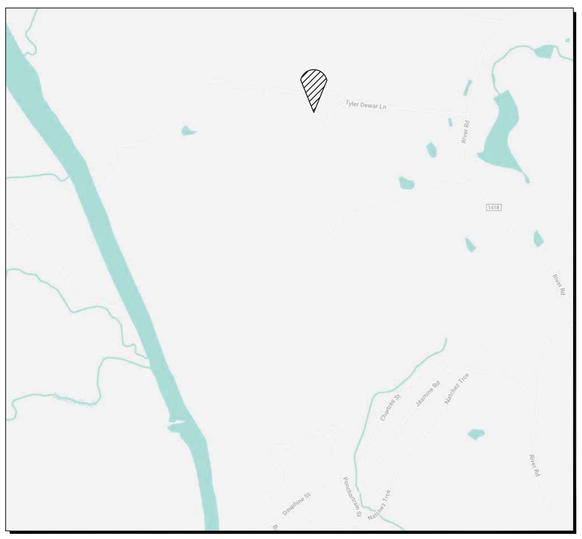
*ELEVATION FOR ILLUSTRATIVE PURPOSES ONLY. NOT FOR CONSTRUCTION.

CAMP AGAPE POOL BLDG



1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA
PERMIT SET - 2/18/26

Architect:
SYKES DESIGN, PLLC

Structural Engineer:
MARK S. ROY, P.E.

PM&E Engineer:
WILLIAM H. CLARK JR., P.E.

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NICHOLAS SYKES LICENSED ARCHITECT 17661 NORTH CAROLINA RALEIGH, NC
Signed by: Nicholas Sykes 000D07003BA4418...
SYKES DESIGN, PLLC REGISTERED ARCHITECTURAL COMPANY 54425 NORTH CAROLINA
2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

PROJECT NUMBER
224215

DATE
FEBRUARY 18, 2026

REVISIONS

TITLE SHEET

T001

RENOVATION / ADDITION POOL BUILDING FOR:

CAMP AGAPE

FUQUAY-VARINA, NORTH CAROLINA

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2 - FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: CAMP AGAPE - POOL BUILDING
Address: 1369 TYLER DEWAR LN   Zip Code: 27526

Owner/Authorized Agent: LEE LINDEMAN   Phone #: 919.552.9421
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☐ City ☒ County HARNETT ☐ State

CONTACT: ERICH WILKINSON

DESIGNER	FIRM	NAME	LICENSE #	PHONE #	E-MAIL
Architectural	WILKINSON DESIGN, PLLC	JIMMY NORWOOD, JR	7222	336.749.1514	N/A
Civil	N/A	N/A	N/A	N/A	N/A
Electrical	DIVERSIFIED CONSULTING GROUP	WILLIAM H. CLARK	10985	919.859.8183	N/A
Fire Alarm	N/A	N/A	N/A	N/A	N/A
Plumbing	DIVERSIFIED CONSULTING GROUP	WILLIAM H. CLARK	10985	919.859.8183	N/A
Mechanical	DIVERSIFIED CONSULTING GROUP	WILLIAM H. CLARK	10985	919.859.8183	N/A
Sprinkler-Standpipe	N/A	N/A	N/A	N/A	N/A
Structural	RPA ENHINEERING, P.A.	MARK S. ROY, PE	C-2734	252.321.6027	N/A
Retaining Walls > 5' High	N/A	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A	N/A

2018 NC BUILDING CODE: ☐ New Building ☐ Addition ☐ 1st Time Interior Completion ☐ Shell/Core ☐ Phased Construction - Shell / Core

2018 NC EXISTING BUILDING CODE: ☐ N/A ☐ Prescriptive ☐ Repair ☐ Chapter 14 ☐ Alteration Level I ☒ Alteration Level II ☐ Alteration Level III ☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) 1984   **CURRENT OCCUPANCY(S):** (Ch. 3) A-3 / S-1
RENOVATED: (date) N/A   **PROPOSED OCCUPANCY(S):** (Ch. 3) A-3 / S-1
OCCUPANCY CATEGORY: (Table 1604.5) II   **CURRENT** ☐ N/A ☐ I ☒ II ☐ III ☐ IV
PROPOSED ☐ N/A ☐ I ☒ II ☐ III ☐ IV

BASIC BUILDING DATA
Construction Type: ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☒ V-B
Sprinklers: ☐ N/A ☒ No ☐ Partial ☐ Yes ☐ N/A ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☐ N/A ☒ No ☐ Yes Class: ☐ I-Wet ☐ I-Dry ☐ II-Wet ☐ II-Dry ☐ III-Wet ☐ III-Dry
Primary Fire District: ☒ No ☐ Yes   **Flood Hazard Area:** ☒ No ☐ Yes
Special Inspections Required ☒ No ☐ Yes

GROSS BUILDING AREA:

FLOOR	EXISTING (SQ. FT.)	NEW (SQ. FT.)	SUB-TOTAL
1st Floor	1,200	346	1,546
TOTAL	1,200	346	1,546

ALLOWABLE AREA
Primary Occupancy Classification(s):
- Assembly ☐ A-1 ☐ A-2 ☒ A-3 ☐ A-4 ☐ A-5
- Business ☐
- Educational ☐ Factory ☐ F-1 ☐ F-2
- Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
- Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4 Condition: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Mercantile ☐
- Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
- Storage ☒ S-1 ☐ S-2 ☐ High-Piled ☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
- Utility and Miscellaneous ☐

Accessory Occupancy Classification(s):
- Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
- Business ☐
- Educational ☐
- Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
- Institutional ☐ I-1 ☐ I-2 ☐ I-3 Condition: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Mercantile ☐
- Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
- Storage ☐ S-1 ☐ S-2 ☐ High-Piled ☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
- Utility and Miscellaneous ☐

Incidental Uses: (Table 509)
- ☐ Furnace room where any piece of equipment is over 400,000 Btu per hour input
- ☐ Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
- ☐ Refrigerant machinery room
- ☐ Hydrogen fuel gas rooms, not classified as Group H
- ☐ Incinerator rooms
- ☐ Paint shops, not classified as Group H, located in occupancies other than Group F
- ☐ In Group E Occupancies, laboratories and vocational shops not classified as Group H
- ☐ In Group I-2 occupancies, laboratories not classified as Group H
- ☐ In ambulatory care facilities, laboratories not classified as Group H
- ☐ Laundry rooms over 100 square feet
- ☐ In Group I-2, laundry rooms over 100 square feet
- ☐ In Group I-2, laundries equal to or less than 100 square feet
- ☐ In Group I-2, commercial kitchens
- ☐ In Group I-2, rooms or spaces that contain fuel-fired heating equipment
- ☐ Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces
- ☐ In Group I-2, physical plant maintenance shops
- ☐ In ambulatory care facilities or Group I-2 occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater
- ☐ In other than ambulatory care facilities and Group I-2 occupancies, waste and linen collection rooms over 100 square feet
- ☐ In ambulatory care facilities or Group I-2 occupancies, storage rooms greater than 100 square feet
- ☐ Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power, or uninterruptable power supplies
- ☐ Fuel storage rooms in public schools and boiler rooms in public schools
- ☐ Storage rooms underneath grandstands or bleacher seats containing combustible or flammable materials

Special Uses: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427 ☐ 428 ☐ 429 ☐ 430
Special Provisions: ☐ 510.2 ☐ 510.3 ☐ 510.4 ☐ 510.5 ☐ 510.6 ☐ 510.7 ☐ 510.8 ☐ 510.9
Mixed Occupancy: ☐ No ☒ Yes   Separation: 2 Hr.   Exception:

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
1	S-1	175	9,000	N/A	9,000
Exterior Covered Area	A-3 pool deck	1,365	6,000	N/A	6,000

1 Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = N/A (F)
b. Total Building Perimeter = N/A (P)
c. Ratio (F/P) = 1.00 (F/P)
d. W = Minimum width of public way = 30 FT (W)
e. Percent of frontage increase I_f = 100 [F/P - 0.25] x W/30 = N/A (%)
2 Unlimited area applicable under conditions of Section 507.
3 Maximum Building Area = total number of stories in the building x D (506.2).
4 The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
5 Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	Feet = 40'-0"	15'-8"	TABLE 504.3
Building Height in Stories (Table 504.4)	Stories 1	1	TABLE 504.4

Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D by constr. type	RATING PROVIDED (W/____* REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0-HR					
Bearing Walls							
Exterior							
North	±30'-0"	N/A					
East	±30'-0"	N/A					
West	±30'-0"	N/A					
South	±30'-0"	N/A					
Interior walls		N/A					
Nonbearing Walls and Partitions							
Exterior							
North	±30'-0"	0-HR					
East	±30'-0"	0-HR					
West	±30'-0"	0-HR					
South	±30'-0"	0-HR					
Interior walls		0-HR					
Floor Construction Including supporting beams and joists		0-HR					
Floor Ceiling Assembly		0-HR					
Columns Supporting Floors		N/A					
Roof Construction Including supporting beams and joists		0-HR					
Roof Ceiling Assembly		1-HR	1-HR	C003	P522		
Columns Supporting Roof		0-HR					
Shaft Enclosures - Exit		0-HR					
Shaft Enclosures - Other		N/A					
Corridor Separation		0-HR					
Occupancy/Fire Barrier Separation		2-HR	2-HR	C002	U905 / U301		
Party/Fire Wall Separation		N/A					
Smoke Barrier Separation		N/A					
Smoke Partition		N/A					
Tenant/Dwelling Unit /Sleeping Unit Separation		0-HR					
Incidental Use Separation		N/A					

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS N/A

Fire Separation Distance (Feet) from Property Lines	Degree of Openings Protection (Table 705.8)	Allowable Area (%)	Actual Shown on Plans (%)
NORTH (+30'-0")	UNPROTECTED, NONSPRINKLED (UP,NS)	NO LIMIT	
SOUTH (+30'-0")	UNPROTECTED, NONSPRINKLED (UP,NS)	NO LIMIT	
EAST (+30'-0")	UNPROTECTED, NONSPRINKLED (UP,NS)	NO LIMIT	
WEST (+30'-0")	UNPROTECTED, NONSPRINKLED (UP,NS)	NO LIMIT	

LIFE SAFETY SYSTEM REQUIREMENTS
- Emergency Lighting: ☒ No ☐ Yes
- Exit Signs: ☒ No ☐ Yes
- Fire Alarm: ☒ No ☐ Yes
- Smoke Detection Systems: ☒ No ☐ Yes ☐ Partial
- Panic Hardware: ☐ No ☒ Yes

LIFE SAFETY SYSTEM REQUIREMENTS
Life Safety Plan Sheet #: C001
- ☐ 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)
- ☒ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☒ Occupant loads for each area
- ☒ Exit access travel distances (1017)
- ☒ Common path of travel distances (1006.2.1 & 1006.3.2(1))
- ☐ Dead end lengths (1020.4)
- ☐ Clear exit widths for each exit door
- ☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☐ 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
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress 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

ACCESSIBLE PARKING (SECTION 1106)

EXISTING PARKING IS NOT AFFECTED WITHIN SCOPE OF WORK

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED			ACCESS AISLE	TOTAL # OF ACCESSIBLE SPACES PROVIDED
TOTAL			--	--	--	--

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)
(FOR POOL BUILDING AND POOL AREA COMBINED)

USE	WATER CLOSETS MALE	WATER CLOSETS FEMALE	WATER CLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS / TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
EXISTING	0	0	0	0	0	0	0	0	0
REQUIRED	2	3	0	0	1	1	0	1	1
PROVIDED (SEE BELOW)	2	3	0	0	1	1	0	1	1

ADDITIONAL FIXTURE REQUIRMENTS
(POOL BUILDING + POOL AREA)

CRAFT ROOM:	26 PEOPLE				
POOL DECK AREA:	4,668 sqft				
DECK OCC LOAD:	312 PEOPLE	GROSS 15 SF/PERSON			
POOL AREA:	1,495 sqft				
POOL OCC LOAD:	30 PEOPLE	GROSS 50 SF/PERSON			
PUMP/CHEM:	1 PEOPLE				
GAURD / CONCESSIONS:	7 PEOPLE				
TOTAL OCCUPANTS:	376 PEOPLE	Deck Occ Load + Pool Occ Load + Craft Room + Gaurd / Concessions + Pump / Chem			
	188 PEOPLE	MALE WC:	2	MALE LAV:	1
	188 PEOPLE	FEMALE WC:	3	FEMALE LAV:	1
		2 DRINKING FOUNTAINS (1 REG. + 1 ADA HEIGHT) + 1 SERVICE SINK			

STRUCTURAL DESIGN
DESIGN LOADS:
Importance Factors: Wind (I_w) 120 mph; Snow (I_s) 1.0; Seismic (I_e) 1.0
Live Loads: Roof 20 psf; Mezzanine N/A psf; Floor 100 psf
Ground Snow Load: 15 psf
Wind Loads: Basic Wind Speed 120 mph (ASCE-7); Exposure Category C
SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☒ C ☐ D
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ I ☒ II ☐ III ☐ IV ☐ N/A
Spectral Response Acceleration Ss 17.8 %g S1 8.5 %g
Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F
Data Source: ☐ Field Test ☒ Presumptive ☐ Historical Data ☐ N/A
Basic structural system (check one)
☒ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ N/A ☐ Yes ☒ No
LATERAL DESIGN CONTROL: ☐ N/A ☐ Earthquake ☒ Wind
SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) 1500 psf
Presumptive Bearing capacity _ psf
Pile size, type, and capacity _
SPECIAL INSPECTIONS REQUIRED: ☐ Yes ☒ No

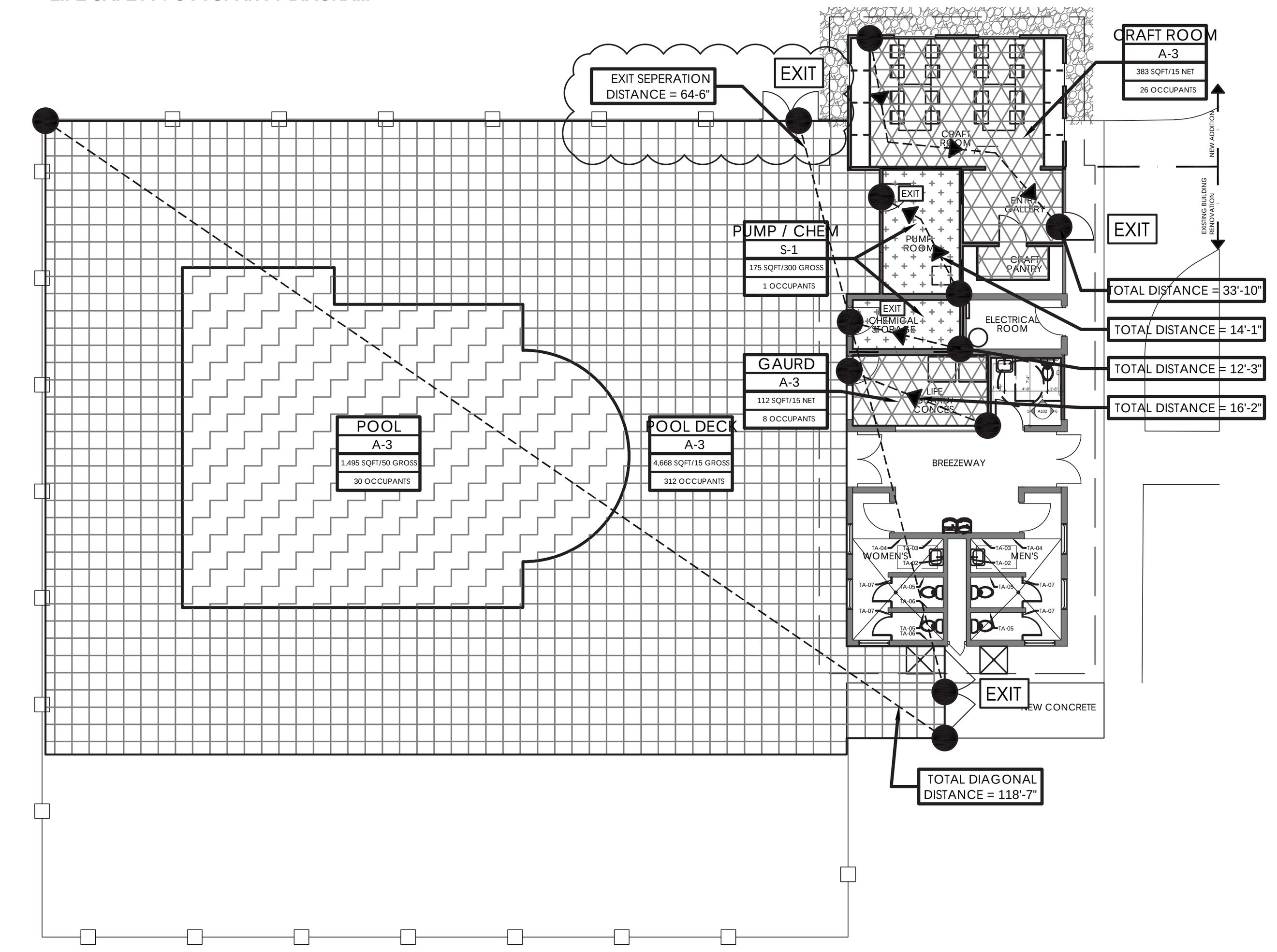
MECHANICAL DESIGN
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT:

REFERENCE ENGINEERING DRAWINGS

THERMAL ZONE:
INTERIOR DESIGN CONDITIONS: Winter dry bulb: --; Summer dry bulb: --; Relative Humidity: --
BUILDING HEATING LOAD: Winter dry bulb: --
BUILDING COOLING LOAD:
MECHANICAL SPACING
UNITARY: description of unit: --; heating efficiency: --; cooling efficiency: --; size category of unit: --
BOILER: Size cateory. if oversized, state reason: --
CHILLER: Size cateory. if oversized, state reason: --
LIST EQUIPMENT EFFICIENCIES: --

ELECTRICAL DESIGN
ELECTRICAL SYSTEM AND EQUIPMENT
METHOD OF COMPLIANCE: ENERGY CODE: ☒ Performance ☐ Prescriptive; ASHRAE 90.1: ☐ Performance ☐ Prescriptive
LIGHTING SCHEDULE:
REFERENCE ELECTRICAL DRAWINGS FOR THE FULL LIGHT FIXTURE SCHEDULE AND DETAILS
ADDITIONAL EFFICIENCY PACKAGE OPTIONS
- ☐ 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

LIFE SAFETY / OCCUPANCY DIAGRAM



BUILDING OCCUPANCY USE GROUP OR SPACE DESCRIPTION		OCCUPANCY TYPE	(A) AREA SQ. FT.	(B) AREA PER OCCUPANT (TABLE 1003.2.2.2)	(C) OCCUPANTS (A / B) = C
FIRST FLOOR					
	PUMP ROOM / CHEMICAL STORAGE	S-1	175	300 GROSS	1
	POOL DECK	A-3	4,668	15 GROSS	312
	POOL	A-3	1,495	50 GROSS	30
	CRAFT ROOM	A-3	383	15 NET	26
	GUARD/CONCESSIONS ROOM	A-3	112	15 NET	8
				TOTAL OCCUPANTS =	377

WALL ASSEMBLY LEGEND
- DEMO — DEMO WALL: WALL TO BE REMOVED DURING DEMO PHASE OF CONSTRUCTION.
- W1 — NEW EXTERIOR WALL: 1/2" GYP PAINTED OVER 3 1/2" WOOD STUD W/ R-15 BATT INSULATION WITH EXTERIOR SHEATHING, SEE EXTERIOR ELEVATIONS FOR FINISH MATERIAL
- W2 — NEW EXTERIOR WALL: 1/2" GYP PAINTED ON BOTH SIDES OVER 3 1/2" WOOD STUD , SEE FINISH PLAN
- EX — EXISTING WALL: EXISTING WALL TO REMAIN DURING CONSTRUCTION. NEW FINISH BASED ON FINISH PLAN
- RATED WALL: 2-HOUR SEPARATION PER UL LISTING U301 / U905

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NICHOLAS SYKES LICENSED ARCHITECT 17661 NORTH CAROLINA RALEIGH, NC
Signed by: Nicholas Sykes 060B076039A4418...
SYKES DESIGN, PLLC REGISTERED ARCHITECTURAL COMPANY 54425 NORTH CAROLINA
2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

PROJECT NUMBER
224215
DATE
FEBRUARY 18, 2026
REVISIONS
1. 2/23/26 - CITY COMMENTS

BUILDING CODE SUMMARY POOL BUILDING

C001

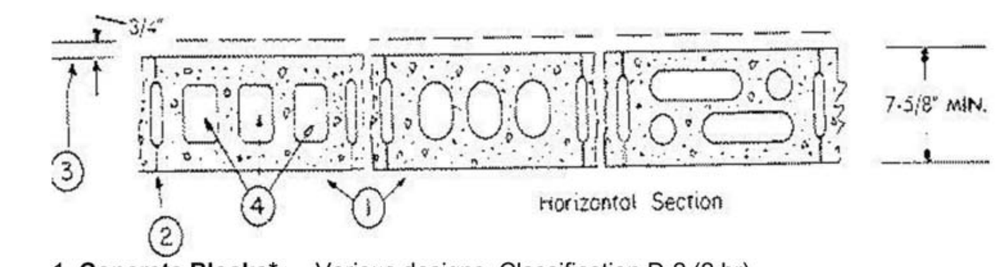
Design No. U905
February 18, 2019

Bearing Wall Rating — 2 HR.

Nonbearing Wall Rating — 2 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Concrete Blocks*** — Various designs. Classification D-2 (2 hr).
See **Concrete Blocks** category for list of eligible manufacturers.

2. **Mortar** — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. **Portland Cement Stucco or Gypsum Plaster** — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

4. **Loose Masonry Fill** — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

5. **Foamed Plastic*** — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation", "EnergyShield Pro 2 Wall Insulation", EnergyShield CGF Pro and EnergyShield Ply Pro

CARLISLE COATINGS & WATERPROOFING INC — Type R2+ SHEATHE

FIRESTONE BUILDING PRODUCTS CO L L C — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"

HUNTER PANELS — Types Xci-Class A, Xci 286

RMAX OPERATING L L C — Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath", "Thermasheath-3", "Durasheath-3".

THE DOW CHEMICAL CO — Types Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP) and TUFF-R™ ci Insulation

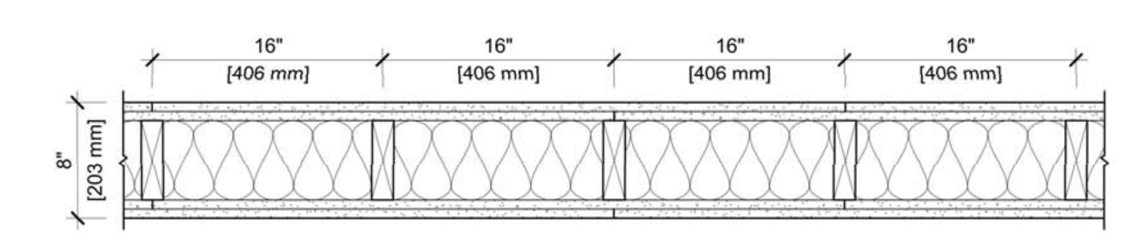
5A. **Building Units** — As an alternate to Items 5, min. 1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.
RMAX OPERATING L L C — "Thermasheath-SI", "ECOBASEci", "ThermaBase-CI", "ECOMAXci FR Ply", "ECOMAXci Ply".

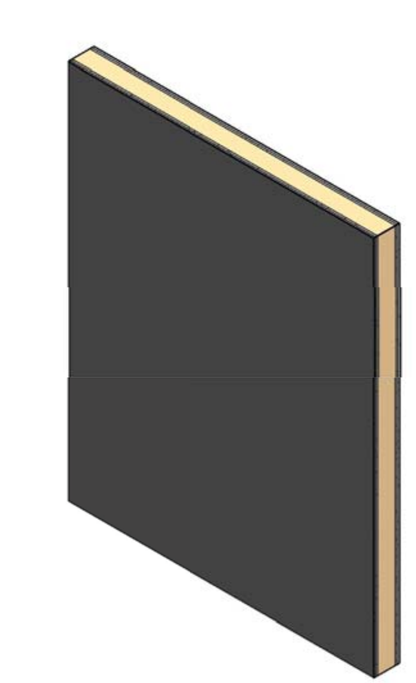
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2019-02-18

DESIGN NO. UL U301

FIRE RATING:	2 HOURS
STC RATING:	40
SOUND TEST:	USG-161206
SYSTEM THICKNESS:	8" [203 MM]
LOCATION:	INTERIOR
FRAMING TYPE:	WOOD STUD (LOAD-BEARING)





ASSEMBLY REQUIREMENTS:

GYPSUM PANELS:	TWO LAYERS 5/8" [15.9 MM] SHEETROCK® ECOSMART GYPSUM PANEL (UL TYPE ULIX™)
WOOD STUDS:	2" X 6" [38 X 140 MM] WOOD STUDS, 16" [406 MM] O.C.
INSULATION:	5-1/2" [140 MM] FIBERGLASS INSULATION
GYPSUM PANELS:	TWO LAYERS 5/8" [15.9 MM] SHEETROCK® ECOSMART GYPSUM PANEL (UL TYPE ULIX™)

GENERAL WALL NOTES:

1. REFER TO APPLICABLE CODES REQUIREMENTS TO ENSURE COMPLIANCE PRIOR TO CONSTRUCTION.
2. FOR THE MOST UP-TO-DATE DETAILS, INCLUDING CONSTRUCTION VARIATIONS, REFER TO THE PUBLISHED DESIGN.
3. WHERE DESIGN NO. INDICATES "PER", THE FIRE RATING IS BASED ON LABORATORY TEST DATA OF THE REFERENCED SIMILARLY CONSTRUCTED ASSEMBLIES.
4. STUD SIZES AND INSULATION THICKNESS ARE MINIMUM UNLESS OTHERWISE STATED IN THE PUBLISHED ASSEMBLY.
5. STUD AND FASTENER SPACINGS ARE MAXIMUM UNLESS OTHERWISE STATED IN THE PUBLISHED ASSEMBLY.
6. PANEL ORIENTATION SHALL BE AS SPECIFIED IN THE PUBLISHED DESIGN.
7. FIRE-RATINGS ARE FROM BOTH SIDES UNLESS OTHERWISE STATED.
8. FIRE-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, INCREASE STUD MATERIAL THICKNESS, DECREASE STUD SPACING, DECREASE FASTENER SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH.
9. WHERE ACOUSTICAL PERFORMANCE IS PROVIDED IN AN ESTIMATED RANGE, THE VALUES ARE BASED ON LABORATORY TEST DATA OF SIMILARLY CONSTRUCTED ASSEMBLIES.
10. SOUND-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, DECREASE STUD MATERIAL THICKNESS, INCREASE STUD SPACING, INCREASE FASTENER SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH. MODIFICATIONS MUST NOT EXCEED LIMITATIONS OF FIRE RATING.

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UL U301

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Signed by: Nicholas Sykes

SYKES DESIGN, PLLC REGISTERED ARCHITECTURAL CORPORATION 54425 NORTH CAROLINA

2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:

CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

PROJECT NUMBER
224215

DATE
FEBRUARY 18, 2026

REVISIONS

UL LISTINGS

C002

Design No. P522

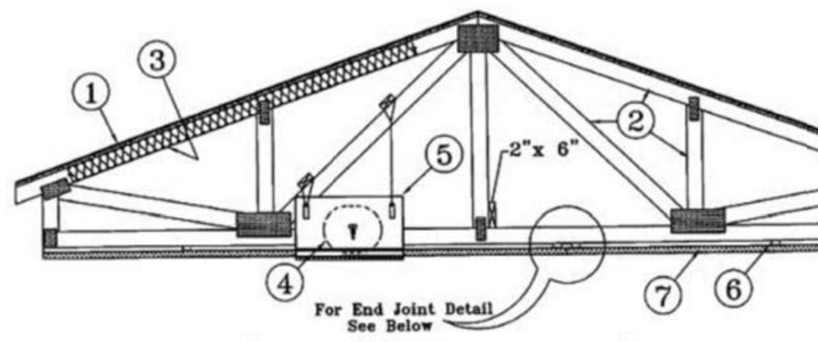
May 05, 2020

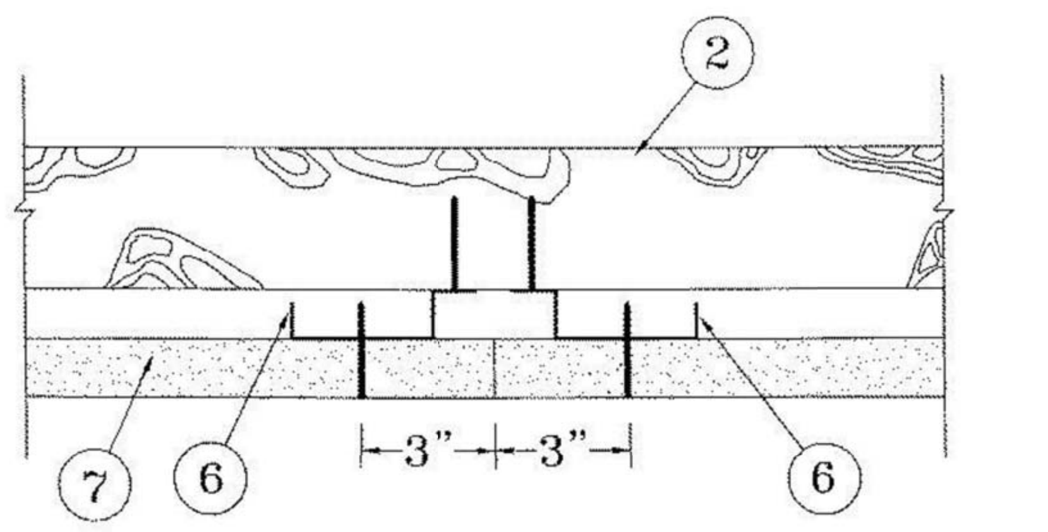
Unrestrained Assembly Rating — 1 Hr

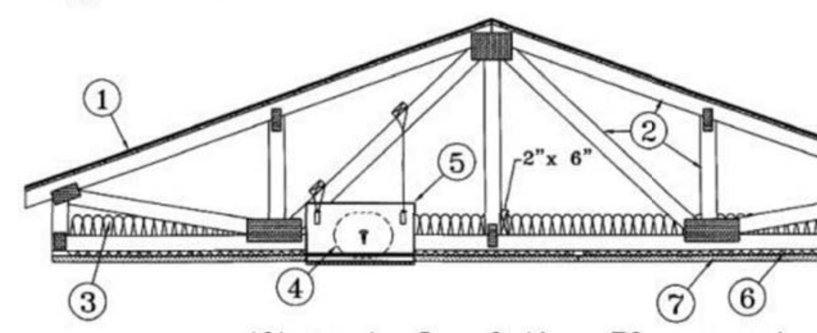
Finish Rating — 25 Min (See Items 3 or 3A)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**







Alternate Insulation Placement

1. **Roofing System* —** Any UL Class A, B or C Roofing System (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive may be used with either the nails or staples.

2. **Trusses —** Pitched or parallel chord wood trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with min. 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. area in the plane of the truss of 21 sq/ft. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. **Batts and Blankets* —** (Optional) — Required when Item 6B is used — Glass fiber insulation, secured to the wood structural panels with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. When **Steel Framing Members** (Item 6B) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ba) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Bd). The finished rating has only been determined when the insulation is secured to the decking.

3A. **Fiber, Sprayed* —** As an alternate to Item 3 (not evaluated for use with Item 6B) — Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft³, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft³ over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft³ behind netting (Item 9) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.

U S GREENFIBER L L C — INS735, INS745, INS750LD, and SANCTUARY for use with wet or dry application. INS510LD, INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only.

3B. **Foamed Plastic* —** (As an alternate to Item 3 or 3A, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
SES FOAM INC — Sucraseal

3C. **Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* —** (As described above) in Items 3 and 3A — (For Use with Item 7B, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6G)/gypsum board (Item 7B) ceiling membrane.

3D. **Foamed Plastic* —** (As alternate to Item 3, 3A, or 3B, Not Shown) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ or 2.0 lb/ft³ density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
BASF CORP — Enertite® NM, Enertite® G, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, and Walltite® HP+

3E. **Foamed Plastic* —** (As an alternate to Item 3, 3A, 3B, 3C, or 3D, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
SES FOAM INC — EasySeal.5

3F. **Foamed Plastic* —** (As alternate to Item 3 - not to be used in combination with any alternates to item 3) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 11 in. at a nominal 1.0 lb/ft³ - 2.5 lb/ft³ density, while maintaining a minimum 7 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board spaced maximum 3 in. away from gypsum butt joints. Gypsum board to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Only for use with item 6 not evaluated for use with alternates to item 6.
CARLISLE SPRAY FOAM INSULATION — SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim, and SealTite Pro One Zero.

4. **Air Duct* —** Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

5. **Ceiling Damper* —** Max nom area, 324 sq in. Max square size, 18 in. by 18 in. rectangular sizes not to exceed 324 sq in. with a max width of 18 in. Max damper height is 14 in. Installed in accordance with manufacturers installation instructions provided with the damper. Max damper openings not to exceed 162 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS — Model RD-521

POTTORFF — Model CFD-521

5A. **Alternate Ceiling Damper* —** Max nom area, 196 sq in. Max square size, 14 in. by 14 in. Rectangular sizes not to exceed 196 sq in. with a max width of 26 in. Max overall damper height is 7 in. Installed in accordance with the manufacturers installation instructions provided with the damper. Max damper openings not to exceed 98 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS — Model RD-521-BT

POTTORFF — Model CFD-521-BT.

5B. **Alternate Ceiling Damper* —** Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Model RD-521-IP, RD-521-NP

POTTORFF — Models CFD-521-IP, CFD-521-NP

5C. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturers installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Models CRD2, GBR-CRD, ITG-CRD

5D. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SIG-CRD

5E. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses. Max nom area shall be 144 sq in. with the length not to exceed 14 in. and the width not to exceed 12 in. Max height of damper shall be 17-7/8 in. Aggregate damper openings shall not exceed 74 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Model RD-521-90, RD-521-NP90

POTTORFF — Models CFD-521-90, CFD-521-90NP

5F. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SMT-CRD

5G. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA — Model PC-RD05C5

5H. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDFUWT

5I. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Models RDJ1 and RDH

5J. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDMWT

5K. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDMWT2

6. **Furring Channels —** Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the trusses (Item 2), spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed spaced, or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane, or when insulation (Item 3B, 3D or 3E) is applied to the underside of the roofing system (Item 1). Two courses of resilient channel positioned 6 in. OC at wallboard butt-joints (3 in. from each end of wallboard). Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 4 in. beneath wood trusses. Channels secured to each truss with 1-1/4 in. long Type S screws.

6A. **Steel Framing Members* —** (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to trusses when no insulation (Items 3 or 3A) is fitted in the concealed space or 12 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane or 24 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane and a second layer of gypsum board is attached as described in Item 7 for steel framing members. Channels secured to trusses as described in Item 6Ab. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.

b. **Steel Framing Members —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 by 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 by 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item 6Aa. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

6B. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 and 6A.

a. **Furring Channels —** Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Bb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 3. Two layers of gypsum board attached to furring channels as described in Item 7.

b. **Cold Rolled Channels —** 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Bd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking —** Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Bd) location.

d. **Steel Framing Members* —** Hangers spaced 48 in. OC. max along truss, and secured to the Blocking (Item 6Bc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.
KINETICS NOISE CONTROL INC — Type ICW.

6C. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6, 6A and 6B.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep installed perpendicular to wood structural members. Channels spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space. Channels secured to trusses as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (24 in. OC) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PLITEQ INC — Type Genie Clip

6D. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6, 6A, 6B and 6C.

a. **Main runners —** Installed perpendicular to trusses — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft OC. Main runners hung a min of 2 in. from bottom chord of trusses with 12 SWG galv steel wire. Wires located a max of 48 in. OC.

b. **Cross tees or channels —** Nom 4 ft long, 15/16 in. or 1-1/2 in. wide face or cross channels, nom 4 ft long, 1-1/2 wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or channels used at 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.

c. **Wall angles or channels —** Used to support steel framing member ends and for screw-attachment of the gypsum wallboard — Min 0.016 in. thick painted or galvanized steel angle with 1 in. legs or min. 0.016 in. thick painted or galvanized steel channel with a 1 by 1-1/2 by 1 in. profile, attached to walls at perimeter of ceiling with fasteners 16 in. OC.
CGC INC — Type DGL or RX

USG INTERIORS LLC — Type DGL or RX

6E. **Alternate Steel Framing Members* —** (Not Shown) — As an alternate to items 6, 6A, 6B, and 6C, furring channels and Steel Framing Members as described below.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6F. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 through 6E- Not for use with Items 3 or 3A. Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.
USG INTERIORS LLC — Type DGL or RX

6G. **Resilient Channels —** For Use With Item 7B - Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 3C is applied over the resilient channel/gypsum panel ceiling membrane.

6H. **Alternate Steel Framing Members* —** (Not Shown) — As an alternate to items 6 through 6G, furring channels and Steel Framing Members as described below.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
REGUPOL AMERICA — Type SonusClip

7. **Gypsum Board* —** One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to trusses. Attached to the resilient channels using 1 in. long Type S bugle-head screws. Screws spaced a max of 12 in. OC along butted end-joints and in the field when no insulation (Item 3 or 3A) is fitted in the concealed spaced, or a max of 8 in. OC along butted end-joints and in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane. When insulation (Item 3B, 3D or 3E) is installed in the concealed space, spray-applied to the underside of the roofing system (Item 1), screws are spaced a max of 8 in. OC along resilient channels, fasteners are increased in length to 1-1/4 in, and gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels.
When **Steel Framing Members*** (Item 6A or 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located beneath trusses. Gypsum board screws are driven through channel spaced 12 in. OC in the field when no insulation (Item 3 or 3A) is fitted in the concealed space, or 8 in. OC in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the wallboard plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the trusses with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC. Second (outer) layer of gypsum board required when furring channels (Item 6A, a) are spaced 24 in. OC and insulation is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Outer layer of gypsum board attached to the furring channels using 1-5/8 in. long Type S bugle-head screws spaced 8 in. OC at butted joints and 12 in. OC in the field. Butted end joints of outer layer to be offset a minimum of 8 in. from base layer end joints. Butted side joints of outer layer to be offset minimum 18 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6B) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ba). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6C) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 72 in. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end, spaced approximately 2 in. in from joint. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Butt joint furring channels shall be attached with a RESILMOUNT Sound Isolation Clip secured to underside of every truss that is located over the butt joint. Over all Gypsum Board side joints, approximately 20 in. lengths of furring channel shall be installed parallel to trusses (Item 2) between main furring channels. Side joint furring channels shall be attached to underside of the joist with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of the approximate 20 in. length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

When **Steel Framing Members** (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.

When alternate **Steel Framing Members*** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip with hold down clips to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.

When **Steel Framing Members** (Item 6H) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonusClip at every truss involved with the butt joint.

CGC INC — Types C, IP-X2, IPC-AR

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

7A. **Gypsum Board* —** For use with Steel Framing Members (Item 6D) when Batts and Blankets* (Item 3) are not used - One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to the main runners. Gypsum board fastened to each cross tee or channel with five wallboard screws, with one screw located at the midspan of the cross tee or channel, one screw located 12 in. from and on each side of the cross tee or channel mid span and one screw located 1-1/2 in. from each gypsum board side joint. Except at wallboard end joints, wallboard screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum board screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with wallboard screws 1/2 in. from side joints, midway between intersections with cross tees or channels (16 in. OC). End joints of adjacent gypsum board sheets shall be staggered not less than 32 in. Gypsum board sheets screw attached to leg of wall angle with wallboard screws spaced 12 in. OC. Joints treated as described in Item 7. For use with **Steel Framing Members*** (Item 6D) when **Batts and Blankets*** (Item 3) are used - Ratings limited to 1 Hour - 5/8 in. thick, 4 ft wide; installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.
CGC INC — Type C or IP-X2

UNITED STATES GYPSUM CO — Type C or IP-X2

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C or IP-X2

7B. **Gypsum Board* —** For use with Items 3C and 6G. Nom 5/8 in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Finish Rating with this ceiling system is 20 min.
CGC INC — Type ULIX

UNITED STATES GYPSUM CO — Type ULIX

8. **Finishing System —** (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board. **Alternate Ceiling Membrane** — Not Shown.

9. **Netting —** Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2020-05-05

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NICHOLAS SYKES LICENSED ARCHITECT 17661 NORTH CAROLINA RALEIGH, NC

Signed by: Nicholas Sykes

SYKES DESIGN, PLLC 54425 NORTH CAROLINA

2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:

CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

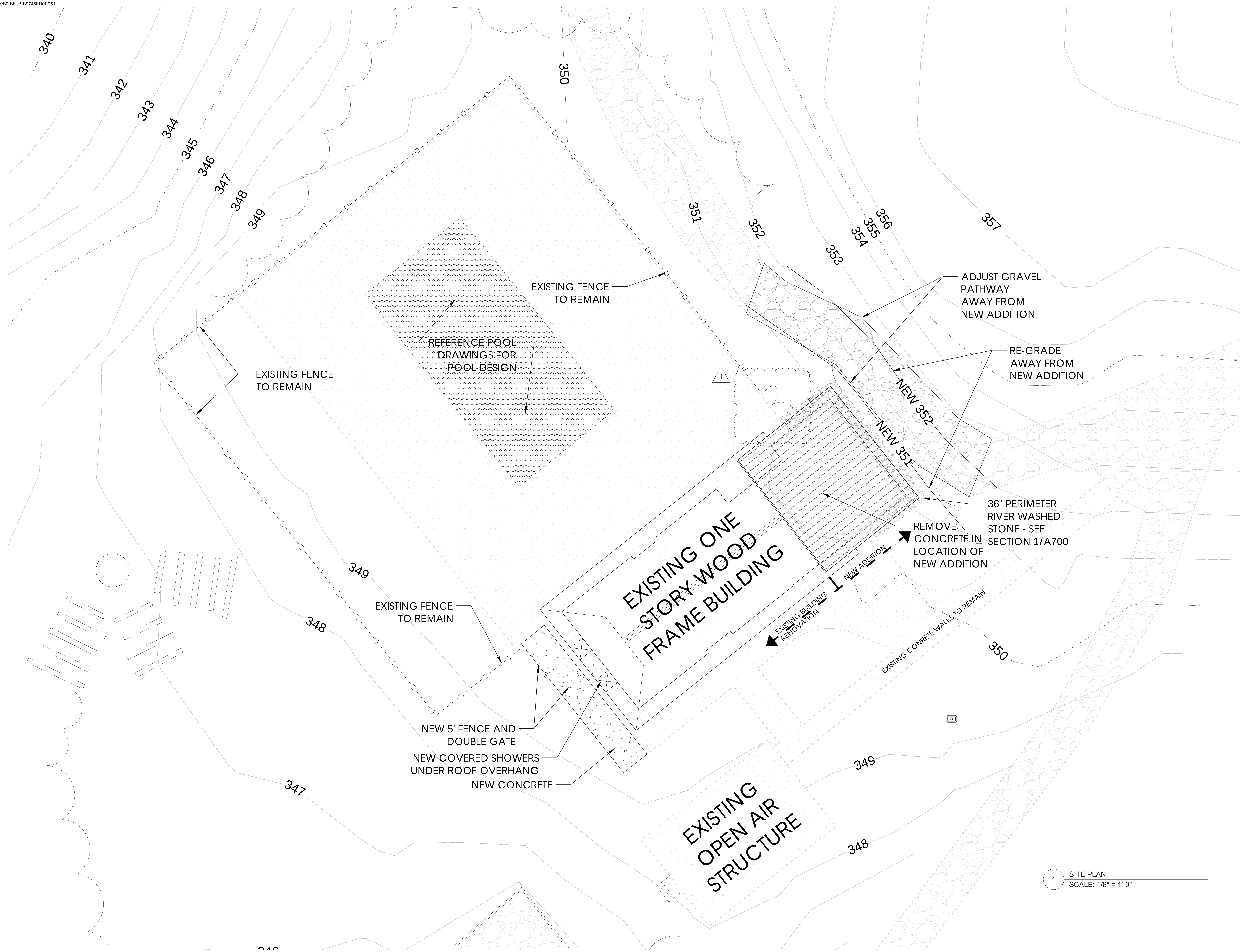
PROJECT NUMBER
224215

DATE
FEBRUARY 18, 2026

REVISIONS

UL LISTINGS

C003



1 SITE PLAN
SCALE: 1/8" = 1'-0"

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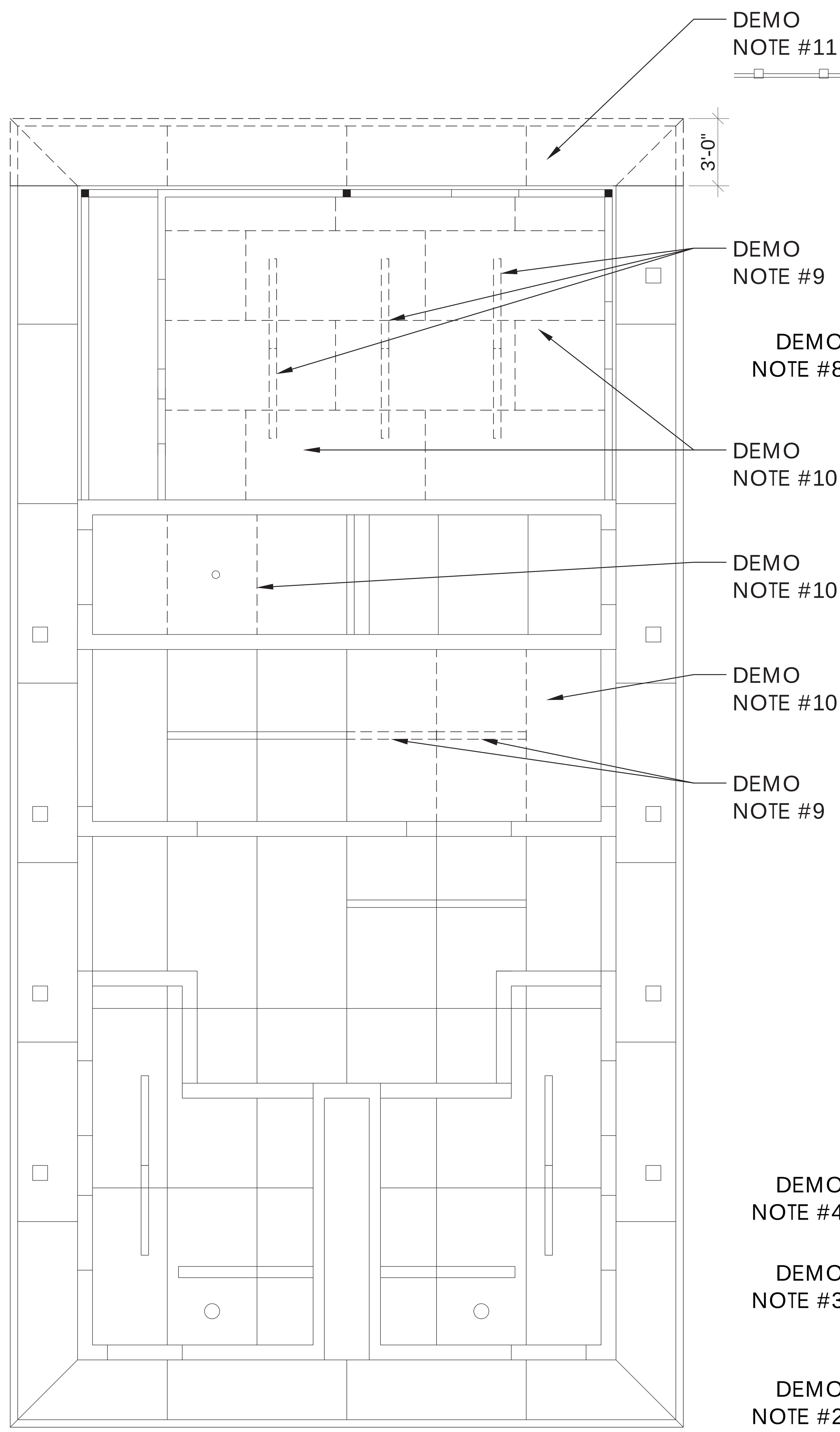
REVISIONS

1. 2/23/26 - CITY COMMENTS

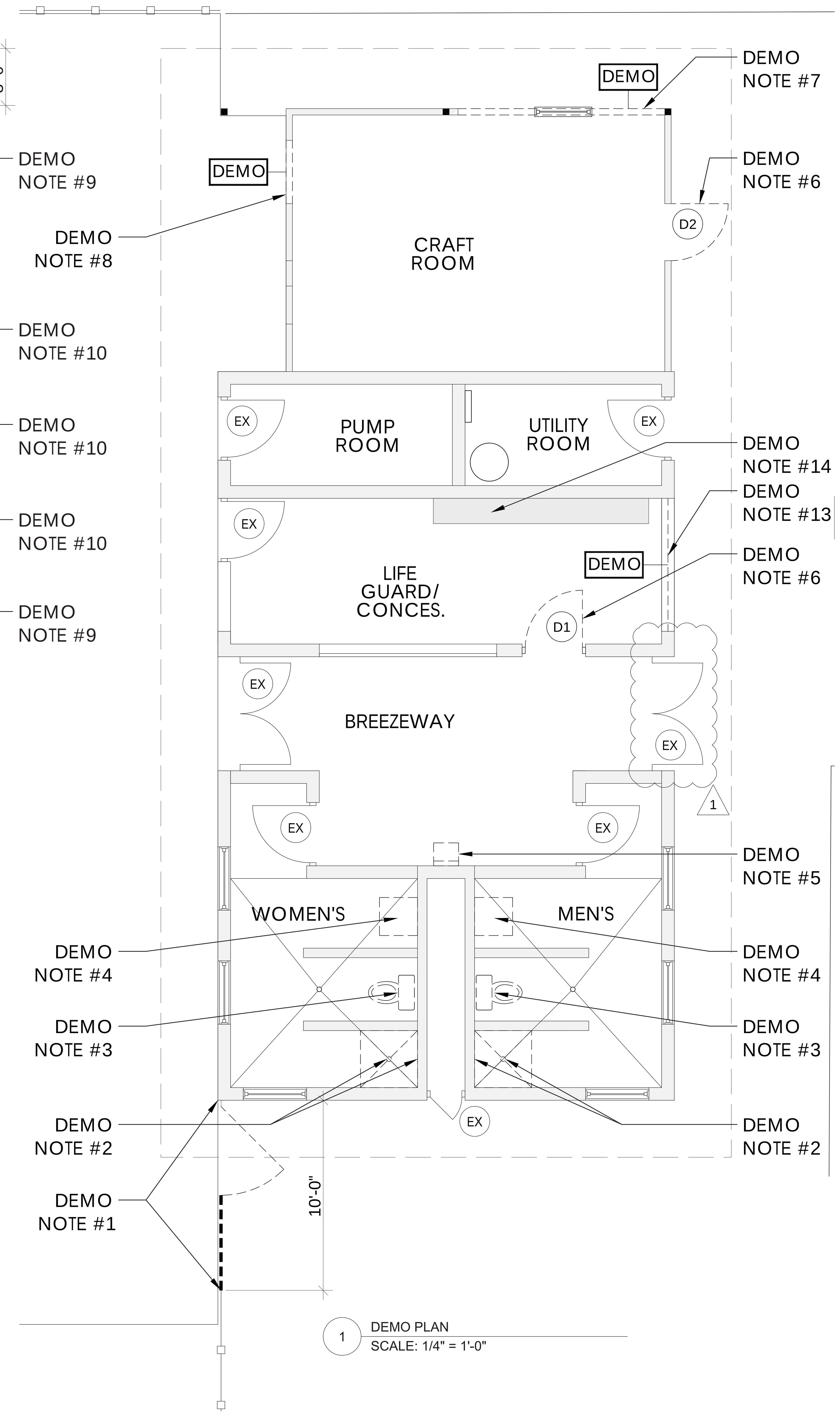
ARCHITECTURAL SITE PLAN

A100

1 DEMO ROOF PLAN
SCALE: 1/4" = 1'-0"



1 DEMO RCP
SCALE: 1/4" = 1'-0"



1 DEMO PLAN
SCALE: 1/4" = 1'-0"

DEMO NOTES:

1. REMOVE SECTION OF GATE AND FENCE, SEE FLOOR PLAN FOR NEW GATE CONFIGURATION
2. REMOVE SHOWER WALL FIXTURES, GC TO REMOVE OR ABANDON EXISTING SHOWER DRAIN UNDER NEW TOILET. SEE PLUMBING DWGS
3. REPLACE EXISTING TOILET WITH NEW FIXTURE SEE PLUMBING DWGS
4. REPLACE EXISTING SINK WITH NEW FIXTURE
5. REMOVE EXISTING WATER FOUNTAIN AND PREP WALL AND PLUMBING FOR NEW WATER COOLER
6. REMOVE DOOR AND FRAME AND PREP WALL OPENING FOR NEW DOOR AND JAMB.
7. REMOVAL OF WALL AND WINDOW, GC TO EVALUATE FRAMING INSIDE THE WALL TO INSTALL NEW STUD FRAMING FOR NEW CASED OPENING
8. REMOVE SECTION OF WALL FOR NEW DOOR AND FRAME OPENING INTO NEW PUMP ROOM
9. REMOVE EXISTING LIGHT FIXTURE AND WIRE ASSOCIATED WITH THE SPECIFIC DEVICE. SEE ELECTRICAL DWGS
10. REMOVE EXISTING CEILING MATERIAL AND PREP FOR NEW MATERIAL, SEE RCP
11. DEMO EXISTING SOFFIT AND INSTALL NEW FASCIA BOARD WHERE EXPOSED WITH NEW ADDITION FRAMING
12. REMOVE EXISTING SHINGLES AND ROOFING FABRIC DOWN TO THE ROOF SHEATHING.
13. REMOVE EXISTING OPENING HATCH AND PREP OPENING FOR NEW INFILL STUD FRAMING WITH PERIMETER ADHESIVE TAPE FLASHING
14. CUT CONCRETE FOR NEW PLUMBING, SEE PLUMBING DRAWINGS

SYMBOLS LEGEND

#	DOOR/FRAME LOCATION TYPICAL 4" WALL OFFSET FROM FACE OF STUD TO DOOR OPENING @ HINGE SIDE OF DOOR UNLESS OTHERWISE NOTED - SEE DOOR SCHEDULE
#	DOOR AND FRAME TO BE REMOVED DURING DEMO PHASE
A	VINYL WINDOWS - ELEVATIONS ON A600
	ALIGN FINISH MATERIALS
FE	WALL MOUNTED FIRE-EXTINGUISHER GC TO COORDINATE FINAL LOCATION IN FIELD W/ FIRE MARSHALL.
P#	SYMBOL DESIGNATES PHOTO LOCATION FOR DEMO PLANS
EX	"EX" DENOTES EXISTING TO REMAIN, REFERENCE FINISH PLAN FOR NEW FINISHES

WALL ASSEMBLY LEGEND

DEMO	DEMO WALL: WALL TO BE REMOVED DURING DEMO PHASE OF CONSTRUCTION.
W1	NEW EXTERIOR WALL: 1/2" GYP PAINTED OVER 3 1/2" WOOD STUD W/ R-15 BATT INSULATION WITH EXTERIOR SHEATHING, SEE EXTERIOR ELEVATIONS FOR FINISH MATERIAL
W2	NEW EXTERIOR WALL: 1/2" GYP PAINTED ON BOTH SIDES OVER 3 1/2" WOOD STUD , SEE FINISH PLAN
EX	EXISTING WALL: EXISTING WALL TO REMAIN DURING CONSTRUCTION. NEW FINISH BASED ON FINISH PLAN
	RATED WALL: 2-HOUR SEPARATION PER UL LISTING U301 / U905

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RENOVATION / ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
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DATE
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REVISIONS
1. 2/23/26 - CITY COMMENTS

