





680.26 Equipotential Bonding

680.26 (A) Performance. The equipotential bonding required by this section shall be installed to reduce voltage gradients in the pool area.

680.26 (B) Bonded Parts. The parts specified in 680.26(B)(1) through (B)(7) shall be bonded together using solid copper conductors, insulated covered, or bare, not smaller than 8 AWG or with rigid metal conduit of brass or other identified corrosion-resistant metal. Connections to bonded parts shall be made in accordance with 250.8 (see note following). An 8 AWG or larger solid copper bonding conductor provided to reduce voltage gradients in the pool area shall not be required to be extended or attached to remote panel boards, service equipment, or electrodes.

NOTE: Article 250.8 specifies equipment grounding conductors, grounding electrode conductors, and bonding jumpers shall be connected by pressure connectors listed as grounding and bonding equipment.

680.26(B)(1) Conductive Pool Shells. Bonding to conductive pool shells shall be provided as specified in 680.26(B)(1)(a) or (B)(1)(b). Poured concrete, pneumatically applied or sprayed concrete and concrete block with pointed or plastered coatings shall all be considered conductive materials due to water permeability and porosity. Vinyl liners and fiberglass composite shells shall be considered to be non-conductive materials.

(a) Structural Reinforcing Steel. Un-encapsulated structural reinforcing steel shall be bonded together by steel tie wires or the equivalent. Where structural reinforcing steel is encapsulated in a nonconductive compound, a copper conductor grid shall be installed in accordance with 680.26(B)(1)(b).

(b) Copper Conductor Grid. A copper conductor grid shall be provided and shall comply with (b)(1) through (b)(4).

(1) Be constructed of minimum 8 AWG bare solid copper conductors bonded to each other at all points of crossing. The bonding shall be in accordance with 250.8 or other approved means.

(2) Conform to the contour of the pool.

(3) Be arranged in a 300-mm (12-in.) by 300-mm (12-in.) network of conductors in a uniformly spaced perpendicular grid pattern with a tolerance of 100-mm (4 in.).

(4) Be secured within or under the pool no more than 150-mm (6 in.) from the outer contour of the pool shell.

680.26(B)(2) Perimeter Surfaces. The perimeter surface shall extend for 1 m (3 ft) horizontally beyond the inside walls of the pool and shall include unpaved surfaces, as well as poured concrete surfaces and other types of paving. Perimeter surfaces less than 1 m (3 ft) separated by a permanent wall or building 1.5 m (5 ft) in height or more shall require equipotential bonding on the pool side of the permanent wall or building. Bonding to perimeter surfaces shall be provided as specified in 680.26(B)(2)(a) or (2)(b) and shall be attached to the pool reinforcing steel or copper conductor grid at a minimum of four (4) points uniformly spaced around the perimeter of the pool. For nonconductive pool shells, bonding at four points shall not be required.

(a) Structural Reinforcing Steel. Structural reinforcing steel shall be bonded in accordance with 680.26(B)(1)(a).

(b) Alternate Means. Where structural reinforcing steel is not available or is encapsulated in a non-conductive compound, a copper conductor(s) shall (1) At least one minimum 8 AWG bare solid copper conductor shall be provided.

(2) The conductors shall follow the contour of the perimeter surface.

(3) Only listed splices shall be permitted.

(4) The required conductor shall be 450 mm to 600 mm (18 in. to 24 in.) from the inside walls of the pool.

(5) The required conductor shall be secured within or under the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below the subgrade.

680.26(B)(3) Metallic Components. All metallic parts of the pool structure,, including reinforcing metal not addressed in 680.26(B)(1)(a), shall be bonded. Where reinforcing steel is encapsulated with a nonconductive compound, the reinforcing steel shall not be required to be bonded.

680.26(B)(4) Underwater Lighting. All metal forming shells and mounting brackets of no-niche luminaries shall be bonded.  
Exception: Listed low-voltage lighting systems with non-metallic forming shells shall not require bonding.

680.26(B)(5) Metal Fittings. All metal fittings within or attached to the pool structure shall be bonded, isolated parts that are not over 100 mm (4 in.) in any dimension and do not penetrate into the pool structure more than 25 mm (1 in.) shall not require bonding.

680.26(B)(6) Electrical Equipment. Metal parts of electrical equipment associated with the pool water circulating system, including pump motors and metal parts of equipment associated with pool covers, including electric motors, shall be bonded.

Exception: Metal parts of listed equipment incorporating an approved system of double insulation shall not be bonded.

