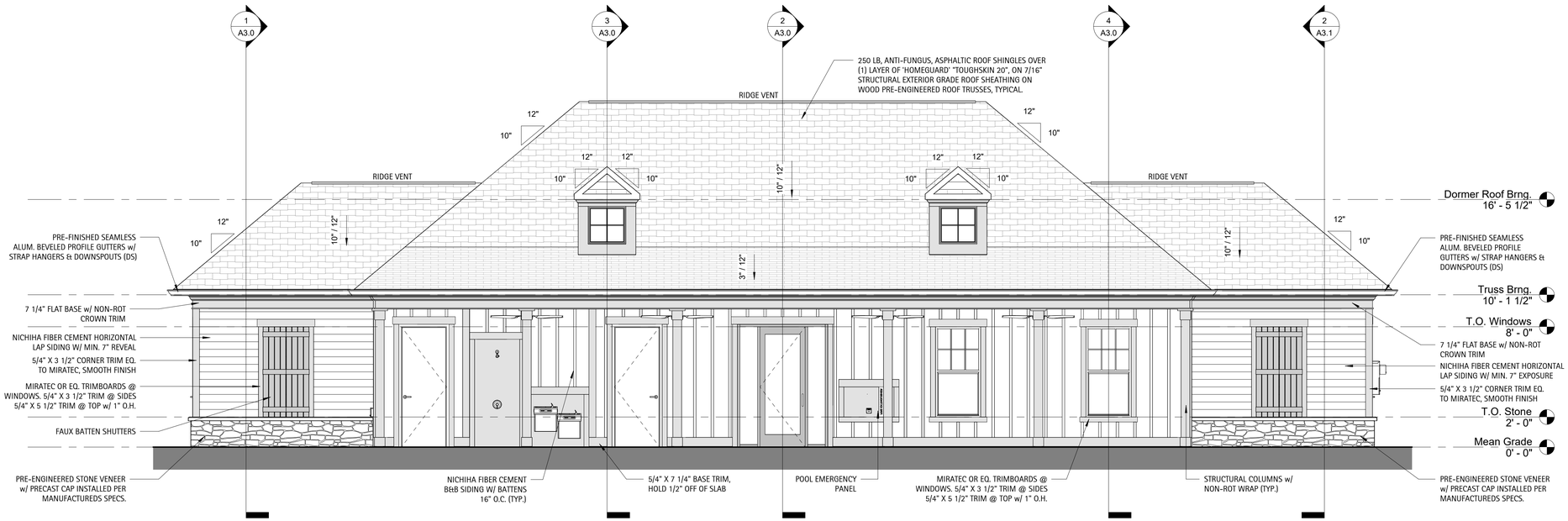
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM
100% I.F.P.	

ROOF PLAN

A1.4



2 A2.0 **Elevation - Rear**

1/4" = 1'-0"

1 A2.0 **Elevation - Front**

1/4" = 1'-0"

D.CLUGSTON

PERRY GLENN COX REGISTERED LANDSCAPE ARCHITECT 3038 NORTH CAROLINA APEX, N.C. 03/24/25

MATTHEWS LANDING

DR HORTON

LILLINGTON, NC

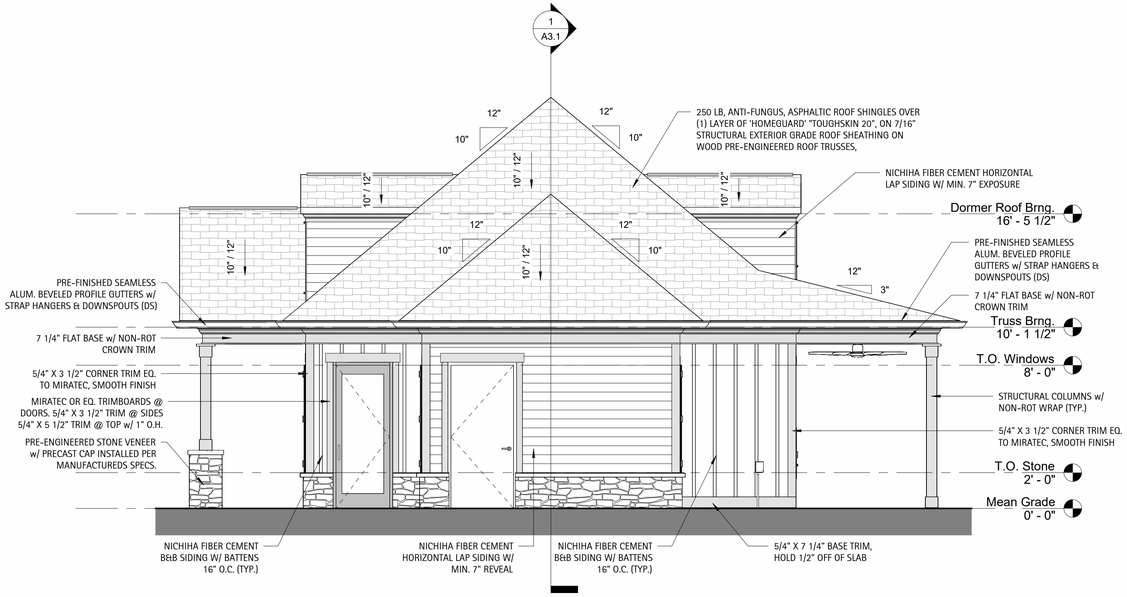
NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM

100% I.F.P.

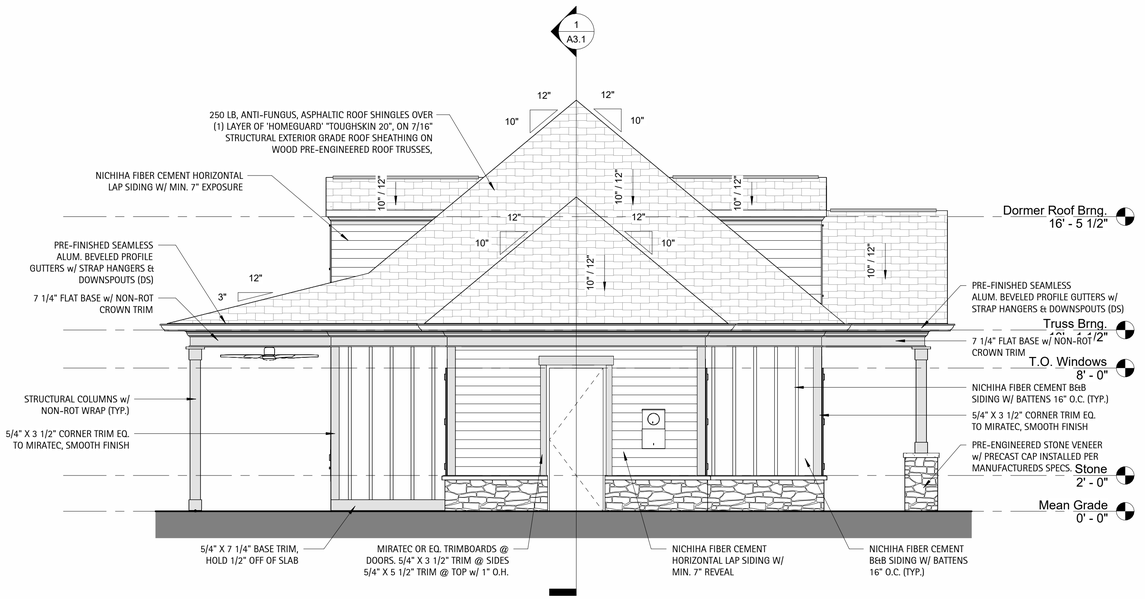
EXTERIOR ELEVATIONS

A2.0



2 A2.1 Elevation - Left

1/4" = 1'-0"



1 A2.1 Elevation - Right

1/4" = 1'-0"

D.CLUGSTON

PERRY GLENN COX REGISTERED ARCHITECT 19538 NORTH CAROLINA APEX, N.C.

MATTHEWS LANDING

DR HORTON

LILLINGTON, NC

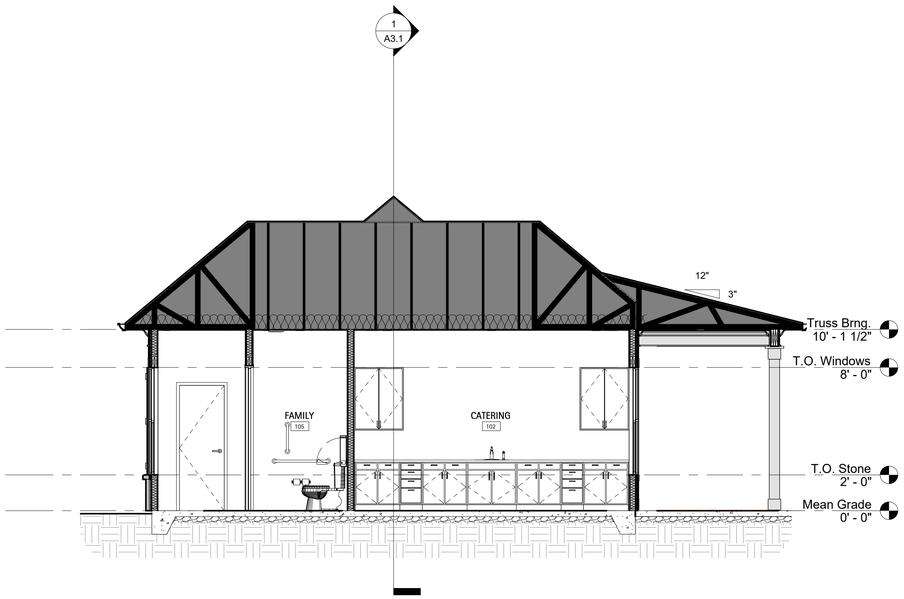
NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM

100% I.F.P.

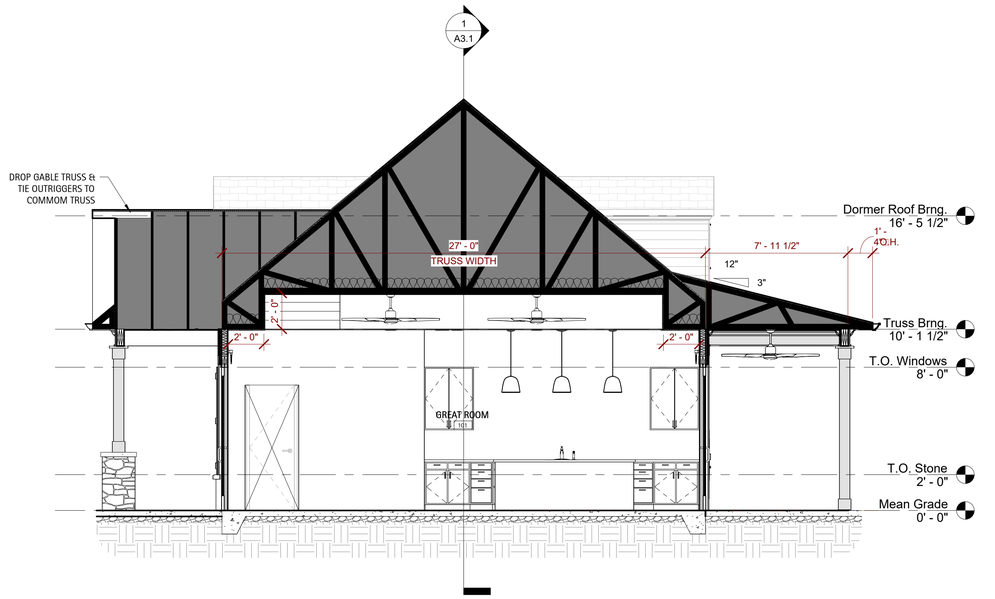
EXTERIOR ELEVATIONS

A2.1



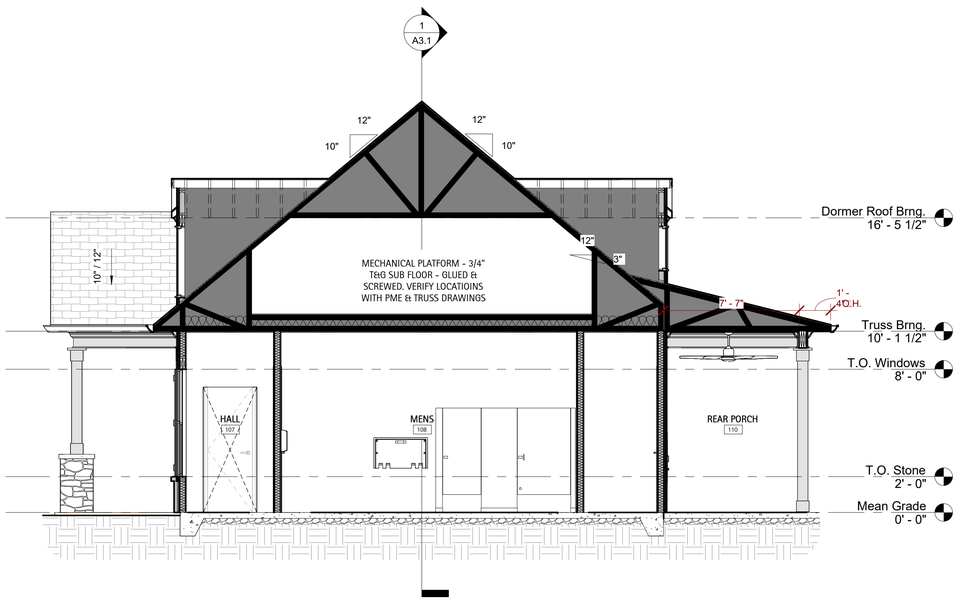
4 A3.0 Through Catering

1/4" = 1'-0"



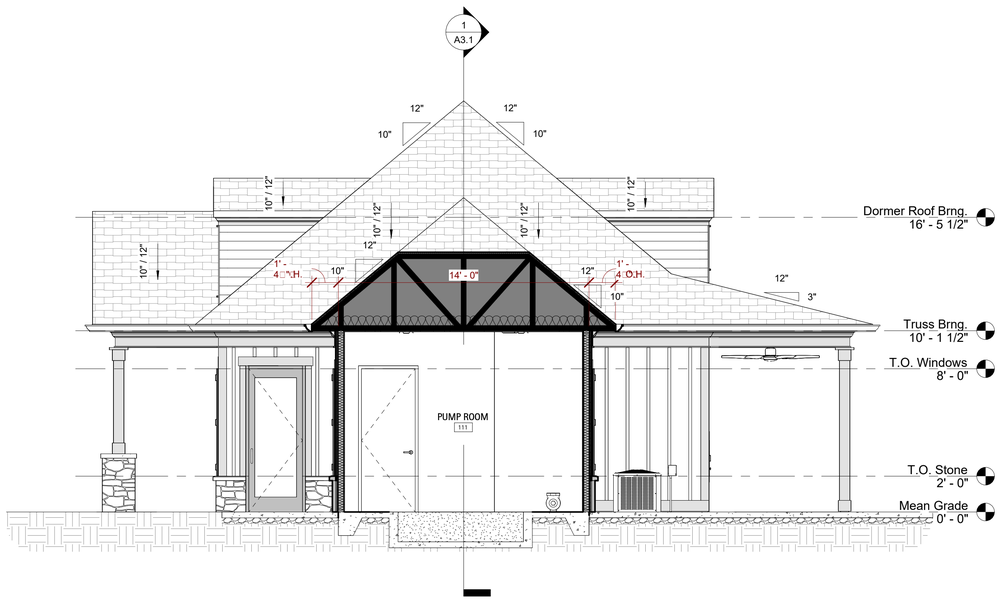
2 A3.0 Through Greatroom

1/4" = 1'-0"



3 A3.0 Through Dormers

1/4" = 1'-0"



1 A3.0 Through Pump Room

1/4" = 1'-0"

D.CLUGSTON

PERRY GLENN COX
REGISTERED LANDSCAPE ARCHITECT
3659
NORTH CAROLINA
APEX, N.C.
03/24/25

MATTHEWS LANDING

DR HORTON

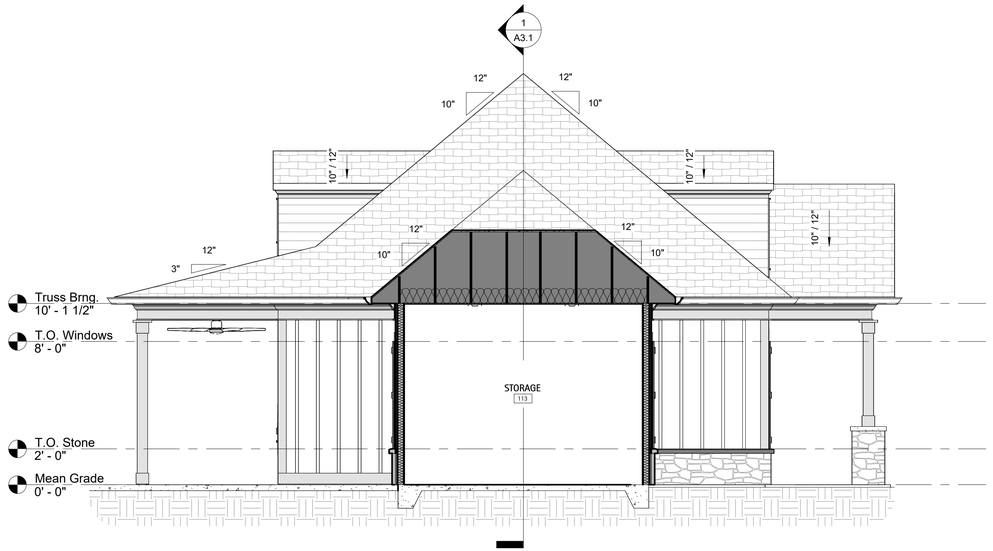
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM
100% I.F.P.	

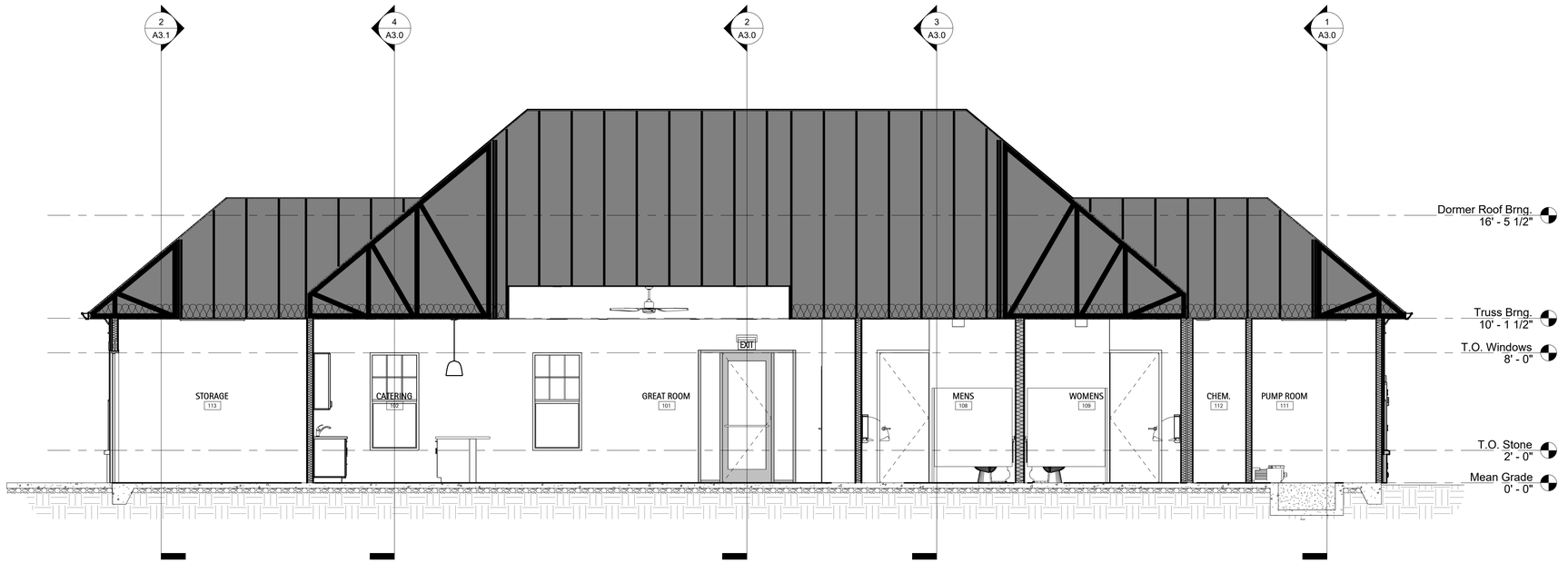
BUILDING SECTIONS

A3.0



2 A3.1 **Through Storage Room**

1/4" = 1'-0"



1 A3.1 **Through Main Ridge**

1/4" = 1'-0"

D.CLUGSTON

PERRY GLENN COX
REGISTERED LANDSCAPE ARCHITECT
NORTH CAROLINA
APEX, N.C.
03/24/25

MATTHEWS LANDING

DR HORTON

LILLINGTON, NC

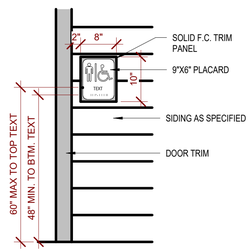
NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM

100% I.F.P.

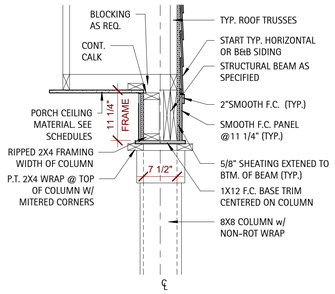
BUILDING SECTIONS

A3.1



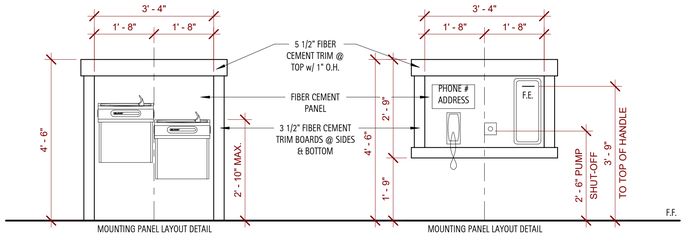
7 A3.2 Detail - Exterior Sign Trim

3/4" = 1'-0"



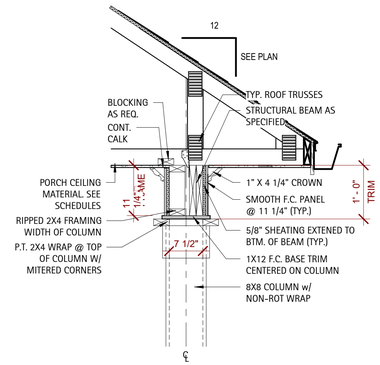
4 A3.2 Detail - Typ. Trim Band @ Gables

3/4" = 1'-0"



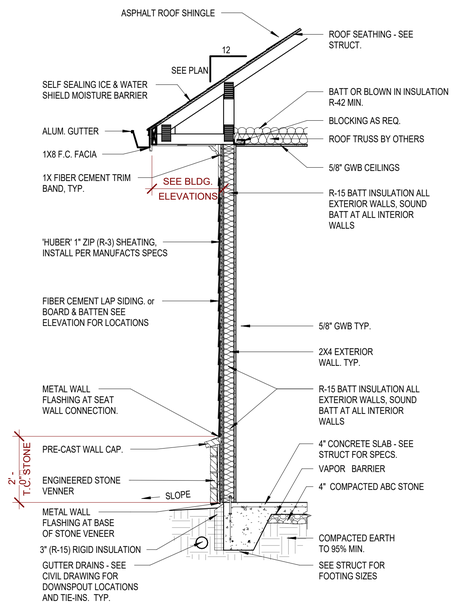
6 A3.2 Detail - Water Cooler & Emergency

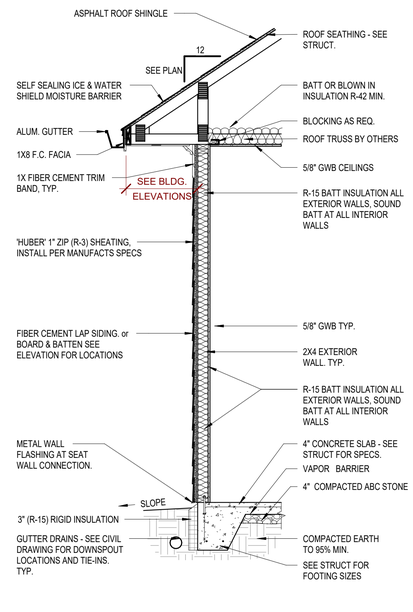
1/2" = 1'-0"

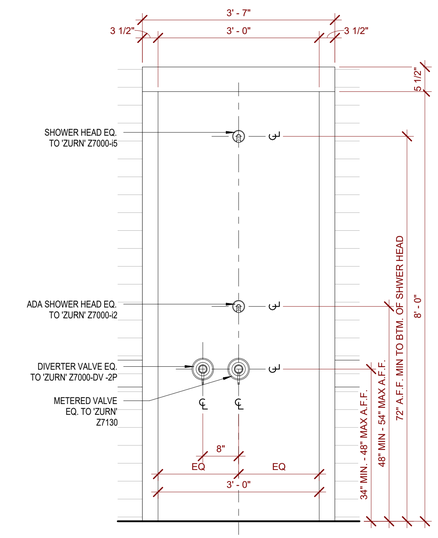


3 A3.2 Detail - Typ. Trim Band @ Soffits

3/4" = 1'-0"



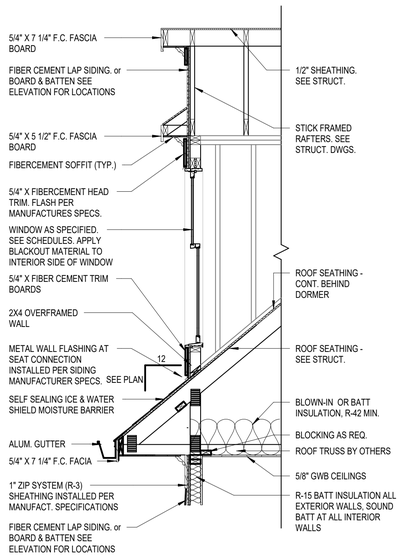




1011.7 OUTDOOR RINSE SHOWERS. OUTDOOR RINSING SHOWERS SHALL PROVIDE AT LEAST TWO FIXED SHOWER HEADS. ONE FIXED SHOWER HEAD SHALL BE 48 INCHES (1220 MM) MINIMUM AND 54 INCHES (1370 MM) MAXIMUM ABOVE THE GROUND SURFACE, AND ONE FIXED SHOWER HEAD SHALL BE 72 INCHES (1830 MM) MINIMUM ABOVE THE GROUND SURFACE.
EXCEPTION: A HAND HELD SHOWER SPRAY UNIT COMPLYING WITH 608.6 SHALL BE PERMITTED INSTEAD OF THE FIXED SHOWER HEAD 48 INCHES (1220 MM) MINIMUM AND 54 INCHES (1370 MM) MAXIMUM ABOVE GROUND SURFACE

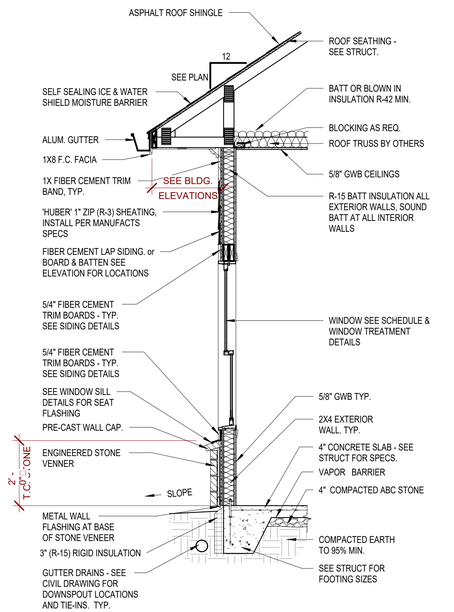
5 A3.2 Detail - Rinse Shower

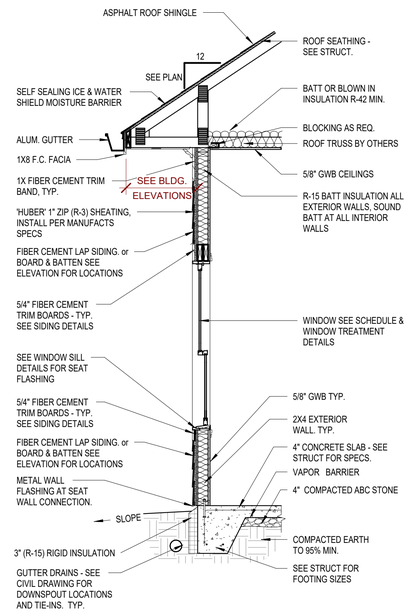
3/4" = 1'-0"



2 A3.2 Detail - Typical Dormer

1/2" = 1'-0"





1 A3.2 Detail - Typ. Wall Sections

1/2" = 1'-0"

D.CLUGSTON

PERRY GLENN COX REGISTERED LANDSCAPE ARCHITECT 1003 NORTH CAROLINA APEX, N.C. 03/24/25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG
CHECKED BY:	PGC/JGM

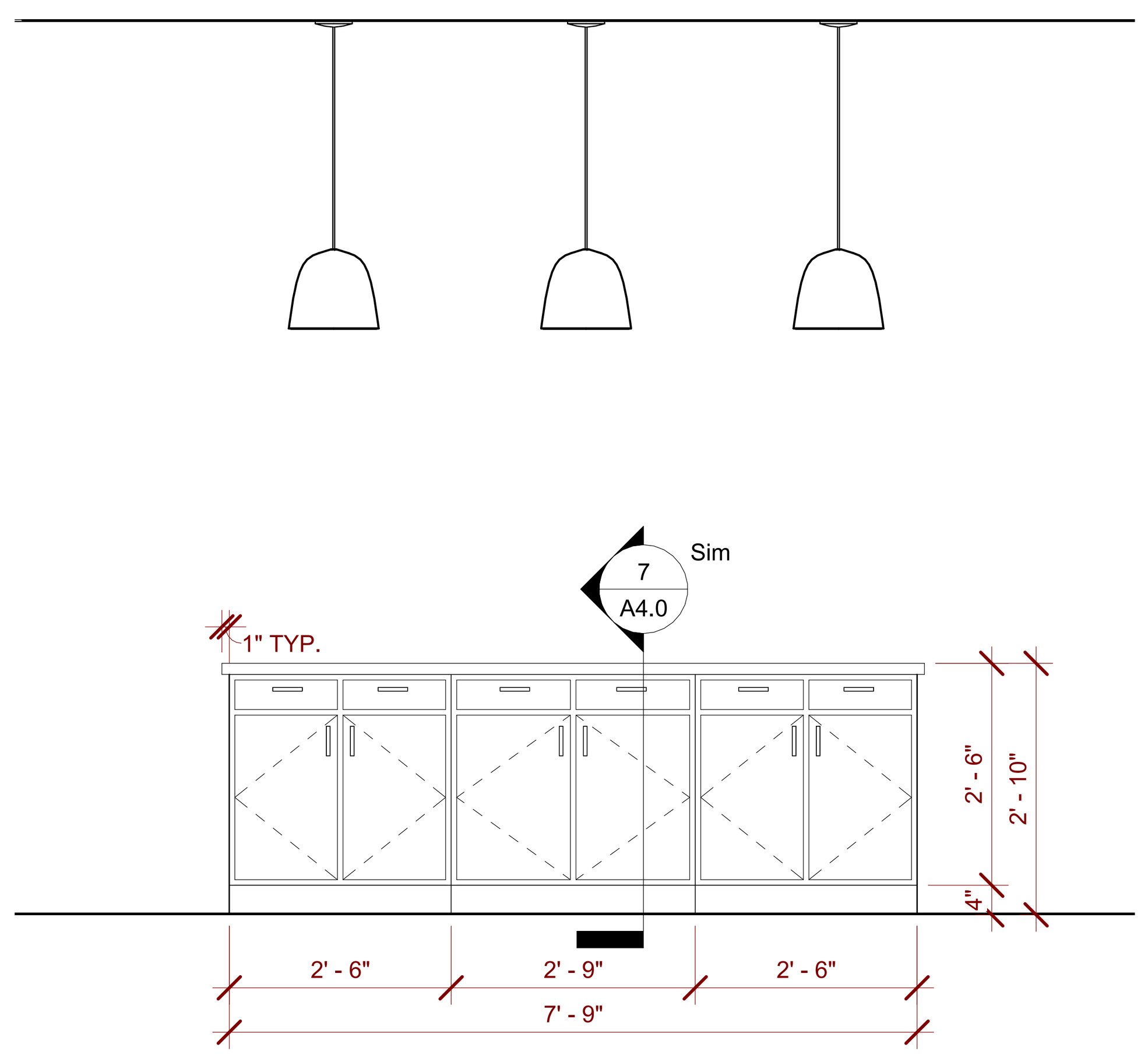
100% I.F.P.

WALL SECTIONS & DETAILS

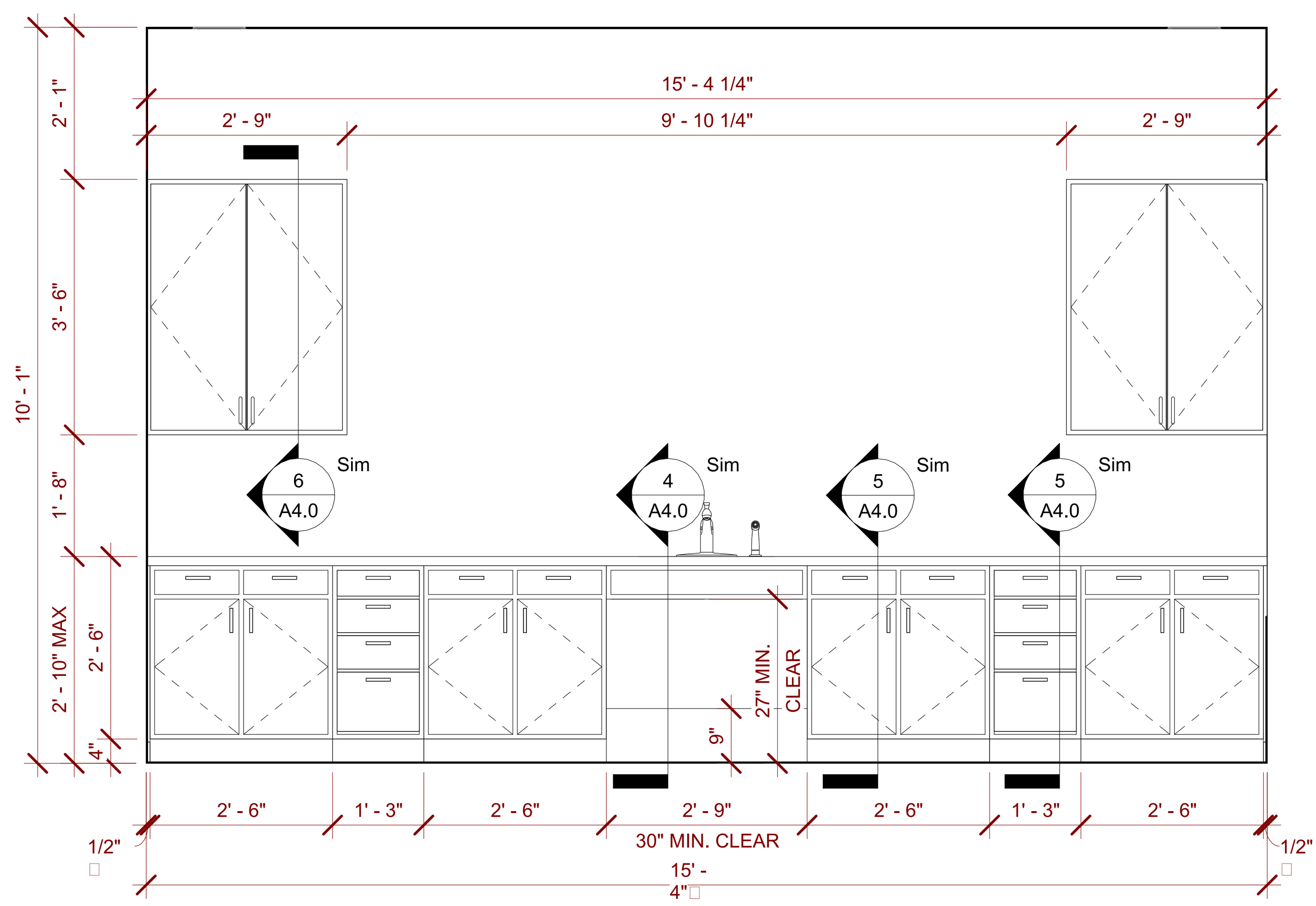
A3.2

TOILET ACCESSORIES

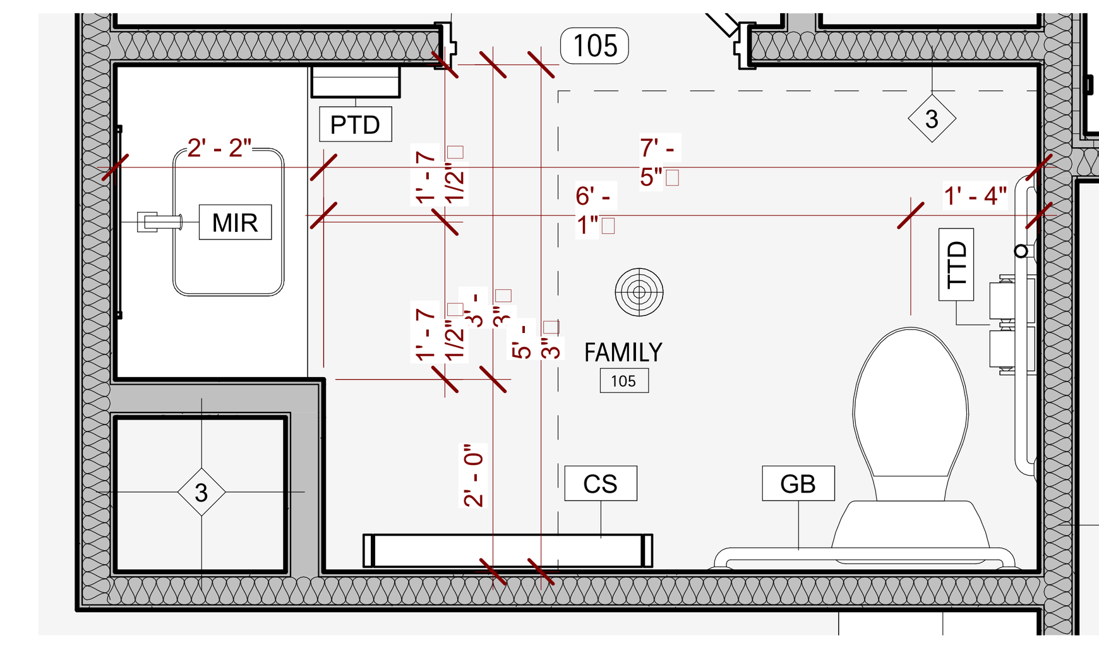
MARK	ITEM	MANUFACTURER	MODEL NUMBER
TTD	SURFACE MOUNTED DUAL ROLL TOILET TISSUE HOLDER	AMERICAN SPECIALTIES, INC	0715
GB	GRAB BAR - 1 1/2" DIA., S/S, PREENED GRIP, SNAP FLANGE 36", 42" & 18"	AMERICAN SPECIALTIES, INC	3800 TYPE-01
MIR	INTERLOK S.S. FRAMED MIRROR W/ SHATTER RESISTANT GLASS	BY OTHERS	N/A
CH	SURFACE MOUNTED COAT HOOK	AMERICAN SPECIALTIES, INC	0714
PTD	SURFACE MOUNTED PAPER TOWEL DISPENSER	AMERICAN SPECIALTIES, INC	0210
CS	SURFACE MOUNTED BABY CHANGING STATION	AMERICAN SPECIALTIES, INC	9012
ST	FOLDING SHOWER SEAT, RECTANGULAR SOLID PHENOLIC SEAT	AMERICAN SPECIALTIES, INC	8203-33
TP	TOILET PARTITION - FLOOR SUPPORTED W/ HEADRAIL, POWDER COATED STEEL FINISH	GENERAL PARTITIONS	SERIES 40-5



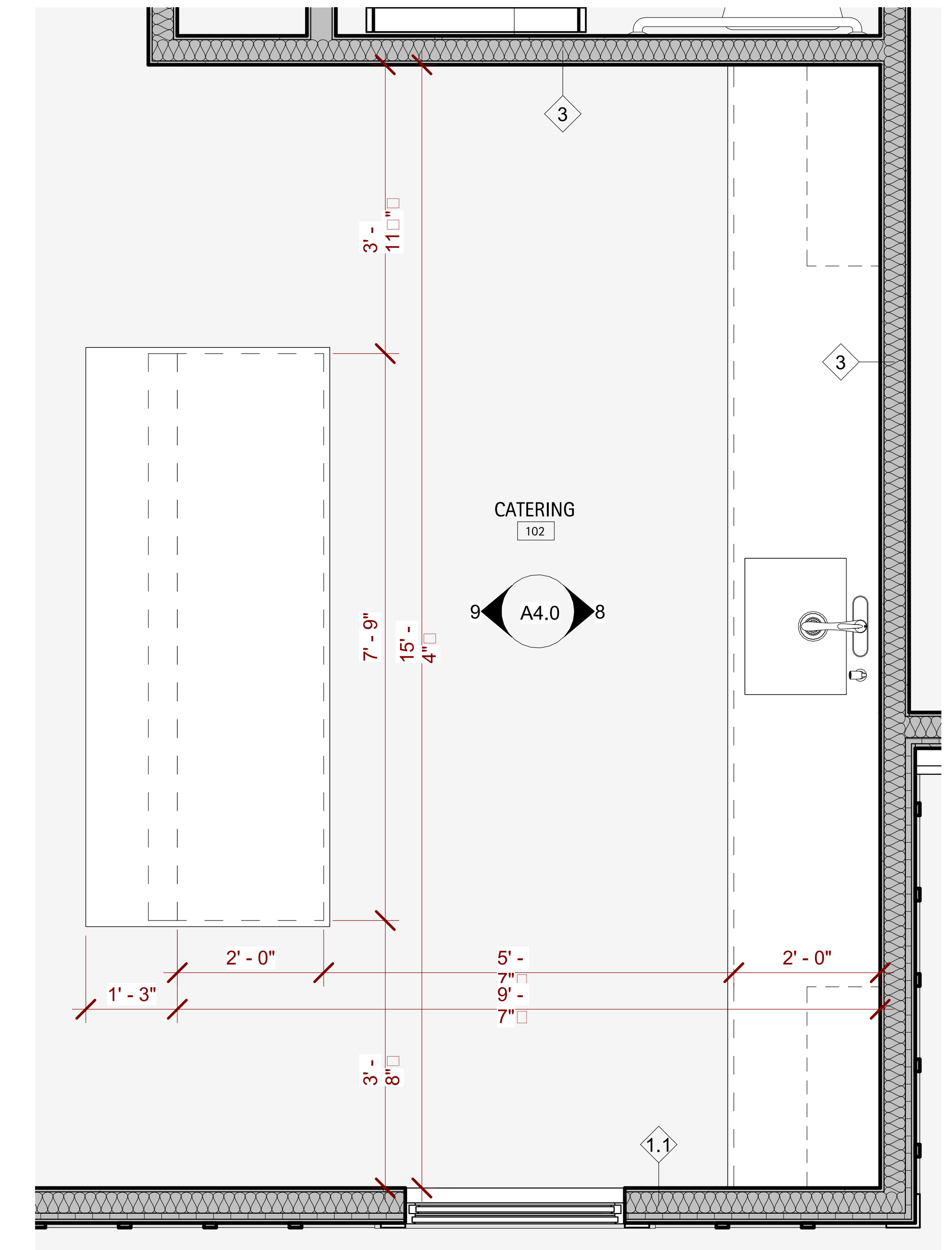
9 A4.0 **Millwork - Catering Island**
1/2" = 1'-0"



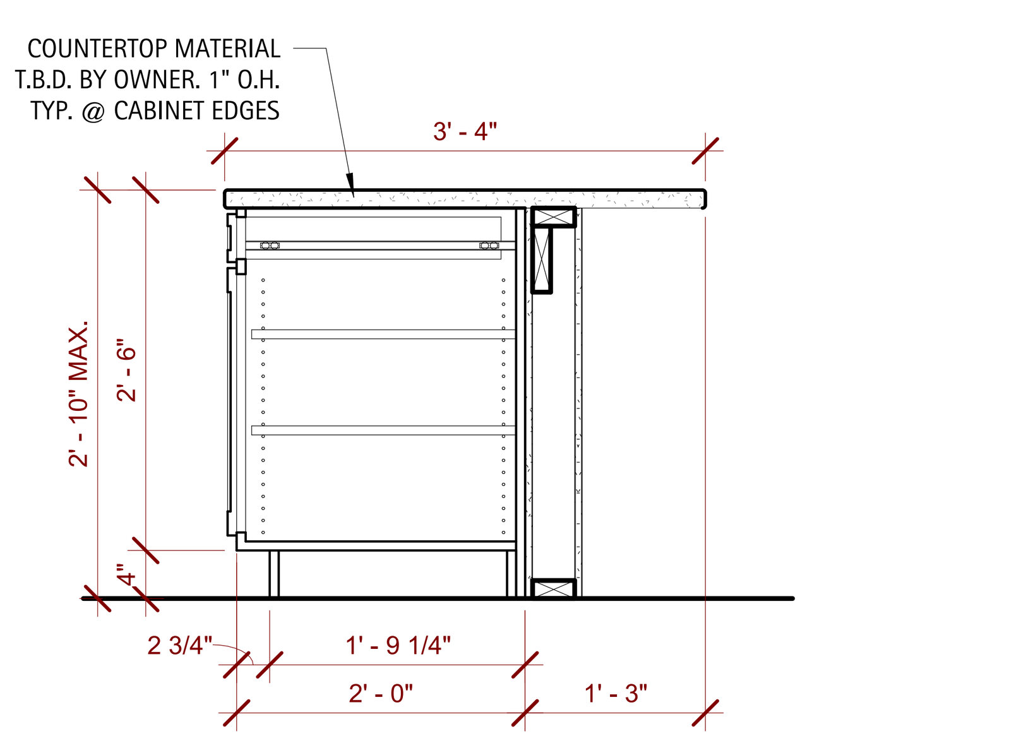
8 A4.0 **Millwork - Catering Back Wall**
1/2" = 1'-0"