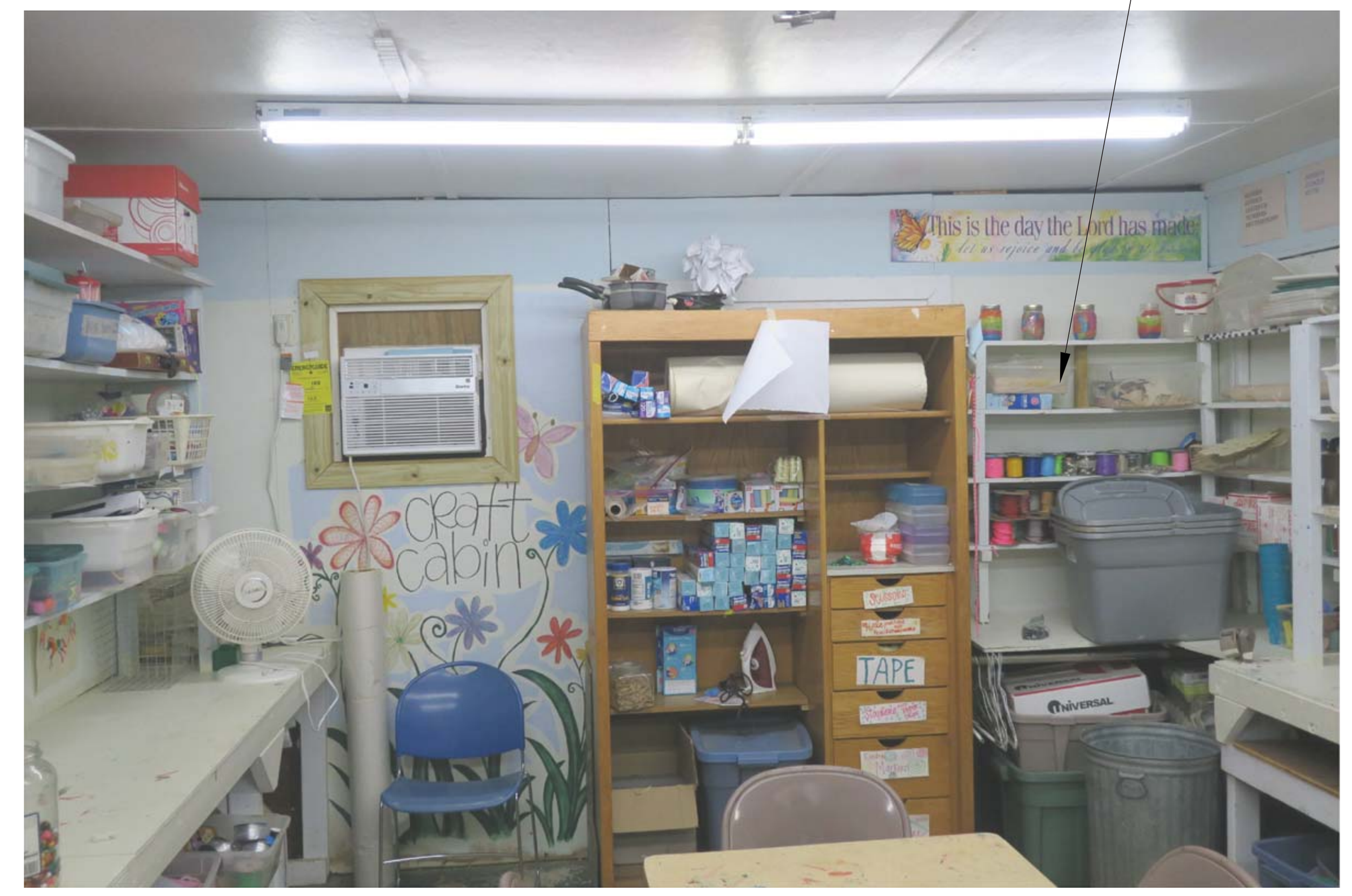
DEMO
PLAN

A101

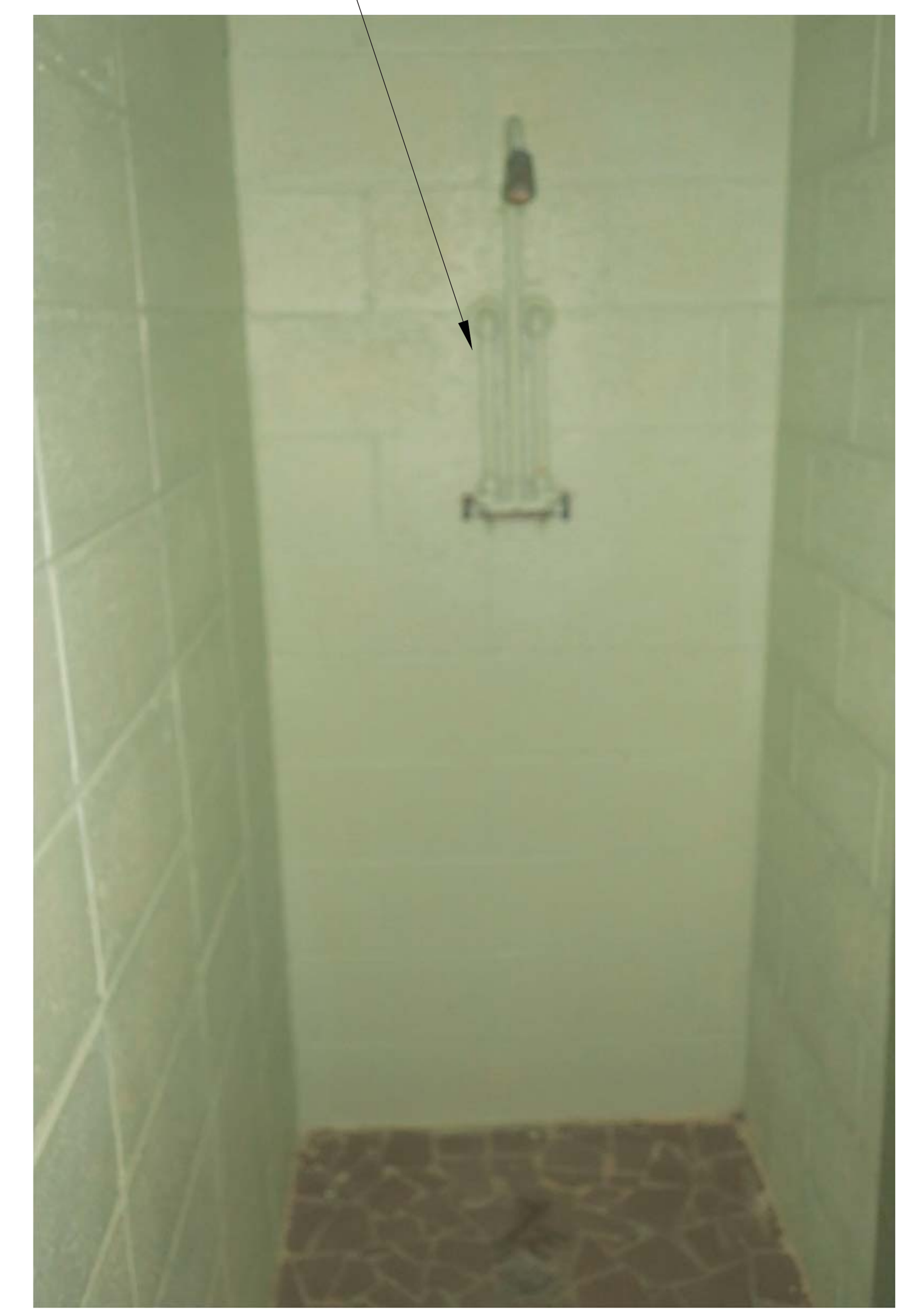
DEMO NOTE #13

DEMO NOTE #7

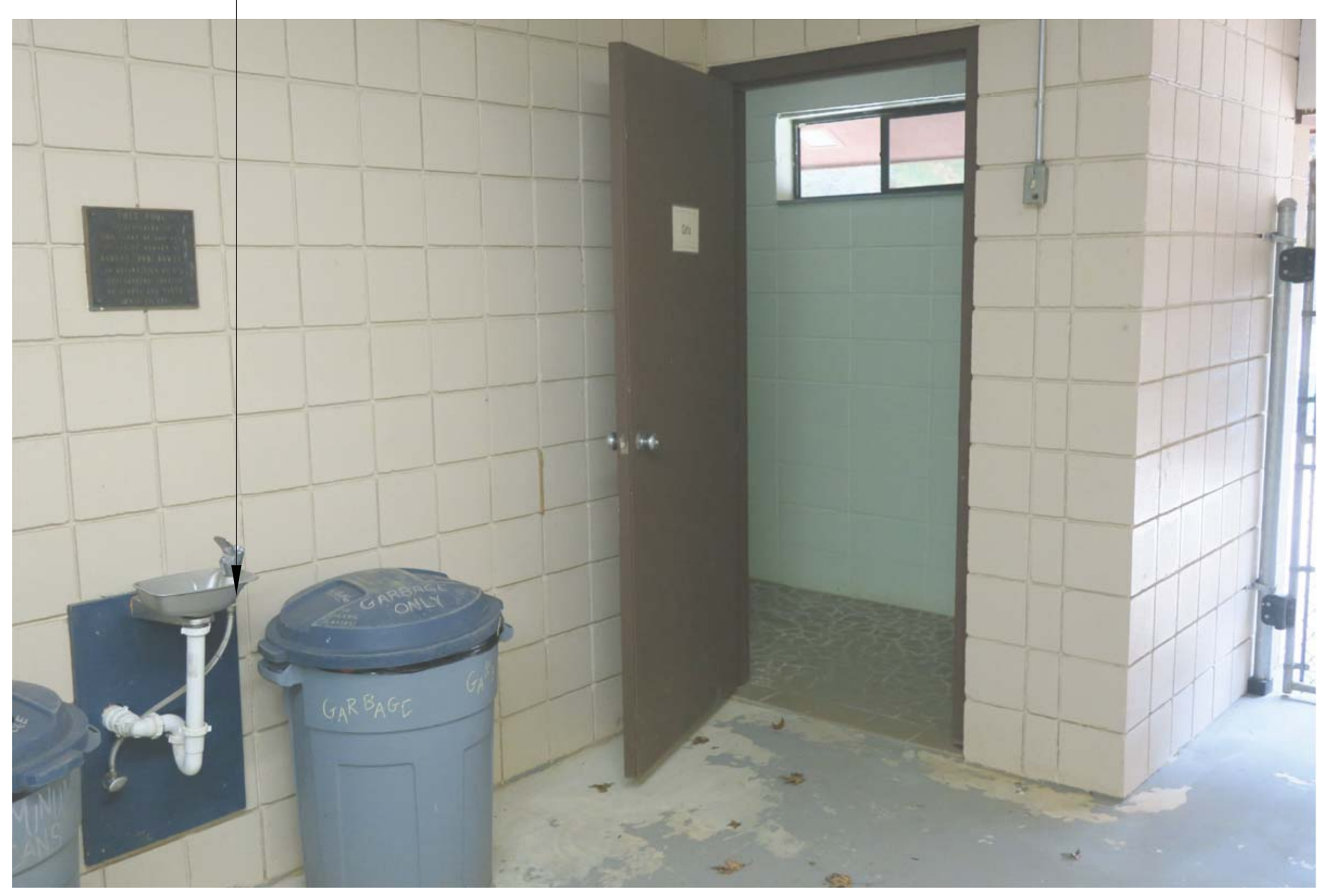
DEMO NOTE #8



DEMO NOTE #2



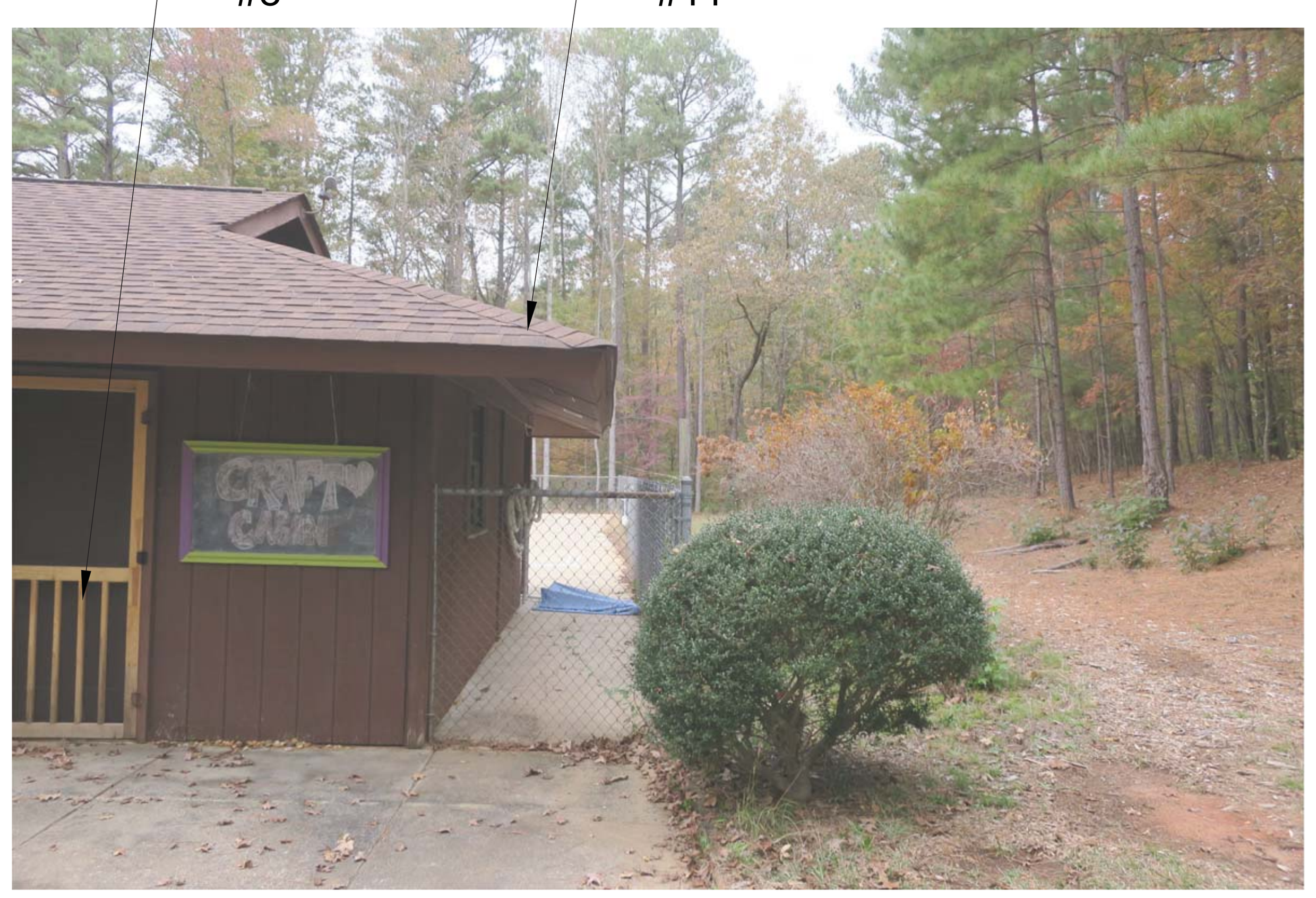
DEMO NOTE #5



DEMO NOTE #1 DEMO NOTE #11

DEMO NOTE #12 DEMO NOTE #8

DEMO NOTE #8 DEMO NOTE #11



DEMO NOTE #11 DEMO NOTE #12

DEMO NOTE #11 DEMO NOTE #12

DEMO NOTES:

1. REMOVE SECTION OF GATE AND FENCE, SEE FLOOR PLAN FOR NEW GATE CONFIGURATION
2. REMOVE SHOWER WALL FIXTURES, GC TO REMOVE OR ABANDON EXISTING SHOWER DRAIN UNDER NEW TOILET. SEE PLUMBING DWGS
3. REPLACE EXISTING TOILET WITH NEW FIXTURE SEE PLUMBING DWGS
4. REPLACE EXISTING SINK WITH NEW FIXTURE
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7. REMOVAL OF WALL AND WINDOW, GC TO EVALUATE FRAMING INSIDE THE WALL TO INSTALL NEW STUD FRAMING FOR NEW CASED OPENING
8. REMOVE SECTION OF WALL FOR NEW DOOR AND FRAME OPENING INTO NEW PUMP ROOM
9. REMOVE EXISTING LIGHT FIXTURE AND WIRE ASSOCIATED WITH THE SPECIFIC DEVICE. SEE ELECTRICAL DWGS
10. REMOVE EXISTING CEILING MATERIAL AND PREP FOR NEW MATERIAL, SEE RCP
11. DEMO EXISTING SOFFIT AND INSTALL NEW FASCIA BOARD WHERE EXPOSED WITH NEW ADDITION FRAMING
12. REMOVE EXISTING SHINGLES AND ROOFING FABRIC DOWN TO THE ROOF SHEATHING.
13. REMOVE EXISTING OPENING HATCH AND PREP OPENING FOR NEW INFILL STUD FRAMING WITH PERIMETER ADHESIVE TAPE FLASHING
14. CUT CONCRETE FOR NEW PLUMBING, SEE PLUMBING DRAWINGS

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2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

PROJECT NUMBER
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DATE
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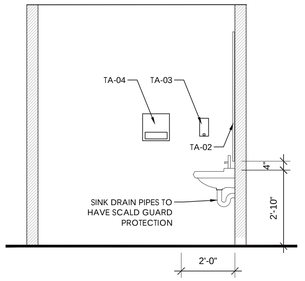
REVISIONS

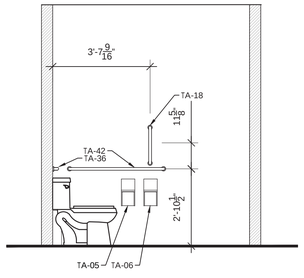
DEMO

PHOTOS

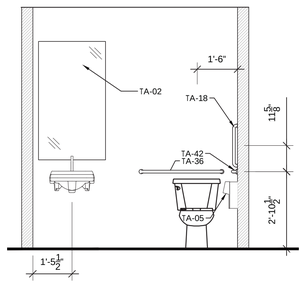
A101a



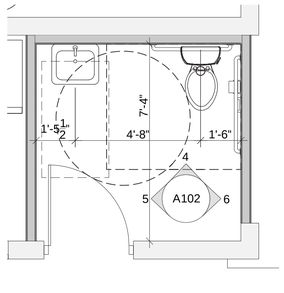
5 ELEVATION - ENLARGED BATHROOM
SCALE: 1/4" = 1'-0"



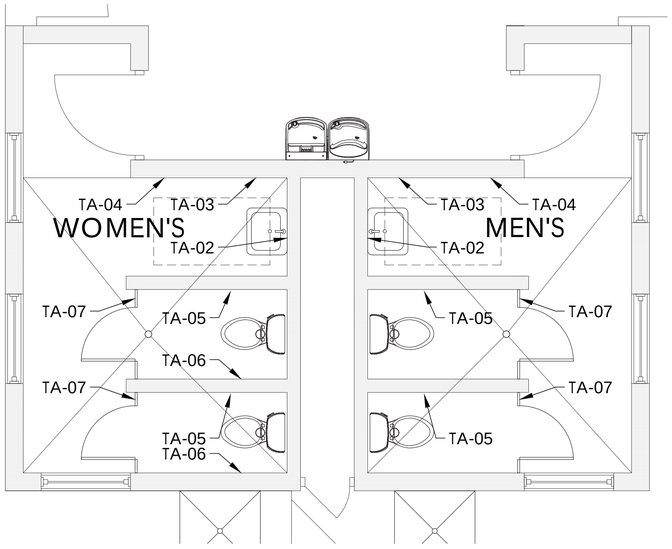
6 ELEVATION - ENLARGED BATHROOM
SCALE: 1/4" = 1'-0"



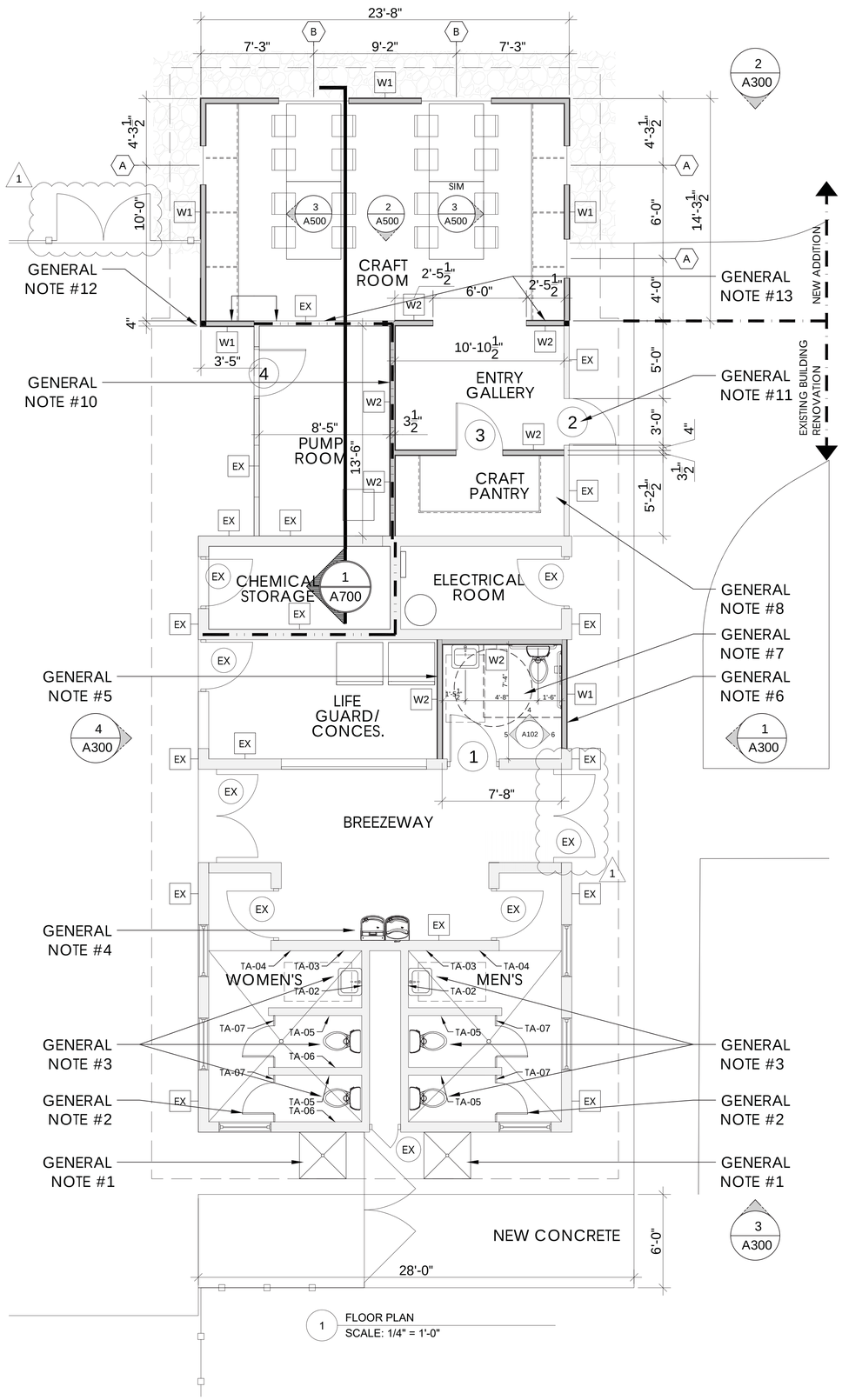
4 ELEVATION - ENLARGED BATHROOM
SCALE: 1/4" = 1'-0"



3 FLOOR PLAN - ENLARGED BATHROOM
SCALE: 1/4" = 1'-0"



2 FLOOR PLAN - ENLARGED BATHROOM
SCALE: 1/4" = 1'-0"



1 FLOOR PLAN
SCALE: 1/4" = 1'-0"

TOILET ACCESSORIES:

TA-01	FRAMELESS MIRROR	-N/A
TA-02	CHANNEL FRAMED MIRROR	ASI-0620 24" x 36"
TA-03	SOAP DISPENSER	ASI-0347
TA-04	WALL MOUNTED PAPER TOWEL	ASI-0210
TA-05	SURFACE MOUNTED TOILET TISSUE DISPENSER	ASI-0030 -
TA-06	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL	ASI-0473-A -
TA-7	HDPE RESTROOM PARTITION	SOLID PLASTIC - PEBBLE GRAINED - CHARCOAL 9237 24" DOORS
TA-18	GRAB BAR - 18" VERTICAL	
TA-36	GRAB BAR - 36" HORIZONTAL	
TA-42	GRAB BAR - 42" HORIZONTAL	

**NOTE: ALL TOILET ACCESSORIES TO BE BRUSHED STAINLESS*
**NOTE: GC MUST SUBMIT PRODUCT DATA/CUTSHEETS TO ARCHITECT AND OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.*
**NOTE: ALL DIMENSIONS TAKEN FROM FINISH FACE OF SHEET ROCK.*
**NOTE: ENLARGED TOILET ROOM AREA PLAN SHOWN FOR IDENTIFICATION OF TOILET ACCESSORIES AND PLAN CLEARANCES ONLY; REFER TO FLOOR PLANS FOR ADDITIONAL DIMENSIONS*
**NOTE: BASIS OF DESIGN IS AMERICAN SPECIALTIES, INC.*

GENERAL NOTES:

1. NEW EXTERIOR SHOWERS WITH NEW FLOOR DRAINS AND SHOWER RECEPTACLES.
2. NEW BATHROOM PARTITIONS WITH 2' DOORS.
3. NEW WATER CLOSETS AND NEW WALL MOUNTED SINK AND MIRROR IN BOTH RESTROOMS.
4. NEW HI/LOW (ELKAY) WITH WATER BOTTLE FILLER ATTACHMENT.
5. DENOTES NEW WALLS (3.5" WOOD STUDS)
6. NEW INFILL WALL WITHIN EXISTING OPENING (3.5" WOOD STUDS)
7. NEW UNISEX RESTROOM - THIS RESTROOM WILL BE COUNTED TOWARDS THE WOMEN'S RESTROOM COUNT, BUT WILL BE NOTED TO BE UNISEX AND ACCESSIBLE.

   WATER CLOSET
   REQUIREMENTS: MALE - 2 | WOMEN - 3
8. NEW CRAFT PANTRY TO HAVE BUILT IN SHELVING AND STORAGE
9. NOT USED
10. NEW WALL BUILT TO BOTTOM SIDE OF EXISTING ROOF STRUCTURE
11. NEW DOORS HAVE DOOR NUMBERS, EXISTING DOORS TO REMAIN: EX
    DOOR #1: 3-0x7-0 SOLID PANEL DOOR
    DOOR #2: 3-0x6-8 POCKET DOOR
    DOOR #3: 3-0x6-8 FULL LITE DOOR
    DOOR #4: 3-0x6-8 SOLID PANEL DOOR
12. SEE EXTERIOR ELEVATIONS FOR WINDOWS ABOVE THE CUT LINE.
13. GC TO EVALUATE WALL STUDS DURING DEMO TO KEEP FRAMING AND REPLACE SHEATHING WITH GYP BOARD OR FRAME NEW WALL

SYMBOLS LEGEND

- DOOR/FRAME LOCATION TYPICAL 4" WALL OFFSET FROM FACE OF STUD TO DOOR OPENING @ HINGE SIDE OF DOOR UNLESS OTHERWISE NOTED - SEE DOOR SCHEDULE
- DOOR AND FRAME TO BE REMOVED DURING DEMO PHASE
- VINYL WINDOWS - ELEVATIONS ON A600
- ALIGN FINISH MATERIALS
- WALL MOUNTED FIRE-EXTINGUISHER GC TO COORDINATE FINAL LOCATION IN FIELD W/ FIRE MARSHALL.
- SYMBOL DESIGNATES PHOTO LOCATION FOR DEMO PLANS
- EX — "EX" DENOTES EXISTING TO REMAIN, REFERENCE FINISH PLAN FOR NEW FINISHES

WALL ASSEMBLY LEGEND

- DEMO — DEMO WALL: WALL TO BE REMOVED DURING DEMO PHASE OF CONSTRUCTION.
- W1 — NEW EXTERIOR WALL: 1/2" GYP PAINTED OVER 3 1/2" WOOD STUD W/ R-15 BATT INSULATION WITH EXTERIOR SHEATHING, SEE EXTERIOR ELEVATIONS FOR FINISH MATERIAL
- W2 — NEW EXTERIOR WALL: 1/2" GYP PAINTED ON BOTH SIDES OVER 3 1/2" WOOD STUD , SEE FINISH PLAN
- EX — EXISTING WALL: EXISTING WALL TO REMAIN DURING CONSTRUCTION. NEW FINISH BASED ON FINISH PLAN
- RATED WALL: 2-HOUR SEPARATION PER UL LISTING U301 / U905

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NICHOLAS SYKES LICENSED ARCHITECT 17661 NORTH CAROLINA RALEIGH, NC
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SYKES DESIGN, PLLC REGISTERED ARCHITECTURAL COMPANY 54425 NORTH CAROLINA
2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:

CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

PROJECT NUMBER
224215

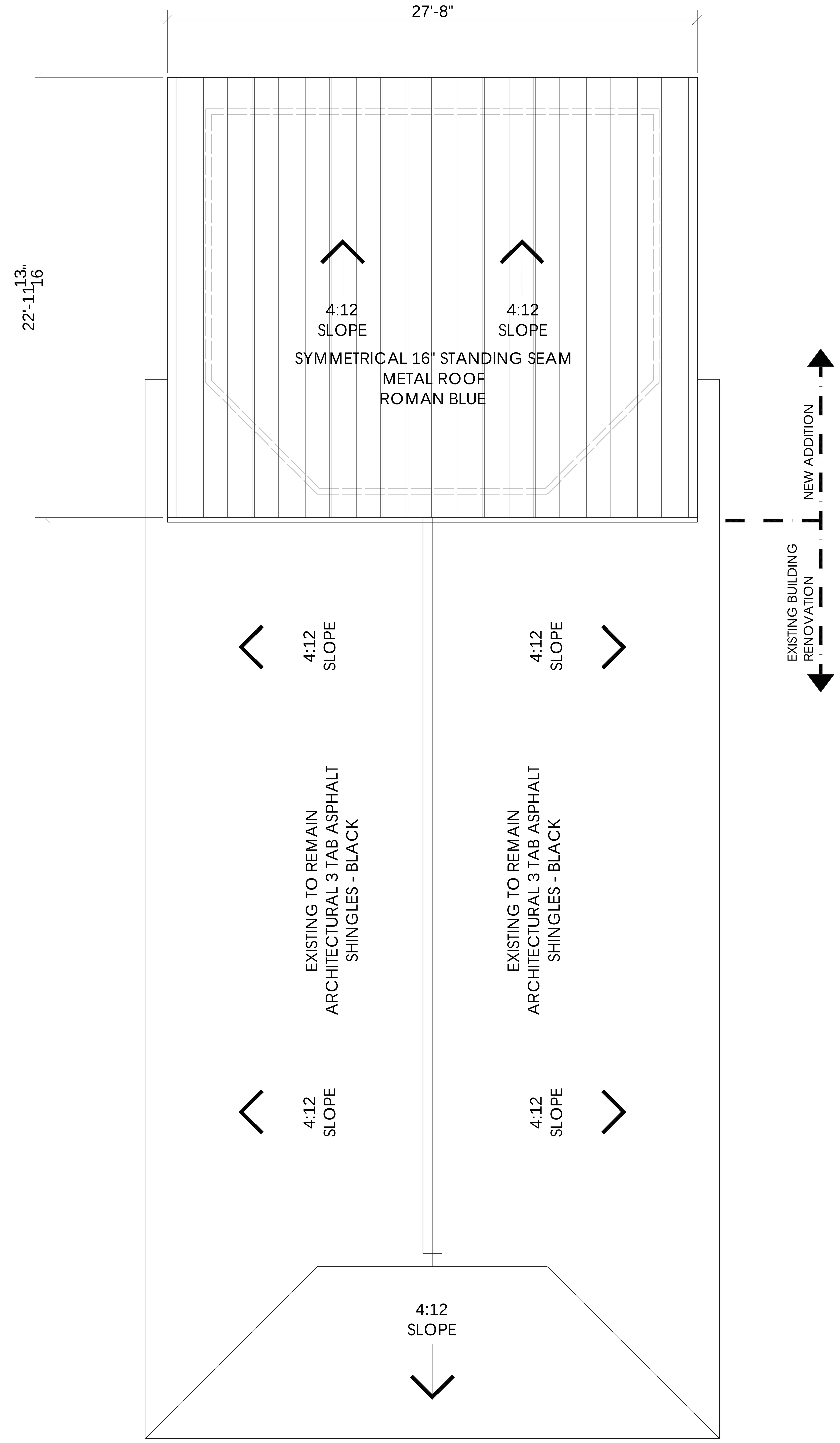
DATE
FEBRUARY 18, 2026

REVISIONS

1. 2/23/26 - CITY COMMENTS

FLOOR PLAN

A102



1 ROOF PLAN
SCALE: 1/4" = 1'-0"

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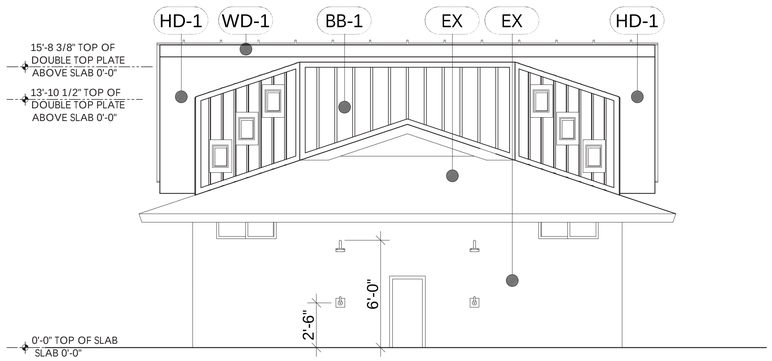
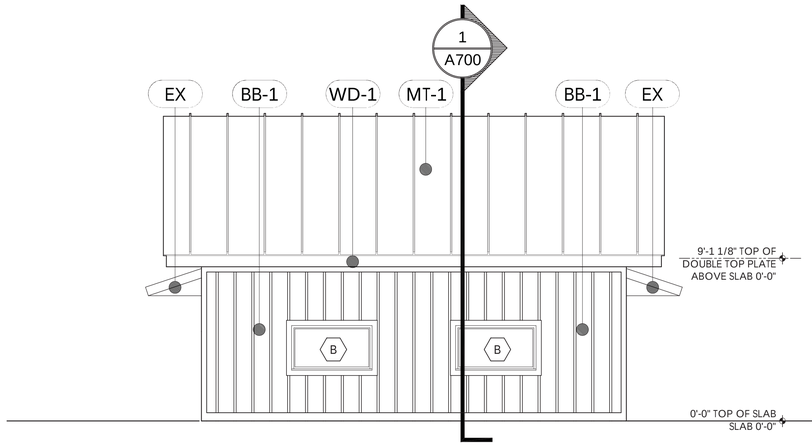
ROOF
PLAN

A200

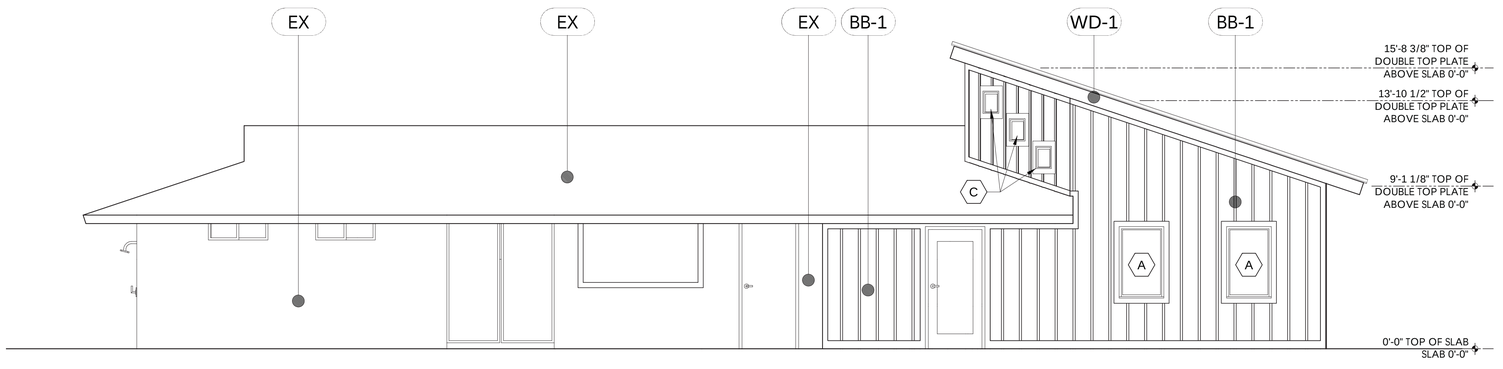
4 REAR ELEVATION
SCALE: 1/4" = 1'-0"



2 LEFT ELEVATION
SCALE: 1/4" = 1'-0"



3 RIGHT ELEVATION
SCALE: 1/4" = 1'-0"



1 FRONT ELEVATION
SCALE: 1/4" = 1'-0"

ELEVATION FINISH LEGEND

EX	EXISTING FINISH TO REMAIN
BB-1	JAMES HARDIE SMOOTH BOARD 4'x10' WITH VERTICAL 2 1/2" EVERY 12" PAINT:
WD-1	EXTERIOR TRIM BOARD PAINT:
MT-1	SYMMETRICAL 16" STANDING SEAM METAL ROOF ROMAN BLUE
HD-1	JAMES HARDIE SMOOTH BOARD WITH CAULKED JOINTS PAINT:

SYMBOLS LEGEND

#	DOOR/FRAME LOCATION TYPICAL 4" WALL OFFSET FROM FACE OF STUD TO DOOR OPENING @ HINGE SIDE OF DOOR UNLESS OTHERWISE NOTED - SEE DOOR SCHEDULE
#	DOOR AND FRAME TO BE REMOVED DURING DEMO PHASE
A	VINYL WINDOWS - ELEVATIONS ON A600
	ALIGN FINISH MATERIALS
FE	WALL MOUNTED FIRE-EXTINGUISHER GC TO COORDINATE FINAL LOCATION IN FIELD W/ FIRE MARSHALL.
P#	SYMBOL DESIGNATES PHOTO LOCATION FOR DEMO PLANS
EX	"EX" DENOTES EXISTING TO REMAIN, REFERENCE FINISH PLAN FOR NEW FINISHES

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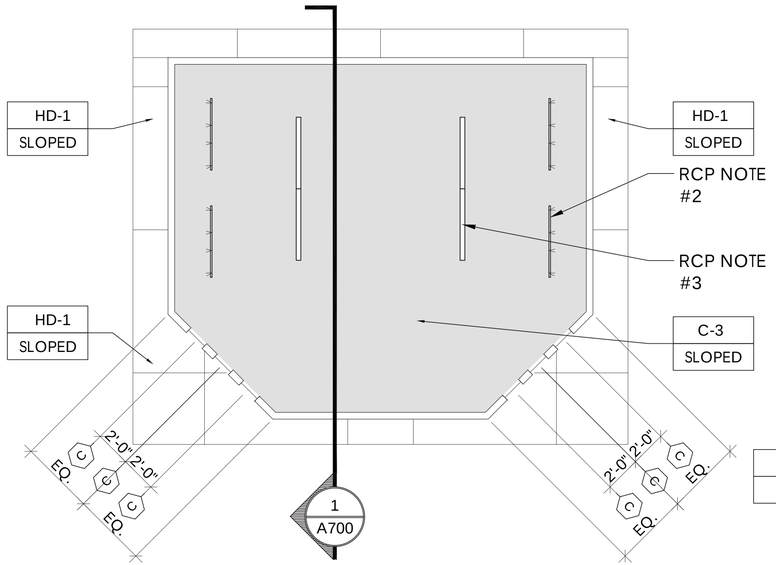
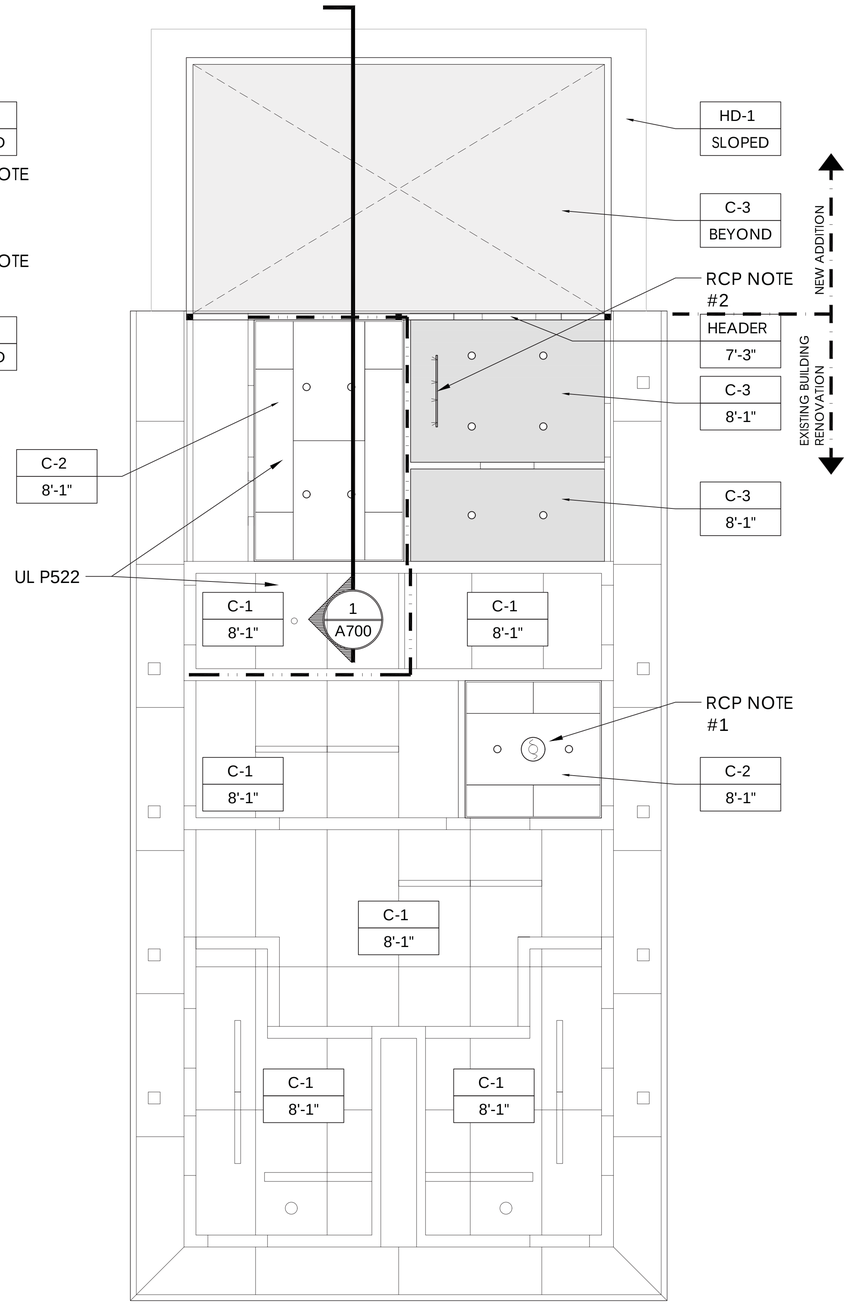
EXTERIOR ELEVATIONS

A300



2 UPPER REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



1 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

RCP NOTES:

1. NEW EXHAUST FAN CUT INTO CEILING AND INSTALLED THROUGH ROOF WITH FLASHING SEE ENGINEERING DWGS
2. TRACK LIGHTING FIXTURE INSTALLED 18" AWAY FROM THE WALL FOR SPOT LIGHTING ONTO FUTURE ART WORK DISPLAY - SEE ELECTRICAL DWGS
3. SUSPENDED LIGHT FIXTURES TO BE INSTALLED 8'-6" ABOVE FINISH FLOOR, CENTERED ON WINDOWS AND DESKS. SEE ELECTRICAL DWGS
4. ALL CEILINGS TO BE PAINTED P-3 U.N.O.

CEILING LEGEND:

C-1
PRODUCT: EXISTING TO REMAIN PLYWOOD 1/2" WITH TRIM MOLDING TO MATCH EXISTING
COLOR: REPAINT P-3
SIZE: 4'x8'

C-2
PRODUCT: NEW A/C PLYWOOD 1/2" WITH TRIM MOLDING TO MATCH EXISTING
COLOR: PAINT P-3
SIZE: 4'x8'

C-3
PRODUCT: GYP BOARD
MANUF.: USG OR EQUAL
COLOR: PAINT P-3 (NO CEILING TRIM MOLDING, MUD/TAPE JOINTS)

HD-1
PRODUCT: (HD-1) HARDIE SMOOTH BOARD (SOFFIT)
MANUF.: JAMES HARDIE
COLOR: PAINT P-4
SIZE: 4'x8'

WALL ASSEMBLY LEGEND

DEMO WALL: WALL TO BE REMOVED DURING DEMO PHASE OF CONSTRUCTION.

W1
NEW EXTERIOR WALL: 1/2" GYP PAINTED OVER 3 1/2" WOOD STUD W/ R-15 BATT INSULATION WITH EXTERIOR SHEATHING, SEE EXTERIOR ELEVATIONS FOR FINISH MATERIAL

W2
NEW EXTERIOR WALL: 1/2" GYP PAINTED ON BOTH SIDES OVER 3 1/2" WOOD STUD , SEE FINISH PLAN

EX
EXISTING WALL: EXISTING WALL TO REMAIN DURING CONSTRUCTION. NEW FINISH BASED ON FINISH PLAN

RATED WALL: 2-HOUR SEPARATION PER UL LISTING U301 / U905

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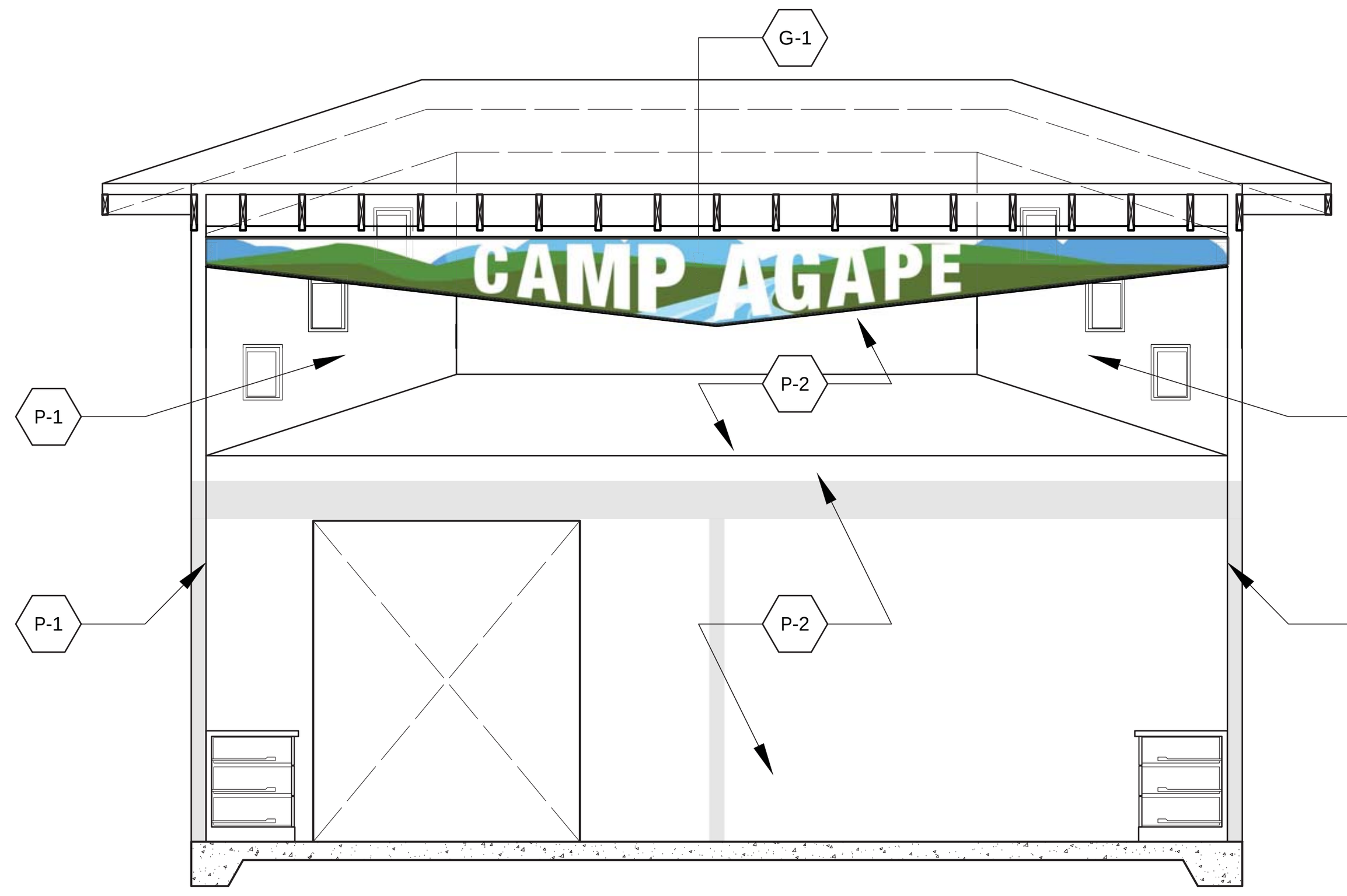
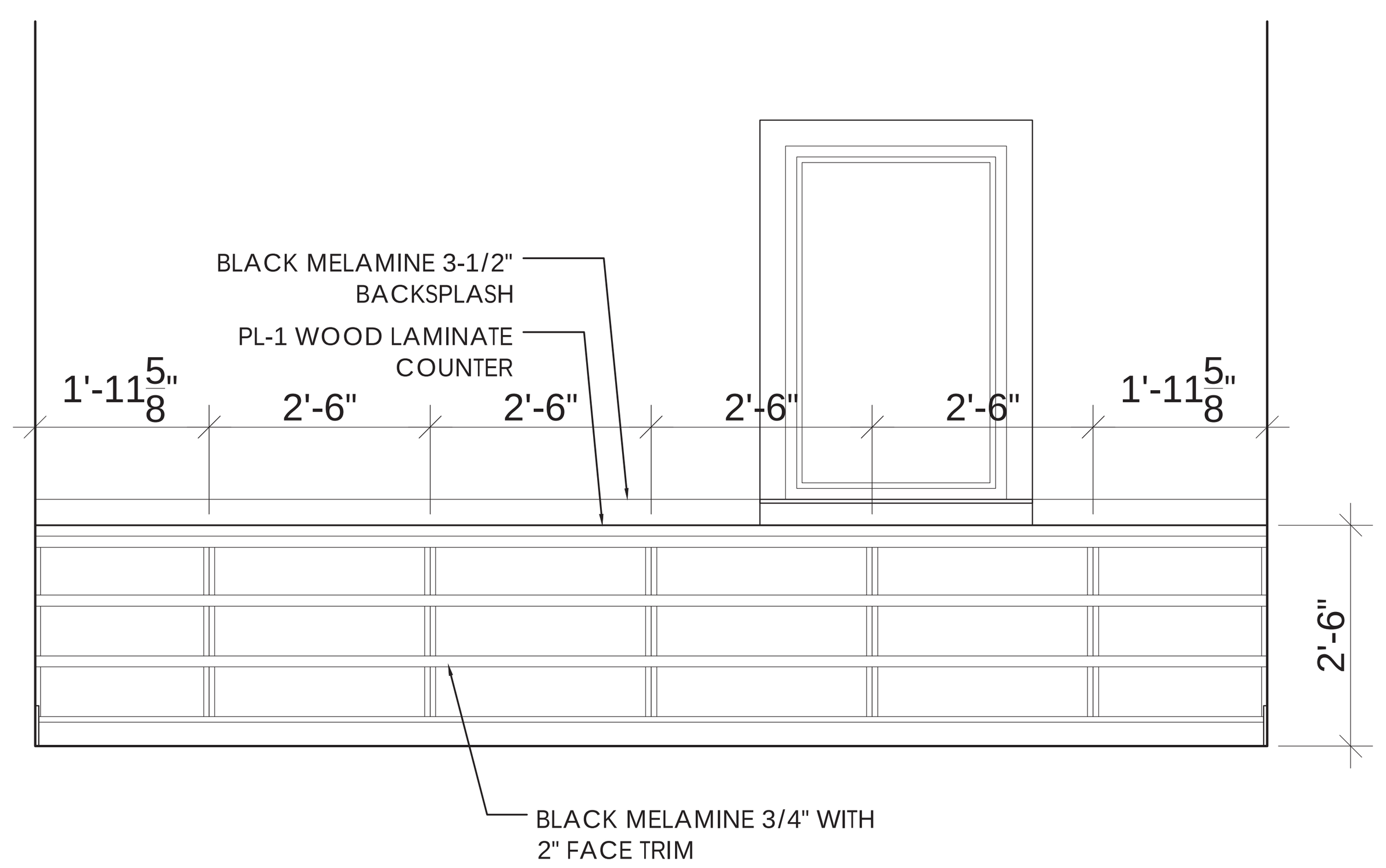
REFLECTED CEILING PLAN

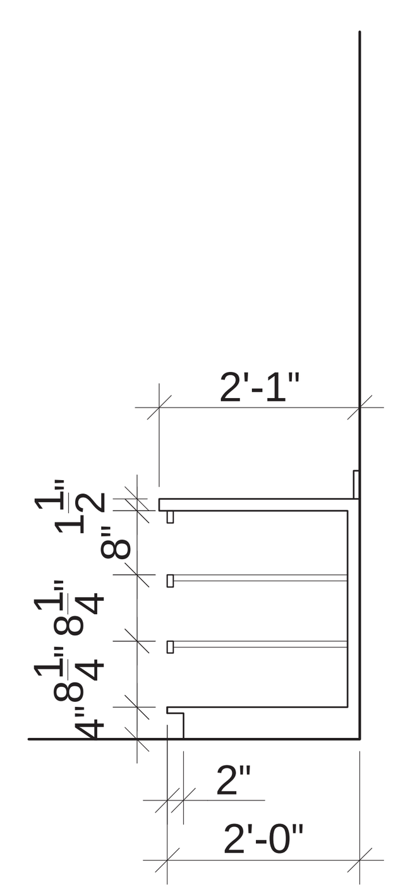
A400



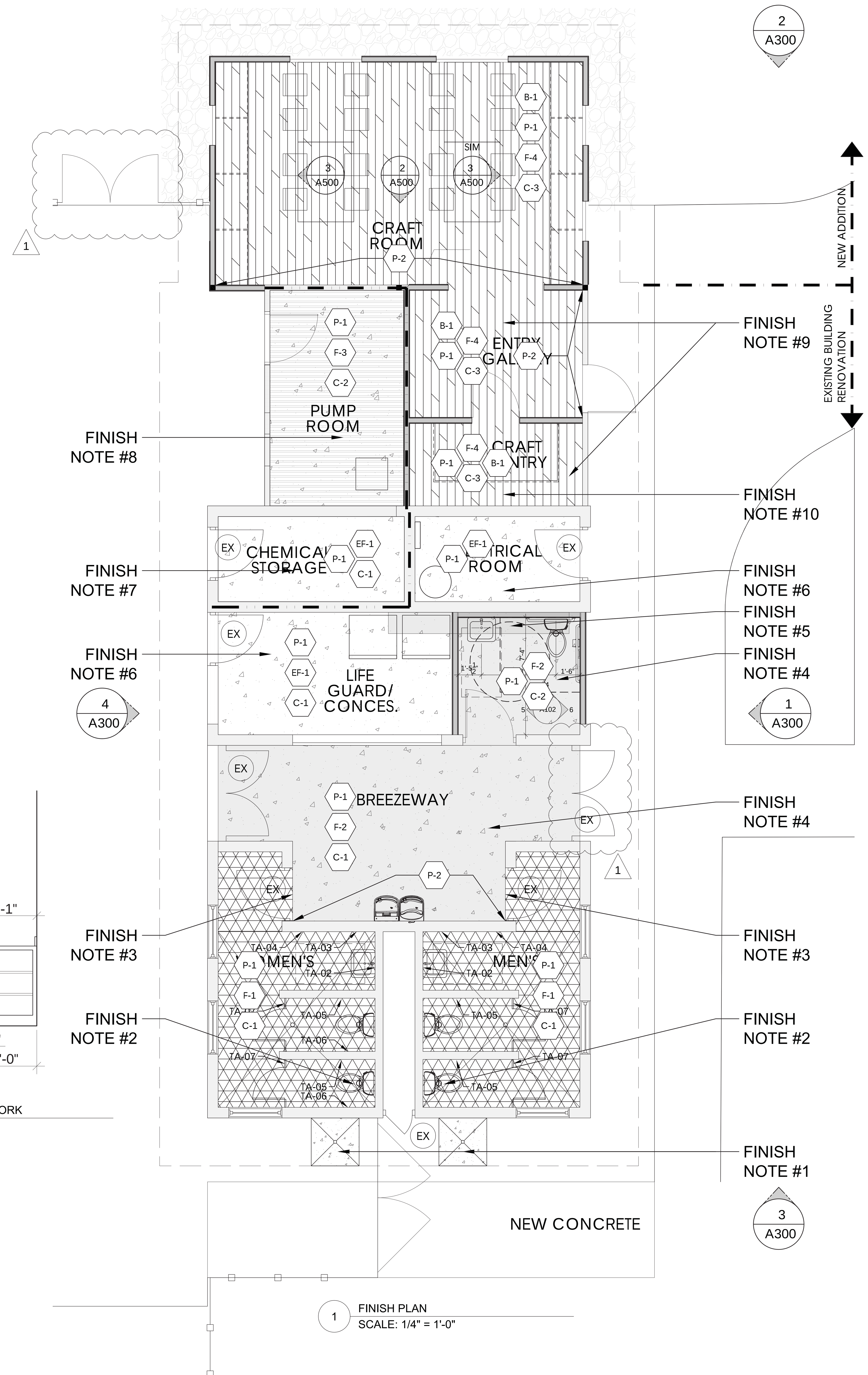
2 INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



3 INTERIOR ELEVATION - CASEWORK
SCALE: 1/2" = 1'-0"



4 SECTION - CASEWORK
SCALE: 1/2" = 1'-0"



1 FINISH PLAN
SCALE: 1/4" = 1'-0"

FINISH NOTES:

1. CUT EXISTING CONCRETE TO PLACE NEW CONCRETE SLOPED TO CENTER DRAIN, SEE PLUMBING DRAWINGS.
2. REMOVE EXISTING SHOWER RECEPTACLES, PATCH HOLES WITH GROUT AND PREP FOR REPAINTING.
3. PAINT TRANSITION BETWEEN TWO FLOOR MATERIALS AT DOOR THRESHOLD.
4. REPAINT EXISTING CONCRETE SLAB AFTER PREPPING ENTIRE AREA
5. NEW CONCRETE IN PLUMBING TRENCH
6. EXISTING CONCRETE SLAB TO REMAIN, GC TO GIVE PRICE TO OWNER FOR NEW FINISH PAINT.
7. PATCH EXISTING PUMP STUB UPS AND SLAB CUTS WITH CONCRETE
8. NEW CONCRETE IN AREAS WHERE EXITING CONCRETE IS CUT FOR POOL EQUIPMENT INSTALL.
9. LVP TO HAVE SOUND MATT BETWEEN CONCRETE SLAB
10. NEW 5 ADJUSTABLE SHELVES WITH BLACK MELAMINE WITH FINISHED EDGE

FINISH LEGEND

EF-1	PRODUCT: EXISTING CONCRETE FLOOR TO REMAIN
F-1	PRODUCT: EXISTING CRACKED TILE FLOOR TO REMAIN - PATCHED WITH CONCRETE WHERE NEW PLUMBING FIXTURES REQUIRE
F-2	PRODUCT: EXISTING SMOOTH CONCRETE PAINTED WITH EPOXY PAINT COLOR: P-x
F-3	PRODUCT: NEW CONCRETE IN AREAS WHERE PUMP PLUMBING REQUIRES TO BE CUT FINISH: BRUSHED FINISHED
F-4	PRODUCT: LUXERY VINYL TILE MANUF.: MATTER SURFACES COLOR: CRAFTED OAK FINISH: WINEO PURLINE LVT, WOOD XL SIZE: 10" W X 59" L SUPPLIER: MATS INC. CONTACT: MARK SADAUSKAS- 781-573-0216 OTHER: MSADAUSKAS@MATSINC.COM
PL-1	PRODUCT: PLASTIC LAMINATE MANUF.: WILSONART COLOR: 7996-39 NATURAL RECON FINISH: FINE VELVET
P-1	PRODUCT: WALL PAINT MANUF.: SHERWIN WILLIAMS COLOR: XXXXX FINISH: -- TYPICAL WALL THROUGHOUT U.N.O.
P-2	PRODUCT: WALL PAINT MANUF.: SHERWIN WILLIAMS COLOR: XXXXX FINISH: --
P-3	PRODUCT: WALL PAINT MANUF.: SHERWIN WILLIAMS COLOR: XXXXX FINISH: --
P-4	PRODUCT: WALL PAINT MANUF.: SHERWIN WILLIAMS COLOR: XXXXX FINISH: --
B-1	PRODUCT: WOOD FLOOR BASE MANUF.: 1"x6" PRIMED PAINTED COLOR: P-1 FINISH: --
G-1	PRODUCT: VINYL GRAPHIC MANUF.: COLOR: SEE ENLARGED GRAPHIC FINISH: A500

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2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
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PROJECT NUMBER
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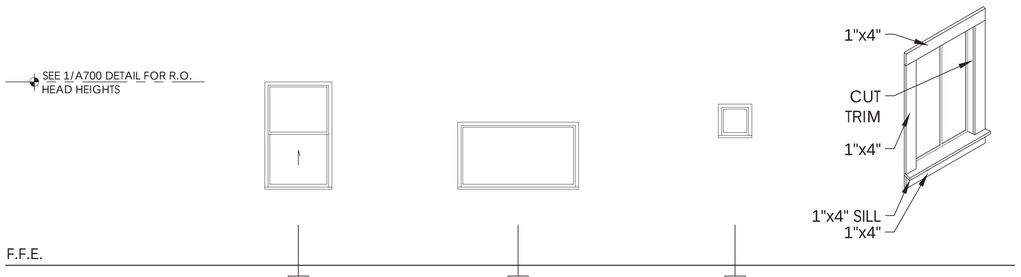
1. 2/23/26 - CITY COMMENTS

FINISH PLAN & SCHEDULE

A500

WINDOW TYPES



2640

BASIS OF DESIGN: PLY-GEM SOLID VINYL WINDOW UNIT W/ NAILING FIN SINGLE-HUNG OPERABLE LOWER SASH UNIT UNLESS OTHERWISE NOTED. ALL GLASS TO BE INSULATED GLASS U-FACTOR 0.35 SHGC 0.22 MINIMUM

4626

BASIS OF DESIGN: PLY-GEM SOLID VINYL WINDOW UNIT W/ NAILING FIN NON-OPERABLE. ALL GLASS TO BE INSULATED GLASS U-FACTOR 0.35 SHGC 0.22 MINIMUM

1515

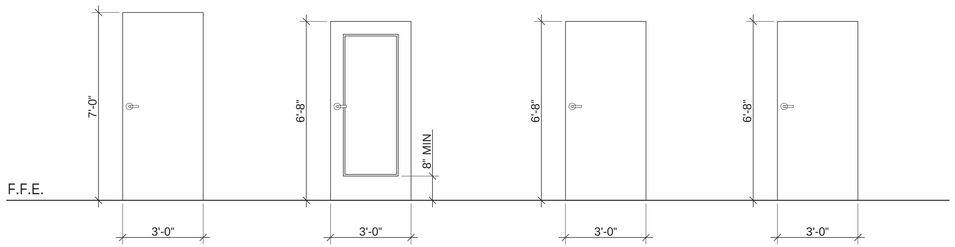
BASIS OF DESIGN: PLY-GEM SOLID VINYL WINDOW UNIT W/ NAILING FIN NON-OPERABLE. ALL GLASS TO BE INSULATED GLASS U-FACTOR 0.35 SHGC 0.22 MINIMUM

INTERIOR TRIM

WINDOW NOTES:

1. REFER TO FLOOR PLANS FOR WINDOW TYPE LOCATIONS AND BUILDING ELEVATIONS FOR ADJACENT EXTERIOR BUILDING MATERIALS.
2. ALL WINDOW UNIT TO BE SOLID VINYL BLACK EXTERIOR AND WHITE INTERIOR FACTORY FINISH.
3. TYPICAL EXTERIOR PERIMETER TRIM DETAIL TO INCLUDE 5 /4 x 4 HARDIE SMOOTH TRIM.
4. ALL WINDOW UNITS TO HAVE TEMPERED GLASS WITHIN 12" OF A DOOR AND/OR WITHIN 12" OF THE DOOR SWING IN THE OPEN POSITION.
5. GC TO FIELD VERIFY ALL DIMENSIONS PRIOR TO MANUFACTURING OF WINDOW UNITS. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
6. GC TO PROVIDE SHOP DRAWINGS TO ARCHITECT FOR REVIEW OF ALL WINDOW UNITS, & GLAZING DETAILS PRIOR TO ORDERING ANY MATERIALS FOR CONSTRUCTION.