(a) Double-Insulated Water Pump Motors. Where a double-insulated water pump motor is installed under the provisions of this rule, a solid 8 AWG copper conductor of sufficient length to make a bonding connection to a replacement motor shall be extended from the bonding grid to an accessible point in the vicinity of the pool pump motor. Where there is no connection for the premises, this bonding conductor shall be connected to the equipment grounding conductor of the motor circuit.

(b) Pool Water Heaters. For pool water heaters rated at more than 50 amperes and having specific instructions regarding bonding and grounding, only those parts designated to be bonded shall be bonded and only those parts designated to be grounded shall be grounded.

680.26(B)(7) Fixed Metal Parts. All fixed metal parts shall be bonded including, but not limited to, metal-sheathed cables and raceways, metal piping, metal awnings, metal fences, and metal door and window frames.

Exception No. 1: Those separated from the pool by a permanent barrier that prevents contact by a person shall not be required to be bonded.

Exception No. 2: Those greater than 1.5m (5 ft) horizontally of the inside walls of the pool shall not be required to be bonded.

Exception No. 3: Those greater than 3.7m (12 ft) measured vertically above the maximum water level of the pool, or as measured vertically above any observation stands, towers, or platforms, or any diving structures, shall not be required to be bonded.

680.26(C) Pool Water. An intentional bond of a minimum conductive surface area of 5800 mm2 (9 in.2) shall be installed in contact with the pool water. This bond shall be permitted to consist of parts that are required to be bonded in 680.26(B).

POOL SHELL CONCRETE REQUIREMENTS:

STANDARDS:

ACI 506.2 SPECIFICATIONS FOR MATERIALS, PROPORTIONING, AND APPLICATION OF GUNITÉ

ACI 506.3R GUIDE TO CERTIFICATION OF GUNITÉ NOZZLEMEN

GENERAL:

- GUNITÉ WORK SHALL BE PERFORMED BY A FIRM OR COMPANY REGULARLY ENGAGED IN THE BUSINESS OF APPLYING GUNITÉ MATERIALS, USING NOZZLE OPERATORS AND WORKERS SKILLED AND EXPERIENCED IN THE TYPE OF WORK SPECIFIED.
- GUNITÉ SUPERVISOR SHALL HAVE NOT LESS THAN TWO YEARS EXPERIENCE AS A GUNITÉ NOZZLE OPERATOR.
- NOZZLE OPERATOR SHALL HAVE NOT LESS THAN ONE YEAR EXPERIENCE AND, UPON REQUEST OF THE ENGINEER, SHALL DEMONSTRATE ABILITY TO PROPERLY PLACE GUNITÉ.
- PROOF OF COMPLIANCE WITH ACI 506.3R SHALL BE FURNISHED FOR EACH NOZZLE OPERATOR.
- GUNITÉ SHALL NOT BE PLACED DURING INCLEMENT OR WINDY WEATHER.

MIX DESIGN

- DESIGN OF PREDAMPENED GUNITÉ DRY MIX, INCLUDING RECOMMENDED AMOUNTS OF ADMIXTURE AND WATER TO BE USED, SHALL BE OBTAINED BY THE CONTRACTOR FROM A QUALIFIED INDEPENDENT TESTING LABORATORY OR AGENCY, OR FROM A MILL OR READY-MIX PLANT, PROPERLY EQUIPPED TO DESIGN GUNITÉ MIXES. THE LABORATORY, AGENCY, MILL OR READY-MIX PLANT SHALL MEET THE APPLICABLE REQUIREMENTS OF ASTM C329, AND SHALL MEET WITH APPROVAL OF THE ENGINEER. THE MIX DESIGN SHALL BE CERTIFIED AND SIGNED BY A PROFESSIONAL ENGINEER.
- UPON RECEIPT OF ACCEPTABLE GUNITÉ MIX DESIGN AND TEST RESULTS FROM THE PRE-APPROVED INDEPENDENT TESTING LABORATORY, AGENCY, MILL, OR READY-MIX PLANT, CONFORMING WITH SPECIFIED REQUIREMENTS, THE CONTRACTOR SHALL SUBMIT THE ACCEPTED MIX DESIGN TO THE ENGINEER FOR REVIEW PRIOR TO PLACING ANY GUNITÉ.