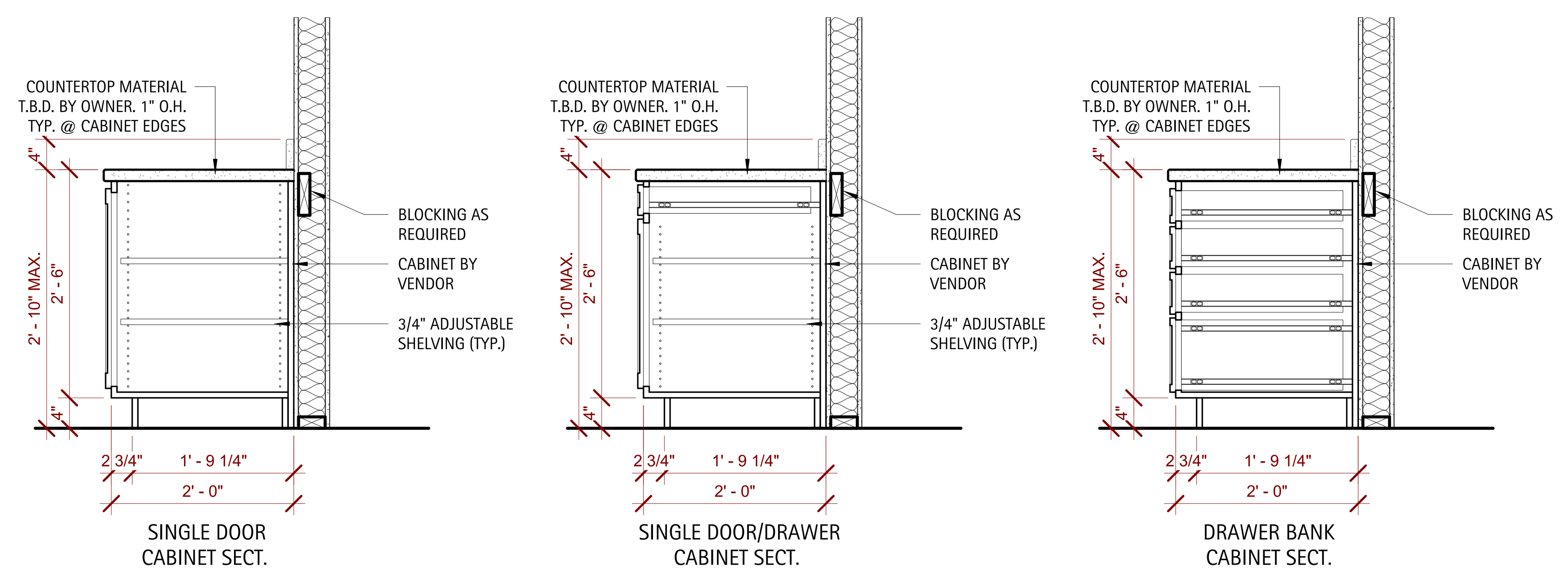
3 A4.0 **Enlarged Family Restroom**
1/2" = 1'-0"



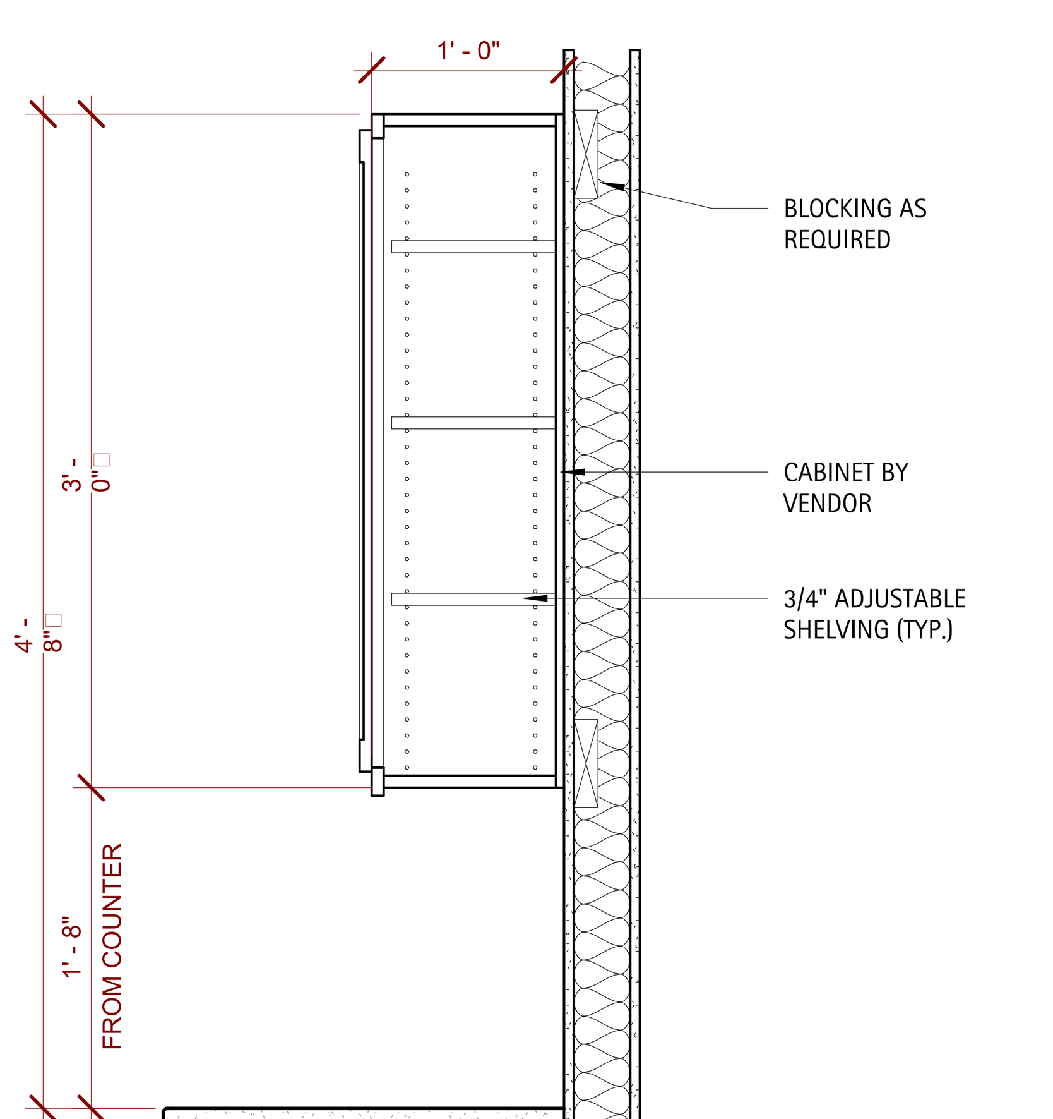
2 A4.0 **Enlarged Catering**
1/2" = 1'-0"



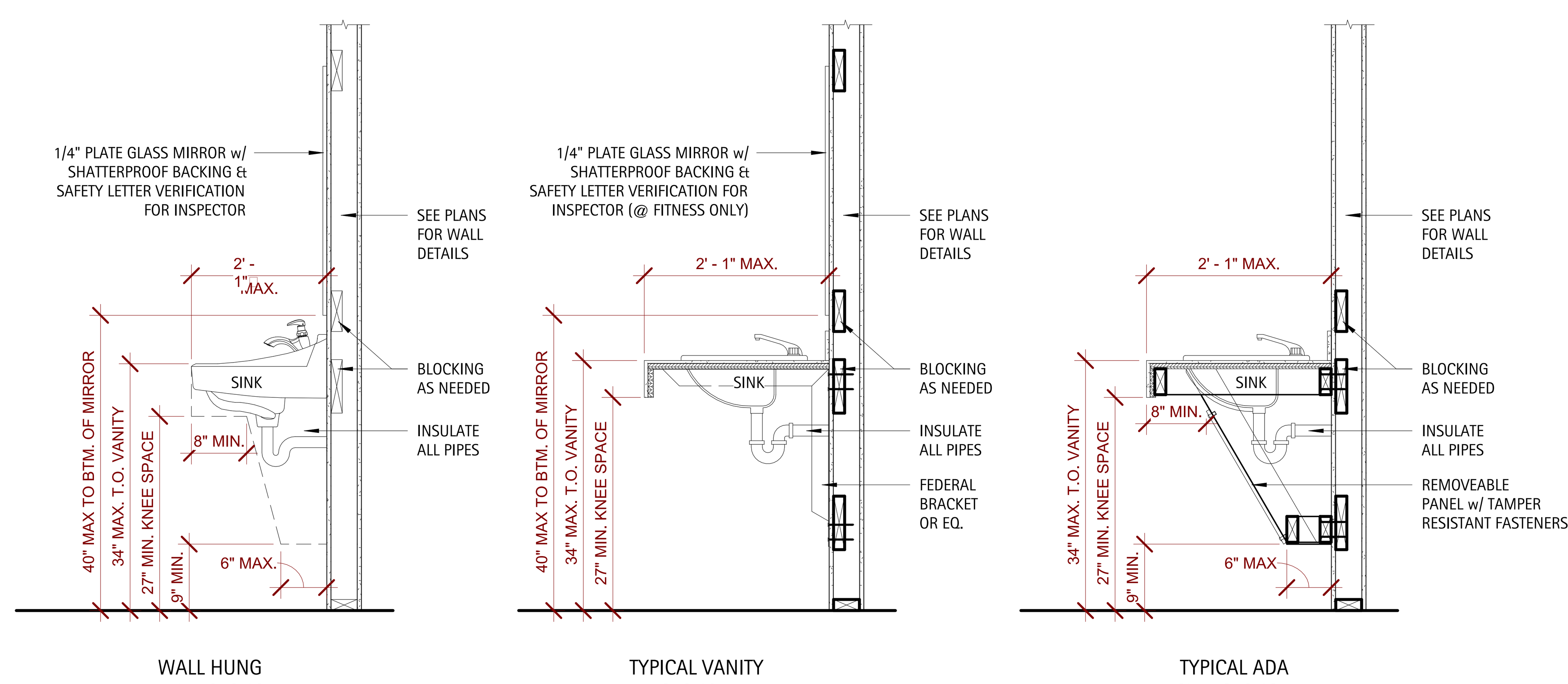
7 A4.0 **Detail - Typ. Island Section**
3/4" = 1'-0"



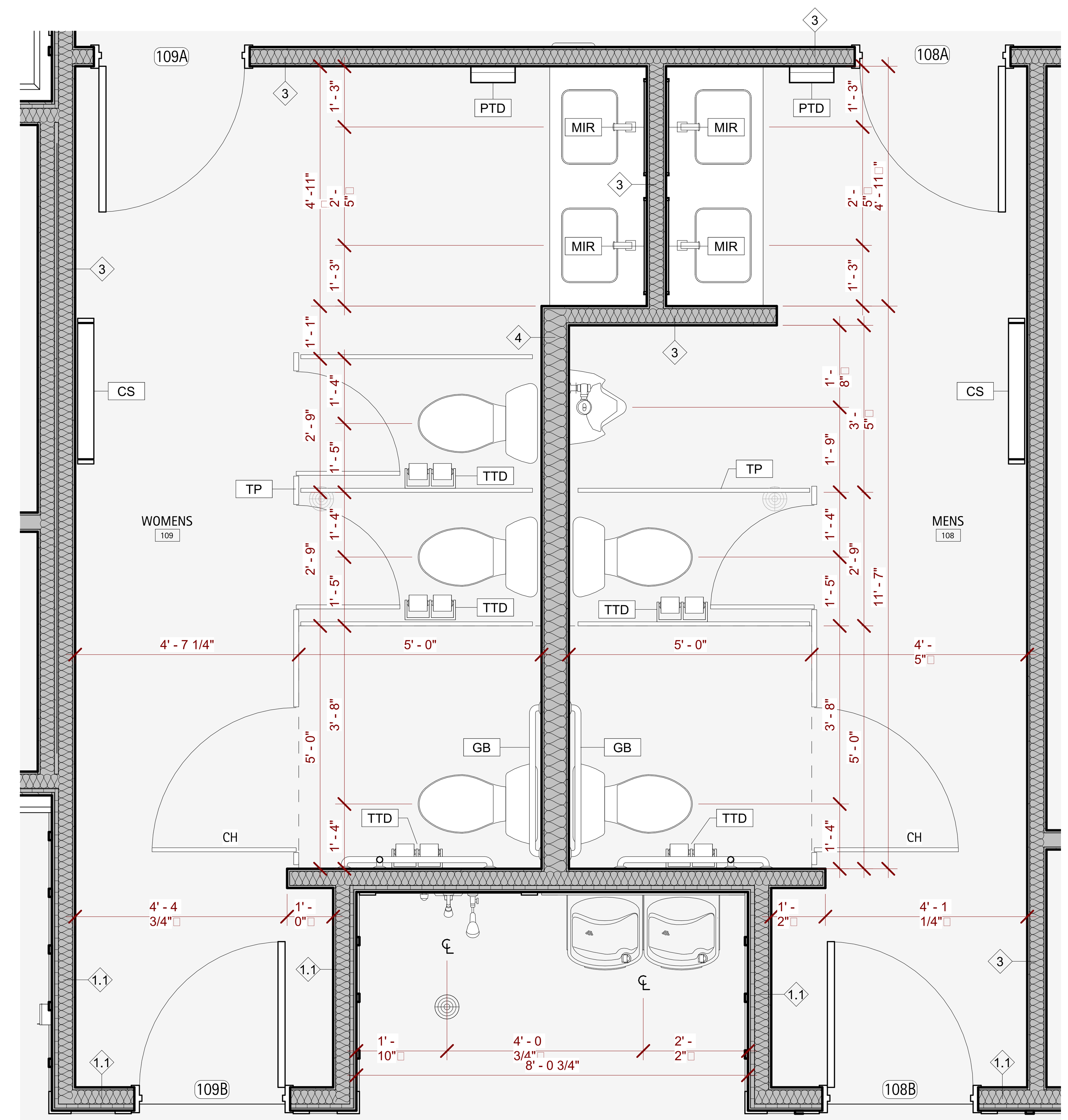
5 A4.0 **Detail - Typ. Cabinet Section**
3/4" = 1'-0"



6 A4.0 **Detail - Typ. Upper Cabinets**
1" = 1'-0"



4 A4.0 **Detail - Typ. Sink Sections**
3/4" = 1'-0"



1 A4.0 **Enlarged Restrooms**
1/2" = 1'-0"

D.CLUGSTON

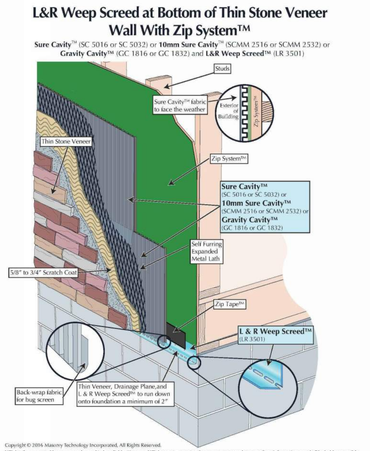
MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

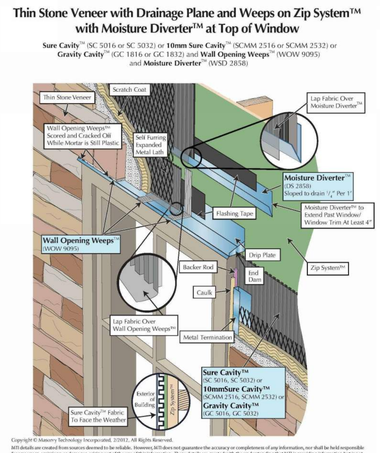
DATE
REVISION
NO.

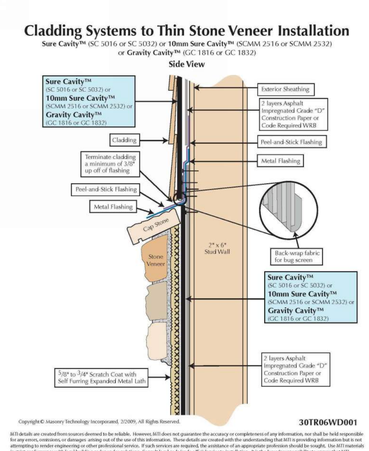
PROJECT #: 2025004
DATE ISSUED: 03/24/2025
DRAWING BY: LBG
CHECKED BY: PGC/JGM
100% I.F.P.

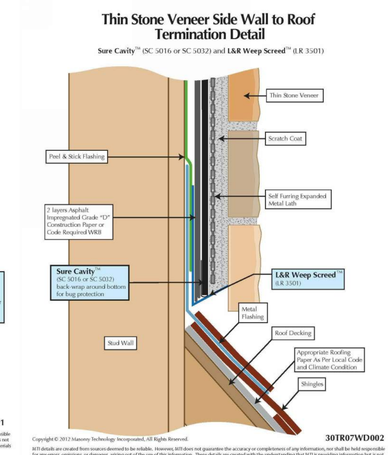
ENLARGED PLANS & DETAILS

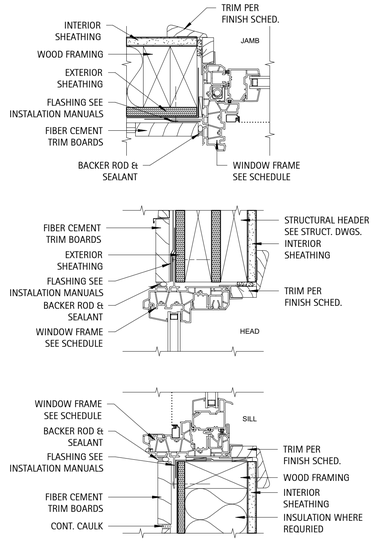
A4.0

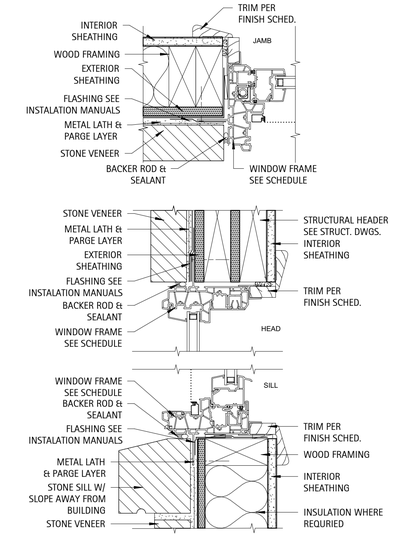






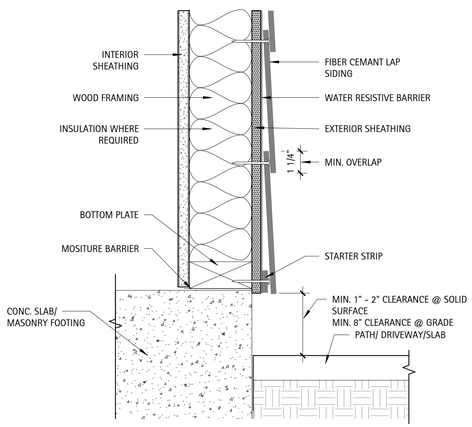


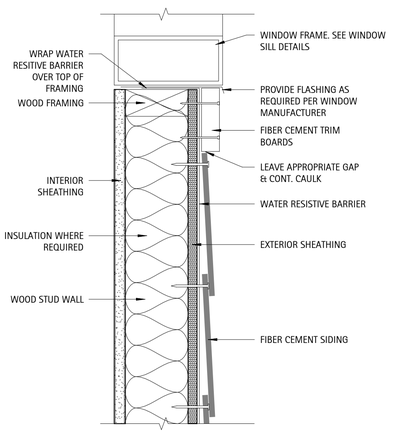


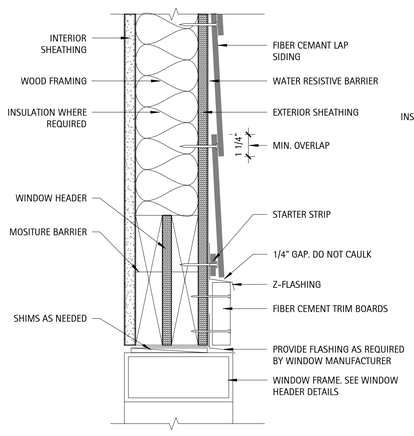


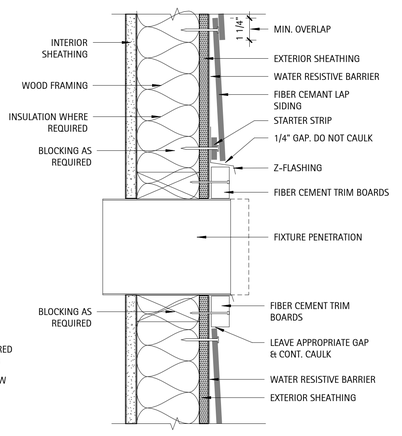
3 A5.0 Detail - Stone Veneer

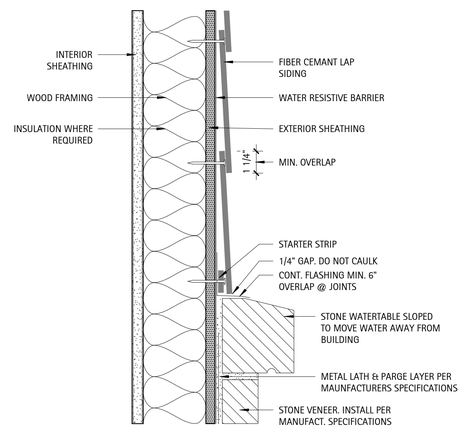
12" = 1'-0"











2 A5.0 Detail - Window Treatments

3" = 1'-0"

1 A5.0 Detail - Fiber Cement Siding

3" = 1'-0"

D.CLUGSTON

J. PERRY GLENN COX
REGISTERED LANDSCAPE ARCHITECT
NORTH CAROLINA
APEX, N.C.

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG / JGM
CHECKED BY:	PGC/JGM

100% I.F.P.

GENERAL BUILDING DETAILS

A5.0

CLUBHOUSE ROOM SCHEDULE

Room Number	Room Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Ceiling Height	Crown	Comments
100	COVERED ENTRY	Conc. - Light Brush Finish	N/A	N/A	Painted Bead Board - SW 7005	10'-1"	Yes	Slope Slab away from building min 1/8" per 1'-0"
101	GREAT ROOM	Ballantyne Floating FLoor - Highlight Oak	1X6WD SW 7005 - Pure White	GWB SW6260 - Unique Gray	GWB SW7005 - Pure White	10'-1" / 12'-1"	Yes	
102	CATERING	Ballantyne Floating FLoor - Highlight Oak	1X6WD SW 7005 - Pure White	GWB SW6260 - Unique Gray	GWB SW7005 - Pure White	10'-1"	Yes	
103	HALL	Ballantyne Floating FLoor - Highlight Oak	1X6WD SW 7005 - Pure White	GWB SW6260 - Unique Gray	GWB SW7005 - Pure White	10'-1"	Yes	
104	CLST.	Ballantyne Floating FLoor - Highlight Oak	1X6WD SW 7005 - Pure White	GWB SW6260 - Unique Gray	GWB SW7005 - Pure White	10'-1"	Yes	
105	FAMILY	Ballantyne Floating FLoor - Highlight Oak	1X6WD SW 7005 - Pure White	MR GWB SW6260 - Unique Gray	MR GWB SW7005 - Pure White	10'-1"	Yes	Slope floor to drain
106	CLST.	Ballantyne Floating FLoor - Highlight Oak	1X6WD SW 7005 - Pure White	GWB SW6260 - Unique Gray	GWB SW7005 - Pure White	10'-1"	Yes	
107	HALL	Ballantyne Floating FLoor - Highlight Oak	1X6WD SW 7005 - Pure White	GWB SW6260 - Unique Gray	GWB SW7005 - Pure White	10'-1"	Yes	
108	MENS	Acrylic Chip	1X6FC SW 7005 - Pure White	MR GWB SW6260 - Unique Gray	MR GWB SW7005 - Pure White	10'-1"	Yes	Slope floor to drain
109	WOMENS	Acrylic Chip	1X6FC SW 7005 - Pure White	MR GWB SW6260 - Unique Gray	MR GWB SW7005 - Pure White	10'-1"	Yes	Slope floor to drain
110	REAR PORCH	Conc. - Light Brush Finish	N/A	N/A	Painted Bead Board - SW 7005	10'-1"	Yes	Slope Slab away from building min 1/8" per 1'-0"
111	PUMP ROOM	Conc. - Light Brush Finish	1X6FC SW 7005 - Pure White	MR GWB SW6260 - Unique Gray	MR GWB SW7005 - Pure White	10'-1"	No	Slope floor to drain
112	CHEM.	Conc. - Light Brush Finish	1X6FC SW 7005 - Pure White	MR GWB SW6260 - Unique Gray	MR GWB SW7005 - Pure White	10'-1"	No	Provide non-rot checmical shelf @ 16" A.F.F.
113	STORAGE	Conc. - Light Brush Finish	1X6FC SW 7005 - Pure White	MR GWB SW6260 - Unique Gray	MR GWB SW7005 - Pure White	10'-1"	No	

DOORS, FRAMES, HARDWARE NOTES

1 Refer to Door and Hardware Schedule for extent, type and additional notes. Acceptable wood door manufacturers to be Weyerhaeuser, Eggers, Mohawk or Architect approved equal. General Contractor shall provide a hardware schedule and catalogue cuts for all finish hardware for approval by the Architect indicating location of hardware set, cross-referenced to indications on Drawings, manufacturer's name and product number, finish, and other similar information describing hardware to be provided. Items of hardware not definitely specified, but needed for satisfactory installation of hardware shall be provided. Such items shall be of type and quality suitable for service needed and comparable to adjacent hardware.

2 All doors shall be set 6" off adjacent perpendicular wall, UON. Doors shall not be undercut, UON. All levers, pulls, and locks are to be provided per the schedule. All hinges and other miscellaneous exposed hardware shall be in similar and compatible finishes as indicated on Hardware Schedule.

3 General Contractor shall coordinate keying system with Owner (Building Management), Landlord, and Architect. General Contractor shall coordinate security system with system vendor and scheduled hardware and the submittal of all security hardware specifications and cut sheets to the proper authorities for review and approval during building permit process

4 Provide hardware, door pulls, hinges, closers, electromagnetic devices, etc. needed to provide a full and complete installation. Provide silencers at metal frame doors. Provide floor mounted door stops unless existing conditions require wall mounted. Ensure adequate blocking for wall mounted stops. Submit to Architect for approval.

5 Provide 4 1/2 x 4 1/2, full mortise, template, 5-knuckle, heavy duty, button tip hinges with non-rising loose pins and anti-friction, ball type bearing. Doors with locksets shall be furnished with non-removable pins hinges. Provide 1-1/2" pair hinges for doors up to 90" in height. Add 1 hinge for every additional 30" in height.

6 Heavy duty cylindrical locksets and latchsets shall conform to ANSI A156.2, Series 4000, Grade 1. Functions as listed in schedule. Heavy duty mortise locksets and latchsets, levers shall conform to ANSI A156.13 Series, 1000, Grade 1. Overhead Closers shall be surface mounted or concealed overhead as noted in the hardware schedule and shall be heavy duty, fully hydraulic, rack and pinion action and sized to be in compliance with requirements for accessibility for handicapped and recommendations of manufacturer. Furnish complete with all necessary hardware. Furnish 2 keys per lock with a maximum of 8 keys per keyed alike set. Before final completion, adjust hardware so that doors operate in perfect order. Test and adjust hardware for quiet, smooth operation and adjust closers for proper operation. At final completion, properly tag and identify keys and deliver to Owner.

7 All Hardware shall be medium grade commercial if not otherwise noted or specified. See allowance per door.

8 All interior egress doors and a minimum of one exterior egress door shall be readible openalbe from the egress side without use of a key or special knowledge.

9 All Glazing within 24" of either side of a door in a closed position, and on the same wall plane shall be tempered. Tempered glass shall be installed by code in the following locations:
- a. Door Glazing;
- b. Glazingfor bathroom fixture enclosures(showers, etc)
- c. Glazing less than 60" above tub and shower drains;
- d. Glazing within24" of an adjacent door w/ sill less than 60 degrees;
- e. Individual panels of Glazing greater than 9 sqft and sill less than 18" above floor and top edge greater than 36".

10 Provide an interior door signage allowance of $25.00 per door.

11 Fire Extinusisher cabinets shall be similar to JL Industries Mod. Clear VU 1525F26 with a clear bubble and A#10 S/S Finish. ADA approved and mounted. Place where shown on plans (FX)

12 Door closers shall be LCN series 4040 or equivalent

CLUBHOUSE DOOR SCHEDULE

Door Number	Style	Door Width	Door Height	Door Thickness	Rough Width	Rough Height	Door Material	Door Finish	Frame Material	Frame Finish	Fire Rating	Hardware: Push / Pull	Passage Set	Privacy Set	Office Set	Storage Set	Deadbolt	Panic Hardware	Closer	Weather strip	Threshold	FOB Access	Time Lock	Comments
101A	TYPE C	3' - 0"	8' - 0"	0' - 2"	3' - 8 1/2"	8' - 0 1/4"	Alum./Glass	Anondized	Alum.	Anondized	N/A	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
101B	TYPE C	3' - 0"	8' - 0"	0' - 2"	3' - 8 1/2"	8' - 0 1/4"	Alum./Glass	Anondized	Alum.	Anondized	N/A	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
103	TYPE B	0' - 0"	0' - 0"	0' - 0"	3' - 0"	7' - 0"	N/A	N/A	N/A	N/A	N/A	No	No	No	No	No	No	No	No	No	No	No	No	
104	TYPE A-1	2' - 6"	7' - 0"	0' - 1 3/4"	2' - 8 1/2"	7' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	No	No	No	No	Yes	No	No	No	No	No	No	No	
105	TYPE A-1	3' - 0"	8' - 0"	0' - 1 3/4"	3' - 2 1/2"	8' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	No	No	Yes	No	No	No	No	Yes	No	No	No	No	
106	TYPE A-1	2' - 6"	7' - 0"	0' - 1 3/4"	2' - 8 1/2"	7' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	No	No	No	No	Yes	No	No	No	No	No	No	No	
107	TYPE B	0' - 0"	0' - 0"	0' - 0"	3' - 0"	7' - 0"	N/A	N/A	N/A	N/A	N/A	No	No	No	No	No	No	No	No	No	No	No	No	
108A	TYPE A-1	3' - 0"	8' - 0"	0' - 1 3/4"	3' - 2 1/2"	8' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	Yes	No	No	No	No	Yes	No	Yes	No	No	No	No	
108B	TYPE A-1	3' - 0"	8' - 0"	0' - 1 3/4"	3' - 2 1/2"	8' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	Yes	No	No	No	No	Yes	No	Yes	Yes	Yes	No	No	
109A	TYPE A-1	3' - 0"	8' - 0"	0' - 1 3/4"	3' - 2 1/2"	8' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	Yes	No	No	No	No	Yes	No	Yes	No	No	No	No	
109B	TYPE A-1	3' - 0"	8' - 0"	0' - 1 3/4"	3' - 2 1/2"	8' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	Yes	No	No	No	No	Yes	No	Yes	Yes	Yes	No	No	
111	TYPE A-2	3' - 6"	8' - 0"	0' - 1 3/4"	3' - 8 1/2"	8' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	No	No	No	No	Yes	No	No	Yes	Yes	Yes	No	No	
112	TYPE A-2	3' - 0"	8' - 0"	0' - 1 3/4"	3' - 2 1/2"	8' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	No	Yes	No	No	No	No	No	No	No	No	No	No	
113	TYPE A-1	3' - 0"	8' - 0"	0' - 1 3/4"	3' - 2 1/2"	8' - 1 1/4"	Metal	Painted	Metal	Painted	N/A	No	No	No	No	Yes	No	No	Yes	Yes	Yes	No	No	
114	TYPE C	3' - 0"	8' - 0"	0' - 2"	3' - 8 1/2"	8' - 0 1/4"	Alum./Glass	Anondized	Alum.	Anondized	N/A	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
G100	TYPE D	6' - 0"	6' - 0"				Metal	Painted	Metal	Painted	N/A	No	No	No	No	No	No	Yes	Yes	No	No	Yes	Yes	Gate: See Pool Details
G101	TYPE D	6' - 0"	6' - 0"				Metal	Painted	Metal	Painted	N/A	No	No	No	No	No	No	Yes	Yes	No	No	Yes	Yes	Gate: See Pool Details
G102	TYPE D	6' - 0"	6' - 0"				Metal	Painted	Metal	Painted	N/A													Gate: See Pool Details

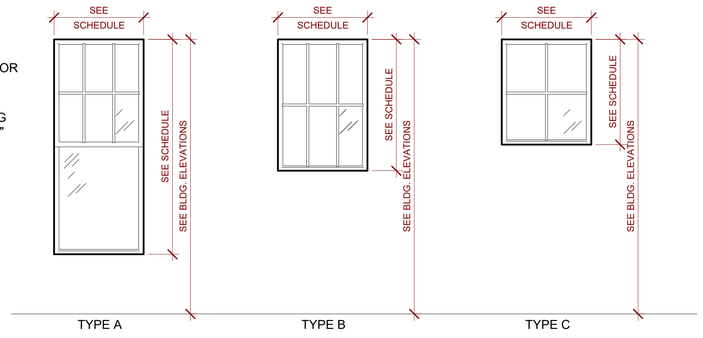
Grand total: 18

CLUBHOUSE WINDOW SCHEDULE

Mark	Count	Size: Width	Size: Height	Type	Finish	Head Height	Comments
A	8	3' - 0"	6' - 0"	Plygem - 1500 Series	White	8' - 0"	
B	2	2' - 6"	4' - 0"	Plygem - 1500 Series	White	16' - 0"	OBSCURE GLASS
C	2	2' - 6"	2' - 6"	Plygem - 1500 Series	White	16' - 0"	OBSCURE GLASS

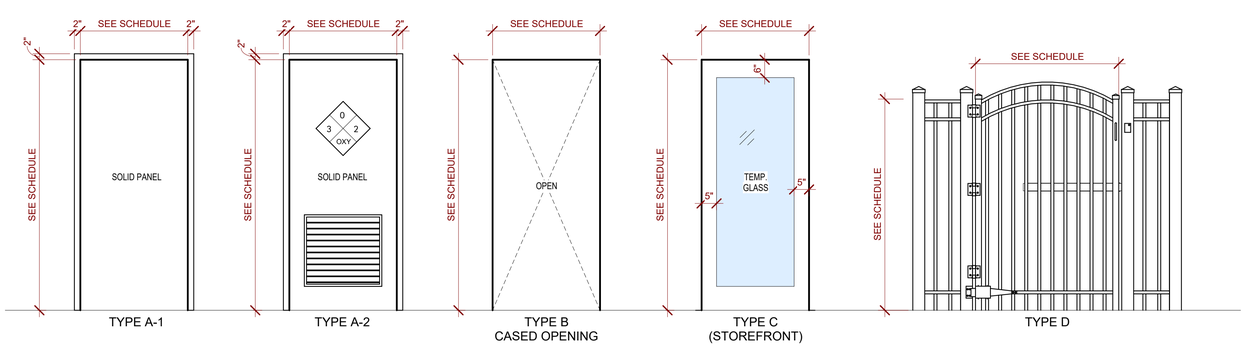
NOTE: SEE EXTERIOR ELEVATIONS FOR EXTERIOR TRIM STYLES.

NOTE: EXTERIOR GLAZING TO BE 'ADVANCED LOW-E" GLAZING



2 A6.0 Detail - Window Types

1/2" = 1'-0"



NOTE: EXTERIOR STOREFRONT DOORS TO HAVE 1" TEMPERED GLASS

NOTE: SEE EXTERIOR ELEVATIONS FOR EXTERIOR TRIM STYLES.

1 A6.0 Detail - Door Frames

1/2" = 1'-0"

D CLUGSTON

PERRY GLENN COX REGISTERED ARCHITECT 13830 SOUTH CAROLINA APEX, N.C.

MATTHEWS LANDING

DR HORTON

LILLINGTON, NC

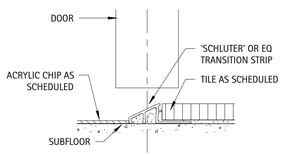
NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG / JGM
CHECKED BY:	JLH

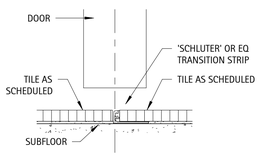
100% I.F.P.

SCHEDULES & DETAILS

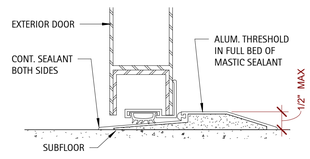
A6.0



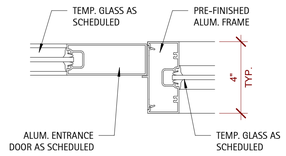
ACRYLIC TO TILE



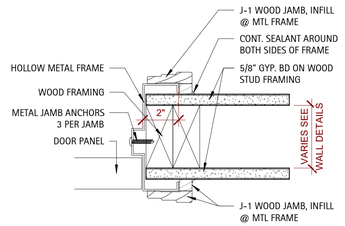
TILE TO TILE



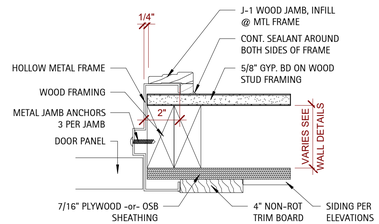
EXTERIOR DOORS THRESHOLD



STOREFRONT DOOR JAMB



INTERIOR DOOR JAMB



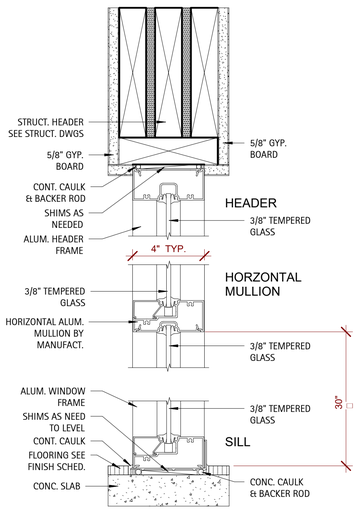
EXTERIOR DOOR JAMB

5 A6.1 Detail - Typ. Thresholds

6" = 1'-0"

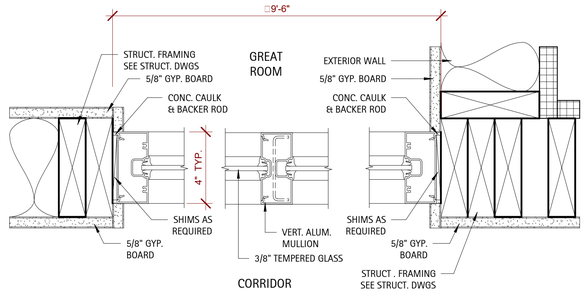
4 A6.1 Detail - Typ. Door Jambs

3" = 1'-0"



3 A6.1 Detail - Storefront Vertical Sect.

3" = 1'-0"

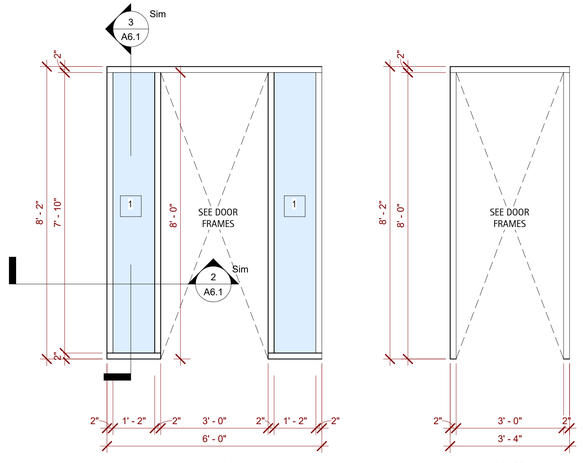


2 A6.1 Detail - Storefront Horiz. Sect.

3" = 1'-0"

1 1" TEMPERED GLASS - 1/4" GLASS / 1/2" AIRSPACE / 1/4" GLASS

NOTE: ALL EXTERIOR STOREFRONT WINDOWS TO BE TRIFAB 451 OR APPROVED EQUAL



1 A6.1 Detail - Storefront

1/2" = 1'-0"

D.CLUGSTON

PERRY GLENN COX REGISTERED LANDSCAPE ARCHITECT 1653 NORTH CAROLINA APEX, N.C.

MATTHEWS LANDING

DR HORTON

LILLINGTON, NC

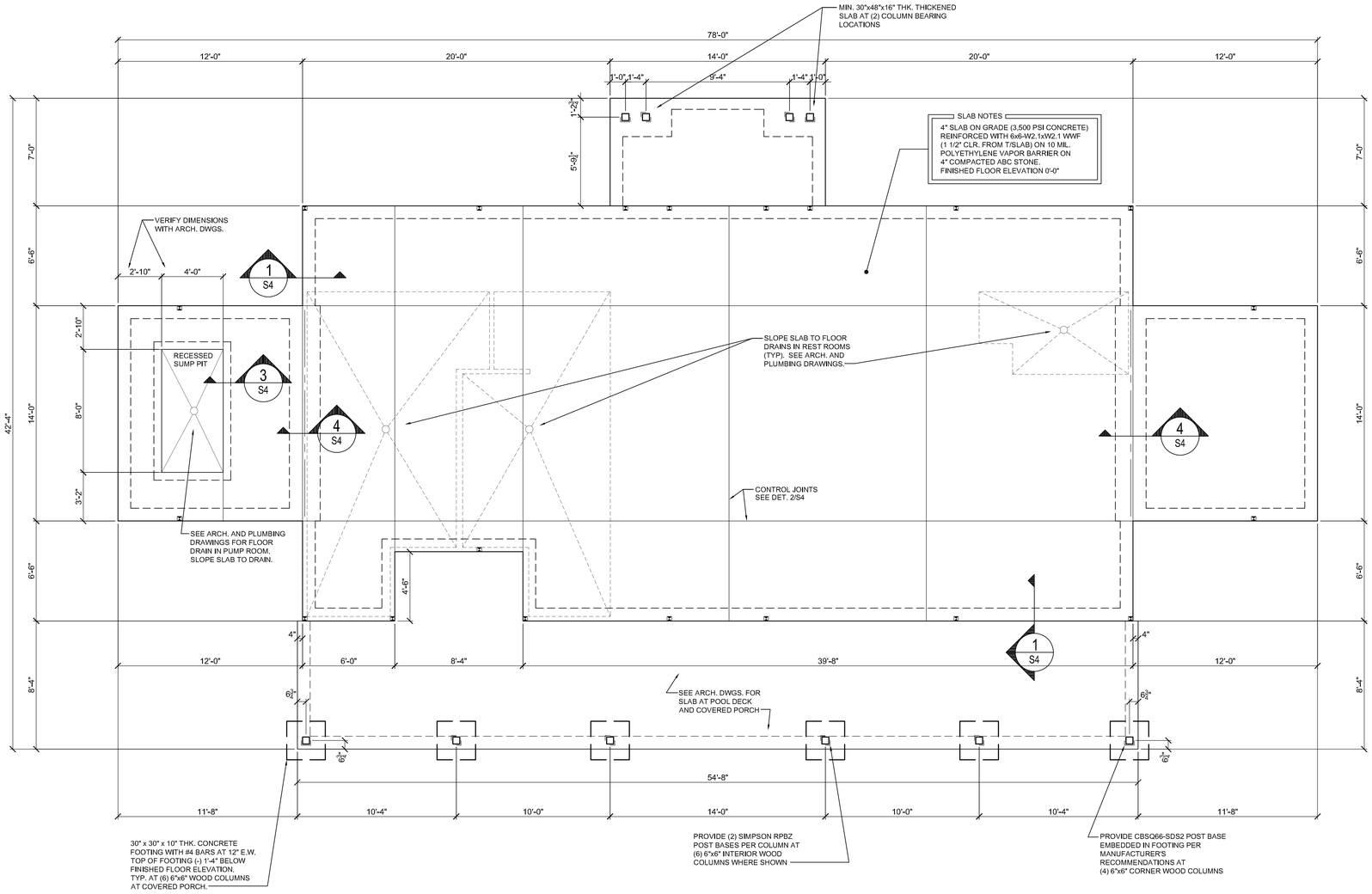
NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/24/2025
DRAWING BY:	LBG / JGM
CHECKED BY:	JGM/PGC

100% I.F.P.