DOOR TYPES



1

BASIS OF DESIGN: EXTERIOR FLUSH FACE, FACTORY PRIMED W/(2) FIELD APPLIED FINISH COATS OF PAINT. LEVER HANDLE HARDWARE WITH PRIVACY SET. 3 BRUSHED NICKEL HINGES.

2

BASIS OF DESIGN: MASONITE HERITAGE SERIES LOGAN-2 PANEL INTERIOR MOLDED DOOR. CRAFTSMAN STYLE STICKING PROFILE. HOLLOW CORE. FACTORY PRIMED W/(2) FIELD APPLIED FINISH COATS OF PAINT. LEVER HANDLE HARDWARE WITH PASSAGE SET AND DEADBOLT. 3 BRUSHED NICKEL HINGES.

3

BASIS OF DESIGN: MASONITE FLUSH PANEL. HOLLOW CORE. FACTORY PRIMED W/(2) FIELD APPLIED FINISH COATS OF PAINT. LEVER HANDLE HARDWARE WITH LOCKSET SET AND DEADBOLT. 3 BRUSHED NICKEL HINGES.

4

BASIS OF DESIGN: EXTERIOR FLUSH FACE, FACTORY PRIMED W/(2) FIELD APPLIED FINISH COATS OF PAINT. LEVER HANDLE HARDWARE WITH PASSAGE SET AND DEADBOLT. 3 BRUSHED NICKEL HINGES.

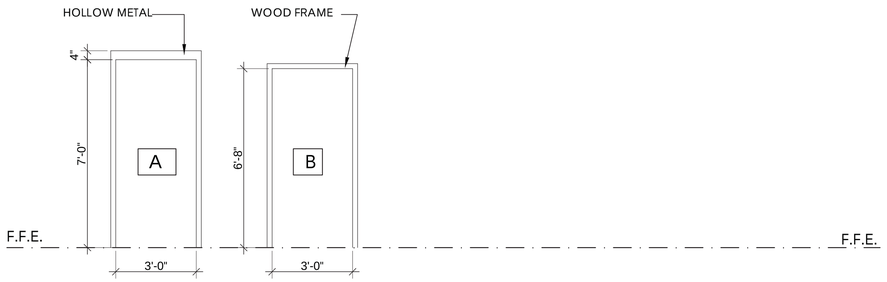
DOOR SCHEDULE

#	DOOR			FRAME		REMARKS	#
	DESCRIPTION	DOOR SIZE	TYPE	TYPE	MAT'L		
1	FLUSH PANEL WOOD DOOR	3'-0" X 7'-0"	1	A	HM		1
2	INSULATED CORE WOOD DOOR	3'-0" X 6'-8"	2	B	WOOD		2
3	HOLLOW CORE WOOD DOOR	3'-0" X 6'-8"	3	B	WOOD		3
4	HOLLOW CORE WOOD DOOR	3'-0" X 6'-8"	4	B	WOOD		4

DOOR NOTES:

1. PROVIDE LEVER CYLINDRICAL HARDWARE ON ALL DOORS UNLESS NOTED OTHERWISE. FINISH TO BE BRUSHED NICKEL THROUGHOUT.
2. PROVIDE OWNER / ARCHITECT W/ SUBMITTALS FOR DOOR MATERIALS, FINISHES, & HARDWARE. PROVIDE CUT SHEETS & SAMPLES PRIOR TO ORDERING MATERIALS.
3. HINGES SHALL BE 3-KNUCKLE, 4 ½" X 4 ½" BUTT DESIGN. FINISH TO BE BRUSHED NICKEL
4. PROVIDE WALL-MOUNTED & FLOOR MOUNTED DOORSTOPS AS APPLICABLE. STOPS TO BE POLISHED CHROME W/ GRAY RUBBER BUMPER.
5. ALL HARDWARE TO BE PROVIDED BY YALE, SCHLAGE, BALDWIN OR EQUAL APPROVED BY OWNER.
6. PROVIDE SILENCERS FOR ALL DOORS.
7. ALL EXTERIOR DOORS TO BE INSULATED WITH WEATHER STRIPING AND THRESHOLD
8. ALL INTERIOR DOORS TO BE UNDERCUT A MINIMUM OF 1/2" ABOVE THE FINISH FLOOR MATERIAL TO ALLOW FOR PROPER AIR FLOW

WOOD FRAMES



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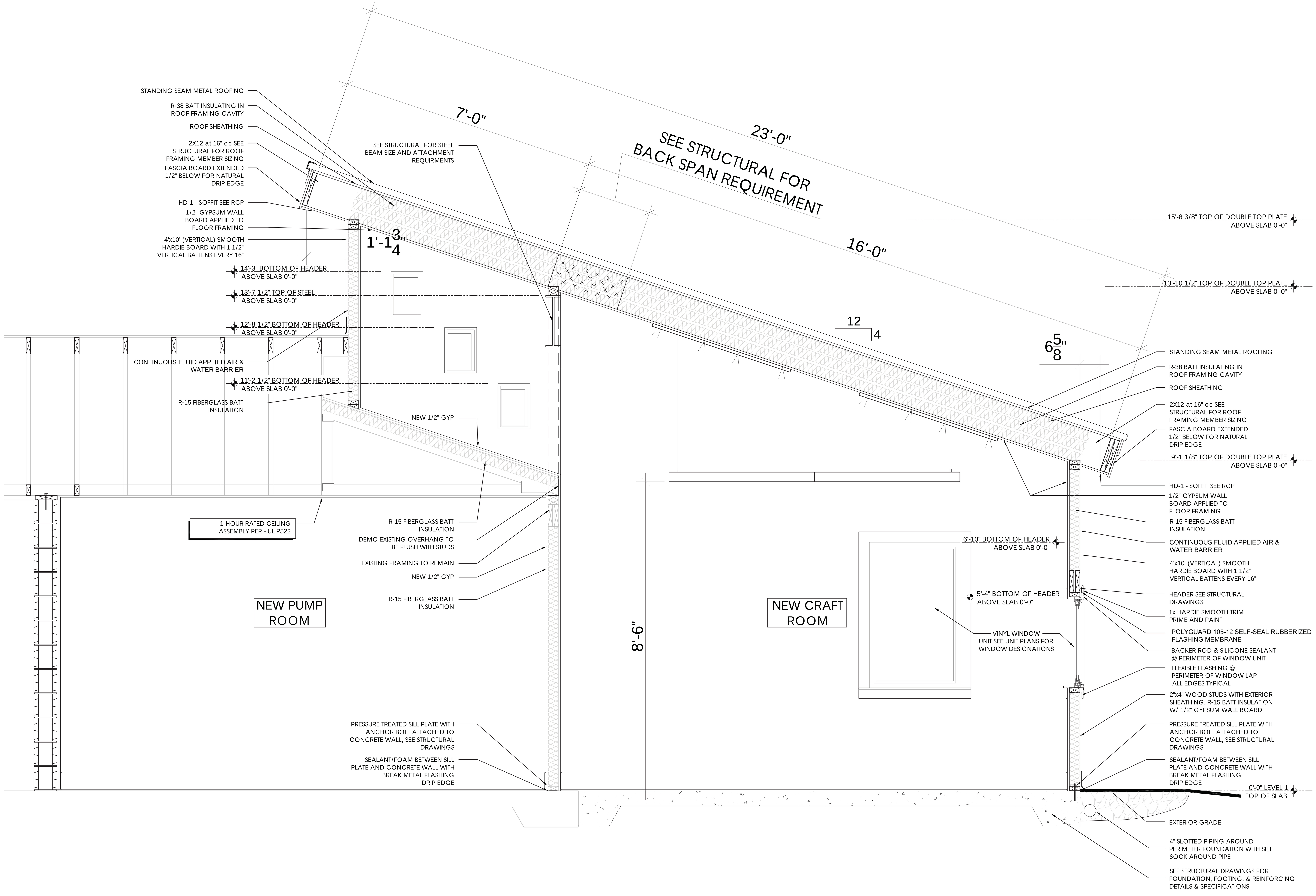
REVISIONS

DOORS & STOREFRONT SCHEDULES

A600



1 SECTION
SCALE: 3/4" = 1'-0"

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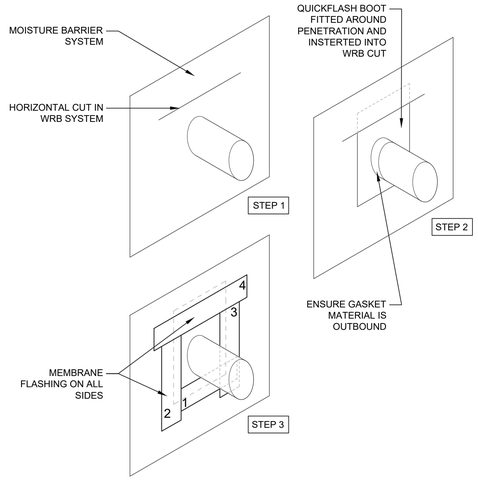
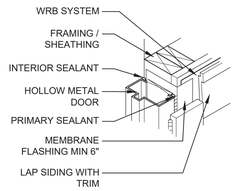
SECTIONS

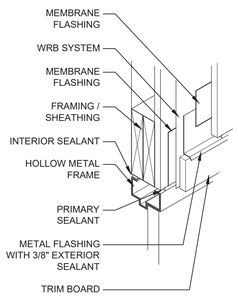
A700



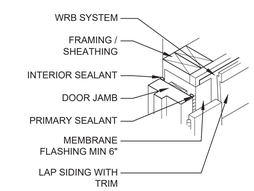
11 WRB - PENETRATION W/ QUICKFLASH
NOT TO SCALE



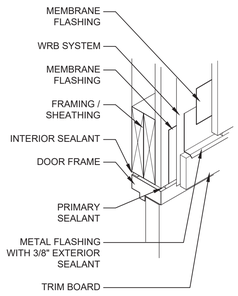
15 HM DOOR - JAMB W/ TRIM
NOT TO SCALE



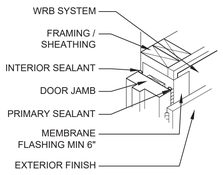
14 HM DOOR - HEAD W/ TRIM
NOT TO SCALE



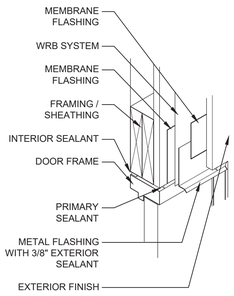
11 DOOR - JAMB W/ SEALANT AND TRIMBOARD
NOT TO SCALE



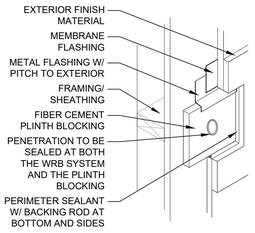
10 DOOR - HEAD W/ SEALANT AND TRIMBOARD
NOT TO SCALE



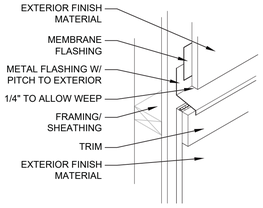
9 DOOR - JAMB W/ SEALANT - NO TRIM
NOT TO SCALE



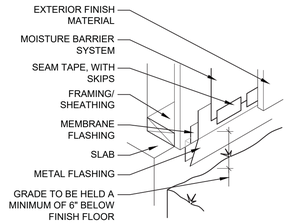
8 DOOR - HEAD W/ SEALANT - NO TRIM
NOT TO SCALE



10 FIBER CEMENT - PLINTH / MOUNTING BLOCK
NOT TO SCALE



9 FIBER CEMENT - AT HORIZONTAL BAND
NOT TO SCALE



8 FIBER CEMENT - AT GRADE
NOT TO SCALE

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SYKES DESIGN, PLLC REGISTERED ARCHITECTURAL COMPANY 54425 NORTH CAROLINA

2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:

CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

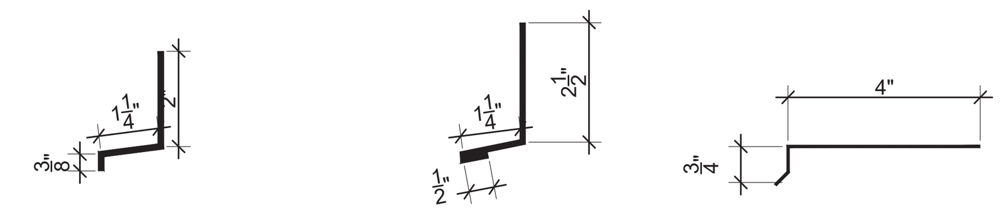
PROJECT NUMBER
224215

DATE
FEBRUARY 18, 2026

REVISIONS

ENLARGED DETAILS

A800

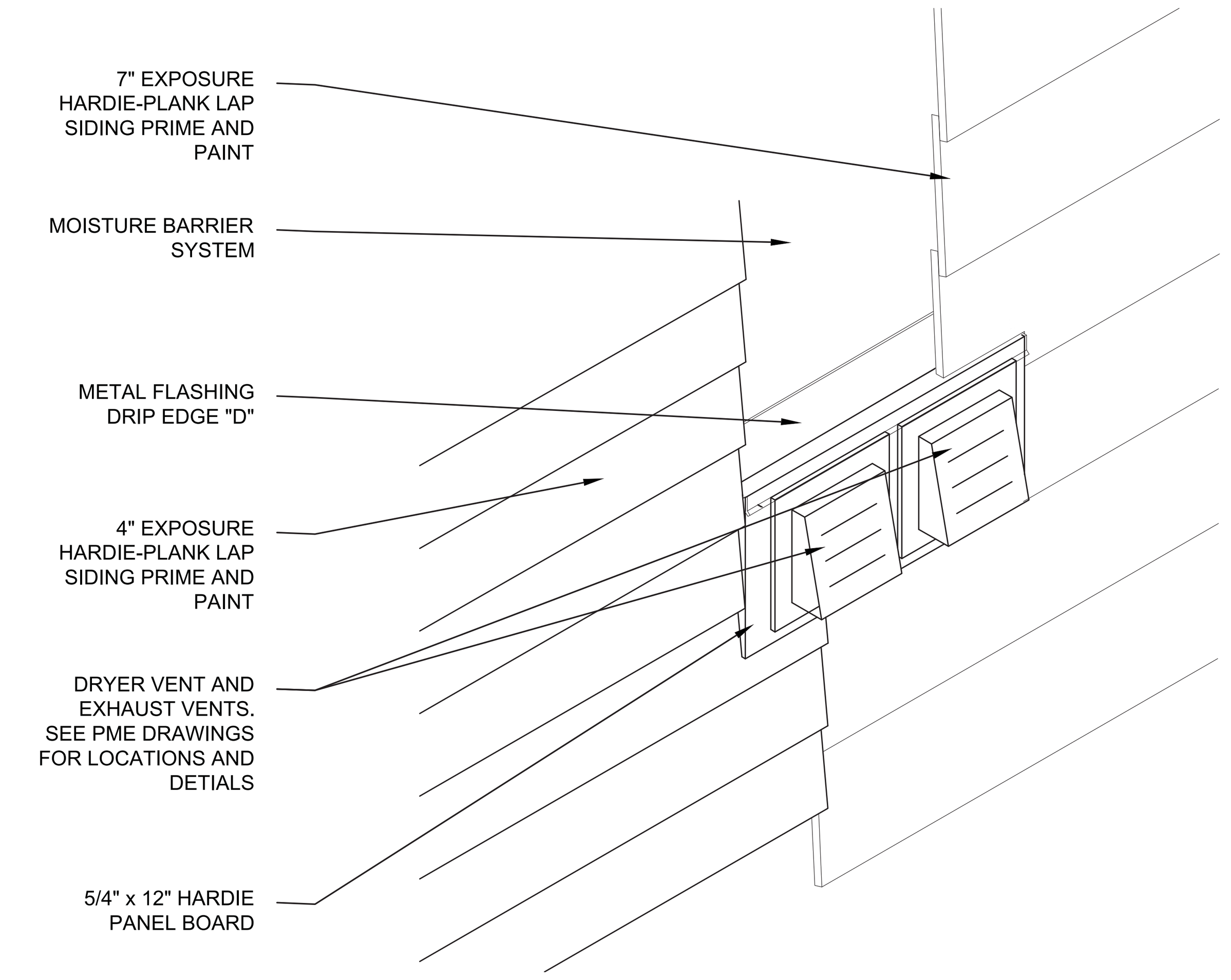


A
TYPICAL WINDOW & DOOR FLASHING

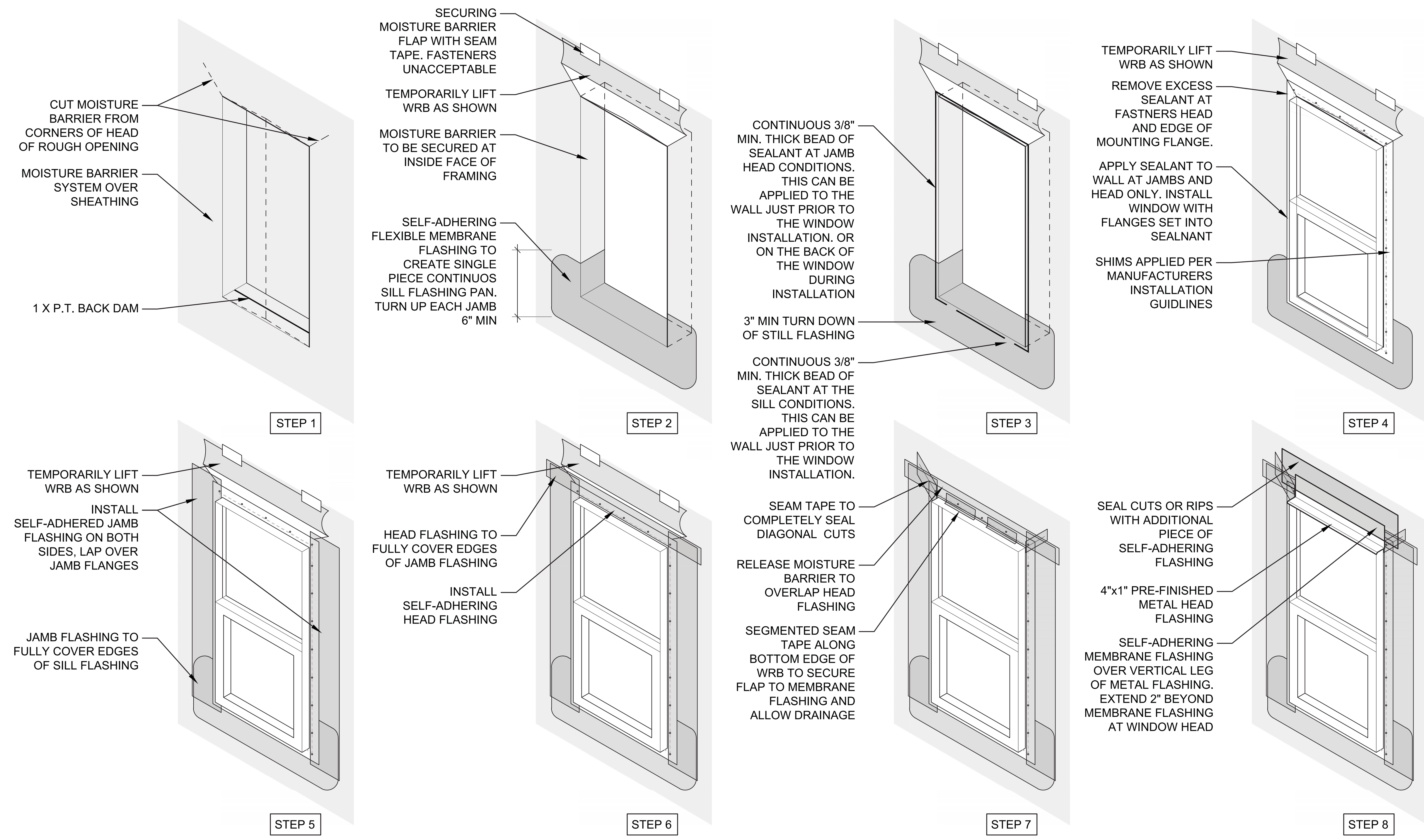
B
BRICK FLASHING

C
WINDOW SILL FLASHING

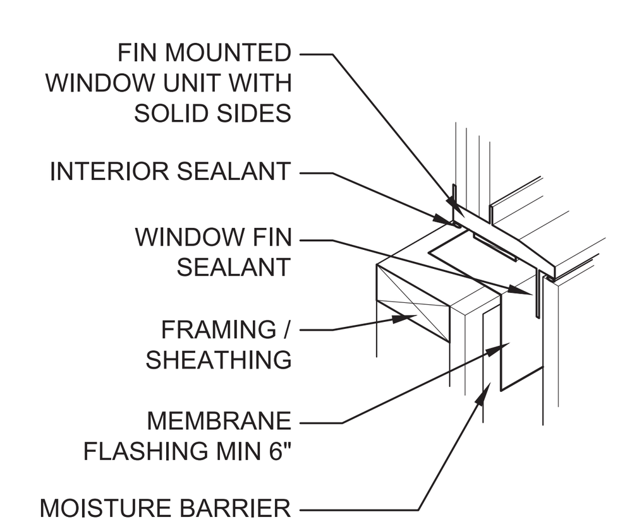
10 METAL FLASHING SIZES
NOT TO SCALE



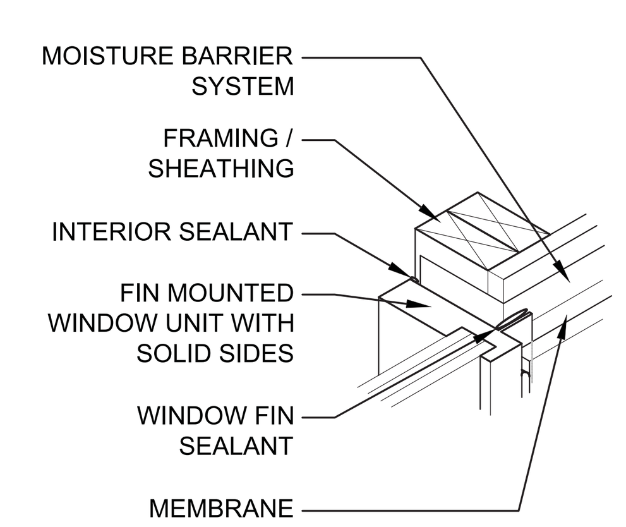
9 FIBER CEMENT - HVAC EXHAUST
NOT TO SCALE



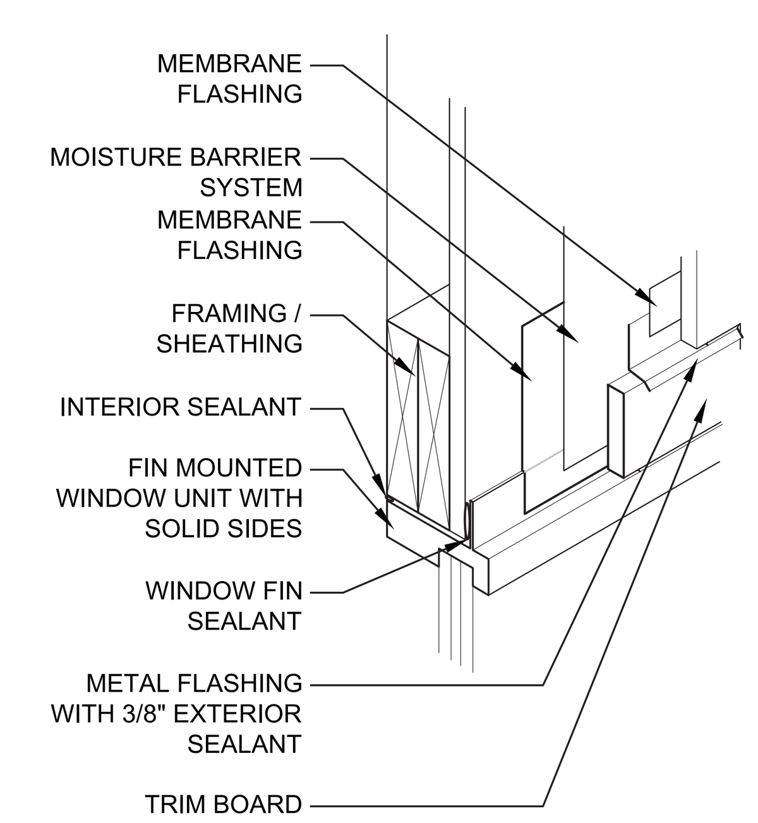
6 FINNED WINDOW - INSTALLATION SEQUENCE
NOT TO SCALE



3 FINNED WINDOW - SILL
NOT TO SCALE



2 FINNED WINDOW - JAMB
NOT TO SCALE



1 FINNED WINDOW - HEAD W/ TRIM
NOT TO SCALE

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NICHOLAS SYKES LICENSED ARCHITECT 17661 NORTH CAROLINA RALEIGH, NC

Signed by: Nicholas Sykes

SYKES DESIGN, PLLC 54425 NORTH CAROLINA

2/23/2026

RENOVATION / ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

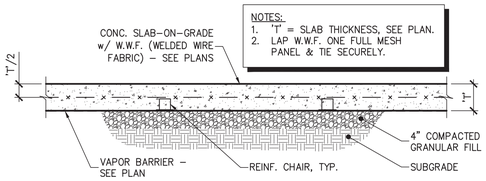
PROJECT NUMBER
224215

DATE
FEBRUARY 18, 2026

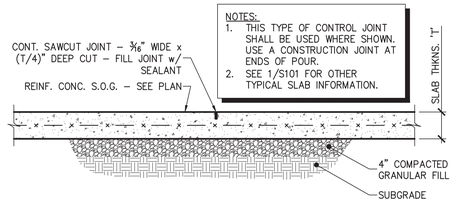
REVISIONS

ENLARGED DETAILS

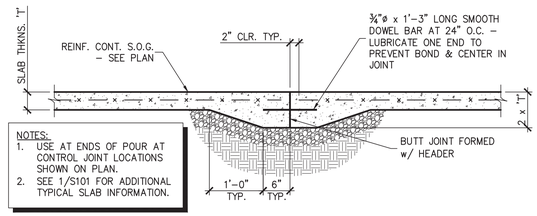
A801



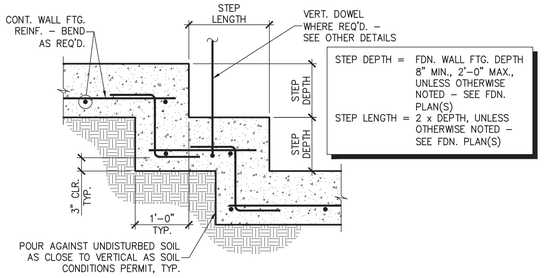
1 S101 SECTION - TYP. SLAB ON GRADE
N.T.S.



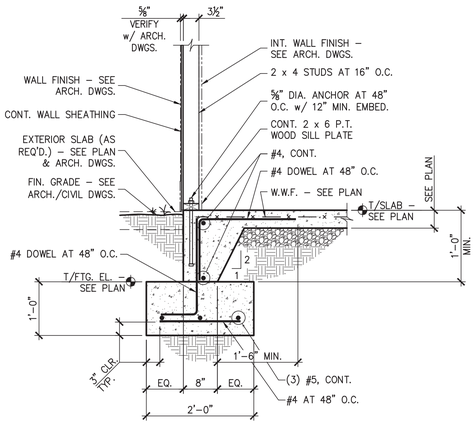
2 S101 SECTION - TYP. CONTROL JOINT
N.T.S.



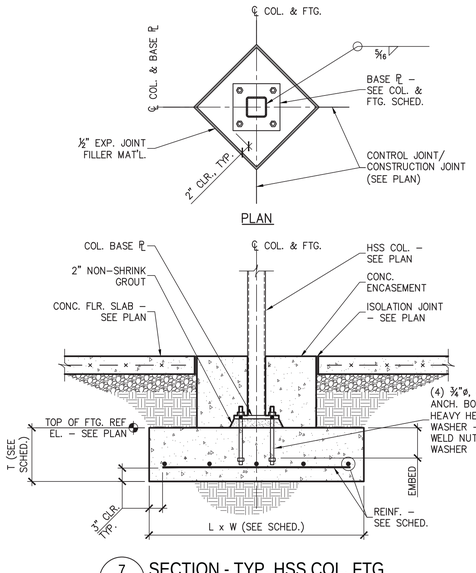
3 S101 SECTION - TYP. CONSTRUCTION JOINT
N.T.S.



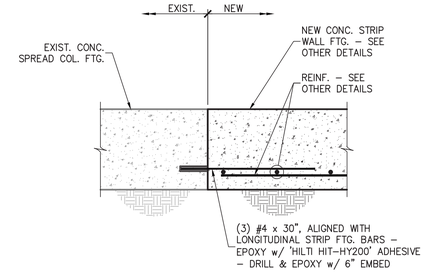
4 S101 SECTION - TYP. STEPPED FTG.
N.T.S.



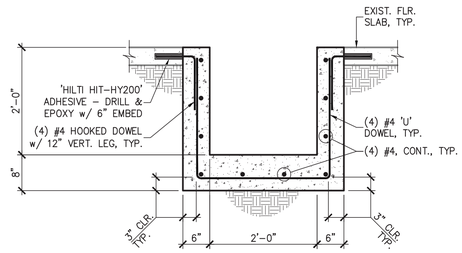
5 S101 SECTION - TYP. EXTERIOR PERIMETER STUD WALL FTG.
N.T.S.



7 S101 SECTION - TYP. HSS COL. FTG.
N.T.S.

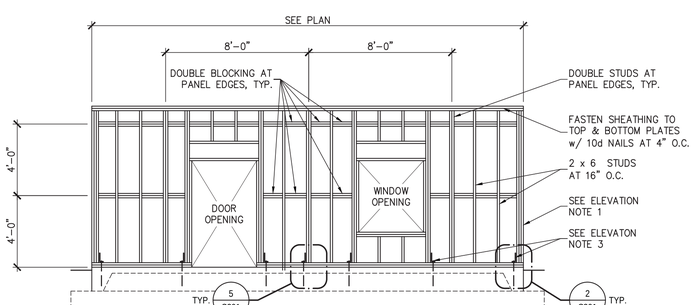


8 S101 SECTION - TYP. EXIST. / NEW CONC. FTG. INTERFACE
N.T.S.



9 S-101 SECTION - NEW SUMP
N.T.S.

TYPICAL SHEAR WALL ELEVATION NOTES:
1. CORNER POSTS SHALL HAVE 3 STUDS MINIMUM.
2. ALL EXTERIOR STUD WALLS SHALL BE CONTINUOUSLY SHEATHED AND FASTENED AT PANEL EDGES AND 12" O.C. AT INTERIOR MEMBERS. SEE 3/S2.2. PROVIDE STUD BLOCKING AT 48" O.C. VERTICAL SPACING FOR PANEL JOINTS.
3. PROVIDE 'SIMPSON STRONG-TIE HDU8-SDS2.5' HOLD-DOWN ANCHORS AT EACH SIDE OF EACH CORNER OF BUILDING, AND AT WALL OPENINGS UNLESS OTHERWISE NOTED ON PLAN. SEE HOLD-DOWN DETAILS 1/S201, 2/S201, 4/S201 AND 5/S201. HOLD-DOWNS ARE NOT REQUIRED AT STEEL COLUMN LOCATIONS.
4. ALL EXTERIOR WALLS ARE SHEAR WALLS UNLESS OTHERWISE NOTED.
5. PROVIDE DOUBLE SILL PLATE IF NAIL SPACING IS LESS THAN 4" O.C AT PANEL EDGES. SEE GENERAL STRUCTURAL NOTES: WOOD DECKING/SHEATHING NOTES FOR NAIL SPACING.

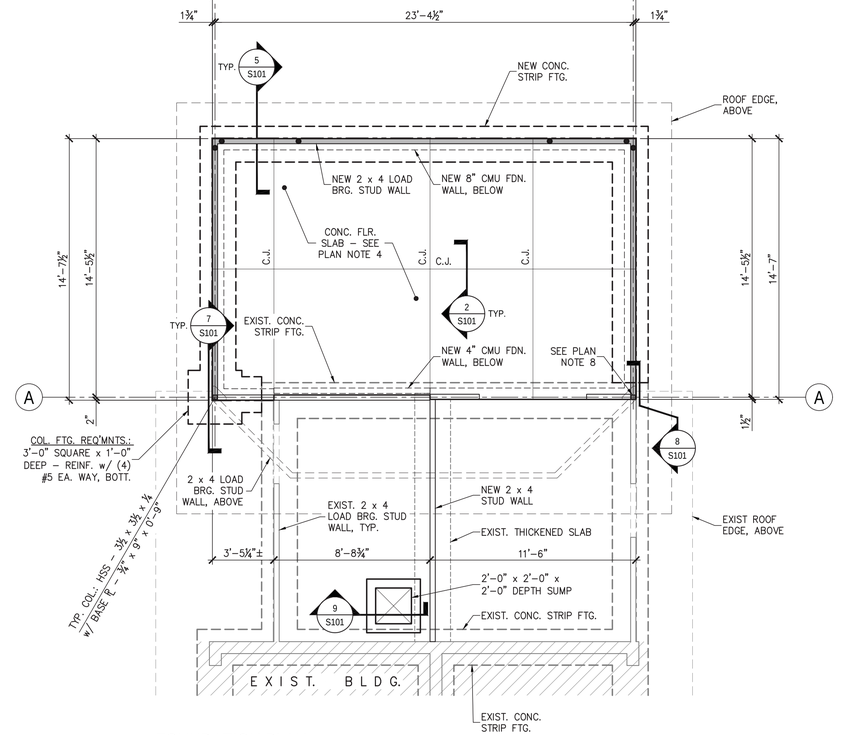


6 S101 TYPICAL SHEAR WALL ELEVATION
N.T.S.

FOUNDATION PLAN LEGEND

	DENOTES COLUMN CONCRETE SPREAD FOOTING WITH FOOTING MARK – SEE PLAN ON THIS SHEET FOR SIZE AND REINFORCING
D	DENOTES STEEL COLUMN WITH ISOLATION JOINT – SEE PLAN ON THIS SHEET FOR COLUMN SIZE, BASE PLATE SIZE AND QUANTITY, AND SIZE OF ANCHOR BOLTS. SEE DETAIL 7/S101 FOR ADDITIONAL INFORMATION
–S–	DENOTES FOOTING STEP – SEE DETAIL 4/S101 FOR ADDITIONAL INFORMATION
C.J.	DENOTES SLAB ON GRADE CONSTRUCTION OR SAWCUT CONTROL JOINT – SEE DETAILS 2/S101 AND 3/S101 FOR ADDITIONAL INFORMATION
(–1'–4")	DENOTES TOP OF FOOTING ELEVATION
	DENOTES A LOAD BEARING STUD WALL – SEE FOUNDATION DETAILS FOR ADDITIONAL INFORMATION
•	DENOTES A HOLD-DOWN WITH (3) GANGED STUDS AT EACH INDICATED LOCATION – SEE 2/S201 AND 5/S201 FOR ADDITIONAL INFORMATION
	DENOTES A LOCATION OF A STUD-PACK COLUMN CONSISTING OF (3-MINIMUM) GANGED STUDS
U.O.N.	DENOTES 'UNLESS OTHERWISE NOTED'

FOUNDATION PLAN NOTES:
1. SEE SHEET S401 FOR DESIGN CRITERIA, GENERAL STRUCTURAL NOTES & SCHEDULES.
2. DIMENSIONS SHOWN WITH '±' ARE EXISTING AND ARE SUBJECT TO FIELD VERIFICATION PRIOR TO ACCEPTANCE AS VALID.
3. TOP OF SLAB REFERENCE ELEVATION = 0'–0" UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR ACTUAL SITE ELEVATIONS.
4. CONCRETE FLOOR SLAB IS 4" THICK WITH 6 x 6 – W 2.1 x W 2.1 WELDED WIRE FABRIC, TYPICAL EXCEPT AT MECHANICAL ROOMS WITH DEPRESSED SLAB. PROVIDE 10 MIL VAPOR BARRIER AND 4" COMPACTED GRANULAR BASE UNDER SLAB.
5. ALL EXTERIOR WALL STRIP FOOTINGS SHALL BE 2'–0" WIDE UNLESS OTHERWISE NOTED ON THE PLAN.
6. SEE DETAIL 4/S101 FOR TYPICAL FOOTING STEP.
7. THE TOP OF ALL EXTERIOR WALL STRIP FOOTINGS SHALL BE AT ELEVATION –1'–0", MINIMUM, UNLESS OTHERWISE NOTED ON THE PLAN.
8. OFFSET NEW COLUMN BASE PLATE FLUSH WITH COLUMN FACE TOWARDS EXISTING BUILDING. ALL ANCHOR BOLTS SHALL BE ON THE NEW-CONSTRUCTION FACE OF THE NEW COLUMN. MODIFY BASE PLATE SIZE IF REQUIRED.



FOUNDATION PLAN
1/4" = 1'-0"

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RPA Project No.: 2024288

NORTH CAROLINA PROFESSIONAL SEAL 17348 ENGINEER MARK STATEN ROY

Digitally signed by Mark S. Roy
DN: C=US, E=mark.roy@rpaengineering.com, O="RPA Engineering, P.A.", CN=Mark S. Roy
Date: 2026.02.25 12:12:14 -05'00'

RENOVATION / ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

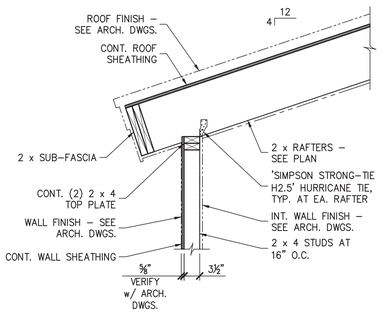
PROJECT NUMBER
224215

DATE
FEBRUARY 24, 2026

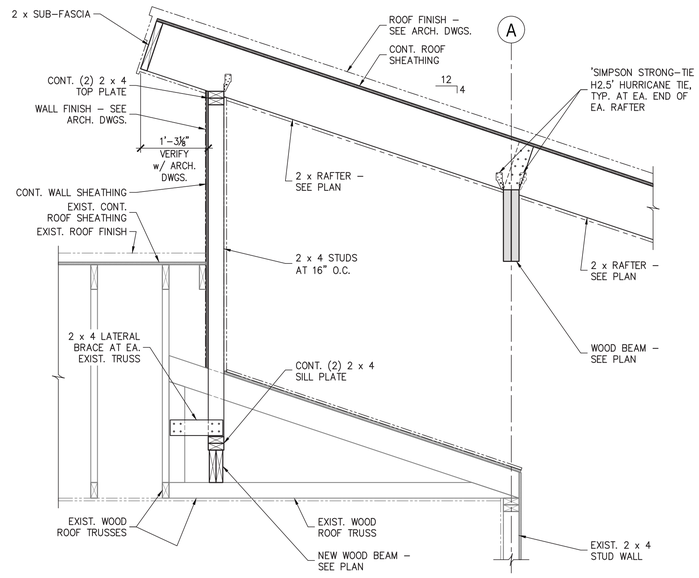
REVISIONS

FOUNDATION PLAN, PLAN LEGEND & NOTES, SECTIONS & DETAILS

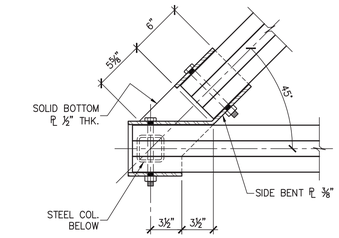
S101



1 S102 SECTION - TYP. ROOF AT LOW EAVE
N.T.S.

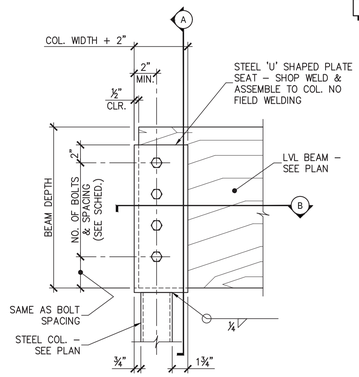


2 S102 SECTION - TYP. ROOF AT HIGH EAVE
N.T.S.

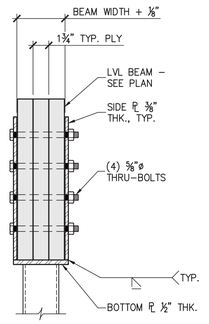


PLAN SECTION 'B'

BOLT QUANTITY & SPACING SCHEDULE		
SUPPORTED BEAM DEPTH	QTY. OF ⅝"ø A307 BOLTS	℄ TO ℄ HOLE SPACING
7¼"	2	2"
9¼"	2	2"
9½"	2	2"
11¼"	2	3½"
11⅞"	2	3½"
14"	3	3½"
16"	3	3½"
18"	4	3½"
24"	5	3½"

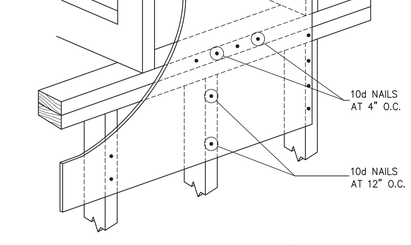


ELEVATION

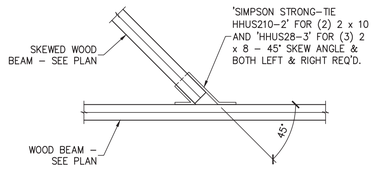


SECTION 'A'

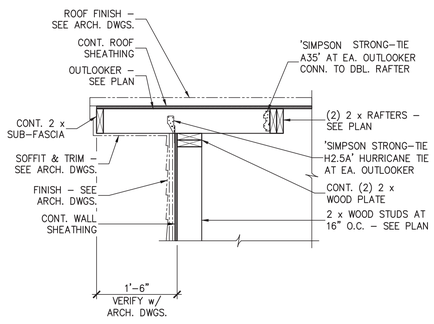
3 S102 DETAIL - TYP. LVL BEAM SADDLE TO COL. CONN.
N.T.S.



4 S102 DETAIL - TYP. PLYWOOD SHEAR WALL TO TRUSS CONNECTION
N.T.S.



5 S102 DETAIL - TYP. SKEWED BEAM CONN.
N.T.S.

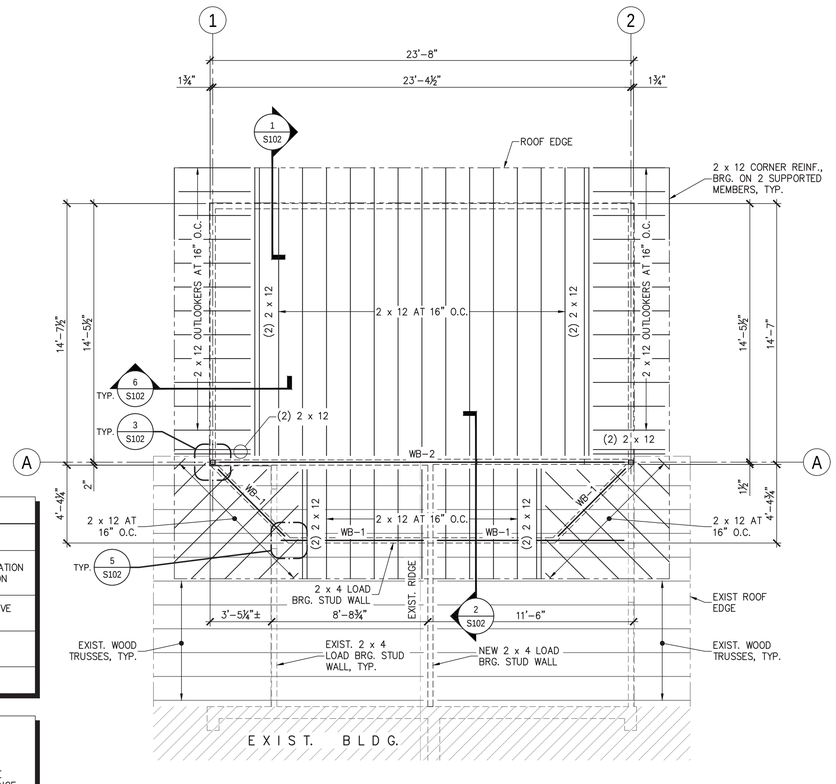


6 S102 SECTION - TYP. OUTLOOKER CONN. TO ROOF TRUSS
N.T.S.

ROOF FRAMING PLAN LEGEND	
⟷	DENOTES DIRECTION OF DECK SPAN
W14 x 22 (+12'–4")	DENOTES STEEL BEAM WITH SIZE DESIGNATION AND TOP OF STEEL REFERENCE ELEVATION
WB–1	(2) 2 x 12 OR (3) 2 x 8, LOCATED ABOVE EXISTING WOOD TRUSS BOTTOM CHORD
WB–2	(2) 1¾" x 16" DEEP LVL
U.O.N.	DENOTES 'UNLESS OTHERWISE NOTED'

ROOF FRAMING PLAN NOTES:

1. SEE SHEET S401 FOR DESIGN CRITERIA, GENERAL STRUCTURAL NOTES AND SCHEDULES.
2. DIMENSIONS SHOWN WITH '±' ARE EXISTING AND ARE SUBJECT TO FIELD VERIFICATION PRIOR TO ACCEPTANCE AS VALID.
3. COORDINATE ROOF OPENINGS WITH MECHANICAL AND PLUMBING DRAWINGS.



ROOF FRAMING PLAN
1/4" = 1'-0"

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Suite 202 Fax: 252-355-2179
Washington, NC 27889
RPA Project No.: 2024288

NORTH CAROLINA PROFESSIONAL SEAL 17348 ENGINEER MARK STATE OF

Digitally signed by Mark S. Roy
DN: C=US, E=mark.roy@rpaengineering.com, O="RPA Engineering, P.A.", CN=Mark S. Roy
Date: 2026.02.25 12:12:35-05'00'

RENOVATION / ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

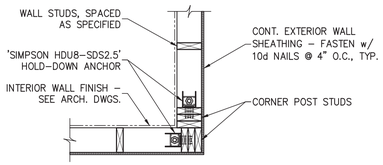
PROJECT NUMBER
224215

DATE
FEBRUARY 24, 2026

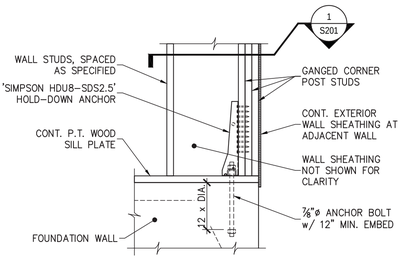
REVISIONS

ROOF FRAMING PLAN, LEGEND & NOTES, SECTIONS & DETAILS

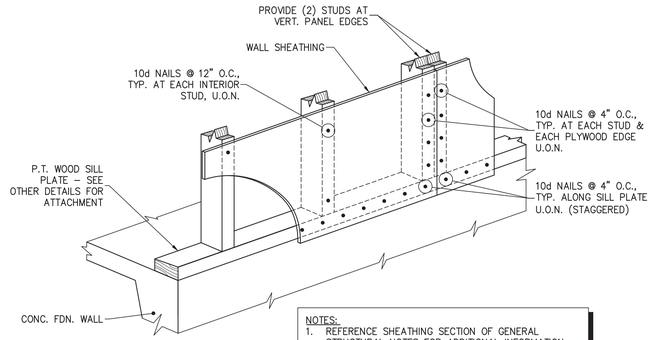
S102



PLAN DETAIL - TYP.
1 / S201 SHEAR WALL CORNER
N.T.S.

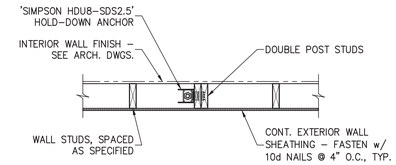


DETAIL - TYP. HOLD-DOWN
2 / S201 ANCHOR AT BASE
N.T.S.

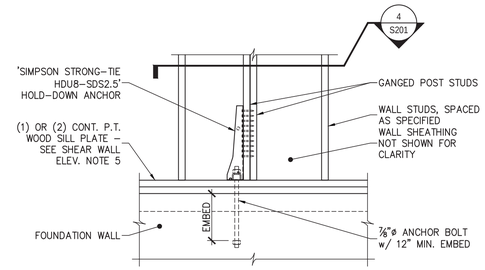


NOTES:
1. REFERENCE SHEATHING SECTION OF GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION. NO OSB SHALL BE USED AT SHEAR WALL LOCATIONS.
2. PROVIDE DOUBLE SILL PLATE IF INDICATED ON OTHER WALL DETAILS AND/OR SECTIONS.

3 / S201 DETAIL - TYP. SHEAR WALL BASE NAILING PATTERN
N.T.S.



PLAN SECTION -
4 / S201 TYP. SHEAR WALL
N.T.S.



DETAIL - TYP. HOLD-DOWN
5 / S201 ANCHOR AT SHEAR WALL BASE
N.T.S.

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NORTH CAROLINA PROFESSIONAL SEAL 17348 ENGINEER MARK S. ROY

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DN: C=US, E=mark.roy@rpaengineering.com, O="RPA Engineering, P.A.", CN=Mark S. Roy
Date: 2026.02.25 12:12:53-05'00'

BUILDING FOR:

RENOVATION / ADDITION TO POOL BUILDING FOR

CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

PROJECT NUMBER
224215

DATE
FEBRUARY 24, 2026

REVISIONS

SHEAR WALL
SECTIONS & DETAILS

S201

STRUCTURAL DESIGN CRITERIA:

1. DESIGN LOADS:

		MAX	MIN (FOR UPLIFT)
1.1.	ROOF DEAD LOAD		
	ROOFING & INSULATION	4 PSF	2 PSF
	SHEATHING	3 PSF	2 PSF
	ROOF FRAMING	5 PSF	3 PSF
	PIPING, DUCT, ETC.	3 PSF	0 PSF
		15 PSF	7 PSF

1.2. LIVE LOADS
ROOF LIVE LOAD – ALL AREAS GREATER OF 20 PSF MINIMUM OR SNOW LOAD
1ST FLOOR LIVE LOAD _____ 100 PSF

1.3. SNOW LOAD
GROUND SNOW LOAD = 15 PSF (FUQUAY–VARINA, NC)
SNOW LOAD IMPORTANCE FACTOR: I = 1.0
SNOW EXPOSURE FACTOR = 1.0
SNOW THERMAL FACTOR = 1.0
ROOF SNOW LOAD = 12 PSF
BASIC DESIGN ROOF SNOW LOAD = 12 PSF

1.4. WIND LOAD
BASIC WIND SPEED: Vult = 120 MPH (FUQUAY–VARINA, NC)
RISK CATEGORY: ___ I _X_ II ___ III ___ IV
WIND EXPOSURE CATEGORY: 'C' (ASCE 7–10)
WIND BASE SHEAR (FOR MWFRS): Vx = 6K Vy = 4.5K
INTERNAL PRESSURE COEFFICIENT: ±0.55

1.5. SEISMIC LOADS (N.C. STATE BLDG. CODE):
SEISMIC IMPORTANCE FACTOR: I = 1.0
RISK CATEGORY: ___ I _X_ II ___ III ___ IV
SEISMIC DESIGN CATEGORY: ___ A ___ B _X_ C ___ D
MAPPED SPECTRAL RESPONSE ACCELERATION: Ss 17.8 % g S1 8.5 % g
SPECTRAL RESPONSE COEFFICIENTS: Sds 19.0 % Sd1 13.6 %
SEISMIC RESPONSE COEFFICIENT: Cs 0.095
RESPONSE MODIFICATION FACTOR, R 2.0 (LIGHT FRAMED WALLS WITH WOOD SHEATHING)
SITE CLASSIFICATION: ___ A ___ B ___ C _X_ D ___ E ___ F
BASIC STRUCTURAL SYSTEM:
_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 = 1K Vy = 1K
ANALYSIS PROCEDURE: ___ SIMPLIFIED _X_ EQUIVALENT LATERAL FORCE ___ MODAL
ARCHITECTURAL, MECHANICAL COMPONENTS ANCHORED? ___ YES _X_ NO
LATERAL DESIGN CONTROL: ___ EARTHQUAKE _X_ WIND

1.6. ALL DESIGN LOADS ARE PER NORTH CAROLINA STATE BUILDING CODE 2018 EDITION.
1.7. WIND LOADS CONTROL THE LATERAL LOAD DESIGN. THE BUILDING UTILIZES SHEAR WALLS FOR LATERAL LOAD RESISTANCE.

2. FOUNDATION DESIGN CRITERIA:

2.1. MINIMUM FOOTING BEARING DEPTH BELOW GRADE IS 12 INCHES.
2.2. FOUNDATION DESIGN IS BASED ON A PRESUMPTIVE SOIL BEARING CAPACITY OF 1,500 PSF.
2.3. CONTRACTOR SHALL FIELD VERIFY THE SOIL BEARING CAPACITY PRIOR TO START OF CONSTRUCTION.

GENERAL STRUCTURAL NOTES:

1. GENERAL NOTES

1.1. METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
1.2. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SLEEVES, CURBS, INSERTS OR OPENINGS NOT HEREIN INDICATED.
1.3. COORDINATE THESE DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL DRAWINGS.
1.4. VERIFY ALL FLOOR AND ROOF OPENING SIZES AND LOCATIONS, EQUIPMENT PAD SIZES AND LOCATIONS, ANCHOR BOLT LAYOUTS, ETCETERA, WITH EQUIPMENT SELECTED.
1.5. CONTRACTOR SHALL VERIFY ALL EXISTING CONSTRUCTION DIMENSIONS WHICH IMPACT NEW CONSTRUCTION PRIOR TO FABRICATING ANY REBAR, STEEL, TRUSSES, ETCETERA.
1.6. DO NOT CUT, NOTCH, OR OTHERWISE MODIFY ANY STRUCTURAL MEMBERS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS WITHOUT APPROVAL OF THE ENGINEER OF RECORD.
1.7. CUTTING OF STEEL MEMBERS AND INSTALLATION OF HOLES IN STEEL MEMBERS SHALL BE DONE BY CUTTING OR DRILLING. DO NOT USE TORCHES FOR CUTTING UNLESS APPROVED BY THE ENGINEER OF RECORD.
1.8. CONTRACTOR IS RESPONSIBLE FOR DESIGN AND INSTALLATION OF ALL SHORING REQUIRED TO SUPPORT NEW AND EXISTING STRUCTURAL ELEMENTS.

2. FOUNDATION

2.1. ALL FOOTINGS SHALL BE ON UNDISTURBED SOIL OR 98% COMPACTED FILL PER ASTM D698.
2.2. NO FOOTINGS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL.
2.3. EXCAVATIONS FOR FOOTINGS SHALL HAVE THE SIDES AND BOTTOMS TEMPORARILY LINED WITH 6 MIL. POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HRS OF THE EXCAVATION OF THE FOOTING.
2.4. ADVERSE FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION SUCH AS SOFT SOILS, ORGANIC MATTER, ETCETERA, SHALL BE REPORTED TO THE ENGINEER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
2.5. IF UNDERMINING OF FOOTINGS OCCURS, FILL VOIDS WITH LEAN CONCRETE MIX. DO NOT ATTEMPT TO REPLACE AND RECOMPACT SOIL.

3. REINFORCED CONCRETE MASONRY

3.1. LOAD–BEARING MASONRY PIERS OR WALLS, FOUNDATION WALLS, AND ANY OTHER MASONRY SO DESIGNATED ON THE DRAWINGS, ARE CONSIDERED TO BE STRUCTURAL MASONRY.
3.2. COMPRESSIVE STRENGTH OF MASONRY UNITS:
SOLID CLAY UNITS _____ 8250 PSI
CONCRETE UNITS _____ 1900 PSI ON NET AREA
MINIMUM NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY (Fm) IS 1,900 PSI.
3.3. MORTAR SHALL BE TYPE 'S' ASTM C270.
3.4. GROUT FOR REINFORCED MASONRY SHALL BE FINE GROUT ASTM C476. MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3000 PSI. MAXIMUM HEIGHT TO WHICH MASONRY SHALL BE LAID BEFORE FILLING IS 6'–0". PROVIDE CLEANOUT OPENINGS AT THE BOTTOM OF EACH GROUT LIFT. CLEANOUT OPENINGS SHALL BE PROVIDED AT EACH CELL TO BE FILLED WITH GROUT.
3.5. REINFORCING GRADE AND DETAILS FOR MASONRY, SHALL BE AS THAT FOR CONCRETE. TIE IN REBAR IN POSITION, AND PLACE CONCRETE AROUND REINFORCING DURING CONSTRUCTION OF MASONRY. DO NOT PUSH REINFORCING DOWN INTO PREVIOUSLY PLACED GROUT FILL. SET BOLTS SIMILARLY. TIE WYTHES WITH HORIZONTAL REINFORCING AS SPECIFIED.
3.6. ALL CELLS BELOW GRADE SHALL BE FULLY GROUTED WITH MASONRY GROUT.
3.7. PROVIDE HORIZONTAL JOINT REINFORCING AT 16" O.C. UNLESS OTHERWISE NOTED.
3.8. PLACE ALL VERTICAL REINFORCING BARS IN CENTERS OF BLOCK CELLS UNLESS OTHERWISE NOTED.
3.9. FILL ALL CELLS, AT VERTICAL REINFORCING, FULL HEIGHT WITH MASONRY GROUT.
3.10. CONTRACTOR SHALL COORDINATE LOCATION OF ALL OPENINGS IN MASONRY. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
3.11. ALL MASONRY WORK PERFORMED, SHALL BE IN ACCORDANCE WITH ACI/ASCE 530. MASONRY CONSTRUCTION AND MATERIALS USED, SHALL CONFORM TO ALL REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
3.12. UNLESS OTHERWISE SHOWN, MASONRY WALLS SHALL HAVE VERTICAL CONTROL JOINTS AT A MAXIMUM SPACING OF 40'–0" ON CENTER FOR BRICK AND OF 25'–0" FOR CMU. THE JOINT SHALL BE FORMED USING PVC MATERIAL CONFORMING TO ASTM D2287, TYPE PVC 654–4. COORDINATE LOCATION OF JOINTS WITH THE ARCHITECTURAL ELEVATIONS.
3.13. PLACE A CONTINUOUS HORIZONTAL CMU BOND BEAM AT EACH FLOOR, AND AT THE TOP OF THE WALL, AND AT INTERMEDIATE LOCATIONS AS REQUIRED TO PROVIDE A MAXIMUM VERTICAL SPACING OF 12'–0", UNLESS OTHERWISE NOTED ON THE PLAN.