GUNITÉ MIX SHALL CONFORM WITH THE FOLLOWING REQUIREMENTS:

- PORTLAND CEMENT OF AMERICAN MANUFACTURE SHALL MEET A.S.T.M. C-150-67 'STANDARD SPECIFICATIONS FOR PORTLAND CEMENT'. TYPE I PORTLAND SHALL BE USED UNLESS SPECIFIED IN THE DETAILED SPECIFICATIONS.
- FINE AGGREGATES SHALL CONSIST OF WASHED SAND AND SHALL BE HARD, DENSE, DURABLE, CLEAN, SHARP AND GRADED EVENLY FROM FINE TO COARSE IN ACCORDANCE WITH THE 'STANDARD SPECIFICATIONS FOR CONCRETE AGGREGATES', A.S.T.M. DESIGNATION: C33-67. IT SHALL BE FREE FROM ORGANIC MATTER AND SHALL NOT CONTAIN MORE THAN 5% BY WEIGHT OF DELETERIOUS SUBSTANCES.
- PROPORTION OF CEMENT TO SAND AGGREGATE SHALL BE AS REQUIRED TO ACHIEVE THE INDICATED OR SPECIFIED STRENGTH.
- COMPRESSIVE STRENGTH OF GUNITÉ SHALL BE NOT LESS THAN 4000 PSI 28-DAY COMPRESSIVE STRENGTH.
- WATER USED FOR HYDRATION AT THE NOZZLE SHALL BE FIT FOR DRINKING AND SHALL BE MAINTAINED AT A UNIFORM PRESSURE WHICH SHALL BE AT LEAST 15 POUNDS PER SQUARE INCH ABOVE AIR PRESSURE AT THE NOZZLE.
- WATER CONTENT AT TIME OF DISCHARGE FROM NOZZLE SHALL NOT EXCEED AMOUNT REQUIRED TO ACHIEVE THE MAXIMUM PERMITTED SLUMP.

GUNNING/NOZZLE OPERATION:

- BUILD EACH LAYER BY MAKING SEVERAL PASSES OVER THE WORKING AREA. THICKNESS OF EACH LAYER SHALL BE GOVERNED BY THE REQUIREMENT THAT SAGGING OF GUNITÉ SHALL NOT OCCUR. MAINTAIN TOP SURFACE OF THICK LAYERS AT 45 DEGREE SLOPE. EACH LAYER TO BE COVERED BY A SUCCEEDING LAYER SHALL BE ALLOWED TO TAKE ITS INITIAL SET.
- LAITANCE, LOOSE MATERIAL, AND REBOUND SHALL BE REMOVED BY AIR-JETTING. LAITANCE THAT HAS TAKEN A FINAL SET SHALL BE REMOVED BY SANDBLASTING AND THE SURFACE CLEANED WITH AIR-WATER JET. ALL LAYERS TO BE SHOT SHALL BE DAMP.
- UNLESS OTHERWISE PERMITTED, BEGIN APPLICATION AT THE LOWEST ELEVATION.
- DO NOT TROWEL OR FINISH INITIAL LAYERS IN ANY WAY.
- REBOUND: ANY REBOUND OR ACCUMULATED LOOSE AGGREGATE SHALL BE REMOVED FROM THE SURFACE TO BE COVERED PRIOR TO PLACING SUCCEEDING LAYERS. REBOUND SHALL NOT BE SALVAGED FOR REUSE.

CONSTRUCTION JOINTS:

UNFINISHED WORK SHALL NOT STAND MORE THAN 30 MINUTES UNLESS JOINTS ARE PREPARED. ENTIRE JOINT SURFACE SHALL BE CLEANED, ROUGHENED, AND DAMPENED PRIOR TO APPLICATION OF ADDITIONAL GUNITÉ.

FINISHING:

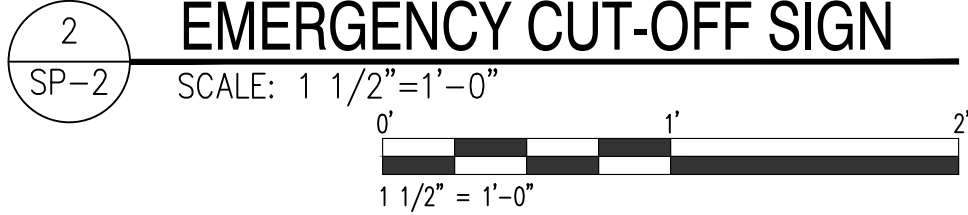
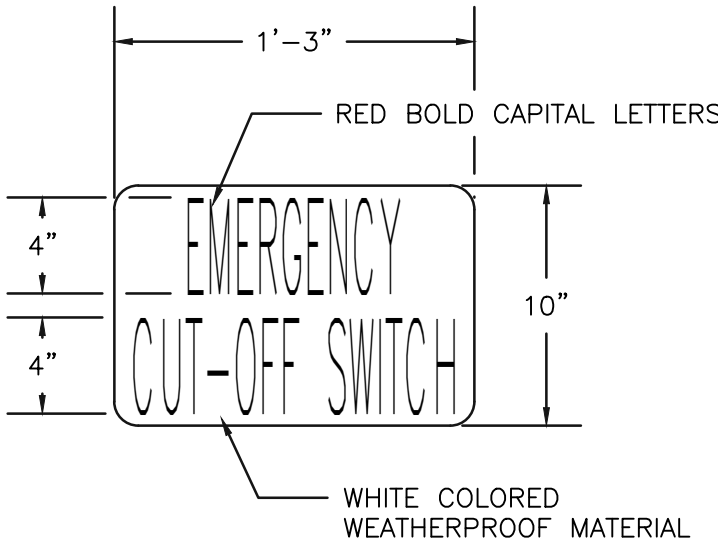
BRING GUNITÉ LAYERS TO WITHIN 1/4 INCH OF FINAL FINISHED SURFACE. WHEN SURFACE HAS TAKEN ITS INITIAL SET, TRIM EXCESS MATERIAL WITH A SHARP EDGE CUTTING SCREED.