STOREFRONT ELEVATIONS AND DETAILS

A6.1



1 S1 SLAB AND FOUNDATION PLAN

1/4" = 1'-0"

D.CLUGSTON

ROSS LINDEN
ENGINEERS PC
709 W. JONES STREET RALEIGH, NC 27603
TEL 919.832.1680 FAX 919.832.1675
WWW.ROSSLINDEN.COM NC LICENSE NO. C-2364

NORTH CAROLINA PROFESSIONAL SEAL 25539 ENGINEER BRIAN M. ROSS
3.18.2025
SEAL NOT VALID UNLESS SIGNED AND DATED

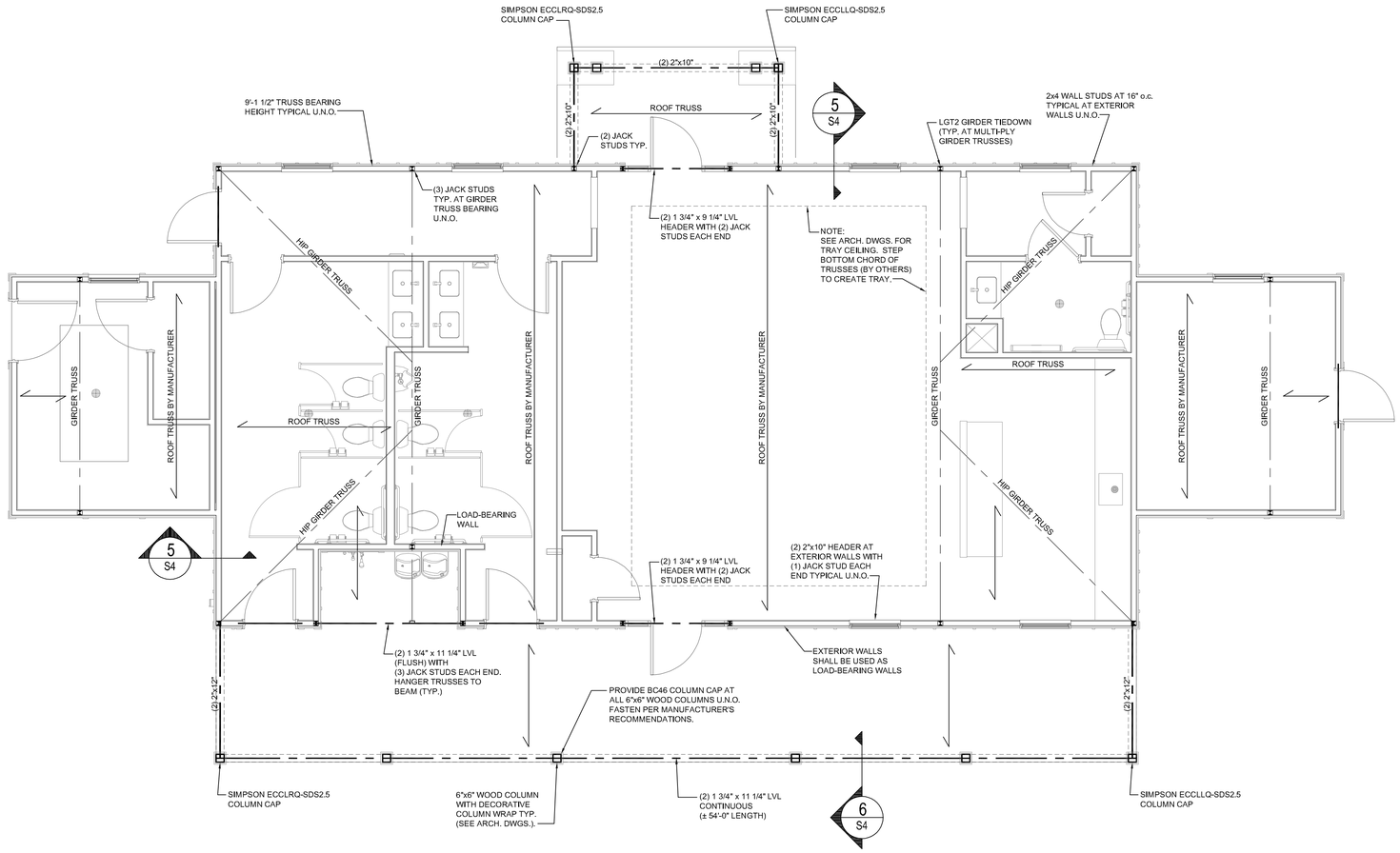
MATTHEWS LANDING
D.R. HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	C250202
DATE ISSUED:	3/18/2025
DRAWING BY:	BR
CHECKED BY:	BR/JM

Slab and Foundation Plan

S1



1 S2 **WALL AND CEILING FRAMING PLAN**

1/4" = 1'-0"

D.CLUGSTON

ROSS LINDEN
ENGINEERS PC
709 W. JONES STREET RALEIGH, NC 27603
TEL 919.832.1680 FAX 919.832.1675
WWW.ROSSLINDEN.COM NC LICENSE NO. C-2364

NORTH CAROLINA PROFESSIONAL SEAL 25539 ENGINEER BRIAN M. ROSS
3.18.2025
SEAL NOT VALID UNLESS SIGNED AND DATED

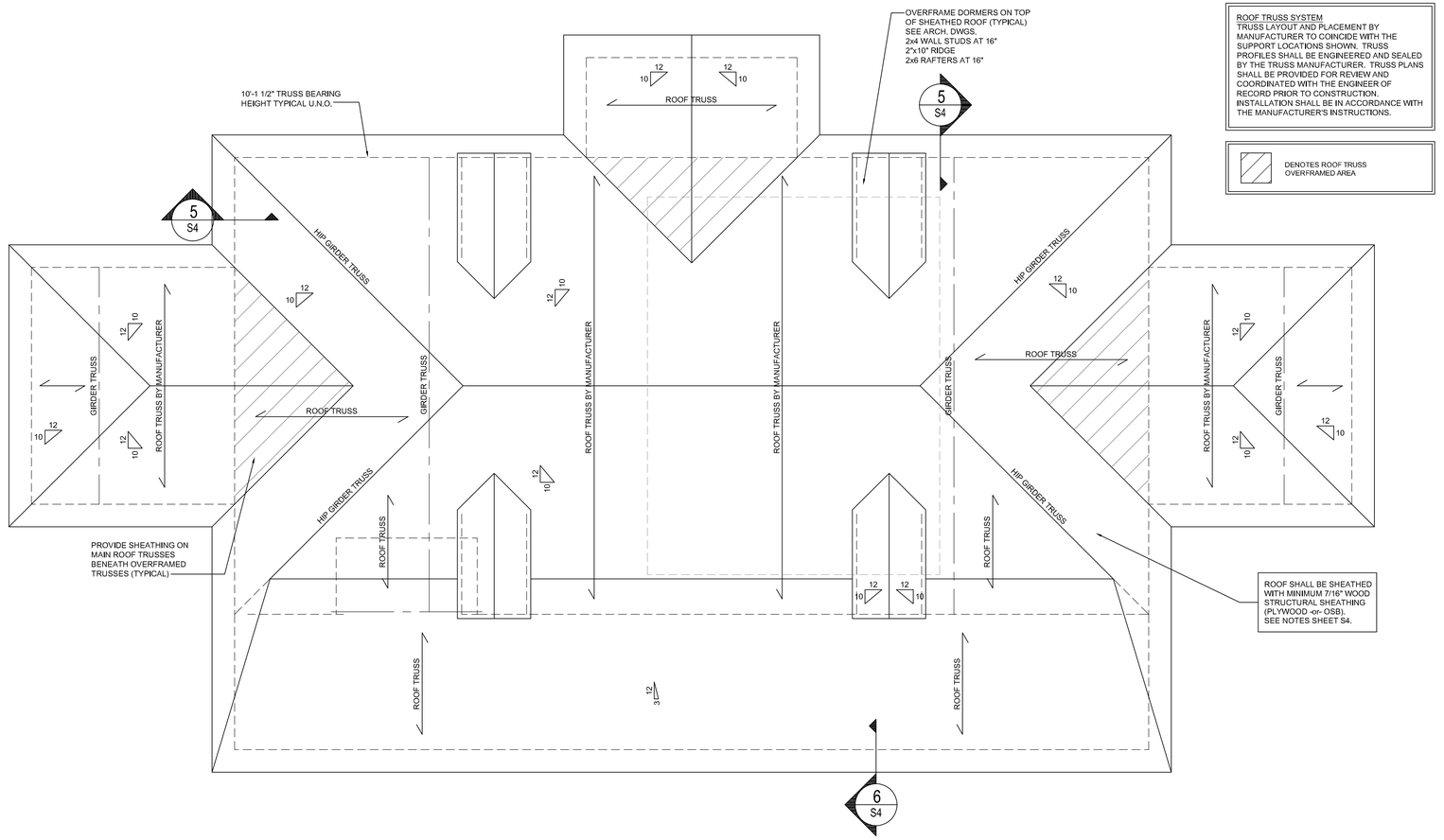
MATTHEWS LANDING
D.R. HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	C250202
DATE ISSUED:	3/18/2025
DRAWING BY:	BR
CHECKED BY:	BR/JM

Ceiling Framing Plan

S2



1 S3 ROOF FRAMING PLAN

1/4" = 1'-0"

D.CLUGSTON

ROSS LINDEN
ENGINEERS PC
709 W. JONES STREET RALEIGH, NC 27603
TEL 919.832.3680 FAX 919.832.3675
WWW.ROSSLINDEN.COM NC LICENSE NO. C-2364

NORTH CAROLINA PROFESSIONAL SEAL 25539 ENGINEER BRIAN M. ROSS
3.18.2025
SEAL NOT VALID UNLESS SIGNED AND DATED

MATTHEWS LANDING
D.R. HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	C250202
DATE ISSUED:	3/18/2025
DRAWING BY:	BR
CHECKED BY:	BR/JM

Roof Framing Plan

S3

STRUCTURAL NOTES

I. GENERAL

1. DESIGN CODES

NORTH CAROLINA BUILDING CODE, 2018 EDITION
(AMENDED 2015 INTERNATIONAL BUILDING CODE)

ACI BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
(ACI 318-14)

AISC MANUAL OF STEEL CONSTRUCTION - ALLOWABLE STRESS DESIGN
NINTH EDITION

ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

2. DESIGN LOADS

LIVE LOADS: FLOOR: 100 PSF
ROOF: 20 PSF

ULTIMATE DESIGN WIND SPEED: 117 MPH

GROUND SNOW LOAD 15 PSF

SEISMIC DESIGN CATEGORY C
SITE CLASS D
Ss = 0.184
S1 = 0.086

3. ALL ELEVATIONS ARE REFERENCED FROM FINISHED FLOOR ELEVATION OF 0'-0". SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

4. DETAILED SHOP DRAWINGS SHALL BE PROVIDED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

5. ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY AND DOES NOT CERTIFY ARCHITECTURAL LAYOUT OR DIMENSIONAL ACCURACY.

6. ROSS LINDEN ENGINEERS PC ASSUMES NO LIABILITY FOR CHANGES OR MODIFICATIONS MADE TO THESE DRAWINGS BY OTHERS, OR FOR CONSTRUCTION METHODS, OR FOR ANY DEVIATION FROM THESE DRAWINGS.

II. CONCRETE

1. UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL HAVE THE FOLLOWING STRENGTH AND SLUMP REQUIREMENTS:
3,500 PSI 28-DAY COMPRESSIVE STRENGTH, MAX. 5" SLUMP.

2. ALL CONCRETE SHALL BE MOIST CURED PER ACI 301 OR CURED WITH AN APPROVED CURING COMPOUND. CONTRACTOR SHALL VERIFY THAT THE CURING COMPOUND IS COMPATIBLE WITH FLOOR COVERING ADHESIVES, COATINGS, OR TOPPINGS TO BE USED. CONCRETE SHALL BE CURED FOR A MINIMUM OF 7 DAYS.

3. UNLESS OTHERWISE NOTED, ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A-615, GRADE 60, DEFORMED.

4. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION, AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES. (ACI 315)

5. ALL BAR SPLICES SHALL BE CLASS "B" TENSION SPLICES PER ACI 318-14, UNLESS OTHERWISE SHOWN.

6. ANCHOR BOLTS TO BE ASTM A36 OR A307.

7. CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THE STRUCTURAL DRAWINGS.

8. ALL SPREAD FOOTINGS BEARING ON NATIVE SOIL OR STRUCTURAL FILL ARE DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 2,500 PSF. A GEOTECHNICAL REPRESENTATIVE SHALL INSPECT ALL FOOTING EXCAVATIONS TO CONFIRM ALLOWABLE BEARING PRESSURES.

9. PROVIDE TWO (2) #5 x 4'-0" LONG DIAGONAL BARS IN TOP FACE OF ALL SLABS (1" CLEAR) AT ALL RE-ENTRANT CORNERS. SEE PLAN FOR LOCATIONS.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, PROTECTING, AND RELOCATING AS REQUIRED ALL SERVICE AND UTILITY LINES IN VICINITY OF THE WORK SITE.

11. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL OPENINGS AND EQUIPMENT PADS WITH THE MECHANICAL AND ELECTRICAL DETAILS AND SHOP DRAWINGS BY OTHERS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITIES THROUGHOUT THE BUILDING.

12. ALL DOWELS WHICH ARE TO BE DRILLED AND GROUTED INTO EXISTING CONCRETE SHALL BE DONE WITH AN EPOXY GROUT. DRILL HOLE WITH DIAMETER 1/8" LARGER THAN DOWEL OR AS RECOMMENDED BY GROUT SUPPLIER. USE HIT-RE 500 V3 BY HILTI OR APPROVED EQUAL.

III. WOOD

1. FRAMING LUMBER SHALL BE #2 SOUTHERN YELLOW PINE (SYP) WITH THE FOLLOWING DESIGN PROPERTIES:
Fb = 800 PSI Fv = 175 PSI E = 1.4E6 PSI

2. FRAMING LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE #2 SOUTHERN YELLOW PINE (SYP) TREATED IN ACCORDANCE WITH AWPA C22 WITH THE FOLLOWING DESIGN PROPERTIES:
Fb = 800 PSI Fv = 175 PSI E = 1.4E6 PSI

3. ENGINEERED WOOD BEAMS SHALL BE LAMINATED VENEER LUMBER (LVL) OR PARALLEL STRAND LUMBER (PSL) WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:
Fb = 2600 PSI Fv = 285 PSI E = 1.9E6 PSI

4. ENGINEERED WOOD BEAMS SHALL BE INSTALLED WITH ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.

5. SOLID BLOCKING SHALL BE PROVIDED AT ALL POINT LOADS TO TRANSFER LOADS THROUGH FLOOR LEVELS. COLUMNS SHALL BE CONTINUOUS TO THE FOUNDATION OR TO OTHER STRUCTURAL ELEMENTS.

6. WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH 1/2" DIAMETER ANCHOR BOLTS SPACED A MAXIMUM OF 2'-8" o.c. AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. PROVIDE 1/2" DIAMETER HILTI HIT-RE 500 V3 INJECTION ADHESIVE ANCHORS WITH MINIMUM 4 1/2" EMBEDMENT INTO THE FOUNDATION AT ALL EXTERIOR, LOAD-BEARING, AND SHEAR WALLS AS SHOWN ON THE PLAN.

7. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH MINIMUM 7/16" WOOD STRUCTURAL SHEATHING (PLYWOOD -or- OSB) WITH BLOCKING AT ALL JOINTS. FASTEN ALL PANELS WITH 8d NAILS AT 3" o.c. AT ALL EDGES AND AT 6" o.c. AT INTERMEDIATE FRAMING. AT DOUBLE TOP PLATE, FASTEN PANELS WITH A DOUBLE ROW OF 8d NAILS STAGGERED AT 3" o.c. ALL FASTENERS SHALL HAVE 1 3/8" PENETRATION INTO THE FRAMING MEMBERS.

8. PROVIDE MINIMUM 1/2" GYPSUM BOARD ON BOTH SIDES OF FULL-HEIGHT INTERIOR WALLS WITH INTERMEDIATE SUPPORT AT ALL JOINTS. FASTEN ALL PANELS WITH 1 1/4" SCREWS AT 7" o.c. AT TOP AND BOTTOM PLATES AND ALL STUDS. GYPSUM SHALL BE APPLIED PERPENDICULAR TO FRAMING.

9. SEE TYPICAL WALL SECTION FOR ADDITIONAL INFORMATION.

IV. WOOD TRUSSES

1. ENGINEERED ROOF TRUSS SYSTEMS SHALL BE PROVIDED FOR REVIEW AND COORDINATED WITH THE ENGINEER OF RECORD. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ROOF TRUSS DRAWINGS SHALL BE SIGNED AND SEALED BY THE MANUFACTURER AND REVIEWED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

2. ALL TRUSSES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH BCSI 1-03 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."

3. THE TOP CHORD OF ALL ROOF TRUSSES SHALL BE SHEATHED WITH MINIMUM 7/16" WOOD STRUCTURAL SHEATHING (PLYWOOD -or- OSB). PROVIDE PLYWOOD EDGE CLIPS BETWEEN PANELS.

4. PROVIDE PERMANENT BOTTOM CHORD TRUSS BRACING AND WEB MEMBER PLANE BRACING IN ACCORDANCE WITH BCSI-B2 "TRUSS INSTALLATION AND TEMPORARY BRACING" AND BCSI-B3 "WEB MEMBER PERMANENT BRACING/WEB REINFORCEMENT."

ABBREVIATIONS

CONC	CONCRETE
CONT	CONTINUOUS
DBL	DOUBLE
DJ	DOUBLE JOIST
DSP	DOUBLE STUD POCKET
EA	EACH
FL PT	FLAT PLATE
FTG	FOOTING
HGR	HANGER
LVL	LAMINATED VENEER LUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PT	PRESSURE TREATED
RS	RAFTER SUPPORT
SC	STUD COLUMN
SP	STUD POCKET
TJ	TRIPLE JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
XJ	EXTRA JOIST

STRUCTURAL DESIGN

DESIGN LOADS:

Occupancy Category: II

Importance Factors: Wind (IW) 1.0; Snow (IS) 1.0; Seismic (IE) 1.0

Live Loads: Roof 20 psf; Mezzanine N/A psf; Floor 100 psf

Ground Snow Load: 15 psf

Wind Load: Ultimate Wind Speed 117 mph (ASCE 7-10); Exposure Category B; Wind Base Shears (for MWFRS) Vx = 6.5K Vy = 19.9K

SEISMIC DESIGN CATEGORY ☐A ☐B ☒C ☐D

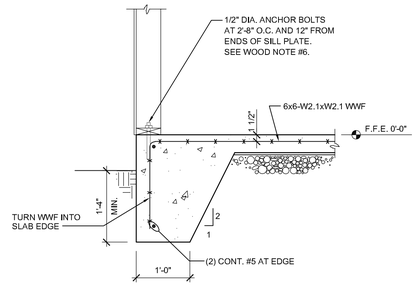
Provide the following Seismic Design Parameters:

Spectral Response Acceleration SS 0.184 %g S1 0.086 %g
Site Classification D ☐Field Test ☒Presumptive ☐Historical Data

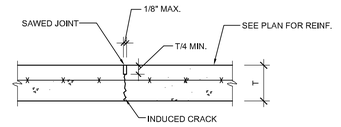
Basic structural system (check one)
X Bearing Wall ____ Dual w/Special Moment Frame
____ Building Frame ____ Dual w/Intermediate R/C or Special Steel
____ Moment Frame ____ Inverted Pendulum
Seismic base shear VX = 1.7K VY = 1.7K
Analysis Procedure ____ Simplified X Equivalent Lateral Force ____ Modal
Architectural, Mechanical, Components anchored? ____

Lateral design Control: Earthquake ____ Wind X

Soil Bearing Capacities:
Field Test (provide copy of test report) ____ psf
Presumptive Bearing capacity 2500 psf
Pile size, type, and capacity ____

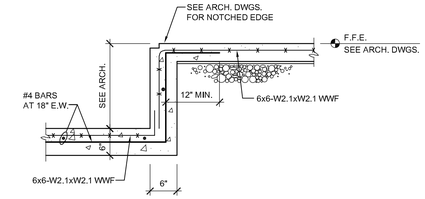


1 S4 DETAIL - TYP. SLAB EDGE
3/4" = 1'-0"

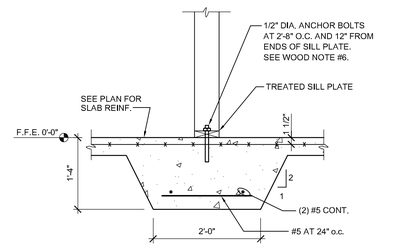


NOTES: 1. SAW JOINTS AS SOON AS CONCRETE WILL NOT RAVEL UNDER SAW BLADE.
2. ADD 20" LONG SMOOTH DOWELS WITH INSERTS AT ALL CONSTRUCTION JOINTS (IF USED).
3. CONTRACTOR'S OPTION TO CUT ALTERNATING WIRES AT JOINTS FOR ADDITIONAL CRACK CONTROL.

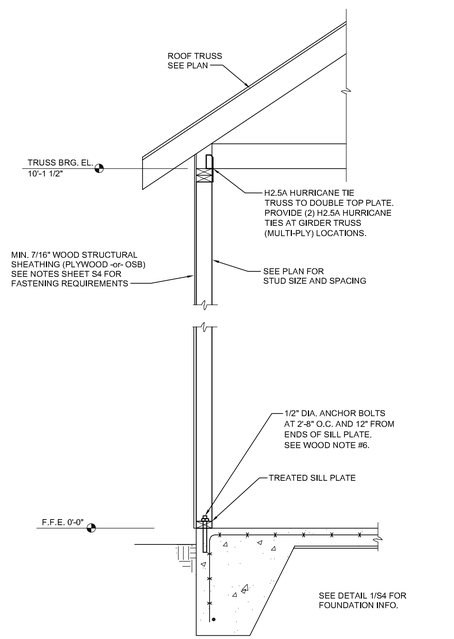
2 S4 DETAIL - TYP. SLAB CONTROL JOINT
1" = 1'-0"



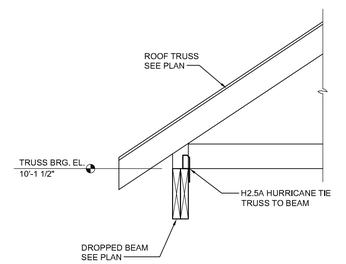
3 S4 SECTION AT SUMP
3/4" = 1'-0"



4 S4 DETAIL - THICKENED SLAB
3/4" = 1'-0" SEE PLAN FOR LOCATIONS



5 S4 TYPICAL WALL SECTION
3/4" = 1'-0"



6 S4 FRAMING SECTION
3/4" = 1'-0"

D.CLUGSTON

ROSS LINDEN ENGINEERS PC
709 W. JONES STREET RALEIGH, NC 27603
TEL 919.832.1680 FAX 919.832.1675
WWW.ROSSLINDEN.COM NC LICENSE NO. C-2364

NORTH CAROLINA PROFESSIONAL SEAL 25539 ENGINEER BRIAN M. ROSS
3-18-2025
SEAL NOT VALID UNLESS SIGNED AND DATED

MATTHEWS LANDING
D.R. HORTON
LILLINGTON, NC

DATE
REVISION
NO.

PROJECT #:	C250202
DATE ISSUED:	3/18/2025
DRAWING BY:	BR
CHECKED BY:	BR/JM

Structural Notes & Details

S4

GENERAL PLUMBING NOTES:

ADMINISTRATIVE:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR,
   MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
   FASC - FIRE ALARM SYSTEM CONTRACTOR.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR.
3. THE PC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED AT AN APPROVED LOCATION. PC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE PC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
5. ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED AT NO EXPENSE TO THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BEAR APPROVAL FROM UL OR AN APPROVED THIRD PARTY AGENCY. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, IT IS TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL BE ACCEPTED.
6. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA PLUMBING CODE AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
7. THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
8. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
9. THESE PLANS ARE DIAGRAMMATIC. THE PC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE PC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER. THE PC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. TO AVOID POTENTIAL CONFLICTS, COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO ANY DIGGING.
10. TRENCHING, COMPACTION, AND BACKFILL SHALL BE BY PC AND SHALL BE IN ACCORDANCE WITH SECTION 306 OF THE NC PLUMBING CODE. UNDERGROUND LINES SHALL BE LOCATED SUCH THAT THEY DO NOT ENDANGER FOOTINGS OR FOUNDATION WALLS.
11. THE PC SHALL PROVIDE FIRESTOPPING AT ALL PENETRATIONS OF RATED FLOOR/CEILING ASSEMBLIES AND RATED WALL ASSEMBLIES TO PRESERVE OR RESTORE THE FIRE RESISTANCE RATING. SEAL ALL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THE PROJECT.
12. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH NORTH CAROLINA PLUMBING CODE, SECTIONS 312.2, 312.3, AND 312.5.
13. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS.
14. AT THE COMPLETION OF WORK AND PRIOR TO ACCEPTANCE BY OWNER, THE PC SHALL CLEAN ALL EXPOSED FIXTURES, MATERIALS, AND EQUIPMENT UNDER THIS CONTRACT.
15. PC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

MATERIALS:

1. ALL OVERHEAD DOMESTIC WATER PIPING SHALL HAVE 95/5 LEAD FREE SOLDER, AND ALL BELOW GRADE WATER PIPING SHALL BE TYPE K COPPER WITH NO JOINTS. ALL PIPING SHALL HAVE MANUFACTURER'S NAME AND THE APPLICABLE STANDARD TO WHICH IT WAS MANUFACTURED CLEARLY MARKED ON EACH LENGTH. PIPING SHALL COMPLY WITH ASTM B-88. USE BRAZED JOINTS ON ALL COPPER PIPING 1-1/2 INCH AND LARGER. *** PC MAY USE PEX (ASTM F 877) WITH APPROVED FITTINGS (ASTM F 1807) WITH OWNER'S APPROVAL. *** CPVC PIPING (ASTM D 2846 OR ASTM F 441) WITH APPROVED FITTINGS (ASTM D 2846, ASTM F 438, OR ASTM F 439) MAY ALSO BE USED WHERE NOT LOCATED IN PLENUMS. ALL PLASTIC PIPE, FITTINGS, AND COMPONENTS SHALL BE THIRD PARTY CERTIFIED AS CONFORMING TO NSF 14. ALL PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, USED IN THE WATER DISTRIBUTION SYSTEM SHALL HAVE A MAXIMUM LEAD CONTENT OF .25-PERCENT AND SHALL CONFORM TO NSF 61. HOT WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180°F. COLD WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 160 PSI AT 73.4°F. DO NOT INSTALL PEX OR CPVC PIPING IN RETURN AIR PLENUMS.
2. BALL VALVES SHALL HAVE BRASS BODY, FULL PORT, CHROME PLATED BALL, WITH TEFLON SEATS, 150 PSI WSP, AND COMPLY WITH MSS SP-110. GATE VALVES SHALL HAVE BRONZE BODY, CLASS 150, AND COMPLY WITH MSS SP-80, TYPE 2 STANDARD. VALVE BODY SHALL BE ASTM B 62, BRONZE WITH INTEGRAL SEAT AND UNION RING BONNET. ENDS SHALL BE THREADED OR SOLDER WITH COPPER-SILICON BRONZE STEM AND SOLID-WEDGE BRONZE DISC. INSTALL VALVES IN LOCATIONS THAT PERMIT EASY ACCESS WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS; PROVIDE ACCESS DOORS IF REQUIRED. VALVES SHALL BE BY NIBCO, WATTS, OR STOCKHAM.
3. COLD WATER LINES SHALL BE INSULATED WITH 1/2 INCH THICK FIBROUS GLASS INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. HOT WATER LINES UP TO 2 INCHES DIAMETER SHALL HAVE 1 INCH THICK INSULATION CONFORMING TO THE SAME STANDARD. PIPING LARGER THAN 2 INCHES SHALL RECEIVE 1-1/2 INCH THICK INSULATION. CLOSED CELL RUBBER INSULATION MEETING THE SMOKE AND FLAME RATINGS ABOVE MAY BE SUBSTITUTED FOR FIBROUS GLASS TYPE IF SO DESIRED. INSULATION INSTALLED ON PIPING OPERATING BELOW AMBIENT TEMPERATURES MUST HAVE A CONTINUOUS VAPOR RETARDER. ALL JOINTS, SEAMS AND FITTINGS MUST BE SEALED. ON SYSTEMS OPERATING ABOVE AMBIENT, THE BUTT JOINTS SHOULD NOT BE SEALED. ON COLD SURFACES WHERE A VAPOR SEAL MUST BE MAINTAINED, INSULATION SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN MOISTURE AND VAPOR RETARDER. ALL HANGERS, SUPPORTS, ANCHORS, OR OTHER PROJECTIONS SECURED TO COLD SURFACES SHALL BE INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION. ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED. INSULATION SHALL HAVE A FACTORY APPLIED ALL-SERVICE JACKET WITH SELF-SEALING LAP. WHITE-KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS; CONFORMING TO ASTM C 1136 TYPE 1; VAPOR RETARDER; WITH A SELF-SEALING ADHESIVE. VERIFY THAT PIPING HAS BEEN TESTED, SURFACES ARE CLEAN AND DRY, AND ALL FOREIGN MATERIALS ARE REMOVED BEFORE APPLYING INSULATION MATERIALS. INSULATION SHALL BE BY KNAUF, ARMACELL, JOHNS-MANVILLE, OR OWENS-CORNING.
4. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578 91. ALL INSULATION SHALL BE LOW-EMITTING WITH NOT GREATER THAN 0.05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
5. FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1. FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN CONSUMPTION SHALL CONFORM TO THE REQUIREMENTS OF NSF 61, SECTION 9. FIXTURE FITTINGS, FAUCETS, AND DIVERTERS SHALL BE INSTALLED AND ADJUSTED SO THAT THE FLOW OF HOT WATER FROM THE FITTINGS CORRESPONDS TO THE LEFT HAND SIDE OF THE FIXTURE FITTING.
6. BACKFLOW PREVENTION SHALL BE IN ACCORDANCE WITH SECTION 608.13 OF THE NC PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS SHALL CONFORM TO ASSE 1013 OR AWWA C511. THE RELIEF OPENING SHALL DISCHARGE BY AIR GAP. AIR GAPS SHALL COMPLY WITH ASME A112.1.1 AND AIR GAP FITTINGS WITH ASME A112.1.3. DOUBLE CHECK VALVE ASSEMBLIES SHALL CONFORM TO ASSE 1015 OR AWWA C510. ACCESS TO BACKFLOW PREVENTERS SHALL BE PROVIDED AS SPECIFIED BY THE INSTALLATION INSTRUCTIONS OF THE APPROVED MANUFACTURER.
7. FOR BELOW GRADE SANITARY WASTE PIPING, PC SHALL USE SERVICE WEIGHT CAST IRON PIPE WITH COMPRESSION JOINTS (ASTM A 74). USE MINIMUM 2 INCH SIZE UNDERGROUND. SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE PIPE FITTINGS (ASTM D 3311) MAY ALSO BE USED. DO NOT USE PVC PIPE FOR APPLICATIONS WHERE THE WASTE WATER TEMPERATURE EQUALS OR EXCEEDS 140°F OR IF THE BUILDING HEIGHT EXCEEDS 75 FEET.
8. FOR ABOVE GRADE SANITARY WASTE AND VENT PIPING, USE SERVICE WEIGHT CAST IRON NO-HUB TYPE WITH COUPLINGS (CISPI 301). SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE FITTINGS (ASTM D 3311) MAY BE USED IF PERMITTED BY LOCAL CODE, EXCEPT IN BUILDINGS EXCEEDING 75 FEET IN HEIGHT. DO NOT INSTALL PVC IN RETURN AIR PLENUMS. ALL VENT AND BRANCH VENT PIPES SHALL BE SO GRADED AND CONNECTED AS TO DRAIN BACK TO THE DRAINAGE PIPE BY GRAVITY. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH SHALL BE INCREASED BY ONE NOMINAL SIZE FOR THE ENTIRE DEVELOPED LENGTH OF THE PIPE.
9. PC SHALL PROVIDE ALL WATER HEATERS (WATTAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED; PROVIDE PANS FOR WATER HEATERS IN ACCORDANCE WITH 504.7 OF THE NC PLUMBING CODE. ELECTRICAL CONNECTIONS SHALL BE BY ELECTRICAL CONTRACTOR, PC SHALL COORDINATE WITH EC ON ELECTRICAL CHARACTERISTICS OF THE EQUIPMENT PROVIDED.
10. ALL PUMPS SHALL BE RATED FOR TRANSPORT OF POTABLE WATER. PUMPS IN AN INDIVIDUAL WATER SUPPLY SYSTEM SHALL BE CONSTRUCTED AND INSTALLED SO AS TO PREVENT CONTAMINATION FROM ENTERING THE WATER SUPPLY SYSTEM.

METHODS:

1. EXTEND DOMESTIC WATER PIPE FROM FIVE (5) FEET OUTSIDE THE BUILDING INTO THE BUILDING AS INDICATED ON THE PLANS AND INSTALL DOMESTIC WATER DISTRIBUTION PIPING TO ALL FIXTURES AND EQUIPMENT REQUIRING THE SAME. WATER SERVICE PIPE AND THE BUILDING SEWER SHALL BE SEPARATED BY 5 FEET OF UNDISTURBED OR COMPACTED EARTH IN ACCORDANCE WITH 603.2. PROVIDE ALL FITTINGS, VALVES, AND OTHER ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. ALL DOMESTIC WATER PIPING SHALL BE CONCEALED IN FINISHED AREAS. ANY OPEN ENDS SHALL BE PROTECTED UNTIL FINAL CONNECTIONS ARE MADE.
2. ABOVE GRADE DOMESTIC WATER PIPING SHALL BE SLOPED AT A MINIMUM OF 1/32 INCH PER FOOT AND ARRANGED TO DRAIN AT LOW POINTS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ROUTE PIPING IN AN ORDERLY MANNER-PARALLEL OR PERPENDICULAR TO WALLS WHEN POSSIBLE-AND MAINTAIN GRADIENT. EACH SUPPLY BRANCH LINE SERVING MORE THAN ONE FIXTURE SHALL HAVE A SHUTOFF VALVE INSTALLED TO ISOLATE ALL FIXTURES AND PIECES OF EQUIPMENT SUPPLIED BY THE BRANCH LINE. THE SHUTOFF VALVE SHALL BE LABELED AND LOCATED AS CLOSE TO THE CONNECTION TO THE SUPPLY MAIN AND RISER AS POSSIBLE. PROVIDE A FULL-OPEN VALVE ON THE BASE OF EVERY WATER RISER PIPE AND ON THE TOP OF EVERY WATER DOWN-FEED PIPE. PROVIDE VALVE HANDLE EXTENSIONS AS NECESSARY FOR INSULATION.
3. IT SHALL BE THE RESPONSIBILITY OF THE PC TO SUSPEND AND SUPPORT ALL PIPING SYSTEMS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED PIPE HANGERS AND SUSPENSION EQUIPMENT. ALL FIXTURES, DEVICES, AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE FIXTURE OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT AND PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING. USE STEEL HANGERS FOR STEEL AND PLASTIC PIPE AND COPPER OR COPPER-PLATED HANGERS FOR COPPER PIPE. PROVIDE PROTECTION FOR COPPER PIPING IN CONTACT WITH DISSIMILAR METALS. WHERE COPPER PIPING IS SUPPORTED ON HANGERS WITH OTHER PIPING, PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT CONTACT WITH OTHER METALS. IN GENERAL, HANGERS SHALL BE CLEVIS TYPE, STANDARD WEIGHT. FOR PIPING, HANGER SPACING SHALL BE IN ACCORDANCE WITH TABLE 308.5 OF THE NC PLUMBING CODE. HANGERS AND ACCESSORIES SHALL BE GRINNEL, MASON, OR B-LINE.
4. SLEEVE ALL PIPES PASSING THROUGH PARTITIONS, WALLS, AND FLOORS. SLEEVES IN FLOORS AND INTERIOR WALLS OF POURED IN PLACE CONCRETE, BRICK, TILE, OR MASONRY SHALL BE SCHEDULE 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD WALLS SHALL BE 22 GAUGE, ROLLED GALVANIZED SHEET METAL. TACK WELD ON THE LONGITUDINAL SEAM. PROVIDE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE AND BELOW CEILINGS. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER. SLEEVES IN WALLS SHALL BE INSTALLED FLUSH WITH THE WALL. SLEEVES IN FLOORS SHALL EXTEND 3/4 INCH ABOVE THE FLOOR-EXCEPT THEY SHALL BE FLUSH FOR 2 HOUR RATED FLOORS-AND SHALL BE FLUSH WITH THE STRUCTURE BELOW. EACH SLEEVE SHALL HAVE AN INSIDE DIAMETER 1 INCH LARGER THAN THE OUTSIDE DIAMETER OF THE COVERING OF EACH COVERED PIPE TO ALLOW CONTINUOUS INSULATION-BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN EACH UNCOVERED. ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR CAULKED IN AN APPROVED MANNER.
5. THE TOP OF WATER PIPES INSTALLED BELOW GRADE OUTSIDE THE BUILDING SHALL BE BELOW THE FROST LINE OR A MINIMUM OF 12 INCHES BELOW FINISHED GRADE WHICHEVER IS GREATER. WATER PIPING INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED UTILITY ROOM OR UNCONDITIONED ATTIC SHALL BE INSULATED TO A MINIMUM OF R6.5 DETERMINED IN ACCORDANCE WITH ASTM C 177.
6. HOT WATER PROVIDED TO PUBLIC HAND-WASHING FACILITIES/LAVATORIES SHALL BE TEMPERED WATER DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3.
7. INSULATE ALL EXPOSED WASTE AND SUPPLY PIPING UNDER LAVATORIES, SINKS, AND ELECTRIC WATER COOLERS WITH THE HANDI-LAV GUARD INSULATION KIT BY TRUEBRO OR EQUAL.
8. POTABLE WATER OUTLETS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH 608.15. PRESSURE TYPE VACUUM BREAKERS SHALL CONFORM TO ASSE 1020 AND SPILPROOF VACUUM BREAKERS SHALL COMPLY WITH ASSE 1056. HOSE-CONNECTION VACUUM BREAKERS SHALL CONFORM TO ASSE 1011, ASSE 1019, ASSE 1035, OR ASSE 1052. CONNECTIONS TO BEVERAGE DISPENSERS, COFFEE MACHINES, AND NON-CARBONATED BEVERAGE DISPENSERS SHALL BE PROTECTED BY A BACKFLOW PREVENTER IN ACCORDANCE WITH ASSE 1022.
9. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE 1010.
10. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH THREADED OUTLETS AS REQUIRED BY CODE. TRAP PRIMERS SHALL BE PROVIDED AS SHOWN ON THE PLANS OR AS REQUIRED.
11. ADJUST STOPS AND VALVES FOR INTENDED FLOW RATE TO FIXTURES WITHOUT SPLASHING, NOISE, OR OVERFLOW.
12. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS, AND VERIFY THESE CAN BE PROPERLY CONNECTED TO WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING. ONCE INVERTS AND FALL HAVE BEEN ESTABLISHED, EXTEND SANITARY SEWER PIPING TO 5 FEET OUTSIDE THE BUILDING AND INSTALL ALL DRAINS, STACKS, VENTS, FLOOR DRAINS, AND CLEANOUTS NECESSARY FOR A COMPLETE INSTALLATION.
13. ALL SANITARY SEWER PIPING IS BELOW GRADE OR WITHIN WALLS UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING IS ABOVE THE CEILING OR WITHIN WALLS UNLESS OTHERWISE NOTED. SOIL AND WASTE PIPING SHALL BE INSTALLED TO PROVIDE PROTECTION AGAINST FREEZING PER 305.4.1. WASTE AND SOIL LINES LEAVING THE BUILDING MUST HAVE A MINIMUM COVER OF 3 INCHES.
14. SOIL AND WASTE LINES 2-1/2 INCHES AND SMALLER SHALL BE SLOPED AT 1/4 INCH PER FOOT MINIMUM. SOIL AND WASTE LINES 3 INCHES TO 6 INCHES IN DIAMETER SHALL BE SLOPED AT 1/8 INCH PER FOOT MINIMUM.
15. FOR WATER CLOSET WASTE CONNECTIONS, A 4 INCH BY 3 INCH CLOSET BEND SHALL BE ACCEPTABLE. WHERE A 3 INCH BEND IS UTILIZED ON WATER CLOSETS, A 4 INCH BY 3 INCH FLANGE SHALL BE INSTALLED TO RECEIVE THE FIXTURE HORN.
16. FOR PLASTIC PIPE SIZES GREATER THAN 6 INCHES, AND OTHER PIPE SIZES GREATER THAN 4 INCHES, RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN TWO PIPE SIZES. BRACES, BLOCKS, RODDING, BACKFILL AND OTHER SUITABLE METHODS AS SPECIFIED BY THE COUPLING MANUFACTURER SHALL BE UTILIZED.
17. BASES OF STACKS SHALL BE SUPPORTED BY THE BUILDING STRUCTURE, VIRGIN OR COMPACTED EARTH, OR OTHER SUITABLE MATERIAL TO SUPPORT THE WEIGHT OF THE PIPING.
18. HORIZONTAL DRAIN PIPES SHALL HAVE CLEANOUTS IN ACCORDANCE WITH 708.10. EXTEND CLEANOUTS TO FINISHED FLOOR OR WALL SURFACE. LUBRICATE THREADED CLEANOUT PLUGS WITH A MIXTURE OF GRAPHITE AND LINSEED OIL. ENSURE CLEARANCE AT ALL CLEANOUTS FOR RODDING OF DRAINAGE SYSTEM. INSTALL FLOOR CLEANOUTS AT AN ELEVATION TO ACCOMMODATE FINISHED FLOOR. EVERY CLEANOUT SHALL BE INSTALLED TO ALLOW CLEANING IN THE DIRECTION OF FLOW OF THE DRAINAGE PIPE OR AT RIGHT ANGLES THERETO. CLEANOUTS ON 6 INCH AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 INCHES FOR RODDING.
19. DRAINAGE PIPING FOR FUTURE FIXTURES SHALL TERMINATE WITH AN APPROVED CAP OR PLUG.
20. AIR ADMITTANCE VALVES SHALL BE INSTALLED AFTER THE DWV TESTING REQUIRED BY SECTIONS 312.2 AND 312.3. PROVIDE ACCESS TO ALL AIR ADMITTANCE VALVES PER CODE. INSTALLATION OF ALL AIR ADMITTANCE VALVES SHALL CONFORM TO SECTION 918 OF THE NC PLUMBING CODE. AIR ADMITTANCE VALVES SHALL CONFORM TO ASSE 1050 OR 1051.
21. INDIRECT WASTE PIPING THAT EXCEEDS 2 FEET IN DEVELOPED LENGTH MEASURED HORIZONTALLY, OR 4 FEET IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED. THE AIR GAP BETWEEN THE INDIRECT WASTE PIPE AND THE FLOOD LEVEL RIM OF THE WASTE RECEPTOR SHALL BE A MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.
22. THE PC SHALL PROVIDE UNIONS FOR DISASSEMBLY AND SERVICE OF ALL FIXTURES AND OTHER RELEVANT PLUMBING EQUIPMENT. UNIONS SHALL BE GROUND-JOINT WITH BRASS SEAT. PROVIDE INSULATING UNIONS AT EACH JUNCTION OF DISSIMILAR MATERIALS.
23. THE PC SHALL ACCURATELY ROUGH-IN ALL FIXTURES ACCORDING TO MANUFACTURER'S INSTALLATION DIMENSIONS AND INSTRUCTIONS. OFFSET ADAPTERS AND FLEXIBLE CONNECTORS ARE NOT ACCEPTABLE. FLUSH HANDLES SHALL BE MOUNTED ON THE WIDE SIDE OF TOILET AREAS FOR ADA COMPLIANCE. INSTALL EACH FIXTURE WITH TRAP EASILY REMOVABLE FOR SERVICING AND CLEANING. SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT. SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. SEAL ALL SELF-RIMMING LAVATORIES AND SINKS (VITREOUS CHINA AND STAINLESS STEEL) WITH A COMMERCIAL GRADE PLUMBER'S PUTTY OR ACRYLIC LATEX CAULK APPLIED TO THE UNDERSIDE OF THE FIXTURE RIM IN A GENEROUS AMOUNT SO THAT WHEN FIXTURE IS SET, SEALANT SHALL OOZE OUT.
24. ALL VENT THRU THE ROOF (VTR) PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PC SHALL PROVIDE FLASHING MATERIAL REQUIRED FOR VTRS. JOINTS AT THE ROOF AND AROUND VENT PIPES SHALL BE MADE WATER TIGHT BY THE USE OF LEAD, COPPER, GALVANIZED STEEL, ALUMINUM, OR OTHER APPROVED FLASHINGS OR FLASHING MATERIAL. MAINTAIN MINIMUM 10 FEET FROM ALL OUTSIDE AIR INTAKES.
25. INSTALL FULL OPEN VALVES PER NC PLUMBING CODE 606.1 ON THE MAIN WATER LINE INTO THE BUILDING. INSTALL CUT OFF VALVES PER NC PC
26.