4. CONCRETE

4.1. ALL PLACED CONCRETE, SHALL HAVE NORMAL WEIGHT COARSE AGGREGATES UNLESS OTHERWISE NOTED, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) AT 28 DAYS AS SHOWN ON THE CONCRETE MATERIALS SCHEDULE.
4.2. GROUT FOR BASE PLATES SHALL BE NON–METTALIC, NON–SHRINKABLE GROUT, AND SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH, AT 28 DAYS, OF 5000 PSI.
4.3. NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
4.4. CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH ¾" x 45 DEGREE CHAMFER, UNLESS OTHERWISE NOTED.
4.5. HORIZONTAL FOOTING AND HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS, AND SHALL HAVE 90 DEGREE BENDS AND EXTENSIONS, OR CORNER BARS OF EQUIVALENT SIZE LAPPED, WITH A CLASS B TENSION SPLICE, AT CORNERS AND INTERSECTIONS. TOP BAR CRITERIA SHALL APPLY IF 12" OR MORE OF FRESH CONCRETE IS PLACED BELOW BAR.
4.6. SEE ARCHITECTURAL DRAWINGS FOR ALL WATERPROOFING / DAMPPROOFING DETAILS.
4.7. ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
4.8. SEE ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF FLOOR FINISHES.
4.9. SEE MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL DRAWINGS FOR ADDITIONAL WALL / SLAB OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
4.10. ALL REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60.
4.11. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
4.12. DETAIL AND FABRICATE REINFORCING STEEL IN ACCORDANCE WITH THE ACI DETAILING MANUAL.
4.13. IN–PLACE REINFORCING STEEL, SHALL BE REVIEWED BY THE ENGINEER PRIOR TO PLACEMENT OF CONCRETE.
4.14. AT CORNERS AND INTERSECTIONS, PROVIDE BARS OF THE SAME NUMBER AND SIZE AS THE LONGITUDINAL BARS IN THE FOOTING.
4.15. CONCRETE MATERIALS SHALL BE AS FOLLOWS:
4.15.1. USE TYPE I/II PORTLAND CEMENT CONFORMING TO ASTM C150
4.15.2. AGGREGATE SHALL CONFORM TO ASTM C33 (FINE AND COURSE AGGREGATES)
4.15.3. AIR ENTRAINING ADMIXTURE SHALL CONFORM TO ASTM C260
4.15.4. PLASTICIZER CAN BE USED TO IMPROVE WORKABILITY IF REQUIRED
4.16. CONCRETE MIX DESIGN:
4.16.1. MAXIMUM WATER/CEMENT RATIO – 0.50 FOR SLAB, 0.55 FOR FOOTINGS AND OTHER CONCRETE UNLESS OTHERWISE NOTED.
4.16.2. SLUMP SHALL BE 4 INCHES TO 6 INCHES (WITHOUT PLASTICIZER)
4.16.3. AIR ENTRAINMENT SHALL BE 4% TO 6% (EXTERIOR CONCRETE)
4.17. CONCRETE SLAB SHALL BE CURED USING A WATER–BASED CURING COMPOUND. CURING COMPOUND SHALL BE APPLIED TO ALL HORIZONTAL SURFACES. ONCE THE SURFACE WATER DISSIPATES AND THE SURFACE IS NOT MARRED BY WALKING, APPLY PER MANUFACTURER'S SPECIFICATIONS.
4.18. CONDUCT SLUMP, AIR, AND STRENGTH TESTS OF CONCRETE IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:
4.18.1. SECURE SAMPLES IN ACCORDANCE WITH "METHOD OF SAMPLING FRESH CONCRETE" (ASTM C 172). MOLD AND CURE FIVE SPECIMENS FROM EACH SAMPLE IN ACCORDANCE WITH "METHOD OF MAKING ANS CURING CONCRETE COMPRESSION AND FLEXURE SPECIMENS IN THE FIELD" (ASTM C 31). FIVE SPECIMENS COMPRISE ONE TEST. TEST TWO SPECIMENS AT 7 DAYS (ASTM C 39). TEST TWO SPECIMENS AT 28 DAYS IN ACCORDANCE WITH "METHOD OF TEST FOR COMPRESSIVE STRENGTH OF MOLDED CONCRETE CYLINDERS" (ASTM C 39). TEST EVALUATION SHALL BE CONDUCTED IN ACCORDANCE WITH PROVISIONS OF ACI 318–14. KEEP ONE SPECIMEN IN RESERVE.
4.18.2. MAKE ONE STRENGTH TEST FOR EACH 100 CUBIC YARDS OR FRACTION THEREOF FOR EACH MIX DESIGN OF CONCRETE PLACED IN ONE DAY, EXCEPT THAT IN NO CASE SHALL A GIVEN MIX DESIGN BE REPRESENTED BY LESS THAN THREE TESTS.

5. WOOD FRAMING

5.1. ALL STRUCTURAL WOOD MEMBERS SHALL BE No. 2 SOUTHERN YELLOW PINE, 19% MAXIMUM MOISTURE CONTENT, UNLESS OTHERWISE NOTED. INTERIOR NON BEARING PARTITIONS MAY BE No. 2 SPRUCE (SPF).
5.2. ALL WOOD FRAMING, DIRECTLY EXPOSED TO WEATHER, OR IN DIRECT CONTACT WITH MASONRY, SOIL OR CONCRETE, SHALL BE PRESSURE TREATED, UNLESS OTHERWISE NOTED.
5.3. ALL LVLs, DIRECTLY EXPOSED TO WEATHER, OR IN DIRECT CONTACT WITH MASONRY, SOIL OR CONCRETE, SHALL BE EXTERIOR GRADE, UNLESS NOTED OTHERWISE.
5.4. ALL METAL CONNECTORS SHALL BE HOT DIP GALVANIZED. INSTALL ALL CONNECTORS PER THE MANUFACTURER'S RECOMMENDATIONS. METAL CONNECTOR DESIGNATIONS INDICATED ON PLANS, ARE FOR 'SIMPSON STRONG–TIE' ANCHORS. ANCHORS FROM OTHER MANUFACTURERS MAY BE USED, PROVIDED THEY HAVE EQUIVALENT STRENGTH.
5.5. ALL NAILED CONNECTIONS SHALL BE IN ACCORDANCE WITH NORTH CAROLINA STATE BUILDING CODE TABLE 2304.10.1, SEE 2018 NCBC – FASTENING SCHEDULE, UNLESS OTHERWISE NOTED.
5.6. FRAMING CONNECTIONS THAT ARE BOLTED OR SCREWED, SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD.
5.7. PROVIDE STUDS AND HEADERS AT ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS AS FOLLOWS, UNLESS OTHERWISE NOTED:

OPENING WIDTH	STUDS	HEADER
0'–0" TO 6'–0"	2 KING STUDS, 1 JACK STUD	(2) 2 x 10 AT 2 x 4 WALL (3) 2 x 10 AT 2 x 6 WALL
6'–1" TO 8'–0"	2 KING STUDS, 2 JACK STUDS	(2) 2 x 10 AT 2 x 4 WALL (3) 2 x 10 AT 2 x 6 WALL
8'–1" TO 12'–0"	3 KING STUDS, 2 JACK STUDS	(2) 2 x 12 AT 2 x 4 WALL (3) 2 x 12 AT 2 x 6 WALL

6. WOOD DECKING/SHEATHING

6.1. TONGUE AND GROOVE DECKING SHALL BE 3 x 6 NOMINAL No. 2 SOUTHERN YELLOW PINE, UNLESS OTHERWISE NOTED. FASTENING OF DECKING SHALL BE DONE AS FOLLOWS:
TOENAIL DECKING AT EACH SUPPORT WITH ONE 40d COMMON NAIL AND FACE NAIL WITH ONE 6 INCH SPIKE OR 60d COMMON NAIL COURSES SHALL BE SPIKED TO EACH OTHER WITH 8 INCH SPIKES AT 30 INCH MAXIMUM SPACING THROUGH PRE–DRILLED EDGE HOLES PENETRATING TO A DEPTH OF APPROXIMATELY 4 INCHES INTO THE ADJACENT COURSE AND WITH ONE SPIKE AT A DISTANCE NOT EXCEEDING 10 INCHES FROM THE END OF EACH PIECE.
6.2. WALL SHEATHING SHALL BE 15/32" PLYWOOD OR ORIENTED STRAND BOARD (OSB), UNLESS OTHERWISE NOTED. ATTACH WALL SHEATHING TO FRAMING WITH 10d NAILS AT 4" O.C. AT PANEL EDGES AND 12" O.C. AT INTERIOR MEMBERS. PROVIDE SOLID BLOCKING AT PANEL EDGES (48" O.C.).
6.3. ROOF SHEATHING SHALL BE 19/32" PLYWOOD OR ORIENTED STRAND BOARD (OSB), UNLESS OTHERWISE NOTED. ATTACH ROOF SHEATHING TO FRAMING WITH 8d NAILS AT 4" O.C. AT PANEL EDGES AND 12" O.C. AT INTERIOR MEMBERS.

EXPOSED CONCRETE FINISH SCHEDULE

AREA	FINISH	COMMENTS
BASEMENT WALLS	SMOOTH FORM	–
ALL EXTERIOR WALLS, CURBS, UNLESS OTHERWISE NOTED	SMOOTH FORM	–
EXTERIOR CONCRETE PAVEMENT, SIDEWALKS	COARSE BROOM	–
SLAB ON GRADE	TROWEL	–
EXT. EQUIP. PADS	COARSE BROOM	–
EXTERIOR STAIRS	COARSE BROOM	–
–	–	–

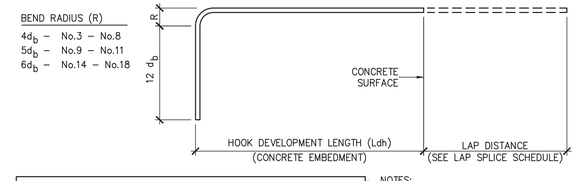
CONCRETE REBAR SPLICE SCHEDULE

BAR SIZE	LAP LENGTH (in.) f'c = 3000 psi	f'c = 4000 psi	f'c = 5000 psi
#4	22	19	17
#5	28	24	21
#6	32	29	26
#7	48	42	37
#8	55	48	43
#9	62	54	48
#10	68	60	53
#11	76	66	59

NOTES:
1. CONCRETE IS NORMAL WEIGHT CONCRETE. IF LIGHTWEIGHT CONCRETE IS USED, MULTIPLY LENGTHS IN TABLE BY 1.3.
2. BAR YIELD STRENGTH (fy) IS 60 KSI.
3. BAR SPACING AND COVER REQUIREMENTS OF ACI SECTION 25.4.2.2 ARE ASSUMED TO BE MET. IF NOT, MULTIPLY LENGTHS IN TABLE BY 1.5.
4. REDUCTION OF EXCESS REINFORCEMENT NOT TAKEN.
5. IF MORE THAN 12" OF FRESH CONCRETE IS CAST IN MEMBER BELOW HORIZONTAL SPLICE, MULTIPLY LENGTHS IN TABLE BY 1.3.

CONCRETE MATERIALS SCHEDULE

LOCATION	MINIMUM COMPRESSIVE STRENGTH (AT 28 DAYS)	REMARKS
FOUNDATIONS	3000 PSI	–
SLAB ON GRADE	4000 PSI	–
WALLS	3000 PSI	–
EQUIPMENT PADS	3000 PSI	–
ELEVATED FLOOR SLAB	4000 PSI	LIGHTWEIGHT CONCRETE
CONCRETE FOR MASONRY CORES, BOND BEAMS	3000 PSI	ASTM C476 GROUT
MISCELLANEOUS	3000 PSI	–



STANDARD HOOKS IN TENSION (PER ACI 318–02)

BAR SIZE	HOOK DEVELOPMENT LENGTH Ldh (INCHES) f'c 3000 psi	f'c 4000 psi	f'c 5000 psi
#3	9	7	7
#4	11	10	9
#5	14	12	11
#6	17	15	13
#7	19	17	15
#8	22	19	17
#9	25	22	19
#10	28	24	22
#11	31	26	24

NOTES:
1. CONCRETE IS NORMAL WEIGHT CONCRETE. IF LIGHTWEIGHT CONCRETE IS USED, MULTIPLY LENGTHS IN TABLE BY 1.3.
2. BAR YIELD STRENGTH (fy) IS 60 KSI.
3. SIDE COVER REQUIREMENTS OF ACI SECTION 25.4.3.2 ARE ASSUMED TO NOT BE MET.
4. TIE OR STIRRUP REQUIREMENTS OF ACI SECTION 25.4.3.2 ARE ASSUMED TO NOT BE MET.
5. REDUCTION OF EXCESS REINFORCEMENT IS NOT TAKEN.
6. HOOK DEVELOPMENT LENGTH IS VALID FOR 180° HOOKS ALSO.

d_b = BAR DIAMETER

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RENOVATION / ADDITION TO POOL BUILDING FOR:

CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY-VARINA NC 27526

PROJECT NUMBER
224215

DATE
FEBRUARY 24, 2026

REVISIONS

STRUCTURAL DESIGN CRITERIA, GENERAL STRUCTURAL NOTES & SCHEDULES

S401

PLUMBING SPECIFICATIONS

GENERAL:
THESE PERMIT DRAWINGS DESCRIBE DIAGRAMMATICALLY, AND IN GENERAL TERMS, THE INTENDED SCOPE OF WORK AS UNDERSTOOD BY THE ENGINEER. THE ENGINEER CREATED THE DRAWINGS, INCLUDING PLANS, DIAGRAMS, SPECIFICATIONS, AND NOTES, FOR THE EXPRESS PURPOSE OF DESCRIBING THE PROJECT TO THE LOCAL INSPECTIONS AUTHORITY'S PLANS REVIEW STAFF FOR THEIR USE IN GRANTING A BUILDING PERMIT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY UNDERSTANDING THE ACTUAL FIELD CONDITIONS OF THE PROJECT SITE AND THE SCOPE OF WORK AS EXPRESSED BY THE PARTY TO WHOM THE CONTRACTOR HAS CONTRACTED TO PERFORM THE WORK. THEREFORE, THE CONTRACTOR SHALL REVIEW THESE DOCUMENTS THOROUGHLY FOR ALL CONFLICTS, AND FOR ANY ASPECT OF THE WORK SHOWN IN THESE DOCUMENTS THAT IS AT VARIANCE WITH THE CONTRACTOR'S UNDERSTANDING OF THE WORK. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE FACILITY OWNER'S INTENDED SCOPE OF WORK FOR THE PROJECT.

THE CONTRACTOR SHALL PERFORM ALL WORK ACCORDING TO ALL RELEVANT CODES, ALL REFERENCED STANDARDS, AND THE MOST CURRENT INTERPRETATIONS OF THE CODE AS STATED BY THE AUTHORITY HAVING JURISDICTION. IF ANYTHING IS NECESSARY FOR THE COMPLETE, PROPER, AND SAFE INSTALLATION, OPERATION, AND FUNCTION OF THE WORK DESCRIBED IN THESE DOCUMENTS, THE CONTRACTOR SHALL PROVIDE IT EVEN IF NOT CLEARLY INDICATED IN THESE DOCUMENTS.

THE CONTRACTOR SHALL SUPPLEMENT THESE CONTRACT DOCUMENTS WITH ALL DETAILS OF CONSTRUCTION; ALL MATERIAL, DEVICE, AND EQUIPMENT INSTALLATION INSTRUCTIONS; ANY NEEDED MANUFACTURER, SUPPLY HOUSE, AND VENDOR ASSISTANCE; SHOP DRAWINGS, AND FIELD INSTALLATION DRAWINGS NECESSARY TO COMPLETE THE PROJECT.

DETERMINE THE ACTUAL FIELD CONDITIONS AND INSTALLATION DETAILS. FULLY COORDINATE EVERY DEVICE AND EQUIPMENT AND THE RESPECTIVE LOCATIONS FOR EQUIPMENT, DEVICES, AND MATERIALS AMONG ALL CONTRACTOR TRADES AND WITH THE OWNER, IF NECESSARY. INSTALL EVERY PIECE OF EQUIPMENT AND ALL CONTROL DEVICES WITH ALL CODE-REQUIRED AND MANUFACTURER-RECOMMENDED SERVICING CLEARANCES, FREE OF OBSTRUCTIONS, AND WITHOUT CONFLICT WITH OTHER EQUIPMENT OR BUILDING ELEMENTS.

CONTRACTOR COORDINATION AND PRICING:
VISIT THE SITE OF THIS PROJECT AS OFTEN AS NECESSARY TO BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING FIELD CONDITIONS AND THE FULL EXTENT OF THE WORK TO BE PERFORMED. VERIFY EVERY ASPECT OF THE PROPOSED WORK AS DESCRIBED OR IMPLIED BY THESE CONTRACT DOCUMENTS PRIOR TO SUBMITTING A PRICE FOR THIS WORK.

REVISE ANY ORIGINAL PRICING PRESENTED PRIOR TO THE CONTRACTOR'S RECEIPT OF THESE DRAWINGS TO SHOW ALL ADJUSTMENTS TO THE PRICE. THE CONTRACTOR'S RISK INCLUDES ANY COST INCURRED PRIOR TO OBTAINING ALL CLARIFICATIONS TO THESE DOCUMENTS, OR TO THE DESIGNER'S OR OWNER'S INTENT.

THE ENGINEER DID NOT INDEPENDENTLY VERIFY ALL EXISTING FIELD CONDITIONS. DETERMINE ALL MISSING INFORMATION RELEVANT TO THE PERMITTED WORK. TAKE ACTUAL FIELD MEASUREMENTS AT THE JOB SITE INSTEAD OF SCALING THE DRAWINGS. THE SYMBOLS AND DIAGRAMS SHOWN HAVE NO DIMENSIONAL SIGNIFICANCE AND DO NOT SHOW EVERY APPURTENANCE NECESSARY FOR A COMPLETE INSTALLATION AND CONFIGURATION. THE DRAWINGS SHOW APPROXIMATE LOCATIONS FOR ALL EQUIPMENT, DEVICES, AND MATERIALS. DETERMINE FINAL LOCATIONS IN THE FIELD BASED UPON ACTUAL CONSTRUCTION.

BRING ALL CONTRACT DOCUMENT-RELATED OMISSIONS, DISCREPANCIES, AND CONFLICTS TO THE ENGINEER'S ATTENTION PRIOR TO COMMENCING WORK AND INCURRING ANY COSTS FOR LABOR OR MATERIALS. WHERE THE ENGINEER HAS NO POST-DESIGN AND CONSTRUCTION ASSISTANCE RESPONSIBILITIES TO THE PROJECT, TAKE ALL FIELD-DISCOVERED CONFLICTS AND INTERFERENCES TO THE GENERAL CONTRACTOR'S ATTENTION FOR RESOLUTION BY THE RESPECTIVE TRADES.

SUBMIT ALL REQUESTS FOR INFORMATION (RFI) WITH WRITTEN COMMENTS DEFINING THE INFORMATION AND ASSISTANCE NEEDED. DOCUMENT THE REQUEST WITH RELEVANT INFORMATION FROM THE PLANS AND SPECIFICATIONS.

QUALIFICATIONS AND STANDARDS OF WORKMANSHIP:
PERFORM ALL WORK USING EXPERIENCED, SKILLED CRAFTSMEN LICENSED IN THEIR RESPECTIVE TRADES, AND COMPETENT TO PERFORMED THE WORK INVOLVED WITH THIS PROJECT.

ALL WORK AND MATERIALS SHALL CONFORM TO THE APPLICABLE LOCAL, STATE, AND NATIONAL CODES (INCLUDING OSHA). AS THE ABSOLUTE MINIMUM ACCEPTABLE QUALITY STANDARD, COMPLY WITH THE LATEST EDITION OF THE STATE BUILDING CODE AND THESE SPECIFICATIONS.

DEMOLITION:
REMOVE ALL EQUIPMENT, DEVICES, AND MATERIALS NOT INTENDED TO REMAIN AND OBSTRUCTING NEW WORK. MECHANICALLY SECURE ALL ABANDONED EXISTING EQUIPMENT, FIXTURES, VALVES, DEVICES, PIPING, TUBING, ETC. WHEN DEMOLISHING PIPING, CONDUITS, WIRING, AND CABLING, REMOVE ALL PORTIONS BACK TO THE NEAREST POINT THAT REMAINS IN SERVICE. PROVIDE ALL DEVICES, CAPS, VALVES, FITTINGS, INSULATION, ETC., NECESSARY TO RESTORE TO SERVICE THE EXISTING PIPING, CONDUITS, WIRING, AND CABLES AFFECTED BY THIS WORK. RECONNECT, CLEAN, REPAIR, PURGE, STERILIZE, PRIME, TEST, ADJUST, BALANCE, ETC., AS NECESSARY ALL EXISTING EQUIPMENT, FIXTURES, DEVICES, PIPING, CONTROLS, ETC., TO BE LEFT IN SERVICE OR REUSED.

MATERIALS AND METHODS:
PROVIDE ALL CUTTING AND PATCHING NECESSARY TO PROPERLY INSTALL ALL WORK. FOR WORK IN-PROGRESS, LEAVE IN SAFE CONDITION ALL FLOORS, WALLS, CEILINGS, FINISH MATERIALS, OR ANY PART OF THE BUILDING OR PREMISES THAT MUST BE CHANGED OR REPLACED. REPAIR ANY DAMAGE DONE TO EXISTING EQUIPMENT, DEVICES, OR MATERIALS.

DO NOT CUT, NOTCH, OR BORE A FRAMING MEMBER IN EXCESS OF LIMITATIONS SPECIFIED IN THE CODE. DO NOT CUT, NOTCH, OR BORE ANY STRUCTURAL BEAMS AND COLUMNS UNDER ANY CIRCUMSTANCES.

DO NOT SUPPORT PIPES ON BLOCKS ON GRADE.

PERFORM ALL TRENCHING AND BACKFILLING IN A SAFE MANNER. PROTECT THE STABILITY OF ALL STRUCTURES (OR ANY PART THEREOF) AND ANY WORK INSTALLED BY OTHER TRADES. EXCAVATE TRENCHES BELOW THE INSTALLATION LEVEL OF THE PIPE SUCH THAT THE BOTTOM OF THE TRENCH DOES NOT FORM THE BED FOR THE PIPE OR RACEWAY.

AT THE BOTTOM OF ANY TRENCH, STABILIZE SOFT MATERIALS OF POOR LOAD-BEARING QUALITY BY OVER-EXCAVATING A MINIMUM OF TWO PIPE DIAMETERS AND BACKFILLING WITH FINE GRAVEL, CRUSHED STONE, OR A CONCRETE FOUNDATION TO THE INSTALLATION LEVEL OF THE PIPE OR CONDUIT BOTTOM. TAP SAND INTO PLACE FOR ANY CONCRETE FOUNDATION INSTALLED SO AS TO PROVIDE UNIFORM LOAD-BEARING SUPPORT ABOVE THE CONCRETE FOR THE PIPE/CONDUIT BETWEEN JOINTS.

REMOVE ROCK ENCOUNTERED IN TRENCHING TO A MINIMUM OF 3 INCHES BELOW THE INSTALLATION OF THE BOTTOM OF THE PIPE/CONDUIT, AND BACKFILL THE TRENCH SHALL BE BACKFILLED TO THE INSTALLATION LEVEL OF THE BOTTOM OF THE PIPE WITH SAND TAMPED IN PLACE SO AS TO PROVIDE UNIFORM LOAD-BEARING SUPPORT FOR THE PIPE BETWEEN JOINTS. THE PIPE, INCLUDING THE JOINTS, SHALL NOT REST ON ROCK AT ANY POINT.

BURIED PIPING SHALL BE SUPPORTED THROUGHOUT ITS ENTIRE LENGTH. PROVIDE SOLID AND CONTINUOUS LOAD-BEARING SUPPORT BETWEEN JOINTS. PROVIDE BELL HOLES, HUB HOLES, AND COUPLING HOLES WHERE CONNECTING PIPES.

BACKFILL THE TRENCH TO THE INSTALLATION LEVEL OF THE BOTTOM OF THE PIPE WITH SAND OR FINE GRAVEL PLACED IN LAYERS OF 6-INCHES MAXIMUM DEPTH. BACKFILL SHALL BE FREE FROM DISCARDED CONSTRUCTION MATERIAL AND DEBRIS. LOOSE EARTH FREE FROM ROCKS, BROKEN CONCRETE, AND FROZEN CHUNKS SHALL BE PLACED IN THE TRENCH IN 6-INCH LAYERS AND TAMPED IN PLACE UNTIL THE CROWN OF THE PIPE IS COVERED BY 12 INCHES OF TAMPED EARTH. THE BACKFILL UNDER AND BESIDE THE PIPE SHALL BE COMPACTED FOR PIPE SUPPORT. BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE SO THAT THE PIPE REMAINS ALIGNED.

RESTORE ALL DAMAGED EXISTING WALKS, WALLS, PAVED AREAS, OR GRADED AREAS TO THEIR FINAL FINISH APPEARANCE.

MATERIAL AND PRODUCT STANDARDS:
PROVIDE ONLY NEW MATERIALS, DEVICES, FIXTURES, AND EQUIPMENT LISTED AND LABELED (FOR THE USE INTENDED) BY AN APPROVED THIRD PARTY LABORATORY SERVICE APPROVED BY THE STATE, SUCH AS UNDERWRITER'S LABORATORIES, INC, CSA, ETL AND OTHERS. DO NOT USE UNLISTED AND UNLABELED PRODUCTS.

PROVIDE APPROPRIATELY LABELED AND APPROPRIATELY RATED EQUIPMENT ENCLOSURES AND PRODUCTS FOR EACH LOCATION. USE PROVIDE NEMA 3R OR BETTER AND/OR WET LOCATION LABELED ENCLOSURES FOR ALL EQUIPMENT AND PRODUCTS INSTALLED ANYWHERE OUTDOORS OR AT INDOOR WASH DOWN LOCATIONS.

UTILITY AND BUILDING OWNER'S REPRESENTATIVE COORDINATION:
COMPLY WITH ALL MUNICIPAL, STATE, AND/OR UTILITY REGULATIONS FOR SERVICE CONNECTIONS AND METERING PROVISIONS.

FULLY COORDINATE WITH THE GAS AND WATER UTILITIES TO PROVIDE SERVICES TO THE FACILITY. PROVIDE ANY NECESSARY VAULTS, CONCRETE PADS, OR UNDERGROUND PIPES AND PROVISIONS REQUESTED BY THE UTILITY. THE OWNER WILL PAY FOR ALL SERVICE CONNECTION, LINE EXTENSION, AND IMPACT FEES DIRECTLY TO THE APPROPRIATE UTILITY OR JURISDICTION.

PROVIDE TEMPORARY SERVICES AS NECESSARY TO SUPPORT ALL CONSTRUCTION ACTIVITIES.

SUBMITTALS AND TESTING:
SUBMIT A LIST OF ALL PLUMBING FIXTURES, EQUIPMENT, AND DEVICES MATCHING THE ENGINEER'S BASIS OF DESIGN. SUBMIT ELECTRONIC SHOP DRAWINGS AND CATALOG DATA FOR ALL PLUMBING FIXTURES, EQUIPMENT, DEVICES, MATERIALS, AND INSULATIONS THAT DO NOT.

RETAIN ALL RETAIN INSTALLATION INSTRUCTIONS, MANUFACTURER'S PACKING DOCUMENTS, ETC., FOR ALL LIFE SAFETY RELATED EQUIPMENT AS EVIDENCE TO THE AUTHORITY HAVING JURISDICTION THAT THE CORRECT MATERIALS AND DEVICES WERE USED IN THE CONSTRUCTION, PENETRATION, AND SEALING OF PENETRATION IN ALL RATED ASSEMBLIES.

CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES, AND WITH THE REQUESTS OF THE LOCAL INSPECTOR FOR TESTS AND COMPONENT TESTING. CONTRACTOR SHALL PAY THE FULL COST OF ANY DESTRUCTIVE TESTING NECESSARY TO DEMONSTRATE COMPLIANCE WITH THESE DRAWINGS AND CODE.

AS A MINIMUM, TURN "ON" AND "OFF", SWITCH, CHANGE MODES, AND VERIFY SEQUENCES OF OPERATION FOR ALL DEVICES, EQUIPMENT, AND SYSTEMS TO DEMONSTRATE PROPER INSTALLATION AND SATISFACTORY OPERATION.

PERMITS, WARRANTY, AND INSPECTIONS:
OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL, AND THE LIKE AND SHALL DELIVER SUCH CERTIFICATES TO THE OWNER. NOTIFY THE ARCHITECT AND ENGINEER OF ALL SCHEDULED INSPECTIONS.

WARRANT ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP SHOWN OR IMPLIED BY THESE DOCUMENTS TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR, STARTING FROM THE TIME OF ACCEPTANCE BY THE BUILDING OWNER. IF WITHIN ONE YEAR AFTER THE ACCEPTANCE DATE ANY WORK OR EQUIPMENT IS FOUND TO BE DEFECTIVE, CORRECT IT PROMPTLY AT NO COST TO THE BUILDING OWNER.

SCOPE OF WORK:
PROVIDE ALL WORK, EQUIPMENT, SERVICES, LABOR, AND MATERIALS NECESSARY FOR THE INSTALLATION OF COMPLETE AND FUNCTIONAL WASTE, VENT, DOMESTIC COLD WATER, AND GAS SYSTEMS AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS.

PIPING, PIPE FITTINGS, PIPE HANGERS/SUPPORTS, & INSULATION:
FOR UNDERGROUND WATER PIPING, PROVIDE SEAMLESS COPPER TUBING, TYPE K, ASTM B-88 OR SCHEDULE 80 CPVC, ASTM F-44-1 WITH APPROVED SOLVENT. INSTALL UNDERGROUND WATER PIPING WITH THE TOP OF THE PIPE A MINIMUM OF 12" BELOW GRADE.

FOR ABOVEGROUND WATER PIPING, PROVIDE SCHEDULE 40 C-PVC PIPING ASTM D1784, ASTM F480, AND NSF 14 AND 61. USE SCHEDULE 80 C-PVC FITTINGS ASTM D1784, ASTM F439, ASTM F437, AND NSF 14 AND 61. INSTALL ABOVEGROUND WATER PIPING INSIDE THE THERMAL ENVELOPE AND ON THE HEATED SIDE OF ANY EXTERIOR WALLS AND INSULATED CEILINGS. C-PVC DOMESTIC WATER PIPING MAY BE INSTALLED IN RETURN AIR PLENUMS ONLY WHERE THE PIPING WILL REMAIN FILLED WITH WATER AND UNDER PRESSURE.

AT THE CONTRACTOR'S OPTION, PROVIDE SEAMLESS COPPER TUBING, ASTM B-88-61, TYPE L, HARD DRAWN COPPER FOR ABOVEGROUND WATER PIPING. USE WROUGHT METAL SOLDERED JOINT FITTINGS ANSI B16.22.

AT THE CONTRACTOR'S OPTION, PROVIDE CROSS-LINKED POLYETHYLENE (PEX) PLASTIC TUBING LISTED FOR WATER SERVICE AND BRANCH WATER PIPING. FLARE PIPING ENDS USING A TOOL SPECIFICALLY DESIGNED FOR THAT TASK. PROVIDE METALLIC LOCK RINGS CONFORMING TO THE MANUFACTURER'S TECHNICAL REQUIREMENTS FOR PIPING JOINTS. USE INSERT FITTINGS CONFORMING TO ASTM F 1974.

FOR NATURAL GAS PIPING, PROVIDE SCHEDULE 40, BLACK STEEL WITH MALLEABLE IRON FITTINGS. FOR 2 PSI SYSTEMS, PROVIDE VENT-LESS REGULATORS FOR ALL GAS-FIRED APPLIANCES.

FOR SANITARY WASTE AND VENT PIPING, PROVIDE ABS, DWV, AND/OR PVC SCHEDULE 40.

INSTALL ALL PLASTIC PIPING PER ASTM D2321 AND FOLLOWING THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS.

FOR PVC DWV INSTALLATIONS, PROVIDE SCHEDULE 40 SOLID WALL OR COMPOSITE WALL, PVC PIPING AND FITTINGS CONFORMING TO ASTM D2665.

WHEN MAKING JOINTS, FOLLOW THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS INCLUDE USE OF PURPLE PRIMER CONFORMING TO ASTM F656 FOLLOWED BY NON-PURPLE SOLVENT CEMENT CONFORMING TO ASTM D2564.

INSTALL PIPING AND RELATED ITEMS NEATLY WITH ROUTES GENERALLY CHOSEN TO BE PARALLEL AND PERPENDICULAR TO BUILDING LINES. ARRANGE PIPING FOR EASY ACCESS TO ALL VALVES, TRAPS, AND CLEANOUTS.

INSTALL WATER PIPING IN EXTERIOR WALLS AND INSULATED ROOF/CEILINGS ON THE HEATED SIDE OF THE INSULATION.

FOR HORIZONTAL WASTE PIPING, INSTALL 2-1/2" OR SMALLER PIPING WITH A SLOPE OF 1/4" PER LINEAR FOOT OR MORE. INSTALL 3" OR LARGER PIPING WITH A SLOPE OF 1/8" PER LINEAR FOOT OR MORE.

SLEEVE ALL PENETRATIONS OF MASONRY OR POUR-IN-PLACE FOUNDATIONS, CONCRTEE SLABS, OR CASIT-IN-PLACE CONCRETE WALLS WITH COATED OR WRAPPED METAL SLEEVES OF 0.025" MINIMUM THICKNESS.

AT THE BASE OF WASTE AND WASTE/VENT STACKS, SUPPORT THE PIPING WEIGHT WITH THE BUILDING STRUCTURE, VIRGIN OR COMPACTED EARTH, OR OTHER SUITABLE MATERIALS.

PROVIDE HANGERS, ANCHORS, AND OTHER SUPPORTS TO ADEQUATELY SUPPORT INSTALLED PIPING AND PIPING CONTENTS. PROVIDE APPROVED DEVICES AND MATERIALS WHICH NOT PROMOTE GALVANIC ACTIONS. SPACE ALL SUPPORTS PER THE TABLES IN THE PLUMBING CODE.

INSTALL EXPANSION JOINT FITTINGS WHERE NECESSARY FOR THE EXPANSION AND CONTRACTION OF INSTALLED PIPING. PROVIDE EXPANSION JOINT FITTINGS OF A MATERIAL SUITABLE FOR THE INSTALLED PIPING MATERIAL.

REAM CUT PIPING TO REMOVE ALL BURRS, FINS, AND FOREIGN MATERIALS. THOROUGHLY CLEAN ALL PIPING BEFORE JOINING. WHEN SOLDERING METALLIC PIPING, USE ONLY LEAD-FREE SOLDER.

SEAL THE SPACES AROUND ALL PIPING PENETRATIONS IN AN APPROVED MANNER. FOLLOW REQUIREMENTS UNDER MATERIALS AND METHODS UNDER THE GENERAL SECTION.

PROVIDE CHROMIUM-PLATED ESCUTCHEONS WITH SET SCREWS FOR ALL EXPOSED WATER SUPPLIES, TRAPS AND WALL CLEANOUTS.

INSULATE ALL WATER PIPING & WASTE P-TRAPS IN UNCONDITIONED SPACES INCLUDING EXTERIOR LOCATIONS, CRAWL SPACES, AND UNCONDITIONED UTILITY ROOMS. PROVIDE AN INSTALLED VALUE OF R-6.5 OR BETTER (1" MINIMUM).

INSIDE THE THERMAL ENVELOPE OF THE BUILDING, INSULATE FOR 8' MINIMUM LENGTH ALL HOT WATER PIPING CONNECTIONS TO WATER HEATERS WITHOUT HEAT TRAPS USING 1/2" THICK FOAM INSULATION (R-2 OR GREATER). INSULATE ALL HOT WATER RECIRCULATION SYSTEMS (HOT WATER SUPPLY AND RETURN PIPING) WITH 1" FOAM INSULATION (R-4 OR GREATER).

USING APPROVED TAPE MATERIALS, INSTALL WRAPPED PIPE INSULATION SEALED BY TAPE AT REGULAR INTERVALS AND AT JOINTS BETWEEN SECTIONS. CONTRACTOR MAY USE SELF-SEALING FOAM INSULATION PRODUCTS. PROVIDE PIPING INSULATIONS AND COVERINGS WITH FLAME-SPREAD RATINGS OF 0-25 AND SMOKE-DEVELOPMENT RATINGS OF 0-450.

AT ALL VENT PIPING PENETRATIONS OF THE ROOF, INSTALL FLASHING AND COUNTER-FLASHING TO MAKE THE PENETRATIONS WATERTIGHT.

INSTALL AIR ADMITTANCE VALVES A MINIMUM OF 4 INCHES ABOVE THE WEIR OF THE FIXTURE TRAP FOR A SINGLE FIXTURE AND BRANCH VENTING, AND 6 INCHES ABOVE THE FLOOD LEVEL OF THE HIGHEST FIXTURE FOR STACK VENTING. INSTALL THE VALVE IN THE VERTICAL, UPRIGHT POSITION, AND CONNECTED TO THE PIPING PER THE VALVE MANUFACTURER'S INSTRUCTIONS. STUDOR, AYRLETT, OR OATEY.

FIXTURES AND EQUIPMENT:
ALL PLUMBING FIXTURES SHALL MEET OR EXCEED THE DESCRIPTIONS ON THE DRAWINGS AND FIXTURE SCHEDULE. FOR SUBSTITUTE PRODUCTS AND APPLIANCES OF EQUAL PERFORMANCE, CONSULT WITH TEH ENGINEER FOR ACCEPTANCE.

BACKFLOW PREVENTERS – BACKFLOW PREVENTER MODEL ON WATER SERVICE MUST BE RPZ MODEL APPROVED BY THE AHJ.

FOR FIXTURE AND FOOD SERVICE APPLIANCE BACKFLOW PREVENTION DEVICES – WATTS, WILKINS, OR FEBCO CONFORMING TO ASSE 1022 TO INCLUDE CHEMICAL TREATMENT DISPENSERS, ICE MACHINE AND BEVERAGE APPLIANCES, AND DISHWASHING EQUIPMENT.

TESTING:
HYDROSTATICALLY TEST ALL PLASTIC WATER PIPING. PROVE WATER-TIGHTNESS WITH POTABLE WATER FOR A MINIMUM OF TWO HOURS, AT NO LESS THAN 100 PSI, AND TO THE SATISFACTION OF THE INSPECTOR. FOR METAL WATER PIPING SYSTEMS, AIR TEST FOR A MINIMUM OF TWO HOURS AT NOT LESS THAN 100 PSI.

TEST PER THE STATE BUILDING CODE WITH WATER AND AIR ALL DRAINAGE, VENT, INTERIOR ROOF LEADERS OR DOWNSPOUTS, AND BRANCHES. SMOKE TEST THE DRAINAGE SYSTEM WHERE DIRECTED BY THE INSPECTOR.

OTHER REQUIREMENTS:
INSTALL A BACKFLOW PREVENTER ON THE BUILDING WATER SERVICE. INSTALL BACKFLOW PREVENTER DEVICE ON EVERY COFFEE, BEVERAGE, AND FOOD SERVICE APPLIANCE WITH A WATER CONNECTION.

LABEL ALL TANKS, PUMPS, AND OTHER EQUIPMENT. MARK EXPOSED PIPING WITH FLOW DIRECTIONS.

ALL NEW DOMESTIC WATER PIPING, FIXTURES, AND FAUCETS SHALL BE FLUSHED CLEAN. REMOVE AND CLEAN ALL AERATORS.

ALL NEW DOMESTIC WATER PIPE SHALL BE STERILIZED IN ACCORDANCE WITH THE LOCAL BOARD OF HEALTH AND AWWA C601-537.

GENERAL PLUMBING NOTES:

1. PREPLAN ALL WORK PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.
2. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.
3. RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.
4. COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING PLUMBING FIXTURES, MATERIALS, AND DEVICES.
5. PROVIDE ALL APPURTENANCES NECESSARY TO PROPERLY INSTALL FIXTURES, EQUIPMENT, DEVICES, PIPING, MATERIALS, ETC.
6. VERIFY PLUMBING FIXTURES TO BE INSTALLED AGAINST THE ARCHITECT'S ROOM FINISHES AND RESOLVE ALL CONFLICTS AND CLEARANCE ISSUES BEFORE ORDERING FIXTURES.
7. LOCATE FIXTURES AND EQUIPMENT GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO PRESERVE ALL CODE-REQUIRED AND MANUFACTURER – REQUESTED SERVICE CLEARANCES.
8. COORDINATE WITH GENERAL TRADE TO ENSURE THAT ACCESSIBLE FIXTURE PLACEMENTS COMPLY WITH THE ADA AND ACCESSIBLE PROVISIONS OF THE CODE. INSTALL ACCESSIBLE SINKS AND LAVATORIES NO HIGHER THAN 34" AFF. ALL ACCESSIBLE SINK DEPTHS SHALL NOT EXCEED 6", INSTALL HANDLES ON WATER CLOSETS SO THAT THE HANDLE IS ON THE WIDE SIDE OF THE ROOM OR STALL. CONTRACTOR SHALL CONFIRM IN FIELD.
9. COORDINATE ROUTING OF ALL PIPING WITH BUILDING STRUCTURE AND WITH THE WORK OF OTHER TRADES. INSTALL PIPING SO AS TO PREVENT STRAINS AND STRESSES THAT WOULD BREAK PIPING OR CHANGE SLOPE. SUPPORT PIPING PASSING THROUGH OR UNDER WALLS AS NECESSARY TO PREVENT BREAKAGE. OFFSET VENT PIPING AROUND BEAMS AND JOISTS AS NECESSARY.
10. ANY PIPING THAT PASSES WITHIN 12" UNDER A FOOTING OR THROUGH A FOUNDATION WALL SHALL BE PROVIDED WITH A PIPE SLEEVE BUILT INTO THE FOUNDATION WALL. THE SLEEVE SHALL BE TWO PIPE SIZES LARGER THAN THE PIPE PASSING THROUGH THE WALL. UNDER NO CIRCUMSTANCES IS A PIPE ALLOWED TO BE RUN UNDER A PIER FOOTING.
11. THE TOP OF WATER PIPING, INSTALLED BELOW GRADE OUTSIDE OF THE BUILDING, SHALL BE BELOW THE FROST LINE AND NOT LESS THAN 12" BELOW FINISHED GRADE. WASTE AND SOIL PIPING SHALL HAVE A MINIMUM COVER OF 3". NO TRAPS OF SOIL OR WASTE PIPE SHALL BE INSTALLED OR PERMITTED OUTSIDE OF A BUILDING, OR CONCEALED IN OUTSIDE WALLS, OR IN ANY PLACE WHERE SUBJECTED TO FREEZING TEMPERATURES.
12. MINIMIZE ALL ROOF PENETRATIONS. ALL JOINTS AT THE ROOF AROUND VENT PIPES SHALL BE MADE WATERTIGHT BY USE OF APPROVED FLASHINGS AND FLASHING MATERIALS THAT CONFORM TO THE ROOF INSTALLER'S REQUIREMENTS. EXTERIOR WALL OPENINGS SHALL BE MADE WATER TIGHT. REUSE EXISTING VTRs WHERE THE VTR REMAINS IN GOOD CONDITION AND IS WATER-TIGHT.
13. WHERE PASSING THROUGH MASONRY OR OTHER CORROSIVE MATERIALS, METALLIC PIPING SHALL BE PROTECTED FROM CORROSION WITH SHEATHING OR WRAPPING. ONCE APPLIED, THE COVERINGS SHALL ALLOW FOR EXPANSION AND CONTRACTION TO PREVENT ANY RUBBING ACTON.
14. ALL ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR TIGHTLY CAULKED IN AN APPROVED MANNER. FOR PENETRATIONS OF FIRE-RATED ASSEMBLIES, PROVIDE UL-LISTED PENETRATION DETAILS SELECTED FOR THE SPECIFIC FIRE-RATED ASSEMBLY AND PENETRATING MATERIALS.
15. WHERE AT AN EXTERIOR WALL, INSTALL ALL WATER PIPING ON HEATED SIDE OF THE WALL INSULATION AND WITHIN THE THERMAL ENVELOPE OF THE BUILDING. INSULATE ALL COLD AND HOT WATER PIPING IN UNCONDITIONED ROOMS AND SPACES, AND WHERE NOT INSIDE THE THERMAL ENVELOPE OF THE BUILDING WITH R-6.5 OR HIGHER INSULATION. ALL INSULATION PRODUCTS SHALL BE FOAM WRAP INSULATION SECURED 24" ON CENTER OR SELF-SEALING PRODUCTS OF SPECIFIED R-VALUE. TAPE/SEAL END PIECE JOINTS OF ADJACENT SEGMENTS.
16. PROVIDE SHUTOFF BALL VALVES FOR EVERY BRANCH WATER LINE.
17. PROVIDE HOT WATER TEMPERING VALVES ON ALL SINKS AND LAVATORIES. SET HOT WATER TEMPERATURE FOR 110F.
18. SEE ARCHITECTURAL COVERSHEET FOR MINIMUM FACILITIES CALCULATION.
19. FOR HORIZONTAL WASTE PIPING, INSTALL 2½" OR SMALLER PIPING WITH A SLOPE OF ¼" PER LINEAR FOOT OR MORE. INSTALL 3" OR LARGER PIPING WITH A SLOPE OF ⅛" PER LINEAR FOOT OR MORE.

PLUMBING LEGEND

- NEW VENT PIPING
- NEW WASTE PIPING
- NEW COLD WATER PIPE
- NEW HOT WATER PIPE
- BALL VALVE (BV)
- LH — LAVATORY (ACCESSIBLE)
- WCH — WATER CLOSET (ACCESSIBLE)
- CO — CLEANOUT
- NFHB — NON-FREEZE HOSE BIB
- CONNECT TO EXISTING
- (1) — KEY NOTE NUMBER
- VTR — VENT THROUGH ROOF

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RENOVATION/ADDITION TO POOL BUILDING FOR:

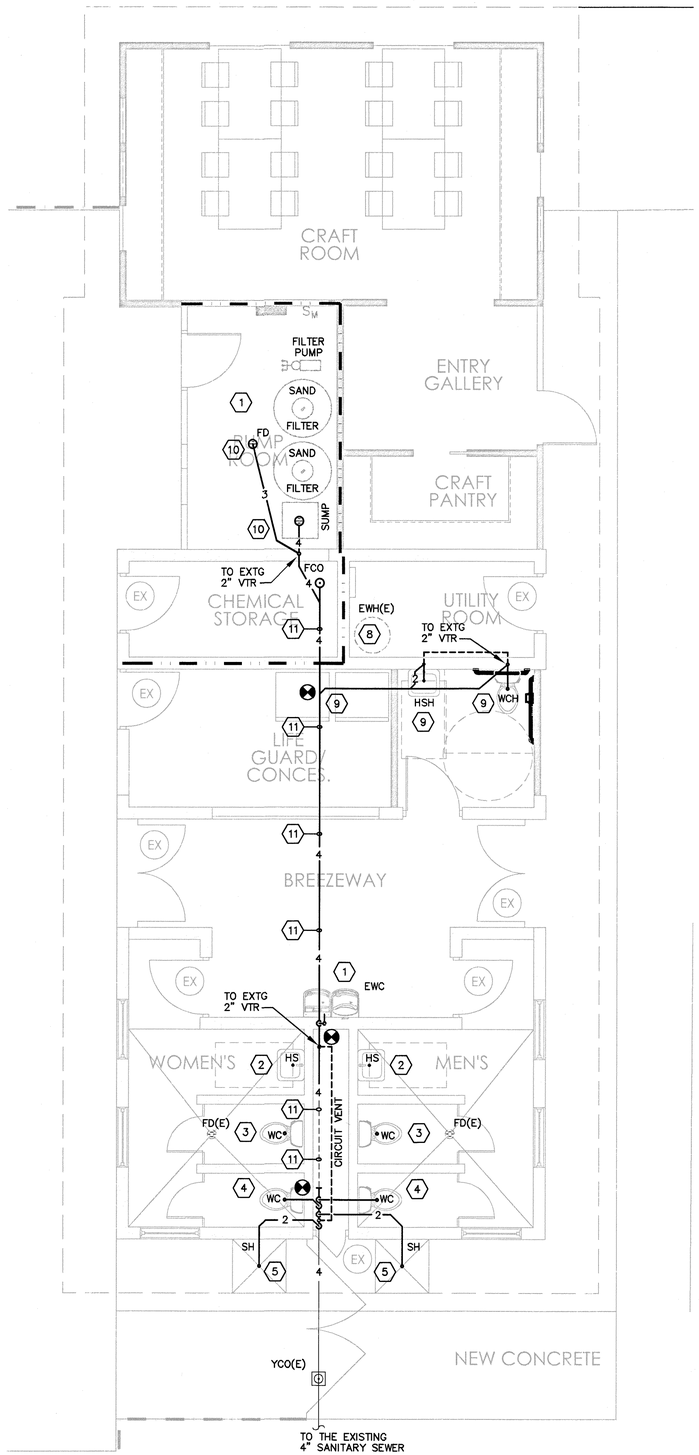
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

2	02/22/26	POOL DWG CHGS

PROJECT NO: 2430
DATE: 11/19/24
CAD DWG FILE: P_2430
DRWN BY: WHC CHKD BY: WHC

PLBG NOTES, LEGEND, AND SPECIFICATIONS

P0



1 / P1 **PARTIAL FLOOR PLAN - WASTE AND VENT**
1/4" = 1' - 0"

GENERAL PLUMBING NOTES:

1. SEE DRAWING P0 FOR GENERAL PLUMBING SPECIFICATIONS.
2. SEE DRAWING P0 FOR GENERAL PLUMBING NOTES AND LEGEND
3. SEE DRAWING P2 FOR FIXTURE SCHEDULE.
4. VERIFY CONDITION OF MAIN WASTE AND VENT PIPING. REPLACE PIPING SECTIONS AS NECESSARY. ADD CLEANOUTS AS NECESSARY.
5. ALL NEW MAIN WASTEWATER PIPING 3" UNLESS OTHERWISE NOTED.
6. ALL NEW VENT PIPING 2" UNLESS OTHERWISE NOTED.

NOTES KEYED TO PLAN:

1. REPLACE ELECTRIC WATER COOLER. DEMOLISH EXISTING WATER COOLER AND REWORK SUPPORTS AND WALL FOR NEW WATER COOLER. COORDINATE EXISTING RECEPTACLE LOCATION WITH THE ELECTRICAL TRADE AND ADJUST AS NECESSARY TO CONCEAL BEHIND WATER COOLER IN THE MANUFACTURER'S APPROVED LOCATION. SET SPOUT AT ADA HEIGHT.
2. REPLACE HAND SINK. DEMOLISH EXISTING HAND SINK AND REWORK WALL AND SUPPORTS FOR NEW HAND SINK. REWORK WASTE/VENT PIPING CONNECTIONS FOR NEW SINK.
3. REPLACE WATER CLOSET. DEMOLISH EXISTING WATER CLOSET AND REWORK FLOOR AND ROUGH-IN FOR NEW WATER CLOSET.
4. DEMOLISH EXISTING SHOWER AND INSTALL NEW WATER CLOSET. COORDINATE FLOOR ROUGH-IN WITH GENERAL CONTRACTOR WORK.
5. INSTALL NEW OUTDOOR SHOWER. PROVIDE NEW DRAIN AND CONNECT TO EXISTING PIPING. COORDINATE ROUGH-IN AND WALL MODIFICATIONS WITH GENERAL CONTRACTOR.
6. REUSE EXISTING PIPING AND FIXTURE CONNECTIONS IF POSSIBLE FOR NEW FIXTURE. EXTEND PIPING AS NEEDED.
7. ASSUMED LOCATION OF EXISTING HOT AND COLD WATER PIPING.
8. EXISTING WATER HEATER TO REMAIN.
9. COORDINATE SLAB CUTS WITH GENERAL CONTRACTOR TO ROUTE NEW WASTE PIPING FOR THE WATER CLOSET AND HAND SINK TO THE EXISTING WASTE PIPING.
10. NEW FLOOR DRAIN. COORDINATE EXACT LOCATION WITH POOL EQUIPMENT INSTALLERS.
11. VERIFY THE SIZE OF THE EXISTING PUMP ROOM WASTE PIPING. COORDINATE WITH THE GENERAL CONTRACTOR TO CUT AND PATCH THE EXISTING SLAB TO REPLACE ALL 2" AND 3" WASTE PIPING AND TO CONNECT TO THE EXISTING 4" WASTE PIPING ON SITE.

WASTE & WATER CALCULATED DEMAND	
CAMP AGAPE	
SANITARY SEWER LOAD (DFU):	32.5
SANITARY SEWER PIPE SIZE:	4"
DOMESTIC WATER LOAD (WSFU):	28.25
DOMESTIC WATER PIPE SIZE:	1-1/4"

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RENOVATION/ADDITION TO POOL BUILDING FOR:

CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

PROJECT NO:	2430
DATE:	11/19/24
CAD DWG FILE:	P_2430
DRWN BY: WHC	CHKD BY: WHC

PLBG FLOOR PLAN - WASTE/ VENT, FIXTURE SCHEDULE

P1

PLUMBING FIXTURE SCHEDULE

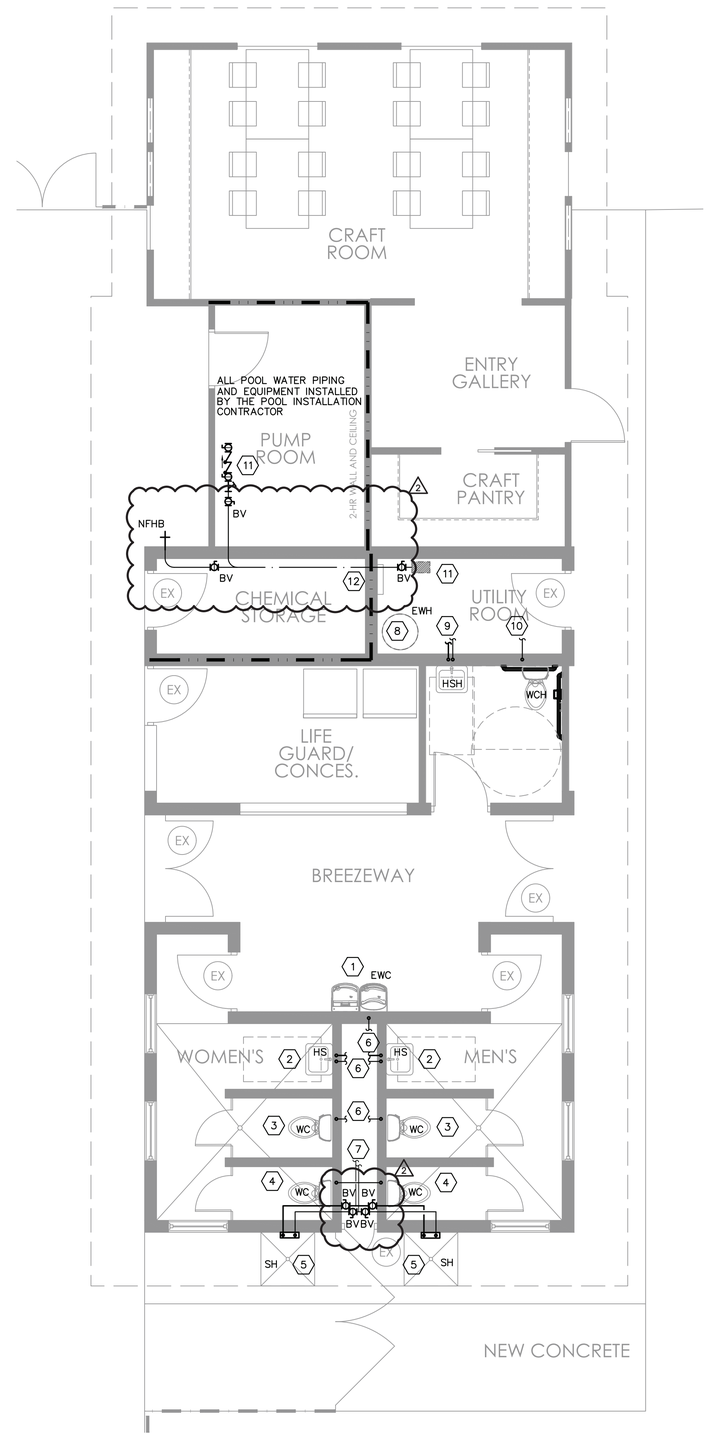
FIXTURE	PARTS	BASIS OF DESIGN		PIPING SIZES			
		MANUFACTURER	MODEL NUMBER	HW	CW	WASTE	VENT
WATER CLOSET	WC	KOHLER	K3810-0	-	(TANK)1/2"	3"	2"
	SEAT	BEMIS	1500EC				
	SUPPLY	MCGUIRE	LF185				
	FLOOR MOUNTED, TOILET STYLE ABOVE, ELONGATED BOWL, 12" ROUGH-IN, WATERSENSE LABELED, SEAT AND SUPPLY ADA COMPLIANT. PLASTIC SEAT SHALL BE OPEN FRONT.						
LAVATORY	LH (WALL MOUNT)	AMERICAN STAND.	9024.904EC	1/2"	1/2"	2"	1-1/2"
	CARRIER (WALL MOUNT)	JAY R. SMITH	0700				
	FAUCET (PUBLIC)	BRIZO	METERED FAUCET				
	TRAP	MCGUIRE	8902				
	SUPPLY	MCGUIRE	LF165				
	SINGLE BOWL, MOUNTING INSTALLATION ABOVE, VITREOUS CHINA, 4" CENTERS, SINGLE CONTROL FAUCET, WATERSENSE LABELED, P-TRAP STOPS AND SUPPLY; ACCESSIBLE LAVATORY IS ADA COMPLIANT. METERED FAUCET (SENSOR OR PUSH HANDLE) SHALL BE ADJUSTABLE 10-30 SECOND FLOW-TIME.						
OUTDOOR SHOWER	ODS	TILED BY GC	TILED BY GC	1/2"	1/2"	2"	1-1/2"
	VALVE W/ INTERNAL STOPS	DELTA	R10000-UNWS				
	FAUCET (ODS)	DELTA	51900-SS				
	WALL ELBOW / TRIM (ODS)	DELTA	50560-SS / T13020-SS				
	FIBERGLASS, "OFFSET" CONTROLS IF NECESSARY; ONLY PRESSURE BALANCED MIXING VALVE W/ SCREW DRIVER STOPS. WATERSENSE LABELED AT MAX 2.0 GPM. ALL MIXING VALVES SHALL CONFORM WITH ASSE 1016 OR EQUAL W/ TEMPERATURE SET FOR 110F. COORDINATE W/ ARCHITECT ON ROUGH-IN BLOCKING FOR AND LOCATIONS OF ALL GRAB BARS AND REINFORCED SEATING. REFER TO PLANS FOR MULTIPLE SHOWERHEADS AND CONTROLS.						
ELECTRIC WATER COOLER (INDOOR)	EWC	ELKAY	LZSTL8WSLK	-	1/2"	2"	1-1/2"
	TRAP	McGUIRE	8902				
	SUPPLY	MCGUIRE	LF185				
	HIGH-LOW, WALL-MOUNTED ELECTRIC WATER COOLER W/BOTTLE FILLER, CONCEALED WALL HANGER, P-TRAP, AND SUPPLIES. INSTALL WITH ADA-REQUIRED APPROACH CLEARANCES AND SPOUT MOUNTING HEIGHTS. COORDINATE WITH ELECTRICAL TRADE TO CONCEAL RECEPTACLE BEHIND UNIT.						
NON-FREEZE HOSE BIB	NFHB	WOODFORD	17	-	3/4"	-	-
	ANTI-SIPHON, FREEZELESS, TEE KEY.						
BACKFLOW PREVENTER ASSEMBLY (REDUCED PRESSURE ZONE ASSEMBLY)	BFP (H ONLY)	WATTS	LF909M2QT	-	PER BFP	-	-
	MSV	APOLLO	70-100				
	PRV (IF REQUIRED)	WATTS	LF223				
	STRAINER	WATTS	LF777				
	REDUCED PRESSURE ZONE ASSEMBLY, INSTALLED WITH MAIN SHUTOFF VALVE. IF STATIC PRESSURE AT BFP IS GREATER THAN 80 PSI, CONTRACTOR SHALL INSTALL WITH PRV. REFER TO PLUMBING BUILDING PLANS FOR BFP LOCATION AND SIZING, WHICH IS EQUAL TO THE INCOMING DOMESTIC WATER PIPE SIZE.						
FLOOR DRAIN	FD	SIOUX CHIEF	832-36PNR	-	-	3"	2"
	FLOOR DRAIN, 5" DIAMETER, 3" TRAP/OUTLET						
FLOOR CLEAN OUT	CO	SIOUX CHIEF	834-4PNR	-	-	PER PLANS	-
	FLOOR CLEAN OUT, ADJUSTABLE WITH STAINLESS STEEL COVER FOR CLEANOUT LOCATIONS WITHIN CONCRETE. ALL GREASE WASTE CLEAN OUTS SHALL BE MARKED TO DISTINGUISH FROM SANITARY SEWER CLEANOUTS.						