CURING

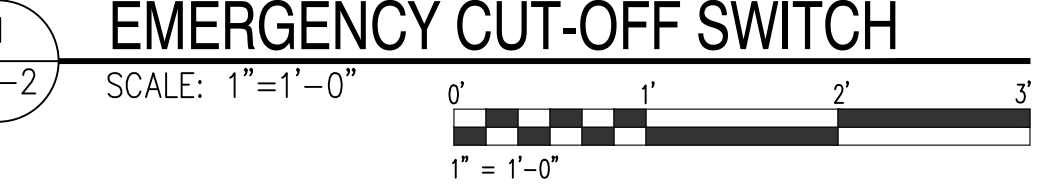
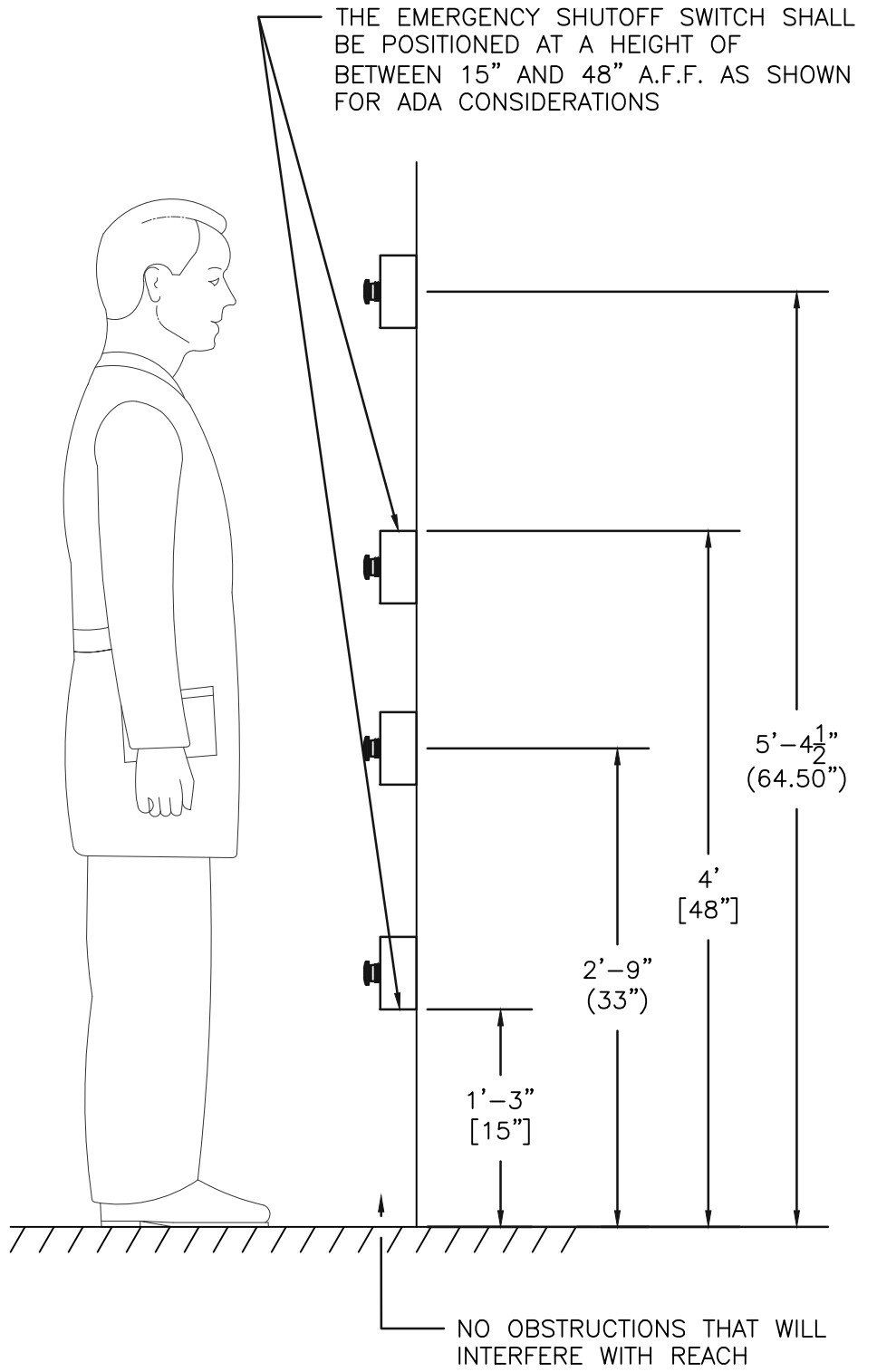
IMMEDIATELY FOLLOWING GUNITÉ FINISHING, SURFACES SHALL BE CURED FOR NOT LESS THAN SEVEN DAYS USING AN APPROVED CURING METHOD AS SPECIFIED IN ACI 506.2.