PLUMBING NOTES | 1

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	MANUFACTURER	FITTING	HW	CW	WASTE
P1	TWO PIECE TANK TYPE WATER CLOSET	KOHLER 4369 OR EQUAL BY AMERICAN STANDARD OR TOTO	TWO-PIECE VITREOUS CHINA TOILET WITH HIGH-PROFILE TANK, KOHLER K-5309 ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SC534 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE.	-	1/2"	3"
P1H	TWO PIECE TANK TYPE ADA WATER CLOSET	KOHLER 4369 OR EQUAL BY AMERICAN STANDARD OR TOTO	TWO-PIECE VITREOUS CHINA TOILET WITH HIGH-PROFILE TANK, KOHLER K-5309 ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SC534 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE. TOP OF SEAT SHALL BE 17-19 INCHES AFF FOR ADA. LEVER MOUNTED ON WIDE SIDE FOR ADA	-	1/2"	3"
P2A	UNDER MOUNT LAVATORY	KOHLER K-20000 OR EQUAL BY AMERICAN STANDARD OR TOTO	VITREOUS CHINA SELF-RIMMING LAVATORY COMPLYING WITH ASME 112.19.2. MOUNT SO RIM IS 34 INCHES AFF AND 2 INCHES FROM FRONT EDGE FOR ADA. PROVIDE WITH LAV-GUARD PROTECTORS SUPPLY AND DRAIN LINES. USE A KOHLER K-103L77-SANL FAUCET (COORDINATE WITH EC FOR FAUCET POWER).	1/2"	1/2"	2"
P3	URINAL	KOHLER K-4991-ET OR EQUAL BY AMERICAN STANDARD OR TOTO	VITREOUS CHINA, WALL-MOUNTED, ADA COMPLIANT, LOW CONSUMPTION WASHOUT URINAL COMPLYING WITH ASME 112.19.2. 1 GPF. KOHLER K-76319 FLUSHOMETER VALVE OR EQUAL BY ZURN OR TOTO. TOP OF RIM SHALL BE 17 INCHES AFF FOR ADA.	-	3/4"	2"
P4	DRINKING FOUNTAIN	ELKAY VRCTLFRDDSC	ADA COMPLIANT FOR ADULT AND CHILD. 8.0 GPH OF 50°F WATER AT 90°F AMBIENT. PROVIDE ACCESSORY APRON FOR ADA COMPLIANCE AS NECESSARY. VANDAL AND FROST RESISTANT.	-	⅜"	2"
P5	FLOOR DRAIN	WATTS FD-200-A OR EQUAL BY ZURN OR JR SMITH	ON GRADE EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, WEEP HOLES, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, AND NO HUB OUTLET. PROVIDE WITH A RUBBER GASKET. PROVIDE TRAP PRIMER CONNECTION OPTION IF NOTED.	-	-	3"
P6	SUMP PIT FLOOR DRAIN	ZURN FD1 OR EQUAL BY WATTS OR JR SMITH	ON GRADE ADJUSTABLE FLOOR DRAIN, ABS OR CAST IRON BODY, AND HUB OUTLET, PROVIDE WUTH A RUBBER GASKET. PROVIDE TRAP PRIMER CONNECTION OPTION IF NOTED.	-	-	SEE PLAN
P7	FLOOR DRAIN TRAP SEAL	JAY R. SMITH OR EQUAL	RUBBER TRAP SEAL INSTALLED PRIOR TO P-TRAP, CAN BE INTEGRAL TO FLOOR DRAIN.	-	-	MATCH DRAIN
P8	FREEZEPROOF HOSE BIBB	ZURN Z1346 OR EQUAL BY WOODFORD OR MIFAB	EXPOSED NON-FREEZE ANTI-SIPHON AUTOMATIC DRAINING WALL FAUCET COMPLETE WITH EXTERIOR CHROME FINISH, BRASS CASING, ALL BRONZE INTERIOR PARTS, Z1399-VB ANTI-SIPHON INTEGRAL VACUUM BREAKER, OPERATING ROD WITH FREE FLOATING COMPRESSION CLOSURE VALVE, REPLACEABLE SEAT WASHER,COMBINATION 1/2 FEMALE SOLDER INLET AND 1/2 MALE IP INLET CONNECTION STANDARD, AND 3/4 MALE HOSE CONNECTION.	-	1/2	-
P9	INTERIOR HOSE BIBB	ZURN Z1341-BFP OR EQUAL BY MIFAB OR WOODFORD	PROVIDE CHECK VALVE AND ANTI-SIPHON PROTECTION IF NOT INTEGRAL TO UNIT		1/2"	
P10	EXPANSION TANK	AMTROL ST-5 OR EQUAL BY WATTS OR BELL & GOSSETT	INSTALL ON COLD WATER LINE BETWEEN WATER HEATER AND RPZ	-	3/4"	-
P11	SINK DOUBLE BOWL	ELKAY LRADQ3319 OR EQUAL BY FRANKE OR MOEN	VERIFY MOUNTING WITH ARCHITECT, 18 GA STAINLESS STEEL. MAX BOWL DEPTH 6 INCHES FOR WHEEL CHAIR ACCESSIBLITY-USE. FOR UNDER MOUNTING COUNTERTOP THICKNESS CANNOT BE GREATER THAN 1" FOR ADA COMPLIANCE. KOHLER 15176-F WITH SPRAY OR EQUAL BY MOEN, DELTA OR JUST MFG.	1/2"	1/2"	2"
P12	1-1/4" RPZ BACKFLOW PREVENTER	WATTS LF909 QT OR EQUAL BY CONBRACO OR WILKINS	RPZ ASSEMBLY CONSISTING OF A PRESSURE DIFFERENTIAL RELIEF VALVE LOCATED IN A ZONE BETWEEN TWO POSITIVE SEATING CHECK VALVES. THE ASSEMBLY SHALL INCLUDE TWO TIGHTLY CLOSING SHUTOFF VALVES BEFORE AND AFTER THE ASSEMBLY, TEST COCKS AND A PROTECTIVE STRAINER UPSTREAM OF THE FIRST SHUTOFF VALVE. THE ASSEMBLY SHALL MEET THE REQUIREMENTS OF ASSE 1013 AND AWWA C511	-	1-1/4"	-
P13	3/4" RPZ BACKFLOW PREVENTER	WATTS LF909 QT OR EQUAL BY CONBRACO OR WILKINS	RPZ ASSEMBLY CONSISTING OF A PRESSURE DIFFERENTIAL RELIEF VALVE LOCATED IN A ZONE BETWEEN TWO POSITIVE SEATING CHECK VALVES. THE ASSEMBLY SHALL INCLUDE TWO TIGHTLY CLOSING SHUTOFF VALVES BEFORE AND AFTER THE ASSEMBLY, TEST COCKS AND A PROTECTIVE STRAINER UPSTREAM OF THE FIRST SHUTOFF VALVE. THE ASSEMBLY SHALL MEET THE REQUIREMENTS OF ASSE 1013 AND AWWA C511	-	3/4"	-
YHD	YARD HYDRANT	WOODFORD MODEL S4H OR APPROVED EQUAL	AUTO DRAIN W. BACKFLOW PREVENTION. BURY DEPTH TO BE BELOW FROST LINE. COORDINATE WITH SITE CONDITIONS.	-	-	-
FCO	FLOOR CLEANOUT	ZURN, WATTS, JR SMITH	EPOXY COATED CAST IRON FLOOR CLEANOUT WITH ROUND ADJUSTABLE GASKETED NICKEL BRONZE TOP, REMOVABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG, AND NO HUB INLET.	-	-	4"
WCO	WALL CLEANOUT	ZURN, WATTS, OR JR SMITH	CAST IRON CLEANOUT FERRULE WITH THREADED BRASS COUNTERSUNK CLEANOUT PLUG, STAINLESS STEEL ACCESS COVER, AND VANDAL PROOF STAINLESS STEEL SCREW	-	-	4"
AAV	AIR ADMITTANCE VALVE	STUDOR REDIVENT OR APPROVED EQUAL	ANSI/ASSE 1051 LISTED. NSF STANDARD 14. PROVIDE PVC OR ABS CONNECTOR AS NECESSARY.CONNECT VALVE TO PIPING PER MANUFACTURER. INSTALL IN THE VERTICAL, UPRIGHT POSITION AFTER ROUGH-IN AND PRESSURE TESTING OF THE SYSTEM.PROVIDE WALL BOX IF NOT ABOVE CEILING OR OTHERWISE CONCEALED.	-	-	2"

PLUMBING LINES SIZING TABLE

FIXTURE TYPE	OCCUPANCY	QTY	DRAINAGE FIXTURE UNITS		WATER SUPPLY FIXTURE UNITS				
			EACH	TOTAL	CW	HW	CW & HW	HW TOTAL	TOTAL
WATER CLOSET (FLUSH TANK)	PUBLIC	5	4.00	20.00	5.00	0.00	5.00	0.00	25.00
LAVATORY	PUBLIC	5	1.00	5.00	1.50	1.50	2.00	7.50	10.00
URINAL (¾" FLUSH VALVE)	PUBLIC	1	2.00	2.00	5.00	0.00	5.00	0.00	5.00
DRINKING FOUNTAIN	PUBLIC	1	0.50	0.50	0.25	0.00	0.25	0.00	0.25
DOUBLE BOWL SINK	PUBLIC	1	2.00	2.00	2.25	2.25	3.00	2.25	3.00
DEMAND FIXTURE	GPM	QTY	TOTAL GPM	TOTAL DFU				29.5	
HOSE BIBBS	5	5	25.00	TOTAL WFSUs				9.8	43.3
				GPM				13.52	26.77
				OTHER FIXTURES' GPM				0.00	5.00
				TOTAL GPM				13.52	31.77
MINIMUM BUILDING DRAIN SIZE	4"	ONE HOSE BIBB IN OPERATION AT A TIME							
MINIMUM WATER LINE SIZE	1-1/4"								

ELECTRIC WATER HEATER SCHEDULE

MARK	MFG	MODEL	TANK VOL	INPUT	RECOVERY	SET POINT	POWER		CONNECTIONS		OPTIONS
			GALS	kW	GPH @ 60°ΔT	°F	VOLTAGE	PHASE	HOT	COLD	
WH-1	STATE	ES6-20-SOMS	20	4.5	30	110	240	1	3/4	3/4	1-5

1. PROVIDE GALVANIZED STEEL SAFETY PAN
2. UL 174 LISTED
3. PROVIDE ASME LISTED TEMPERATURE AND PRESSURE RELIEF VALVE
4. MEET OR EXCEED ENERGY FACTOR REQUIREMENTS OF ASHRAE 90.1-2007
5. OR EQUAL BY A.O. SMITH, BRADFORD WHITE, OR STATE

NOTE:

PC TO VERIFY ALL FIXTURES WITH ARCHITECT AND OWNER PRIOR TO PURCHASING

LINETYPE LEGEND

COLD WATER SUPPLY
HOT WATER SUPPLY
SANITARY SEWER LINE
VENT LINE

DO NOT TAP WATER
LINE AHEAD OF RPZ.

PLUMBING SCHEDULES | 2

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JACOB L. HAMILTON
3-18-25
KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA

MATTHEW'S LANDING
D.R. HORTON
LILLINGTON, NC

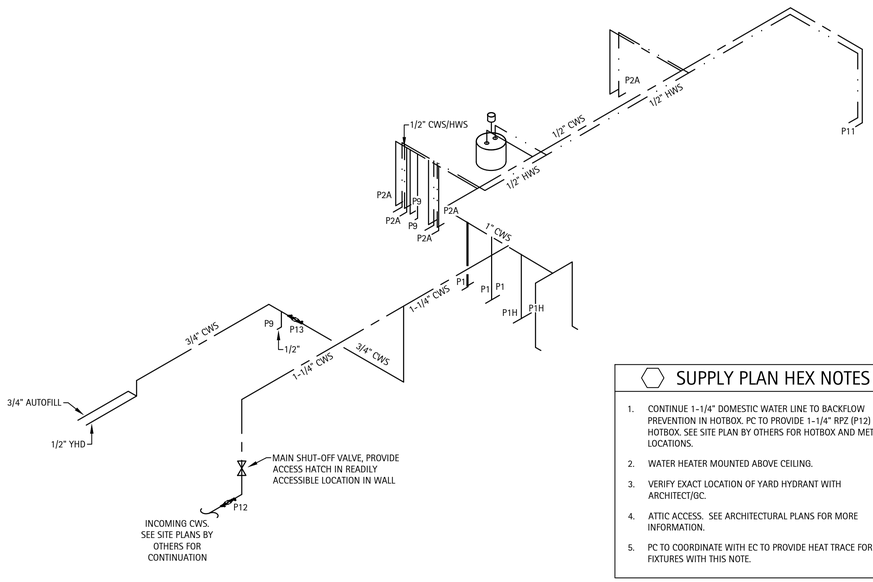
NO.	REVISION	DATE

PROJECT #:	250127
DATE ISSUED:	2025 03 18
DRAWING BY:	AJP
CHECKED BY:	JLH

00% I.F.B.

PLUMBING
NOTES &
SCHEDULES

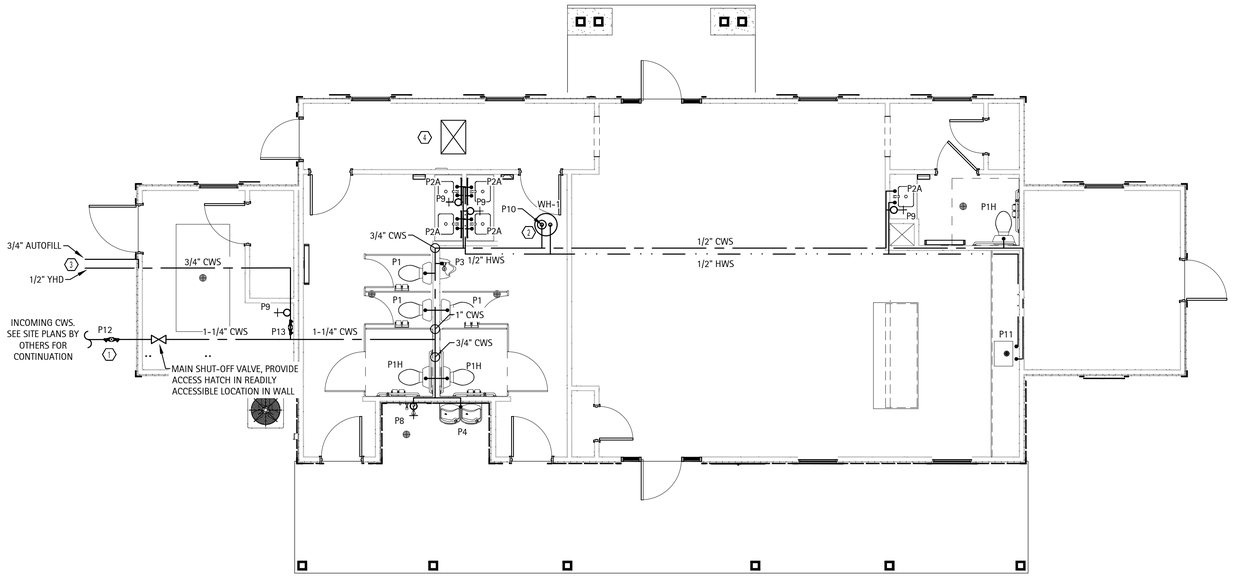
P1



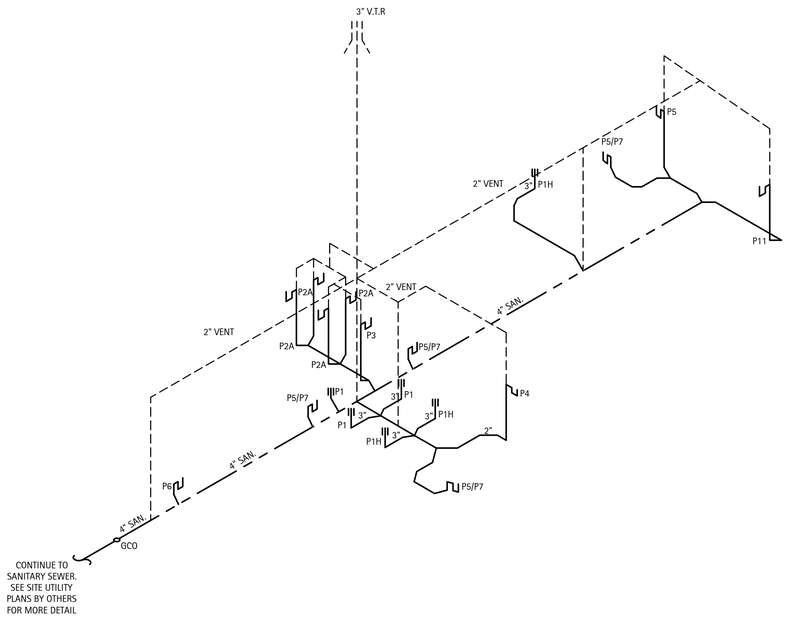
DOMESTIC WATER SUPPLY RISER - NO SCALE | 1

SUPPLY PLAN HEX NOTES

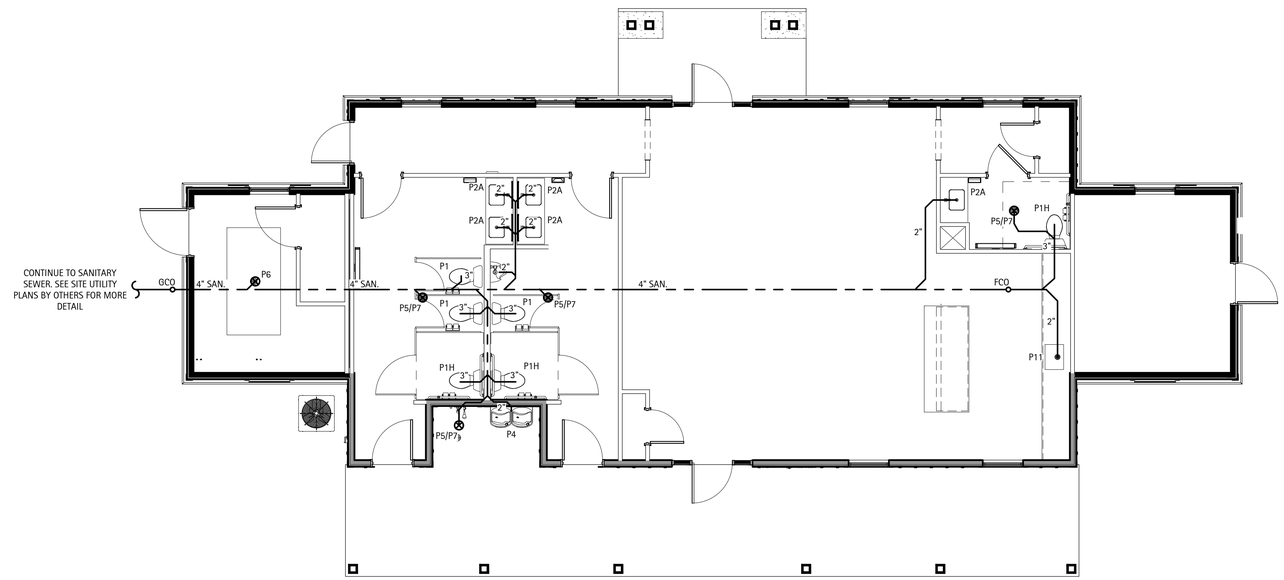
1. CONTINUE 1-1/4" DOMESTIC WATER LINE TO BACKFLOW PREVENTION IN HOTBOX. PC TO PROVIDE 1-1/4" RPZ (P12) IN HOTBOX. SEE SITE PLAN BY OTHERS FOR HOTBOX AND METER LOCATIONS.
2. WATER HEATER MOUNTED ABOVE CEILING.
3. VERIFY EXACT LOCATION OF YARD HYDRANT WITH ARCHITECT/GC.
4. ATTIC ACCESS. SEE ARCHITECTURAL PLANS FOR MORE INFORMATION.
5. PC TO COORDINATE WITH EC TO PROVIDE HEAT TRACE FOR FIXTURES WITH THIS NOTE.



DOMESTIC WATER SUPPLY PLAN - SCALE: 3/16" = 1'-0" | 2



SANITARY WASTE RISER - NO SCALE | 3



SANITARY WASTE PLAN - SCALE: 3/16" = 1'-0" | 4

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JACOB L. HAMLIN 3-18-25

CLUGSTON ENGINEERING CORPORATE, INC. SEAL NORTH CAROLINA

MATTHEW'S LANDING

D.R. HORTON

LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	250127
DATE ISSUED:	2025 03 18
DRAWING BY:	AJP
CHECKED BY:	JLH

00% I.F.B.

PLUMBING PLANS & RISERS

P2

GENERAL MECHANICAL NOTES:

ADMINISTRATIVE:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR,
   MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
   FASC - FIRE ALARM SYSTEM CONTRACTOR, AHJ - AUTHORITY HAVING JURISDICTION.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. MC SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND GENERAL CONTRACTOR AS SHOWN ON THE PLANS OR NECESSARY FOR A COMPLETE INSTALLATION.
3. THE MC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE CONTRACTOR AT AN APPROVED LOCATION. THE MC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE MC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
5. THE MC SHALL INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL AND BUILDING CODES AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MC SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
6. THE MC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
9. ALL MECHANICAL MATERIALS SHALL BE NEW AND FREE OF DEFECT AND LISTED AND LABELED BY UL OR AN APPROVED THIRD PARTY AGENCY. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE MC WITHOUT ADDITIONAL COST TO THE OWNER. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, THE CITED EXAMPLE IS INTENDED TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. SUCH EXAMPLES ARE USED TO CONVEY A GENERAL STYLE, TYPE, CHARACTER, AND QUALITY OF THE PRODUCT DESIRED; PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL BE ACCEPTED.
10. THESE PLANS ARE DIAGRAMMATIC. THE MC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, DUCTS, REGISTERS, GRILLES, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE MC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER.
11. THE MC SHALL VERIFY THE FUNCTIONALITY AND OPERATION OF ALL EXISTING MECHANICAL EQUIPMENT IN THE AREA OF WORK. REPLACE FILTERS, LEAK TEST AND RECHARGE REFRIGERANT LINES, REPLACE OR LUBRICATE BEARINGS, CHECK LINKAGES AND ACTUATORS, AND PERFORM OTHER MAINTENANCE SERVICE AS NECESSARY TO GET THE EQUIPMENT IN PROPER ORDER.
12. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING.
13. IT IS THE MC'S RESPONSIBILITY TO VERIFY THAT ITEMS FURNISHED FOR THIS CONTRACT WILL FIT IN THE SPACE AVAILABLE. THE MC SHALL MAKE FIELD MEASUREMENTS AS NECESSARY TO DETERMINE SPACE REQUIREMENTS. IF THE MC MUST ALTER EQUIPMENT DUE TO SPACE CONSIDERATIONS, THE MC SHALL PROVIDE SIZES AND SHAPES THAT FIT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS.
14. MC SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR REGARDING THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING PROVIDED.
15. MAINTAIN CLEARANCES FOR ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR SERVICEABILITY. ALL ROOFTOP EQUIPMENT MUST BE A MINIMUM OF 10 FEET FROM ROOF EDGE.
16. MC SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF THE PROJECT. MC SHALL PROVIDE ALL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES.
17. CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND SHEET ROCK DUST DURING CONSTRUCTION. ALL FILTERS SHALL BE REPLACED WITH NEW AT THE COMPLETION OF THE PROJECT.
18. ALL EQUIPMENT INSTALLED ON ROOF MUST BE WITHIN THE ROOF SCREEN.
19. IF A ROOF PENETRATION IS REQUIRED AND THE ROOF IS UNDER WARRANTY, USE THE AUTHORIZED ROOFER. PROVIDE DOCUMENTATION.
20. ALL PIPING, WIRING, CONDUIT, INSULATION, EQUIPMENT, SUPPORTS, ETC. SHALL BE SUITABLE FOR INSTALLATION IN A RETURN PLENUM AS NECESSARY. COORDINATE WITH OTHER TRADES ON LOCATIONS OF ALL PLENUMS.
21. MC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

MATERIALS:

1. THE MC SHALL PROVIDE ALL DX UNITARY HEATING AND COOLING EQUIPMENT AS SCHEDULED ON THE DRAWINGS. AIR-COOLED SPLIT SYSTEM HEAT PUMPS AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. AIR-COOLED ROOFTOP PACKAGE HEAT PUMPS, GAS-ELECTRIC UNITS, AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. GAS FURNACES SHALL BE BY TRANE, CARRIER, OR YORK. THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED ACCESSORIES AS SCHEDULED OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM.
2. THE MC SHALL PROVIDE ALL EXHAUST AND SUPPLY FANS AS SCHEDULED. FANS SHALL BE BY GREENHECK, LOREN COOK, TWIN CITY, OR PENNBARRY.
3. DUCTWORK IS SHOWN WITH FREE AREA DIMENSIONS. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH S.P.
4. EXTERNAL DUCT INSULATION AND FACTORY-INSULATED FLEXIBLE DUCT SHALL BE LEGIBLY PRINTED OR IDENTIFIED AT INTERVALS NOT GREATER THAN 36 INCHES WITH THE NAME OF THE MANUFACTURER, THE THERMAL RESISTANCE R-VALUE AT THE SPECIFIED INSTALLED THICKNESS AND THE FLAME SPREAD AND SMOKE-DEVELOPED INDEXES OF THE COMPOSITE MATERIALS. ALL DUCT INSULATION PRODUCT R-VALUES SHALL BE BASED ON INSULATION ONLY, EXCLUDING AIR FILMS, VAPOR RETARDERS OR OTHER DUCT COMPONENTS, AND SHALL BE BASED ON TESTED C-VALUES AT 75°F MEAN TEMPERATURE AT THE INSTALLED THICKNESS, IN ACCORDANCE WITH RECOGNIZED INDUSTRY PROCEDURES. THE INSTALLED THICKNESS OF DUCT INSULATION USED TO DETERMINE ITS R-VALUES SHALL BE DETERMINED AS FOLLOWS:
   - 4.1. FOR DUCT BOARD, DUCT LINER AND FACTORY-MADE RIGID DUCTS NOT NORMALLY SUBJECTED TO COMPRESSION, THE NOMINAL INSULATION THICKNESS SHALL BE USED.
   - 4.2. FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS.
   - 4.3. FOR FACTORY-MADE FLEXIBLE AIR DUCTS, THE INSTALLED THICKNESS SHALL BE DETERMINED BY DIVIDING THE DIFFERENCE BETWEEN THE ACTUAL OUTSIDE DIAMETER AND NOMINAL INSIDE DIAMETER BY TWO.
5. DUCT LINER MAY BE SUBSTITUTED FOR EXTERIOR DUCT WRAP. DUCT LINER INSULATION MATERIALS SHALL MEET THE REQUIREMENTS OF ASTM C 1071, AND ASTM G 21. EXTERIOR DUCT R-VALUE SHALL BE R-8 AND INTERIOR R-VALUE SHALL BE R-6 IN ACCORDANCE WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE. NOMINAL DUCT SIZES SHALL BE ADJUSTED AS NECESSARY SO THAT FREE AREA DIMENSIONS ARE PRESERVED AS SHOWN ON THE PLANS. FABRICATION AND INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND TO THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION FIBROUS GLASS DUCT LINER STANDARDS AND/OR SMACNA HVAC DUCT CONSTRUCTION STANDARDS. DUCT LINER SHALL HAVE A BLACK PIGMENTED MAT ON THE AIRSTREAM SIDE TO RESIST DAMAGE DURING INSTALLATION AND SERVICE. EDGES SHALL BE FACTORY COATED WITH BLACK PIGMENTED COATING TO COMPLY WITH SMACNA DCS REQUIREMENTS. ALL PORTIONS OF DUCT DESIGNATED TO RECEIVE DUCT LINER SHALL BE COMPLETELY COVERED WITH DUCT LINER. TRANSVERSE JOINTS SHALL BE NEATLY BUTTED AND THERE SHALL BE NO INTERRUPTIONS OR GAPS. THE BLACK PIGMENTED OR MAT FACED SURFACES SHALL FACE THE AIRSTREAM. DUCT LINER SHALL BE ADHERED TO THE SHEET METAL WITH 90 PERCENT COVERAGE OF ADHESIVE COMPLYING WITH REQUIREMENTS OF ASTM C 916. ALL EXPOSED LEADING EDGES AND TRANSVERSE JOINTS SHALL BE FACTORY COATED OR COATED WITH ADHESIVE DURING FABRICATION. DUCT LINER SHALL BE ADDITIONALLY SECURED WITH MECHANICAL FASTENERS, EITHER WELD-SECURED OR IMPACT DRIVEN, WHICH SHALL COMPRESS THE DUCT LINER SUFFICIENTLY TO HOLD IT FIRMLY IN PLACE. ADHESIVE BONDED PINS ARE NOT PERMITTED DUE TO LONG-TERM ADHESIVE AGING CHARACTERISTICS. LININGS SHALL BE INTERRUPTED AT THE AREA OF OPERATION OF A FIRE DAMPER AND AT A MINIMUM OF 6 INCHES UPSTREAM AND 6 INCHES DOWNSTREAM OF ELECTRIC RESISTANCE AND FUEL-BURNING HEATERS IN A DUCT SYSTEM. METAL NOSINGS OR SLEEVES SHALL BE INSTALLED OVER EXPOSED DUCT LINER THAT FACE OPPOSITE THE DIRECTION OF AIRFLOW. UPON COMPLETION OF INSTALLATION OF DUCT LINER AND BEFORE OPERATION IS TO COMMENCE, VISUALLY INSPECT SYSTEM AND VERIFY THAT THE DUCT LINER IS PROPERLY INSTALLED. OPEN ALL SYSTEM DAMPERS AND TURN ON FANS TO BLOW ALL SCRAPS AND OTHER LOOSE PIECES OF MATERIAL OUT OF THE DUCT SYSTEM. ALLOW FOR A MEANS OF REMOVAL OF SUCH MATERIAL.
6. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578. ALL INSULATION SHALL HAVE FORMALDEHYDE EMISSIONS NOT GREATER THAN 0.05 PPM. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
7. MASTIC USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A-95 OR UL 181B-98. MAINTAIN AMBIENT TEMPERATURES AND CONDITIONS REQUIRED BY MANUFACTURER OF ADHESIVES, MASTICS, AND INSULATION CEMENTS. DO NOT INSTALL DUCT SEALANT WHEN TEMPERATURES ARE LESS THAT THOSE RECOMMENDED BY THE SEALANT MANUFACTURER.
8. ALL ADHESIVES AND SEALANTS SHALL HAVE VOC CONTENT BELOW 20 GRAMS PER LITER AND WHICH MEET THE REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS BEING ADHERED OR INVOLVED. ADHESIVES AND SEALANTS SHALL CONTAIN NO HEAVY METALS OR FORMALDEHYDE.
9. FACTORY-MADE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181-96.
10. FLEXIBLE DUCT SHALL BE UL LISTED CLASS 0 OR CLASS 1, INSULATED, AND COMPLY WITH UL 181. FLEXIBLE DUCT SHALL BE FACTORY FORMED, COMPOSED OF SPIRAL WOUND CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC LINER. DUCT SHALL BE FACTORY INSULATED WITH A FOIL VAPOR BARRIER JACKET. CONNECT TO RIGID DUCT WITH SPIN-IN FITTING AND DAMPER. FLEXIBLE DUCTS AND AIR CONNECTORS SHALL NOT PASS THROUGH ANY FIRE RESISTANCE RATED ASSEMBLY.
11. THE MC SHALL PROVIDE ALL DIFFUSERS GRILLES, LOUVERS, AND OTHER AIR DISTRIBUTION OUTLETS AND INLETS. LOUVERS, GRILLES, AND DIFFUSERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. FOR LAY-IN CEILINGS, INSTALL SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER OR DAMPER. AIR DISTRIBUTION OUTLETS AND INLETS SHALL BE BY HART & COOLEY, PRICE, METAL-AIRE, NAILOR, OR CARNES.
12. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 605 OF THE 2018 NC MECHANICAL CODE.
13. THE MC SHALL PROVIDE ALL REFRIGERATION PIPING. ALL PIPE AND FITTINGS SHALL BE TYPE ACR HARD COPPER TUBING WITH SWEAT FITTINGS. REFRIGERATION LINES SHALL BE RUN NEATLY. WHERE A GROUP OF LINES ARE RUN, TRAPEZE HANGERS MAY BE USED. DO NOT USE CHAIN OR WIRE HANGERS. WRAP TUBING WITH RUBBER TAPE AT EACH CLAMP OR HANGER. FOR COVERED PIPES, HANGERS SHALL FIT AROUND THE OUTSIDE OF THE COVERING WITH 12 GAUGE GALVANIZED STEEL SHIELDS OF A LENGTH EQUAL TO THE OUTSIDE DIAMETER OF THE INSULATION AND COVERING 3/4 OF THE CIRCUMFERENCE OF THE INSULATION. SAGS SHALL NOT BE PERMISSIBLE. HORIZONTAL LINES SHALL PITCH DOWN NOT LESS THAN 1 INCH IN 40 FEET. INSULATE WITH 1 INCH CLOSED CELL ARMAFLEX TYPE INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50. ALL JOINTS AND SPLICES IN INSULATION SHALL BE TAPED AND AIR TIGHT. SOLDER REFRIGERATION LINES USING 15 PERCENT SILVER SOLDER AND EVACUATE LINES TO 300 MICRONS. PROVIDE MOISTURE INDICATING SIGHT GLASS AND FILTER DRYER IN LIQUID LINE. PROVIDE OIL TRAPS AND DOUBLE RISERS IN REFRIGERANT SUCTION AND HOT GAS LINES WHERE REQUIRED TO PREVENT OIL SLUGGING AT THE COMPRESSOR AND INSURE PROPER LUBRICATION. MC SHALL BE RESPONSIBLE FOR SEALING LINE SET PENETRATIONS OF ANY RATED ASSEMBLIES IN ACCORDANCE WITH A SYSTEM LISTED IN THE UL DIRECTORY FOR THE SPECIFIC ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR A LIST OF ALL UL FIRE RATED ASSEMBLIES.

METHODS:

1. INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP; INSTALLED R-VALUE SHALL BE A MINIMUM R-6. COVERINGS AND LININGS, INCLUDING ADHESIVES WHEN USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL NEW DUCTWORK SHALL RECEIVE INSULATION ON THE OUTSIDE. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. FOR RECTANGULAR DUCTS, INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. STAPLE SEAMS APPROXIMATELY 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES. SEAL SEAMS WITH PRESSURE SENSITIVE TAPE MATCHING THE FACING. FOR RECTANGULAR DUCTS 24 INCHES IN WIDTH OR GREATER, SECURE DUCT WRAP TO THE BOTTOM OF THE DUCT WITH MECHANICAL FASTENERS SPACED 18 INCHES ON CENTER TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF DUCT WRAP SHALL BE TIGHTLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. ALL TEARS, PUNCTURES, ETC. OF THE DUCT WRAP INSULATION SHALL BE SEALED WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM. INSULATION SHALL BE BY KNAUF INSULATION, OWENS CORNING CORP, OR CERTAINTEED CORPORATION.
2. VERIFY THAT DUCTS HAVE BEEN TESTED BEFORE APPLYING INSULATION MATERIALS. VERIFY THAT DUCT SURFACES ARE CLEAN, DRY AND FREE OF FOREIGN MATERIAL PRIOR TO INSULATING. DUCT COVERINGS SHALL NOT PENETRATE A WALL OR FLOOR REQUIRED TO HAVE A FIRE-RESISTANCE RATING OR REQUIRED TO BE FIRE BLOCKED.
3. WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOUVERS AND DUCT OUTLET IS SMALLER THAN LOUVER FRAME, PROVIDE BLANK-OUT PANELS SEALING LOUVER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE; SEAL TO LOUVER FRAME AND DUCT.
4. DUCTS CONNECTING TO A FURNACE SHALL HAVE A CLEARANCE TO COMBUSTIBLES IN ACCORDANCE WITH THE FURNACE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. FOR STRUCTURES IN FLOOD HAZARD AREAS, DUCTS SHALL BE LOCATED ABOVE THE DESIGN FLOOD ELEVATION. DUCT SHALL NOT BE INSTALLED IN OR WITHIN 4 INCHES OF THE EARTH.
6. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS.
7. CONSTRUCT T's, BENDS, AND ELBOWS WITH RADII OF NOT LESS THAN 1-1/2 TIMES THE WIDTH OF THE DUCT ON CENTERLINE. WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE TURNING VANES.
8. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE; MAXIMUM OF 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.
9. IT SHALL BE THE RESPONSIBILITY OF THE MC TO SUSPEND AND SUPPORT ALL EQUIPMENT, DUCTWORK, DIFFUSERS, AND OTHER MATERIALS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED HANGERS AND SUSPENSION EQUIPMENT. ALL HVAC EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT OR PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING.
10. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA AT INTERVALS NOT EXCEEDING 10 FEET. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE HANGERS SUSPENDED WITH THREADED ROD. SUPPORT DUCTS FROM BAR JOISTS, GIRDERS, OR BEAMS.
11. CHECK LOCATIONS OF AIR OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT. COORDINATE WITH SPRINKLER CONTRACTOR IF APPLICABLE.
12. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER OR REGISTER ASSEMBLY. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES AT SITE ALTITUDE.
13. MC SHALL INSTALL FIRE DAMPERS AT EACH PENETRATION OF A RATED WALL AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. FIRE DAMPERS SHALL BE UL LABELED (UL 555), CURTAIN TYPE, WITH INTEGRAL FACTORY SLEEVE AND BLADES LOCATED OUTSIDE THE AIR STREAM. INSTALLATION OF ALL FIRE DAMPERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SECTION 607 OF THE 2018 NC MECHANICAL CODE. PROVIDE ACCESS PANELS FOR TESTING AND SERVICE AS NECESSARY. MC SHALL PROVIDE RADIATION DAMPERS AND THERMAL BLANKETS FOR ALL PENETRATIONS OF RATED CEILING ASSEMBLIES. RADIATION DAMPERS SHALL BE UL LABELED (UL 555C) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC INSTALLATION INSTRUCTIONS. FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, AND CEILING RADIATION DAMPERS SHALL BE BY RUSKIN, NAILOR, OR LLOYD INDUSTRIES.
14. MC SHALL INSTALL A SMOKE DETECTOR-UL LISTED FOR DUCT INSTALLATION (UL 268A) IN EACH UNIT'S RETURN UPSTREAM OF ANY FILTERS, OUTSIDE AIR CONNECTIONS, OR DECONTAMINATION EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72. DUCT SMOKE DETECTOR SUPERVISION SHALL COMPLY WITH 606.4.1 OF THE 2018 NC MECHANICAL CODE. IF THE BUILDING IS (TO BE) EQUIPPED WITH A FIRE ALARM SYSTEM, THE FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND WIRE ALL DUCT SMOKE DETECTORS. IF THE BUILDING IS NOT PROVIDED WITH A FIRE ALARM SYSTEM, THE MC SHALL FURNISH AND WIRE THE DUCT SMOKE DETECTORS AND A/V DEVICE. IT SHALL BE THE RESPONSIBILITY OF THE MC TO INSTALL ALL SMOKE DUCT DETECTORS PER NFPA AND MFG'S INSTALLATION INSTRUCTIONS REGARDLESS OF WHO FURNISHES THE DEVICES.
15. MC SHALL INSTALL PROGRAMMABLE THERMOSTATS AS SHOWN ON THE PLANS. THERMOSTAT SHALL BE MOUNTED AT 48 INCHES AFF. THERMOSTATS SHALL MEET THE REQUIREMENTS OF SECTION C403.2.4 OF THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.
16. FRESH AIR INTAKES SHALL BE INSTALLED ON ALL UNITS AS SHOWN ON DRAWINGS. MAINTAIN 10 FEET OF DISTANCE BETWEEN FRESH AIR INTAKES AND ALL EXHAUST TERMINATIONS AND PLUMBING VENT THRU ROOFS.
17. UNITS PROVIDED WITH ECONOMIZERS SHALL ALSO BE PROVIDED WITH POWERED EXHAUST AND COMPARATIVE ENTHALPY CONTROLS.
18. MC SHALL INSTALL ALL EXHAUST FANS AND VENT TO THE BUILDING'S EXTERIOR. EC SHALL SWITCH FANS WITH LIGHTS OR ON SEPARATE SWITCH AS SHOWN.
19. P-TRAPS MUST BE INSTALLED ON ALL UNITS. MC SHALL INSTALL AUXILIARY DRAIN PANS UNDER OVERHEAD AIR HANDLERS AND AN AUTOMATIC CUT-OFF FLOAT SWITCH FOR EACH. P-TRAPS AND CONDENSATE LINES SHALL BE 1 INCH. P-TRAPS AND CONDENSATE LINES MAY BE PVC WHERE NOT LOCATED IN PLENUMS; OTHERWISE, THEY SHALL BE TYPE M COPPER. CONDENSATE SHALL BE ROUTED TO DAYLIGHT OR STORM DRAIN.
20. INSTALL BACKDRAFT DAMPERS ON FRESH AIR AND EXHAUST DUCTS WHERE THEY PENETRATE THE THERMAL ENVELOPE PER NORTH CAROLINA ENERGY CONSERVATION CODE C402.5.5

MECHANICAL NOTES | 1

MECHANICAL SYSTEM, SERVICE SYSTEMS, AND EQUIPMENT

METHOD OF COMPLIANCE	PRESCRIPTIVE
THERMAL ZONE	ZONE 4A
EXTERIOR DESIGN CONDITIONS	
HEATING DESIGN DRY BULB	23.1°F
COOLING DESIGN DRY BULB	91.7°F
COOLING DESIGN WET BULB	75.6°F
INTERIOR DESIGN CONDITIONS	
HEATING DESIGN DRY BULB	70°F
COOLING DESIGN DRY BULB	75°F
COOLING RELATIVE HUMIDITY	50%
HEATING LOAD:	33,373 BTU/H
SENSIBLE COOLING LOAD:	28,677 BTU/H
LATENT COOLING LOAD:	11,418 BTU/H
PUMP ROOM (DESIGNED AT 50°F HEATING DRY BULB)	
HEATING LOAD:	10,394 BTU/H
MECHANICAL SPACING CONDITIONING SYSTEM:	
UNITARY	AIR COOLED DX
DESCRIPTION OF UNIT(S)	UNIT HEATERS
BOILER	N/A
TOTAL BOILER OUTPUT	N/A
CHILLER	N/A
TOTAL CHILLER CAPACITY	N/A
EQUIPMENT EFFICIENCIES:	SEE SCHEDULES
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS):	SEE SCHEDULES

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE, THE MECHANICAL DESIGN FOR THIS BUILDING COMPLIES WITH MECHANICAL AND EQUIPMENT REQUIREMENTS OF THE 2018 NORTH CAROLINA STATE BUILDING CODE AND 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

ELECTRIC UNIT HEATER SCHEDULE

MARK	MFG / MODEL #	HEATER	VOLT/ PH	HEAT	MOCP	NOTES
		KW		KW	AMPS	
UH-1	MARKEL/ H1HUH05003	5.0	240/1	5.0	30.0	1-3

1. BUILT-IN THERMOSTAT.
2. BUILT-IN DISCONNECT SWITCH.
3. CORROSION RESISTANT

SPLIT SYSTEM HEAT PUMP SCHEDULE

MARK	MFG / MODEL #	NOMINAL CAPACITY	REF LINES		MOTORS		EFFICIENCIES			ELECTRICAL			WEIGHT	REMARKS
			GAS	LIQ	COMPRESSOR	COND. FAN	SEER	COP @ 17°	HSPF	V/PH	MCA	MOCP		
		TONS			NO.	NO.	EER						LBS	
HP-1	TRANE 5TWR4048A1000*	4	7/8	5/16	1	1	14.3/11.7	2.80	7.50	240/1	25	40	251	1,3-8

SPLIT SYSTEM AIR HANDLER SCHEDULE

MARK	MFG / MODEL #	NOMINAL CAPACITY	AIR FLOW		FAN MOTORS		HEATING CAPACITY			COOLING CAPACITY			ELECTRICAL			WEIGHT	REMARKS
			SUPPLY	MIN. OA	SUPPLY	ESP	OUTPUT	AUX ELEC HEAT		EAT WB/DB	TOTAL	SENSIBLE	V/PH	MCA	MOCP		
		TONS	CFM	CFM	NO.	in wg	MBH	kW	STAGES	°F	MBH	MBH				LBS	
AHU-1	TRANE 5TEM6D05AV41SA	4	1575	SEE TABLE	1	0.60	28.9	3.84	1	67/80	43.8	32.7	240/1	25	25	100	2-4,6-8

1. PROVIDE CONCRETE PAD FOR UNIT TO SIT ON
2. REPLACE ALL FILTERS AT PROJECT'S COMPLETION
3. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT WITH NIGHT-TIME SET BACK
4. CONSULT MANUFACTURER ON LINE SET LENGTHS EXCEEDING 60FT
5. PROVIDE HARD START KIT
6. OR EQUAL BY CARRIER, LENNOX, OR YORK
7. ANY EQUIPMENT SUBSTITUTIONS MUST EQUAL OR EXCEED EFFICIENCIES LISTED (RATINGS PER ARI)
8. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES

Ventilation Calculation

Room Name(s)	Zone Type	Area (sq.ft.)	Rp	Ra	Default Occupancy	Pz	Ez	Airflow to Zone (cfm)	Required Exhaust (cfm)
GREAT ROOM	Multiuse Assembly	746	7.5	0.06	120	89.52	0.8	1100	0
BATHROOMS	N/A	421	0	0	0	0.00	0.8	350	0
CORRIDORS	Corridors	139	0	0.06	0	0.00	0.8	125	0
STORAGE	Storage	19	0	0.12	0	0.00	0.8		0
	N/A		0	0	0	0.00	0.8		0

Maximum Zp: 0.813818

K-12 School? No

Ev: 0.3

Actual System Population: 5

Uncorrected Intake 93 cfm

Outdoor Air Intake *310 cfm*

Percent of Unit Air 20%

VENTILATION CALCS

CHEMICAL STORAGE:

26 SQFT X 10' HIGH CEILING = 260 CU. FT @ 10 ACH = 26 CFM

*40 CFM PROVIDED

PUMP ROOM:

120 SQFT X 10' HIGH CEILING = 1200 CU. FT @ 10 ACH = 200 CFM

*300 CFM PROVIDED

EXHAUST FAN SCHEDULE

MARK	MFG / MODEL #	TYPE	ESP (in WG)	CFM	VOLT/PH	FLA	SONES	NOTES
EF-1,2,3	GREENHECK SP-AP0511W	CEILING	0.40	110	120/1	0.33	2.0	1-3
EF-4	GREENHECK CSP-A390-QD	INLINE	0.50	340	120/1	1.33	4.9	1-6

1. PROVIDE WITH PITCHED ROOF CURB & CAP FOR FLAT OR SLOPED ROOF,OR HOODED WALL WITH BACKDRAFT DAMPER CAP AS APPLICABLE.
2. PROVIDE WITH SQUARE TO ROUND DUCT ADAPTER AS NECESSARY
3. OR EQUAL BY LOREN COOK OR PENNBARRY OR TWIN CITY
4. INTEGRAL DISCONNECT SWITCH
5. CORROSION RESISTANT
6. CONTINUOUS OPERATION

048012

3-18-25

REGISTER & GRILLE SCHEDULE

MARK	MFG	MODEL #	SIZE	MOUNTING	DESCRIPTION	NOTES
A	NAILOR	5145H	12X12	CEILING	ALUMINUM LOUVERED RETURN GRILLE	1
B	HART & COOLEY	A682	14X8	SURFACE	ALUMINUM, DOUBLE DEFLECTION C, WHITE	1
C	HART & COOLEY	A682	10X6	SURFACE	ALUMINUM, DOUBLE DEFLECTION C, WHITE	1
R	HART & COOLEY	RH45	20X20	SURFACE	ALUMINUM SURFACE MOUNT RETURN GRILLE	1

1. OR EQUAL BY PRICE, METAL-AIRE, CARNES, TITUS, HART AND COOLEY, OR NAILOR.

MECHANICAL SCHEDULES & DESIGNER'S STATEMENT | 2

HEX PLAN NOTES

1. EXHAUST DUCT TO TURTLE BACK ROOF VENT ON BACK SIDE OF ROOF PITCH. PROVIDE WITH INSECT SCREEN. COORDINATE EXACT LOCATION WITH G.C.
2. LOUVERED EXHAUST GRILLE INSTALLED IN GYPSUM CEILING. TURN LOUVERED BLADES TOWARDS WALL.
3. SUSPENDED INLINE EXHAUST FAN TO BE INSTALLED IN ATTIC. ENSURE ALL MANUFACTURER CLEARANCES ARE MAINTAINED. COORDINATE WITH G.C. TO PROVIDE ACCESS FOR MAINTENANCE.
4. DOOR WITH WEATHER PROOF LOUVER BY G.C. LOUVER TO BE 18"X18".
5. MC TO KEEP PUMP ROOM EXHAUST AND BATHROOM EXHAUST SEPARATE.
6. COMBINE BATHROOM EXHAUST TO ONE 14" EXHAUST DUCT.
7. EXHAUST FAN TO BE WIRED FOR CONTINUOUS OPERATION.
8. CORROSION RESISTANT UNIT HEATER.
9. MC TO MAKE SURE CONDENSATE LINES DO NOT DISCHARGE INTO HARDSCAPES.
10. APPROXIMATE CONDENSATE LINE ROUTE, MC TO PROVIDE CONDENSATE PUMP AS NEEDED.
11. 10"Ø FRESH AIR DUCT TO SOFFIT INTAKE

MECHANICAL PLAN - SCALE: 3/16" = 1'-0" | 3

D.CLUGSTON

MATTHEW'S LANDING

D.R. HORTON

LILLINGTON, NC

DATE	
REVISION	
NO.	