GENERAL FIXTURE NOTES

1. ALL FIXTURES SHALL BE WHITE UNLESS OTHERWISE DIRECTED BY THE ARCHITECT.
2. ALL P-TRAPS MADE OF METAL SHALL BE 17 GA. MINIMUM.
3. STAINLESS STEEL KITCHEN SINKS SHALL BE 20 GA. MINIMUM.
4. FOR ACCESSIBLE FIXTURES, INSULATE ALL EXPOSED PIPING AND TRAPS WITH PLUMBEREX PRO-2000 SERIES, TRUEBRO LAV EZ SERIES, OR OTHER PRODUCT.
5. INSTALL ACCESSIBLE SINKS AND LAVATORIES NO HIGHER THAN 34" AFF TO TOP OF SINK.
6. INSTALL HANDLES ON WATER CLOSETS SO THAT THE HANDLE IS ON THE WIDE SIDE OF THE ROOM OR STALL.
7. INSTALL ASSE 1070 VALVE ON HOT WATER PIPING AT ALL PUBLIC LAVATORIES AND SINKS. SET TO 110 F.
8. ALL P-TRAPS SHALL HAVE WET SEALS. PROVIDE TRAP PRIMERS WHERE INDICATED ON DRAWINGS.

ALTERNATE MANUFACTURERS

FAUCETS:	DELTA, MOEN OR SYMMONS
CHINA:	MANSFIELD OR STERLING
FIBERGLASS:	CLARION OR AQUAGLASS
STAINLESS STEEL:	MOEN OR ELKAY
VALVES/BRASS	WILKINS OR WATTS
WATER HEATER:	STATE OR AO SMITH



1 / P2 **PARTIAL FLOOR PLAN - DOMESTIC WATER**
1/4" = 1' - 0"

GENERAL PLUMBING NOTES:

1. SEE DRAWING P0 FOR GENERAL PLUMBING SPECIFICATIONS.
2. SEE DRAWING P0 FOR GENERAL PLUMBING NOTES AND LEGEND
3. SEE DRAWING P1 FOR FIXTURE LOAD SCHEDULE.
4. VERIFY CONDITION OF MAIN WASTE PIPING. REPLACE PIPING SECTIONS AS NECESSARY. ADD CLEANOUTS AS NECESSARY.
5. ALL HOT AND COLD WATER PIPING CONNECTIONS ½" UNLESS OTHERWISE NOTED. ALL MAIN DISTRIBUTION PIPING ¾" UNLESS OTHERWISE NOTED.
6. TRAP PRIMER WATER PIPING NOT SHOWN. REFER TO FIXTURE SCHEDULE FOR INSTALLATION LOCATIONS..

NOTES KEYED TO PLAN:

1. REPLACE ELECTRIC WATER COOLER. DEMOLISH EXISTING WATER COOLER AND REWORK COLD WATER CONNECTION TO THE NEW WATER COOLER.
2. REPLACE HAND SINK. DEMOLISH EXISTING HAND SINK AND REWORK EXISTING HOT AND COLD WATER CONNECTIONS FOR FOR THE NEW HAND SINK.
3. REPLACE WATER CLOSET. DEMOLISH EXISTING WATER CLOSET AND REWORK EXISTING COLD WATER CONNECTION FOR THE NEW WATER CLOSET.
4. DEMOLISH EXISTING SHOWER AND INSTALL NEW WATER CLOSET. DEMOLISH HOT WATER PIPING BACK TO POINT-OF-REUSE FOR NEW SHOWER. EXTEND THE COLD WATER PIPING AND REWORK THE COLD WATER CONNECTION TO THE NEW WATER CLOSET
5. INSTALL NEW OUTDOOR SHOWER. EXTEND COLD WATER AND HOT WATER PIPING FROM THE CHASE TO NEW SHOWER LOCATION. PROVIDE SHOWERHEAD AND CONTROL MIXING VALVE.
6. REUSE EXISTING PIPING AND FIXTURE CONNECTIONS IF POSSIBLE FOR NEW FIXTURE. EXTEND PIPING AS NEEDED.
7. ASSUMED LOCATION OF EXISTING HOT AND COLD WATER PIPING.
8. EXISTING WATER HEATER TO REMAIN. CLEAN, FLUSH, AND REPAIR AS NECESSARY.
9. TAP MAIN HOT AND COLD WATER PIPING IN UTILITY ROOM AND EXTEND TO NEW HAND SINK IN NEW TOILET.
10. TAP MAIN COLD WATER PIPING IN UTILITY ROOM AND EXTEND TO NEW WATER CLOSET IN NEW TOILET.
11. EXISTING INCOMING WATER SERVICE AND MAIN SHUTOFF VALVE. TAP WITH 1" PIPING AND EXTEND TO NEW PUMP ROOM AND RPZ. CAP 1" WATER PIPING AT RPZ FOR FUTURE CONNECTION BY POOL EQUIPMENT INSTALLER.
12. SUBMIT A PENETRATION DETAIL FOR THE THRU-WALL PENETRATION AND SEALING OF THE 1" WATER PIPE.
13. NON-FREEZE HOSE BIB (NFHB) FOR 100' HOSE TO REACH POOL DECK.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 10985 WILLIAM H. CLARK, JR. 02/22/26

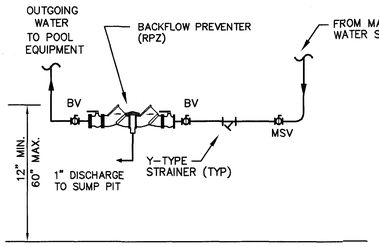
RENOVATION/ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

2	02/22/26	POOL DWG CHGS

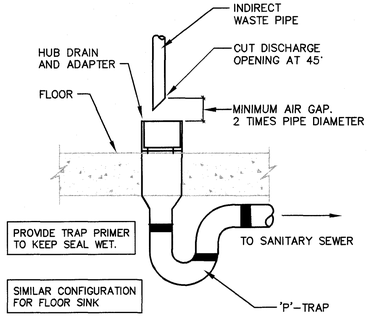
PROJECT NO: 2430
DATE: 11/19/24
CAD DWG FILE: P_2430
DRWN BY: WHC CHKD BY: WHC

PLBG FLOOR PLAN - DOMESTIC WATER, SCHEDULE

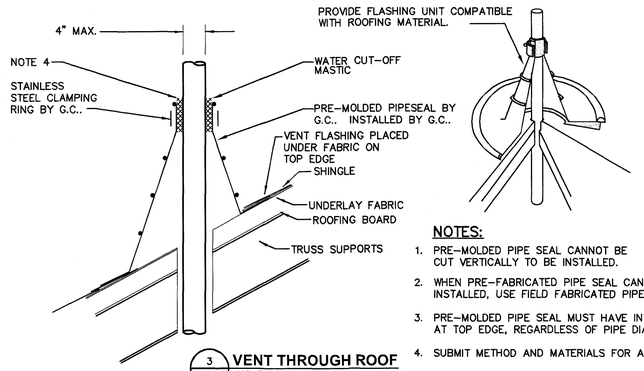
P2



1 P3 **BACKFLOW PREVENTER (HORIZONTAL)**
NO SCALE



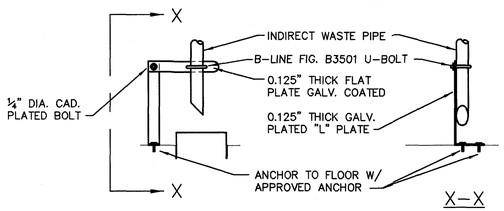
2 P3 **INDIRECT WASTE PIPING TO DRAIN OR FLOOR SINK**
NO SCALE



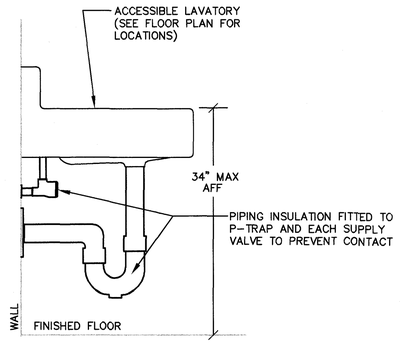
3 P3 **VENT THROUGH ROOF**
NO SCALE

NOTES:

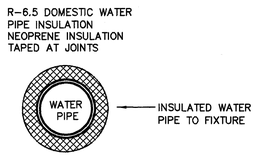
1. PRE-MOLDED PIPE SEAL CANNOT BE CUT VERTICALLY TO BE INSTALLED.
2. WHEN PRE-FABRICATED PIPE SEAL CANNOT BE INSTALLED, USE FIELD FABRICATED PIPE SEAL.
3. PRE-MOLDED PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
4. SUBMIT METHOD AND MATERIALS FOR ACCEPTANCE.



4 P3 **INDIRECT WASTE BRACING**
NOT TO SCALE



5 P3 **ACCESSIBLE SINK**
NO SCALE



6 P3 **INSULATED WATER PIPING OUTSIDE THE THERMAL ENVELOPE**
NO SCALE

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RENOVATION/ADDITION TO POOL BUILDING FOR:

CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

PROJECT NO:	2430
DATE:	11/19/24
CAD DWG FILE:	P_2430
DRWN BY: WHC	CHKD BY: WHC

PLBG DETAILS

P3

HVAC SPECIFICATIONS

GENERAL:
THESE PERMIT DRAWINGS DESCRIBE DIAGRAMMATICALLY, AND IN GENERAL TERMS, THE INTENDED SCOPE OF WORK AS UNDERSTOOD BY THE ENGINEER. THE ENGINEER CREATED THE DRAWINGS, INCLUDING PLANS, DIAGRAMS, SPECIFICATIONS, AND NOTES, FOR THE EXPRESS PURPOSE OF DESCRIBING THE PROJECT TO THE LOCAL INSPECTIONS AUTHORITY'S PLANS REVIEW STAFF FOR THEIR USE IN GRANTING A BUILDING PERMIT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY UNDERSTANDING THE ACTUAL FIELD CONDITIONS OF THE PROJECT SITE AND THE SCOPE OF WORK AS EXPRESSED BY THE PARTY TO WHOM THE CONTRACTOR HAS CONTRACTED TO PERFORM THE WORK. THEREFORE, THE CONTRACTOR SHALL REVIEW THESE DOCUMENTS THOROUGHLY FOR ALL CONFLICTS, AND FOR ANY ASPECT OF THE WORK SHOWN IN THESE DOCUMENTS THAT IS AT VARIANCE WITH THE CONTRACTOR'S UNDERSTANDING OF THE WORK. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE FACILITY OWNER'S INTENDED SCOPE OF WORK FOR THE PROJECT.

THE CONTRACTOR SHALL PERFORM ALL WORK ACCORDING TO ALL RELEVANT CODES, ALL REFERENCED STANDARDS, AND THE MOST CURRENT INTERPRETATIONS OF THE CODE AS STATED BY THE AUTHORITY HAVING JURISDICTION. IF ANYTHING IS NECESSARY FOR THE COMPLETE, PROPER, AND SAFE INSTALLATION, OPERATION, AND FUNCTION OF THE WORK DESCRIBED IN THESE DOCUMENTS, THE CONTRACTOR SHALL PROVIDE IT EVEN IF NOT CLEARLY INDICATED IN THESE DOCUMENTS.

THE CONTRACTOR SHALL SUPPLEMENT THESE CONTRACT DOCUMENTS WITH ALL DETAILS OF CONSTRUCTION; ALL MATERIAL, DEVICE, AND EQUIPMENT INSTALLATION INSTRUCTIONS; ANY NEEDED MANUFACTURER, SUPPLY HOUSE, AND VENDOR ASSISTANCE; SHOP DRAWINGS, AND FIELD INSTALLATION DRAWINGS NECESSARY TO COMPLETE THE PROJECT.

DETERMINE THE ACTUAL FIELD CONDITIONS AND INSTALLATION DETAILS. FULLY COORDINATE EVERY DEVICE AND EQUIPMENT AND THE RESPECTIVE LOCATIONS FOR EQUIPMENT, DEVICES, AND MATERIALS AMONG ALL CONTRACTOR TRADES AND WITH THE OWNER, IF NECESSARY. INSTALL EVERY PIECE OF EQUIPMENT AND ALL CONTROL DEVICES WITH ALL CODE-REQUIRED AND MANUFACTURER- RECOMMENDED SERVICING CLEARANCES, FREE OF OBSTRUCTIONS, AND WITHOUT CONFLICT WITH OTHER EQUIPMENT OR BUILDING ELEMENTS.

CONTRACTOR COORDINATION AND PRICING:
VISIT THE SITE OF THIS PROJECT AS OFTEN AS NECESSARY TO BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING FIELD CONDITIONS AND THE FULL EXTENT OF THE WORK TO BE PERFORMED. VERIFY EVERY ASPECT OF THE PROPOSED WORK AS DESCRIBED OR IMPLIED BY THESE CONTRACT DOCUMENTS PRIOR TO SUBMITTING A PRICE FOR THIS WORK.

USE THESE DRAWINGS, THE INFORMATION OBTAINED FROM SITE VISITS, AND OWNER INPUT TO DETERMINE PRICE. BECAUSE CURRENT CODES REQUIREMENTS BASED UPON INTERPRETATIONS WILL VARY FROM JURISDICTION TO JURISDICTION, PROVIDE A CONTINGENCY AMOUNT IN YOUR PRICE FOR MINOR DISCRETIONARY CHANGES REQUESTED FOR BY THE OWNER, TENANT, ARCHITECT, ENGINEER, INSPECTOR, OR ANOTHER TRADE.

REVISE ANY ORIGINAL PRICING PRESENTED PRIOR TO THE CONTRACTOR'S RECEIPT OF THESE DRAWINGS TO SHOW ALL ADJUSTMENTS TO THE PRICE. THE CONTRACTOR'S RISK INCLUDES ANY COST INCURRED PRIOR TO OBTAINING ALL CLARIFICATIONS TO THESE DOCUMENTS, OR TO THE DESIGNER'S OR OWNER'S INTENT.

THE ENGINEER DID NOT INDEPENDENTLY VERIFY ALL EXISTING FIELD CONDITIONS. DETERMINE ALL MISSING INFORMATION RELEVANT TO THE PERMITTED WORK. TAKE ACTUAL FIELD MEASUREMENTS AT THE JOB SITE INSTEAD OF SCALING THE DRAWINGS. THE SYMBOLS AND DIAGRAMS SHOWN HAVE NO DIMENSIONAL SIGNIFICANCE AND DO NOT SHOW EVERY APPURTENANCE NECESSARY FOR A COMPLETE INSTALLATION AND CONFIGURATION. THE DRAWINGS SHOW APPROXIMATE LOCATIONS FOR ALL EQUIPMENT, DEVICES, AND MATERIALS. DETERMINE FINAL LOCATIONS IN THE FIELD BASED UPON ACTUAL CONSTRUCTION.

BRING ALL CONTRACT DOCUMENT-RELATED OMISSIONS, DISCREPANCIES, AND CONFLICTS TO THE ENGINEER'S ATTENTION PRIOR TO COMMENCING WORK AND INCURRING ANY COSTS FOR LABOR OR MATERIALS. WHERE THE ENGINEER HAS NO POST-DESIGN AND CONSTRUCTION ASSISTANCE RESPONSIBILITIES TO THE PROJECT, TAKE ALL FIELD-DISCOVERED CONFLICTS AND INTERFERENCES TO THE GENERAL CONTRACTOR'S ATTENTION FOR RESOLUTION BY THE RESPECTIVE TRADES.

SUBMIT ALL REQUESTS FOR INFORMATION (RFI) WITH WRITTEN COMMENTS DEFINING THE INFORMATION AND ASSISTANCE NEEDED. DOCUMENT THE REQUEST WITH RELEVANT INFORMATION FROM THE PLANS AND SPECIFICATIONS. THE ENGINEER MAY REJECT ANY POORLY PREPARED OR INADEQUATELY DOCUMENTED RFI AND ANY RFI SHOWING FAILED COORDINATION AMONG TRADES OR A POOR UNDERSTANDING OF THE PROJECT SCOPE/DESIGN INTENT.

INFORM THE ENGINEER OF ANY DEVIATIONS MADE FROM THE PERMITTED DRAWINGS. WHERE THE CONTRACTOR DEVIATES FROM THE PERMITTED WORK WITHOUT ENGINEERING PARTICIPATION, THE ENGINEER MAY CHARGE APPROPRIATE FEES FOR ANY LETTERS OF ACCEPTANCE REQUIRED BY THE FIELD INSPECTORS.

QUALIFICATIONS AND STANDARDS OF WORKMANSHIP:
PERFORM ALL WORK USING EXPERIENCED, SKILLED CRAFTSMEN LICENSED IN THEIR RESPECTIVE TRADES, AND COMPETENT TO PERFORMED THE WORK INVOLVED WITH THIS PROJECT.

ALL WORK AND MATERIALS SHALL CONFORM TO THE APPLICABLE LOCAL, STATE, AND NATIONAL CODES (INCLUDING OSHA). AS THE ABSOLUTE MINIMUM ACCEPTABLE QUALITY STANDARD, COMPLY WITH THE LATEST EDITION OF THE NORTH CAROLINA STATE BUILDING CODE AND THESE SPECIFICATIONS.

DEMOLITION:
REMOVE ALL EQUIPMENT, DEVICES, AND MATERIALS NOT INTENDED TO REMAIN AND OBSTRUCTING NEW WORK. MECHANICALLY SECURE ALL ABANDONED EXISTING EQUIPMENT, FIXTURES, VALVES, DEVICES, PIPING, TUBING, ETC. WHEN DEMOLISHING PIPING, CONDUITS, WIRING, AND CABLING, REMOVE ALL PORTIONS BACK TO THE NEAREST POINT THAT REMAINS IN SERVICE. PROVIDE ALL DEVICES, CAPS, VALVES, FITTINGS, INSULATION, ETC., NECESSARY TO RESTORE TO SERVICE THE EXISTING PIPING, CONDUITS, WIRING, AND CABLES AFFECTED BY THIS WORK. RECONNECT, CLEAN, REPAIR, PURGE, STERILIZE, PRIME, TEST, ADJUST, BALANCE, ETC., AS NECESSARY ALL EXISTING EQUIPMENT, FIXTURES, DEVICES, PIPING, CONTROLS, ETC., TO BE LEFT IN SERVICE OR REUSED.

MATERIALS AND METHODS:
PROVIDE ALL CUTTING AND PATCHING NECESSARY TO PROPERLY INSTALL ALL WORK. FOR WORK IN-PROGRESS, LEAVE IN SAFE CONDITION ALL FLOORS, WALLS, CEILINGS, FINISH MATERIALS, OR ANY PART OF THE BUILDING OR PREMISES THAT MUST BE CHANGED OR REPLACED. REPAIR ANY DAMAGE DONE TO EXISTING EQUIPMENT, DEVICES, OR MATERIALS.

DO NOT CUT, NOTCH, OR BORE A FRAMING MEMBER IN EXCESS OF LIMITATIONS SPECIFIED IN THE CODE. DO NOT CUT, NOTCH, OR BORE ANY STRUCTURAL BEAMS AND COLUMNS UNDER ANY CIRCUMSTANCES.

PERFORM ALL TRENCHING AND BACKFILLING IN A SAFE MANNER. PROTECT THE STABILITY OF ALL STRUCTURES (OR ANY PART THEREOF) AND ANY WORK INSTALLED BY OTHER TRADES. EXCAVATE TRENCHES BELOW THE INSTALLATION LEVEL OF THE PIPE SUCH THAT THE BOTTOM OF THE TRENCH DOES NOT FORM THE BED FOR THE PIPE OR RACEWAY.

AT THE BOTTOM OF ANY TRENCH, STABILIZE SOFT MATERIALS OF POOR LOAD-BEARING QUALITY BY OVER-EXCAVATING A MINIMUM OF TWO PIPE DIAMETERS AND BACKFILLING WITH FINE GRAVEL, CRUSHED STONE, OR A CONCRETE FOUNDATION TO THE INSTALLATION LEVEL OF THE PIPE OR CONDUIT BOTTOM. TAP SAND INTO PLACE FOR ANY CONCRETE FOUNDATION INSTALLED SO AS TO PROVIDE UNIFORM LOAD-BEARING SUPPORT ABOVE THE CONCRETE FOR THE PIPE/CONDUIT BETWEEN JOINTS.

REMOVE ROCK ENCOUNTERED IN TRENCHING TO A MINIMUM OF 3 INCHES BELOW THE INSTALLATION OF THE BOTTOM OF THE PIPE/CONDUIT, AND BACKFILL THE TRENCH SHALL BE BACKFILLED TO THE INSTALLATION LEVEL OF THE BOTTOM OF THE PIPE WITH SAND TAMPED IN PLACE SO AS TO PROVIDE UNIFORM LOAD-BEARING SUPPORT FOR THE PIPE BETWEEN JOINTS. THE PIPE, INCLUDING THE JOINTS, SHALL NOT REST ON ROCK AT ANY POINT.

BURIED PIPING SHALL BE SUPPORTED THROUGHOUT ITS ENTIRE LENGTH. PROVIDE SOLID AND CONTINUOUS LOAD-BEARING SUPPORT BETWEEN JOINTS. PROVIDE BELL HOLES, HUB HOLES, AND COUPLING HOLES WHERE CONNECTING PIPES.

BACKFILL THE TRENCH TO THE INSTALLATION LEVEL OF THE BOTTOM OF THE PIPE WITH SAND OR FINE GRAVEL PLACED IN LAYERS OF 6-INCHES MAXIMUM DEPTH. BACKFILL SHALL BE FREE FROM DISCARDED CONSTRUCTION MATERIAL AND DEBRIS. LOOSE EARTH FREE FROM ROCKS, BROKEN CONCRETE, AND FROZEN CHUNKS SHALL BE PLACED IN THE TRENCH IN 6-INCH LAYERS AND TAMPED IN PLACE UNTIL THE CROWN OF THE PIPE IS COVERED BY 12 INCHES OF TAMPED EARTH. THE BACKFILL UNDER AND BESIDE THE PIPE SHALL BE COMPACTED FOR PIPE SUPPORT. BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE SO THAT THE PIPE REMAINS ALIGNED.

WHEN INSTALLING PIPE BY TUNNELING, JACKING, OR A COMBINATION OF BOTH, PROTECT THE PIPE FROM DAMAGE DURING INSTALLATION AND FROM SUBSEQUENT UNEVEN LOADING. WHEN USING EARTH TUNNELS, PROVIDE ADEQUATE SUPPORTING STRUCTURES TO PREVENT FUTURE SETTLING OR CAVING.

RESTORE ALL DAMAGED EXISTING WALKS, WALLS, PAVED AREAS, OR GRADED AREAS TO THEIR FINAL FINISH APPEARANCE.

MATERIAL AND PRODUCT STANDARDS:
PROVIDE ONLY NEW MATERIALS, DEVICES, FIXTURES, AND EQUIPMENT. PROVIDE ONLY PRODUCTS LISTED AND LABELED BY AN NC-APPROVED THIRD PARTY LABORATORY SERVICE SUCH AS UNDERWRITER'S LABORATORIES, INC, CSA, ETL AND OTHERS. INSTALL ALL PRODUCTS BASED ON THE MANUFACTURER'S INTENDED USE. DO NOT DEVIATE FROM PRODUCT LISTING LIMITATIONS WHICH CAN BE MORE RESTRICTION THAN THE CODE.

PROVIDE APPROPRIATELY RATED AND LABELED EQUIPMENT ENCLOSURES AND PRODUCTS FOR EACH LOCATION. PROVIDE NEMA 3R OR BETTER AND WET LOCATION LABELED ENCLOSURES FOR ALL EQUIPMENT AND PRODUCTS INSTALLED ANYWHERE OUTDOORS OR AT INDOOR WASH-DOWN LOCATIONS.

UTILITY AND BUILDING OWNER'S REPRESENTATIVE COORDINATION:
COMPLY WITH ALL MUNICIPAL, STATE, AND/OR UTILITY REGULATIONS FOR SERVICE CONNECTIONS AND METERING PROVISIONS.

FULLY COORDINATE WITH THE GAS UTILITY TO PROVIDE SERVICE TO THE FACILITY. PROVIDE ANY NECESSARY UNDERGROUND PIPES, SLEEVES, AND OTHER PROVISIONS REQUESTED BY THE UTILITY. THE OWNER WILL PAY FOR ALL SERVICE CONNECTION, LINE EXTENSION, AND IMPACT FEES DIRECTLY TO THE APPROPRIATE UTILITY OR JURISDICTION.

COORDINATE ALL UTILITY OUTAGES AND BUILDING SYSTEMS DOWN-TIME THAT WILL IMPACT BUILDING TENANTS WITH THE AUTHORIZED REPRESENTATIVE OF THE BUILDING OWNER.

AS CONSTRUCTION PROCEEDS, COORDINATE ALL BUILDING SYSTEMS DOWN-TIME THAT WILL IMPACT OTHER TRADES WITH THE GENERAL CONTRACTOR.

PROVIDE TEMPORARY SERVICES AS NECESSARY TO SUPPORT ALL CONSTRUCTION ACTIVITIES.

SUBMITTALS AND TESTING:
SUBMIT A LIST OF ALL HVAC EQUIPMENT AND DEVICES MATCHING THE ENGINEER'S BASIS OF DESIGN. SUBMIT ELECTRONIC SHOP DRAWINGS AND CATALOG DATA FOR ALL HVAC EQUIPMENT, DEVICES, PIPING, AND INSULATIONS THAT DO NOT.

PROVIDE THE BUILDING OWNER WITH THREE (3) COPIES OF O&M MANUALS CONTAINING INFORMATION REQUIRED BY THE STATE ENERGY CODE.

RETAIN ALL RETAIN INSTALLATION INSTRUCTIONS, MANUFACTURER'S PACKING DOCUMENTS, ETC., FOR ALL LIFE SAFETY RELATED EQUIPMENT AS EVIDENCE TO THE AUTHORITY HAVING JURISDICTION THAT THE CORRECT MATERIALS AND DEVICES WERE USED IN THE CONSTRUCTION, PENETRATION, AND SEALING OF THE PENETRATION FOR ALL RATED ASSEMBLIES.

CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES, AND WITH THE REQUESTS OF THE LOCAL INSPECTOR FOR TESTS AND COMPONENT TESTING. CONTRACTOR SHALL PAY THE FULL COST OF ANY DESTRUCTIVE TESTING NECESSARY TO DEMONSTRATE COMPLIANCE WITH THESE DRAWINGS AND CODE.

AS A MINIMUM, TURN "ON" AND "OFF", SWITCH, CHANGE MODES, AND VERIFY SEQUENCES OF OPERATION FOR ALL DEVICES, EQUIPMENT, AND SYSTEMS TO DEMONSTRATE PROPER INSTALLATION AND SATISFACTORY OPERATION.

PERMITS, WARRANTY, AND INSPECTIONS:
OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL, AND THE LIKE AND SHALL DELIVER SUCH CERTIFICATES TO THE OWNER. NOTIFY THE ARCHITECT AND ENGINEER OF ALL SCHEDULED INSPECTIONS.

DO NOT USE INSTALLED HVAC EQUIPMENT TO "DRY OUT" THE BUILDING. THE MANUFACTURER COULD VOID THE PRODUCT WARRANTY FOR THE EQUIPMENT OR PRODUCT BASED UPON DAMAGE, MOLD, AND/OR MILDEW ISSUE ARISING FROM UNINTENDED USE OF THE EQUIPMENT.

WARRANT ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP SHOWN OR IMPLIED BY THESE DOCUMENTS TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR, STARTING FROM THE TIME OF ACCEPTANCE BY THE BUILDING OWNER. IF WITHIN ONE YEAR AFTER THE ACCEPTANCE DATE ANY WORK OR EQUIPMENT IS FOUND TO BE DEFECTIVE, CORRECT IT PROMPTLY AT NO COST TO THE BUILDING OWNER.

SCOPE OF WORK:
PROVIDE ALL WORK, EQUIPMENT, SERVICES, LABOR, AND MATERIALS NECESSARY FOR THE INSTALLATION OF COMPLETE AND FULLY FUNCTIONAL MECHANICAL AND GAS SYSTEMS AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS.

PIPING, PIPE FITTINGS, PIPE HANGERS/SUPPORTS, & INSULATION:
PROVIDE TYPE 'ACR' HARD DRAWN COPPER REFRIGERANT PIPING CONFORMING TO ANSI B-31.5 OR ASTM B280 AND DELIVERED TO THE JOB SITE IN PRE-DETERMINED LENGTH "LINE SETS".

PROVIDE SCHEDULE 40, BLACK STEEL WITH MALLEABLE IRON FITTINGS FOR NATURAL GAS PIPING. FOR 2 PSI SYSTEMS, PROVIDE VENT-LESS REGULATORS FOR ALL GAS-FIRED APPLIANCES. FOR 5 PSI SYSTEMS, PROVIDE REGULATORS FOR ALL GAS-FIRED APPLIANCES AND VENT THE REGULATOR TO THE EXTERIOR. PROVIDE ANSI Z21.80 REGULATORS LISTED FOR INDOOR OR OUTDOOR USE AS APPROPRIATE.

PROVIDE WROUGHT METAL SOLDER JOINT TYPE COPPER PIPE FITTINGS CONFORMING TO ANSI B16.22.

INSTALL PIPING AND RELATED ITEMS NEATLY. CHOOSE ROUTES PARALLEL AND PERPENDICULAR TO BUILDING LINES. ARRANGE PIPING TO ALLOW PROPER RETURN OF OIL TO THE COMPRESSOR. PROVIDE TRAPS WHERE NECESSARY FOR OIL FLOW.

REAM PIPING TO REMOVE ALL BURRS, FINS, AND FOREIGN MATERIALS. THOROUGHLY CLEAN ALL PIPING BEFORE SOLDERING. DURING SOLDERING, PURGE PIPING WITH NITROGEN. USE ONLY SILVER SOLDER WITH NON-CORROSIVE FLUX.

PROVIDE P-TRAPS ON EACH CONDENSATE DRAIN. ARRANGE ALL PIPING/CONNECTIONS TO EQUIPMENT FOR EASY SERVICING OF THE TRAP AND EVAPORATOR PAN. MAINTAIN ACCESS TO ALL VALVES AND EQUIPMENT.

DO NOT TO EXCEED 5'-0" FOR SPACE HANGERS AND SUPPORTS. PROVIDE PIPE COVERING PROTECTION SADDLES AT ALL SUPPORTS FOR INSULATED PIPING. USE CLAMPS AND METAL STRAPS TO SECURE REFRIGERANT LINES. FOR OTHER PIPING, USE 10-GAUGE SHEET METAL SADDLES MEASURING ONE-HALF THE CIRCUMFERENCE OF THE INSULATION AND A MINIMUM OF 12 INCHES LONG.

TEST ALL REFRIGERANT EQUIPMENT NOT TESTED AT THE FACTORY BY SHUT OFF THE EQUIPMENT FROM THE REST OF THE SYSTEM AND TESTING. TEST PIPING SYSTEMS AFTER COMPLETING INSTALLATION AND BEFORE APPLYING ANY PIPE INSULATIONS. REMOVE ALL CONTROLS AND OTHER APPARATUS (THAT MIGHT BE DAMAGED BY THE TEST PRESSURE) BEFORE THE TESTING.

TEST REFRIGERANT PIPING AT 150 PSIG WITH DRY NITROGEN FOR 24 HOURS WITHOUT LOSS OF PRESSURE. CHECK EACH JOINT FOR LEAKS WITH A SOAP SOLUTION. CONTINUE TESTING AND REPAIR UNTIL DETERMINING NO LOSS OF PRESSURE. AFTER SATISFACTORY NITROGEN PRESSURE TESTING, CONNECT HIGH VACUUM PUMPS (DO NOT USE COMPRESSOR) TO THE SYSTEM USING ISOLATION VALVES. TRIPLE EVACUATE THE SYSTEM: FIRST TIME TO 1500 MICRONS, SECOND TIME TO 1000 MICRONS, AND THE THIRD TIME TO 500 MICRONS – ALL AT AN AMBIENT SYSTEM TEMPERATURE GREATER THAN 36F FOR 12 HOURS MINIMUM. AFTER THIS, BREAK THE VACUUM IN THE SYSTEM BY CHARGING THE SYSTEM WITH REFRIGERANT.

COORDINATE WITH SPLIT SYSTEM EQUIPMENT MANUFACTURERS TO PROPERLY SIZE REFRIGERANT LINES FOR THE ACTUAL LENGTHS AND HEIGHTS OF LIFT. EVEN IF NOT NOTED ON THESE PLANS, PROVIDE ALL ADDITIONAL EQUIPMENT FEATURES AND PIPING SPECIALTIES NECESSARY TO ENSURE PROPER EQUIPMENT OPERATION GIVEN THE ACTUAL CHARACTERISTICS OF THE INSTALLATION. USE ONLY PIPING SPECIALTIES COMPATIBLE WITH THE REFRIGERANT USED, SIZED AND RATED FOR THE SYSTEM CAPACITIES, HAVING SOLDERED CONNECTIONS, AND MANUFACTURED BY HENRY, ALCO, SPORLAN, OR THE EQUIPMENT MANUFACTURER.

DUCTWORK AND DUCTWORK ACCESSORIES:
ROUND AND RECTANGULAR DUCTWORK SHALL BE FABRICATED FROM THE BEST QUALITY GALVANIZED SHEET STEEL, AND SHALL MEET THE GAUGES AND CONSTRUCTION METHODS INDICATED IN THE LATEST ASHRAE GUIDE AND BY SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR 2" WG DUCT CLASSIFICATION, LOW PRESSURE, LOW VELOCITY (UP TO 2000 FPM) DUCTWORK. RETURN AIR DUCTWORK SHALL BE SIZED, CONSTRUCTED, AND CONNECTED TO PROVIDE AN EVEN DISTRIBUTION OF AIR FLOW OVER THE ENTIRE FILTER.

ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS, AND CONNECTIONS IN DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTIC (ADHESIVES), MASTIC-PLUS-EMBEDDED-FABRIC SYSTEMS OR TAPES. TAPES AND MASTICS USED TO SEAL DUCTWORK SHALL CONFORM TO UL 181A FOR MARKING AND LABELING. TAPES AND MASTICS USED TO SEAL FLEXIBLE AIR DUCTS AND CONNECTORS SHALL CONFORM TO UL181B FOR MARKING AND LABELING. DUCT CONNECTIONS TO FLANGES OF AIR DISTRIBUTION SYSTEM EQUIPMENT SHALL BE SEALED AND MECHANICALLY FASTENED.

ALL EXPOSED DUCTWORK SHALL BE PRIME-PAINTED READY FOR FINISHED PAINTING BY GENERAL CONTRACTOR.

FLEXIBLE AIR DUCTS SHALL BE FOIL TYPES U.L. #181 CLASS 1 LISTED.

SEAL THE SPACES AROUND ALL DUCTWORK PENETRATIONS IN AN APPROVED MANNER. FLEXIBLE DUCTS SHALL NOT PASS THROUGH ANY FLOOR, WALL, OR CEILING.

WHERE ALLOWED BY CODE, JOINTS BETWEEN DUCTWORK PIECES SHALL BE SEALED BY UL 181 MASTIC AND MESH TAPE OR AN EQUAL PRODUCT TO PROVIDE A COMPLETELY AIRTIGHT SYSTEM.

HANGERS AND SUPPORTS FOR DUCTWORK SHALL BE METAL BANDS, ANGLES, AND/OR RODS FOR METAL DUCTWORK AND NYLON STRAPS FOR FOIL AND VINYL FLEXIBLE DUCTWORK. SIZE AND INSTALL PER ASHRAE AND SMACNA STANDARDS. THE DISTANCE BETWEEN SUPPORTS SHALL NOT EXCEED 10'.

DAMPERS, TRANSITIONS, AND DIFFUSERS/GRILLES:
INSTALL BALANCING DAMPERS, TURNING VANES, DUCT TRANSITIONS, ETC., GENERALLY WHERE SHOWN ON THE DRAWINGS, IN EVERY BRANCH DUCT OR AT EVERY DIFFUSER/GRILLE, AND WHERE REQUIRED FOR PROPER AIR FLOW CONTROL. LOCATE ALL SERVICE PANELS, ACCESS PANELS, AND DAMPER HANDLES ON BOTTOM OF THE DUCTWORK FOR EASY ACCESS FROM FLOOR.

REGISTERS AND GRILLES SHALL CONFORM WITH THE SCHEDULE. ACCEPTABLE MANUFACTURERS – METALAIRE, J & J REGISTER, TITUS, OR HART & COOLEY.

PROVIDE WALL- AND/OR ROOF-COMPATIBLE AIR INTAKE AND EXHAUST CAPS WITH BACKDRAFT DAMPERS. PROVIDE INSECT SCREENS FOR INTAKE VENTS BUT NOT EXHAUST DISCHARGE CAPS.

INSULATIONS:
PROVIDE DUCTWORK INSULATION COVERINGS AND LININGS WITH FLAME-SPREAD RATINGS OF 0-25 AND SMOKE-DEVELOPMENT RATINGS OF 0-50 WHEN TESTED PER ASTM E 84/ASTM E 2231 AND ASTM C 411. INSULATE EACH DUCT NOT WITHIN THE CONDITIONED SPACE IT SERVES. PROVIDE FIBERGLASS BLANKET COVERED BY A VAPOR RETARDER. PROVIDE MINIMUM INSULATION INSTALLED VALUE R-8.0 IN CRAWL SPACE. PROVIDE VAPOR RETARDERS WITH MAXIMUM PERMEANCE OF 0.05 PERM OR 2 MILS THICK ALUMINUM FOIL. WE ACCEPT UNCOVERED INSULATION MATERIALS WITH A PERMEANCE OF 0.05 PERM OR LESS.

FOLLOW THE TECHNICAL INSTRUCTIONS OF THE INSULATION MANUFACTURER TO INSTALL DUCT COVERINGS AND LINERS. DO NOT INSTALL INSULATION ON DUCTWORK WITHIN THE PENETRATION OF A FIRE-RATED ASSEMBLY. INSULATE UP TO THE WALL OR ROOF PENETRATION. ALL JOINTS AND SEAMS IN THE VAPOR RETARDER SHALL BE SEALED. PRESSURE-SENSITIVE TAPE SHALL NOT BE USED AS THE PRIMARY SEALANT.

EQUIPMENT:
ALL EQUIPMENT SHALL CONFORM TO THE DRAWING SCHEDULES AND NOTES. WE WILL ACCEPT PRODUCTS BY DIFFERENT MANUFACTURERS WITH EQUAL OR BETTER PERFORMANCE AND ELECTRICAL CHARACTERISTICS.

PROVIDE ALL APPURTENANCES NECESSARY FOR THE COMPLETE AND TOTAL INSTALLATION OF A SYSTEM WHICH SHALL PERFORM SATISFACTORILY UNDER THE DESIGN WEATHER CONDITIONS.

INSTALL ALL EQUIPMENT PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND CONFORMING TO ANY UNIQUE REQUIREMENTS OF THE RESPECTIVE EQUIPMENT'S LISTING. PROVIDE VIBRATION ISOLATION AND NOISE SUPPRESSION DEVICES TO ELIMINATE OBJECTIONABLE NOISE AND VIBRATION.

COMPLY WITH 202 NEC WHEN CONNECTING POWER AND GROUND WIRES. COORDINATE WITH THE ELECTRICAL TRADE FOR ANY UNIQUE OR SPECIFIC ELECTRICAL CIRCUIT REQUIREMENTS (FOR EXAMPLE, COPPER OR 90F CONDUCTORS) REQUIRED BY THE EQUIPMENT LISTING.

PROVIDE COMPRESSOR EQUIPMENT WITH 5-YEAR WARRANTIES.

CONTROLS, DEVICES, AND FILTERS:

INSTALL ALL EQUIPMENT CONTROLS SO THAT THE SYSTEM MEETS OR EXCEEDS THE PERFORMANCE CHARACTERISTICS OF THE EQUIPMENT MANUFACTURER. PROVIDE ALL APPURTENANCES NECESSARY FOR THE SENSING AND CONTROL OF EQUIPMENT PERFORMANCE FEATURES. THE SYSTEM SHALL PERFORM SATISFACTORILY UNDER DESIGN WEATHER CONDITIONS AND ACCORDING TO THE MANUFACTURER'S SEQUENCE OF OPERATIONS.

PROVIDE AN APPROPRIATE THERMOSTAT, CONTROL WIRING, AND ALL SENSOR/CONTROL DEVICES NECESSARY FOR THE PROPER OPERATION OF THE EQUIPMENT AND ALL REMOTE, MOTOR-OPERATED DAMPERS. CONFORM TO ELECTRICAL SPECIFICATIONS FOR CONTROL WIRING MATERIALS.

LOCATE THE THERMOSTAT GENERALLY AS SHOWN ON THE PLANS, BUT AWAY FROM ANY DIRECT AIR DRAFT. INSULATE THE THERMOSTAT FROM THE WALL AS NECESSARY TO ENSURE THAT IT READS ACTUAL AMBIENT AIR TEMPERATURE AND NOT THE TEMPERATURE OF THE WALL.

PROVIDE APPROVED FILTERS FOR ALL HEATING AND COOLING AIR-HANDLING SYSTEMS. THE FILTER MEDIA SHALL CONFORM TO UL 900. HIGH-EFFICIENCY PARTICULATE AIR FILTERS SHALL COMPLY WITH UL 867. ELECTRO-STATIC-TYPE FILTERS SHALL COMPLY WITH UL 867.

OTHER REQUIREMENTS:
LABEL ALL EQUIPMENT.

DO NOT USE HVAC EQUIPMENT FOR EARLY START-UP OR TEMPORARY USE DURING CONSTRUCTION FOR "DRYING OUT" BUILDINGS. IF DIRECTED TO DO SO, VERIFY WITH THE EQUIPMENT MANUFACTURERS THAT THESE ACTIONS SHALL NOT COMPROMISE THE LISTING, WARRANTY, AND SERVICE LIFE OF THE INSTALLED EQUIPMENT.

ADJUST/BALANCE AIR FLOWS TO CLOSELY APPROXIMATE THE VALUES SHOWN ON THE PLANS. NO CERTIFIED TEST AND BALANCE REQUIRED.

DELIVER TO THE OWNER ALL ENGINEER-REVIEWED SHOP DRAWINGS, CUTSHEETS, OPERATIONS/MAINTENANCE MANUALS, AND OPERATING SEQUENCES FOR HVAC EQUIPMENT.

GENERAL MECHANICAL NOTES:

1. PREPLAN ALL WORK PRIOR TO PURCHASING, ORDERING, OR FABRICATING ANY PART OF THE WORK DESCRIBED ON THESE DRAWINGS.
2. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.
3. RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.
4. COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING MECHANICAL EQUIPMENT, DEVICES, DUCTWORK, GRILLES, REGISTERS, DIFFUSERS, AND OTHER MATERIALS.
5. PROVIDE ALL APPURTENANCES NECESSARY TO PROPERLY INSTALL EQUIPMENT, DEVICES, DUCTWORK, GRILLES, REGISTERS, DIFFUSERS, AND OTHER MATERIALS.
6. VERIFY EACH GRILLE, REGISTER, AND DIFFUSER TO BE INSTALLED AGAINST THE OWNER'S ROOM FINISHES AND RESOLVE ALL CONFLICTS BEFORE ORDERING.
7. LOCATE NEW DEVICES, DUCTWORK, GRILLES, DIFFUSERS, AND OTHER MATERIALS GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO PRESERVE ALL CODE-REQUIRED AND MANUFACTURER-REQUESTED SERVICE CLEARANCES.
8. COORDINATE THE ROUTING OF ALL NEW DUCTWORK AND PIPING WITH THE BUILDING STRUCTURE AND WITH THE WORK OF OTHER TRADES.
9. ALL DUCTWORK DIMENSIONS ARE GIVEN IN INCHES AND ARE NET CLEAR, INTERIOR DIMENSIONS.
10. ALL NEW DUCTWORK NOT WITHIN THE CONDITIONED SPACE SHALL BE INSULATED WITH R-8.0.
11. PROVIDE AIR TURNING DEVICES AT EACH SUPPLY DUCT ELBOW AND BRANCH TAKE OFF. PROVIDE BALANCING AND SPLITTER DAMPERS AS SHOWN ON THE PLANS AND WHERE NECESSARY FOR SYSTEM BALANCING. ALL TURNING VANES SHALL BE DOUBLE-THICKNESS.
12. PROVIDE PROGRAMMABLE THERMOSTAT CONTROLS FOR PROPER AND SATISFACTORY SYSTEM OPERATION. ALL PORTIONS OF WALL-MOUNTED THERMOSTATS SHALL BE NO HIGHER THAN 46" AFF.
13. PROVIDE OUTSIDE AIR INTAKE HOODS AND EXHAUST AIR DISCHARGE HOODS THAT ARE COMPATIBLE WITH THE EXISTING WALL CONSTRUCTION. PROVIDE INSECT SCREENS AND BACKDRAFT DAMPERS FOR OUTSIDE AIR HOODS AND BACKDRAFT DAMPERS ONLY FOR EXHAUST AIR HOODS. DAMPERS SHALL CLOSE WHEN THE AIR HANDLING UNIT OR EXHAUST FAN IS "OFF".
14. BALANCE HVAC SYSTEMS TO THE CFM QUANTITIES SHOWN ON THESE DRAWINGS. PROVIDE A CONTRACTOR-GENERATED REPORT OF FINAL UNIT SETTINGS AND AIRFLOW VALUES. ALTERNATIVELY, THE CONTRACTOR CAN COORDINATE WITNESSING BY THE ENGINEER-OF-RECORD.
15. UPON COMPLETION OF THE PROJECT, TEST AND VERIFY ALL EQUIPMENT AS OPERATING SATISFACTORILY.

MECHANICAL LEGEND

A100	SUPPLY SIDEWALL GRILLE STEEL 12x6 (150 CFM) W/ HORIZONTAL ADJUSTABLE FACE BARS, MTD TO DUCT, HART & COOLEY 831
	EXHAUST AIR DISCHARGE WALL CAP BROAN WVK2A
	OUTSIDE AIR INTAKE AIR VENT MASTER FLOW
EF-# ▨	CEILING-MOUNTED EXHAUST FAN
Ⓣ	THERMOSTAT
10x12	SUPPLY/RETURN AIR LOW PRESSURE DUCTWORK – SHEET METAL
TV TV	SQUARE ELBOW WITH TURNING VANES
	BALANCING DAMPER
	AIR FLOW DIRECTION(S)

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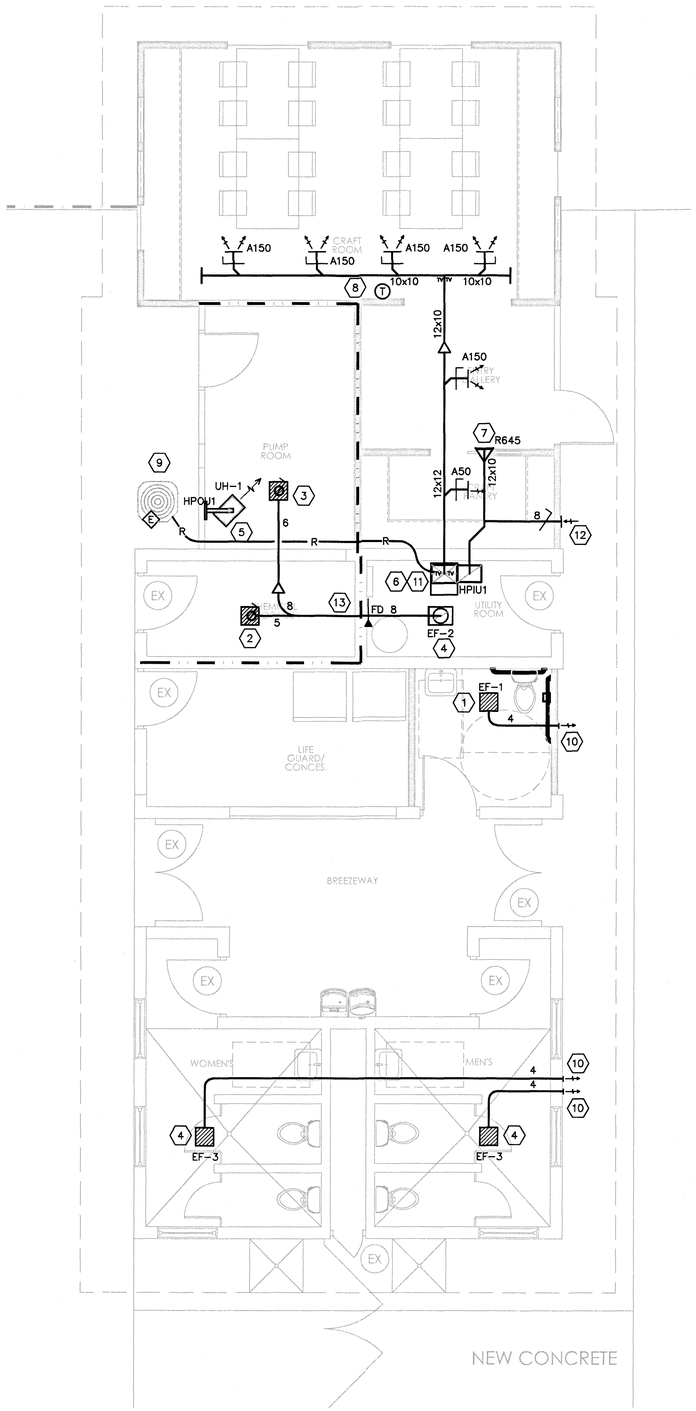
SEAL 10985

RENOVATION/ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

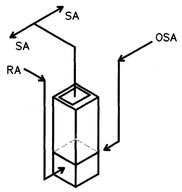
PROJECT NO:	2430
DATE:	11/19/24
CAD DWG FILE:	M_2430
DRWN BY:WHC	CHKD BY: WHC

HVAC NOTES, LEGEND, AND SPECIFICATIONS

M0



1 / M1 **FLOOR PLAN -HVAC**
1/4" = 1' - 0"



HPIU-1

2 / M1 **SCHEMATIC REPRESENTATION OF HPIU AND DUCTWORK**
NO SCALE

EXHAUST AND OUTSIDE AIR REQUIREMENTS

EXHAUST:

1 TOILET WITH (1) WATER CLOSET
EXHAUST @ 50 CFM = 80 CFM (EF-1) PROVIDED.

POOL CHEMICAL AND PUMP ROOMS
EXHAUST @ 10 AC/HR = 264 CFM = 300 CFM (EF-2) PROVIDED

2 TOILETS WITH (2) WATER CLOSETS
EXHAUST @ 100 CFM = 110 CFM (EF-3) EA PROVIDED.

OUTSIDE AIR:

CRAFT AREA @ 20/1000, 10/PERSON, 0.18/SF (264 SF)
6 PEOPLE AND 108 CFM

MAIN ENTRY @ 10/1000, 5/PERSON, 0.06/SF (87 SF)
1 PEOPLE AND 11 CFM

STORAGE @ 0 PEOPLE 0.06/SF (56 SF)
0 PEOPLE AND 4 CFM

TOTAL REQUIRED = 123 CFM/0.8 EFF = 154 CFM
TOTAL PROVIDED 155 CFM

EQUIPMENT SPECIFICATIONS

HPIU-1: GOODMAN AMST24BP13*/HKTSN501*, R-32 COIL, MULTI-POSITION, MULTI-SPEED, ECM-BASED AIR HANDLER, NOMINAL 840 CFM @ 0.5 S.P. AT MID-SETTING, 5 kW HEAT STRIP, AND INTERNAL TXV. (MCA/MOCP = 30.8/35)

HPIU FEATURES AND ACCESSORIES: SINGLE-POINT ELECTRICAL CONNECTION, FRONT ACCESSIBLE FOR SERVICING, FRONT CONTROLS, FILTER RACK, R-32 REFRIGERANT LINE SET AND CONNECTIONS W/1.5" INSULATION, DRAIN PAN, 1" GRAVITY DRAIN PIPE TO EXTERIOR WALL, CONDENSATE P-TRAP W/SHUTOFF SWITCH, AND PROGRAMMABLE THERMOSTAT.

HPOU-1: GOODMAN GLZ4S4BA1810A* R-32 SPLIT SYSTEM OUTDOOR HEAT PUMP, NOMINALLY-RATED WITH HPIU INDOOR UNIT 17.4 MBH TOTAL, 12.5 SENSIBLE, AND 4.9 MBH LATENT, (MCA/MOCP = 11.2/15)

HPOU FEATURES AND ACCESSORIES: TOP AND SIDE MAINTENANCE ACCESS, HIGH-EFFICIENCY COMPRESSOR, SINGLE-SPEED PSC CONDENSOR FAN MOTOR, FILTER DRIER, SUCTION LINE ACCUMULATOR, COMPRESSOR CRANKCASE HEATER, HIGH-CAPACITY MUFFLER, HIGH- AND LOW-PRESSURE SWITCHES, OUTDOOR LOCKOUT OF SUPPLEMENTARY HEAT STRIPS (35F-40F), AND PAD.

- VERIFY HEAT PUMP EQUIPMENT SELECTIONS AND EXACT MODEL NUMBERS WITH SUPPLIER BASED ON 75F INDOOR DRY BULB, 63F WB, AND 95F OUTDOOR DB.

UH-1: RAYWALL 21WD5T01 UNIT HEATER, NEMA 4X, CORROSION-RESISTANT, OFF-HEAT-FAN SWITCH, PILOT LIGHT, LV CONTROLS WITH HIGH TEMPERATURE LIMITS, INLET GRILLE FAN GUARD, OUTLET GRILLE WITH LOUVERS. 5 KW, 240V/1P,

EF-1: BROAN HB80RL CEILING-MOUNTED EXHAUST FAN 80 CFM, 120V/1P

EF-2: TWIN CITY FIBERGLASS 10WA UPBLAST ROOF-MOUNTED VENTILATOR, CORROSION RESISTANT, PVC BIRDSCREEN, FABRIC BACKDRAFT DAMPER, DUCT ADAPTER, AND ROOF CURB. NOMINAL 300 CFM @.25 SP, 120V/1P

EF-3: BROAN HB110RL CEILING-MOUNTED EXHAUST FAN 110 CFM, 120V/1P

GENERAL MECHANICAL NOTES:

1. SEE GENERAL MECHANICAL SPECIFICATIONS ON DRAWING M0.
2. SEE GENERAL MECHANICAL NOTES AND LEGEND ON DRAWING M0.
3. DEMOLISH ALL EXISTING MECHANICAL SYSTEMS IN THE BUILDING.
4. ENSURE ALL SOURCES OF BUILDING EXHAUST ARE MINIMUM 10' HORIZONTALLY FROM ALL OUTSIDE AIR INTAKES.
5. CONFIRM EQUIPMENT SELECTIONS WITH SUPPLIERS FOR A COORDINATED SYSTEM. SUBSTITUTE MANUFACTURERS AND MODELS ALLOWED IF PRE-ACCEPTED BY THE ENGINEER.

NOTES KEYED TO PLAN

1. UNDERCUT DOOR BY 1" ABOVE FINISHED FLOOR FOR RETURN AIR.
2. SET EXHAUST AIR VOLUME DAMPER FOR 200 CFM (MIN.. 10 AC/HR CONTINUOUS OPERATION).
3. SET EXHAUST AIR VOLUME DAMPER FOR 100 CFM (MIN. 10 AC/HR CONTINUOUS OPERATION)
4. FAN ON ROOF DIRECTS EXHAUST AWAY FROM POOL
5. COORDINATE LOCATION WITH POOL EQUIPMENT INSTALLERS.
6. MAINTAIN 36" CLEARANCE FROM FRONT OF PANEL.
7. NOMINAL 18x14 AIR GRILLE ABOVE DOOR FOR RETURN AIR.
8. COORDINATE DUCT HEIGHT IN ROOM WITH ARCHITECT. POSITION DUCT CLOSE TO WALL.
9. OUTDOOR UNIT ON PAD. SEE SPECIFICATION FOR REFRIGERATION SYSTEM CHARGING REQUIREMENTS.
10. ROUTE EXHAUST DUCT TO EXTERIOR WALL AS SHOWN AND TERMINATE IN DISCHARGE CAP WITH BACKDRAFT DAMPER AND BIRD SCREEN. MAINTAIN MINIMUM 10' DISTANCE FROM ALL AIR INTAKES. FAN OPERATED BY LIGHT SWITCH.
11. ROUTE CONDENSATE PIPES FOR AIR HANDLER AND DRAIN PAN TO FLOOR DRAIN IN ROOM.
12. OUTSIDE AIR INTAKE AND DUCTWORK TO HPIU RETURN. SET OUTSIDE AIR VOLUME DAMPER FOR 155 CFM.
13. SUBMIT A PENETRATION DETAIL FOR THE THRU-WALL PENETRATION AND SEALING OF THE REFRIGERANT LINE SET, INSULATION, AND WIRING.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 10985 WILLIAM H. CLARK, JR.