INSPECTION:

AFTER GUNITÉ HAS BEEN IN PLACE FOR A MINIMUM OF 14 DAYS, INSPECT STRUCTURE FOR CRACKING. ALL CRACKS SHOULD BE REPAIRED BY EPOXY INJECTION OR OTHER METHODS APPROVED BY ENGINEER. IF CRACKING IS EXCESSIVE IN THE OPINION OF THE ENGINEER, CORE SAMPLES WILL BE TAKEN AT THE EXPENSE OF THE CONTRACTOR AND THE STRUCTURE EVALUATED BY ENGINEER FOR REPAIRABILITY. IF DEEM UNREPAIRABLE BY ENGINEER, CONTRACTOR SHALL REMOVE POOL SHELL AND REPLACE AT HIS EXPENSE.



SEMICONDUCTOR SAFETY SERVICES G8 DOCUMENT #200234F  
SPECIFIES EMO (EMERGENCY MACHINE OFF) SWITCH BE LOCATED  
AT A MINIMUM HEIGHT OF 33" AND A MAXIMUM HEIGHT OF 64"



POOL EQUIPMENT				
QTY	ITEM	MANUFACTURER	MODEL NO.	DESCRIPTION
1	PUMP, FILTRATION	HAYWARD	HCP401253	HCP 4000 SERIES, 12.5 HP, 3 PH, 475 GPM @ 65 TDH
1	SPARE PUMP STRAINER	HAYWARD	HCP6002A	4000 SERIES PUMP STRAINER
2	SAND FILTER	HAYWARD	HCF348C	48", 3" INLET/OUTLET, 13.40 SQ FT, 268 GPM @ 20 GPM/FT <sup>2</sup> , 67 BW GPM MIN
1	SIGHT GLASS	S.R. SMITH	A41198-0	HEAVY DUTY CONTROLLED FLOW SIGHT GLASS, 1-1/2" MPT
1	DE-CHLORINATION DEVICE	ARDEN INDUSTRIES	ELIMINATOR	3/4" BYPASS ELIMINATOR DEVICE WITH CAPTOR SOLUTION FOR DE-CHLORINATION
1	FLOW METER	H2FLOW CONTROLS	FV-6	FOR 6" SCH 80 PVC PIPE, 300-1000 GPM, 98.1% AVERAGE ACCURACY
1	AUTOMATIC CHEMISTRY CONTROLLER	HAYWARD	HCC 4000WIFI	pH, ORP, & TEMPERATURE SENSORS, WIFI ENABLED
2	ACID/CHLORINE CHEMICAL PUMP	STENNER	45M5	25 PSI MAX, 2.5-50 GALLONS PER DAY
2	DUAL CONTAINMENT CHEMICAL TANK (CHLORINE & ACID)	CHEM-TAINER	TC2738DC	50 GALLON DOUBLE WALL TANK, 27"DX38"H
2	VOB GRATE COVER & FLANGE	AQUASTAR	WAV18WR101	18" SQUARE FRAME WITH (4) 9" WAVE ANTI-ENTRAPMENT SUCTION OUTLET COVERS, 6" SIDE PIPE IN FLOOR, MAX FLOW RATING: 600 GPM
2	MAIN DRAIN SUMP	ASA MANUFACTURING	FBS-50-818-6	18" x 18", FOR 6" PIPE
2	HYDROSTATIC RELIEF VALVE	HAYWARD	SP1056	1-1/2" THREAD
2	COLLECTOR TUBE	HAYWARD	SP1055	1-1/2" x 2" MPT
3	VACUUM WALL FITTING	HAYWARD	W400BWHF	VAC LOCK SAFETY WALL FITTING X 1 1/2" MPT, WHITE
3	VACUUM FITTING ADAPTER	WATERWAY PLASTICS	215-9890	1 1/2" FIP X 2" INSIDER (FITS INSIDE 2" PIPE)
3	VACUUM ADAPTER: WALL FITTING TO VACUUM HOSE	HAYWARD	AXV092	VACUUM FITTING TO 1 1/2" HOSE
13	SURFACE SKIMMER	PENTAIR	506370BK6	BERMUDA MODEL 2" GUNITÉ SKIMMERS WITH FLOAT VALVE
15	WALL RETURN	HAYWARD	SP-1419D	1-1/2" FIP X 2" MIP, ADJUSTABLE FLOW
15	WALL RETURN FITTING	WATERWAY PLASTICS	215-9890	1 1/2" FIP X 2" SCHEDULE 40 INSIDER SLIP TO RECEIVE EYEBALL FITTING
5	FLOOR RETURN INLET FITTING	STA RITE	08417-0000	WHITE COLOR, ADJUSTABLE FLOW, NON-CORROSIVE RETURN OUTLET FOR 1 1/2" & 2" PIPE SIZES
1	AUTOFILL	PENTAIR	T40BW	AUTOMATIC WATER FILLER, SIDE MOUNTED FLOAT VALVE, WHITE LID
1	OVERFLOW FITTING	HAYWARD	SP1019 & SP1019BA	2" SOCKET DRAIN AND RECTANGULAR GRATE (WHITE)
5	UNDERWATER POOL LIGHT	HAYWARD	LPWU511100	CRYSTALLOGIC, COLOR LED, 12V, 500W EQUIVALENT, 100' CORD
5	LARGE LIGHT NICHE	HAYWARD	LF6U11000	NON-BONDED, NONGROUNDED, LOW PROFILE PLASTIC POOL NICHE
3	HANDRAIL	S.R. SMITH	CUSTOM	1.9" O.D. X .065" X CUSTOM LENGTH (48"), 316L STAINLESS STEEL, POLISHED STEEL, 2 BEND
4	HANDRAIL	S.R. SMITH	CUSTOM	1.9" O.D. X .065" X CUSTOM LENGTH (60"), 316L STAINLESS STEEL, POLISHED STEEL, 2 BEND
14	WEDGE ANCHOR	S.R. SMITH	AS-100B	1.9" X 4" BRONZE SOCKET WITH LOCKING BRONZE WEDGE & STAINLESS STEEL BOLT
3	LADDER	S.R. SMITH	LF-24-3B	COMMERCIAL (3) NON-SLIP TREADS, STAINLESS STEEL (316L), 1.90" O.D. X .065" WALL X 24" DEPTH (20" LONG TREADS)
3	ANCHOR CHANNEL SET	S.R. SMITH	AS-104MG20K	1.90" OD, 4" WEDGE ANCHOR KIT (INCLUDES 2 AS-104MG ANCHORS)
20	ESCUTCHEON	S.R. SMITH	EP-100F	4.5" O.D., FOR 1.9" DIAMETER RAIL, STAINLESS STEEL
1	ADA LIFT	SPECTRUM	153121	MOTION TREK 350 ADA COMPLIANT, SELF OPERATING, 350 LB CAPACITY. INCLUDES 6" ANCHOR WITH CAP #28510-00, WATERTIGHT REMOTE, BATTERY & CHARGER