PROJECT #:	250127
DATE ISSUED:	2025 03 18
DRAWING BY:	AJP
CHECKED BY:	JLH

00% I.F.B.

MECHANICAL PLAN

M1

GENERAL ELECTRICAL NOTES:

ADMINISTRATIVE:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR,
   MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
   FASC - FIRE ALARM SYSTEM CONTRACTOR, AHJ - AUTHORITY HAVING JURISDICTION.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ALSO INSTALL MATERIALS AND EQUIPMENT FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR AS REQUIRED.
3. EC SHALL PROVIDE LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY AND REASONABLY INCIDENTAL TO INSURE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. MINOR ITEMS, ACCESSORIES, AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETION AND PROPER OPERATION OF ANY ELECTRICAL SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
4. WORKMANSHIP SHALL BE IN ACCORDANCE WITH NECA 1 "STANDARD PRACTICE FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING."
5. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE ELECTRICAL CONTRACTOR AT AN APPROVED LOCATION. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE ELECTRICAL CONTRACTOR UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
6. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. TRADE NAMES AND MANUFACTURERS ARE SPECIFIED TO ESTABLISH A QUALITY STANDARD. SUBSTITUTIONS SHALL BE PERMITTED IF APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL LISTED MODEL NUMBERS SHALL BE VERIFIED WITH THE MANUFACTURER FOR PROPER APPLICATION OF EQUIPMENT.
9. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
10. GROUNDING AND BONDING SHALL BE PER NEC ARTICLE 250. THE RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR GROUNDING CONTINUITY. A GREEN EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC TABLE 250-122, SHALL BE RUN IN ALL POWER RACEWAYS. FOR NON-ISOLATED GROUND CIRCUITS PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. FOR ISOLATED GROUND CIRCUITS, PROVIDE ONE NEUTRAL AND ONE ISOLATED GROUND WIRE FOR EACH CIRCUIT; IN ADDITION, PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. MAIN BONDING JUMPERS AND SYSTEM BONDING JUMPERS SHALL BE INSTALLED IN ACCORDANCE WITH 250.28 OF THE NEC. FOR BUILDINGS OR STRUCTURES SUPPLIED BY FEEDERS OR BRANCH CIRCUITS, GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH 250.32. SEPARATELY DERIVED AC SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH 250.30. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS; ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED PER 250.54 AS NECESSARY.
11. THE ELECTRICAL CONTRACTOR SHALL ALSO COORDINATE WITH THE GENERAL CONTRACTOR REGARDING THE BONDING OF THE FOOTING REBAR, SO THAT IT WILL BE IN PLACE AND READY AT TIME OF FOOTING INSPECTION.
12. ALL MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE UNDERWRITERS' LABORATORIES, INC. STANDARDS OR HAVE UL APPROVAL, OR BEAR UL RE-EXAMINATION LISTING WHERE SUCH APPROVAL HAS BEEN ESTABLISHED FOR THE TYPE OF DEVICE IN QUESTION.
13. CONDUCTORS, FUSES, CIRCUIT BREAKERS, AND DISCONNECT SWITCHES SHOWN ON THESE PLANS HAVE BEEN SIZED FOR THE SPECIFIED EQUIPMENT. BEFORE ORDERING ELECTRICAL EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON THE SITE AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES SHOULD CONDUCTOR, CIRCUIT BREAKER, OR FUSE SIZES REQUIRE CHANGE.
14. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE THE FOLLOWING MATERIALS ARE RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT: LIGHT FIXTURES, INCLUDING PROPER DISPOSAL OF BALLASTS, FLUORESCENT LIGHT BULBS, AND TRANSFORMERS, WIRING AND ELECTRICAL EQUIPMENT, AND INSULATION. WASTE MATERIALS CONTAINING LEAD, ASBESTOS, PCBs (FLUORESCENT LAMP BALLASTS), OR OTHER HARMFUL SUBSTANCES SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE LAWS AND REQUIREMENTS CONCERNING HAZARDOUS WASTE.
15. ALL WORK SHALL CONFORM TO 2020 NATIONAL ELECTRIC CODE, 2018 STATE BUILDING CODE, AND ALL APPLICABLE LOCAL CODES.

MATERIALS:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, RECEPTACLES, TERMINALS, ETC, UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS AND CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SERVICE ENTRANCE EQUIPMENT, SUB PANELS, AND OTHER ELECTRICAL DISTRIBUTION EQUIPMENT AS NECESSARY FOR A COMPLETE INSTALLATION. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH UTILITY REGARDING SERVICE AND METERING DETAILS. PRIOR TO ORDERING EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE AVAILABLE FAULT CURRENT OR TRANSFORMER SIZE AND IMPEDANCE FROM THE UTILITY AND CONTACT THE ENGINEER IF THE VALUE EXCEEDS THE EQUIPMENT SPECIFIED. PANEL BOARDS AND SWITCH BOARDS SHALL BE SQUARE D, CUTLER-HAMMER, SIEMENS, OR GE. BUSES SHALL BE COPPER UNLESS OTHERWISE APPROVED BY THE ENGINEER. RECESSED PANEL BOARDS SHALL BE INSTALLED FLUSH WITH THE WALL FINISH. METER BASES SHALL COMPLY WITH THE UTILITY'S SPECIFICATIONS AND SHALL BE MOUNTED AT A HEIGHT APPROVED BY THE UTILITY. ALL EQUIPMENT IDENTIFIED FOR SERVICE ENTRANCE USE SHALL BE SO LABELED AND UL LISTED FOR SUCH USE. ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT WITH CLEARANCES PER NEC 110.26. ELECTRICIAN SHALL PERMANENTLY LABEL EQUIPMENT PER NEC 110.24.
3. ENCLOSED SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE BY SQUARE D, EATON, OR GE. ENCLOSED SWITCHES SHALL HAVE A HANDLE LOCKABLE IN THE OFF POSITION AND SHALL HAVE A HANDLE INTERLOCKED TO PREVENT OPENING THE FRONT COVER WHILE IN THE ON POSITION. ENCLOSED SWITCHES OF THE FUSIBLE TYPE SHALL BE FUSED IN ACCORDANCE WITH NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES BY BUSSMAN, LITTELFUSE, OR MERSEN.
4. OCCUPANCY SENSORS SHALL BE BY WATTSTOPPER, LUTRON, LEVITON, SENSOR SWITCH, HUBBELL, OR APPROVED EQUAL.
5. CIRCUIT BREAKERS SHALL BE MOLDED-CASE, THERMAL MAGNETIC TYPE WITH QUICK-MAKE, QUICK-BREAK MECHANISM, COMMON TRIP ON MULTI-POLE BREAKERS, AND UL LISTED FOR BOTH COPPER AND ALUMINUM CONDUCTORS. CIRCUIT BREAKERS IN PANELS SHALL BE SERIES RATED WITH THE MAIN BREAKER, FULLY RATED FOR THE SYSTEM, OR SERIES RATED WITH THE BREAKER FEEDING THE PANEL FROM THE FACTORY.
6. ALL WIRE, CONNECTORS, TERMINALS, AND LUGS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. WHERE CONDUCTORS ARE RUN IN PARALLEL, LUGS SHALL BE LISTED FOR PARALLEL CONDUCTORS. PUSH WIRE CONNECTORS ARE NOT ALLOWED FOR BUILDING WIRE. PUSH CONNECTORS ARE ONLY ALLOWED, WHEN APPROVED, AS PART OF MANUFACTURED LISTED PRODUCTS. ALL WIRE SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.
7. THE INSULATION TYPE FOR INTERIOR WIRING SHALL BE DUAL RATED THHN/THWN OR XHHW; ALL WIRING INSTALLED BELOW GRADE OR IN MOIST OR WET LOCATIONS SHALL HAVE TYPE THWN OR XHHW INSULATION. INSULATION VOLTAGE RATING SHALL BE 600 VOLTS AND A MINIMUM TEMPERATURE RATING OF 75°C. CONDUCTORS SHALL BE SOLID OR STRANDED COPPER FOR #10 AWG AND #12 AWG, AND STRANDED COPPER FOR #8 AWG AND LARGER SIZES. ALL WIRING AND CABLE SHALL BE UL LISTED. ALL TERMINATIONS AND DEVICES SHALL BE RATED FOR USE WITH 75°C CONDUCTORS. FINAL CONNECTIONS TO ALL MOTORS AND EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT SHALL BE MADE WITH STRANDED COPPER CONDUCTORS. CONDUCTORS SHALL BE BY CERRO WIRE, INC, INDUSTRIAL WIRE & CABLE, INC, ENCORE WIRE CORPORATION, OR SOUTHWIRE COMPANY.
8. JOINTS IN SOLID CONDUCTORS SHALL BE SPLICED USING IDEAL "WIRE NUTS", 3M "SCOTCH LOCK", OR T&B "PIGGY" CONNECTORS IN JUNCTION BOXES, OUTLET BOXES, AND LIGHTING FIXTURES. JOINTS IN STRANDED CONDUCTORS SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS AND GUM RUBBER TAPE OR FRICTION TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE. IN ALL CASES, CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS. WHERE CONCENTRIC, ECCENTRIC, OR OVERSIZED KNOCKOUTS ARE ENCOUNTERED, A GROUNDING TYPE INSULATED BUSHING SHALL BE PROVIDED.
9. ALL LUMINAIRES SHALL BE LISTED. LUMINAIRES IN WET OR DAMP LOCATIONS SHALL BE MARKED AS SUITABLE FOR THE RESPECTIVE USE. EMERGENCY LIGHTING SHALL BE INSTALLED AS SHOWN. FINAL LOCATIONS OF ALL EXIT AND EMERGENCY LIGHTS SHALL BE VERIFIED WITH THE BUILDING INSPECTOR PRIOR TO INSTALLATION. ALL FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS MEETING ANSI C82.11 FOR ELECTRONIC BALLAST PERFORMANCE. ALL BALLASTS SHALL BE UL LISTED AND MEET FEDERAL AND STATE EFFICIENCY REQUIREMENTS.
10. ALL CONDUIT, FITTINGS, COUPLINGS, AND SUPPORTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CONDUIT FITTINGS AND COUPLINGS SHALL BE BY APPLETON, RACO, OR O-Z/GEDNEY. COUPLINGS SHALL BE THREADED, SET-SCREW, OR COMPRESSION TYPE. INDENTER OR CRIMP TYPE ARE NOT PERMITTED. CONDUIT FITTINGS AT ALL ELECTRICAL BOXES INCLUDING PULL, JUNCTION, AND OUTLET BOXES, SHALL HAVE INSULATED THROATS TO PREVENT INSULATION SCORING. DIE CAST FITTINGS ARE NOT PERMITTED
11. EMT SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE-AMERICAN NATIONAL STANDARD FOR STEEL ELECTRICAL METALLIC TUBING (EMT), ANSI C80.3 AND UL 797. RIGID METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR ELECTRICAL RIGID STEEL CONDUIT (ERSC), ANSI C80.1 AND UL 6. INTERMEDIATE METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR INTERMEDIATE METAL CONDUIT ANSI C80.6 AND UL 1242.
12. METAL CONDUIT SHALL BE BY ALLIED TUBING & CONDUIT, BECK MANUFACTURING, INC, OR WHEATLAND TUBE COMPANY. FLEXIBLE METAL CONDUIT, LIQUID-TIGHT FLEXIBLE METAL CONDUIT, AND NONMETALLIC CONDUIT SHALL BE BY AFC CABLE SYSTEMS, INC, ELECTRI-FLEX COMPANY, OR INTERNATIONAL METAL HOSE.

METHODS:

1. EC SHALL REVIEW THE MECHANICAL PLANS TO ESTABLISH POINTS OF CONNECTION AND THE EXTENT OF THE ELECTRICAL WORK TO BE PROVIDED IN THE CONTRACT.
2. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR BREAKERS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4 in CONDUIT. EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE SOURCE PER NEC 210.4(B). GROUP ALL CONDUCTORS OF EACH MULTI-WIRE BRANCH CIRCUIT PER 210.4(D) WITH WIRE TIES OR SIMILAR MEANS. DO NOT EXCEED THREE HOMERUNS PER CONDUIT. DO NOT INSTALL ISOLATED GROUND AND NON-ISOLATED GROUND CIRCUITS IN THE SAME CONDUIT. INSTALL CONDUCTORS OF DIFFERENT VOLTAGES IN SEPARATE CONDUITS.
3. COLOR CODE CONDUCTORS PER NEC. FEEDERS SHALL BE IDENTIFIED IN ACCORDANCE WITH NEC 215.12. USE BLACK AND RED FOR PHASES A AND B RESPECTIVELY ON 120/240 VOLT SINGLE-PHASE SYSTEMS AND WHITE FOR THE NEUTRAL. COLORS SHALL BE FACTORY APPLIED FOR CONDUCTORS #6 AWG AND SMALLER. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN IN COLOR AND MINIMUM #12 AWG. THE EC SHALL PROVIDE PLENUM RATED CABLE FOR ANY ELECTRICAL, TELEPHONE, COMMUNICATION, OR OTHER CABLE THAT ENTERS CEILING RETURN PLENUMS.
4. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING. COORDINATE LIGHTING LAYOUT WITH CEILING GRID, MECHANICAL EQUIPMENT, DUCTWORK AND SPRINKLER HEADS AS NECESSARY. SEE REFLECTED CEILING PLAN FOR DETAILS. FLUORESCENT FIXTURES UTILIZING DOUBLE-ENDED LAMPS MUST HAVE A DISCONNECTING MEANS COMPLYING WITH NEC 410.130(G).
5. MOUNT LIGHT SWITCHES AT 48 in AFF. MULTIPLE SWITCHES AT SAME LOCATION SHALL BE UNDER ONE WALL PLATE. VERIFY WALL PLATE COLOR AND MATERIAL WITH THE ARCHITECT/OWNER. INSTALL SWITCHES WITH off POSITION DOWN. ALL SWITCHES SHALL BE HEAVY DUTY, IVORY PLASTIC WITH TOGGLE HANDLE, RATED 120-277V AC, AND COMPLYING WITH NEMA WD 6 AND WD 1. SWITCHES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. PROVIDE BOX DEVICE PARTITION/DIVIDERS FOR MULTI-GANG BOXES FOR COMPLIANCE WITH NEC 404.8(B).
6. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE-STOPPING AT ALL ELECTRICAL PENETRATIONS OF RATED FLOORS AND WALLS TO PRESERVE OR RESTORE THE FIRE-RESISTANCE RATING. SEAL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THIS PROJECT.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE GFCI RECEPTACLES IN KITCHENS, RESTROOMS, OUTDOORS, AND IN SHOP AREAS AS REQUIRED BY NEC. REFRIGERATORS AND WATER COOLERS MUST HAVE A DEDICATED GFCI BREAKER. EACH OUTDOOR HVAC UNIT MUST HAVE A GFCI RECEPTACLE WITHIN 25 FEET FOR SERVICING. GFCI RECEPTACLES SHALL CONFORM TO UL 943 CLASS A AND UL 498 STANDARDS. RECEPTACLES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. ALL RECEPTACLES SHALL BE 125V RATED, HEAVY DUTY, AND COMPLY WITH NEMA WD 6 AND WD 1.
8. LOCATIONS AND HEIGHTS OF ALL WALL-MOUNTED DEVICES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION.
9. CONCEAL ALL CONDUIT EXCEPT IN MECHANICAL ROOMS OR UNFINISHED AREAS AS NOTED. USE EMT CONDUIT FOR ALL BRANCH CIRCUITS AND FEEDERS INSIDE THE BUILDING. TYPE MC CABLE AND TYPE AC CABLE MAY BE INSTALLED WITHIN WALLS IF ALL NEUTRAL WIRES, ISOLATED GROUND WIRES, AND EQUIPMENT GROUND WIRES AS LISTED ABOVE ARE CONTAINED IN THE CABLE. *** TYPE NM CABLE MAY BE USED FOR INTERIOR BRANCH CIRCUITS IN NORMALLY DRY LOCATIONS SUBJECT TO THE RESTRICTIONS OF NEC 334.10 AND 334.12. TYPE NM CABLE CONDUCTORS SHALL BE DERATED PER NEC 334.80. *** FLEXIBLE CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SHALL BE MADE USING WEATHERPROOF FLEXIBLE CONDUIT. FOR LAY-IN LIGHT FIXTURES, USE MAXIMUM OF SIX (6) FEET OF FLEXIBLE MC CABLE (OR THE FLEXIBLE CONDUIT PROVIDED BY THE FIXTURE MANUFACTURER). SCHEDULE 40 PVC CONDUIT MAY BE USED FOR THE SECONDARY UNDERGROUND SERVICE, UNDERGROUND TELEPHONE SERVICE, AND BRANCH AND FEEDER CIRCUITS UNDER SLAB OR EXTERIOR TO THE BUILDING. EXPOSED EXTERIOR CONDUIT SHALL BE SCHEDULE 80 PVC. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED WITH UNDERGROUND LINE MARKING TAPE 6-8 in BELOW GRADE DIRECTLY ABOVE THE RACEWAY. PROVIDE PULL WIRE IN EMPTY CONDUITS. UPSIZE CONDUIT FROM MINIMUM SIZE AS NECESSARY FOR LONGER PULLS. UNDERGROUND RACEWAYS THAT STUB INTO THE BOTTOM OF SWITCHBOARDS, OUTDOOR TRANSFORMERS, GENERATORS, ETC., SHALL RISE AT LEAST 2 in ABOVE THE FINISHED SLAB TO PREVENT WATER FROM DRAINING INTO THE RACEWAYS. RACEWAYS THAT PENETRATE EXTERIOR WALLS OR INTERIOR PARTITIONS SEPARATING SPACES THAT WILL BE AT SIGNIFICANTLY DIFFERENT TEMPERATURES SHALL BE SEALED IN ACCORDANCE WITH 300.5(G), 300.7(A), AND 300.50(E) OF THE NEC. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT-TO-POINT. ROUTE EXPOSED CONDUIT AND CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS. COMPLETELY AND THOROUGHLY SWAB ALL RACEWAYS BEFORE INSTALLING WIRE. PULL ALL CONDUCTORS INTO EACH RACEWAY AT ONE TIME. USE A SUITABLE WIRE PULLING LUBRICANT FOR BUILDING WIRE #4 AWG AND LARGER.
10. CABLES, RACEWAYS, OR BOXES, INSTALLED IN EXPOSED OR CONCEALED LOCATIONS UNDER METAL-CORRUGATED SHEET ROOF DECKING, SHALL BE INSTALLED AND SUPPORTED SO THERE IS NOT LESS THAN 1-1/2 in MEASURED FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE CABLE, RACEWAY, OR BOX. A CABLE, RACEWAY, OR BOX SHALL NOT BE INSTALLED IN CONCEALED LOCATIONS IN METAL-CORRUGATED, SHEET DECKING-TYPE ROOF. SEE NEC 300.4(E).
11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET, JUNCTION, PULL BOXES, FITTINGS, AND SUPPORTS. ALL OUTLET AND JUNCTION BOXES SHALL BE GALVANIZED STEEL TYPE BY APPLETON, STEEL CITY, OR RACO. EXTERIOR BOXES SHALL BE TYPE FS. VAPORTITE BOXES SHALL BE TYPE GS. WHERE SURFACE MOUNTED BOXES ARE USED, THOSE BOXES AND THEIR FACEPLATES SHALL HAVE ROUNDED CORNERS. BOXES INSTALLED IN FLOORS SHALL BE RATED FOR THE APPLICATION. MOUNT JUNCTION AND OUTLET BOXES FLUSH WITH FINISH SURFACES UNLESS OTHERWISE NOTED. WHERE MOUNTING HEIGHTS ARE GIVEN, THEY SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE CENTER OF THE BOX. ALL BOXES SHALL BE SIZED PER NEC ARTICLE 314. ALL OUTLET AND JUNCTION BOXES SHALL HAVE A COVER PLATE, PROVIDED BY THE ELECTRICAL CONTRACTOR. OUTLET BOXES IN RATED WALLS SHALL BE INSTALLED IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE 714.3.2 (MAXIMUM BOX SIZE IS 16 SQUARE in AND MAXIMUM OF SIX (6) BOXES PER 100 SQUARE FEET). INSTALL OUTLET BOXES IN RATED WALLS SUCH THAT OPENINGS OCCUR IN ONE SIDE ONLY WITHIN ANY GIVEN STUD SPACE. ALL CLEARANCES BETWEEN THE OUTLET BOX AND THE GYPSUM BOARD SHALL BE FILLED WITH JOINT COMPOUND OR OTHER APPROVED FIRE STOP MATERIAL. FLUSH MOUNTED JUNCTION BOXES IN ADJACENT ROOMS SHALL NOT BE MOUNTED BACK-TO-BACK. SURFACE MOUNTED FIXTURES SHALL BE FED THROUGH FLUSH MOUNTED 4X4 OCTAGONAL OR SQUARE BOXES.
12. ALL CONDUIT, BOXES, AND ELECTRICAL EQUIPMENT SHALL BE FIRMLY AND SECURELY FASTENED TO OR SUPPORTED FROM THE BUILDING STRUCTURAL MEMBERS OR EMBEDDED IN CONCRETE OR MASONRY. ELECTRICAL SUPPORTS SHALL NOT BE ATTACHED TO DUCTWORK, PIPING, OR THEIR SUPPORTS. HANGERS SHALL BE CATALOG ITEMS COMPATIBLE WITH AND SUITABLE FOR THE INTENDED USE. FOR METAL ROOF DECK INSTALLATIONS, 1 in EMT CONDUIT MAXIMUM AND 4 in JUNCTION BOXES MAXIMUM MAY BE SUPPORTED BY DECKING. THE SUSPENDED CEILING SYSTEM SHALL NOT BE USED FOR THE SUPPORT OF ELECTRICAL RACEWAY SYSTEMS OR SUPPORT OF COMMUNICATIONS OR DATA SYSTEMS WIRING. CONTRACTOR SHALL COMPLY WITH 1613 OF THE NORTH CAROLINA GENERAL CONSTRUCTION BUILDING CODE.
13. WHERE CONDUCTORS ARE RUN IN PARALLEL, THE EC SHALL COMPLY WITH NEC 310.10(G).
14. ISOLATED-GROUND TYPE RECEPTACLES SHALL BE INSTALLED IN ACCORDANCE WITH 250.146(D). ISOLATED GROUND RECEPTACLES SHALL BE ORANGE IN COLOR.
15. TRANSFER EQUIPMENT SHALL BE LISTED FOR THE PARTICULAR USE (I.E., "EMERGENCY" OR "STANDBY") AND SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
16. PROVIDE AN UNDERGROUND PVC CONDUIT SYSTEM FOR TELEPHONE SERVICE WITH PULL WIRES. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH TELEPHONE UTILITY REGARDING ADDITIONAL FACILITIES REQUIRED FOR THE SERVICE INSTALLATION.
17. INSTALL ONE (1) 3/4 in FIRE RETARDANT TREATED PLYWOOD BACKBOARD WHERE INDICATED ON THE DRAWINGS FOR THE USE BY THE TELEPHONE SYSTEM. PROVIDE A 120 VOLT RECEPTACLE ADJACENT TO THE TELEPHONE BOARD. GROUND ALL TELEPHONE AND COMMUNICATIONS CIRCUITS PER NEC 800.
18. ALL TELEPHONE AND COMMUNICATIONS OUTLETS AND RACEWAYS ARE ROUGH-INS ONLY. EACH TELEPHONE AND COMMUNICATIONS OUTLET SHALL BE A 4 in SQUARE BY 2-1/8 in DEEP BOX WITH 3/4 in KNOCK-OUTS AND A 3/4 in CONDUIT STUBBED FROM THE OUTLET BOX TO ABOVE THE CEILING. PROVIDE A NON-METALLIC INSULATING BUSHING ON ALL CONDUITS STUBBED ABOVE THE CEILING. PROVIDE A BLANK COVER PLATE ON ALL OUTLET BOXES.
19. ELECTRICAL CONTRACTOR SHALL INSTALL DISCONNECT SWITCHES IN SIGHT OF ALL HARDWIRED EQUIPMENT AND APPLIANCES OR PROVIDE BREAKERS CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 422.31. FOR MOTOR DRIVEN APPLIANCES, PROVIDE A DISCONNECTING MEANS PER NEC 422.31 AND 430 PART IX. WHERE AN INDIVIDUAL DISCONNECT SWITCH, CIRCUIT BREAKER, STARTER, ETC, IS SHOWN ON THE PLANS ADJACENT TO ITS LOAD AND NOT LOCATED ON A WALL, PROVIDE NECESSARY MATERIALS AND LABOR TO SUPPORT THE DEVICE.
20. ELECTRICAL CONTRACTOR SHALL FIELD IDENTIFY ALL SWITCH BOARD, PANEL BOARDS, CONTROL PANELS, METER SOCKETS, ETC., TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS PER 110.16 OF NEC.
21. ELECTRICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT, SWITCHES, PANELS, ETC. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT, AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 in MINIMUM) ETCHED INTO THE WHITE CORE. ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY CARD THAT ACCURATELY IDENTIFIES CIRCUITS INSIDE EACH PANEL. HANDWRITTEN LABELS ARE NOT ACCEPTABLE.
22. IN ACCORDANCE WITH SECTION F510 OF THE NC FIRE PREVENTION CODE, TESTING WILL BE REQUIRED TO DETERMINE SATISFACTORY FIRST RESPONDER RADIO SIGNAL STRENGTH INSIDE EACH BUILDINGS ON SITE. TESTING WILL NEED TO EITHER BE COMPLETED BY A COUNTY FIRE INSPECTOR (OBTAIN BY REQUESTING A COURTESY INSPECTION) OR A CERTIFIED 3RD PARTY. TESTING SHALL TAKE PLACE AT BOTH 80% PROJECT COMPLETION AND AGAIN AT 100% COMPLETION. IF UNACCEPTABLE SIGNAL DEGRADATION IS PRESENT AT EITHER 80% OR 100% INSPECTION, THEN AN ACCEPTABLE BOOSTER SYSTEM SHALL BE ADDED TO THE BUILDING DESIGN AT THAT TIME.

ELECTRICAL NOTES | 1

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	LOUVER/LENS	LAMPS		VOLTAGE	MAX INPUT WATTAGE	MOUNTING	REMARKS	MFG	MODEL
			TYPE	CCT						
A	4' 2 LAMP VAPOR PROOF STRIP LIGHT	-	LED	-	120	64	SURFACE	2	EPCO	G-4-LED-FX-S-41-34
B	6" CAN LIGHT	-	LED	-	120	12	RECESSED	2	JUNO	IC22LED-G4-09LM-35K-90CRI-MVOLT
B2	6" CAN LIGHT W/ BATTERY BACKUP	-	LED	-	120	12	RECESSED	1,2	JUNO	IC22LED-G4-09LM-35K-90CRI-MVOLT
C	CEILING FAN W/O LIGHT KIT	-	LED	-	120	67	SURFACE	2	KICHLER	310275SBK
D	CATERING BAR PENDANT	-	LED	2700K	120	9	PENDANT	2,3	TROY LIGHTING	TRY2501696
FL	FLOOD LIGHT	-	LED	-	120	17	SURFACE	2	COOPER	MSS-15-3T-18
EM	DUAL HEAD EMERGENCY FIXTURE	ACRYLIC	LED	N/A	120	2	VARIES	1,2	LITHONIA	ELM2-LED-SD
EX	EXIT SIGN	ACRYLIC	LED	N/A	120	5	VARIES	1,2	EXIT LIGHT COMPANY	ELSM-RM-R-A-BB-ST-S
EXH	LED EXIT/COMBO W/ BATTERY BACKUP	ACRYLIC	LED	N/A	120	4	VARIES	1,2	EMERGI-LITE	LSNX42NGC
OE	EXTERIOR OVAL LED EMERGENCY LIGHT	POLYCARBONATE	LED	-	120	17	SURFACE	1,2	NICOR	EOF1MV35

1. FIXTURE SHALL HAVE BATTERY BACKUP FOR 90 MINUTE ILLUMINATION.
2. OR EQUAL BY COOPER, PHILIPS, DAY-BRITE LIGHTING, GE, LITHONIA, OR OWNER APPROVED SELECTION
3. TO BE LAMPED WITH LED EQUIVALENT BULB

LIGHTING DEVICE LEGEND

SYMBOL	DESCRIPTION	REMARKS
\$	SINGLE POLE WALL SWITCH	HEAVY DUTY, AC ONLY, COMMERCIAL GRADE GENERAL USE SNAP SWITCH COMPLYING WITH NEMA WD 6 AND WD 1. IVORY PLASTIC BODY WITH TOGGLE HANDLE. 120-277V, 20A. MEET FEDERAL SPECIFICATION W-S-896.
\$D	DIMMER SWITCH	COMMERCIAL GRADE, 120V, 1500W
\$M	WALL MOUNTED OCCUPANCY SENSOR	WATTSTOPPER DW-100 LINE VOLTAGE OCCUPANCY SENSOR. ULTRA SONIC AND INFRARED.
\$LV	LOW VOLTAGE SWITCH	WATTSOPPER LVS-1 LOW VOLTAGE MOMENTARY CONTROL SWITCH.
\$3	3 WAY SWITCH	3-WAY TYPE SWITCH WITH SAME CHARACTERISTICS AS SINGLE POLE SWITCH ABOVE.
(DT)	CEILING OCCUPANCY SENSOR	WATTSTOPPER, DT-300 LOW VOLTAGE OCCUPANCY SENSOR. 360° ULTRA SONIC AND INFRARED.
(US)	CEILING OCCUPANCY SENSOR	WATTSTOPPER, WT-2255 LOW VOLTAGE OCCUPANCY SENSOR. ULTRA SONIC, 90 LINEAR FT COVERAGE.
(SP)	SWITCHING PHOTOSENSOR	WATTSTOPPER, LS-102, CONSULT OWNER FOR FOOT-CANDLE SET POINT.
Ⓟ	POWER PACK	WATTSTOPPER, BZ-150 LOW VOLTAGE POWER PACK FOR CEILING PACK SENSORS.
Ⓙ	JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314.40 OF THE NEC.
⊠	EXHAUST FAN	VENT FAN, 120V, CFM AS NOTED MC TO PROVIDE AND VENT, EC TO WIRE.

POWER DEVICE LEGEND

SYMBOL	DESCRIPTION	REMARKS
▶	DATA AND TELEPHONE JACK	PHONE/DATA OUTLET. EC TO INSTALL 3/4"C WITH PULL-STRING FROM OUTLET BOX TO ABOVE CEILING FOR FUTURE USE. JACKS AND COMMUNICATION CABLING BY OTHERS.
⊖	DUPLEX RECEPTACLE	NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596.
⊕	QUAD RECEPTACLE	QUAD RECEPTACLE OF SAME CHARACTERISTICS AS DUPLEX TYPE ABOVE.
●	DEDICATED RECEPTACLE	NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1 UNLESS OTHERWISE NOTED ON PLANS. VERIFY PLUG TYPE PRIOR TO PURCHASE & INSTALLATION. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596. MAY BE EITHER SIMPLEX, DUPLEX, OR QUAD.
⦶	DUPLEX FLOOR RECEPTACLE	DUPLEX RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR. ALL FLOOR BOXES MUST BE LISTED FOR FLOOR APPLICATION.
⊕	QUAD FLOOR RECEPTACLE	QUAD RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR. ALL FLOOR BOXES MUST BE LISTED FOR FLOOR APPLICATION.
⧄	FUSIBLE DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS, FUSE ACCORDING TO NAMEPLATE DATA.
☐	DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS.
Ⓙ	JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314.40 OF THE NEC.

ELECTRICAL DESIGNER'S STATEMENT

ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE
PRESCRIPTIVE _X_ PERFORMANCE ___ ENERGY COST BUDGET ___

LIGHTING SCHEDULE:

LAMP TYPE REQUIRED IN FIXTURE:	SEE LIGHTING LEGEND	
NUMBER OF LAMPS PER FIXTURE:	SEE LIGHTING LEGEND	
BALLAST TYPE USED IN FIXTURE:	SEE LIGHTING LEGEND	
NUMBER OF BALLASTS IN FIXTURE:	SEE LIGHTING LEGEND	
TOTAL WATTAGE PER FIXTURE:	SEE LIGHTING LEGEND	
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED:	WATTS SPECIFIED	WATTS ALLOWED
	827.0	1496.8

OCCUPANCY	AREA (sf)	ALLOWANCE (W/sf)	WATTAGE ALLOWED
LEISURE	1482	1.01	1496.8
TOTAL	1482		1496.8

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER: N/A
NUMBER OF PHASES: N/A
MINIMUM EFFICIENCY: N/A
MOTOR TYPE: N/A
NUMBER OF POLES: N/A

DESIGNER STATEMENT: TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

FOR THE ADDITIONAL PRESCRIPTIVE REQUIREMENT REQUIRED BY C406 OF 2018 NORTH CAROLINA ENERGY CONSERVATION CODE, WE ARE CHOOSING C406.3 - REDUCED LIGHTING POWER DENSITY.

827.0 W SPECIFIED <= 1347.1 W (1496.8 W ALLOWED X 90%)

ELECTRICAL SCHEDULES | 2

D.CLUGSTON

JACOB L. HAMILTON
048012
3-18-25

KILIAN ENGINEERING, INC.

MATTHEW'S LANDING
D.R. HORTON
LILLINGTON, NC

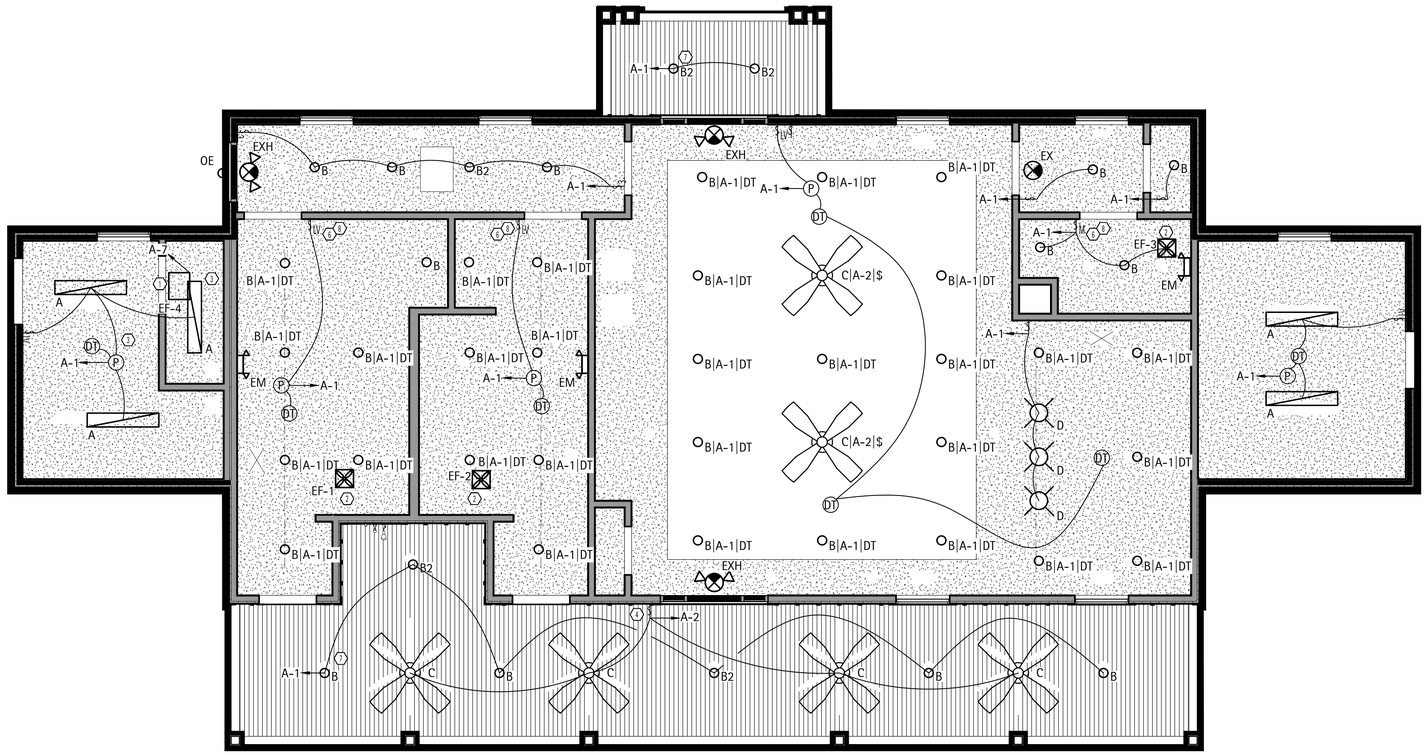
DATE
REVISION
NO.

PROJECT #: 250127
DATE ISSUED: 2025 03 18
DRAWING BY: AJP
CHECKED BY: JLH

00% I.F.B.