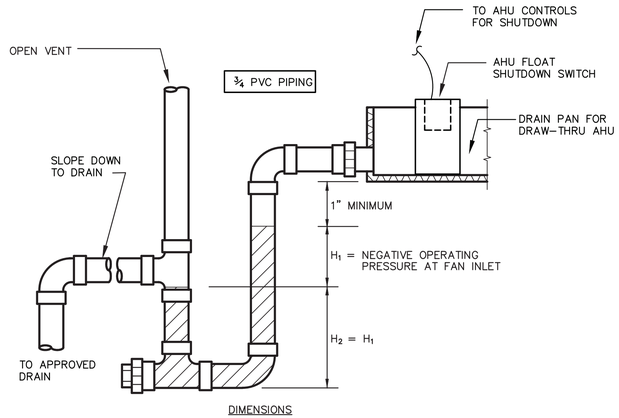
RENOVATION/ADDITION TO POOL BUILDING FOR:

CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

PROJECT NO:	2430
DATE:	11/19/24
CAD DWG FILE:	M_2430
DRWN BY: WHC	CHKD BY: WHC

HVAC FLOOR PLAN AND SCHEDULES

M1

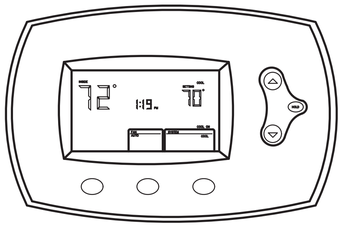


DIMENSIONS

H_1 PIPE DISTANCE	
MIN. PIPE SIZE	MAX. COIL LOAD (TONS)
¾"	2
1"	5
1¼"	30

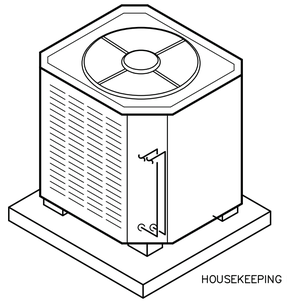
PITCH HORIZONTAL DRAIN LINE 1" IN 10 FEET

1 / M2 **CONDENSATE PIPING - DRAW THRU AHU**
NO SCALE

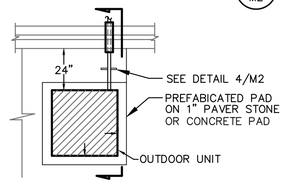


NOTES:
1. DIGITAL AND PROGRAMMABLE.
2. ADAPTIVE RECOVERY
3. HEAT PUMP OPERATION

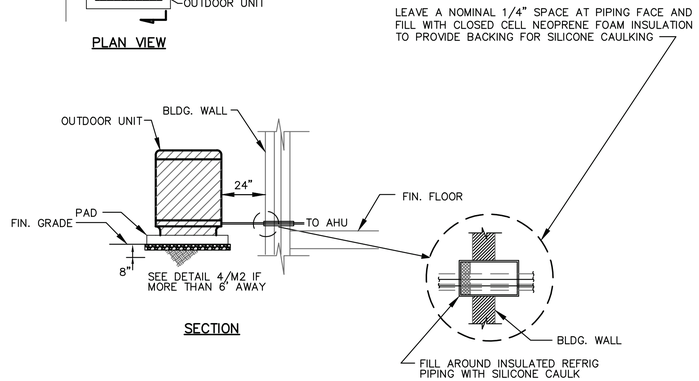
2 / M2 **DIGITAL/PROGRAMMABLE THERMOSTAT (TYP)**
NO SCALE



3 / M2 **TYPICAL OUTDOOR HEAT PUMP**
NOT TO SCALE:

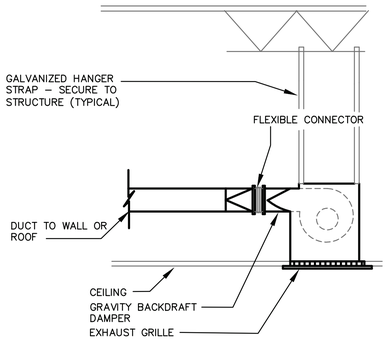


PLAN VIEW



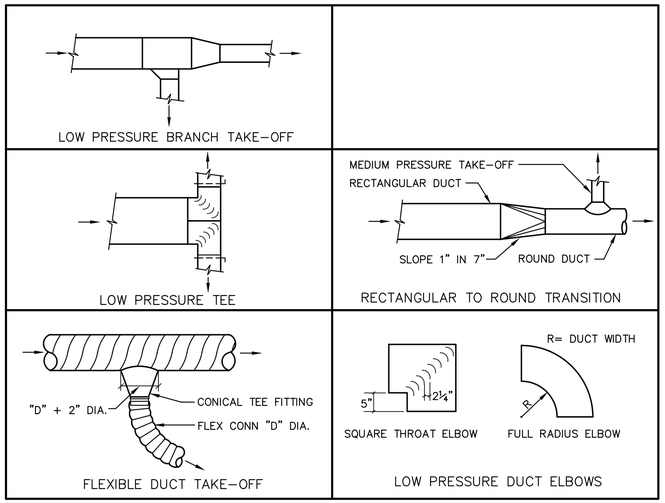
SECTION

6 / M2 **OUTDOOR CONDENSING UNIT AND REFRIGERANT PIPING**
NOT TO SCALE:

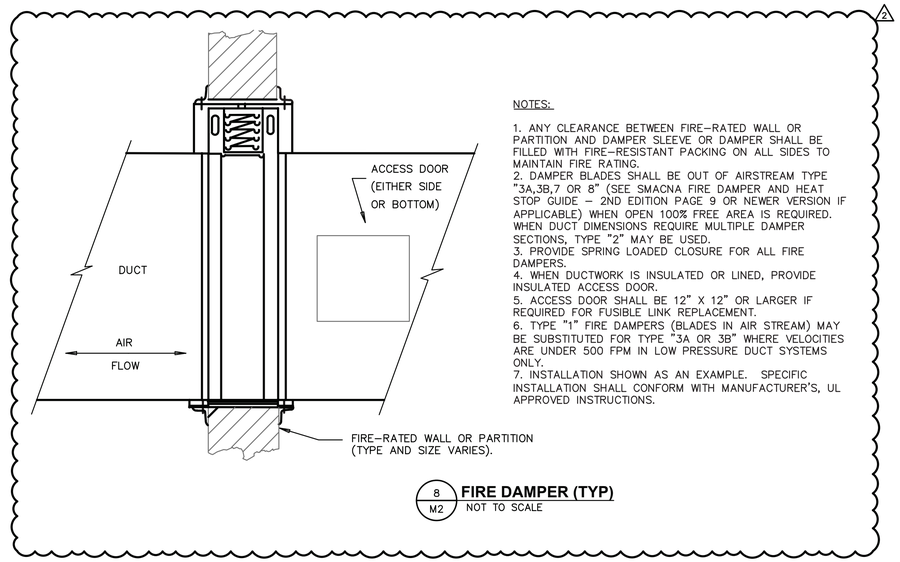


(SEE PLAN FOR SIZE AND ROUTING OF DUCTWORK)

4 / M2 **CEILING EXHAUST FAN**
NO SCALE



5 / M2 **DUCT FITTINGS**
NO SCALE



NOTES:

1. ANY CLEARANCE BETWEEN FIRE–RATED WALL OR PARTITION AND DAMPER SLEEVE OR DAMPER SHALL BE FILLED WITH FIRE–RESISTANT PACKING ON ALL SIDES TO MAINTAIN FIRE RATING.
2. DAMPER BLADES SHALL BE OUT OF AIRSTREAM TYPE "3A,3B,7 OR 8" (SEE SMACNA FIRE DAMPER AND HEAT STOP GUIDE – 2ND EDITION PAGE 9 OR NEWER VERSION IF APPLICABLE) WHEN OPEN 100% FREE AREA IS REQUIRED. WHEN DUCT DIMENSIONS REQUIRE MULTIPLE DAMPER SECTIONS, TYPE "2" MAY BE USED.
3. PROVIDE SPRING LOADED CLOSURE FOR ALL FIRE DAMPERS.
4. WHEN DUCTWORK IS INSULATED OR LINED, PROVIDE INSULATED ACCESS DOOR.
5. ACCESS DOOR SHALL BE 12" X 12" OR LARGER IF REQUIRED FOR FUSIBLE LINK REPLACEMENT.
6. TYPE "1" FIRE DAMPERS (BLADES IN AIR STREAM) MAY BE SUBSTITUTED FOR TYPE "3A OR 3B" WHERE VELOCITIES ARE UNDER 500 FPM IN LOW PRESSURE DUCT SYSTEMS ONLY.
7. INSTALLATION SHOWN AS AN EXAMPLE. SPECIFIC INSTALLATION SHALL CONFORM WITH MANUFACTURER'S, UL APPROVED INSTRUCTIONS.

8 / M2 **FIRE DAMPER (TYP)**
NOT TO SCALE

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8/22/2026

RENOVATION/ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

2	02/22/26	ADDED FD DETAIL

PROJECT NO: 2430
DATE: 11/19/24
CAD DWG FILE: M_2430
DRWN BY: WHC CHKD BY: WHC

HVAC DETAILS

M2

ELECTRICAL SPECIFICATIONS

GENERAL:
THESE PERMIT DRAWINGS DESCRIBE DIAGRAMMATICALLY, AND IN GENERAL TERMS, THE INTENDED SCOPE OF WORK AS UNDERSTOOD BY THE ENGINEER. THE ENGINEER CREATED THE DRAWINGS, INCLUDING PLANS, DIAGRAMS, SPECIFICATIONS, AND NOTES, FOR THE EXPRESS PURPOSE OF DESCRIBING THE PROJECT TO THE LOCAL INSPECTIONS AUTHORITY'S PLANS REVIEW STAFF FOR THEIR USE IN GRANTING A BUILDING PERMIT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY UNDERSTANDING THE ACTUAL FIELD CONDITIONS OF THE PROJECT SITE AND THE SCOPE OF WORK AS EXPRESSED BY THE PARTY TO WHOM THE CONTRACTOR HAS CONTRACTED TO PERFORM THE WORK. THEREFORE, THE CONTRACTOR SHALL REVIEW THESE DOCUMENTS THOROUGHLY FOR ALL CONFLICTS, AND FOR ANY ASPECT OF THE WORK SHOWN IN THESE DOCUMENTS THAT IS AT VARIANCE WITH THE CONTRACTOR'S UNDERSTANDING OF THE WORK. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE FACILITY OWNER'S INTENDED SCOPE OF WORK FOR THE PROJECT.

THE CONTRACTOR SHALL PERFORM ALL WORK ACCORDING TO ALL RELEVANT CODES, ALL REFERENCED STANDARDS, AND THE MOST CURRENT INTERPRETATIONS OF THE CODE AS STATED BY THE AUTHORITY HAVING JURISDICTION. IF ANYTHING IS NECESSARY FOR THE COMPLETE, PROPER, AND SAFE INSTALLATION, OPERATION, AND FUNCTION OF THE WORK DESCRIBED IN THESE DOCUMENTS, THE CONTRACTOR SHALL PROVIDE IT EVEN IF NOT CLEARLY INDICATED IN THESE DOCUMENTS.

SUPPLEMENT THESE CONTRACT DOCUMENTS WITH ALL DETAILS OF CONSTRUCTION; ALL MATERIAL, DEVICE, AND EQUIPMENT INSTALLATION INSTRUCTIONS; ANY NEEDED MANUFACTURER, SUPPLY HOUSE, AND VENDOR ASSISTANCE; SHOP DRAWINGS, AND FIELD INSTALLATION DRAWINGS NECESSARY TO COMPLETE THE PROJECT.

DETERMINE THE ACTUAL FIELD CONDITIONS AND INSTALLATION DETAILS. FULLY COORDINATE EVERY DEVICE AND EQUIPMENT AND THE RESPECTIVE LOCATIONS FOR EQUIPMENT, DEVICES, AND MATERIALS AMONG ALL CONTRACTOR TRADES AND WITH THE OWNER, IF NECESSARY. INSTALL EVERY PIECE OF EQUIPMENT AND ALL CONTROL DEVICES WITH ALL CODE-REQUIRED AND MANUFACTURER- RECOMMENDED SERVICING CLEARANCES, FREE OF OBSTRUCTIONS, AND WITHOUT CONFLICT WITH OTHER EQUIPMENT OR BUILDING ELEMENTS.

CONTRACTOR COORDINATION AND PRICING:
VISIT THE SITE OF THIS PROJECT AS OFTEN AS NECESSARY TO BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING FIELD CONDITIONS AND THE FULL EXTENT OF THE WORK TO BE PERFORMED. VERIFY EVERY ASPECT OF THE PROPOSED WORK AS DESCRIBED OR IMPLIED BY THESE CONTRACT DOCUMENTS PRIOR TO SUBMITTING A PRICE FOR THIS WORK.

USE THESE DRAWINGS, THE INFORMATION OBTAINED FROM SITE VISITS, AND OWNER INPUT TO DETERMINE PRICE. BECAUSE CURRENT CODES REQUIREMENTS BASED UPON INTERPRETATIONS WILL VARY FROM JURISDICTION TO JURISDICTION,

REVISE ANY ORIGINAL PRICING PRESENTED PRIOR TO THE CONTRACTOR'S RECEIPT OF THESE DRAWINGS TO SHOW ALL ADJUSTMENTS TO THE PRICE. THE CONTRACTOR'S RISK INCLUDES ANY COST INCURRED PRIOR TO OBTAINING ALL CLARIFICATIONS TO THESE DOCUMENTS, OR TO THE DESIGNER'S OR OWNER'S INTENT.

THE ENGINEER DID NOT INDEPENDENTLY VERIFY ALL EXISTING FIELD CONDITIONS. DETERMINE ALL MISSING INFORMATION RELEVANT TO THE PERMITTED WORK. TAKE ACTUAL FIELD MEASUREMENTS AT THE JOB SITE INSTEAD OF SCALING THE DRAWINGS. THE SYMBOLS AND DIAGRAMS SHOWN HAVE NO DIMENSIONAL SIGNIFICANCE AND DO NOT SHOW EVERY APPURTENANCE NECESSARY FOR A COMPLETE INSTALLATION AND CONFIGURATION. THE DRAWINGS SHOW APPROXIMATE LOCATIONS FOR ALL EQUIPMENT, DEVICES, AND MATERIALS. DETERMINE FINAL LOCATIONS IN THE FIELD BASED UPON ACTUAL CONSTRUCTION.

BRING ALL CONTRACT DOCUMENT-RELATED OMISSIONS, DISCREPANCIES, AND CONFLICTS TO THE ENGINEER'S ATTENTION PRIOR TO COMMENCING WORK AND INCURRING ANY COSTS FOR LABOR OR MATERIALS. WHERE THE ENGINEER HAS NO POST-DESIGN AND CONSTRUCTION ASSISTANCE RESPONSIBILITIES TO THE PROJECT, TAKE ALL FIELD-DISCOVERED CONFLICTS AND INTERFERENCES TO THE GENERAL CONTRACTOR'S ATTENTION FOR RESOLUTION BY THE RESPECTIVE TRADES.

SUBMIT ALL REQUESTS FOR INFORMATION (RFI) WITH WRITTEN COMMENTS DEFINING THE INFORMATION AND ASSISTANCE NEEDED. DOCUMENT THE REQUEST WITH RELEVANT INFORMATION FROM THE PLANS AND SPECIFICATIONS.

INFORM THE ENGINEER OF ANY DEVIATIONS MADE FROM THE PERMITTED DRAWINGS.

QUALIFICATIONS AND STANDARDS OF WORKMANSHIP:
PERFORM ALL WORK USING EXPERIENCED, SKILLED CRAFTSMEN LICENSED IN THEIR RESPECTIVE TRADES, AND COMPETENT TO PERFORMED THE WORK INVOLVED WITH THIS PROJECT.

ALL WORK AND MATERIALS SHALL CONFORM TO THE APPLICABLE LOCAL, STATE, AND NATIONAL CODES (INCLUDING OSHA). AS THE ABSOLUTE MINIMUM ACCEPTABLE QUALITY STANDARD, COMPLY WITH THE LATEST EDITION OF THE NORTH CAROLINA STATE BUILDING CODE AND THESE SPECIFICATIONS.

DEMOLITION:
REMOVE ALL EXISTING EQUIPMENT, DEVICES, AND MATERIALS NOT INTENDED TO REMAIN AND OBSTRUCTING NEW WORK. MECHANICALLY SECURE ALL ABANDONED EXISTING EQUIPMENT, FIXTURES, VALVES, DEVICES, PIPING, TUBING, ETC. WHEN DEMOLISHING PIPING, CONDUITS, WIRING, AND CABLING,

MATERIALS AND METHODS:
PROVIDE ALL CUTTING AND PATCHING NECESSARY TO PROPERLY INSTALL ALL WORK. FOR WORK IN-PROGRESS, LEAVE IN SAFE CONDITION ALL FLOORS, WALLS, CEILINGS, FINISH MATERIALS, OR ANY PART OF THE BUILDING OR PREMISES THAT MUST BE CHANGED OR REPLACED. REPAIR ANY DAMAGE DONE TO EXISTING EQUIPMENT, DEVICES, OR MATERIALS.

DO NOT CUT, NOTCH, OR BORE A FRAMING MEMBER IN EXCESS OF LIMITATIONS SPECIFIED IN THE CODE. DO NOT CUT, NOTCH, OR BORE ANY STRUCTURAL BEAMS AND COLUMNS UNDER ANY CIRCUMSTANCES.

MATERIAL AND PRODUCT STANDARDS:
PROVIDE ONLY NEW MATERIALS, DEVICES, FIXTURES, AND EQUIPMENT LISTED AND LABELED (FOR THE USE INTENDED) BY AN APPROVED THIRD PARTY LABORATORY SERVICE APPROVED BY THE STATE, SUCH AS UNDERWRITER'S LABORATORIES, INC, CSA, ETL AND OTHERS. DO NOT USE UNLISTED AND UNLABELED PRODUCTS.

PROVIDE APPROPRIATELY LABELED AND APPROPRIATELY RATED EQUIPMENT ENCLOSURES AND PRODUCTS FOR EACH LOCATION. USE PROVIDE NEMA 3R OR BETTER AND/OR WET LOCATION LABELED ENCLOSURES FOR ALL EQUIPMENT AND PRODUCTS INSTALLED ANYWHERE OUTDOORS OR AT INDOOR WASH-DOWN LOCATIONS.

UTILITY AND BUILDING OWNER'S FEPRESENTATIVE COORDINATION:
COMPLY WITH ALL MUNICIPAL, STATE, AND/OR UTILITY REGULATIONS FOR SERVICE CONNECTIONS AND METERING PROVISIONS. FULLY COORDINATE WITH THE POWER, TELEPHONE, AND CATV UTILITIES TO PROVIDE SERVICES TO THE FACILITY. PROVIDE ANY NECESSARY UNDERGROUND PIPES, SLEEVES, AND OTHER PROVISIONS REQUESTED BY THE UTILITY. THE OWNER WILL PAY FOR ALL SERVICE CONNECTION, LINE EXTENSION, AND IMPACT FEES DIRECTLY TO THE APPROPRIATE UTILITY OR JURISDICTION.

PROVIDE TEMPORARY SERVICES AS NECESSARY TO SUPPORT ALL CONSTRUCTION ACTIVITIES.

SUBMITTALS AND TESTING:
SUBMIT A LIST OF ALL ELECTRICAL EQUIPMENT, FIXTURES, AND DEVICES MATCHING THE ENGINEER'S BASIS OF DESIGN. SUBMIT ELECTRONIC SHOP DRAWINGS AND CATALOG DATA FOR ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES, DEVICES, AND MATERIALS THAT DO NOT.

RETAIN ALL INSTALLATION INSTRUCTIONS, MANUFACTURER'S PACKING DOCUMENTS, ETC., FOR ALL LIFE SAFETY RELATED EQUIPMENT AS EVIDENCE TO THE AUTHORITY HAVING JURISDICTION THAT THE CORRECT MATERIALS AND DEVICES WERE USED IN THE CONSTRUCTION, PENETRATION, AND SEALING OF PENETRATION IN ALL RATED ASSEMBLIES.

CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES, AND WITH THE REQUESTS OF THE LOCAL INSPECTOR FOR TESTS AND COMPONENT TESTING. CONTRACTOR SHALL PAY THE FULL COST OF ANY DESTRUCTIVE TESTING NECESSARY TO DEMONSTRATE COMPLIANCE WITH THESE DRAWINGS AND CODE.

AS A MINIMUM, TURN "ON" AND "OFF", SWITCH, CHANGE MODES, AND VERIFY SEQUENCES OF OPERATION FOR ALL DEVICES, EQUIPMENT, AND SYSTEMS TO DEMONSTRATE PROPER INSTALLATION AND SATISFACTORY OPERATION.

PERMITS, WARRANTY, AND INSPECTIONS:
OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL, AND THE LIKE AND SHALL DELIVER SUCH CERTIFICATES TO THE OWNER. NOTIFY THE ARCHITECT AND ENGINEER OF ALL SCHEDULED INSPECTIONS.

WARRANT ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP SHOWN OR IMPLIED BY THESE DOCUMENTS TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR, STARTING FROM THE TIME OF ACCEPTANCE BY THE BUILDING OWNER. IF WITHIN ONE YEAR AFTER THE ACCEPTANCE DATE ANY WORK OR EQUIPMENT IS FOUND TO BE DEFECTIVE, CORRECT IT PROMPTLY AT NO COST TO THE BUILDING OWNER.

SCOPE OF WORK:
PROVIDE ALL WORK, EQUIPMENT, SERVICES, LABOR, AND MATERIALS NECESSARY TO INSTALL COMPLETE AND FULLY FUNCTIONAL ELECTRICAL SYSTEMS AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS.

CONDUITS:
PROVIDE 1/2" MINIMUM SIZE, ZINC-COATED EMT CONDUIT, EXCEPT IN WET, DAMP, OR WASHDOWN AREAS. PROVIDE ZINC-COATED RIGID STEEL (GRS) OR IMMEDIATE METALLIC CONDUIT (IMC) FOR THOSE AREAS.

PROVIDE STEEL, SET SCREW OR COMPRESSION TYPE, EMT FITTINGS.

PROVIDE STEEL COMPRESSION TYPE FLEXIBLE CONDUIT CONNECTORS.

SECURE CONDUITS USING MANUFACTURED, GALVANIZED STRAPS. DO NOT USE TIE WIRE.

ROUTE ALL CONDUIT CONCEALED (WHERE POSSIBLE) ABOVE CEILINGS, IN WALLS OR CASEWORK, OR BELOW GRADE. ROUTE ALL CONDUITS PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS AND IN GROUPS. PROVIDE SINGLE DEPTH AND TIGHT AGAINST THE STRUCTURE. GROUPINGS WHEN INSTALLING INSTALLING CONDUITS AT THE ROOF OR CEILING.

USE RIGID NONMETALLIC CONDUIT ONLY FOR THE SECONDARY UNDERGROUND SERVICE, THE UNDERGROUND TELEPHONE SERVICE CONDUIT, AND BRANCH CIRCUITS AND TELEPHONE SYSTEM CONDUITS LOCATED BELOW THE CONCRETE FLOOR SLAB ON GRADE OR BURIED ON THE EXTERIOR OF THE BUILDING. PROVIDE SCHEDULE 40 MINIMUM POLYVINYL CHLORIDE (PVC) RACEWAYS UL LISTED FOR USE WITH 75C CONDUCTORS. INSTALL ALL RACEWAYS PER ALL CODES, THE UTILITY COMPANY REGULATIONS, AND THE MANUFACTURER'S INSTRUCTIONS.

PROVIDE ALL OF THE PVC CONDUIT SYSTEM COMPONENTS FROM THE SAME MANUFACTURER. PROVIDE PRODUCTS SPECIFICALLY LISTED AND LABELED FOR THE INTENDED USE. MAKE ALL FIELD BENDS ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND UL REQUIREMENTS. REPLACE ANY PVC COMPONENTS HEATED WITH A TORCH. PVC SHALL NOT PENETRATE SLAB ON GRADE FOR ANY REASON; USE GRS OR IMC CONDUIT FOR ALL SLAB PENETRATIONS.

PROVIDE PULL CORDS IN ALL EMPTY CONDUITS.

IN CONCRETE AND METAL INTERIOR CONSTRUCTION, PROVIDE GALVANIZED STEEL OUTLET BOXES.

PROVIDE CAST BOXES WITH GASKETED COVERS IN ALL INTERIOR WET AREAS AND ON THE EXTERIOR OF THE BUILDING.

USE OUTLET BOXES SIZES NO LESS THAN 4"x2"x2" DEEP. VERIFY ALL ELECTRICAL BOX MODEL NUMBERS CONFORM TO THE LISTING OF APPROVED MODEL NUMBERS GIVEN IN THE RESPECTIVE UL STANDARD.

WIRING:
PROVIDE COPPER, SOLID, THHN/THWN, CONDUCTOR SIZES #10 AWG OR #12 AWG. IT IS ACCEPTABLE TO PROVIDE STRANDED ALUMINUM CONDUCTORS FOR ALL LARGER SIZES; HOWEVER, WHERE NOT SPECIFICALLY SHOWN ON THE DRAWINGS, ASSUME THE DESIGN SHOWS COPPER CONDUCTORS. ALSO, SOME HVAC EQUIPMENT MAY REQUIRE COPPER CONDUCTORS OR COPPER CONDUCTOR CONNECTIONS IN LARGER SIZES. CONTROL CIRCUIT CONDUCTORS MAY BE #14 AWG SOLID COPPER. INSTALL ALL INDIVIDUAL POWER AND CONTROLS CONDUCTORS IN CONDUITS.

FOR BRANCH CIRCUITS USING MC CABLE, PROVIDE APPROVED CONNECTORS. IN PATIENT CARE AREAS, "HOSPITAL GRADE" TYPE MC CABLES WITH THE REDUNDANT GROUND.

USE TYPE NM ROMEX CABLING WHERE APPROVED BY THE LOCAL AUTHORITY AND NOT PART OF A "PLACE OF ASSEMBLY".

USE TYPE SER OR TYPE MC ALUMINUM SERVICE ENTRANCE CABLES FOR ALL DWELLING UNIT LOAD CENTERS. PROVIDE TYPE MC CABLES IN LIEU OF SER CABLES IN TYPE 1 AND TYPE 2 CONSTRUCTION. PREPLAN AND VERIFY TYPE SER AND MC CABLE ROUTES PRIOR TO INSTALLATION.

CONTROLS WIRING FOR EQUIPMENT PROVIDED BY THE ANOTHER TRADE SHALL BE PROVIDED BY THE TRADE FURNISHING THE EQUIPMENT IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS.

ALL 240/120 VAC CONDUCTORS SHALL BE COLOR-CODED BLACK, RED, WHITE, AND GREEN FOR PHASES A, B, NEUTRAL, AND GROUND RESPECTIVELY.

FULLY COORDINATE WITH THE OTHER TRADES TO DETERMINE THE POWER REQUIREMENTS AND CONNECTION POINTS FOR EQUIPMENT FURNISHED BY OTHERS. PROVIDE ELECTRICAL POWER TO EACH PIECE OF EQUIPMENT BASED UPON THE MANUFACTURER'S WIRING DIAGRAMS AND UNIT MOUNTED NAMEPLATES.

VERIFY THAT THE ELECTRICAL CHARACTERISTICS OF EACH CIRCUIT ENERGIZING THE EQUIPMENT.

TEST ALL ALL CONDUCTORS AND CABLES FOR CONTINUITY AND GROUND BEFORE ENERGIZING. REPLACE ALL FAULTY CONDUCTORS.

GROUND THE CONDUIT AND NEUTRAL CONDUCTORS OF THE ELECTRICAL SYSTEM WITH ALL INSTALLED GROUNDING ELECTRODE SYSTEMS CONFORMING TO NEC 250. BOND THE ELECTRICAL SERVICE TO ALL OTHER SYSTEMS AND PIPING WHICH MIGHT BECOME ENERGIZED. THESE WOULD INCLUDE THE TELEPHONE, CATV, DATA, GAS AND OTHER METALLIC PIPING SYSTEMS.

THE CONDUIT SYSTEM AND NEUTRAL CONDUCTORS SHALL BE BONDED TOGETHER ONLY AT THE SERVICE ENTRANCE EQUIPMENT. GROUNDING AT THE SERVICE ENTRANCE SHALL COMPLY WITH NEC ARTICLE 250.

PROVIDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN EVERY NON-SERVICE RACEWAY SIZED FOR THE CIRCUIT(S) CONTAINED.

DEVICES:
PROVIDE COMMERCIAL SPECIFICATION GRADE RECEPTACLES. THE COLOR SHALL BE SELECTED BY THE ARCHITECT FROM THE MANUFACTURER'S STANDARD COLORS. PROVIDE NEMA 5-20R RECEPTACLES UNLESS OTHERWISE NOTED.

PROVIDE QUIET OPERATING SWITCHES RATED FOR THE CIRCUIT VOLTAGE AND 20A.

IN WET LOCATIONS, PROVIDE GFCI TYPE RECEPTACLES, EXTERIOR BOXES WITH GASKETS, AND WEATHERPROOF EXTRA-DUTY, "IN-USE" COVERS.

FOR EXTERIOR AND INTERIOR DAMP LOCATIONS AND ABOVE COUNTERS NEAR SINKS, PROVIDE GFCI RECEPTACLES WITH APPROPRIATE COVER PLATE.

PROVIDE A SINGLE MULTI-GANG BOX AND DEVICE PLATE FOR ALL GROUP-MOUNTED WIRING DEVICES.

PROVIDE PLASTIC TYPE COVERPLATES. PROVIDE "IN-USE" COVERS FOR ALL EXTERIOR RECEPTACLES.

POWER EQUIPMENT:
PROVIDE DEAD-FRONT SAFETY TYPE LOAD CENTER, WALL-MOUNTED WITH FULL HEIGHT, ALUMINUM BUSSING, NOMINAL 20 INCHES WIDE CABINET, HINGED/LOCKABLE DOOR, AND PANEL DIRECTORY.

PROVIDE MOLDED CASE, BOLT-ON (OR PLUG-IN FOR LOAD CENTERS) CIRCUIT BREAKERS WITH AUTOMATIC THERMAL MAGNETIC OPERATION, CALIBRATED FOR 40C, OR AMBIENT COMPENSATING. PROVIDE MULTIPLE-POLE BREAKERS WITH A COMMON TRIP FOR 2 OR MORE BRANCH CIRCUITS HAVING DEVICES OR EQUIPMENT ON THE SAME YOKE.

PROVIDE GROUND FAULT PROTECTED (GPE) BREAKERS WHERE REQUIRED BY CODE (NEC 210.13 AND 230.95). IN PARTICULAR, PROVIDE TYPE GPE BREAKERS FOR HOT BOXES AND INACCESSIBLE RECEPTACLE LOCATIONS REQUIRING GROUND FAULT PROTECTION.

PROVIDE GENERAL DUTY, QUICK-MAKE, QUICK-BREAK, TYPE SAFETY SWITCHES OF THE SIZE AND FUSE AMPACITY AS DENOTED ON THE DRAWINGS. PROVIDE GROUND BUS, SOLID NEUTRAL (WHEN CIRCUIT HAS A NEUTRAL), CLASS RK-5 DUAL ELEMENT TIME DELAY FUSES, REJECTION TYPE FUSE HOLDERS, AND NEMA RATED ENCLOSURE.

PROVIDE ASTRONOMICAL TYPE TIME SWITCHES WITH NEMA 1 ENCLOSURE. SWITCH FUNCTION SHALL INCLUDE ADJUSTABLE COMBINATION 7-DAY AND SEASONAL DAYLIGHT PROGRAM SCHEDULES WITH AT LEAST 10 HOURS RESERVE POWER TO RETAIN PROGRAMMING DURING POWER OUTAGES.

PROVIDE LUGS, TERMINALS, AND ENCLOSURES FOR POWER EQUIPMENT RATED FOR 75C CONDUCTORS.

LIGHTING EQUIPMENT:
PROVIDE ALL LIGHT FIXTURES COMPLETE WITH LAMPS, ALL NECESSARY ACCESSORIES, AND AS DESCRIBED ON THE DRAWINGS. COORDINATE ALL CONSTRUCTION DETAILS SUCH AS PROPER FIXTURE TRIM WITH CEILING CONSTRUCTION. PROVIDE LED DRIVERS FOR ALL LED FIXTURES AND LED REPLACEMENT LAMPS FOR ALL INCANDESCENT FIXTURES.

OTHER REQUIREMENTS:
LABEL THE SERVICE DISCONNECT, PANEL, EQUIPMENT, AND EQUIPMENT DISCONNECTS. PROVIDE PRINTED POWER EQUIPMENT DIRECTORIES.

PROVIDE A PERMANENT PLAQUE WITH THE CALCULATED FAULT CURRENT FOR THE BUILDING.

MARK BOXES WITH CIRCUIT NUMBERS FOR CONDUCTORS CONTAINED WITHIN THE BOX.

PROVIDE FUSES FOR ALL EQUIPMENT REQUIRING FUSES AND LAMPS FOR EVERY LIGHT FIXTURE.

VERIFY THE GROUNDING OF ALL ELECTRICAL EQUIPMENT.

FURNISH AND INSTALL ANY MISCELLANEOUS SUPPORTS, FASTENERS, MOUNTS, HANGERS, SIDE BRACES, ETC., NECESSARY TO SECURELY ANCHOR AND SUPPORT ELECTRICAL EQUIPMENT, RACEWAYS, AND CABLE BUNDLES. PROVIDE BLOCKING IN WALLS AND ADDITIONAL SUPPORTS IN CEILINGS WHERE LIGHT FIXTURES AND OTHER EQUIPMENT CANNOT BE SUPPORT BY GENERAL CONSTRUCTION.

AT PROJECT CLOSEOUT, TEST ALL EQUIPMENT FOR PROPER OPERATION.

PROGRAM ALL TIME SWITCH AND LIGHTING CONTROL EQUIPMENT SETTINGS. COORDINATE WITH THE ENGINEER-OF-RECORD OR DESIGNATED REPRESENTATIVE TO SET ALL ELECTRONIC OVERCURRENT DEVICES.

DELIVER TO THE OWNER ALL ENGINEER-REVIEWED SHOP DRAWINGS, CUTSHEETS, OPERATIONS/ MAINTENANCE MANUALS FOR ALL POWER EQUIPMENT, LIGHT FIXTURES, AND LIGHTING CONTROLS DEVICES AND EQUIPMENT. PROVIDE OPERATING SEQUENCES FOR ALL LIGHTING CONTROL DEVICES.

GENERAL ELECTRICAL NOTES:

1. PREPLAN ALL WORK PRIOR TO PURCHASING, ORDERING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.
2. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.
3. RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.
4. LOCATE EQUIPMENT GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO OBTAIN ALL CODE-REQUIRED AND MANUFACTURER-REQUESTED SERVICE CLEARANCES.
5. COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING EQUIPMENT, DEVICES, AND MATERIALS.
6. PROVIDE ALL APPURTENANCES NECESSARY TO PROPERLY INSTALL EQUIPMENT, DEVICES, AND MATERIALS.
7. WHERE RECEPTACLES ARE MOUNTED ABOVE COUNTERS, LOCATE RECEPTACLE CLOSEST TO CORNER OF ROOM SO THAT THE RECEPTACLE IS 3' OR MORE FROM CORNER TO MEET ADA REQUIREMENTS.
8. COORDINATE THE EXACT LOCATIONS AND POINTS-OF-CONNECTION FOR EQUIPMENT FURNISHED BY OTHERS WITH THE RESPECTIVE TRADE AND/OR EQUIPMENT INSTALLER.
9. VERIFY EACH LIGHT FIXTURE AGAINST THE ARCHITECT'S ROOM FINISHES AND RESOLVE ALL CONFLICTS BEFORE ORDERING LIGHT FIXTURES.
10. COORDINATE WITH THE CEILING INSTALLER TO SECURELY SUPPORT THE WEIGHT OF ALL LIGHT FIXTURES FROM THE CEILING SYSTEM. USE APPROVED CLIPS TO CLAMP RECESSED, LAY-IN LIGHT FIXTURES TO THE CEILING GRID TO PREVENT MOVEMENT.
11. EXIT SIGNS SHALL HAVE DIRECTIONAL ARROWS AS SHOWN ON THE DRAWING.
12. CONNECT EXIT SIGNS AND EGRESS LIGHT FIXTURES DIRECTLY TO THE LOCAL LIGHTING CIRCUIT BUT AHEAD OF ANY SWITCHES OR DIMMERS. WHERE THE LOCAL LIGHTING CIRCUIT IS PHASE-PHASE, PROVIDE NEUTRAL CONDUCTOR FOR PHASE-NEUTRAL SIGNS AND EGRESS FIXTURES.
13. ALL CONDUITS STUBBED THROUGH A WALL SHALL BE CAPPED OR SEALED WITH FOAM.
14. ALL CONDUIT AND PIPING PENETRATIONS OF NONRATED ASSEMBLIES SHALL BE DRAFT-STOPPED USING DRYWALL COMPOUND AND OR MINERAL WOOL.
15. ALL JUNCTION AND PULL BOXES SHALL BE SECURELY INSTALLED WITH COVERS INSTALLED
16. INFORMATION TECHNOLOGY (IT) LOW VOLTAGE CABLING SHALL BE SECURED UP IN THE CEILING SPACE AND NOT LAID OVER TOP OF THE CEILING TILES.
17. PROVIDE LOW TEMPERATURE LAMPS AND BALLASTS FOR FIXTURES INSTALLED IN ALL EXTERIOR LOCATIONS AND INTERIOR UNHEATED AREAS.
18. STARTERS, CONTROLS, AND CONTROLS WIRING FOR EQUIPMENT FURNISHED BY OTHER TRADES SHALL BE PROVIDED BY THE TRADE FURNISHING THE EQUIPMENT UNLESS OTHERWISE NOTED ON THE ELECTRICAL DRAWINGS. THE ELECTRICAL TRADE SHALL WIRE THROUGH ANY LINE VOLTAGE CONTROLS DEVICES TO MAKE FINAL CONNECTIONS AT EQUIPMENT FURNISHED BY OTHERS.
19. THE ELECTRICAL TRADE SHALL PROVIDE DISCONNECTS FOR ALL EQUIPMENT FURNISHED BY OTHERS. FUSE ALL DISCONNECTS AT THE EQUIPMENT NAMEPLATE MAXIMUM OVER CURRENT PROTECTION RATING (MOCP). COORDINATE THE MOUNTING OF DISCONNECTS TO SIDES OF HVAC EQUIPMENT WITH THE HVAC TRADE SO AS TO MAINTAIN ACCESS TO THE EQUIPMENT.
20. REFER TO PANEL SCHEDULE AND POWER RISER DIAGRAM FOR ALL CONDUIT, CONDUCTOR, AND CIRCUIT BREAKER SIZES.

ELECTRICAL LEGEND

	CIRCUIT HOMERUN
	1x4 SURFACE MOUNTED LED FIXTURE
	4" FLUSH MOUNTED FIXTURE
S_3	THREE-WAY SWITCH
	DUPLEX RECEPTACLE NEMA 5-20R. 'V' DENOTES VENDING.
	DUPLEX RECEPTACLE ABOVE COUNTER NEMA 5-20R
	DISCONNECT SWITCH
	TELEPHONE OUTLET - 3/4" EMPTY CONDUIT WITH PULLSTRING STUBBED UP 6" ABOVE FINISHED CEILING
	SURFACE MOUNTED PANELBOARD
E	EQUIPMENT CONNECTION. PROVIDE APPROVED DISCONNECTING MEANS PER NEC AND ACTUAL NAMEPLATE DATA. COORDINATE LOCATION AND TYPE OF CONNECTION WITH EQUIPMENT SUPPLIER.
S_M	MANUAL MOTOR STARTER SWITCH W/ OVERLOADS
¾	MOTOR, NUMBER INDICATES HORSEPOWER "F" DENOTES FRACTIONAL HP LESS THAN 1/2
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTED AT BREAKER
WP	WEATHER PROOF
(E) (EXTG)	EXISTING

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RENOVATION/ADDITION TO POOL BUILDING FOR:

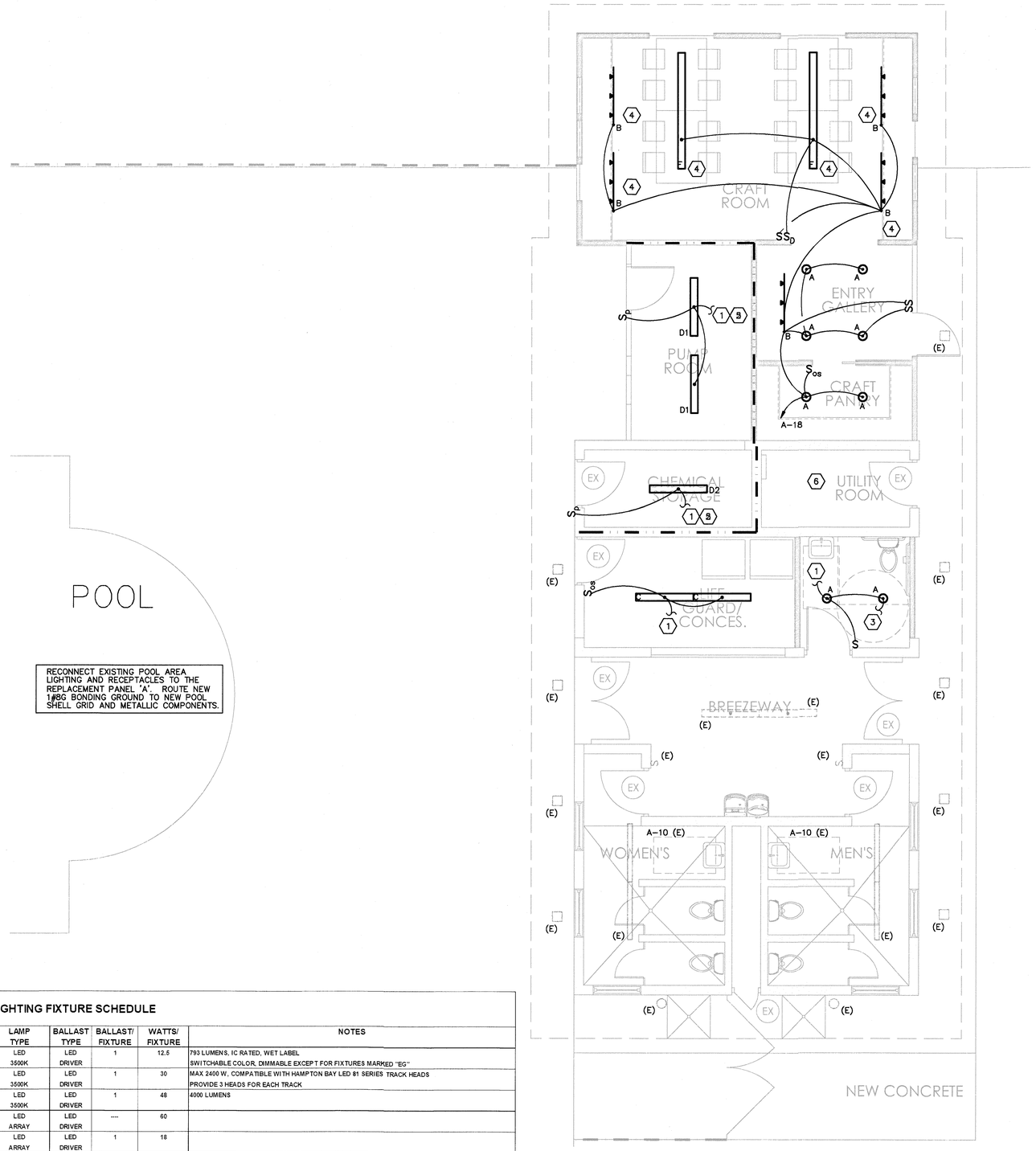
CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

PROJECT NO:	2430
DATE:	11/19/24
CAD DWG FILE:	E_2430
DRWN BY: WHC	CHKD BY: WHC

ELEC NOTES, LEGEND, SPECIFICATIONS, SCHEDULES

E0



RECONNECT EXISTING POOL AREA LIGHTING AND RECEPTACLES TO THE REPLACEMENT PANEL 'A'. ROUTE NEW 1#8G BONDING GROUND TO NEW POOL SHELL GRID AND METALLIC COMPONENTS.

JOB: CAMP AGAPE

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	LAMPS/ FIXTURE	LAMP TYPE	BALLAST TYPE	BALLAST/ FIXTURE	WATTS/ FIXTURE	NOTES
A	6" LED WAFER FIXTURE HALO HLBSL6099F S351EMWR	LED ARRAY	LED 3500K	LED DRIVER	1	12.6	793 LUMENS, IC RATED, WET LABEL SWITCHABLE COLOR, DIMMABLE EXCEPT FOR FIXTURES MARKED "EG"
B	4' LED LINEAR TRACK WITH ADJUSTABLE FIXTURES HAMPTON BAY 804979	LED ARRAY	LED 3500K	LED DRIVER	1	30	MAX 2400 W, COMPATIBLE WITH HAMPTON BAY LED 81 SERIES TRACK HEADS PROVIDE 3 HEADS FOR EACH TRACK
C	LED 4' ENCLOSED SURFACE MOUNT COMMERCIAL ELECTRIC WR4840K40LWL	LED ARRAY	LED 3500K	LED DRIVER	1	48	4000 LUMENS
D1	SURFACE MTD LED FIBERGLASS FIXTURE COLUMBIA LXEM4-35VW-RA-EDU	1	LED ARRAY	LED DRIVER	----	60	
D2	SURFACE MTD LED FIBERGLASS FIXTURE COLUMBIA LXEM4-35HL-RA-EDU	1	LED ARRAY	LED DRIVER	1	18	
F	LED 8' SUSPENDED ENCLOSED FIXTURE LITHONIA LL8100001LM80CR35KEPDMIN10_MVOLT_WH	LED ARRAY	LED 3500K	LED DRIVER	1	79	10000 LUMENS, DIMMABLE TO 10% SUSPENDED AT 8'-6" AFF
							NOTES: 1. ALL BALLASTS SHALL HAVE A MINIMUM 90% POWER FACTOR RATING 2. SEE RCP NOTES ON ARCHITECT'S A400 DRAWING.

1 / E1 FLOOR PLAN - LIGHTING
1/4" = 1' - 0"

GENERAL LIGHTING NOTES:

1. SEE GENERAL ELECTRICAL SPECIFICATIONS ON DRAWING E0.
2. SEE GENERAL ELECTRICAL NOTES AND LEGEND ON DRAWING E0.
3. INVESTIGATE ALL EXISTING WIRING TO REMAIN AND DETERMINE CONDITION. RECONNECT EXISTING WIRING TO THE NEW PANEL BY EXTENDING THE CIRCUIT WITH SAME SIZE CONDUCTORS AS NECESSARY. SEPARATE CIRCUITS WHERE APPROPRIATE TO CONFORM TO THE NEW PANEL SCHEDULE.

NOTES KEYED TO PLAN

1. CONNECT TO EXISTING LIGHTING CIRCUIT IN VICINITY.
2. SUBMIT A PENETRATION DETAIL FOR THE THRU-WALL PENETRATION AND SEALING OF THE CONDUITS IF EXISTING CIRCUIT IS OUTSIDE FIRE-RATED AREA.
3. TO EXHAUST FAN CONTROLLED BY LIGHT SWITCH.
4. SEE LIGHT FIXTURE SCHEDULE AND ARCHITECT'S RCP FOR MOUNTING HEIGHTS.
5. COORDINATE FIXTURE LOCATIONS TO AVOID CONFLICTS WITH EQUIPMENT AND RACKS. COORDINATE WITH OWNER AND POOL INSTALLER TO CHOOSE LOCATIONS FOR MAXIMUM ILLUMINATION OF PRODUCTS AND EQUIPMENT TO BE MAINTAINED.
6. NO LIGHTING CHANGES IN THIS ROOM.

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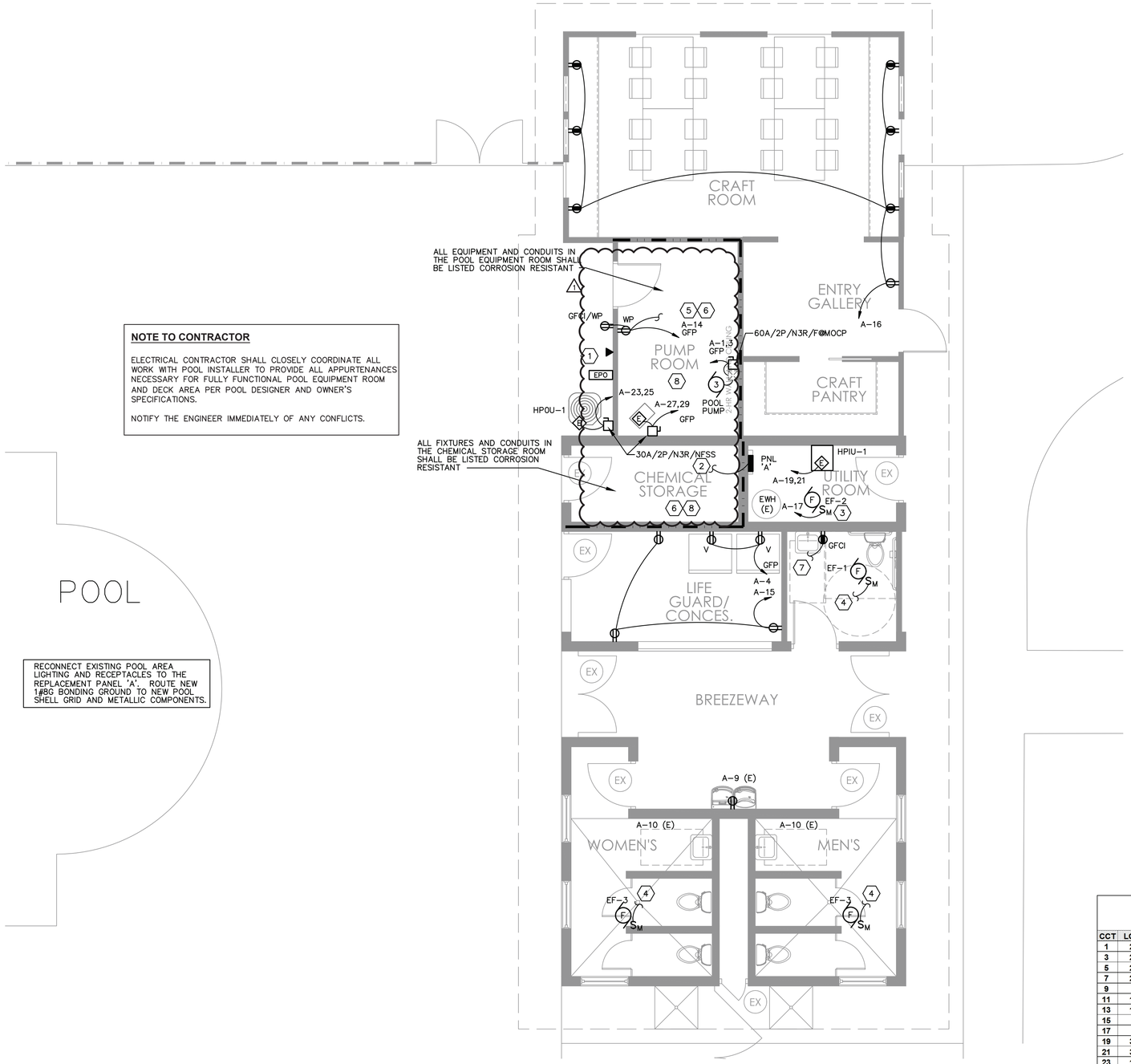
ELEC FLOOR PLAN - LIGHTING AND FIXTURE SCHEDULE

E1



NOTE TO CONTRACTOR

ELECTRICAL CONTRACTOR SHALL CLOSELY COORDINATE ALL WORK WITH POOL INSTALLER TO PROVIDE ALL APPURTENANCES NECESSARY FOR FULLY FUNCTIONAL POOL EQUIPMENT ROOM AND DECK AREA PER POOL DESIGNER AND OWNER'S SPECIFICATIONS.

NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS.

POOL

RECONNECT EXISTING POOL AREA LIGHTING AND RECEPTACLES TO THE REPLACEMENT PANEL 'A'. ROUTE NEW 1#8G BONDING GROUND TO NEW POOL SHELL GRID AND METALLIC COMPONENTS.

1 / E2 **FLOOR PLAN - POWER/IT**
1/4" = 1' - 0"

WIRING DEVICE MOUNTING HEIGHTS:

IN GENERAL, MOUNT ALL WIRING DEVICES AT:

- 48" MAX ABOVE FINISHED FLOOR (AFF) TO HIGHEST OPERABLE PART FOR ALL THERMOSTATS.
- 48" MAX AFF TO HIGHEST OPERABLE PART IN "ON" POSITION FOR ALL LIGHT SWITCHES.
- 15" MIN AFF TO CENTERLINE OF LOWEST RECEPTACLE (OR 18" MIN TO CENTERLINE OF BOX) FOR ALL WALL RECEPTACLES.
- 48" MAX AFF TO CENTERLINE OF HIGHEST RECEPTACLE.

MOUNT BATHROOM RECEPTACLES AT:

- 44" MAX AFF TO CENTERLINE OF HIGHEST RECEPTACLE.
- 12" MIN FROM ANY OBSTRUCTION.
- 12" MAX FROM LEADING EDGE OF VANITY COUNTER OR SINK, IF ON SIDE WALL.

GENERAL POWER NOTES:

1. SEE GENERAL ELECTRICAL SPECIFICATIONS ON DRAWING E0.
2. SEE GENERAL ELECTRICAL NOTES AND LEGEND ON DRAWING E0.
3. INVESTIGATE ALL EXISTING WIRING TO REMAIN AND DETERMINE CONDITION. RECONNECT EXISTING WIRING TO THE NEW PANEL BY EXTENDING THE CIRCUIT WITH SAME SIZE CONDUCTORS AS NECESSARY. SEPARATE CIRCUITS WHERE APPROPRIATE TO CONFORM TO THE NEW PANEL SCHEDULE.
4. FOR THE POOL SCOPE OF WORK, PROVIDE ALL WIRING PER NEC 680 INCLUDING BONDING/GROUNDING OF THE POOL SHELL, POOL WATER, POOL EQUIPMENT, LIGHTS, WITH A COMMON BONDING GRID.
5. USE NONMETALLIC PIPING WITH INSULATED GROUNDING CONDUCTORS. PROVIDE #8 BONDING CONDUCTOR FROM THE POOL SHELL AND POOL LIGHTS TO THE POOL BONDING GRID, THE PANEL 'A' EQUIPMENT GROUND BAR, AND PUMP MOTOR.
6. GROUND FAULT PROTECTION SHALL BE PROVIDED ON ALL ELECTRICAL CIRCUITS WITHIN THE POOL AREA INCLUDING ALL ACCESSORY EQUIPMENT, ELECTRIC DRINKING FOUNTAINS, AND BATH HOUSE/MINIMUM TOILET FACILITY RECEPTACLES. JUNCTION BOXES MUST BE ABOVE THE POOL WATER LEVEL AND MUST NOT BE A TRIP HAZARD.
7. PROVIDE APPROVED CONNECTIONS FOR ALL CONDUCTORS.
8. LOCATION OF ALL PUMPS, OUTLETS, EQUIPMENT, ETC, SHALL BE VERIFIED WITH POOL EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. NOTIFY ENGINEER IMMEDIATELY OF ANY ADDITIONAL REQUIREMENTS BY POOL EQUIPMENT SUPPLIER.

NOTES KEYED TO PLAN

1. EMERGENCY PHONE LOCATION WITH 911 ACCESS AND EMERGENCY POWER OFF SWITCH. COORDINATE EXACT LOCATION WITH RULES. PROVIDE SIGNAGE FOR PHONE. SEE POOL DRAWINGS FOR SIGNAGE CONTENT. PROVIDE SIGNAGE FOR EPO SWITCH TO READ: "EMERGENCY POWER OFF"
2. 1#8 AWG BARE CU TO POOL SHELL. REFER TO POOL DESIGNER'S DRAWINGS FOR EXACT LOCATION OF CONNECTIONS. SEE POOL DRAWINGS 04, 06, AND OTHERS.
3. FAN SHALL RUN CONTINUOUSLY.
4. CONNECT NEW EXHAUST FANS TO THE LIGHTING CIRCUIT. FAN CONTROLLED BY LIGHT SWITCH.
5. REFER TO POOL DESIGNER'S DRAWINGS FOR EXACT LOCATION OF ALL EQUIPMENT AND POINTS OF CONNECTION IN POOL EQUIPMENT ROOM. COORDINATE DISCONNECTING MEANS AND LOCATIONS WITH FINAL EQUIPMENT LOCATIONS AND INSTALLATION. NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS.
6. PROVIDE SCHEDULE 40 PVC CONDUITS AND BOXES FOR ALL CIRCUITS WITHIN THIS ROOM. LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUITS ALLOWED FOR CONNECTIONS.
7. CONNECT TO LIGHTING CIRCUIT IN VICINITY (UNSWITCHED).
8. SUBMIT A PENETRATION DETAIL FOR THE THRU-WALL PENETRATION AND SEALING OF CONDUITS.

PANEL A

CCT	LOAD	DESCRIPTION	C	G	W	CB	CCT
1	2040	POOL PUMP (NEW) GFP	1/2	10	10	35	1
3	2040	" "	--	--	10	2P	3
5	2250	WATER HEATER (EXTG)	1/2	10	10	30	5
7	2250	" "	--	--	10	2P	7
9	600	WATER COOLER (REUSE)	1/2	12	12	20	9
11	1120	SHELTER (EXTG)	1/2	12	12	20	11
13	1580	LIGHTS AND RECEPTS(EXTG)	1/2	12	12	20	13
15	540	NEW RECEPTACLES CONCESSIONS	1/2	12	12	20	15
17	350	EF-2	1/2	12	12	20	17
19	3696	HPIU-1 (BREAKER LOCK)	3/4	10	8	35	19
21	3696	" "	--	--	8	2P	21
23	1344	HPOU-1	1/2	12	12	15	23
25	1344	" "	--	--	12	2P	25
27	2500	UH-1	1/2	10	10	30	27
29	2500	" "	--	--	10	2P	29

CCT	CB	W	G	C	DESCRIPTION	LOAD	CCT
2	20	12	12	1/2	GFCI RECEPT BELOW(EXTG)	360	2
4	20	12	12	1/2	VENDING RECEPTS(REUSE) GFP	1000	4
6	20	12	12	1/2	BATH HAND DRYER(EXTG)	1000	6
8	20	12	12	1/2	LIGHTING (EXTG)	600	8
10	20	12	12	1/2	BATH LITES(EXTG)	400	10
12	20	12	12	1/2	OVERHEAD LIGHTS(EXTG)	400	12
14	20	12	12	1/2	PUMP RM RECEPT/MISC	540	14
16	20	12	12	1/2	RECEPT CRAFTS RM (NEW)	1080	16
18	20	12	12	1/2	CRAFT RM/GALLERY LIGHTS	683	18
20	--	--	--	--	SPACE ONLY	0	20
22	--	--	--	--	SPACE ONLY	0	22
24	--	--	--	--	SPACE ONLY	0	24
26	--	--	--	--	SPACE ONLY	0	26
28	--	--	--	--	SPACE ONLY	0	28
30	--	--	--	--	SPACE ONLY	0	30

240 / 120 V | 150 A MINIMUM BUS SIZE | SURFACE MOUNTING
1 PHASE | 150 MCB | NEMA 1 ENCLOSURE
3 WIRE | 10,000 MINIMUM AIC RATING | GROUND BAR

NOTES:
1. REPLACE EXTG PANEL. RELOCATE EXISTING CIRCUITS NOT AFFECTED BY THIS WORK TO THE NEW PANEL.
2. PROVIDE HACR RATED BREAKERS FOR MOTOR AND HVAC LOADS.
3. VERIFY NEUTRAL CONDUCTOR REQUIREMENTS FOR EACH CIRCUIT. COLOR-CODE ALL CONDUCTORS.
4. PROVIDE PRINTED DIRECTORY WITH ROOM NAMES. PROVIDE GFP ON VENDING AND POOL BREAKERS.
5. PROVIDE A SHUNT TRIP ON THE MAIN BREAKER WITH COIL-CLEARING CONTACTS FOR EPO FUNCTION.