LIFE SAVING EQUIPMENT				
QTY	ITEM	MANUFACTURER	MODEL NO.	DESCRIPTION
2	UTILITY POLE	PENTAIR	820-12	12" NON-TELESCOPING ALUMINUM POLE
2	LIFE HOOK (SHEPARD'S CROOK)	PENTAIR	153	ALUMINUM, PERMANENTLY ATTACHED TO UTILITY POLE WITH BRASS SCREWS & WING NUTS
2	LIFE RING	JIM BUOY / CAL-JUNE	GW-20	20" DIAMETER, U.S. COAST GUARD APPROVED 160.050/48/2
2	THROW LINE	JIM BUOY / CAL-JUNE		1/4" X 50' POLYETHYLENE ROPE & FLOAT ATTACHED TO LIFE RING

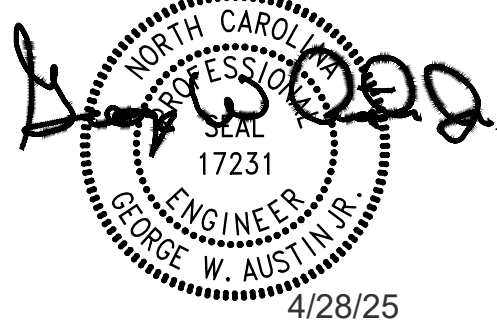
MAINTENANCE EQUIPMENT				
QTY	ITEM	MANUFACTURER	MODEL NO.	DESCRIPTION
1	VACUUM HEAD	PENTAIR	188HDV	WEIGHTED FLEXIBLE VACUUM WITH WHEELS
1	EXTENSION POLE	PENTAIR	806-16	2 PIECE ALUMINUM POLE, EXTENDS FROM 8' TO 16'
1	WALL BRUSH	PENTAIR	902	18" CURVED BRUSH WITH ALUMINUM BACK
1	HAND SKIMMER	PENTAIR	126	HEAVY DUTY ALUMINUM FRAME, REPLACEABLE NET
1	VACUUM HOSE	DURAKING	733005150	1.5" X 50' FLOATING SUCTION HOSE
1	WATER TEST SET	TAYLOR CHEMICAL	K2005	DPD, pH, TA, CH, CYA

REQUIRED SIGNS				
QTY	ITEM	MANUFACTURER	MODEL NO.	DESCRIPTION
A.R.	POOL RULE SIGN	PENTAIR	R234100	VISIBLE FROM ALL BATHER ENTRANCES - COMPLIES WITH NCAC 18A .2530 (c)(d)
1	WARNING-NO LIFEGUARD ON DUTY SIGN	PENTAIR	R230500	VISIBLE TO ENTIRE POOL AREA - COMPLIES WITH NCAC 18A .2530 (c)
A.R.	POOL CLOSED SIGN	PENTAIR	R234700	ONE PER BATHER ENTRANCE - COMPLIES WITH 18A .2530 (e)
1	911 EMERGENCY PHONE SIGN	OWNER	CUSTOM	INCLUDE EMERGENCY NUMBERS, PHYSICAL ADDRESS OF POOL, AND TELEPHONE NUMBER AT SITE. COMPLIES WITH NCAC 18A .2530 (f)
1	EMERGENCY CUT-OFF SWITCH SIGN	OWNER	CUSTOM	MINIMUM OF 4" RED LETTERS ON A WHITE BACKGROUND STATING 'POOL EMERGENCY CUT-OFF SWITCH'



**SHULTZ  
ENGINEERING  
GROUP, PC**

212 N. McDowell St, Suite 204  
Charlotte, NC 28204  
(P) 704.334.7363 | (F) 704.347.0093  
www.shultzeg.com | SEG - 24-920  
NC FIRM LICENSE NUMBER: C-0898



4/28/25

1	HEALTH DEPT COMMENTS	4.28.25	GWA
0	ISSUE FOR PERMIT	3.31.25	GWA
A	ISSUE FOR REVIEW	02.13.25	GWA
NO.	REVISION	DATE	BY

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POOL PARTS LIST  
& GENERAL  
SPECIFICATIONS

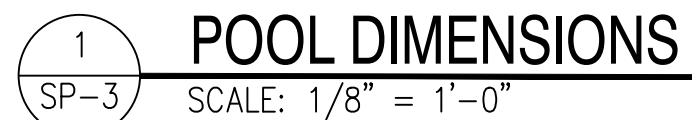
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PROJECT ID: 1074