ELECTRICAL NOTES & SCHEDULES

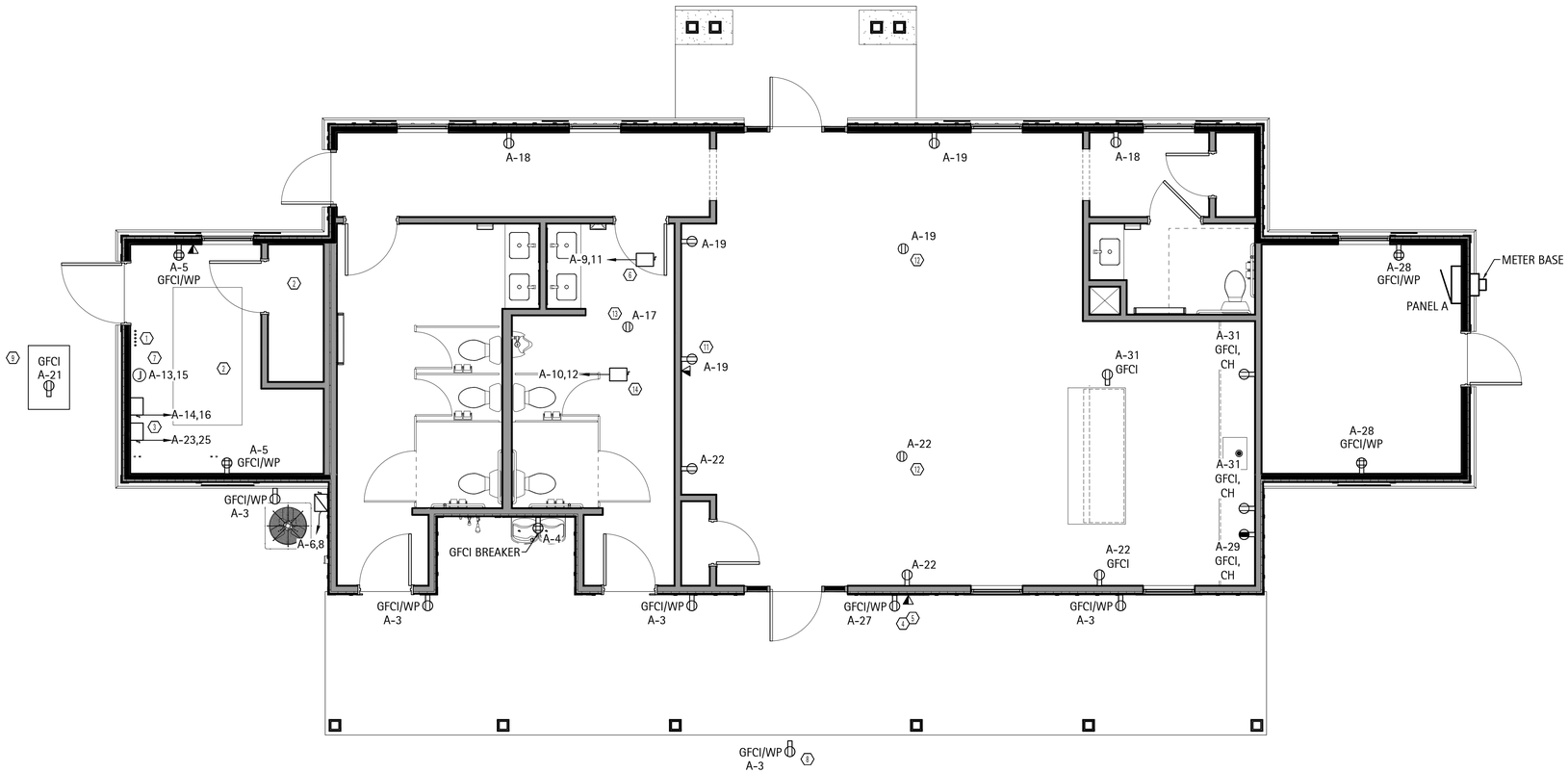
E1



LIGHT PLAN - SCALE: 1/4" = 1'-0" | 1

LIGHTING PLAN HEX NOTES

1. EXHAUST FAN SUSPENDED IN ATTIC TO BE WIRED FOR CONTINUOUS OPERATION. COORDINATE WITH M.C. PROVIDE LOCKABLE BREAKER AT PANEL.
2. EC TO TIE EXHAUST FAN AND LIGHTING FIXTURES TO SAME MOTION SENSOR.
3. PUMP ROOM AND CHEM. ROOM LIGHTS TO BE TIED TO SAME MOTION SENSOR.
4. PROVIDE 60 MINUTE SWITCH FOR FAN. PROVIDE IN WEATHERPROOF ENCLOSURE.
5. FLOOD LIGHT HAS BUILT IN MOTION DETECTION. AIM TOWARD POOL DECK.
6. MOTION SENSOR TO BE SET ON 20 MINUTE TIMER.
7. LIGHTING CIRCUIT CONTROLLED VIA PHOTOCELL LOCATED ON NORTH FACE OF BUILDING.
8. BATHROOM SWITCHES TO BE KEYED



POWER PLAN - SCALE: 1/4" = 1'-0" | 2

POWER PLAN HEX NOTES

1. PROVIDE (2) 1" CONDUITS WITH CIRCUITS AS SHOWN TO POOL FOR POOL LIGHTS AND OTHER POOLSIDE EQUIPMENT. PROVIDE (3) 1" CONDUITS FROM SPARE POOL CIRCUITS AS SHOWN AND CAP RIGHT OUTSIDE ELECTRICAL ROOM. COORDINATE EXACT LOCATIONS WITH G.C. AND POOL CONTRACTOR. CIRCUIT TO BE CONTROLLED VIA TIME CLOCK AT PANEL. POOL LIGHTS TO BE WIRED VIA INTERMATIC JUNCTION BOX TRANSFORMER (MODEL PJBX52100). REFER TO PANEL SCHEDULE FOR CIRCUIT DESIGNATIONS.
2. AREA IS CORROSIVE ENVIRONMENT PER NEC 680.14.
3. PROVIDE POWER TO SHUNT TRIP BREAKER FOR DISCONNECTING MEANS FOR POOL AND FEATURE PUMPS. PUMPS MUST HAVE GFCI PROTECTION. PROVIDE GFCI BREAKER IN PANEL. BREAKER MUST HAVE NEMA 4X RATED ENCLOSURE. COORDINATE EXACT LOCATION AND SPEC WITH G.C AND POOL CONTRACTOR BEFORE BEGINNING WORK. VERIFY EXACT FLA AND MOCP WITH EXACT PUMP MODEL. FINAL CONNECTIONS BY E.C.
4. PROVIDE POWER TO EMERGENCY PHONE RECEPTACLE. FIELD VERIFY LOCATION WITH LOCAL AHJ.
5. PROVIDE EMERGENCY "PUSH IN" POWER OFF SWITCH FOR POOL PUMPS. VERIFY LOCATION WITH LOCAL AHJ. WIRE TO SHUNT TRIP BREAKER IN PUMP ROOM (HEX 3).
6. WATER HEATER DISCONNECT LOCATED ABOVE CEILING.
7. FLUSH MOUNT JUNCTION BOX FOR UNIT HEATER.
8. E.C TO COORDINATE WITH POOL CONTRACTOR TO ENSURE A GFCI/WEATHER PROOF RECEPTACLE IS WITHIN 20' OF EDGE OF POOL (BUT NO CLOSER THAN 6') AS REQUIRE BY NEC 680.22(A)(1). PROVIDE ON CIRCUIT 3 IN PANEL A.
9. RECEPTACLE IN HOTBOX FOR FREEZE PROTECTION. VERIFY EXACT LOCATION OF HOTBOX WITH UTILITY PLANS BY OTHERS.
10. EC TO COORDINATE WITH PC FOR HEAT TRACE ON COLD WATER SUPPLY LINES. USE FREE CIRCUITS IN PANEL A.
11. TV RECEPTACLE MOUNTED @ 72" A.F.F. VERIFY EXACT LOCATION/MOUNTING HEIGHT WITH OWNER/ARCHITECT.
12. EC TO CONFIRM LOCATION OF FLOOR OUTLET WITH OWNER PRIOR TO SLAB INSTALLATION.
13. SERVICE RECEPTACLE ABOVE CEILING FOR AIR HANDLER. EC TO COORDINATE EXACT LOCATION WITH MC AND GC.
14. AIR HANDLER DISCONNECT LOCATED ABOVE CEILING.

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER JACOB L. HAMM SEAL 048012 3-18-25

WILLIAN ENGINEERING CORPORATE, INC. SEAL NORTH CAROLINA

MATTHEW'S LANDING

D.R. HORTON

LILLINGTON, NC

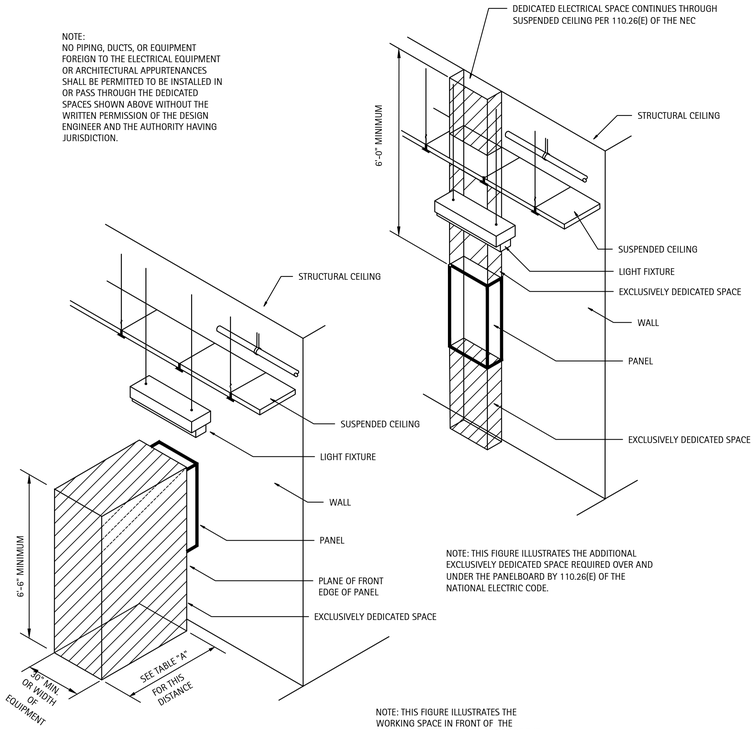
NO.	REVISION	DATE

PROJECT #:	250127
DATE ISSUED:	2025 03 18
DRAWING BY:	AJP
CHECKED BY:	JLH

00% I.F.B.

LIGHTING & POWER PLANS

E2



NOTE: THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED OVER AND UNDER THE PANELBOARD BY 110.26(E) OF THE NATIONAL ELECTRIC CODE.

NOTE: THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE PANELBOARD REQUIRED BY 110.26 OF THE NATIONAL ELECTRIC CODE.

NOTE: WHERE THE CONDITIONS ARE AS FOLLOWS:

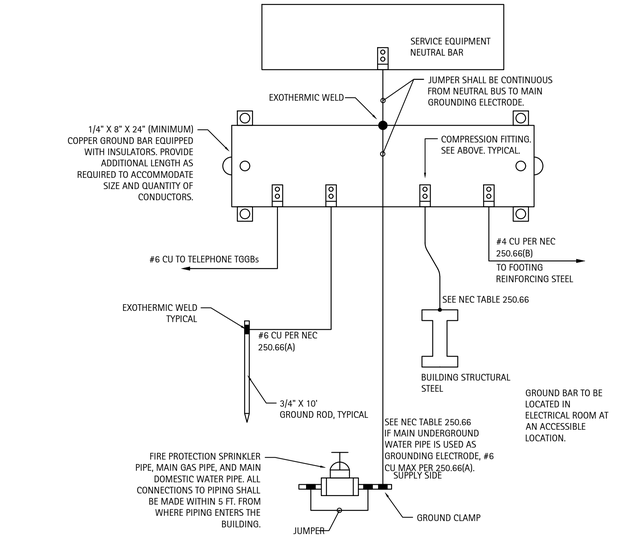
CONDITION 1 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE
AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.

CONDITION 2 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.

CONDITION 3 - EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE.

TABLE 110.26(A)(1) WORKING SPACE			
VOLTAGE TO GROUND, NOMINAL	MINIMUM CLEAR DISTANCE (FEET)		
	CONDITON 1	2	3
0-150	3	3	3
151-600	3	3-1/2	4

REQUIRED CLEARANCES - NO SCALE



GROUNDING DETAIL - NO SCALE

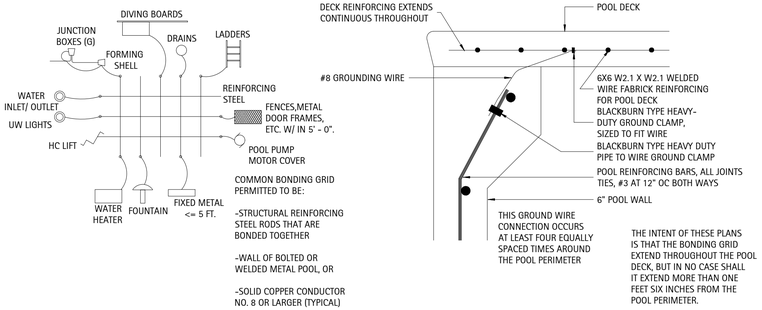
PANEL A							
CKT	LOAD	BKR	LOAD kVA	PH	LOAD kVA	BKR	LOAD	CKT
1	LIGHTS	20/1	1.15	A	0.40	20/1	FANS	2
3	EXTERIOR RECEPTACLES	20/1	0.90	B	0.48	20/1	WATER FOUNTAIN	(4)
5	PUMP ROOM RM RECEP.	20/1	0.72	A	3.00	40/2	HP-1	6
7	PUMP ROOM EXHAUST FAN	20/1	0.16	B	3.00			8
9	WATER HEATER	30/2	2.25	A	3.00	25/2	AHU-1	10
11			2.25	B	3.00			12
13	UNIT HEATER 1	30/2	2.40	A	2.40	20/2	POOL PUMP	(14)
15			2.40	B	2.40			(16)
17	SERVICE RECEPT	20/1	0.18	A	0.36	20/1	HALL RECEPT	18
19	GREAT ROOM RECEPT	20/1	0.72	B	0.00	20/1	POOL SPARE	(20)
21	HOTBOX RECEPTACLE	20/1	0.18	A	0.72	20/1	GREAT ROOM RECEPT	22
(23)	POOL PUMP	20/2	2.40	B	1.20	20/1	POOL LIGHTS AND ACCESSORIES	(24)
(25)			2.40	A	1.20	20/1	POOL LIGHTS AND ACCESSORIES	(26)
27	EM PHONE/POOL DECK RECEPT.	20/1	0.36	B	0.72	20/1	STORAGE RECEPT	28
29	MICROWAVE	20/1	0.18	A	0.00	20/1	POOL SPARE	(30)
31	KITCHEN RECEPT	20/1	0.54	B	0.00	20/1	POOL SPARE	(32)
33	SPARE	20/1	0.00	A	0.00	20/1	SPARE	34
35	SPACE	--	0.00	B	0.00	--	SPACE	36
37	SPACE	--	0.00	A	0.00	--	SPACE	38
39	SPACE	--	0.00	B	0.00	--	SPACE	40
41	SPACE	--	0.00	A	0.00	--	SPACE	42
			kVA	PH	AMPS			
			20.5	A	171			
			20.5	B	171			

VOLTAGE/PHASE	120/240,1P,3W
BUS RATING	200A
MAIN CIRCUIT BREAKER RATING	200A MAIN BREAKER
AIC RATING	22K - EC TO VERIFY
SERVICE ENTRANCE RATED	YES
ENCLOSURE	NEMA 1
MOUNTING	SURFACE

◯ - DENOTES GFCI BREAKER

NEC ELECTRIC DEMAND SUMMARY 120/240V,1P,3W						
EQUIPMENT	DEMAND FACTOR	kVA A	kVA B	LOAD kVA	NEC REFERENCE	NOTES/CALCULATIONS
LIGHTING	125%	1.04	1.04	2.08	220.12	1482 SF X 1.4 VA/SF
RECEPTACLES < 10 kVA	100%	2.74	3.72	6.46	220.44	
HVAC	100%	8.40	8.56	16.96	--	BASED ON MCA
WATER HEATER	125%	2.25	2.25	4.50	422.13	STORAGE TANK <120 GAL @ 125%
POOL EQUIPMENT	100%	6.00	6.00	12.00	--	BASED ON MCA
DEMAND kVA PER PHASE		20.43	21.57			
DEMAND AMPS PER PHASE		170	180			

THE CALCULATED LIGHTING LOAD EXCEEDS THE CONNECTED LIGHTING LOAD.

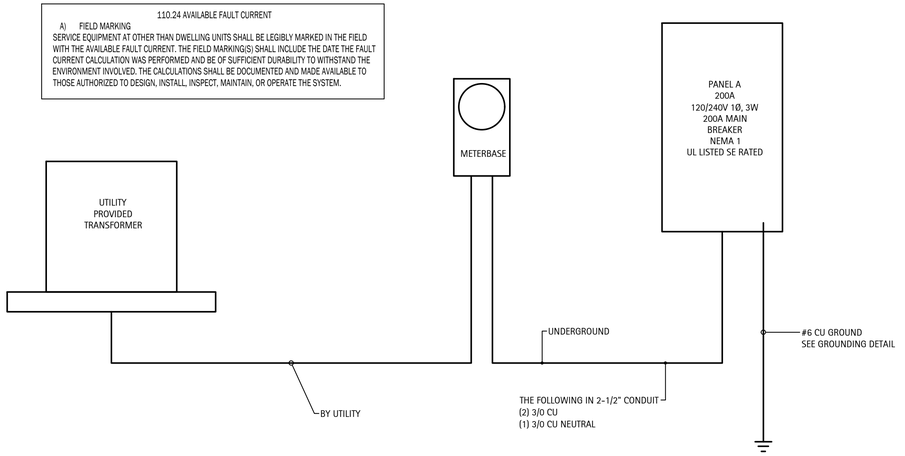


SWIMMING BONDING RISER DETAIL - NO SCALE

EQUIPOTENTIAL BONDING GRID DETAIL - NO SCALE

110.24 AVAILABLE FAULT CURRENT

A) FIELD MARKING
SERVICE EQUIPMENT AT OTHER THAN DWELLING UNITS SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE AVAILABLE FAULT CURRENT. THE FIELD MARKING(S) SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. THE CALCULATIONS SHALL BE DOCUMENTED AND MADE AVAILABLE TO THOSE AUTHORIZED TO DESIGN, INSTALL, INSPECT, MAINTAIN, OR OPERATE THE SYSTEM.



POWER RISER - NO SCALE

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JACOB L. HAMM 3-18-25

CLUGSTON ENGINEERING CORPORATE, INC. SEAL NORTH CAROLINA

MATTHEW'S LANDING

D.R. HORTON

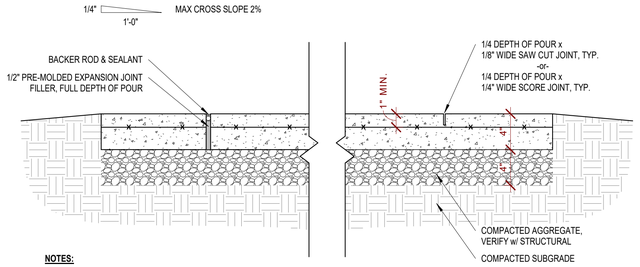
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	250127
DATE ISSUED:	2025 03 18
DRAWING BY:	AJP
CHECKED BY:	JLH
00% I.F.B.	

POWER RISER & PANEL SCHEDULE

E3



NOTES:

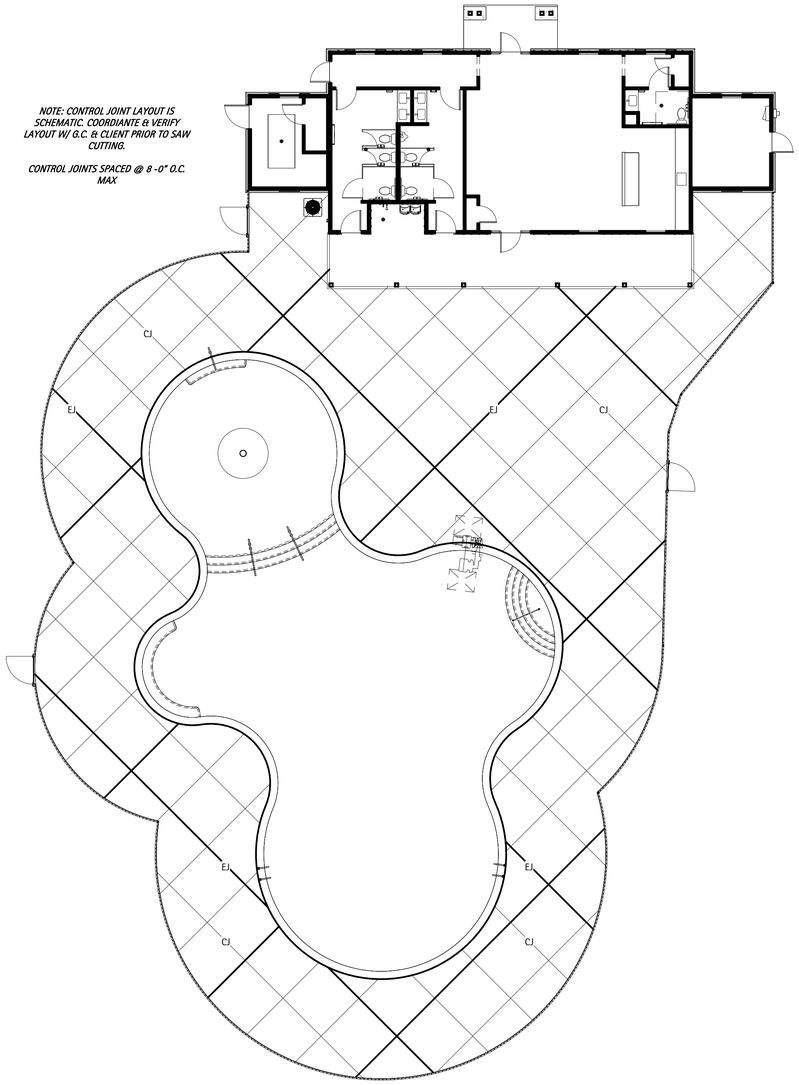
1. ALL JOINTS TO BE CUT w/ WET WALK BEHIND SAW TO ENSURE ALL CUTS ARE PERPENDICULAR W/ FACE OF CONCRETE
2. MAXIMUM CONTROL JOINT SPACING SHALL BE 10 FT. IN EACH DIRECTION UNLESS SHOWN OTHERWISE ON PLAN, SEE STRUCT.
3. PROVIDE EXPANSION JOINT WHERE SLABS ARE POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS AND AS SPECIFIED ON PLANS OR 25'-0" MAX O.C.

2 SP1.0 Detail - Typ Pool Control Joint

1 1/2" = 1'-0"

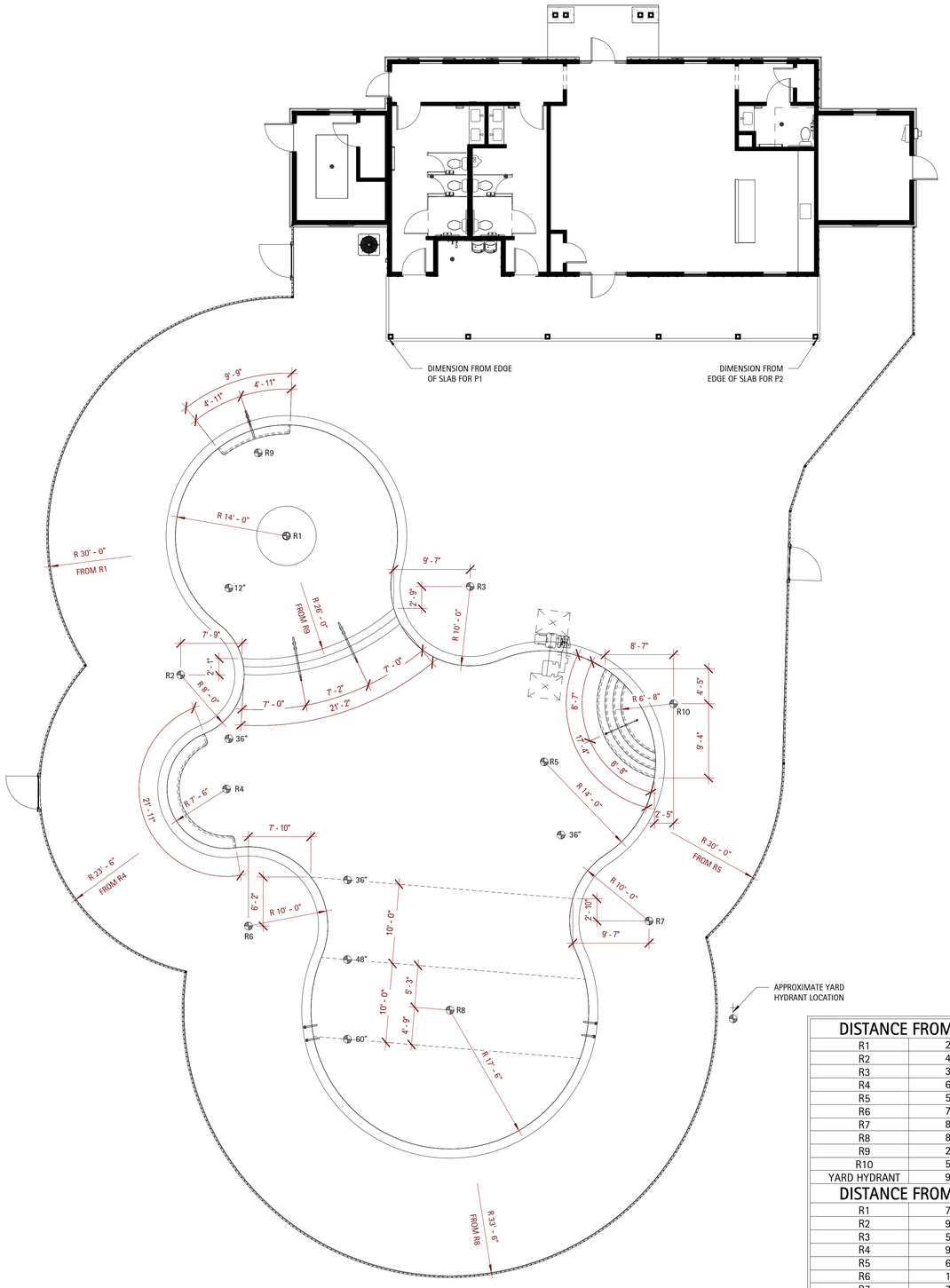
NOTE: CONTROL JOINT LAYOUT IS SCHEMATIC. COORDIANTE & VERIFY LAYOUT W/ G.C. & CLIENT PRIOR TO SAW CUTTING.

CONTROL JOINTS SPACED @ 8 -0" O.C. MAX



3 SP1.0 Pool Control Joint Plan

3/32" = 1'-0"



DISTANCE FROM P1	
R1	28' 1"
R2	49' 10"
R3	32' 11"
R4	60' 4"
R5	56' 10"
R6	76' 2"
R7	80' 5"
R8	85' 0"
R9	21' 11"
R10	58' 4"
YARD HYDRANT	96' 1"
DISTANCE FROM P2	
R1	71' 5"
R2	90' 9"
R3	53' 9"
R4	93' 8"
R5	63' 6"
R6	103' 1"
R7	76' 5"
R8	96' 6"
R9	71' 11"
R10	49' 6"
YARD HYDRANT	86' 5"

1 SP1.0 Pool Dimension Plan

1/8" = 1'-0"

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JOSEPH L. HAMILTON 3-18-25

MATTHEWS LANDING

DR HORTON

LILLINGTON, NC

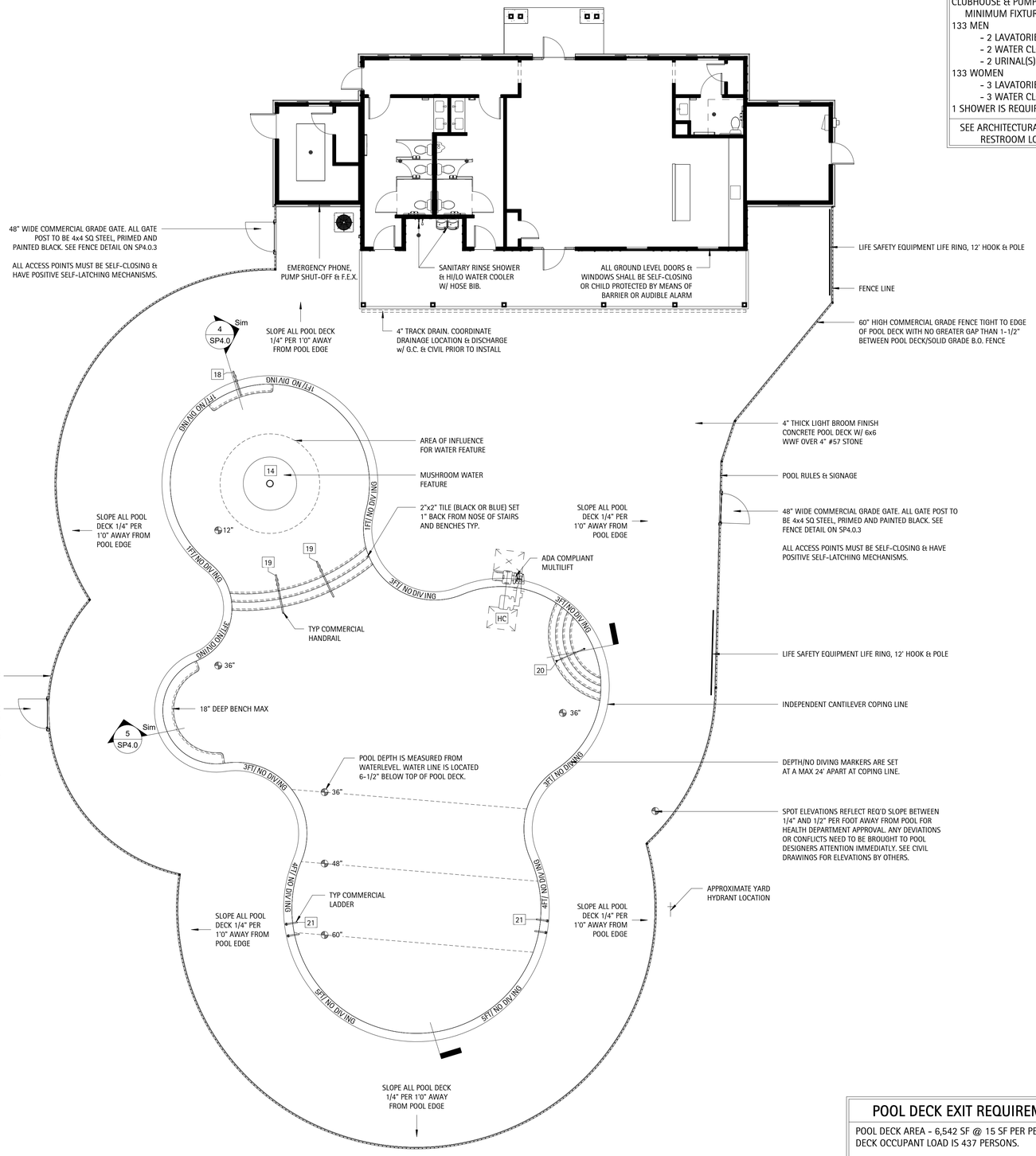
NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/14/2025
DRAWING BY:	JVD
CHECKED BY:	JLH

100% ~~SDR~~

CONTROL JOINT & DIMENSION

SP1.0



1 SP2.0 Overall Pool Layout Plan

1/8" = 1'-0"

BUILDING FIXTURE DATA

TOTAL BATHER LOAD = 3,182/12 = 266
(50% - 50% SPLIT) = 133
CLUBHOUSE & PUMP HOUSE REQUIREMENTS:
MINIMUM FIXTURE REQUIRMENTS ARE:
133 MEN
- 2 LAVATORIES
- 2 WATER CLOSET(S)
- 2 URINAL(S)

133 WOMEN
- 3 LAVATORIES
- 3 WATER CLOSET(S)

1 SHOWER IS REQUIRED

SEE ARCHITECTURAL PLANS BY OTHERS FOR RESTROOM LOCATION & LAYOUTS

POOL EQUIPMENT SCHEDULE

TAG	COUNT	MANUFACTURER	MODEL	COMMENTS
1	2	PENTAIR	XFET-20 (022034)	5 HP SELF-PRIMING PUMP W/ STRAINER BASKET + EXTRA BASKET
2	2	PENTAIR	P/N 263080 - 140316	FULLFLOXF 3" HIGH RATE PUSH PULL BACKWASH VALVE
3	2	PENTAIR	TR-140C	36" DIA HIGH RATE SAND FILTER W/ 7.06 SF OF MEDIA
4	1	PENTAIR	HC3315	HIGH CAPACITY CHLORINE/BROMINE FEEDER
5	2	BLUE-WHITE	F-30300P	3" VARIABLE AREA FLOW METER
6	4	AQUASTAR	WAV12WR101 W/ FBS-50-812-4	12"x12" VGB SUCTION OUTLET COVER W/ A.S.A. MFG FIBERGLASS SUMP
7	1	AQUASTAR	HVC101	SELF-CONTAINED HYDROSTATIC RELIEF VALVE
8	8	AQUASTAR	SKR101	WHITE COMMERCIAL GRADE SKIMMER
9	2	AQUASTAR	ES1022SI2001 W/ VLK15T01	VACUUM LINE FITTING W/ LOCK CAP
10	1	AQUASTAR	GDO101	WHITE COMMERCIAL OVERFLOW DRAIN
11	14	AQUASTAR	ES1022SI2001 W/ 8101	DIRECTIONAL WALL RETURN INLET
12	2	AQUASTAR	ES1022SI2001 W/ BP101	FLOOR RETURN INLET W/ BUBBLER PLATE
13	1	AQUASTAR	AFB101	FILLSTAR - AUTOFILL LINE - WHITE
14	1	NAT. STRUCT.	1800-17-96	MUSHROOM SPRAY FOUNTAIN
15	1	PENTAIR	602104	190W EQUIVALENCYGLOBRITE WHITE LED LIGHT
16	5	PENTAIR	602145	300W EQUIVALENCY INTELLIBRITE WHITE LED LIGHT
17	2	INTERMATIC	PJB4175	4 LIGHT CONNECTION POOL & SPA JUNCTION BOX
18	1	SR SMITH	DMS-101B-MG	MARINE GRADE DECK MOUNTED HANDRAIL - SHORT
19	2	SR SMITH	DMS-102B - MG	MARINE GRADE DECK MOUNTED HANDRAIL - STANDARD
20	1	SR SMITH	3HR-4	MARINE GRADE 3-BEND ADA HANDRAIL
21	2	SR SMITH	10056-MG	MARINE GRADE COMMERCIAL LADDER
HC	1	SR SMITH	MULTI-LIFT	ADA COMPLIANT MULTI-LIFT

POOL DECK SIGNAGE REQUIREMENTS

POOL SIGNAGE TO BE POSTED IN THE MAIN POOL AREA:

SIGN "A" - 4" TALL LETTERS | WARNING - NO LIFEGUARD ON DUTY |

SIGN "B" - 1" TALL LETTERS - A MIN. OF (2) THIS PROJECT

POOL SAFETY RULES

1. CHILDREN SHOULD NOT USE THE SWIMMING POOL WITHOUT ADULT SUPERVISION.
2. ADULTS SHOULD NOT SWIM ALONE.
3. ALL ANIMALS AND PETS ARE PROHIBITED IN THE POOL ENCLOSURE.
4. GLASS CONTAINERS ARE PROHIBITED IN THE POOL AREA.
5. NO DIVING IS ALLOWED IN POOL AREA

SIGN "C" - PROVIDE A SIGN VISIBLE UPON ENTERING THE POOL ENCLOSURE DIRECTING POOL USERS TO SHOWER BEFORE ENTERING THE POOL.

SIGN "D" - PROVIDE A SIGN STATING "POOL CLOSED" FOR EVERY POOL ENTRANCE. VERIFY WITH FINAL POOL ENCLOSURE DESIGN FOR FINAL NUMBER OF ENTRANCES.

POOL DECK MARKINGS

DEPTH MARKINGS: IN LOCATIONS AS SHOWN ON THE DRAWINGS AND ADHERING TO THE FOLLOWING:

1. LOCATED ON TOP OF POOL DECK AND AT OR ABOVE THE WATER SURFACE ON THE VERTICAL WALL.
2. SHALL BE IN ARABIC NUMERALS AT LEAST 4" HIGH AND OF A COLOR CONTRASTING W/ THE BACKGROUND.
3. MARKINGS SHALL INDICATE THE DEPTH OF THE POOL IN FEET AND SHALL INCLUDE THE WORD "FEET" OR THE SYMBOL "FT" TO INDICATE THE UNIT OF MEASUREMENT.
4. MARKINGS IN POOL DECK SHALL PROVIDE A SLIP RESISTANT WALKING SURFACE.
5. NOT TO EXCEED 25'-0" IN SPACING ALONG THE PERIMETER OF THE POOL.

"NO DIVING" MARKINGS: IN LOCATIONS AS SHOWN ON THE DRAWINGS AND ADHERING TO THE FOLLOWING:

1. NOT TO EXCEED 25'-0" IN SPACING. ALONG COPING EDGE.
2. DENOTED IN ONE OF THE FOLLOWING MANNERS:
   - A. CONSISTING OF THE WORDS "NO DIVING" IN LETTERS AT LEAST 4" HIGH AND OF A COLOR CONTRASTING WITH THE BACKGROUND.
   - B. AT LEAST A 6"x6" IN SIZE INTERNATIONAL SYMBOL FOR NO DIVING IN RED AND BLACK ON A WHITE BACKGROUND. (VERIFY WITH MANICIPALITY)

POOL SAFETY REQUIREMENTS

PROVIDE SAFETY PROVISIONS PER SECTION .2530. THE MINIMUM BEING:

A. 12' LONG (MINIMUM) METAL POLE WITH A BODY HOOK SECURELY ATTACHED. THE POLE SHALL BE NON-TELESCOPING, NON-ADJUSTABLE & NON-COLLAPSIBLE.
B. MINIMUM 1/4" DIA THROWING ROPE AS LONG AS 1-1/2 TIMES THE MAX WIDTH OF THE POOL OR 50', WHICHEVER IS LESS, ATTACHED TO A U.S. COAST GUARD APPROVED RING BUOY.
C. TWO UNITS OF LIFESAVING EQUIPMENT MUST BE PROVIDED FOR ANY POOL THAT EXCEEDS 3,000 SQ FT (186 SQ M) OF TOTAL SURFACE AREA.

EMERGENCY TELEPHONE SERVICE:

A. TELEPHONE CAPABLE OF DIRECTLY AN EMERGENCY NOTIFICATION SYSTEM AND SHALL BE PROVIDED AND ACCESSIBLE TO ALL POOL USERS.
B. THE TELEPHONE SHALL BE PERMANENTLY AFFIXED TO A LOCATION INSIDE THE POOL ENCLOSURE OR OUTSIDE THE ENCLOSURE WITHIN 75' OF THE BATHER ENTRANCE.
C. THE TELEPHONE SHALL BE VISIBLE FROM WITH THE POOL ENCLOSURE OR A VISIBLE SIGN SHALL BE POSTED INDICATING THE LOCATION OF THE EMERGENCY PHONE.
D. AT THE TELEPHONE - PROVIDE A SIGN WITH LEGIBLE LETTERS PROVIDING THE FOLLOWING INFORMATION.
   - a. - DIALING INSTRUCTIONS
   - b. - ADDRESS OF THE POOL LOCATION
   - c. - TELEPHONE NUMBER OF THE POOL LOCATION.

SEE POOL HOUSE PLANS BY OTHERS FOR EXACT LOCATION OF THE TELEPHONE SERVICE.

POOL DESIGN NOTES

A. SEE PLANS BY OTHERS FOR CONSTRUCTION OF BATHHOUSE, PUMP & CHEMICAL STORAGE ROOMS, SITE WORK, ETC.
B. POOL IS DESIGNED FOR DAWN TO DUSK SWIMMING ONLY.
C. ALL PIPING IS DIAGRAMMATIC. VERIFY LAYOUT WITH POOL G.C. PRIOR TO INSTALLATION.
D. ALL DECK DRAINAGE MUST BE TO WASTE AND NOT FILTERED AND RETURNED TO POOL. DRAIN MUST BE INSTALLED WHERE NECCESARY TO PREVENT STANDING WATER. THE DECK DRAIN GRATES SHALL BE REMOVABLE.
E. ALL DOORS LEADING TO THE POOL DECK SHALL BE SELF-CLOSING & HAVE POSITIVE SELF-LATCHING MECHANISMS. ALL WINDOWS FACING THE POOL DECK SHALL BE PROTECTED WITH MEANS OF AN AUDIBLE ALARM AND/OR CHILD PROTECTIVE LOCKS.
F. ALL DECKS SHALL BE CONTINUOUS WITH TOP OF THE POOL WALL OR GUTTER AND SHALL NOT BE MORE THAN NINE INCHES ABOVE THE STANDARD OPERATING WATER LEVEL.

POOL CONSTRUCTION NOTES

A. SEE ARCH, MEP, & CIVIL PLANS BY OTHERS FOR CONSTRUCTION DOCUMENTS OF AMENITY CENTER.
B. POOL IS DESIGNED FOR DAWN TO DUSK SWIMMING ONLY DURING ACTIVE POOL SEASON.
C. SUBMISSION OF GROUNDING AND BONDING REPORT BY CONTRACTOR TO ENGINEER OF RECORD FOR REVIEW IS REQUIRED.
D. SUBSTITUTIONS MUST BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO INSTALLATION.
E. ANY COSTS INCURRED DUE TO DEVIATIONS FROM THE PLANS NECESSITATING DRAWING REVISIONS SHALL BE BORNE BY THE CONTRACTOR/OWNER.
F. THE CONTRACTOR IS REQUIRED TO COMPREHENSIVELY DOCUMENT THE POOL CONSTRUCTION PROCESS, ENSURING THAT PICTURES ACCURATELY DEPICT THE LOCATION ON THE SITE BY INCLUDING IDENTIFIABLE BACKGROUND FEATURES. THIS DOCUMENTATIONINCLUDES, BUT IS NOT LIMITED TO, PHOTOGRAPHING THE GROUNDING/BONDING OF ALL EQUIPMENT BEFORE THE SHOTCRETE IS POURED, RETAINING CUT SHEETS FOR ALL EQUIPMENT, AND COMPLETING ALL INSPECTION REPORTS, AMONG OTHER TASKS.
G. PRIOR TO THE CONSTRUCTION OF THE POOL, THE CONTRACTOR IS REQUIRED TO CONSULT WITH THE ENGINEER OF RECORD OR A DESIGNATED ENGINEER TO COORDINATE THE NECESSARY SITE INSPECTIONS IN COMPLIANCE WITH NC 15A NCAC 18A .2500.
H. SHOULD THE CONTRACTOR OR ANY SUBCONTRACTOR DEVIATE FROM THE APPROVED DESIGN PLANS, THEY SHALL INDEMNIFY AND HOLD HARMLESS THE ARCHITECT, ENGINEER OF RECORD AND DESIGNER TO THE FULLEST EXTENT PERMITTED BY LAW.

POOL DECK EXIT REQUIREMENTS

POOL DECK AREA - 6,542 SF @ 15 SF PER PERSON
DECK OCCUPANT LOAD IS 437 PERSONS.

POOL AREA IS 3,182 SF @ 50 SF PER PERSON,
POOL OCCUPANT LOAD IS 64 PERSONS.

TOTAL POOL & POOL DECK OCCUPANT LOAD IS 501 PERSONS. SEE LIFE SAFETY PLAN BY OTHERS FOR POOL EXIT WIDTH REQUIREMENTS AND BUILDING OCCUPANT AND EXIT WIDTH REQUIREMENTS.

MAIN POOL DATA

POOL DIMENSIONS:	61'-6" X 94'-1" OVERALL IRREGULAR SHAPE.
POOL DEPTHS:	12" SHELF w/ 3'-5'
POOL VOLUME:	70,151 GALLONS
SURFACE AREA:	3,182 SQFT.
PERIMETER:	264 LF
COPING:	BULLNOSE INDEPENDENT
CIRC REQ. FLOW:	195 GPM @ 65 TDH
CIRC DESIGN FLOW:	210 GPM @ 65 TDH
FEAT DESIGN FLOW:	210 GPM @ 65 TDH
SHELL MATERIAL:	4000 PSI SHOTCRETE
INTERIOR FINISH:	QUARTZ PLASTER
BATHER LOAD:	266 PERSONS
BACKWASH TO:	SANITARY SEWER
WATER SOURCE:	IN-LINE AUTOFILL
PIPE SIZING:	
CIRC MAIN DRAINS:	(2) 4" SCH 40 PVC
FEAT MAIN DRAINS:	(2) 4" SCH 40 PVC
SKIMMERS:	(8) 4" SCH 40 PVC
VACUUM LINE:	(2) 2" SCH 40 PVC
CIRC INLETS:	(16) 3" SCH 40 PVC
FILTER TYPE:	HIGH RATE SAND
SIZE PROVIDED:	2 @ 7.06 SF (EA) = 14.12
SIZE REQUIRED:	12.67 SF TOTAL
MEDIA CIRC. RATE:	15 GPM/SF
BACKWASH RATE:	15 GPM/SF
TURNOVER RATE:	6 HOURS

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JOSEPH L. HAMILTON 3-18-25

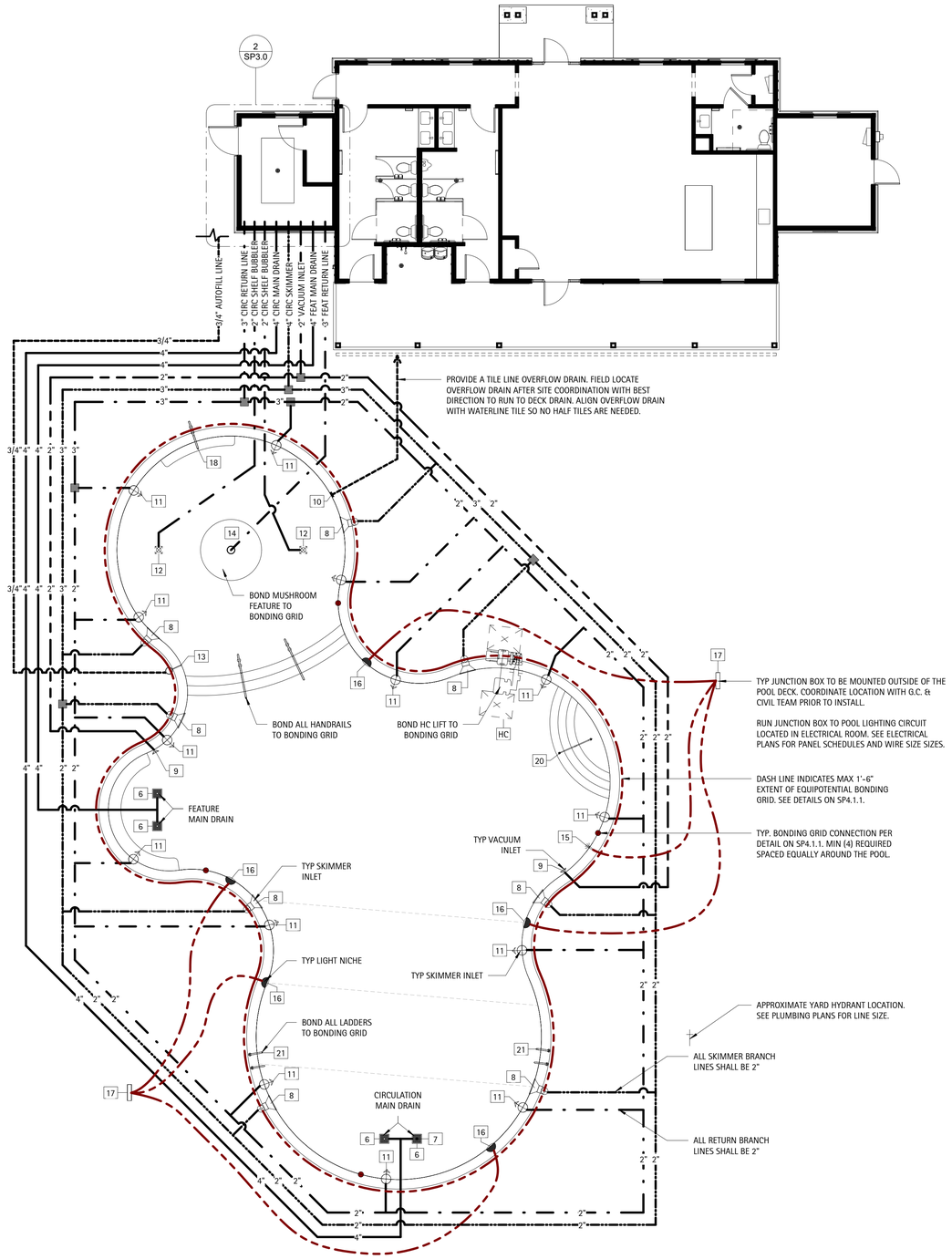
MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #: 2025004
DATE ISSUED: 03/14/2025
DRAWING BY: JVD
CHECKED BY: JLH
100% SDD.