CONNECTED LOADS	
PHASE A:	17.3 KVA
PHASE B:	16.6 KVA
TOTAL:	33.9 KVA
DEMAND:	141.3 A

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 10985 WILLIAM H. CLARK, JR. 02/23/2026

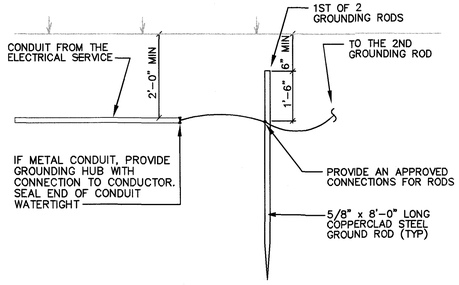
RENOVATION/ADDITION TO POOL BUILDING FOR:
CAMP AGAPE
1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

1	12/12/24	REVIEW COMMENTS
2	02/23/26	POOL DWG CHGS

PROJECT NO: 2430
DATE: 11/19/24
CAD DWG FILE: E_2430
DRWN BY: WHC CHKD BY: WHC

ELEC FLOOR PLAN - PWR/IT AND SCHEDULE

E2



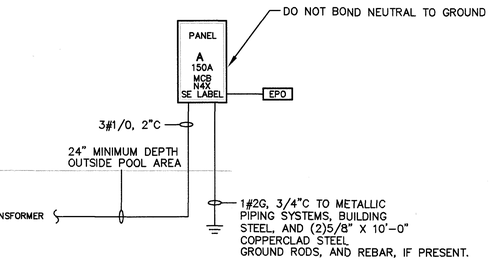
1 / E3 **GROUND RODS AT SERVICE**
NO SCALE

FAULT CURRENT PLAQUE

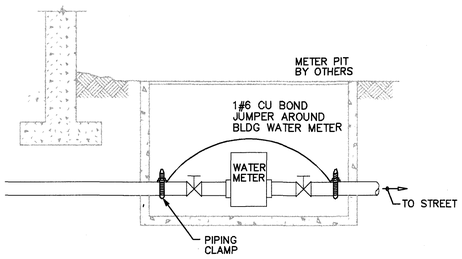
PRIOR TO ENERGIZING EQUIPMENT, PROVIDE A DURABLE, PERMANENTLY ATTACHED, AND LEGIBLY MARKED PLAQUE AT EACH SERVICE ENTRANCE. PLAQUE SHALL READ:

MAX. FAULT CURRENT = XX,XXX AMPERES
CALCULATION MADE = XX/XX/XX

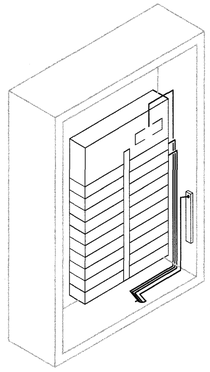
TO COMPLETE THE PLAQUE TEXT, FURNISH THE ENGINEER-OF-RECORD WITH THE ACTUAL UTILITY TRANSFORMER SIZE AND THE CONDUCTOR SIZE, QUANTITY PER PHASE, AND LENGTH OF UTILITY-INSTALLED SERVICE CONDUCTORS FROM THE TRANSFORMER TO THE SERVICE EQUIPMENT.



2 / EP.01 **POOL BUILDING POWER RISER**
NO SCALE



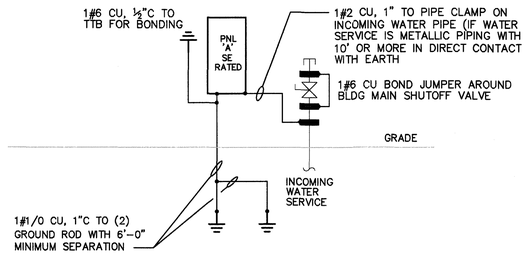
2 / E3 **GROUNDING AT WATER METER**
NO SCALE



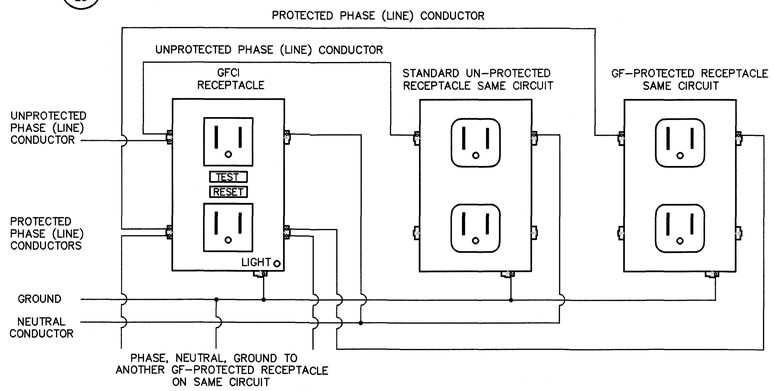
NOTES:

1. BENDS ALL CONDUCTORS WITH A UNIFORM RADIUS NEVER TOUCHING THE PANEL ENCLOSURE.
2. BEND CONDUCTORS TO THE BACK CORNER OF THE PANEL ENCLOSURE AND THEN FORWARD TO THE CIRCUIT BREAKER TERMINAL.
3. TIE WRAP CONDUCTORS IN GROUPS AND AT REGULAR INTERVALS TO FORM NEAT, ORDERLY WIRE BUNDLES.
4. CLEAN THE ENCLOSURE OF ALL DEBRIS AND UNUSED MATERIALS.
5. PROVIDE A TYPED DIRECTORY OF CIRCUITS ACCURATELY DENOTING ROOMS SERVED.
6. WHEN FINISHED, PANEL SHALL PRESENT A CLEAN, NEAT, AND ORDERLY APPEARANCE.

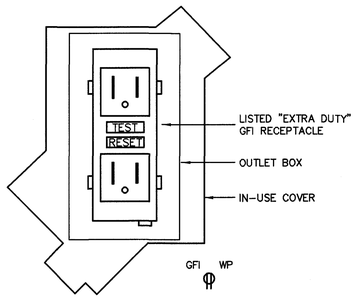
5 / E3 **PANEL WIRING**
NO SCALE



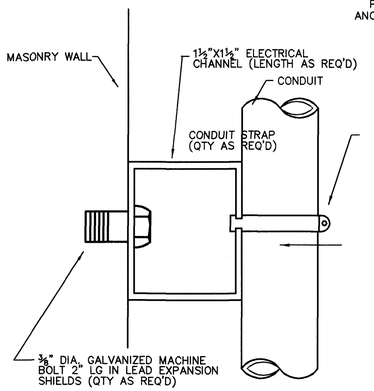
3 / E3 **BUILDING SERVICE GROUNDING**
NO SCALE



6 / E3 **MULTIPLE RECEPTACLES GFCI-PROTECTION**
NO SCALE

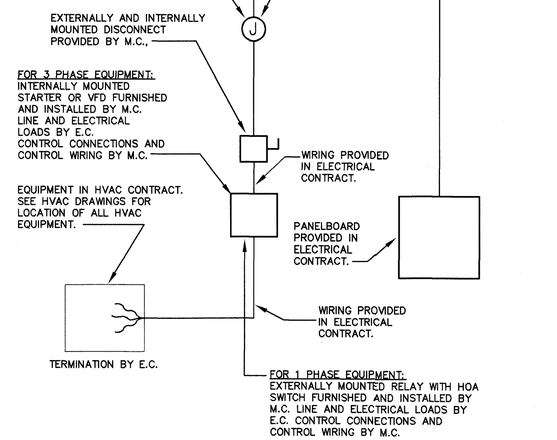


4 / E3 **EXTERIOR RECEPTACLE**
NO SCALE



7 / E3 **CONDUIT SUPPORT**
NO SCALE

8 / E3 **ELECTRICAL POWER RISER (240/120V, 1P, 3W)**
NO SCALE



** A COMBINATION STARTER MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER

9 / E3 **HVAC/PLUMBING/POOL/ELECTRICAL EQUIPMENT CONNECTIONS**
NO SCALE

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RENOVATION/ADDITION TO POOL BUILDING FOR:

CAMP AGAPE

1369 TYLER DEWAR LN
FUQUAY VARINA, NORTH CAROLINA 27526

PROJECT NO:	2430
DATE:	11/19/24
CAD DWG FILE:	E_2430
DRWN BY: WHC	CHKD BY: WHC

ELEC DETAILS AND POWER RISER

E3

CONSTRUCTION CODE REQUIREMENTS:

THESE PLANS WERE PREPARED AND SHALL COMPLY WITH THE FOLLOWING CODES WHEN APPLICABLE

- 2018 NORTH CAROLINA BUILDING CODE
- 2018 INTERNATIONAL SWIMMING POOL & SPA CODE (ISPSC)
- 15A NCAC 18A .2500 RILES GOVERNING PUBLIC SWIMMING POOLS - NORTH CAROLINA DPH
- 2018 NORTH CAROLINA PLUMBING CODE
- 2018 NORTH CAROLINA FIRE PREVENTION CODE
- 2018 NORTH CAROLINA MECHANICAL CODE
- 2018 NORTH CAROLINA FUEL GAS CODE
- 2018 NORTH CAROLINA ENERGY CONSERVATION CODE
- 2018 NORTH CAROLINA EXISTING BUILDING CODE
- 2020 NORTH CAROLINA ELECTRICAL CODE
- 2009 NORTH CAROLINA ACCESSIBILITY CODE
- 2010 ADA STANDARDS
- ANSI/APSP/ICC-7 2013 AMERICAN NATIONAL STANDARD FOR SUCTION ENTRAPMENT AVOIDANCE IN SWIMMING POOLS, WADING POOLS, SPAS, HOT TUBS AND CATCH BASINS
- ANSI/APSP/ICC-16 2017 AMERICAN NATIONAL STANDARD FOR SUCTION OUTLET FITTING ASSEMBLIES (SOFA) FOR USE IN POOLS, SPAS AND HOT TUBS.

IMPORTANT NOTE:

POOL CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL ABOVE LISTED CODE REQUIREMENT AS WELL AS ANY ADDITIONAL REQUIREMENTS PER LOCAL MUNICIPALITY THAT MAY BE MORE STRINGENT THAN THE ABOVE LISTED CODES REQUIREMENTS.

GENERAL STRUCTURAL NOTES:

1. TILE MINIMUM CONCRETE COVER FOR #3 REBAR IS TO BE 2".
2. CONTINUOUS #3 REBAR SPLICES SHALL BE 18" (40 BAR DIAMETERS) MINIMUM LAP, STEEL TO BE BENT, LAPPED, AND PLACED IN CONFORMANCE WITH A.C.J. STANDARDS AND SPECS.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI AT 28 DAYS.

GENERAL POOL / SPA REQUIREMENTS (ISPSC):

GENERAL CONSTRUCTION NOTE

- POOLS AND SPAS AND APPURTENANCES THERETO SHALL BE CONSTRUCTED OF MATERIALS THAT ARE NONTOXIC TO HUMANS AND THE ENVIRONMENT; THAT ARE GENERALLY OR COMMONLY REGARDED TO BE IMPERVIOUS AND ENDURING; THAT WILL WITHSTAND THE DESIGN STRESSES; AND THAT WILL PROVIDE A WATERTIGHT STRUCTURE WITH A SMOOTH AND EASILY CLEANABLE SURFACE WITHOUT CRACKS OR JOINTS, EXCLUDING STRUCTURAL JOINTS, OR THAT WILL PROVIDE A WATERTIGHT STRUCTURE TO WHICH A SMOOTH, EASILY CLEANED SURFACE/FINISH IS APPLIED OR ATTACHED. MATERIAL SURFACES THAT COME IN CONTACT WITH THE USER SHALL BE FINISHED, SO THAT THEY DO NOT CONSTITUTE A CUTTING, PINCHING, PUNCTURING OR ABRASION HAZARD UNDER CASUAL CONTACT AND INTENDED USE.
- HAZARDOUS LOCATIONS FOR GLAZING SHALL BE AS DEFINED IN THE INTERNATIONAL BUILDING CODE OR THE INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE IN ACCORDANCE WITH SECTION 102.7.1 OF THIS CODE. WHERE GLAZING IS DETERMINED TO BE IN A HAZARDOUS LOCATION, THE REQUIREMENTS FOR THE GLAZING SHALL BE IN ACCORDANCE WITH THOSE CODES, AS APPLICABLE.
- FOR OTHER THAN RESIDENTIAL POOLS AND RESIDENTIAL SPAS, THE COLORS, PATTERNS, OR FINISHES OF THE POOL AND SPA INTERIORS SHALL NOT OBSCURE OBJECTS OR SURFACES WITHIN THE POOL OR SPA.
- AN ACCESSIBLE ROUTE TO PUBLIC POOLS AND SPAS SHALL BE PROVIDED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE. ACCESSIBILITY WITHIN PUBLIC POOLS AND SPAS SHALL BE PROVIDED AS REQUIRED BY THE ACCESSIBLE RECREATIONAL FACILITIES PROVISIONS OF THE INTERNATIONAL BUILDING CODE.

LIGHTING

- WHEN A POOL IS OPEN DURING PERIODS OF LOW NATURAL ILLUMINATION, ARTIFICIAL LIGHTING SHALL BE PROVIDED SO THAT ALL AREAS OF THE POOL, INCLUDING ALL SUCTION OUTLETS ON THE BOTTOM OF THE POOL, WILL BE VISIBLE. ILLUMINATION SHALL BE SUFFICIENT TO ENABLE A LIFEGUARD OR OTHER PERSONS STANDING ON THE DECK OR SITTING ON A LIFEGUARD STAND ADJACENT TO THE POOL EDGE TO DETERMINE IF A POOL USER IS LYING ON THE BOTTOM OF THE POOL AND THAT THE POOL WATER IS TRANSPARENT AND FREE FROM CLOUDINESS.
- WHERE LIGHTING IS INSTALLED FOR, AND IN, RESIDENTIAL POOLS AND PERMANENT RESIDENTIAL SPAS, SUCH LIGHTING SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70 OR THE INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE IN ACCORDANCE WITH SECTION 102.7.1.
- FOR OUTDOOR POOLS, ANY COMBINATION OF OVERHEAD AND UNDERWATER LIGHTING SHALL PROVIDE MAINTAINED ILLUMINATION NOT LESS THAN 10 HORIZONTAL FOOT-CANDLES (10 LUMENS PER SQUARE FOOT) [108 LUX] AT THE POOL WATER SURFACE. DECK AREA LIGHTING FOR BOTH INDOOR AND OUTDOOR POOLS SHALL PROVIDE MAINTAINED ILLUMINATION OF NOT LESS THAN 10 HORIZONTAL FOOT-CANDLES (10 LUMENS PER SQUARE FOOT) [108 LUX] AT THE WALKING SURFACE OF THE DECK.
- UNDERWATER LIGHTING SHALL PROVIDE NOT LESS THAN 8 HORIZONTAL FOOT-CANDLES (8 LUMENS PER SQUARE FOOT) [86 LUX] AT THE POOL WATER SURFACE AREA, OR NOT LESS THAN A TOTAL WATTAGE OF 1/2 WATT/FT2 (5.4 WATTS/M2) OF POOL WATER SURFACE FOR INCANDESCENT UNDERWATER LIGHTING WHERE THE FIXTURES AND LAMPS ARE RATED IN WATTS.

ELECTRICAL, PLUMBING, MECHANICAL AND FUEL GAS

-ELECTRICAL REQUIREMENTS FOR AQUATIC FACILITIES SHALL BE IN ACCORDANCE WITH NFPA 70 OR THE INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE IN ACCORDANCE WITH SECTION 102.7.1. EXCEPTION: INTERNAL WIRING FOR PORTABLE RESIDENTIAL SPAS AND PORTABLE RESIDENTIAL EXERCISE SPAS.
- PIPING AND FITTINGS USED FOR WATER SERVICE, MAKEUP AND DRAINAGE PIPING FOR POOLS AND SPAS SHALL COMPLY WITH THE INTERNATIONAL PLUMBING CODE. FITTINGS SHALL BE APPROVED FOR INSTALLATION WITH THE PIPING INSTALLED.
- PIPE, FITTINGS, AND COMPONENTS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH NSF 50 OR NSF 14. PLASTIC JETS, FITTINGS, AND OUTLETS USED IN PUBLIC SPAS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH NSF 50. EXCEPTIONS: 1) PORTABLE RESIDENTIAL SPAS AND PORTABLE RESIDENTIAL EXERCISE SPAS LISTED AND LABELED IN ACCORDANCE WITH UL 1563 OR CSA C22.2 NO. 218.1. 2) ON GROUND STORABLE POOLS SUPPLIED BY THE POOL MANUFACTURER AS A KIT THAT INCLUDES ALL PIPE, FITTINGS, AND COMPONENTS.
- PIPING, INCLUDING PROCESS PIPING, THAT IS INSTALLED IN TRENCHES, SHALL BE INSPECTED PRIOR TO BACKFILLING.
- WATER SUPPLIES FOR POOLS AND SPAS SHALL BE PROTECTED AGAINST BACKFLOW IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE OR THE INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE IN ACCORDANCE WITH SECTION 102.7.1.
- WHERE WASTEWATER FROM POOLS OR SPAS, SUCH AS BACKWASH WATER FROM FILTERS AND WATER FROM DECK DRAINS DISCHARGE TO A BUILDING DRAINAGE SYSTEM, THE CONNECTION SHALL BE THROUGH AN AIR GAP IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE OR THE INTERNATIONAL RESIDENTIAL CODE AS APPLICABLE IN ACCORDANCE WITH SECTION 102.7.1.
- TESTS ON WATER PIPING SYSTEMS CONSTRUCTED OF PLASTIC PIPING SHALL NOT USE COMPRESSED AIR FOR THE TEST.
- POOLS AND SPAS SHALL BE MAINTAINED IN A CLEAN AND SANITARY CONDITION, AND IN GOOD REPAIR.
- AN OPERATING AND MAINTENANCE MANUAL IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS SHALL BE PROVIDED FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.

USER LOADING

IN DETERMINING THE MAXIMUM NUMBER OF PERSONS ALLOWED IN THE POOL AT ANY ONE TIME, THE FOLLOWING CRITERIA SHALL GOVERN:
(1) FIFTEEN SQUARE FEET (1.39 SQ M) OF WATER SURFACE AREA PER PERSON SHALL BE PROVIDED IN AREAS OF THE POOL FIVE FEET (1.52 M) DEEP OR LESS.
(2) TWENTY-FOUR SQUARE FEET (2.23 SQ M) OF WATER SURFACE AREA PER PERSON SHALL BE PROVIDED IN AREAS OF THE POOL GREATER THAN FIVE FEET (1.52 M) DEEP. THREE HUNDRED SQUARE FEET (27.87 SQ M) OF POOL AREA AROUND EACH DIVING BOARD OR PLATFORM, WHERE PROVIDED, SHALL NOT BE INCLUDED IN COMPUTING THIS AREA FOR THE PURPOSE OF DETERMINING MAXIMUM BATHER LOAD.
(3) TEN SQUARE FEET (0.9 SQ M) OF WATER SURFACE AREA PER PERSON SHALL BE PROVIDED IN SPAS.
(4) TWENTY-FIVE SQUARE FEET OF SPLASH ZONE AREA PER PERSON SHALL BE PROVIDED AT INTERACTIVE PLAY ATTRACTIONS.

CIRCULATION SYSTEMS

- CIRCULATION EQUIPMENT SHALL BE SIZED TO TURNOVER THE ENTIRE WATER CAPACITY OF THE POOL AS SPECIFIED IN ISPSC TABLE 407.2. THE SYSTEM SHALL BE DESIGNED TO PROVIDE THE REQUIRED TURNOVER RATE BASED ON THE MAXIMUM PRESSURE AND FLOW RATE RECOMMENDED BY THE MANUFACTURER OF THE FILTER WITH CLEAN FILTER MEDIA.
- FOR PUBLIC POOLS. GAUGES SHALL BE PROVIDED WITH READY ACCESS.
1. A PRESSURE GAUGE SHALL BE LOCATED DOWNSTREAM OF THE PUMP AND BETWEEN THE PUMP AND FILTER.
2. A VACUUM GAUGE SHALL BE LOCATED BETWEEN THE PUMP AND FILTER AND UPSTREAM.
- PUBLIC SWIMMING POOLS AND WADING POOLS SHALL BE EQUIPPED WITH A FLOW-MEASURING DEVICE THAT INDICATES THE RATE OF FLOW THROUGH THE FILTER SYSTEM. THE FLOW RATE MEASURING DEVICE SHALL INDICATE GALLONS PER MINUTE (LPM) AND SHALL BE SELECTED AND INSTALLED TO BE ACCURATE WITHIN PLUS OR MINUS 10 PERCENT OF ACTUAL FLOW OF THE PUMP.

SAFETY

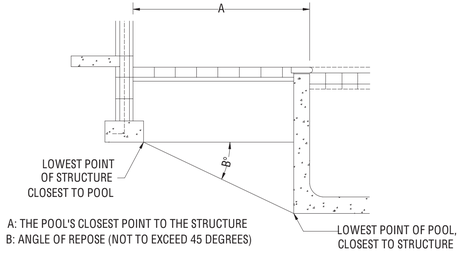
- WHERE THE DEPTH BELOW THE DESIGN WATERLINE OF A POOL OR SPA EXCEEDS 42 INCHES (1067 MM), HANDHOLDS ALONG THE PERIMETER SHALL BE PROVIDED. HANDHOLDS SHALL BE LOCATED AT THE TOP OF DECK OR COPING. EXCEPTIONS: 1. HANDHOLDS SHALL NOT BE REQUIRED WHERE AN UNDERWATER BENCH, SEAT OR SWIMOUT IS INSTALLED. 2. HANDHOLDS SHALL NOT BE REQUIRED FOR WAVE ACTION POOLS AND ACTION RIVERS.
- HANDHOLDS SHALL BE LOCATED NOT MORE THAN 12 INCHES (305 MM) ABOVE THE DESIGN WATERLINE.
- HANDHOLDS SHALL BE HORIZONTALLY SPACED NOT GREATER THAN 4 FEET (1219 MM) APART.
- THE TOP OF THE GRIPPING SURFACE OF HANDRAILS FOR PUBLIC POOLS AND PUBLIC SPAS SHALL BE 34 INCHES (864 MM) TO 38 INCHES (965 MM) ABOVE THE RAMP OR STEP SURFACE AS MEASURED AT THE NOSING OF THE STEP OR FINISHED SURFACE OF THE SLOPE. THE TOP OF THE GRIPPING SURFACE OF HANDRAILS FOR RESIDENTIAL POOLS AND RESIDENTIAL SPAS SHALL BE 30 INCHES (762 MM) TO 38 INCHES (965 MM) ABOVE THE RAMP OR STEP SURFACE AS MEASURED AT THE NOSING OF THE STEP OR FINISHED SURFACE OF THE SLOPE. HANDRAILS SHALL BE MADE OF CORROSION RESISTANT MATERIALS. HANDRAILS SHALL BE INSTALLED SO THAT THEY CANNOT BE REMOVED WITHOUT THE USE OF TOOLS. THE LEADING EDGE OF HANDRAILS FOR STAIRS, POOL ENTRIES AND EXITS SHALL BE LOCATED NOT GREATER THAN 18 INCHES (457 MM) FROM THE VERTICAL FACE OF THE BOTTOM RISER. THE OUTSIDE DIAMETER OR WIDTH OF HANDRAILS SHALL BE NOT LESS THAN 11/4 INCHES (32 MM) AND NOT GREATER THAN 2 INCHES (51 MM).
- THERE SHALL NOT BE OBSTRUCTIONS THAT CAN CAUSE THE USER TO BE ENTRAPPED OR INJURED. TYPES OF ENTRAPMENT INCLUDE, BUT ARE NOT LIMITED TO, WEDGE OR PINCH-TYPE OPENINGS AND RIGID, NONGIVING CANTILEVERED PROTRUSIONS.

SANITIZING EQUIPMENT

- SANITIZING EQUIPMENT INSTALLED IN PUBLIC POOLS AND SPAS SHALL BE CAPABLE OF INTRODUCING THE QUANTITY OF SANITIZER NECESSARY TO MAINTAIN THE APPROPRIATE LEVELS UNDER ALL CONDITIONS OF INTENDED USE.
- WHERE INSTALLED, CHEMICAL FEED SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. CHEMICAL FEED PUMPS SHALL BE WIRED SO THAT THEY CANNOT OPERATE UNLESS THERE IS ADEQUATE RETURN FLOW TO DISBURSE THE CHEMICAL THROUGHOUT THE POOL OR SPA AS DESIGNED.
- BACKWASH WATER AND DRAINING WATER SHALL BE DISCHARGED TO THE SANITARY OR STORM SEWER, OR INTO AN APPROVED DISPOSAL SYSTEM ON THE PREMISE, OR SHALL BE DISPOSED OF BY OTHER MEANS APPROVED BY THE STATE OR LOCAL AUTHORITY. DIRECT CONNECTIONS SHALL NOT BE MADE BETWEEN THE END OF THE BACKWASH LINE AND THE DISPOSAL SYSTEM. DRAINS SHALL DISCHARGE THROUGH AN AIR GAP.

OTHER ADDITIONAL NOTES

- PUBLIC POOL CIRCULATION SYSTEMS SHALL BE DESIGNED TO PROCESS NOT LESS THAN 100 PERCENT OF THE TURNOVER RATE THROUGH SKIMMERS.
- PUBLIC POOLS AND PUBLIC POOL AREAS THAT OPERATE DURING PERIODS OF LOW ILLUMINATION SHALL BE PROVIDED WITH EMERGENCY LIGHTING THAT WILL AUTOMATICALLY TURN ON TO PERMIT EVACUATION OF THE POOL AND SECURING OF THE AREA IN THE EVENT OF POWER FAILURE.



A: THE POOL'S CLOSEST POINT TO THE STRUCTURE
B: ANGLE OF REPOSE (NOT TO EXCEED 45 DEGREES)

IBC 1804.1 EXCAVATION NEAR FOUNDATIONS:
EXCAVATION FOR ANY PURPOSE SHALL NOT REDUCE VERTICAL OR LATERAL SUPPORT FOR ANY FOUNDATION OR ADJACENT FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST DETERMENTAL LATERAL OR VERTICAL MOVEMENT, OR BOTH.

ANGLE OF REPOSE (N.T.S)

NORTH CAROLINA PROFESSIONAL SEAL 057896 ENGINEER RICHARD EDWARD WALKER

Digitally signed by Richard E Walker
Date: 2026.02.13 11:55:05-05'00'

GUNDERSON ENGINEERING LLC
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PORT CHARLOTTE, FLORIDA 33952
(941) 391-5980
www.gundersonengineering.com
LICENSE # P-2016

GUNDERSON ENGINEERING

PROJECT NO. 2406706-2

CONTRACTOR:
MASTIN AQUATIC GROUP LLC
1215 SOUTHER RD
NORTH WILKSBORO, NC 28659

PROJECT ADDRESS:
AGAPE-KURE BEACH MINISTRIES
1369 TYLER DEWAR LN,
FUQUAY-VARINA NC 27526

DESIGN DATE:	08/05/2024
REVISION 1:	1/30/2026
REVISION 2:	1/30/2026
DRAWN BY:	PD
SCALE:	NTS

SHEET: 01

SCOPE OF WORK:
COMMERCIAL SWIMMING POOL ENGINEERING
(POOL NOT DESIGNED FOR DIVING)

PROJECT INFORMATION:

PROJECT NAME:- AGAPE-KURE BEACH MINISTRIES

PROJECT ADDRESS:- 1369 TYLER DEWAR LN, FUQUAY-VARINA NC 27526

SHEET NO.	DRAWING INDEX
1	GENERAL NOTES
2	POOL LOCATION PLAN
3	POOL DATA AND PLAN
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NOTE:
SCALE ON THIS PLAN WHEN SHOWN IS SET TO PRINT FULL SIZE ON 36" X 24" PAPER SIZE.

DRESSING AND SANITARY FACILITIES

(A) DRESSING AND SANITARY FACILITIES SHALL BE PROVIDED AT ALL POOLS, EXCEPT FOR POOLS AT HOTELS, MOTELS, CONDOMINIUMS, AND APARTMENTS WHERE POOL USE IS RESTRICTED TO RESIDENTS OR GUESTS. AT HOTELS, MOTELS, CONDOMINIUMS AND APARTMENTS WHERE THE FARTHEST UNIT IS MORE THAN 300 FEET FROM THE POOL, AS MEASURED ALONG WALKWAYS PROVIDED FOR ACCESS BY RESIDENTS OR GUESTS TO THE POOL AREA, A TOILET AND LAVATORY SHALL BE PROVIDED. ALL PUBLIC SWIMMING POOLS SHALL POST A SIGN VISIBLE UPON ENTERING THE POOL ENCLOSURE DIRECTING POOL USERS TO SHOWER BEFORE ENTERING THE POOL.
(B) PARTITIONS SHALL BE OF MATERIAL, NOT SUBJECT TO DAMAGE BY WATER AND SHALL BE DESIGNED SO THAT A WATERWAY IS PROVIDED BETWEEN PARTITIONS AND FLOOR TO PERMIT THOROUGH CLEANING OF THE WALLS AND FLOOR AREAS WITH HOSES AND BROOMS.
(C) DRESSING FACILITY FLOORS SHALL BE CONTINUOUS THROUGHOUT THE AREAS. FLOORS SHALL HAVE A SLIP-RESISTANT SURFACE THAT SHALL BE SMOOTH, TO INSURE COMPLETE CLEANING. FLOOR DRAINS SHALL BE PROVIDED, AND FLOORS SHALL BE SLOPED NOT LESS THAN ¼ INCH PER FOOT TOWARD THE DRAINS TO INSURE POSITIVE DRAINAGE.
(D) HOSE BIBS SHALL BE PROVIDED SUCH THAT ALL PARTS OF THE DRESSING FACILITY INTERIOR CAN BE REACHED WITH A 50 FOOT HOSE.
E) THE MINIMUM NUMBER OF FIXTURES REQUIRED IN DRESSING AND SANITARY FACILITIES SHALL BE BASED UPON THE MAXIMUM BATHER LOAD.
(F) ONE WATER CLOSET, ONE LAVATORY, AND ONE URINAL SHALL BE PROVIDED FOR THE FIRST 100 MALE USERS. ONE ADDITIONAL WATER CLOSET, LAVATORY, AND URINAL SHALL BE PROVIDED FOR EACH ADDITIONAL 200 MALE USERS UP TO A TOTAL OF 500 USERS. WHERE USER LOAD EXCEEDS 500 MALE USERS, TWO ADDITIONAL WATER CLOSETS OR URINALS AND ONE LAVATORY SHALL BE PROVIDED FOR EACH ADDITIONAL 250 MALE USERS. WHERE THE MAXIMUM BATHER LOAD INCLUDES LESS THAN 50 MALE USERS, ONE WATER CLOSET AND ONE LAVATORY WILL BE SUFFICIENT.
(G) TWO WATER CLOSETS AND TWO LAVATORIES SHALL BE PROVIDED FOR THE FIRST 100 FEMALE USERS. ONE ADDITIONAL WATER CLOSET AND LAVATORY SHALL BE PROVIDED FOR EACH ADDITIONAL 100 FEMALE USERS UP TO A TOTAL OF 500 USERS. WHERE USER LOAD EXCEEDS 500 FEMALE USERS, TWO ADDITIONAL WATER CLOSETS AND ONE LAVATORY SHALL BE PROVIDED FOR EACH ADDITIONAL 250 FEMALE USERS.
WHERE THE MAXIMUM BATHER LOAD INCLUDES LESS THAN 50 FEMALE USERS, ONE WATER CLOSET AND ONE LAVATORY WILL BE SUFFICIENT.
(H) SHOWERS SHALL BE PROVIDED IN THE PROPORTION OF ONE FOR EACH 200 PERSONS AT THE TIME OF MAXIMUM BATHER LOAD.
(I) THE WATER HEATER SHALL BE INACCESSIBLE TO USERS. THE SYSTEM SHALL BE DESIGNED SUCH THAT WATER TEMPERATURE AT THE SHOWER HEADS AND LAVATORIES CANNOT EXCEED 110° FAHRENHEIT.
(J) SOAP DISPENSERS WITH EITHER LIQUID OR POWDERED SOAP SHALL BE PROVIDED AT EACH LAVATORY OR REQUIRED SHOWER. THE DISPENSER SHALL BE OF ALL METAL OR PLASTIC TYPE, WITH NO GLASS PERMITTED IN THESE UNITS.
(K) IF MIRRORS ARE PROVIDED, THEY SHALL BE OF SHATTERPROOF MATERIALS.
(L) TOILET PAPER HOLDERS WITH TOILET PAPER SHALL BE PROVIDED AT EACH WATER CLOSET.
(M) DRESSING AND SANITARY FACILITIES SHALL BE KEPT CLEAN AND IN GOOD REPAIR.

FENCE/ BARRIER NOTE:

A) PUBLIC SWIMMING POOLS SHALL BE COMPLETELY ENCLOSED BY A FENCE, WALL, BUILDING, OR OTHER ENCLOSURE, OR ANY COMBINATION THEREOF, WHICH ENCLOSES THE SWIMMING POOL AREA SUCH THAT ALL OF THE FOLLOWING CONDITIONS ARE MET:
(1) THE TOP OF THE BARRIER SHALL BE AT LEAST 48 INCHES ABOVE GRADE MEASURED ON THE SIDE OF THE BARRIER THAT FACES AWAY FROM THE SWIMMING POOL. THE MAXIMUM VERTICAL CLEARANCE BETWEEN GRADE AND THE BOTTOM OF THE BARRIER SHALL BE TWO INCHES MEASURED ON THE SIDE OF THE BARRIER THAT FACES AWAY FROM THE SWIMMING POOL;
(2) OPENINGS IN THE BARRIER SHALL NOT ALLOW PASSAGE OF A FOUR-INCH-DIAMETER SPHERE AND SHALL PROVIDE NO EXTERNAL HANDHOLDS OR FOOTHOLDS. SOLID BARRIERS THAT DO NOT HAVE OPENINGS SHALL NOT CONTAIN INDENTATIONS OR PROTRUSIONS EXCEPT FOR NORMAL CONSTRUCTION TOLERANCES AND TOOLED MASONRY JOINTS;
(3) WHERE THE BARRIER IS COMPOSED OF HORIZONTAL AND VERTICAL MEMBERS AND THE DISTANCE BETWEEN THE TOPS OF THE HORIZONTAL MEMBERS IS 45 INCHES OR MORE, SPACING BETWEEN THE VERTICAL MEMBERS SHALL NOT EXCEED FOUR INCHES. WHERE THERE ARE DECORATIVE CUTOUTS WITHIN THE VERTICAL MEMBERS, SPACING WITHIN THE CUTOUTS SHALL NOT EXCEED 1.75 INCHES IN WIDTH;
(4) WHERE THE BARRIER IS COMPOSED OF HORIZONTAL AND VERTICAL MEMBERS AND THE DISTANCE BETWEEN THE TOPS OF THE HORIZONTAL MEMBERS IS LESS THAN 45 INCHES, THE HORIZONTAL MEMBERS SHALL BE LOCATED ON THE SWIMMING POOL SIDE OF THE FENCE. SPACING BETWEEN THE VERTICAL MEMBERS SHALL NOT EXCEED 1.75 INCHES IN WIDTH. WHERE THERE ARE DECORATIVE CUTOUTS WITHIN THE VERTICAL MEMBERS, SPACING WITHIN THE CUTOUTS SHALL NOT EXCEED 1.75 INCHES IN WIDTH;
(5) MAXIMUM MESH SIZE FOR CHAIN LINK FENCES SHALL BE A 2.25 INCH SQUARE UNLESS THE FENCE IS PROVIDED WITH SLATS FASTENED AT THE TOP OR THE BOTTOM THAT REDUCE THE OPENINGS TO NO MORE THAN 1.75 INCHES;
(6) WHERE THE BARRIER IS COMPOSED OF DIAGONAL MEMBERS, THE MAXIMUM OPENING FORMED BY THE DIAGONAL MEMBERS SHALL BE NO MORE THAN 1.75 INCHES;
(7) ACCESS GATES SHALL COMPLY WITH THE DIMENSIONAL REQUIREMENTS FOR FENCES AND SHALL BE EQUIPPED TO ACCOMMODATE A LOCKING DEVICE. EFFECTIVE APRIL 1, 2011, PEDESTRIAN ACCESS GATES SHALL OPEN OUTWARD AWAY FROM THE POOL AND SHALL BE SELF-CLOSING AND HAVE A SELF-LATCHING DEVICE EXCEPT WHERE A GATE ATTENDANT AND LIFEGUARD ARE ON DUTY. GATES OTHER THAN PEDESTRIAN ACCESS GATES SHALL HAVE A SELF-LATCHING DEVICE. WHERE THE RELEASE MECHANISM OF THE SELF-LATCHING DEVICE IS LOCATED LESS THAN 54 INCHES FROM THE BOTTOM OF THE GATE, THE RELEASE MECHANISM SHALL REQUIRE THE USE OF A KEY, COMBINATION OR CARD READER TO OPEN OR SHALL BE LOCATED ON THE POOL SIDE OF THE GATE AT LEAST THREE INCHES BELOW THE TOP OF THE GATE, AND THE GATE AND BARRIER SHALL HAVE NO OPENINGS GREATER THAN 0.5 INCH WITHIN 18 INCHES OF THE RELEASE MECHANISM; AND
(8) GROUND LEVEL DOORS AND WINDOWS OPENING FROM OCCUPIED BUILDINGS TO INSIDE THE POOL ENCLOSURE SHALL BE SELF-CLOSING OR CHILD PROTECTED BY MEANS OF A BARRIER OR AUDIBLE ALARM.

DECK

- SLIP RESISTANT. DECKS, RAMPS, COPING, AND SIMILAR STEP SURFACES SHALL BE SLIP RESISTANT AND CLEANABLE. SPECIAL FEATURES IN OR ON DECKS SUCH AS MARKERS, BRAND INSIGNIAS, AND SIMILAR MATERIALS SHALL BE SLIP RESISTANT.
- PUBLIC POOL AND SPA DECK STEPS HAVING THREE OR MORE RISERS SHALL BE PROVIDED WITH A HANDRAIL.
- STEP RISERS FOR DECKS OF PUBLIC POOLS AND SPAS SHALL BE UNIFORM AND HAVE A HEIGHT NOT LESS THAN 33/4 INCHES (95 MM) AND NOT GREATER THAN 71/2 INCHES (191 MM). THE TREAD DISTANCE FROM FRONT TO BACK SHALL BE NOT LESS THAN 11 INCHES (279 MM). STEP RISERS FOR DECKS OF RESIDENTIAL POOLS AND SPAS SHALL BE UNIFORM AND SHALL HAVE A HEIGHT NOT EXCEEDING 71/2 INCHES (191 MM). THE TREAD DISTANCE FROM FRONT TO BACK SHALL BE NOT LESS THAN 10 INCHES (254 MM).

DECKS AND DECK EQUIPMENT

- A DECK OR UNOBSTRUCTED ACCESS SHALL BE PROVIDED FOR NOT LESS THAN 90 PERCENT OF THE POOL PERIMETER.
- DECKING NOT LESS THAN 4 FEET (1219 MM) IN WIDTH SHALL BE PROVIDED ON THE SIDES AND REAR OF ANY DIVING EQUIPMENT. A DECK CLEARANCE OF 4 FEET (1219 MM) SHALL BE PROVIDED AROUND ALL OTHER DECK EQUIPMENT.
- DECKS BETWEEN POOLS, SPAS OR ANY COMBINATION OF POOLS AND SPAS, SHALL HAVE A WIDTH OF NOT LESS THAN 6 FEET (1829 MM).
- WALKING SURFACES OF DECKS WITHIN 4 FEET (1219 MM) OF A POOL OR SPA SHALL BE SLIP RESISTANT.
- SWIMMING POOL SLIDES SHALL COMPLY WITH THE REQUIREMENTS OF 16 CFR, PART 1207. THE MANUFACTURER OF THE SLIDE SHALL PROVIDE INSTALLATION AND USE INSTRUCTIONS FOR THE SLIDE. SLIDES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

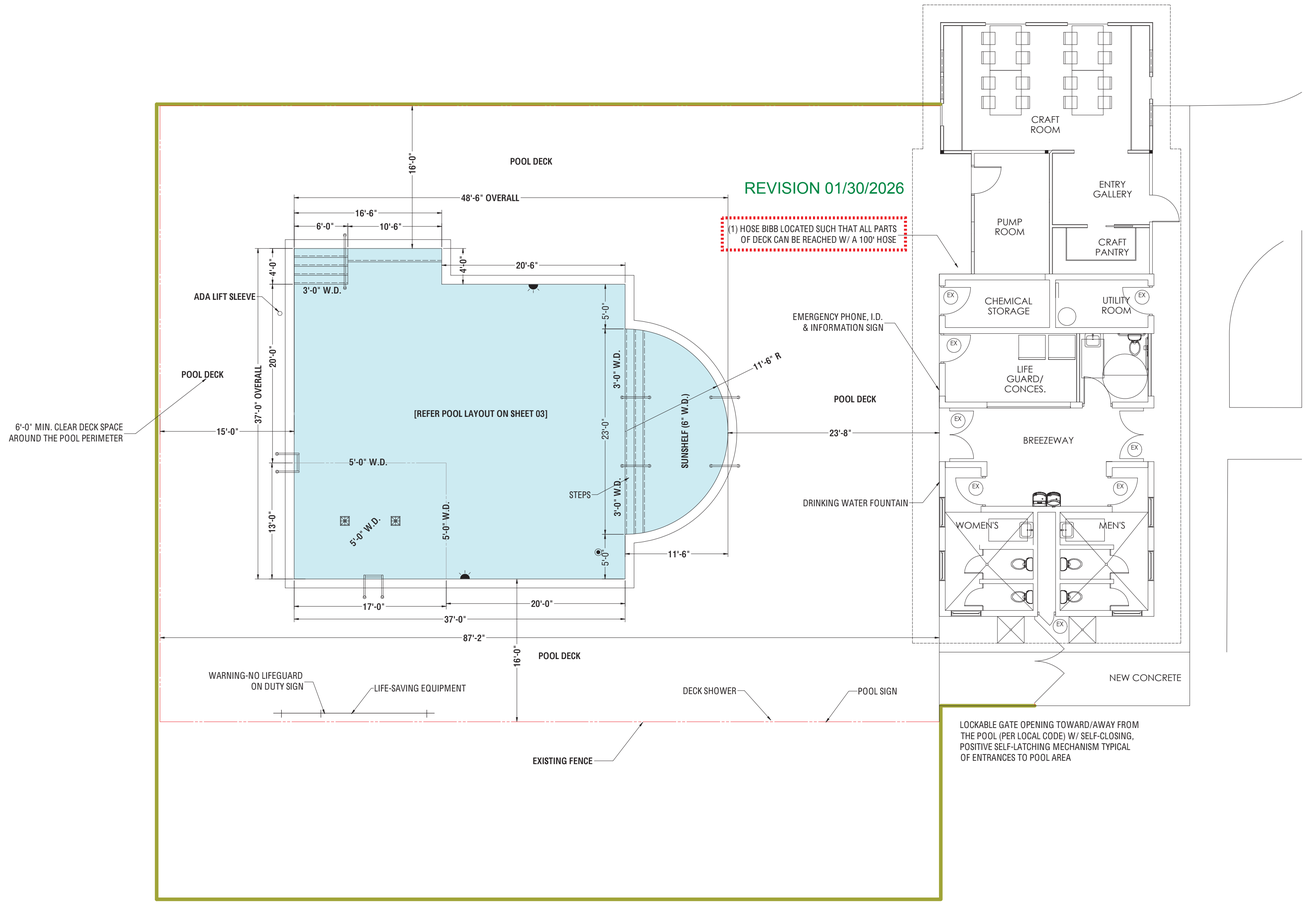
LIFESAVING EQUIPMENT & SAFETY PROVISIONS

(A) SWIMMING POOLS SHALL HAVE LIFESAVING EQUIPMENT CONSPICUOUSLY AND CONVENIENTLY ON HAND AT ALL TIMES. A UNIT OF LIFESAVING EQUIPMENT SHALL INCLUDE THE FOLLOWING:
(1) A POLE NOT LESS THAN 12 FEET LONG, WITH A BODY HOOK SECURELY ATTACHED. THE POLE ATTACHED TO THE BODY HOOK SHALL BE NON-TELESCOPING, NON-ADJUSTABLE AND NON-COLLAPSIBLE.
(2) A MINIMUM ¼ INCH DIAMETER THROWING ROPE AS LONG AS ONE AND ONE-HALF TIMES THE MAXIMUM WIDTH OF THE POOL OR 50 FEET, WHICHEVER IS LESS, ATTACHED TO A U.S. COAST GUARD APPROVED RING BUOY. A RESCUE TUBE OR RESCUE CAN SHALL BE ACCEPTED AS A SUBSTITUTE FOR THE RING BUOY WHERE IT IS ACCOMPANIED BY A LIFEGUARD WHO HAS BEEN TRAINED TO USE IT PROPERLY.
(B) TWO UNITS OF LIFESAVING EQUIPMENT MUST BE PROVIDED FOR ANY POOL THAT EXCEEDS 3,000 SQUARE FEET (186 SQ M) OF TOTAL SURFACE AREA.
(C) WHEN A SWIMMING POOL DOES NOT HAVE AT LEAST ONE LIFEGUARD ON DUTY, A SIGN SHALL BE POSTED WITH LEGIBLE LETTERS OF AT LEAST FOUR INCHES (10 CM) IN HEIGHT STATING: "WARNING-NO LIFEGUARD ON DUTY." IN ADDITION THERE SHALL BE SIGNS LEGIBLE FROM ALL BATHER ENTRANCES WITH A MINIMUM LETTER SIZE OF ONE INCH STATING: "CHILDREN SHOULD NOT USE THE SWIMMING POOL WITHOUT ADULT SUPERVISION", AND; "ADULTS SHOULD NOT SWIM ALONE". WADING POOLS THAT DO NOT HAVE A LIFEGUARD INSIDE THE WADING POOL ENCLOSURE SHALL HAVE A SIGN POSTED STATING "WARNING NO LIFEGUARD ON DUTY". SUCH SIGNS SHALL BE MOUNTED PERMANENTLY.
(D) A SIGN PROHIBITING PETS AND GLASS CONTAINERS IN THE POOL AREA SHALL BE PROVIDED.
(E) POOL CLOSED SIGNS SHALL BE PROVIDED AND SHALL BE POSTED AT BATHER ENTRANCES WHENEVER AN OPERATION PERMIT IS SUSPENDED FOR WATER QUALITY OR SAFETY VIOLATIONS.
(F) A TELEPHONE CAPABLE OF DIRECTLY DIALING 911 OR OTHER EMERGENCY NOTIFICATION SYSTEM SHALL BE PROVIDED AND ACCESSIBLE TO ALL POOL USERS. EFFECTIVE APRIL 1, 2005 THE TELEPHONE SHALL BE PERMANENTLY AFFIXED TO A LOCATION INSIDE THE POOL ENCLOSURE OR OUTSIDE THE ENCLOSURE WITHIN 75 FEET OF A BATHER ENTRANCE. THE TELEPHONE SHALL BE VISIBLE FROM WITHIN THE POOL ENCLOSURE OR A SIGN SHALL BE POSTED INDICATING THE LOCATION OF THE EMERGENCY TELEPHONE. A SIGN WITH LEGIBLE LETTERS SHALL BE POSTED AT THE TELEPHONE PROVIDING DIALING INSTRUCTIONS, ADDRESS OF THE POOL LOCATION AND THE TELEPHONE NUMBER. WHERE THE TELEPHONE DOES NOT DIRECTLY ACCESS 911, THE EMERGENCY NOTIFICATION SYSTEM SHALL:
(1) PROVIDE 24 HOUR MONITORING OF ALL INCOMING CALLS BY A TELECOMMUNICATOR WHO ANSWERS ONLY EMERGENCY CALLS;
(2) BE CAPABLE OF ROUTING CALLS TO THE LOCAL 911 TELECOMMUNICATOR VIA THE 911 DEDICATED EMERGENCY TRUNK LINE; AND
(3) ELECTRONICALLY TRANSFER AUTOMATIC NUMBER IDENTIFICATION AND AUTOMATIC LOCATOR IDENTIFICATION FOR THE EMERGENCY TELEPHONE AT THE POOL TO THE ENHANCED 911 SYSTEM FOR ALL CALLS ROUTED TO 911.

POOL RULES SIGN:

- THE OWNER SHALL PROVIDE POOL RULES SIGNS WHICH SHALL BE POSTED IN A CONSPICUOUS PLACES IN THE POOL AREA.
- LETTERING SHALL BE BOLD AND LEGIBLE.
- THE SIGNS SHALL CONTAIN, AS A MINIMUM, THE FOLLOWING ITEMS:
  - THERE SHOULD BE NO SOLO SWIMMING.
  - THERE SHOULD BE NO RUNNING BOISTEROUS OR ROUGH PLAY.
  - PERSONS UNDER THE INFLUENCE OF ALCOHOL OR DRUGS SHOULD NOT USE THE POOL.
  - THERE SHOULD BE NO SPITTING OR NOSE BLOWING IN THE POOL.
  - PERSONS WITH DIARRHEAL ILLNESS OR NAUSEA SHOULD NOT USE THE POOL.
  - PERSONS WITH SKIN, EYE, EAR OR RESPIRATORY INFECTIONS SHOULD NOT USE THE POOL.
  - PERSONS WITH OPEN LESSONS OR WOUNDS SHOULD NOT ENTER THE POOL.
  - PETS OR ANIMALS NOT ALLOWED IN THE POOL.
  - NO GLASS ALLOWED IN THE POOL OR ON THE POOL DECK.
  - CHILDREN SHOULD NOT BE ALLOWED IN THE POOL WITHOUT SUPERVISION.
  - YOU SHOULD TAKE A SHOWER BEFORE ENTERING THE POOL.
  - THE POOL IS OPEN FROM ..... TO .....
  - THE MAXIMUM NUMBER OF PERSONS ALLOWED IN THE POOL IS .....
  - A FIRST AID KIT IS LOCATED AT .....
  - AN EMERGENCY TELEPHONE IS LOCATED .....

ADDITIONAL SIGNS:
THE SIGN SHALL CONTAIN, AS A MINIMUM, THE FOLLOWING ITEMS:
- THE OWNER SHALL PROVIDE (2) OR MORE "NO DIVING" SIGNS FOR POOLS NOT APPROVED FOR DIVING.
- THE LETTERING SHALL BE IN BOLD PRINT WITH CAPITAL LETTERS AND BE AS FOLLOWS: "SHALLOW WATER" (IN MINIMUM 4" HIGH LETTERING) "NO DIVING ALLOWED" (IN MINIMUM 6" HIGH LETTERING).
- THER ARE TO BE (1) OR MORE "WARNING-NO LIFEGUARD ON DUTY" SIGNS PLACED AS PLACED ON THE PLANS.
- THER SHALL BE A SIGN WITH A MINIMUM LETTER SIZE OF 1" STATING "CHILDREN SHOULD NOT USE THE SWIMMING POOL WITHOUT ADULT SUPERVISION", AND "ADULTS SHOULD NOT SWIM ALONE".
- THERE SHALL BE A SIGN CONSPICUOUSLY POSTED STATING "THE CERTIFIED POOL OPERATOR AT THIS FACILITY IS ....., STATE CERTIFICATION NUMBER ..... (BLANKS MUST BE FILLED IN).



POOL LOCATION PLAN

(SCALE: 1/8" = 1'-0")

SITE NOTE:
CONTRACTOR SHALL VERIFY AND CONSULT WITH ENGINEERS FOR POOL TO BE INSTALLED IN FLOOD HAZARD AREAS.

NORTH CAROLINA PROFESSIONAL SEAL 057896 ENGINEER RICHARD EDWARD WALKER

Digitally signed by Richard E Walker
Date: 2026.02.13 11:55:05-05'00'

GUNDERSON ENGINEERING LLC
4161 TAMIAMI TRAIL, UNIT 101
PORT CHARLOTTE, FLORIDA 33952
(941) 391-5980
www.gundersonengineering.com
LICENSE # P-2016

GUNDERSON ENGINEERING

PROJECT NO. 2406706-2

CONTRACTOR:
MASTIN AQUATIC GROUP LLC
1215 SOUTHER RD
NORTH WILKSBORO, NC 28659

PROJECT ADDRESS:
AGAPE-KURE BEACH MINISTRIES
1369 TYLER DEWAR LN,
FUQUAY-VARINA NC 27526

DESIGN DATE:	08/05/2024
REVISION 1:	1/30/2026
REVISION 2:	1/30/2026
DRAWN BY:	PD
SCALE:	NTS

SHEET: 02

DEPTH MARKERS

- DEPTH MARKERS SHALL BE INSTALLED AT THE MAXIMUM AND MINIMUM WATER DEPTHS AND AT ALL POINTS OF SLOPE CHANGE. DEPTH MARKERS SHALL BE INSTALLED AT WATER DEPTH INCREMENTS NOT TO EXCEED 2 FEET (607 MM). DEPTH MARKERS SHALL BE SPACED AT INTERVALS NOT TO EXCEED 25 FEET (7620 MM).
- THE DEPTH OF WATER IN FEET (METERS) SHALL BE PLAINLY AND CONSPICUOUSLY MARKED ON THE VERTICAL POOL WALL AT OR ABOVE THE WATERLINE. EXCEPTION: POOLS WITH A VANISHING EDGE AND RIM FLOW GUTTERS.
- DEPTH MARKERS SHALL INDICATE THE ACTUAL POOL DEPTH WITHIN ± 3 INCHES (76 MM), AT NORMAL OPERATING WATER LEVEL WHERE MEASURED 3 FEET (914 MM) FROM THE POOL WALL OR AT THE TANGENT POINT WHERE THE COVE RADIUS MEETS THE FLOOR, WHICHEVER IS DEEPER.
- DEPTH MARKERS ON THE VERTICAL POOL WALL SHALL BE POSITIONED TO BE READ FROM THE WATERSIDE. DEPTH MARKERS SHALL BE PLACED SO AS TO ALLOW AS MUCH OF THE NUMBERS TO BE VISIBLE ABOVE THE WATERLINE AS POSSIBLE.
- DEPTH MARKERS ON THE DECK SHALL BE LOCATED WITHIN 18 INCHES (457 MM) OF THE WATER EDGE AND POSITIONED TO BE READ WHILE STANDING ON THE DECK FACING THE WATER.
- HORIZONTAL DEPTH MARKERS SHALL BE SLIP RESISTANT.
- DEPTH MARKERS SHALL BE DISTRIBUTED UNIFORMLY ON BOTH SIDES AND BOTH ENDS OF THE POOL.
- DEPTH MARKERS SHALL BE NOT LESS THAN 4 INCHES (102 MM) IN HEIGHT. THE COLOR OF THE NUMBERS SHALL CONTRAST WITH THE BACKGROUND ON WHICH THEY ARE APPLIED AND THE COLOR SHALL BE OF A PERMANENT NATURE. THE LETTERING SHALL SPELL OUT THE WORDS "FEET" AND "INCHES" OR ABBREVIATE THEM AS "FT." AND "IN." RESPECTIVELY. WHERE DISPLAYED IN METERS IN ADDITION TO FEET AND INCHES, THE WORD METER SHALL BE SPELLED OUT OR ABBREVIATED AS "M."
- WHERE THE POOL DEPTH IS 5 FEET (1524 MM) OR LESS, THE "NO DIVING" SYMBOL SHALL BE DISPLAYED. THE SYMBOL SHALL BE PLACED ON THE DECK AT INTERVALS OF NOT GREATER THAN 25 FEET (7620 MM) AND DIRECTLY ADJACENT TO A DEPTH MARKER. ADDITIONAL SIGNAGE SHALL BE IN ACCORDANCE WITH NEMA Z535.

ENTRY AND EXIT

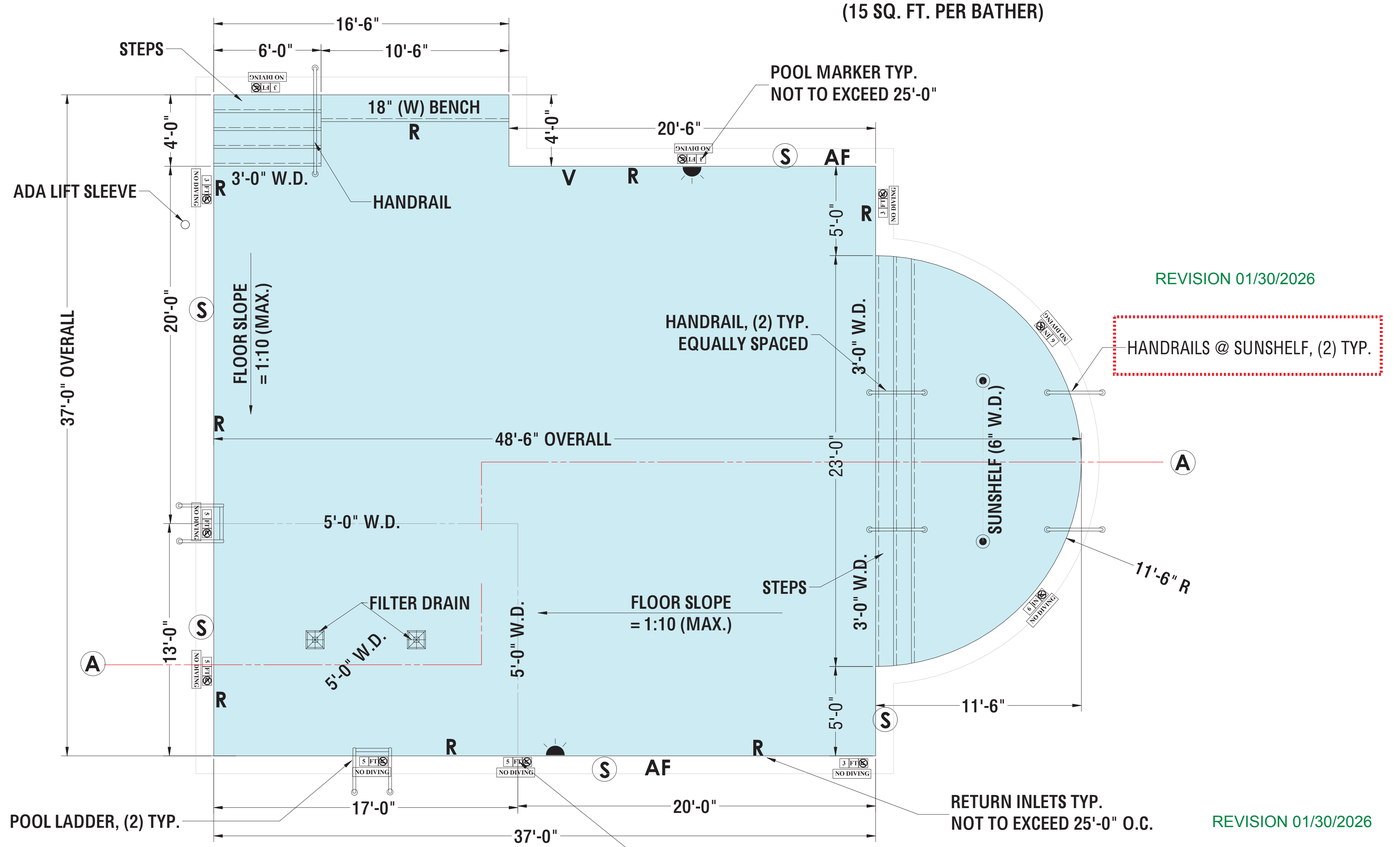
- POOLS SHALL HAVE NOT LESS THAN TWO MEANS OF ENTRY AND EXIT THAT ARE LOCATED SO AS TO SERVE BOTH ENDS OF A POOL. POOL LIFTS, TRANSFER WALLS AND TRANSFER SYSTEMS THAT PROVIDE FOR POOL ENTRY AND EXIT BY PERSONS WITH PHYSICAL DISABILITIES IN ACCORDANCE WITH SECTION 307.9 SHALL NOT BE COUNTED AS THE MEANS OF ENTRY OR EXIT THAT IS REQUIRED BY THIS SECTION.
- A MEANS OF ENTRY AND EXIT SHALL BE PROVIDED IN SHALLOW AREAS OF POOLS AND SHALL CONSIST OF POOL STAIRS, A RAMP OR A BEACH ENTRY.
- THE MEANS OF ENTRY AND EXIT IN THE DEEP AREA OF POOLS SHALL CONSIST OF ONE OF THE FOLLOWING:
1. STEPS/STAIRS. 2. LADDERS. 3. GRAB RAILS WITH RECESSED TREADS. 4. RAMPS. 5. BEACH ENTRIES. 6. SWIMOUTS. 7. OTHER DESIGNS THAT PROVIDE THE MINIMUM UTILITY AS SPECIFIED IN THIS CODE.
- SWIMMING POOLS GREATER THAN 30 FEET (9144 MM) IN WIDTH SHALL BE PROVIDED WITH ENTRIES AND EXITS ON EACH SIDE OF THE DEEP AREA OF THE POOL. THE ENTRIES AND EXITS ON THE SIDES OF THE DEEP AREA OF A POOL SHALL BE LOCATED NOT MORE THAN 82 FEET (25 M) APART.
- TREADS SHALL HAVE SLIP-RESISTANT SURFACES.