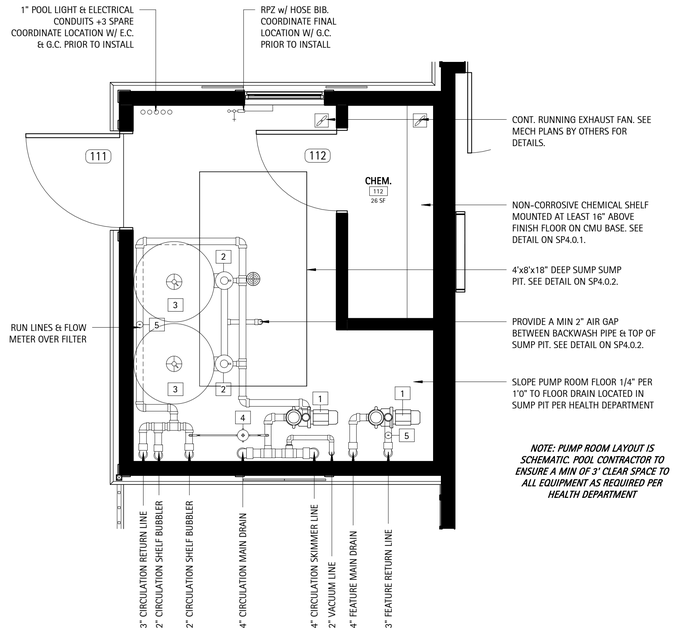
OVERALL POOL LAYOUT PLAN

SP2.0



1 SP3.0 Overall Piping & Electrical Plan

1/8" = 1'-0"



NOTE: PUMP ROOM LAYOUT IS SCHEMATIC. POOL CONTRACTOR TO ENSURE A MIN OF 3' CLEAR SPACE TO ALL EQUIPMENT AS REQUIRED PER HEALTH DEPARTMENT

2 SP3.0 Enlarged Pump Room Plan

3/8" = 1'-0"

POOL EQUIPMENT SCHEDULE

TAG	COUNT	MANUFACTURER	MODEL	COMMENTS
1	2	PENTAIR	XFET-20 (022034)	5 HP SELF-PRIMING PUMP W/ STRAINER BASKET + EXTRA BASKET
2	2	PENTAIR	P/N 263080 - 140316	FULLFLOXF 3" HIGH RATE PUSH PULL BACKWASH VALVE
3	2	PENTAIR	TR-140C	36" DIA HIGH RATE SAND FILTER W/ 7.06 SF OF MEDIA
4	1	PENTAIR	HC3315	HIGH CAPACITY CHLORINE/BROMINE FEEDER
5	2	BLUE-WHITE	F-30300P	3" VARIABLE AREA FLOW METER
6	4	AQUASTAR	WAV12WR101 W/ FBS-50-812-4	12"x12" VGB SUCTION OUTLET COVER W/ A.S.A. MFG FIBERGLASS SUMP
7	1	AQUASTAR	HVC101	SELF-CONTAINED HYDROSTATIC RELIEF VALVE
8	8	AQUASTAR	SKR101	WHITE COMMERCIAL GRADE SKIMMER
9	2	AQUASTAR	ES1022SI2001 W/ VLK15T01	VACUUM LINE FITTING W/ LOCK CAP
10	1	AQUASTAR	GDD101	WHITE COMMERCIAL OVERFLOW DRAIN
11	14	AQUASTAR	ES1022SI2001 W/ 8101	DIRECTIONAL WALL RETURN INLET
12	2	AQUASTAR	ES1022SI2001 W/ BP101	FLOOR RETURN INLET W/ BUBBLER PLATE
13	1	AQUASTAR	AFB101	FILLSTAR - AUTOFILL LINE - WHITE
14	1	NAT. STRUCT.	1800-17-96	MUSHROOM SPRAY FOUNTAIN
15	1	PENTAIR	602104	190W EQUIVALENCYGLOBRITE WHITE LED LIGHT
16	5	PENTAIR	602145	300W EQUIVALENCY INTELLIBRITE WHITE LED LIGHT
17	2	INTERMATIC	PJB4175	4 LIGHT CONNECTION POOL & SPA JUNCTION BOX
18	1	SR SMITH	DMS-101B-MG	MARINE GRADE DECK MOUNTED HANDRAIL - SHORT
19	2	SR SMITH	DMS-102B - MG	MARINE GRADE DECK MOUNTED HANDRAIL - STANDARD
20	1	SR SMITH	3HR-4	MARINE GRADE 3-BEND ADA HANDRAIL
21	2	SR SMITH	10056-MG	MARINE GRADE COMMERCIAL LADDER
HC	1	SR SMITH	MULTI-LIFT	ADA COMPLIANT MULTI-LIFT

PUMP FLOW PIPE SIZING

CIRCULATION:
XFET-20 PUMP FLOW AT 65 FT OF WATER IS 210 GPM, WITH SPECIFIED:
4" MAIN DRAIN PIPING VELOCITY IS 5.29 FPS.
4" SKIMMER PIPING VELOCITY IS 5.29 FPS.
3" RETURN PIPING VELOCITY IS 9.12 FPS.

FEATURE:
XFET-20 PUMP FLOW AT 65 FT OF WATER IS 210 GPM, WITH SPECIFIED:
4" MAIN DRAIN PIPING VELOCITY OF 5.29 FPS.
3" RETURN PIPING VELOCITY IS 9.12 FPS.

UNDERWATER LIGHTING DATA

MAIN POOL AREA: 3,182 SQFT.
3,182 SF x 0.5 WATTS = 1,591 **WATTS**

LIGHTING PROVIDED (12V LED EQ.)
1 GLOWBRITE @ 190 WATTS
5 INTELLIBRITE @ 300 WATTS

TOTAL LIGHTING PROVIDED
1,690 WATTS

PUMP ROOM & CHEMICAL ROOM NOTES

A. ALL PUMPS, CHEMICAL FEEDING APPARATUS AND OTHER MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ENCLOSED IN A WEATHERPROOF STRUCTURE WITH A MINIMUM CEILING HEIGHT OF SEVEN FEET.
B. THE EQUIPMENT ROOM SHALL BE PROVIDED WITH A DOOR WITH A PERMANENT LOCK THAT MUST BE KEPT LOCKED WHEN NOT IN USE BY THE POOL OPERATOR.
C. VALVES AND CONTROL DEVICES SHALL BE ACCESSIBLE AND VISIBLE TO THE POOL OPERATOR. AT LEAST THREE FEET OF CLEAR WALKWAY SHALL BE PROVIDED TO ALLOW ACCESS TO EQUIPMENT.
D. DRAINAGE IN AND AROUND THE EQUIPMENT ROOM SHALL PRECLUDE THE POSSIBLITY OF WATER ENTERING OR ACCUMULATING ON ANY INTERIOR SURFACE OF THE ENCLOSURE. EQUIPMENT ROOM FLOORS SHALL BE SLOPED NOT LESS THAN 1/4" PER FOOT TOWARD THE DRAINS.
E. NATURAL CROSS DRAFT OR CONTINOUS FORCED VENTILATION IS REQUIRED.
F. A PERMANENT MEANS OF ACCESS SHALL BE PROVIDED TO ALL EQUIPMENT ROOMS.
G. A HOSE BIB WITH AN APPROVED BACKFLOW PREVENTION DEVICE SHALL BE PROVIDED WITHIN 50 FEET OF THE EQUIPMENT ROOM.

CHEMICAL STORAGE DATA

CHEMICAL STORAGE REQUIREMENTS FOR A **70,151** GALLON POOL ARE:

5 SF FOR FIRST 10,000 GALLONS OF POOL +
+1 SF FOR EACH ADDITIONAL 3,000 GALLONS OF POOL UP TO 100 SF OF STORAGE

+21 SF (1 SF PER 3,000)(60,151/3,000 = 20.05)

POOL REQUIRES A MIN OF 26 SF FOR CHEMICAL STORAGE.
-SEE BUILDING PLANS BY OTHERS FOR EXACT LAYOUT. 26 SF PROV.
-SEE DETAIL ON SP4.0.1. FOR CHEMICAL ROOM SHELVING w/ QUANITIES

MAIN POOL DATA

POOL DIMENSIONS:	61'-6" X 94'-1" OVERALL IRREGULAR SHAPE.
POOL DEPTHS:	12" SHELF w/ 3'-5'
POOL VOLUME:	70,151 GALLONS
SURFACE AREA:	3,182 SQFT.
PERIMETER:	264 LF
COPING:	BULLNOSE INDEPENDENT
CIRC REQ. FLOW:	195 GPM @ 65 TDH
CIRC DESIGN FLOW:	210 GPM @ 65 TDH
FEAT DESIGN FLOW:	210 GPM @ 65 TDH
SHELL MATERIAL:	4000 PSI SHOTCRETE
INTERIOR FINISH:	QUARTZ PLASTER
BATHER LOAD:	266 PERSONS
BACKWASH TO:	SANITARY SEWER
WATER SOURCE:	IN-LINE AUTOFILL
PIPE SIZING:	
CIRC MAIN DRAINS:	(2) 4" SCH 40 PVC
FEAT MAIN DRAINS:	(2) 4" SCH 40 PVC
SKIMMERS:	(8) 4" SCH 40 PVC
VACUUM LINE:	(2) 2" SCH 40 PVC
CIRC INLETS:	(16) 3" SCH 40 PVC
FILTER TYPE:	HIGH RATE SAND
SIZE PROVIDED:	2 @ 7.06 SF (EA) = 14.12
SIZE REQUIRED:	12.67 SF TOTAL
MEDIA CIRC. RATE:	15 GPM/SF
BACKWASH RATE:	15 GPM/SF
TURNOVER RATE:	6 HOURS

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JACOB L. HAMILTON 3-18-25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

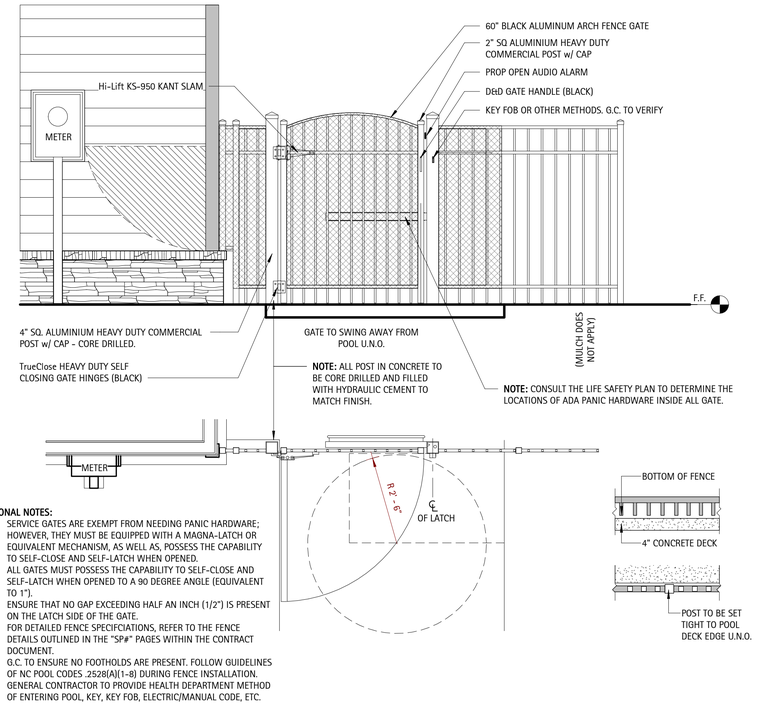
NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/14/2025
DRAWING BY:	JVD
CHECKED BY:	JLH

100% ~~SDD~~

PIPING & ELECTRICAL PLAN

SP3.0

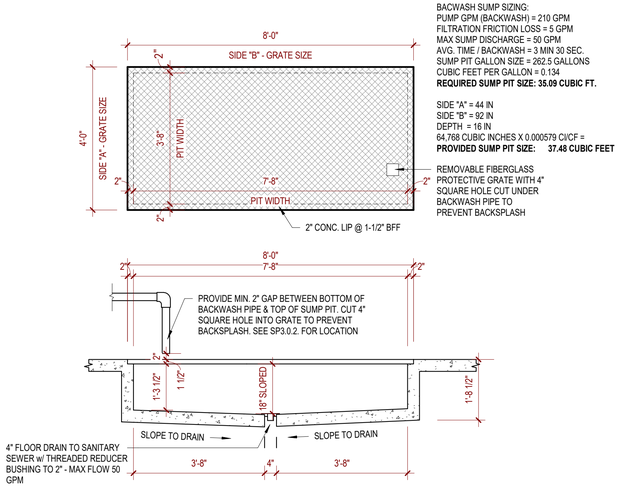


ADDITIONAL NOTES:

1. SERVICE GATES ARE EXEMPT FROM NEEDING PANIC HARDWARE; HOWEVER, THEY MUST BE EQUIPPED WITH A MAGNA-LATCH OR EQUIVALENT MECHANISM, AS WELL AS, POSSESS THE CAPABILITY TO SELF-CLOSE AND SELF-LATCH WHEN OPENED.
2. ALL GATES MUST POSSESS THE CAPABILITY TO SELF-CLOSE AND SELF-LATCH WHEN OPENED TO A 90 DEGREE ANGLE (EQUIVALENT TO 1").
3. ENSURE THAT NO GAP EXCEEDING HALF AN INCH (1/2") IS PRESENT ON THE LATCH SIDE OF THE GATE.
4. FOR DETAILED FENCE SPECIFICIATIONS, REFER TO THE FENCE DETAILS OUTLINED IN THE "SP#" PAGES WITHIN THE CONTRACT DOCUMENT.
5. G.C. TO ENSURE NO FOOTHOLDS ARE PRESENT. FOLLOW GUIDELINES OF NC POOL CODES .2528(A)(1-8) DURING FENCE INSTALLATION.
6. GENERAL CONTRACTOR TO PROVIDE HEALTH DEPARTMENT METHOD OF ENTERING POOL, KEY, KEY FOB, ELECTRIC/MANUAL CODE, ETC.

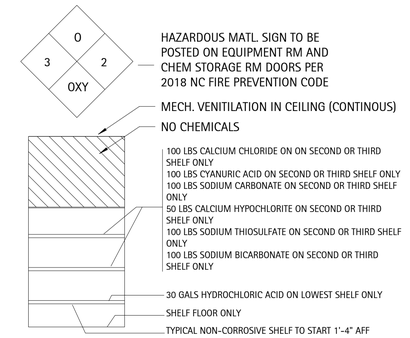
3 SP4.0 Detail - Fence & Fence Gate

1/2" = 1'-0"



2 SP4.0 Detail - Pump Room Sump Pit

1/2" = 1'-0"

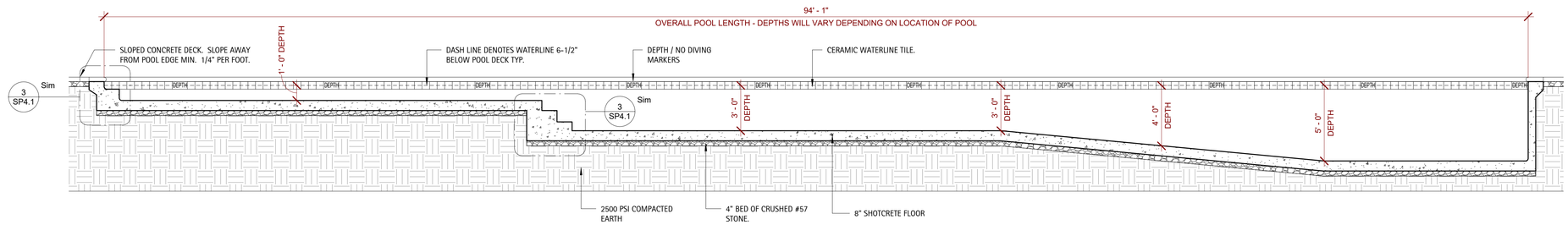


TYPICAL CHEMICAL ROOM SHELVING w/ QUANITIES

A. Unless otherwise stated, all code references are to the 2018 North Carolina State Building Codes (NCSBC).
B. North Carolina Building Code (NCBC) applicable portions include but are not limited to:
   1. Chapter 3, Section 307 and Tables 307.7(1), 307.1(2)
   2. Chapter 4, Section 414, 415 and Tables 414.2.2, 414.2.5, 415.8.2.1.1
C. North Carolina Fire Code (NCFPC) applicable portions include but are not limited to:
   1. NCFPC, Chapter 18, Tables 1804.2.2.1, 1805.2.2
   2. NCFPC, Chapters 27 through 44.
   3. Appendices E and F

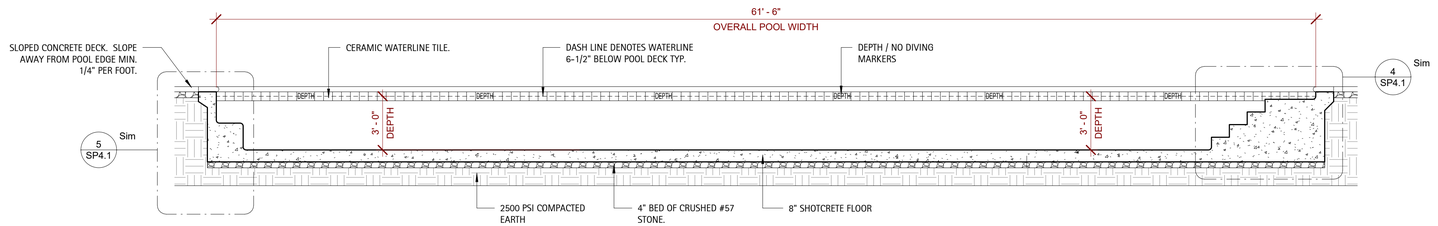
1 SP4.0 Detail - Chemical Storage

1/2" = 1'-0"



4 SP4.0 Detail - North / South Pool Section

1/4" = 1'-0"



5 SP4.0 Detail - East / West Pool Section

1/4" = 1'-0"

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER JOHN L. HAMILTON 048012
3-18-25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

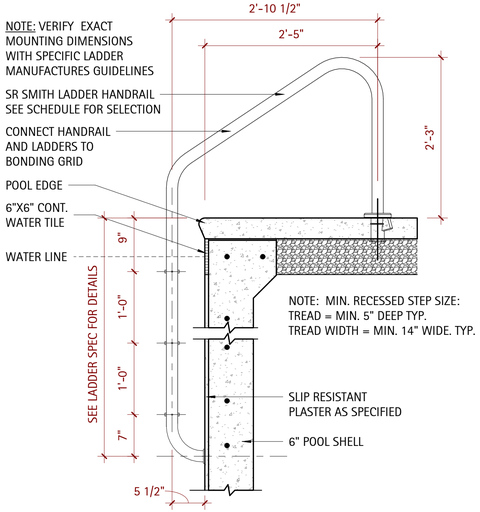
NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/14/2025
DRAWING BY:	JVD
CHECKED BY:	JLH

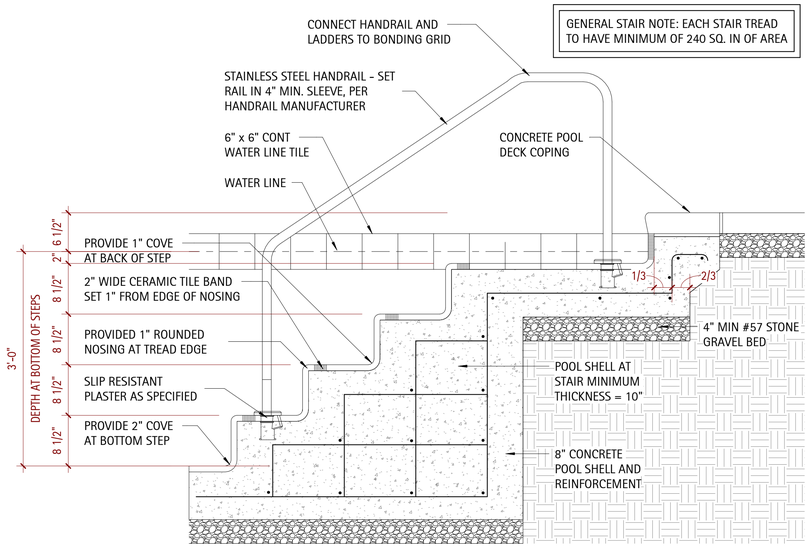
100% SDR.

SECTIONS & DETAILS

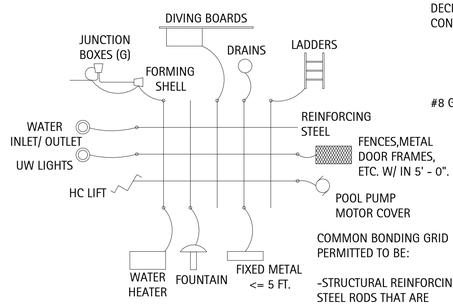
SP4.0



7 SP4.1 **Detail - Commercial Ladder**
1" = 1'-0"



4 SP4.1 **Detail - Pool Steps From Deck**
1" = 1'-0"



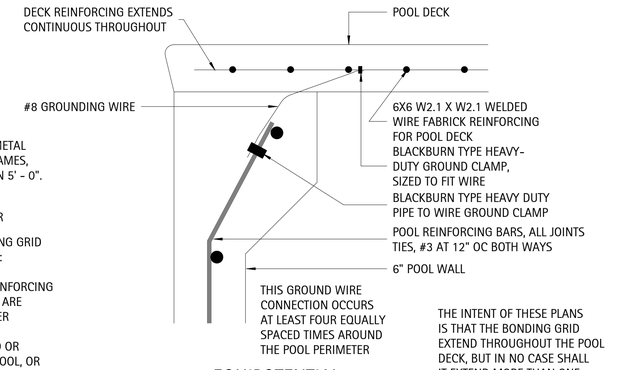
SWIMMING POOL BONDING RISER

COMMON BONDING GRID PERMITTED TO BE:

-STRUCTURAL REINFORCING STEEL RODS THAT ARE BONDED TOGETHER

-WALL OF BOLTED OR WELDED METAL POOL, OR

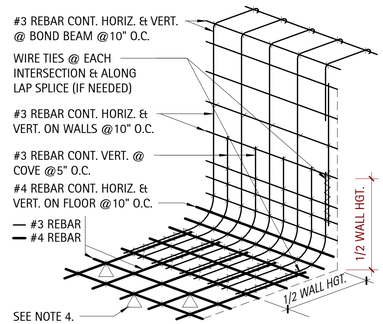
-SOLID COPPER CONDUCTOR NO. 8 OR LARGER (TYPICAL)



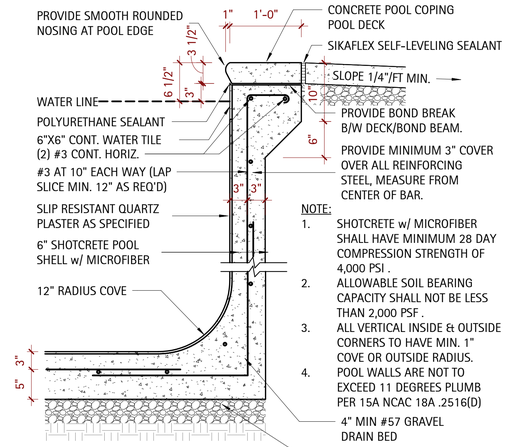
EQUIPOTENTIAL BONDING GRID DETAIL

THE INTENT OF THESE PLANS IS THAT THE BONDING GRID EXTEND THROUGHOUT THE POOL DECK, BUT IN NO CASE SHALL IT EXTEND MORE THAN ONE FEET SIX INCHES FROM THE POOL PERIMETER.

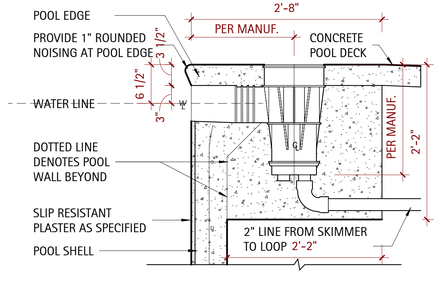
1 SP4.1 **Detail - Pool Bonding**
1" = 1'-0"



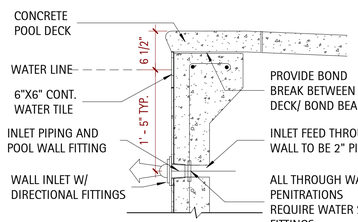
REBAR NOTE:
1. ALL REBAR OVERLAP LENGTHS TO BE 20X DIA OF REBAR.
2. ALL BAR INTERSECTIONS SHALL HAVE WIRES TIES.
3. ALL REINFORCING STEEL SHALL BE GRADE 60.
4. ALL SLAB BOLSTERS - GRIP-RITE 5" X 5FT MANF# SBU5



NOTE:
1. SHOTCRETE w/ MICROFIBER SHALL HAVE MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI .
2. ALLOWABLE SOIL BEARING CAPACITY SHALL NOT BE LESS THAN 2,000 PSF .
3. ALL VERTICAL INSIDE & OUTSIDE CORNERS TO HAVE MIN. 1" COVE OR OUTSIDE RADIUS.
4. POOL WALLS ARE NOT TO EXCEED 11 DEGREES PLUMB PER 15A NCAC 18A .2516(D)

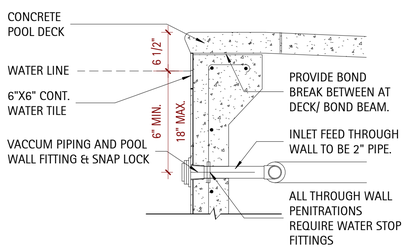


8 SP4.1 **Detail - Pool Skimmer**
1" = 1'-0"

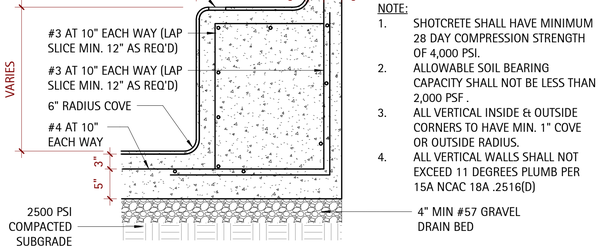


ALL RETURNS AT BENCHES SHALL CENTER BETWEEN THE WATERLINE TILE AND BENCH TOP

9 SP4.1 **Detail - Return Inlet Detail**
1" = 1'-0"

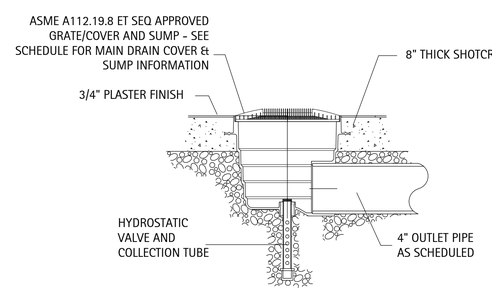


10 SP4.1 **Detail - Vacuum Inlet Detail**
1" = 1'-0"

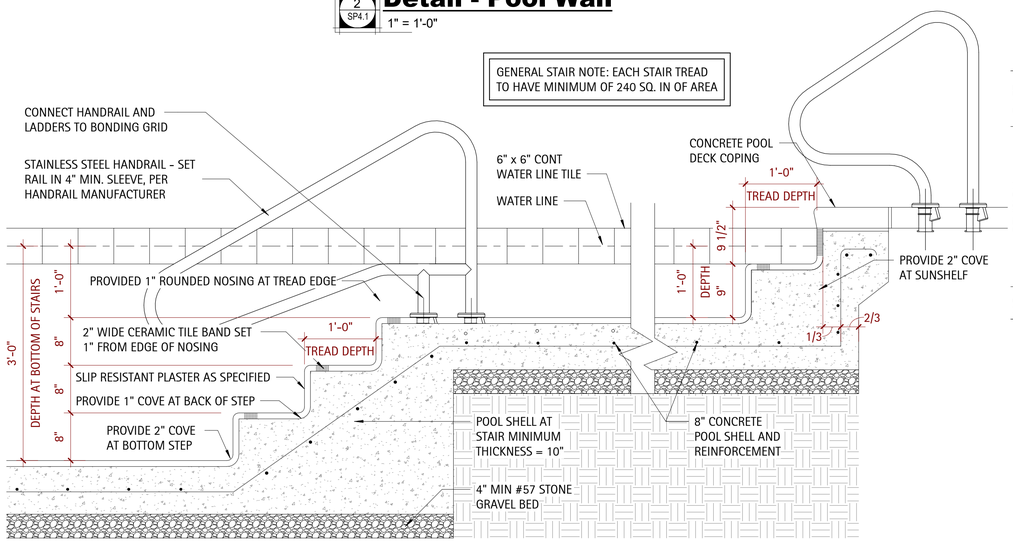


NOTE:
1. SHOTCRETE SHALL HAVE MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI.
2. ALLOWABLE SOIL BEARING CAPACITY SHALL NOT BE LESS THAN 2,000 PSF .
3. ALL VERTICAL INSIDE & OUTSIDE CORNERS TO HAVE MIN. 1" COVE OR OUTSIDE RADIUS.
4. ALL VERTICAL WALLS SHALL NOT EXCEED 11 DEGREES PLUMB PER 15A NCAC 18A .2516(D)

5 SP4.1 **Detail - Pool Bench**
1" = 1'-0"



6 SP4.1 **Detail - Circ & Feat Main Drain**
1" = 1'-0"



3 SP4.1 **Detail - Pool Shelf w/ Step**
1" = 1'-0"

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JOSEPH L. HAMILTON 3-18-25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/14/2025
DRAWING BY:	JVD
CHECKED BY:	JLH
100% SDR.	

SECTIONS & DETAILS

SP4.1

WHISPERFLOXF®
HIGH PERFORMANCE PUMP

KEY FEATURES

Cam and Ramp™ Lid
Makes inspection and cleaning simple and quick

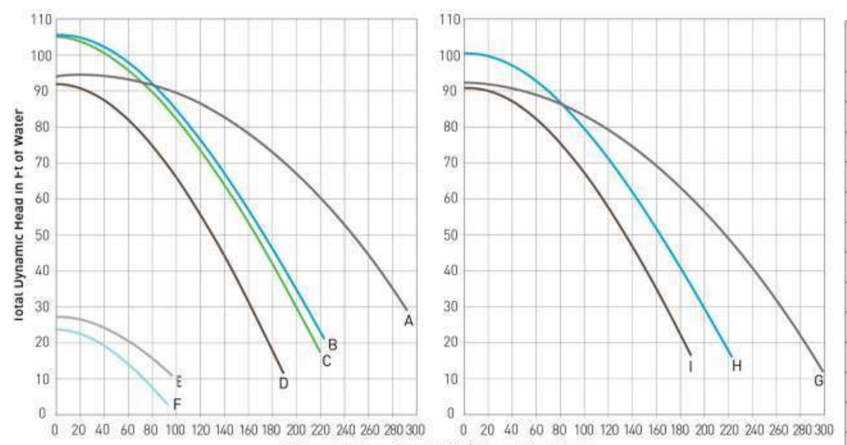
Built-in handle
For easy installation

Union connectors
2.5" or 3" union connectors included

Oversized strainer basket
Extends time between cleanings

TEFC/Super-Duty motor options
Provide superior performance and longevity

PERFORMANCE CURVES



Performance Curve	Model	Description
A	XFE-20	5 HP, Single Speed Full Rated
A	XFET-20	5 HP, TEFC Super-Duty Single Speed
G	XFK-20	5 HP, 3-Phase, Super-Duty Motor
B	XFE-12	3 HP, Single Speed Full Rated
B, E	XFDS-12	3 HP, 2-Speed Full Rated
B	XFET-12	3 HP, TEFC Super-Duty Single Speed
H	XFK-12	3 HP, 3-Phase, Super-Duty Motor
C	XF-12	3 HP, Single Speed Full Rated
D	XFE-8	2 HP, Single Speed Full Rated
D	XFET-8	2 HP, TEFC Super-Duty Single Speed
D	XF-8	2 HP, Single Speed Full Rated
D, F	XFDS-8	2 HP, 2-Speed Full Rated
D	XFE-30	2.5 HP, Single Speed Up Rated
D	XF-30	2.5 HP, Single Speed Up Rated
D, F	XFDS-30	2.5 HP, 2-Speed, Up Rated
I	XFK-8	2 HP, 3-Phase, Super-Duty Motor

Pumps and replacement motors that are single speed and one (1) Total HP or greater cannot be sold, offered for sale, or installed in a residential pool for filtration use in California, Title 20 CCR sections 1601-1609.

PENTAIR

1620 Hawkins Ave | Sanford, NC 27330 | United States | 800.831.7133 | pentair.com

TAG 1 - FEATURE PUMP - XFE-20 (022034) - 5HP SELF-PRIMING PUMP W/ STRAINER BASKET

Valve & Filter Connection Guide

Filter Inlet - BOTTOM

PENTAIR	STA-RITE	XF FILTERS
P/N 263081	P/N 262508	P/N 262512



Filter P/N	Pentair Filters
180006	FNS Plus FNSP24
180007	FNS Plus FNSP36
180008	FNS Plus FNSP48
180009	FNS Plus FNSP60

Filter P/N	Sta-Rite Filters
S7D75	System 3 DE Filter
S8D110	System 3 DE Filter
S7S50	System 3 Sand Filter
S8S70	System 3 Sand Filter

Filter P/N	XF Filters	Filter P/N	XF Filters
188626	XF Q-60 DE	188618	XF F-36 DE
188627	XF Q-80 DE	188619	XF F-48 DE
188613	XF Q-100 DE	188620	XF F-60 DE
188616	XF Q-120 DE	188621	XF F-72 DE

Filter Inlet - TOP

PENTAIR	STA-RITE
P/N 263080	P/N 262507


Filter P/N	Pentair Filters
188592	Quad DE 60
188593	Quad DE 80
188594	Quad DE 100
140212	TR 60 Sand
140236	TR 40 Sand
140249	TR 50 Sand

Filter P/N	Pentair Filters
140264	TR 60 Sand
140210	TR 100 Sand
140243	TR 140 Sand
140335	TR 100 HD
140315	TR 100C Sand
140316	TR 140C Sand

Filter P/N	Sta-Rite Filters
PLDE 36	System 2 Mod DE
PLDE48	System 2 Mod DE
S7MD60	System 3 Mod DE
S7MD72	System 3 Mod DE

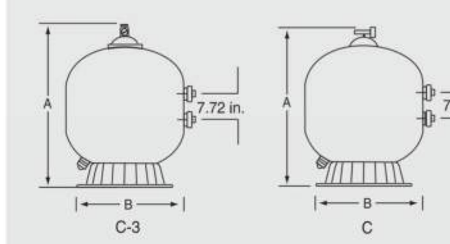
FullFloXF™ Backwash Valve Installation and User's Guide

TAG 2 - BACKWASH VALVE - P/N 263080-140316 - FULLFLOXF 3" HIGH RATE BACKWASH VALVE

TRITON® C SERIES
COMMERCIAL SAND FILTERS

TRITON HD FILTER

The Triton heavy duty (HD) filter is a thirty-inch fiberglass filter that offers a maximum operating pressure of 75 PSI. This filter is specifically designed for special high-pressure commercial applications that require up to 98 gpm, and is ideal for all heavy-duty commercial applications.

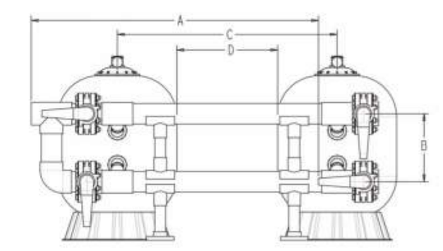



TR100 HD

Triton Commercial Series Sand Filter Specifications

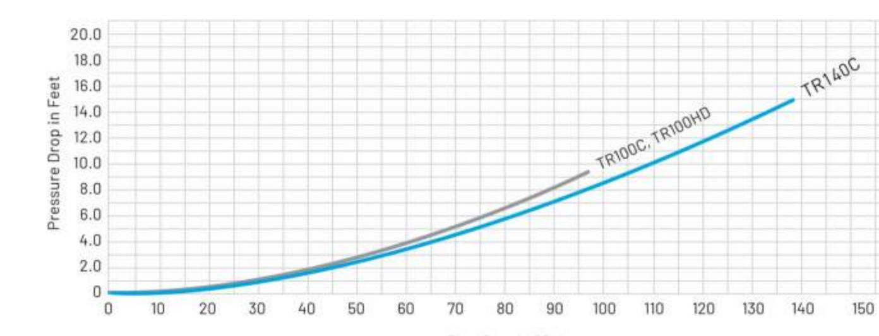
Model Number	Filter Area Sq. Ft.	Flow Rate	Turnover Capacity Gallons		Dimension		Media Required	
		15 GPM/sq. ft.*	6 Hours	8 Hours	A	B	Sand	Sand/Gravel
TR100C	4.91	74	26,640	35,520	39 ¾"	30 ½"	600 lbs.	450 lbs./150 lbs.
TR140C	7.06	106	38,160	50,880	45 ¼"	36 ½"	925 lbs.	650 lbs./275 lbs.
TR100C-3	4.91	74	26,640	35,520	39 ¾"	30 ½"	600 lbs.	450 lbs./150 lbs.
TR140C-3	7.06	106	38,160	50,880	45 ¼"	36 ½"	925 lbs.	650 lbs./275 lbs.

*15 GPM/sq.ft. typical commercial flow rate. Triton C Filters are approved for 5-20 GPM/sq.ft.



Two Filter System	A	B	C	D	Total Wt.
3" – TR100C	82 ¾"	17 ⁵⁄₁₆"	48" Min.	18" Min.	2,300 lbs.
3" – TR140C	88 ⅜"	17 ⁵⁄₁₆"	54" Min.	18" Min.	3,200 lbs.
4" – TR140C	95 ¾"	19 ³⁵⁄₆₄"	54" Min.	18" Min.	2,300 lbs.
6" – TR140C	111 ¾"	24 ⁷⁄₃₂"	54" Min.	18" Min.	3,550 lbs.

Note: 6" piping needs to be rotated upward as shown at 25° so handle will clear the floor.



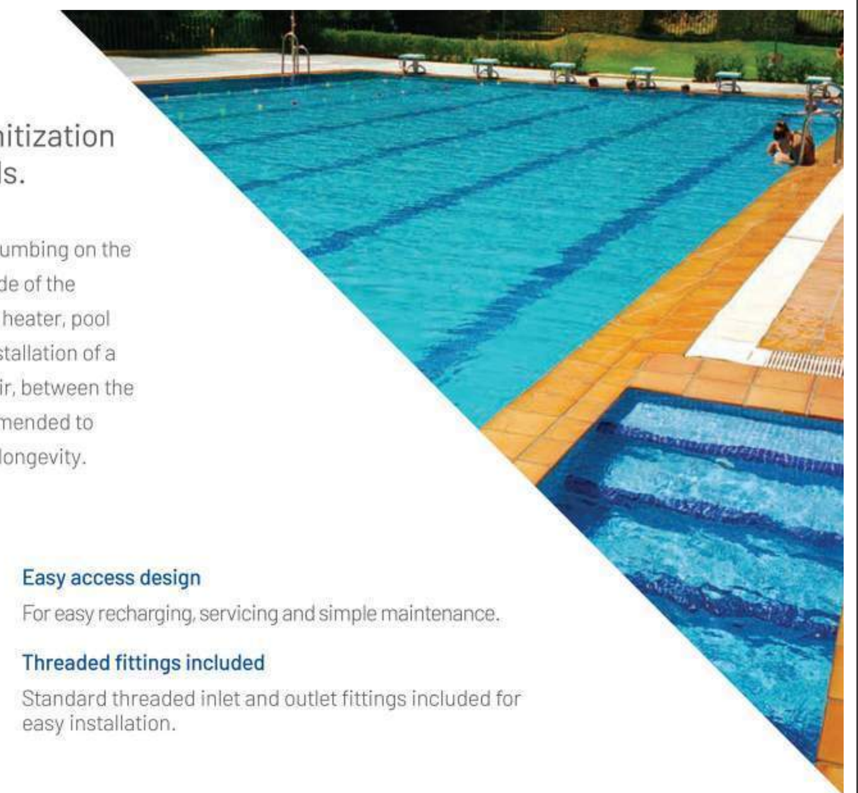
PENTAIR

1620 HAWKINS AVE | SANFORD, NC 27330 | UNITED STATES | 800.831.7133 | pentair.com

TAG 3 - SAND FILTER - TR-140C - 36" DIA HIGH RATE SAND FILTER W/ 7.06 SF OF MEDIA

HIGH CAPACITY CHLORINE/BROMINE FEEDERS

The performance leader in automatic sanitization for large residential and commercial pools.



The INLET control valve side of the feeder connects to the plumbing on the discharge side of the pump, before the filter. The OUTLET side of the feeder connects to the pool return line after the filter and/or heater, pool cleaner, diverter valves or any other installed equipment. Installation of a corrosion-resistant check valve, such as #R172288 by Pentair, between the feeder inlet and outlet and the equipment is strongly recommended to check backflow of chemicals. This helps ensure equipment longevity.

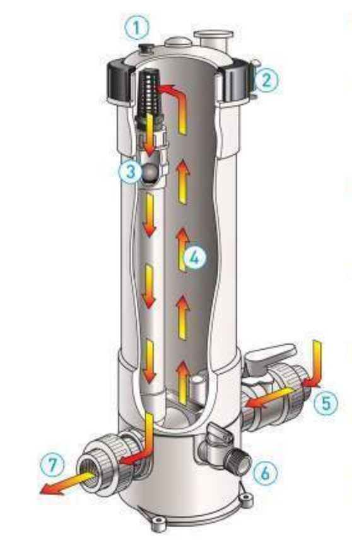
KEY FEATURES

Heavy-duty control valve
For accurate feed rate adjustment.

Completely enclosed system
Prevents fumes from escaping—no special venting required.

Easy access design
For easy recharging, servicing and simple maintenance.

Threaded fittings included
Standard threaded inlet and outlet fittings included for easy installation.



1. **Vent valve** bleeds air to ease lid removal.
2. **Lock ring** spins off, freeing lid and providing easy access. Snap-lock provides secure seal.
3. **Screen and check ball** are easy to reach for cleaning and periodic maintenance.
4. **Flow-through circulation** allows maximum output of sanitized water.
5. **External dial control** for easy flow rate adjustment.
6. **Drain valve** makes it easy to drain feeder for safer recharging and winterizing.
7. **Unions** are included for easy installation.

CALCIUM HYPOCHLORITE IS NOT TO BE USED IN ANY FORM.

MODELS & SPECIFICATIONS

	Model	HC-3315	HC-3330	HC-3340
	Part Number	R171215	R171230	R171240
	Height	21.5"	39.125"	49.75"
	Width	8"	8"	8"
	Depth	15"	15"	15"
	Maintenance Clearance	22.75"	40.375"	51"
	Capacity (lbs.)	15	30	40
@ 100% Setting	Flow Rate (GPM)	34	34	34
@ 100% Setting	Maximum Output Rate, Chlorine* (lbs./hr.)—Pool at Listed Flow Rate	3.65	5.2	8.54
@ 100% Setting	Maximum Output Rate, Chlorine* (lbs./hr.)—Spa at Listed Flow Rate	3.67	6.59	8.89
@ 100% Setting	Maximum Output Rate, Bromine* (lbs./hr.)—Pool at Listed Flow Rate	1.59	2.63	2.57
@ 50% Setting	Flow Rate (GPM)	17.0	17.0	17.0
@ 50% Setting	Output Rate, Chlorine* (lbs./hr.)—Pool at Listed Flow Rate	1.28	2.61	3.39
@ 50% Setting	Output Rate, Chlorine* (lbs./hr.)—Spa at Listed Flow Rate	1.19	2.54	3.86
@ 50% Setting	Output Rate, Bromine (lbs./hr.)—Pool at Listed Flow Rate	0.68	1.26	1.50
	Maximum Pool Size @ 34 GPM (Chlorine-Gals)	224,000	369,000	658,500
	Maximum Pool Size @ 34 GPM (Bromine-Gals)	99,200	164,000	292,600

Maximum working pressure—50 psi — *Maximum operating flow—34 GPM*
*Results based on use of 1" Trichlor tablets.

PENTAIR

1620 Hawkins Ave | Sanford, NC 27330 | United States | 800.831.7133 | pentair.com

TAG 4 - CHLORINATOR - HC3315 - HIGH CAPACITY CHLORINE/BROMINE FEEDER

Blue-White®

Engineering and Technical Data

F-300
Variable Area Flow Meter

Features

- Easy to read dual scale (SCH 40 / SCH 80)
- Reads Horizontal, upwards or downwards flow
- Acceptable for outdoor installations
- Pitot Tube design makes it easy to install on existing pipe
- One-piece, machined acrylic meter body
- Standard Horizontal Units NSF 50 listed
- Optional Flow Switch available

Video link:

Highlights

Flow range	Pressures up to	Max. fluid temp.
5.0 - 2,200 GPM (SCH 40) 4.0 - 1,950 GPM (SCH 80)	50 PSI (3.4 bar)	190 °F 88 °C
Body material	**Pipe sizes**	**Warranty**
Acrylic	1" to 8"	1 Year

For more help and information regarding **F-300**, please visit www.blue-white.com or scan this QR code.

TAG 5 - FLOW METER - F-30300P - BLUE-WHITE 3" VARIABLE AREA FLOW METER

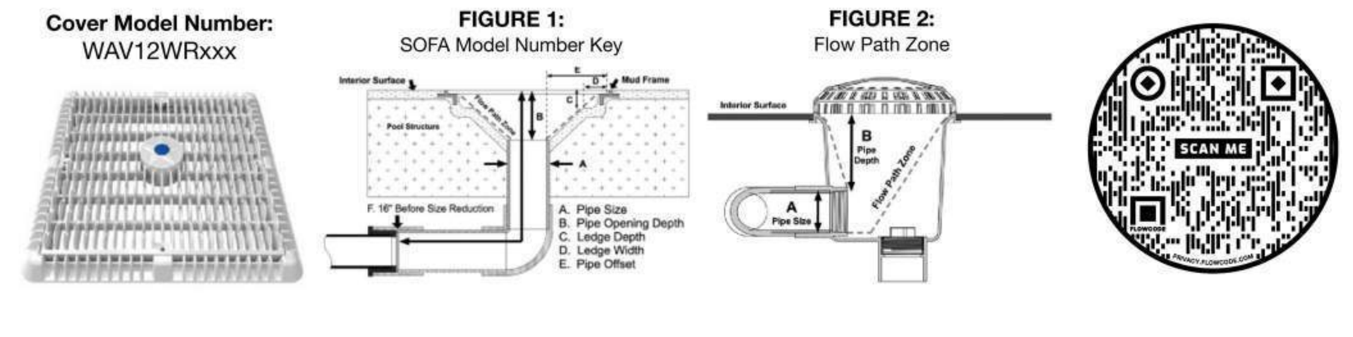
AQUASTAR pool products

VGBA-2017 PRODUCT SPECIFICATIONS
Suction Outlet Fitting Assembly (SOFA)
VGBA-2017 Flow Ratings, Sump Dimensions, and Sump Flow Path Zone

Certified to NSF/ANSI/CAN 50 ANSI/APSP/ICC 16 - 2017

DIRECTIONS: Read and follow the instructions provided with the product. Never exceed a SOFA Model flow rating when the pool is in use. SOFA Covers shall only be installed over sumps that meet or exceed the minimum flow path zone defined by: minimum pipe size and sump exit orientation, and the minimum pipe depth. Please see page 2 of 2 for help determining the proper flow rating for any pipe size changes within 16 inches of the pool interior finish. AquaStar SOFA covers are authorized for use over any compatible manufactured or field-built sump (§ 3.5.1). Scan the QR code or visit: **www.aquastarpoolproducts.com/flowcode** for the most current version of these specifications, instructions, and product information.

Cover Model Number: WAV12WRxxx — FIGURE 1: SOFA Model Number Key — FIGURE 2: Flow Path Zone



SOFA Model No.		(A) Pipe Size (Nominal)	(B) Pipe Depth (Minimum)	Orientation (Wall / Floor)	Flow Rating (GPM)	Head Loss Curve
WAV12WR-12f_A-1.5b_B3_C0.3_D0.7_E3.5_F16		1.5" (b)	3"	Floor (f)	126	A
WAV12WR-12f_A-2b_B3_C0.3_D0.7_E4.9_F16		2" (b)	3"	Floor (f)	150	B
WAV12WR-12f_A-2.5b_B3_C0.3_D0.7_E4.7_F16		2.5" (b)	3"	Floor (f)	200	C
WAV12WR-12f_A-3b_B3_C0.3_D0.7_E4.5_F16		3" (b)	3"	Floor (f)	230	D
WAV12WR-12f_A-3s_B5.6_C0.3_D0.7_E3_F16	[Sump P/N 12-3SB]	3" (s)	5.6"	Floor (f)	360	E
WAV12WR-12f_A-4b_B3_C0.3_D0.7_E3.75_F16	[Sump P/N 12-4SB]	4" (b)	3"	Floor (f)	300	F
WAV12WR-12f_A-4s_B6_C0.3_D0.7_E3_F16	[Sump P/N 12-3SB]	4" (s)	6"	Floor (f)	450	G
WAV12WR-12f_A-4s,2.5b_B6_C0.3_D0.7_E3_F16	[Sump P/N 12-3SB]	4"(s), 2.5" (b)	6"	Floor (f)	450	H
WAV12WR-12f_A-6b_B3_C0.3_D0.7_E3_F16		6" (b)	3"	Floor (f)	340	I
WAV12WR-12f_A-6b_B10.5_C0.3_D0.7_E2.9_F16	[Sump P/N 12-6SB]	6" (b)	10.5"	Floor (f)	450	J
WAV12WR-12w_A-1.5b_B3_C0.3_D0.7_E3.5_F16		1.5" (b)	3"	Wall (w)	126	K
WAV12WR-12w_A-2b_B3_C0.3_D0.7_E3.5_F16		2" (b)	3"	Wall (w)	150	L
WAV12WR-12w_A-2.5b_B3_C0.3_D0.7_E4.7_F16		2.5" (b)	3"	Wall (w)	200	M
WAV12WR-12w_A-3b_B3_C0.3_D0.7_E4_F16		3" (b)	3"	Wall (w)	230	N
WAV12WR-12w_A-4b_B3_C0.3_D0.7_E3.75_F16	[Sump P/N 12-4SB]	4" (b)	3"	Wall (w)	250	O
WAV12WR-12w_A-6b_B10.5_C0.3_D0.7_E2.9_F16	[Sump P/N 12-6SB]	6" (b)	10.5"	Wall (w)	450	P

Note 1: "SOFA Model No" nomenclature; bottom pipe = (b), side pipe = (s). See Fig 1 for capital letters A through E
Note 2: Head loss inHg is measured 16 to 24 inches from the finish surface of the pool. Reference Fig 1 dimension F.
Note 3: [Sump P/N 12-xSB] are the part numbers marked inside these manufactured Sump Buckets. Use of these sumps is not required. Installing WAV12WRxxx covers on field-built sumps is permitted. To order WAV12WRxxx product with these sumps, please see the catalog or visit www.aquastarpoolproducts.com.

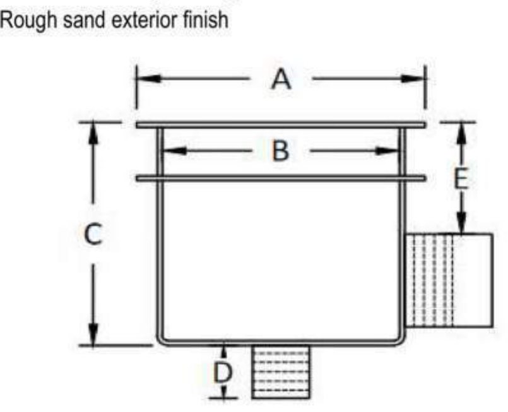
Revision Date: 04/02/2024 Sump specifications defined in conformance with ANSI/APSP/ICC-16 2017 (§ 3.5.1)

TAG 6 - MAIN DRAIN COVER - WAV12WR101 - 12"x12" VGB SUCTION OUTLET COVER

Fiberglass Field Built Sumps

A.S.A. MFG. INC. FIBERGLASS PRODUCTS

- Premium fiberglass & resin for maximum structural strength
- Durable smooth gelcoat interior
- Exterior perimeter FRP waterstop flange
- Non-Metallic- No grounding
- Rough sand exterior finish
- 2" Bottom fpt.x fpt for hydro relief valve
- Threaded PVC SCH 40 pressure test plug for outlet (up to 8")
- All PVC connections are ASTM 2466 compliant
- Designed to ANSI/APSP/ICC-16 2017 for use only with approved SOFA (Suction Outlet Fitting Assembly) Covers.



COMPONENT

USPC ®

Made in the USA

Field Built Sump Product Dimensions (Inches)							SCH40 Outlet
Size (inches)	ASA Part #	A	B	C	D	E	fpt x soc
9 x 9 x 12	FBS-50-809-3	11"	9"	12"	4.5"	6.5"	3"
12 x 12 x 12	FBS-50-812-4	14"	12"	12"	4.5"	7"	4"
12 x 12 x 18	FBS-50-812-18-4	14"	12"	18"	4.5"	8"	4"
12 x 12 x 18	FBS-50-812-18-6	14"	12"	18"	4.5"	10"	6"
18 x 18 x 20	FBS-50-818-6	20"	18"	20"	4.5"	10"	6"
18 x 18 x 24	FBS-50-818-24-6	20"	18"	24"	4.5"	13"	6"
18 x 18 x 24	FBS-50-818-24-8	20"	18"	24"	4.5"	13.5"	8"
24 x 24 x 30	FBS-50-824-30-10	26"	24"	30"	4.5"	17"	10" soc x soc

SOFA COVER NOTES:
(SOFA = Suction Outlet Fitting Assembly)

1). Please see the Manufacturer's (Aquastar, Hayward, Waterway) SOFA Cover (Grate) Installation Instructions for a Field Fabricated Sump to confirm minimum Sump dimensions and tested outlet sizes before installing.
2). All SOFA Cover Manufacturer's require different minimum Sump depth dimensions, outlet placement (bottom or side), and suction outlet size (diameter in inches). Please confirm the SOFA Cover you are using is designed for this Fiberglass Field Fabricated Sump.
3). Please refer to the SOFA Cover (Grate) specification data sheet for VGBA tested flow rates. Every SOFA Cover has different a open area and flow path. Do not install a SOFA Cover over a Field Fabricated Sump that does not meet the minimum specifications determined by the SOFA Manufacturer.
4). A.S.A. MFG. Inc. Fiberglass Sumps have been fabricated to the original ASME 112.19.8 Standard - Suction Fittings for Pools & Spas (1.5x /Figure 2 rule) since 1992.

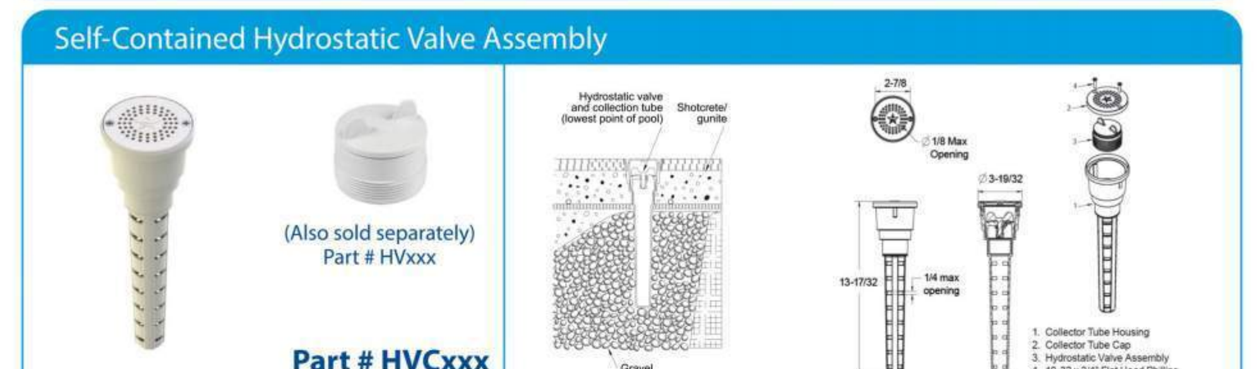
1) All Field Built Sumps shall be installed in accordance with the manufacturer's installation instructions.
2) All SOFA covers shall be installed in accordance with the manufacturer's installation instructions.
3) The A.S.A. MFG Inc. Fiberglass Field Built Sump Is intended only to be installed in a reinforced concrete pool structure.
4) Any field modifications made to the SOFA and not authorized by the manufacturer's installation instructions shall void the SOFA certification. No modification shall be made to the SOFA structure or flow path unless a new configuration has been certified as a new SOFA
5) Fiberglass Field Built Sump Life = Life of the Aquatic Center. v060923b

A.S.A. MFG Inc. 14879 SW 111th St. Dunnellon, FL 34432 352-465-0236 Fax 352-465-0239 email: info@asamfg.com

TAG 6 - MAIN DRAIN SUMP - FBS-50-812-4 - A.S.A. MFG FIBERGLASS SUMP

HYDROSTATIC VALVE ASSEMBLIES — AQUASTAR pool products

Self-Contained Hydrostatic Valve Assembly

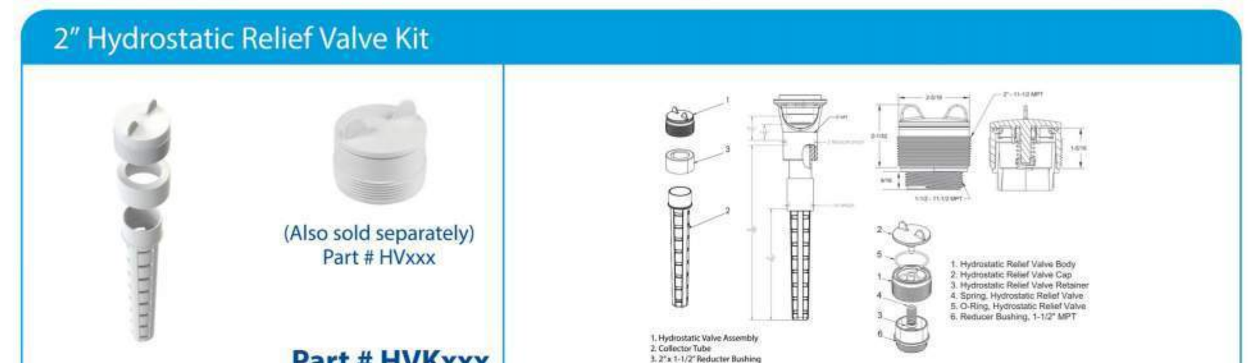


FEATURES
- Self-contained unit has a built-in collector tube
- Installs directly into the pool finish with no additional plumbing connection required
- Helps prevent swimming pool damage due to hydrostatic pressure beneath the pool shell when the pool is drained

12 per cash

STANDARD COLORS
HVC101, HVC102, HVC103, HVC104, HVC108

2" Hydrostatic Relief Valve Kit



FEATURES
- Equalizes pressure for high water tables
- Fits any AquaStar and most other manufacturers' 2" thread
- Includes 2" x 1½" reducer bushing
- Reducer bushing must be glued onto collector tube using ABS glue

25 per cash

STANDARD COLORS
HVK101, HVK102, HVK103, HVK104, HVK108

P 877-768-2717 F 877-276-POOL Outside the US: P +1-949-336-1940 F +1-949-336-1940
info@aquastarpoolproducts.com www.aquastarpoolproducts.com CS129-013024

TAG 7 - HYDROSTATIC VALVE - HVC101 - SELF-CONTAINED HYDROSTATIC RELIEF VALVE

D.CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JACOB L. HAMILTON 3-18-25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #:	2025004
DATE ISSUED:	03/14/2025
DRAWING BY:	JVD
CHECKED BY:	JLH

100% SD.

SPECIFICATIONS

SP5.0

FLOWSTAR® SKIMMER WITH WATER STOP FACE, FLOAT ASSEMBLY, BASKET, LID AND ADJUSTABLE COLLAR

AQUASTAR pool products

Built in conformance with NSF 50 and SPS 3 standards

FEATURES

- Designed for commercial and residential use, 15 GPM min, 90 GPM max
- Adjustable collar
- New weir clip lock secures the clips in the weir door
- Self-contained gunite grip, water stop on the faceplate to prevent water leaks
- Large self-contained basket with lock-in feature (will not float)
- Underwater dampers on the faceplate for noise reduction on weir plate - especially on windy days
- Super strong engineered polymer upper housing
- Extra heavy duty PVC lower unit (no transitional glue required)
- 2½" outside slip and 2" inside slip (outside skimmer)
- 2" threads for pressure testing (inside skimmer)
- Built-in overflow or fill line knock out
- Upper housing has pre-cut rebar cutouts with pre-drilled holes for tie wire
- Skimmer Lid and Collar G154 UV tested
- Optional custom name/logo engraved on the lid (requires minimum 500 piece lid order)
- 1 per case

Two additional lid options available (sold separately): square or snap-in round/square

Part # SKR1xx

Optional vacuum plate with snap-in lug can be glued in under lid for easy storage p/n SK43101

Optional BFB adapter converts skimmer fittings to 4" or 2" tee for improved hydraulics and code compliance p/n BFB101

STANDARD COLORS

- SKR101 – White
- SKR103 – Light Gray
- SKR105 – Dark Gray

Available with 3" extension collar p/n SKR19xx, 1 per case

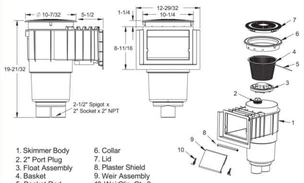
Snap-in Round/Square Lid and Collar (sold separately) p/n SK65xxx, 8 per case

Square Lid and Collar (sold separately) p/n SK64xxx, 6 per case

Available without lid and collar SKR1NL101 (white only), 1 per case

NOTICE: For NSF certified skimmers, please contact your AquaStar Sales Representative. Lid, float valve, 4" socket, and 6" socket options are not NSF certified.

SPS 3 & NSF 50 Compliant



1. Skimmer Body
2. 2" Port Plug
3. Float Assembly
4. Basket
5. Basket Rod
6. Collar
7. Lid
8. Plaster Shield
9. Weir Assembly
10. WeirClip, Qty 2

P 877-768-2717 F 877-276-POOL **Outside the US:** P +1-949-336-1940 F +1-949-336-1940
info@aquastarpoolproducts.com www.aquastarpoolproducts.com CS073-011824

TAG 8 - SKIMMER - SKR101 - WHITE COMMERCIAL GRADE SKIMMER

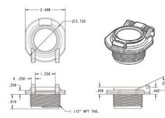
Safety Vacuum Lock Wall Fitting

FEATURES

- For use with an automatic pool cleaner
- Holds pool cleaner hose in place and snaps closed when not in use
- Meets SPS-4-2009 standard
- Available in 1½" or 2" NPT
- 25 per case

Also available in blue (p/n VLK15T104), only available for 1½" NPT

Part # VLK15Txxx (1½" NPT)
Part # VLK20Txxx (2" NPT)



Large Wall Fitting (Fits Inside 2" Pipe)

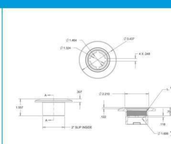
FEATURES

- Fits inside 2" pipe, 1½" FPT in the front face
- Large flange camouflages pipe and surface construction variations
- See also decorative cover p/n DCxxx to make existing 1022s like new with different colors
- Manufactured from engineered polymer UV-resistant ABS material

250 per case

Also available in Clear (p/n ES1022SI2000)

Part # ES1022SI20xx



TAG 9 - VACUUM INLET - ES1022SI2001 W/ VLK15T01 - VACUUM LINE FITTING W/ LOCK CAP

2" X 4" GUTTER DECK DRAIN (FITS 2" PIPE)

AQUASTAR pool products

Compatibility, durability, and performance

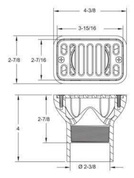
FEATURES

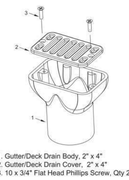
- Fits over 2" pipe
- 1½" threaded FPT inside for pressurizing/ winterizing
- Manufactured from engineered polymer UV-resistant PVC material (p/n GDD101 is manufactured from engineered polymer UV-resistant ABS material)
- 1½" reducer bushing available p/n BU101-2x1½
- ½" stackable extender available p/n PE20101
- Stainless steel screws
- Also available as grate only with two screws
- CAUTION: Not to be used as a suction outlet under any circumstances
- 25 per case
- Grate only p/n GDDLxxx

Part # GDDxxx

STANDARD COLORS

- GDD101 – White
- GDD102 – Black
- GDD103 – Light Gray
- GDD105 – Dark Gray
- GDD108 – Tan





1. Gutter/Deck Drain Body, 2" x 4"
2. Gutter/Deck Drain Cover, 2" x 4"
3. 10 x 3/4" Flat Head Phillips Screw, Qty 2

P 877-768-2717 F 877-276-POOL **Outside the US:** P +1-949-336-1940 F +1-949-336-1940
info@aquastarpoolproducts.com www.aquastarpoolproducts.com CS128-020224

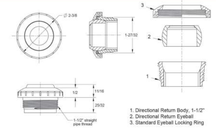
TAG 10 - OVERFLOW DRAIN - GDD101 - COMMERCIAL OVERFLOW DRAIN

INSERT THREE-PIECE DIRECTIONAL EYEBALL FITTING 1½" MPT TITLE HERE

AQUASTAR pool products

Product Image and Dimensions

Part # 81xx



1. Directional Return Body, 1-1/2"
2. Directional Return Eyeball
3. Standard Eyeball Locking Ring

FEATURES

- Screws into 1½" FPT
- Manufactured from engineered polymer UV-resistant ABS material

250 per case

STANDARD COLORS

- 8101
- 8102
- 8103
- 8104
- 8108

Additional orifice size suffix:
82xx - ¾"
83xx - ½"
84xx - Slotted Down-Jet
(i.e. 8201 = white ¾" orifice)
Also available in Clear (p/n 8100, 8200, 8300, 8400)

AquaStar Specific Eyeball GPM, Velocity and Head Loss Ratings

	81xx (1")		82xx (3/4")		83xx (1/2")		84xx (Down-Jet)	
GPM	Velocity (fps)	Head Loss (ft)	Velocity (fps)	Head Loss (ft)	Velocity (fps)	Head Loss (ft)	Velocity (fps)	Head Loss (ft)
5	2.2	0.1	3.6	0.5	8.2	2.4	10.1	2.1
10	4.4	0.5	7.3	1.8	16.3	8.7	20.2	8.1
15	6.6	1.1	10.9	3.7	24.5	18.6	30.3	20.7
20	8.8	1.9	14.5	6.2	32.4	32.0		
25	11.0	3.0	18.2	9.4				
30	13.2	4.4	21.8	13.1				
35	15.4	6.1	25.4	17.3				
40	17.6	8.0						
45	19.7	10.2						
50	21.9	12.7						

P 877-768-2717 F 877-276-POOL **Outside the US:** P +1-949-336-1940 F +1-949-336-1940
info@aquastarpoolproducts.com www.aquastarpoolproducts.com CS105-012924

TAG 11 - WALL RETURN INLET - 8101 - DIRECTIONAL WALL RETURN INLET

BUBBLER PLATE

AQUASTAR pool products

Compatibility, durability, and performance

FEATURES

- Available in six standard colors
- No exposed components
- Installs flush with side/bottom of pool or spa
- Fits into most standard 1½" female pipe thread
- 250 per case

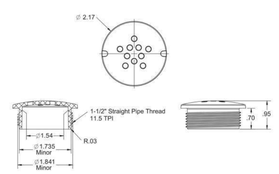
ENGINEERING DATA:
Flow Coefficient (Cv): 8.27

GPM	Velocity (fps)	Head Loss (ft)
5.0	7.2	0.4
10.0	14.1	2.4
15.0	21.2	6.6
20.0	28.3	13.5

Part # BPxxx

STANDARD COLORS

- BP101 – White
- BP102 – Black
- BP103 – Light Gray
- BP105 – Dark Gray
- BP108 – Tan



P 877-768-2717 F 877-276-POOL **Outside the US:** P +1-949-336-1940 F +1-949-336-1940
info@aquastarpoolproducts.com www.aquastarpoolproducts.com CS110-020224

TAG 12 - FLOOR RETURN INLET - BP101 - 5 HP HIGH EFFICIENCY PUMP

FILL STAR® WATER LEVEL CONTROL SYSTEM FOR POOLS AND SPAS

Durable and reliable autofill

FEATURES

- Easy to install
- Overflow protection and adjustable presets
- Uses the same size lid and collar as AquaStar skimmers
- Includes a 2" to 1½" PVC adapter
- ¾" PVC plug included if overflow is not needed
- ¾" PVC water supply inlet
- Valve is made of high-strength engineered resin
- The float is injection-molded and the thread is pre-molded
- No transition glue needed
- Float thread is ½" MPT
- 1 per case

Part # AFBxxx

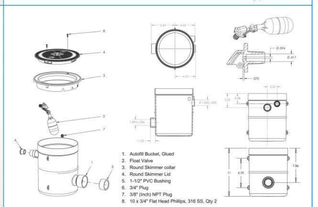
Also available float only part # AFBV

STANDARD COLORS

- AFB101 – White
- AFB102 – Black
- AFB103 – Light Gray
- AFB105 – Dark Gray
- AFB108 – Tan

Also available without lid and collar p/n AFBNL

Also available lid only p/n RTxxx



1. Autofill Bucket, Glued
2. Float Valve
3. Round Skimmer collar
4. Round Skimmer Lid
5. 1-1/2" PVC Bushing
6. 3/4" Plug
7. 3/8" (Inch) NPT Plug
8. 10 x 3/4" Flat Head Phillips, 316 SS, Qty 2

TAG 13 - AUTOFILL - AFB101 - FILLSTAR- AUTOFILL LINE - WHITE

Mushroom Spray Fountain Model 1800-17

Specifications

Model: 1800-17-96
Size: 7' 6" Diameter

Features

- Fiberglass dome
- 10" Diameter fiberglass stem
- Water flow: 90-400 gpm (spec)
- Variety of colors

Height Options

Model Number	Clearance
1800-17-84	7' 0"
1800-17-90	7' 6"
1800-17-96	8' 0"
1800-17-114	9' 6"

GPM required for Curtain

Length of Curtain in Feet	GPM	Minimum Feed Pipe Size
8	400	4"
5.5	290	4"
3.5	200	3"
1.5	150	2.5"
Rain Sprinkle	90	2"

Natural Structures

PO Box 270, Baker City, OR 97814 (541) 523-0274 (800) 252-8475 www.naturalstructures.com - info@naturalstructures.com

May 2020

TAG 14 - MUSHROOM FEATURE - 1800-17-96 - MUSHROOM SPRAY FEATURE

GLOBRITE®

POOL AND SPA LED LIGHTS

AMAZING, BRILLIANT WHITE LIGHT THAT MAKES POOL DESIGNS COME ALIVE

Add the magic and vibrancy of GloBrite White LED Lights to see your pool take possession of the night. These brilliant white lights are engineered with the most efficient LED lighting technology on the market today, and they can take your pool far beyond the ordinary. GloBrite White LED Lights highlight your pool's form and finishes, such as colored plaster, aggregates, pebble, ceramics, stone tile and glass tile. Natural colors and textures are enhanced and spring to life. Plus, you can choose from three adjustable brightness levels to set the perfect mood.

Key Features

LED array
Creates powerful illumination with remarkable energy efficiency.

15 W usage
Delivers the equivalent of 190 W of incandescent light.

Optimized brightness
GloBrite White models offer three levels of control. Choose from 100%, 75% or 50% brightness.

Added savings
With extended service life and energy efficiency.

Multiple niches
Available for concrete, vinyl and fiberglass.

Design flexibility
Compact design allows for innovative placement near steps, water features, swim-outs and more. Install in water as shallow as 4 inches.

PENTAIR

ecoselect
GloBrite Pool and Spa LED Lights have earned the Eco Select™ brand distinction as one of the greenest and most efficient choices from Pentair.

TRADEGRADE
The TradeGrade family of products is exclusively made for and sold by the world's most demanding pool professionals.

400 Regency Forest Dr | Cary, NC 27518 | United States | 800.831.7133 | pentair.com

TAG 15 - LIGHTING - 602104 - 190W EQUIVALENCY GLOBRITE WHITE LED LIGHTS

D.CLUGSTON

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

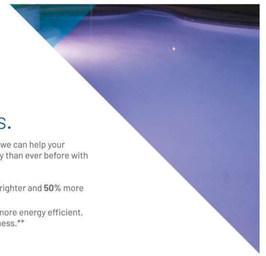
NO.	REVISION	DATE

PROJECT #: 2025004
DATE ISSUED: 03/14/2025
DRAWING BY: JVD
CHECKED BY: JLH
100% SHEET

SPECIFICATIONS

SP5.1

INTELLIBRITE®
ARCHITECTURAL
SERIES LIGHTS



Illuminate your customers' nighttime pool experiences.

You're a leading pool pro. We're a pool lighting leader. Together, we can help your customers' pool experiences shine brighter and more beautifully than ever before with our biggest illumination innovation to enter the pool industry.

- IntelliBrite Architectural Series Color Pool Light is now **60%** brighter and **50%** more energy efficient.*
- IntelliBrite Architectural Series White Pool Light is now **80%** more energy efficient, consuming **44%** less power and maintaining the same brightness.**

◂ BEFORE
Unevenly lit pool with dark areas.

AFTER ▸
Evenly lit pool for a more exhilarating nighttime pool experience.

PRODUCT SPECIFICATION

SIZE	MODEL	VOLTAGE	POWER	PART NUMBER BY CORD LENGTH (FEET) 30'	50'	100'	150'	250'
Pool	Color	120V	28W	602185	602186	602187	602188	602206
Pool	Color	12V	28W	602151	602152	602153	602154	-
Spa	Color	120V	16W	602200	602202	602203	602204	602205
Spa	Color	12V	16W	602197	602198	602199	602200	-
Pool	White - 300W Equivalent	120V	26W	602181	602182	602183	602184	602207
Pool	White - 300W Equivalent	12V	26W	602143	602144	602145	602146	-
Pool	White - 500W Equivalent	120V	31W	602177	602178	602179	602180	602208
Pool	White - 500W Equivalent	12V	31W	602139	602140	602141	602142	-
Spa	White - 100W Equivalent	120V	10W	602193	602194	602195	602196	602209
Spa	White - 100W Equivalent	12V	10W	616015	616016	616017	616018	-
Pool	Warm White	120V	31W	602189	602190	602191	602192	602221
Pool	Warm White	12V	31W	602147	602148	602149	602150	-
Spa	Warm White	120V	10W	602225	602226	602227	602228	602229
Spa	Warm White	12V	10W	602238	602239	602240	602241	-

Get total control from anywhere with the Pentair Home app to help you move, improve and enjoy all of your home's water.

Go to **pentair.com/home**

MORE OPTIONS AVAILABLE:
Scan the QR code to view the full list

*Compared to Pentair IntelliBrite 5G Color LED Pool Light in white color mode only. The IntelliBrite Architectural Series delivers higher lumen output depending on color mode, ranging from 28%-161% brighter, while energy efficiency improvements range from 17-58%, based on color mode.
**Compared to Pentair IntelliBrite 5G White LED Pool Light. IntelliBrite Architectural Series White Light delivers 2.3% higher lumen output and consumes 44% less power.
Appearance of color and white LED light may vary between various models of lights. Appearance and perception of pool lighting may vary depending on a number of factors including, but not limited to, the particular model of light, the location/depth/angle of the light's installation, pool finish/material, pool depth/shape/geometry, ambient light sources, subjective factors and more. For best results when using multiple lights, use all the same model and do not mix multiple models of lights within a single installation.

PENTAIR

400 Regency Forest Dr | Cary, NC 27518 | United States | 800.831.7133 | pentair.com

PS-783 8/2023

TRADEGRADE

TAG 16 - LIGHTING - 602145 - 300W EQUIVALENCY INTELLIBRITE WHITE LED LIGHT

INTERMATIC

Junction Box - 4 Light Connection Pool & Spa Junction Box

Item PJB4175

PRODUCT DESCRIPTION

These polymeric junction boxes are code compliant and provide safe, reliable connections for low-voltage lights. Specially designed for pools, pool-spa combinations, and landscape applications. Junction boxes are for outdoor use only.

FEATURES

- Accommodates flexible cords and non-metallic conduits from ½" to 1"
- Watertight, multifixture enclosure
- Easy access ground bar
- PA114 Wall/Post Mounting Bracket (sold separately)
- Complies with NEC Code 680.24 requirements for junction boxes
- 1-year warranty

APPLICATIONS

- Landscape Lighting
- Underwater Lighting

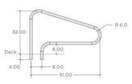
TECHNICAL DATA

General	
Model Number	PJB4175
Description	4 Light Connection Pool & Spa Junction Box
UPC Code	078275094046
Brand	Intermatic
Country of Origin (Intermatic)	INDIA
Warranty Period	1-Year limited
Control Specifications	
Number of Light Connections	4
Mechanical Specifications	
Mounting Options	Bracket; Post; Rod; Wall
Dimensions	
Product Dimensions (H x W x D) in	8.75 x 5 x 4.625 in
Non Metallic Conduit Size	1/2"-1"
Material Specifications	
Color	Black
Body Material	Plastic
Electrical Specifications	
Number of Receptacle Knockouts	5
Packaging	
Shipping Weight (lbs)	1.597
Unit Carton Dimensions (H x W x L) in	5.25 x 5 x 9 in

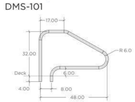
 1/3

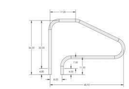
TAG 17 - JUNCTION BOX - PJB4175 - 4 LIGHT CONNECTION POOL & SPA JUNCTION BOX

DMS-100

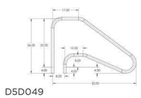


DMS-101





D4D049



D5D049

Deck-Mounted Hand & Stair Rails

- Tubing: 1.90" OD
- Wall Thickness*: .049" or .065"
- Stainless Steel: 304 or 316L Marine Grade** (add –MG to part number)
- Bends: 6" Radius
- Recommended Anchors: AS-100P or AS-100B (order separately)
- Recommended Escutcheon: EP-100F (order separately)
- Sold as a single rail

* Minimum rail thickness is .065 for Commercial
** Minimum requirement for salt pools is 316L Marine Grade

DMS-100

Part No.	Description	Weight	Shipping Length	Width	Height
DMS-100A	51" Center Grab Rail, .049"	18 lbs 8kg	59" 150cm	39" 99cm	2" 5cm
DMS-100V	51" Center Grab Rail, .065"				
D5D049	55" Center Grab Rail, .049"				
DMS-100S	60" Center Grab Rail, .065"				

DMS-101

Part No.	Description	Weight	Shipping Length	Width	Height
DMS-101A	48" Center Grab Rail, .049"	16 lbs 7kg	59" 150cm	39" 99cm	2" 5cm
DMS-101B	48" Center Grab Rail, .065"				

DECK TO DECK MOUNTED

Part No.	Description	Weight	Shipping Length	Width	Height
D4D049	4 Bend Stair Rail, .049"	16 lbs 7kg	57" 145cm	39" 99cm	2" 5cm
D5D049	5 Bend Stair Rail, .049"				

May be available in Powder-Coated finishes. Please reach out to CustomerCare@SRSmith.com to confirm the color and finish availability.

TAG 18 - HANDRAIL - DMS-101B-MG - MARINE GRADE DECK MOUNTED HANDRAIL - SHORT

DMS-102

D4BD049-FL

DMS-103

Deck-Mounted Hand & Stair Rails

- Tubing: 1.90" OD
- Wall Thickness*: .049" or .065"
- Stainless Steel: 304 or 316L Marine Grade** (add –MG to part number)
- Bends: 6" Radius
- Recommended Anchors: AS-100P or AS-100B (order separately)
- Recommended Escutcheon: EP-100F (order separately)
- Sold as a single rail

* Minimum rail thickness is .065 for Commercial
** Minimum requirement for salt pools is 316L Marine Grade

DMS-102

Part No.	Description	Weight	Shipping Length	Width	Height
DMS-102A	54" Center Grab Rail, .049"	19 lbs 9kg	59" 150cm	39" 99cm	2" 5cm
DMS-102B	54" Center Grab Rail, .065"				
DMS-102P	54" Center Grab Rail, .049" w/ welded mounting plate				

DECK TOP MOUNT

Part No.	Description	Weight	Shipping Length	Width	Height
D48D049-FL	48" Center Grab Rail, .049" w/ flanges and escutcheons	17 lbs 8kg	59" 150cm	39" 99cm	2" 5cm

DMS-103

Part No.	Description	Weight	Shipping Length	Width	Height
DMS-103A	54" Center Grab Rail, .049"	14 lbs — 18 lbs 6 — 8kg	59" 150cm	39" 99cm	2" 5 cm
DMS-103B	54" Center Grab Rail, .065"	14 lbs — 18 lbs 6 — 8kg	59" 150cm	39" 99cm	2" 5cm

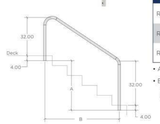
DECK TOP MOUNT

Part No.	Description	Weight	Shipping Length	Width	Height
D3D5D049-FL	50" 3-Bend Stair Rail, .049" w/flanges and escutcheons	27 lbs 12kg	61" 155cm	38" 97cm	7" 18cm

May be available in Powder-Coated finishes. Please reach out to CustomerCare@SRSmith.com to confirm the color and finish availability.

TAG 19 - HANDRAIL - DMS-102B-MG -MARINE GRADE DECK MOUNTED HANDRAIL - STANDARD

TWO BEND



Stair Rails

- Tubing: 1.90" OD
- Wall Thickness: .049" or .065"
- Stainless Steel: 304 or 316L Marine Grade** (add –MG to part number)
- Bends: 6" Radius
- Recommended anchors: AS-100B (order separately)
- Recommended escutcheon: EP-100F (order separately)

* Minimum rail thickness is .065 for Commercial
** Minimum requirement for salt pools is 316L Marine Grade

2-BEND

Part No.	Description	A	B	Weight	Shipping Length	Width	Height
R2HR-4	4' 2-Bend	26"	4'-0"	18 lbs 8kg	32" 81cm	22" 56cm	4" 10cm
R2HR-5	5'2-Bend	36"	5'-0"	18 lbs 8kg	32" 81cm	22" 56cm	4" 10cm
R2HR-6	6'2-Bend	46"	6'-0"		24" 61cm	8" 20cm	5" 13cm

- Add -.049 to the part number for .049" wall. Add -.065 to the part number for .065" wall.
- Extended Lengths: Add -1 to the part number for 12" extended length on pool (front) leg. Add -2 to the part number for 12" extended length on both legs. Add -3 to the part number for 12" extended length to deck leg.

THREE BEND

3-BEND

Part No.	Description	A	B	C	D	E	Weight	Shipping Length	Width	Height
3HR-4	4'3-Bend	26"	4'-0"	18"	32"	26"	11-22 lbs 5-10kg	60" 152cm	42" 107cm	2" 5cm
3HR-5	5'3-Bend	36"	5'-0"	18"	32"	26"	12-24 lbs 5-11kg	72" 81cm	42" 107cm	2" 10cm
3HR-5.5	5'6" 3-Bend	32"	5'-6"	18"	32"	29"	13-21 lbs 6-10kg	78" 198cm	42" 107cm	2" 5cm
3HR-6	6'3-Bend	46"	6'-0"	18"	32"	26"	13-32 lbs 6-14kg	84" 213cm	42" 107cm	2" 5cm
3HR-6.5	6'6" 3-Bend	32"	6'-6"	35"	34"	29"	16-34 lbs 7-15kg	90" 229cm	42" 107cm	2" 5cm
3HR-7	7'3-Bend	36"	7'-0"	40"	30"	29"	18-34 lbs 8-15kg	94" 239cm	42" 107cm	2" 5cm
3HR-8	8'3-Bend	30"	8'-0"	53"	34"	33"	21-39 lbs 10-18kg	105" 267cm	42" 107cm	2" 5cm

- Add -.049 to the part number for .049" wall. Add -.065 to the part number for .065" wall.
- Extended Lengths: Add -1 to the part number for 12" extended length on pool (front) leg. Add -2 to the part number for 12" extended length on both legs. Add -3 to the part number for 12" extended length to deck leg.

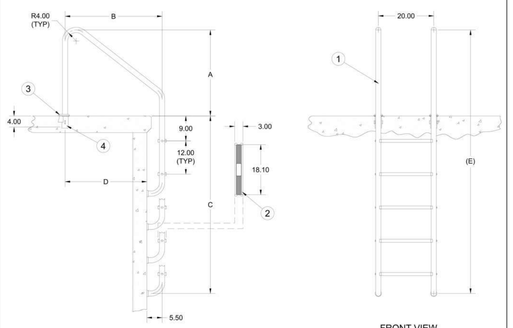
May be available in Powder-Coated finishes. Please reach out to CustomerCare@SRSmith.com to confirm the color and finish availability.

TAG 20 - HANDRAIL - 3HR-4 - MARINE GRADE 3-BEND ADA HANDRAIL

SRSmith COMMERCIAL

S.R. Smith LLC Commercial Division
Product Specifications - Drawing

Standard Plus Commercial Ladder *(With Stainless Steel Tread)*



MODEL NUMBER	A	B	C	D	(E)
10037 TO 10039	26.00	23.00	28.00	17.50	54.00
10040 TO 10042	26.00	23.00	40.00	17.50	66.00
10043 TO 10045	26.00	23.00	52.00	17.50	78.00
10046 TO 10048	26.00	23.00	64.00	17.50	90.00
10049 TO 10051	26.00	29.00	28.00	23.50	54.00
10052 TO 10054	26.00	29.00	40.00	23.50	66.00
10055 TO 10057	26.00	29.00	52.00	23.50	78.00
10058 TO 10060	26.00	29.00	64.00	23.50	90.00
10061 TO 10063	31.00	35.00	28.00	29.50	59.00
10064 TO 10066	31.00	35.00	40.00	29.50	71.00
10067 TO 10069	31.00	35.00	52.00	29.50	83.00
10070 TO 10072	31.00	35.00	64.00	29.50	95.00

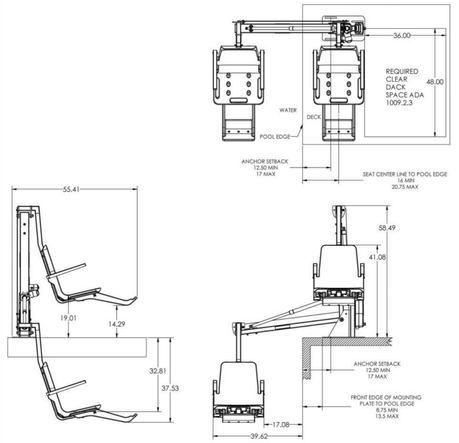
Specification Number:	**SRS-506**
Product Description:	**Standard Plus Commercial Ladder *(With Stainless Steel Tread)***
S.R. Smith Part Number:	**10037 to 10072** Scale: NTS
Revision:	A Date: 06/11/03
Written By:	T. Weil Date: 06/11/03
Approved By:	B. Bisceglia Date: 06/13/03
Page 1 of 2	Proprietary and confidential: The information contained in this specification is the sole property of S.R. Smith LLC. Any reproduction in part or whole without the written consent of S.R. Smith LLC is prohibited.

S.R. Smith, LLC
P.O. Box 400, 1017 SW Berg Parkway
Canby, Oregon 97013
Tel: (888) 677-7776 (503) 266-2231
Fax: (503) 266-4334
www.srsmith.com

TAG 21 - LADDER - 10056-MG - MARINE GRADE COMMERCIAL LADDER

SRSmith

PRODUCT SPECIFICATIONS - WRITTEN



Specification Number:	**SRS-1213**
Product Description:	**multiLift2** Aquatic Lift
S.R. Smith Part Number:	**580-0000**
Revision:	A Date: 2/7/2022
Written By:	WJS Date: 2/7/2022
Approved By:	WJS Date: 2/7/2022
Page 2 of 2	Proprietary and confidential: The information contained in this specification is the sole property of S.R. Smith LLC. Any reproduction in part or whole without the written consent of S.R. Smith LLC is prohibited.

S.R. Smith
P.O. Box 400, 1017 SW Berg Parkway
Canby, Oregon 97013
Tel: (800) 824-4387 (503) 266-2231
Fax: (503) 166-4334
www.srsmith.com

TAG HC - ADA MULTI-LIFT - ADA COMPLIANT MULTILIFT

QPG QUALITY POOLS GROUP

QUALITY POOLS GROUP
3550 Hwy 51 North, Ft. Mill SC, 29715 (704) 441-8773 QualityPoolsGroup.com

L* a* b*, RGB and HLC Values

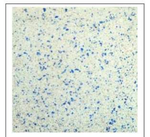
Reference: RAL 9002
Range: RAL Classic

QPG Kona Coast Quartz Pool Plaster

This sample represents the masstones of the original scan. (All of the colors of the original sample, as one, blended)

L.74.32
a* -47.09
b* -85.25
H 102
L 85
C 5

sRGB: 196, 235, 242
LRV: Approx. 74
Light Reflectance Value



"QPG Kona Coast"

The L* a* b* (together with the corresponding HLC, RGB and CYMK) values are based on the average of various measurements using various spectrophotometers using D65 light with a standard observer according to CIE 1964 which may be updated or modified by any other relevant available information. They are not necessarily the L* a* b* figures intended by any standard and should therefore only be used as a guide. For more information or details please contact the relevant company, standards authority or organization listed **here** or refer to the color publications available on this site.

The colours depicted are also for guidance only. The displayed colour will depend on your monitor, browser and angle of the screen and pearl or metallic colours cannot be shown adequately. The finished colour, therefore, may **not** be as shown here.

The sRGS conversion system used is IEC 61966:2-1 D50 adapted which may differ from other conversions.

POOL PLASTER SPECIFICATION

D.CLUGSTON

NORTH CAROLINA LICENSED PROFESSIONAL ENGINEER SEAL 048012 3-18-25

MATTHEWS LANDING
DR HORTON
LILLINGTON, NC

NO.	REVISION	DATE

PROJECT #: 2025004
DATE ISSUED: 03/14/2025
DRAWING BY: JVD
CHECKED BY: JLH
100% SBB.

SPECIFICATIONS

SP5.2