INLET NOTE:

• ALL INLETS SHALL BE ADJUSTABLE WITH WALL-TYPE INLETS BEING DIRECTIONALLY ADJUSTABLE AND FLOOR-TYPE INLETS HAVING A MEANS OF FLOW ADJUSTMENT.
• FLOOR INLETS SHALL BE DESIGNED AND INSTALLED SUCH THAT THEY DO NOT PROTRUDE ABOVE THE POOL FLOOR AND ALL INLETS SHALL BE DESIGNED AND INSTALLED SO AS NOT TO CONSTITUTE SHARP EDGES OR PROTRUSIONS HAZARDOUS TO POOL BATHERS. FLOOR INLETS FOR VINYL LINER AND FIBERGLASS POOLS, SHALL BE SMOOTH WITH NO SHARP EDGES, AND SHALL NOT EXTEND MORE THAN / INCH (9.5 MM) ABOVE THE POOL FLOOR.
• WALL INLETS SHALL BE INSTALLED A MINIMUM OF 12 INCHES (305 MM) BELOW THE NORMAL OPERATING WATER LEVEL UNLESS PRECLUDED BY THE POOL DEPTH OR INTENDED FOR A SPECIFIC ACCEPTABLE PURPOSE.
• THE FLOW RATE THROUGH EACH INLET SHALL NOT EXCEED 20 GPM (1 L/S) EXCEPT FOR INLETS DESIGNED FOR HIGHER FLOWS AS SPECIFIED BY THE MANUFACTURER.

DRAWING LEGENDS		
SYMBOLS	INDICATES	NOS.
	MAIN DRAIN	(2) SETS
	FLOOR INLETS	2
	LIGHT	2
S	SKIMMER	5
R	WALL RETURN	8

POOL DATA	
SIZE (OVERALL)	37'-0" X 48'-6"
PERIMETER	161.167 LF
AREA	1494.75 SF
DEPTH	6" & 3'-0" TO 5'-0"
VOLUME	42145 GALLONS
FILTER RATE	125 GPM
TURNOVER TIME	5.62 HR.
(MAX.)BATHER LOAD	99 PERSONS
	(15 SQ. FT. PER BATHER)



REVISION 01/30/2026

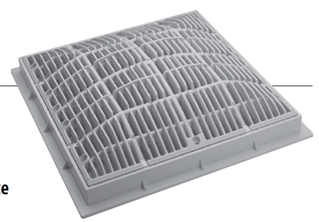
POOL LAYOUT PLAN

REVISION 01/30/2026

(SCALE: 1/4" = 1'-0")

MAIN DRAIN NOTES: MAIN DRAINS AT LEAST 3' APART. MAXIMUM SPACING OF 20' C.C. & NOT MORE THAN 15' TO DRAIN CENTER FROM EACH SIDE WALL

12" x 12" SQUARE GRATE: P/N 640-472x V



Contents: 1

Part Number: **640-472x V**

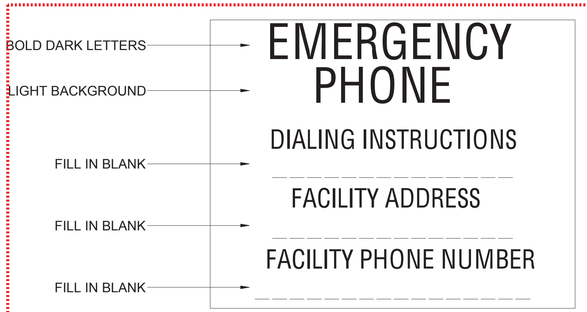
Description: **Square Grate**
Size: **12" x 12"**

Open Area: **62.4 in²**
GPM @ 1.5 fps: **292**
Floor Flow Rate: **356 GPM**
Wall Flow Rate: **280 GPM**

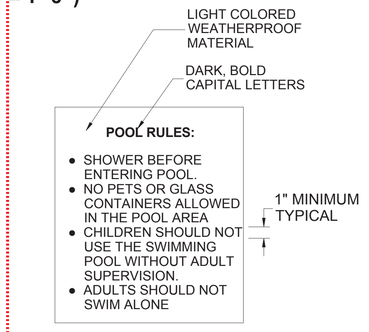
VGBA 2017

For Date of Manufacture please see the manufacture mark on product

REVISION 01/30/2026

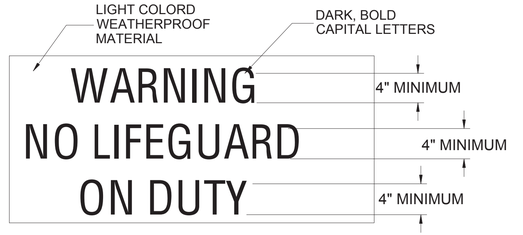


EMERGENCY PHONE SIGN



POOL RULES SIGN

POOL CLOSED SIGN



NO LIFEGAURD ON DUTY SIGN

NORTH CAROLINA PROFESSIONAL SEAL 057896 ENGINEER RICHARD EDWARD WALKER

Digitally signed by Richard E Walker
Date: 2026.02.13 11:55:05-05'00'

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LICENSE # P-2016

GUNDERSON ENGINEERING

PROJECT NO. 2406706-2

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SCALE:	NTS
SHEET:	03

LADDERS AND RECESSED TREADS

- LADDER TREADS SHALL HAVE A UNIFORM HORIZONTAL DEPTH OF NOT LESS THAN 2 INCHES (51 MM). THERE SHALL BE A UNIFORM DISTANCE BETWEEN LADDER TREADS, WITH A DISTANCE OF NOT LESS THAN 7 INCHES (178 MM) AND NOT GREATER THAN 12 INCHES (305 MM). THE TOP TREAD OF A LADDER SHALL BE LOCATED NOT GREATER THAN 12 INCHES (305 MM) BELOW THE TOP OF THE DECK OR COPING. LADDER TREADS SHALL HAVE SLIP-RESISTANT SURFACES.
- THERE SHALL BE A CLEARANCE OF NOT LESS THAN 3 INCHES (76 MM) AND NOT GREATER THAN 6 INCHES (152 MM) BETWEEN THE POOL WALL AND THE LADDER.
- LADDERS SHALL BE PROVIDED WITH TWO HANDHOLDS OR TWO HANDRAILS. THE CLEAR DISTANCE BETWEEN LADDER HANDRAILS SHALL BE NOT LESS THAN 17 INCHES (432 MM) AND NOT GREATER THAN 24 INCHES (610 MM).
- RECESSED TREADS SHALL HAVE A MINIMUM DEPTH OF NOT LESS THAN 5 INCHES (127 MM) AND A WIDTH OF NOT LESS THAN 12 INCHES (305 MM). THE VERTICAL DISTANCE BETWEEN THE POOL COPING EDGE, DECK, OR STEP SURFACE AND THE UPPERMOST RECESSED TREAD SHALL BE NOT GREATER THAN 12 INCHES (305 MM). RECESSED TREADS SHALL HAVE SLIP-RESISTANT SURFACES.
- RECESSED TREADS AT THE CENTERLINE SHALL HAVE A UNIFORM VERTICAL SPACING OF NOT LESS THAN 7 INCHES (178 MM) AND NOT GREATER THAN 12 INCHES (305 MM).
-RECESSED TREADS SHALL BE PROVIDED WITH A HANDRAIL OR GRAB RAIL ON EACH SIDE OF THE TREADS. THE CLEAR DISTANCE BETWEEN HANDRAILS AND GRAB RAILS SHALL BE NOT LESS THAN 17 INCHES (432 MM) AND NOT GREATER THAN 24 INCHES (610 MM).

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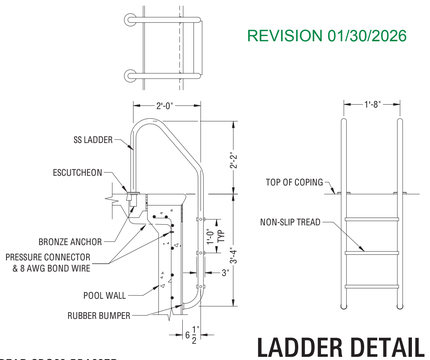

LADDER DETAIL

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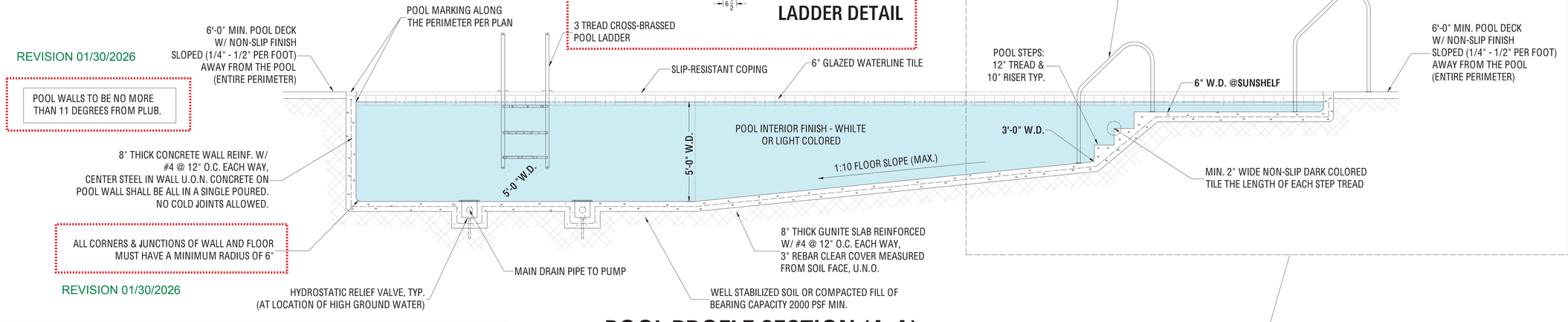
POOL WALLS TO BE NO MORE THAN 11 DEGREES FROM PLUB.



POOL PROFLE SECTION (A-A)

(SCALE: 3/8" = 1'-0")

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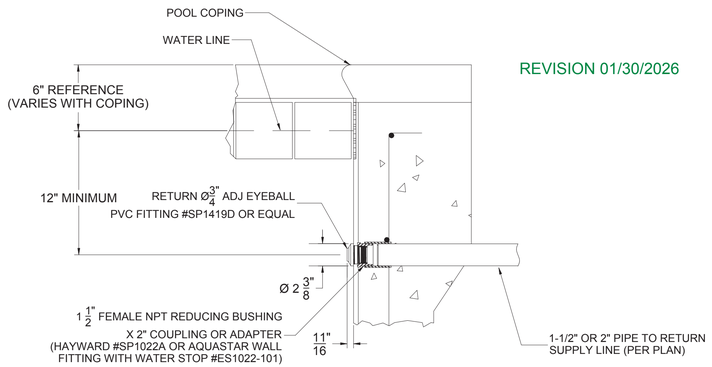
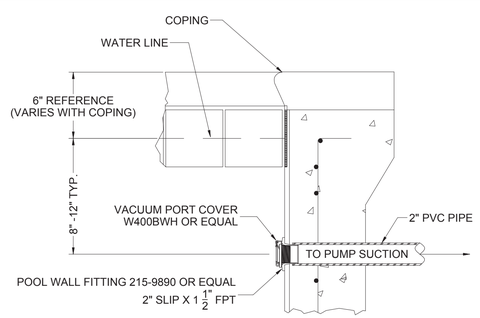


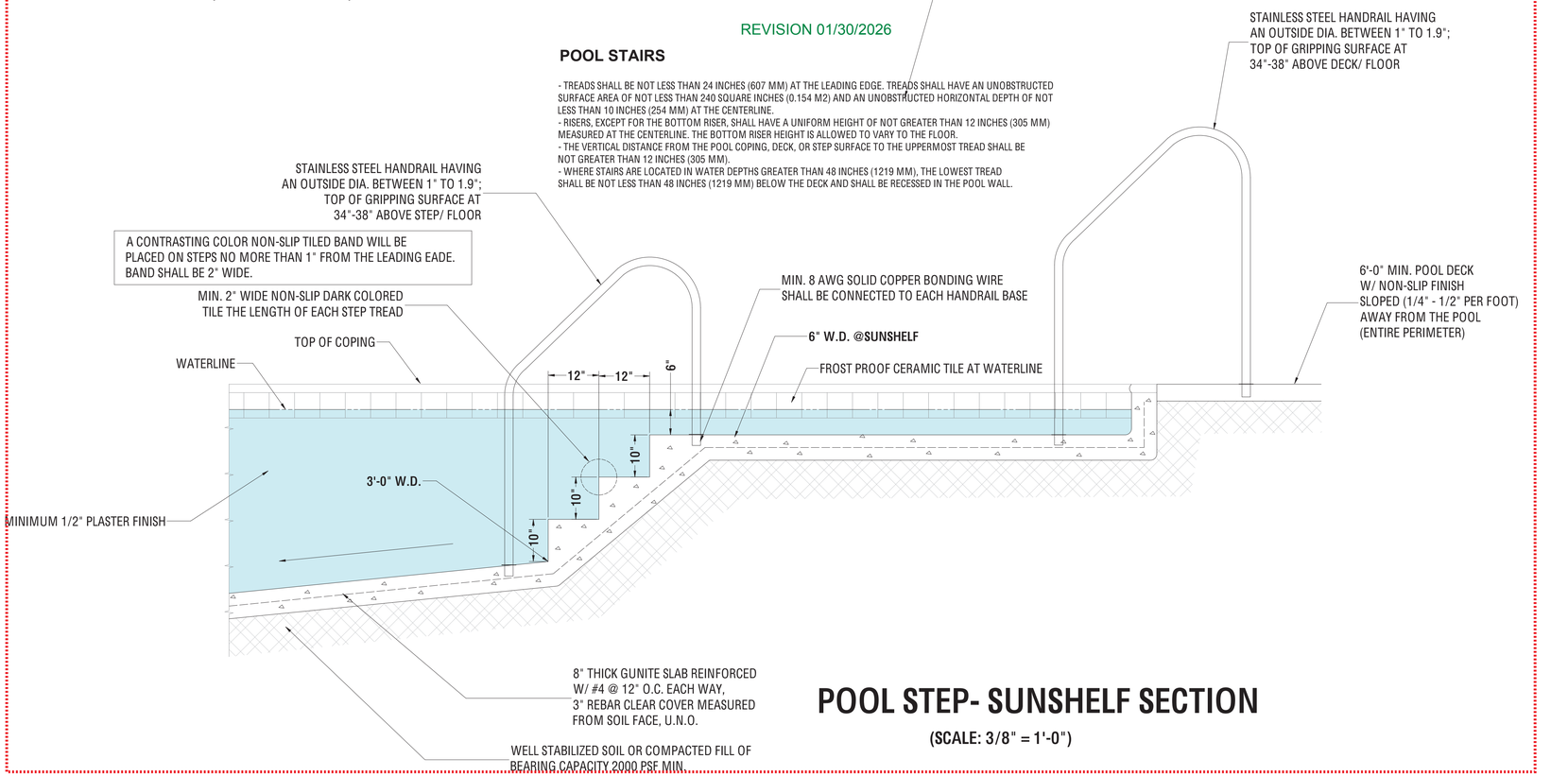
WALL RETURN DETAIL



VACUUM LINE DETAIL

POOL STAIRS

- TREADS SHALL BE NOT LESS THAN 24 INCHES (607 MM) AT THE LEADING EDGE. TREADS SHALL HAVE AN UNOBSTRUCTED SURFACE AREA OF NOT LESS THAN 240 SQUARE INCHES (0.154 M2) AND AN UNOBSTRUCTED HORIZONTAL DEPTH OF NOT LESS THAN 10 INCHES (254 MM) AT THE CENTERLINE.
- RISERS, EXCEPT FOR THE BOTTOM RISER, SHALL HAVE A UNIFORM HEIGHT OF NOT GREATER THAN 12 INCHES (305 MM) MEASURED AT THE CENTERLINE. THE BOTTOM RISER HEIGHT IS ALLOWED TO VARY TO THE FLOOR.
- THE VERTICAL DISTANCE FROM THE POOL COPING, DECK, OR STEP SURFACE TO THE UPPERMOST TREAD SHALL BE NOT GREATER THAN 12 INCHES (305 MM).
- WHERE STAIRS ARE LOCATED IN WATER DEPTHS GREATER THAN 48 INCHES (1219 MM), THE LOWEST TREAD SHALL BE NOT LESS THAN 48 INCHES (1219 MM) BELOW THE DECK AND SHALL BE RECESSED IN THE POOL WALL.



POOL STEP- SUNSHELF SECTION

(SCALE: 3/8" = 1'-0")

NORTH CAROLINA PROFESSIONAL SEAL 057896 ENGINEER RICHARD EDWARD WALKER

Digitally signed by Richard E Walker
Date: 2026.02.13 11:55:06-05'00'

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LICENSE # P-2016
PROJECT NO. 2406706-2

CONTRACTOR:
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PROJECT ADDRESS:
AGAPE-KURE BEACH MINISTRIES
1369 TYLER DEWAR LN,
FUQUAY-VARINA NC 27526

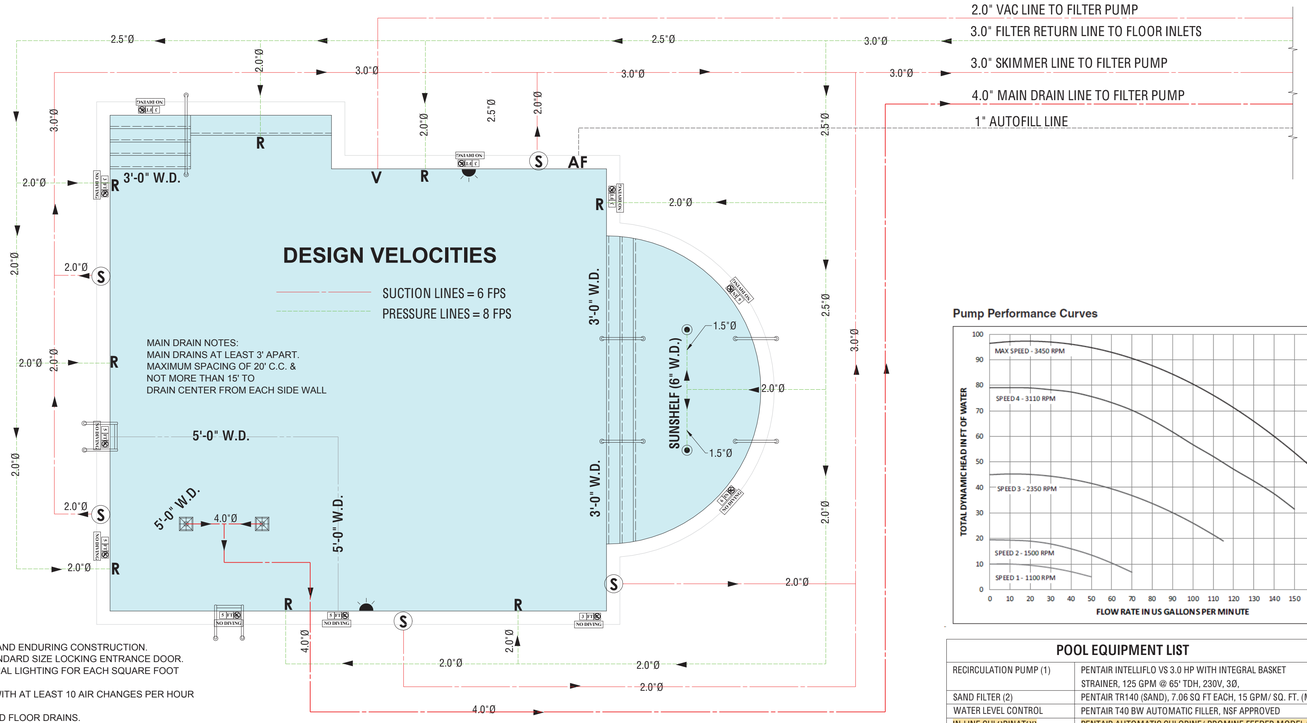
DESIGN DATE:	08/05/2024
REVISION 1:	1/30/2026
REVISION 2:	1/30/2026
DRAWN BY:	PD
SCALE:	NTS
SHEET:	04

NOTE:
THE PIPING SHOWN IS A GRAPHIC REPRESENTATION OF PIPE ROUTE. ACTUAL ROUTING OF PIPING AROUND POOL MAY DIFFER FROM THIS PLAN.

NOTE:
A SUCTION OUTLET SYSTEM THAT IS COMPLETELY SUBMERGED SHALL PROTECT AGAINST USER ENTRAPMENT ACCORDING TO REQUIREMENTS OF VERGINIA GRAEME BAKER POOL AND SPA SAFETY ACT AND SHALL INCLUDE A SAFETY VACCUM RELEASE SYSTEM & APPROVED SAFETY DRAIN COVERS.

POOL PIPING PLAN

(SCALE: 3/16" = 1'-0")



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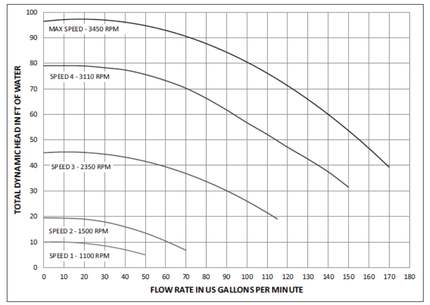
EQUIPMENT ROOM

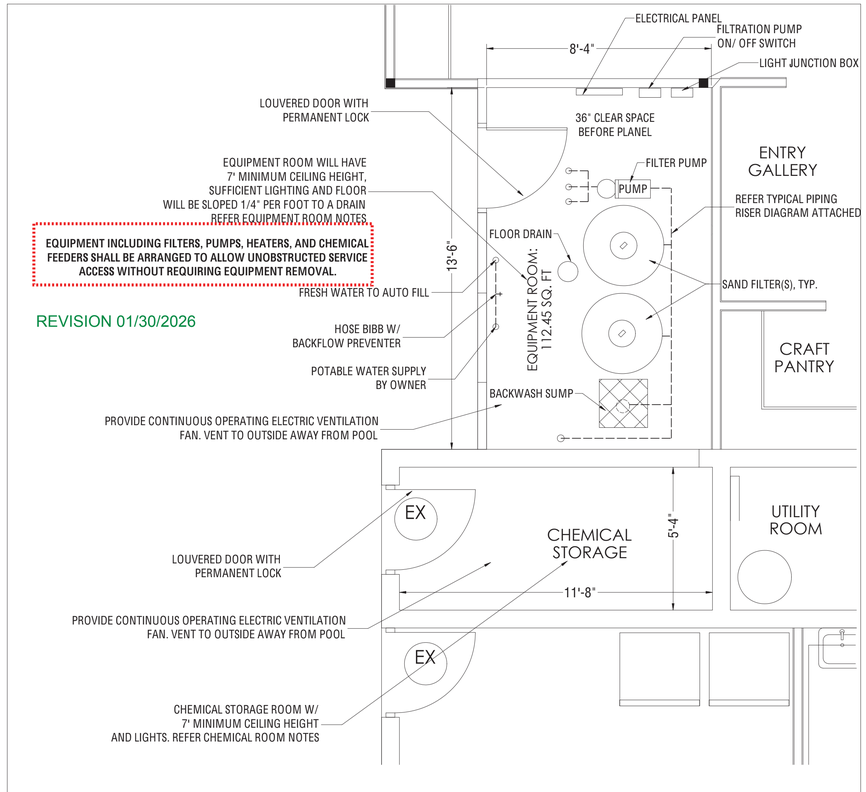
- THE OWNER SHALL PROVIDE AN EQUIPEMENT ROOM OF SUBSTANTIAL AND ENDURING CONSTRUCTION.
- THE ROOM SHALL HAVE A MINIMUM CEILING HEIGHT OF 7'-0" AND A STANDARD SIZE LOCKING ENTRANCE DOOR.
- ILLUMINATION SHALL BE PROVIDED BY AT LEAST OF 1 WATT OF ARTIFICIAL LIGHTING FOR EACH SQUARE FOOT OF FLOOR AREA WITH A MINIMUM OF 150 WATTS INCANDESCENT.
- VENTILATION SHALL BE PROVIDED SO THAT THE ROOM IS FURNISHED WITH AT LEAST 10 AIR CHANGES PER HOUR WHICH IS VENTED TO THE OUTSIDE AND AWAY FROM THE POOL.
- THE FLOOR SHALL BE CONCRETE AND INCLUDE NECESSARY SUMPS AND FLOOR DRAINS.
- THE ROOM SHALL HOUSE NECESSARY POOL MECHANICAL EQUIPEMNT. STORAGE OF ANY OTHER MATERIALS OR EQUIPMENT SHALL NOT BE PERMITTED.
- ELECTRICAL PANELS, SWITCHES, CONTROLS NOT PERTINENT TO THE OPERATION OF THE POOL SHALL NOT BE LOCATED IN THE EQUIPMENT ROOM.

Pump Performance Curves



POOL EQUIPMENT LIST

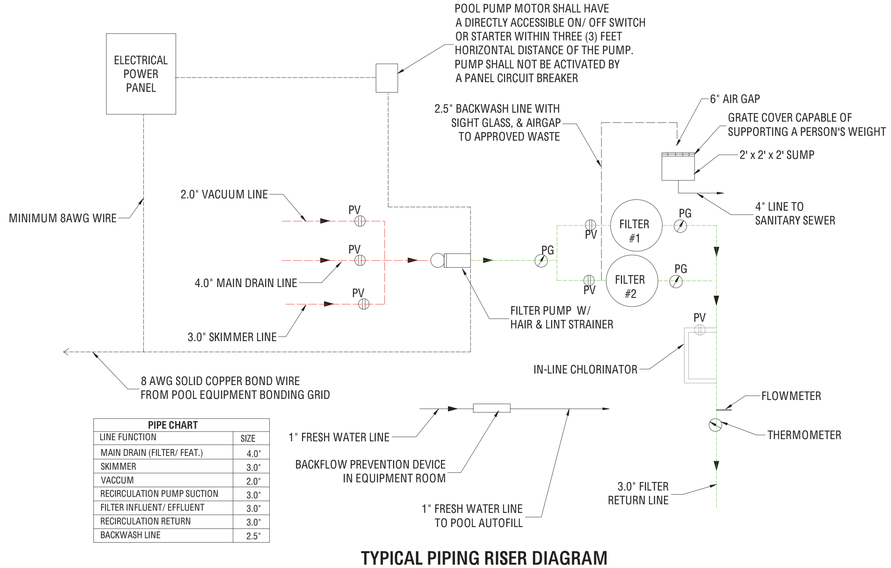
RECIRCULATION PUMP (1)	PENTAIR INTELLIFLO VS 3.0 HP WITH INTEGRAL BASKET STRAINER, 125 GPM @ 65' TDH, 230V, 3Ø,
SAND FILTER (2)	PENTAIR TR140 (SAND), 7.06 SQ FT EACH, 15 GPM/ SQ. FT. (MAX.)
WATER LEVEL CONTROL	PENTAIR T40 BW AUTOMATIC FILLER, NSF APPROVED
IN-LINE CHLURINATOH	PENTAIR AUTOMATIC CHLORINE/ BROMINE FEEDER MODEL 320
FLOWMETER	3.0" BLUE/WHITE F-30300P, 45 TO 240 GPM RANGE
THERMOMETER	PRECISION INSTRUMENT CO B2B1-K WITH 1/2" NPT THERMOWELL 30" TO 240°F RANGE
PRESSURE GUAGE	WIKA, 0-60 PSI, LIQUID FILLED, 1/4" NPT, 2" FACE DIAMETER
SKIMMER (5)	STAR-RITE U-3
MAIN DRAIN GRATE - (2) TOTAL	12"x12" MAIN DRAIN WITH SIDE PORT WITH WATERWAY GRATE 640-472xV (ANSI/ APSP-16 2017, VGBA 2017 COMPLIANT) 62.4 SQ. IN. OPEN AREA; 356 GPM RATED FLOW RATE



REVISION 01/30/2026

POOL EQUIPMENT ROOM LAYOUT PLAN

(SCALE: 3/8" = 1')



PIPE CHART	
LINE FUNCTION	SIZE
MAIN DRAIN (FILTER/ FEAT.)	4.0"
SKIMMER	3.0"
VACCUM	2.0"
RECIRCULATION PUMP SUCTION	3.0"
FILTER INFLUENT/ EFFLUENT	3.0"
RECIRCULATION RETURN	3.0"
BACKWASH LINE	2.5"

TYPICAL PIPING RISER DIAGRAM

CHEMICAL ROOM

A SEPARATE CHEMICAL STORAGE ROOM THAT MEETS THE FOLLOWING CRITERIA SHALL BE PROVIDED:
- THE OWNER SHALL PROVIDE A POOL CHEMICAL STORAGE ROOM SEPARATE FROMT THE EQUIPEMENT ROOM.
- ILLUMINATION SHALL BE PROVIDED BY AT LEAST 1 WATT OF ARTIFICIAL LIGHT FOR EACH SQUARE FOOR OF FLOOR AREA WITH A MINIMUM OF 100 WATTS INCANDESCENT.
- VENTILATION SHALL BE PROVIDED SO THAT THE ROOM IS FURNISHED WITH AT LEAST 10 AIR CHANGES PER HOUR WHICH IS VENTED TO THE OUTSIDE AND AWAY FROM THE POOL.
- THE ROOM SHALL BE KEPT DRY AND LOCKED AT ALL TIMES.
- NO ELECTRICAL PANELS, SWITHCES, CONTROLS OR MECHANICAL EQUIPMENT SHALL BE PLACED IN THE ROOM.
- CHEMICAL SHALL BE LOCATED A MINIMUM OF 6" ABOVE THE FLOOR.
- CHEMICAL ROOMS SHALL BE A MINIMUM OF 5 SQUARE FEET FOR THE FIRST 10,000 GALLONS AND 1 ADDITIONAL SQUARE FOOT FOR EACH ADDITIONAL 3000 GALLONS.

SKIMMERS

- A SURFACE SKIMMING SYSTEM SHALL BE PROVIDED FOR PUBLIC POOLS AND SPAS. SURFACE SKIMMING SYSTEMS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH NSF 50. EITHER A SURFACE SKIMMING SYSTEM OR PERIMETER OVERFLOW SYSTEM SHALL BE PROVIDED FOR PERMANENT INGROUND RESIDENTIAL POOLS AND PERMANENT RESIDENTIAL SPAS. WHERE INSTALLED, SURFACE SKIMMING SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED TO CREATE A SKIMMING ACTION ON THE POOL WATER SURFACE WHEN THE WATER LEVEL IN THE POOL IS WITHIN OPERATIONAL PARAMETERS.
- WHERE AUTOMATIC SURFACE SKIMMERS ARE USED AS THE SOLE OVERFLOW SYSTEM, NOT LESS THAN ONE SURFACE SKIMMER SHALL BE PROVIDED FOR THE SQUARE FOOT (SQUARE METER) AREAS, OR FRACTIONS THEREOF, INDICATED IN TABLE ISPSC 315.3. SKIMMERS SHALL BE LOCATED TO MAINTAIN EFFECTIVE SKIMMING ACTION.
- WHERE A PERIMETER-TYPE SURFACE SKIMMING SYSTEM IS USED AS THE SOLE SURFACE SKIMMING SYSTEM, THE SYSTEM SHALL EXTEND AROUND NOT LESS THAN 50 PERCENT OF THE POOL OR SPA PERIMETER.
- WHERE PERIMETER SURFACE SKIMMING SYSTEMS ARE USED, THEY SHALL BE CONNECTED TO A CIRCULATION SYSTEM WITH A SYSTEM SURGE CAPACITY OF NOT LESS THAN 1 GALLON FOR EACH SQUARE FOOT (40.7 LITERS PER SQUARE METER) OF WATER SURFACE. THE CAPACITY OF THE PERIMETER OVERFLOW SYSTEM AND RELATED PIPING IS PERMITTED TO BE CONSIDERED AS A PORTION OF THE SURGE CAPACITY.

RETURN AND SUCTION FITTINGS

- ONE RETURN INLET SHALL BE PROVIDED FOR EVERY 300 SQUARE FEET (27.9 M2) OF POOL SURFACE AREA, OR FRACTION THEREOF.
- WHERE INSTALLED, SUBMERGED VACUUM FITTINGS SHALL BE ACCESSIBLE AND SHALL BE LOCATED NOT GREATER THAN 12 INCHES (305 MM) BELOW THE WATER LEVEL.

SUCTION ENTRAPMENT AVOIDANCE

- SUCTION ENTRAPMENT AVOIDANCE FOR POOLS AND SPAS SHALL BE PROVIDED IN ACCORDANCE WITH APSP 7.

EQUIPMENT

- POOL AND SPA EQUIPMENT AND RELATED PIPING SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- ELECTRICALLY OPERATED EQUIPMENT SHALL BE LISTED AND LABELED IN ACCORDANCE WITH APPLICABLE PRODUCT STANDARDS.
- TREATMENT AND CIRCULATION SYSTEM EQUIPMENT FOR PUBLIC POOLS AND SPAS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH NSF 50 AND OTHER APPLICABLE STANDARDS.
- FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- THE DESIGN, CONSTRUCTION, AND INSTALLATION OF PUMPS AND COMPONENT PARTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
- SHUTOFF VALVES SHALL BE INSTALLED ON THE SUCTION AND DISCHARGE SIDES OF PUMPS THAT ARE LOCATED BELOW THE WATERLINE. SUCH VALVES SHALL BE PROVIDED WITH ACCESS.
-AN EMERGENCY SHUTOFF SWITCH SHALL BE PROVIDED TO DISCONNECT POWER TO RECIRCULATION AND JET SYSTEM PUMPS AND AIR BLOWERS. EMERGENCY SHUTOFF SWITCHES SHALL BE PROVIDED WITH ACCESS; LOCATED WITHIN SIGHT OF THE POOL OR SPA; AND LOCATED NOT LESS THAN 5 FEET (1524 MM) HORIZONTALLY FROM THE INSIDE WALLS OF THE POOL OR SPA.
- MOTORS SHALL COMPLY WITH UL1004-1, UL 1081, CSA C22.2 NO. 108 OR THE RELEVANT MOTOR REQUIREMENTS OF UL 1563 OR CSA C22.2 NO. 218.1, AS APPLICABLE.
- HEATERS AND HOT WATER STORAGE TANKS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH THE APPLICABLE STANDARD LISTED IN TABLE 316.2.
- HEATERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE INTERNATIONAL FUEL GAS CODE, INTERNATIONAL MECHANICAL CODE, INTERNATIONAL ENERGY CONSERVATION CODE, NFPA 70 OR INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE IN ACCORDANCE WITH SECTION
- SOLAR THERMAL WATER HEATERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 316.6.
- A MEANS SHALL BE PROVIDED TO MONITOR WATER TEMPERATURE.
- AIR BLOWER SYSTEMS SHALL BE EQUIPPED WITH BACKFLOW PROTECTION AS SPECIFIED IN UL 1563 OR CSA C22.2 NO. 218.1.

FILTERS

- THE FOLLOWING STATEMENT SHALL BE POSTED IN A CONSPICUOUS LOCATION WITHIN THE AREAS OF THE AIR RELEASE:
"DO NOT START THE SYSTEM AFTER MAINTENANCE WITHOUT FIRST PROPERLY REASSEMBLING THE FILTER AND SEPARATION TANK AND OPENING ALL AIR RELEASE VALVES."

WATER QUALITY AND STANDARDS

WHENEVER A PUBLIC SWIMMING POOL IS OPEN FOR USE, WATER QUALITY SHALL BE MAINTAINED IN ACCORDANCE WITH THE FOLLOWING:
(1) THE CHEMICAL QUALITY OF THE WATER SHALL BE MAINTAINED IN AN ALKALINE CONDITION AT ALL TIMES WITH THE PH BETWEEN 7.2 AND 7.8.
(2) THE CLARITY OF THE WATER SHALL BE MAINTAINED SUCH THAT THE MAIN DRAIN GRATE IS VISIBLE FROM THE POOL DECK AT ALL TIMES.
(3) DISINFECTION SHALL BE PROVIDED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS FOR ALL POOLS BY A CHEMICAL OR OTHER PROCESS THAT MEETS THE CRITERIA LISTED AS FOLLOWS:
(A) REGISTERED WITH THE U.S. ENVIRONMENTAL PROTECTION AGENCY FOR POOL WATER OR POTABLE WATER;
(B) PROVIDES A RESIDUAL EFFECT IN THE POOL WATER THAT CAN BE MEASURED BY PORTABLE FIELD TEST EQUIPMENT;
(C) WILL NOT IMPART ANY IMMEDIATE OR CUMULATIVE ADVERSE PHYSIOLOGICAL EFFECTS TO POOL BATHERS WHEN USED AS DIRECTED;
(D) WILL NOT PRODUCE ANY SAFETY HAZARD WHEN STORED OR USED AS DIRECTED;
(E) WILL NOT DAMAGE POOL COMPONENTS OR EQUIPMENT; AND
F) WILL DEMONSTRATE REDUCTION OF TOTAL COLIFORM AND FECAL COLIFORM TO A LEVEL AT LEAST EQUIVALENT TO FREE CHLORINE AT A LEVEL OF ONE PART PER MILLION IN THE SAME BODY OF WATER.
(4) WHEN CHLORINE IS USED AS THE DISINFECTANT, A FREE CHLORINE RESIDUAL OF AT LEAST ONE PART PER MILLION (PPM) SHALL BE MAINTAINED THROUGHOUT THE POOL WHENEVER IT IS OPEN OR IN USE. POOLS THAT USE CHLORINE AS THE DISINFECTANT MUST BE STABILIZED WITH CYANURIC ACID EXCEPT AT INDOOR POOLS OR WHERE IT CAN BE SHOWN THAT CYANURIC ACID IS NOT NECESSARY TO MAINTAIN A STABLE FREE CHLORINE RESIDUAL. THE CYANURIC ACID LEVEL SHALL NOT EXCEED 100 PARTS PER MILLION.
(5) WHEN BROMINE OR COMPOUNDS OF BROMINE ARE USED AS THE DISINFECTANT, A FREE BROMINE RESIDUAL OF AT LEAST TWO PARTS PER MILLION, SHALL BE MAINTAINED THROUGHOUT THE POOL WHENEVER IT IS OPEN OR IN USE.
(6) WHEN CHLORINE OR BROMINE ARE USED AS THE DISINFECTANT, AUTOMATIC CHEMICAL FEEDERS SHALL BE USED. AUTOMATIC CHLORINE OR BROMINE FEEDERS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH NSF/ANSI STANDARD NUMBER 50. AUTOMATIC CHLORINE AND BROMINE FEEDER PUMPS SHALL BE AUTOMATICALLY PREVENTED FROM OPERATING WHEN THE CIRCULATION PUMP IS NOT IN OPERATION.
(7) WHEN BIGUANIDE IS USED AS THE DISINFECTANT, A RESIDUAL OF 30 TO 50 PARTS PER MILLION SHALL BE MAINTAINED THROUGHOUT THE POOL WHENEVER IT IS OPEN OR IN USE.
(8) WHEN SILVER/COPPER ION SYSTEMS ARE USED, THE COPPER CONCENTRATION IN THE POOL WATER SHALL NOT EXCEED ONE PART PER MILLION AND A CHLORINE RESIDUAL MUST BE MAINTAINED IN ACCORDANCE WITH ITEM (4) OF THIS RULE.
(9) THE USE OF CHLORINE IN ITS ELEMENTAL (GASEOUS) FORM FOR DISINFECTION OF PUBLIC SWIMMING POOLS IS PROHIBITED.
(10) TEST KITS OR EQUIPMENT CAPABLE OF MEASURING DISINFECTANT LEVEL, PH, AND TOTAL ALKALINITY MUST BE MAINTAINED AT ALL PUBLIC SWIMMING POOLS. POOLS USING CYANURIC ACID OR CHLORINATED ISOCYANURATES MUST HAVE A TEST KIT CAPABLE OF MEASURING CYANURIC ACID LEVELS.
(11) THE POOL OPERATOR SHALL INSPECT THE POOL AT LEAST DAILY AND MAINTAIN WRITTEN RECORDS OF THE OPERATING CONDITIONS OF EACH POOL. RECORDS SHALL BE MAINTAINED AT THE POOL SITE FOR A PERIOD OF NOT LESS THAN SIX MONTHS. RECORDS SHALL INCLUDE THE FOLLOWING:
(A) DAILY RECORDING OF THE DISINFECTANT RESIDUAL IN THE POOL;
(B) DAILY RECORDING OF POOL WATER PH;
(C) DAILY RECORDING OF WATER TEMPERATURE IN HEATED POOLS; RECORDING OF ACTIVITIES PERTAINING TO POOL WATER MAINTENANCE INCLUDING CHEMICAL ADDITIONS AND FILTER BACKWASH CYCLES;
(D) WEEKLY RECORDING OF TOTAL ALKALINITY AND CYANURIC ACID LEVELS; AND
(E) DAILY RECORDING OF POOL DRAIN COVER/GRATE INSPECTION.

(12) WATER TEMPERATURE IN HEATED SWIMMING POOLS SHALL NOT EXCEED 90 DEGREES FAHRENHEIT (32 DEGREES CELSIUS) AND IN HEATED SPAS SHALL NOT EXCEED 104 DEGREES FAHRENHEIT (40 DEGREES CELSIUS).
(13) THE POOL OPERATOR SHALL TAKE THE FOLLOWING STEPS TO MANAGE FECAL AND VOMITUS ACCIDENTS:
(A) DIRECT EVERYONE TO LEAVE ALL POOLS INTO WHICH WATER CONTAINING THE FECES OR VOMIT IS CIRCULATED AND DO NOT ALLOW ANYONE TO ENTER THE POOL(S) UNTIL DECONTAMINATION IS COMPLETED;
(B) REMOVE AS MUCH OF THE FECES OR VOMIT AS POSSIBLE USING A NET OR SCOOP AND DISPOSE OF IT IN A SEWAGE TREATMENT AND DISPOSAL SYSTEM;
(C) RAISE THE FREE AVAILABLE CHLORINE CONCENTRATION TO TWO PPM AT A PH OF 7.2 TO 7.5 AND TEST TO ASSURE THE CHLORINE CONCENTRATION IS MIXED THROUGHOUT THE POOL; AND
D) FOR ACCIDENTS INVOLVING FORMED STOOLS OR VOMIT, MAINTAIN THE FREE AVAILABLE CHLORINE CONCENTRATION AT TWO PPM FOR AT LEAST 25 MINUTES OR AT THREE PPM FOR AT LEAST 19 MINUTES BEFORE REOPENING THE POOL. FOR ACCIDENTS INVOLVING LIQUID STOOLS INCREASE THE FREE CHLORINE RESIDUAL AND CLOSURE TIME TO REACH A CT INACTIVATION VALUE OF 15,300 THEN BACKWASH THE POOL FILTER BEFORE REOPENING THE POOL. CT REFERS TO CONCENTRATION (C) OF FREE AVAILABLE CHLORINE IN PARTS PER MILLION MULTIPLIED BY TIME (T) IN MINUTES.

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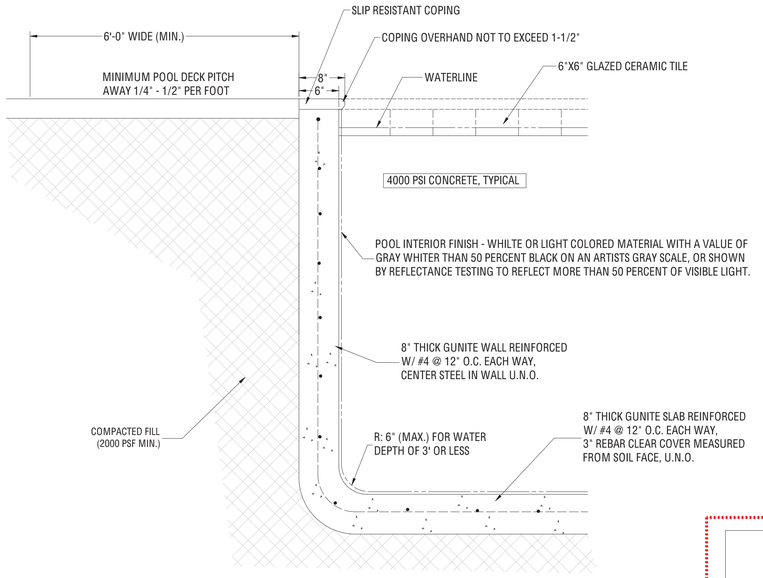
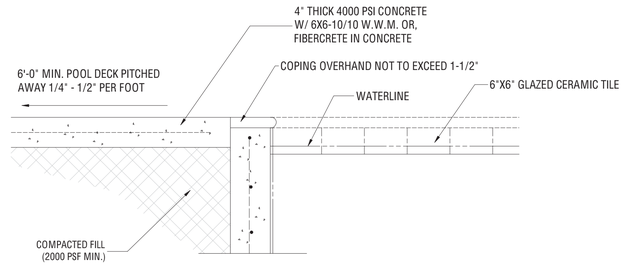


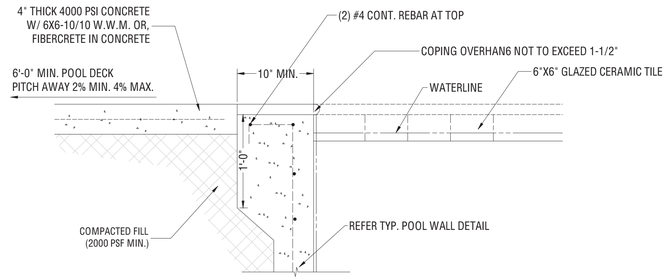
TYPICAL WALL/ FLOOR SECTION DETAIL (N.T.S)

DECK NOTES:

1) DECKS, RAMPS, AND COPING AND SIMILAR STEP SURFACES SHALL BE SLIP-RESISTANT, EASILY CLEANABLE, AND NONABSORBENT.
2) THE POOL DECK AREA MUST BE SLOPED AWAY FROM THE POOLS TODRAINS. DECKS MUST NOT DRAIN INTO LANDSCAPED AREAS.
3) ALL JOINTS SHALL BE CONSTRUCTED LESS THAN 3/16" WIDE.



TYPICAL POOL DECK DETAIL (N.T.S)



TYPICAL POOL BEAM DETAIL (N.T.S)

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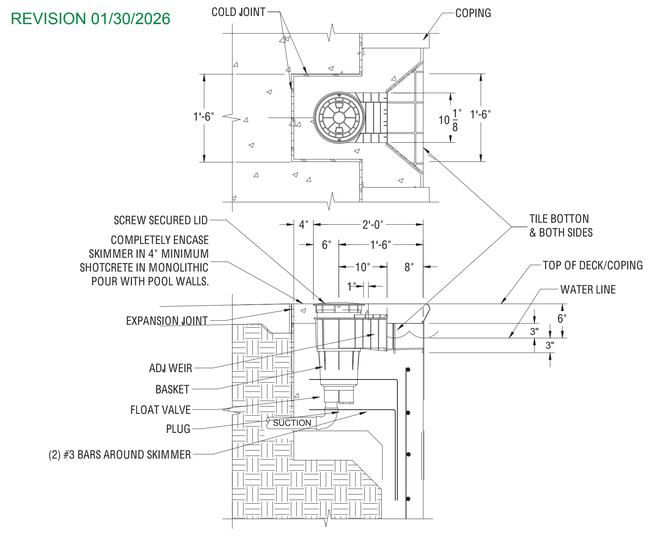

SKIMMER DETAIL

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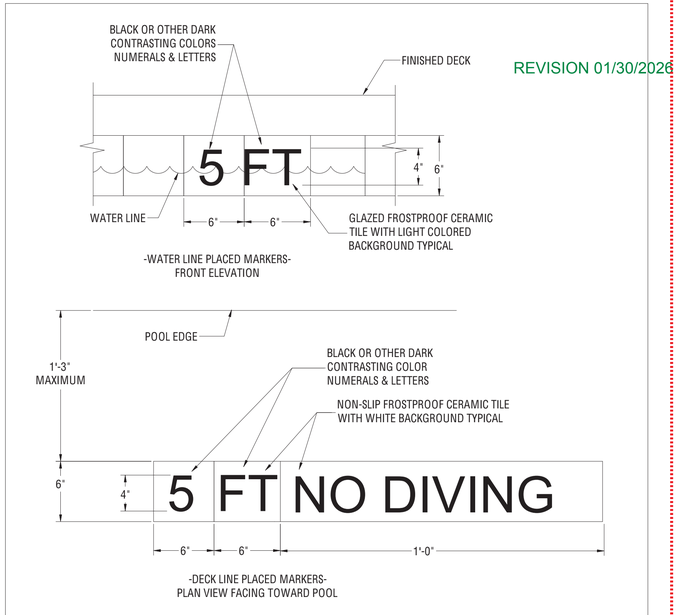
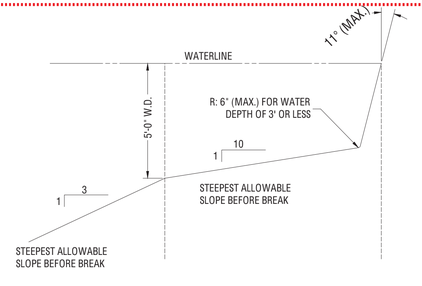


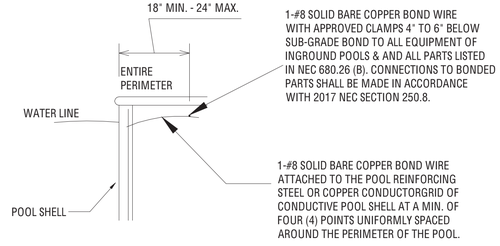
DEPTH MARKERS DETAILS



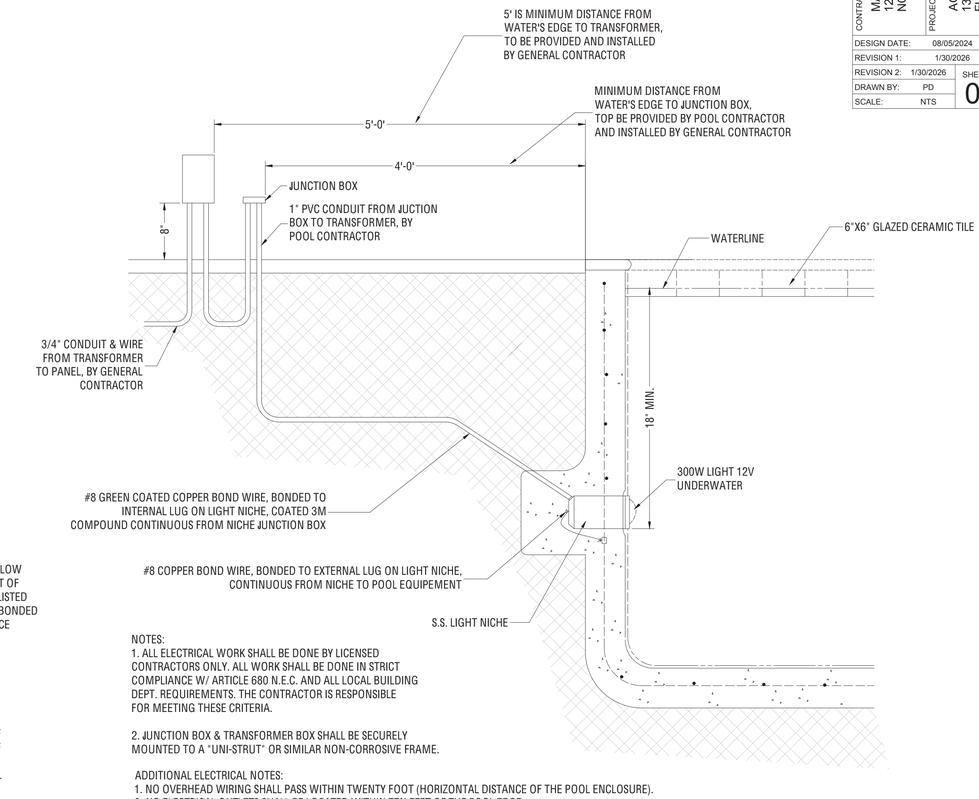
POOL PROFILE NOTES:

(A)THE VERTICAL WALLS OF A PUBLIC SWIMMING POOL SHALL NOT EXCEED 11 DEGREES FROM PLUMB. CORNERS FORMED BY INTERSECTION OF WALLS AND FLOORS SHALL BE COVED OR RADIUSED. HOPPER BOTTOMED POOLS ARE PROHIBITED.
(B) UNDERWATER LEDGES OR PROTRUSIONS ARE PROHIBITED; EXCEPT THAT UNDERWATER STAIRS, SUN SHELVES, SEATS AND BENCHES MAY BE INSTALLED IN AREAS OF THE POOL NO MORE THAN FOUR FEET DEEP. UNDERWATER BENCHES SHALL HAVE A MAXIMUM SEAT DEPTH OF TWO FEET FROM THE WATER SURFACE, PROTRUDE NO MORE THAN 18 INCHES FROM THE WALL AND BE MARKED BY A TWO INCH CONTRASTING COLOR BAND ON THE LEADING EDGE. UNDERWATER PROTRUSIONS MAY PROVIDE SEATING AT SWIM-UP BARS LOCATED IN OFFSET AREAS AWAY FROM SWIM LANES. UNDERWATER STAIRS MAY ADJOIN A SUN SHELF TO DEEPER WATER PROVIDED THE DEPTH AT THE BOTTOM OF THE STAIRS IS NO MORE THAN FOUR FEET AND THE STAIRS MEET ALL PROVISIONS OF RULE .2521 OF 15A NCAC 18A .2500 SECTION.
(C) THE SLOPE OF THE BOTTOM OF ANY PORTION OF ANY PUBLIC SWIMMING POOL HAVING A WATER DEPTH OF LESS THAN FIVE FEET (1.52 M) SHALL NOT BE MORE THAN ONE FOOT VERTICAL CHANGE IN 10 FEET (10 CM IN ONE METER) OF HORIZONTAL DISTANCE AND THE SLOPE SHALL BE UNIFORM.
(D) IN PORTIONS OF POOLS WITH WATER DEPTHS GREATER THAN FIVE FEET (1.52 M), THE SLOPE OF THE BOTTOM SHALL NOT BE MORE THAN ONE FOOT VERTICAL IN THREE FEET (33.3 CM IN ONE METER) OF HORIZONTAL DISTANCE.

ALLOWABLE POOL PROFILE & FLOOR SLOPES (N.T.S)



EQUIPOTENTIAL BONDING DETAIL (2020 NCEC)



NOTES:
1. ALL ELECTRICAL WORK SHALL BE DONE BY LICENSED CONTRACTORS ONLY. ALL WORK SHALL BE DONE IN STRICT COMPLIANCE W/ ARTICLE 680 N.E.C. AND ALL LOCAL BUILDING DEPT. REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR MEETING THESE CRITERIA.

2. JUNCTION BOX & TRANSFORMER BOX SHALL BE SECURELY MOUNTED TO A 'UNI-STRUT' OR SIMILAR NON-CORROSIVE FRAME.

ADDITIONAL ELECTRICAL NOTES:
1. NO OVERHEAD WIRING SHALL PASS WITHIN TWENTY FOOT (HORIZONTAL DISTANCE OF THE POOL ENCLOSURE).
2. NO ELECTRICAL OUTLETS SHALL BE LOCATED WITHIN TEN FEET OF THE POOL EDGE.

TYPICAL POOL LIGHT, JUNCTION BOX & TRANSFORMER DETAIL (N.T.S)

NORTH CAROLINA PROFESSIONAL SEAL 057896 ENGINEER RICHARD EDWARD WALKER

Digitally signed by Richard E Walker
Date: 2026.02.13 11:55:06-05'00'

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LICENSE # P-2016

GUNDERSON ENGINEERING

PROJECT NO. 2406706-2

CONTRACTOR:
MASTIN AQUATIC GROUP LLC
1215 SOUTHER RD
NORTH WILKSBORO, NC 28659

PROJECT ADDRESS:
AGAPE-KURE BEACH MINISTRIES
1369 TYLER DEWAR LN,
FUQUAY-VARINA NC 27526

DESIGN DATE:	08/05/2024
REVISION 1:	1/30/2026
REVISION 2:	1/30/2026
DRAWN BY:	PD
SCALE:	NTS

SHEET: 06

William H. Clark, Jr, PE
Consulting Engineer

23 February 2026

Nick Sykes
Sykes Design
1033 Wade Avenue, Ste 100
Raleigh, NC 27605

Re: Review No. 2 Responses
Camp Agape Pool
Harnett Co Project Number: BCOM2507-0005

Based on new pool designer drawings and a review of the older plans, the following revisions were made:

P0: The Symbol Legend was updated to show the new non-freeze hose bib and to denote the ball valve abbreviation BV.

P2: The Plumbing Fixture Schedule was modified to add the Non-Freeze Hose Bib (NFHB). The new NFHB was added outside the Pool Equipment Room. Ball valves were added for clarification. The Key Notes were updated to denote the signage wording is given in the new Pool Drawings and to add the NFHB.

M2: The fire damper detail was added to M2.

E2: Key Notes 1 and 2 were modified based on the new Pool Drawings.

If you have any more questions, please contact me.

William H. Clark, Jr., PE
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PENTAIR POOL

Pentair

HYDROSTATIC VALVES