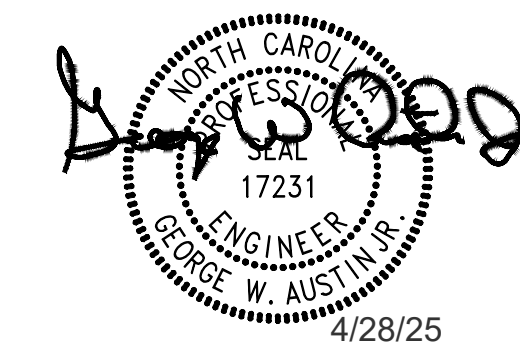
SP-2





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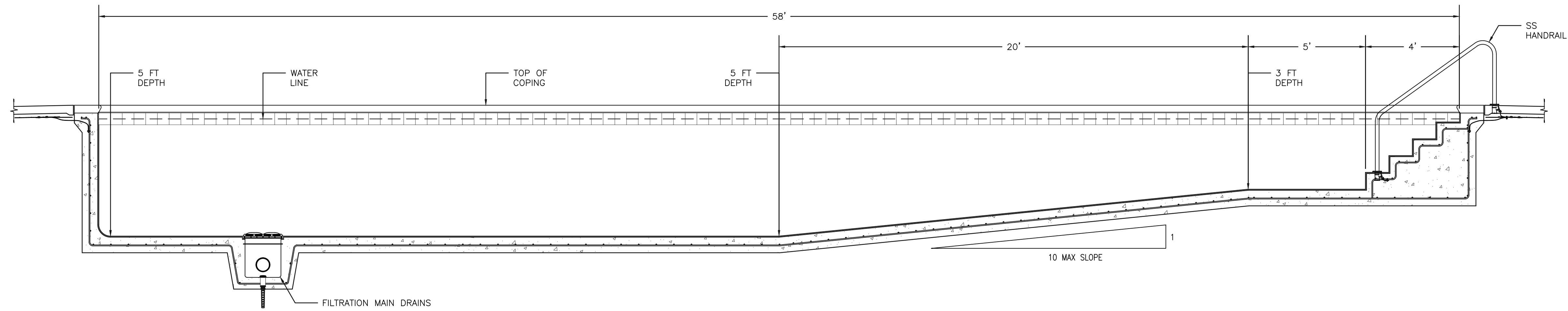
### POOL DIMENSIONS

DATE: 01.21.25

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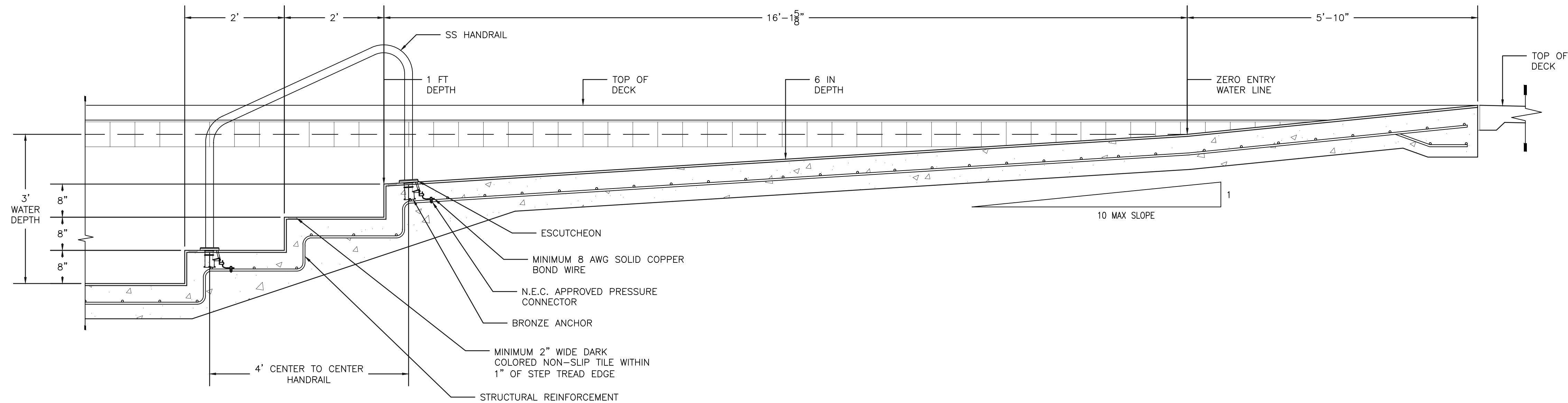
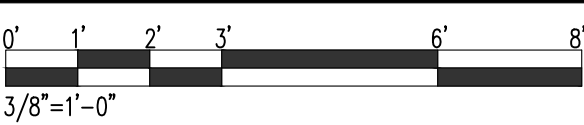
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SP-4

POOL SECTION

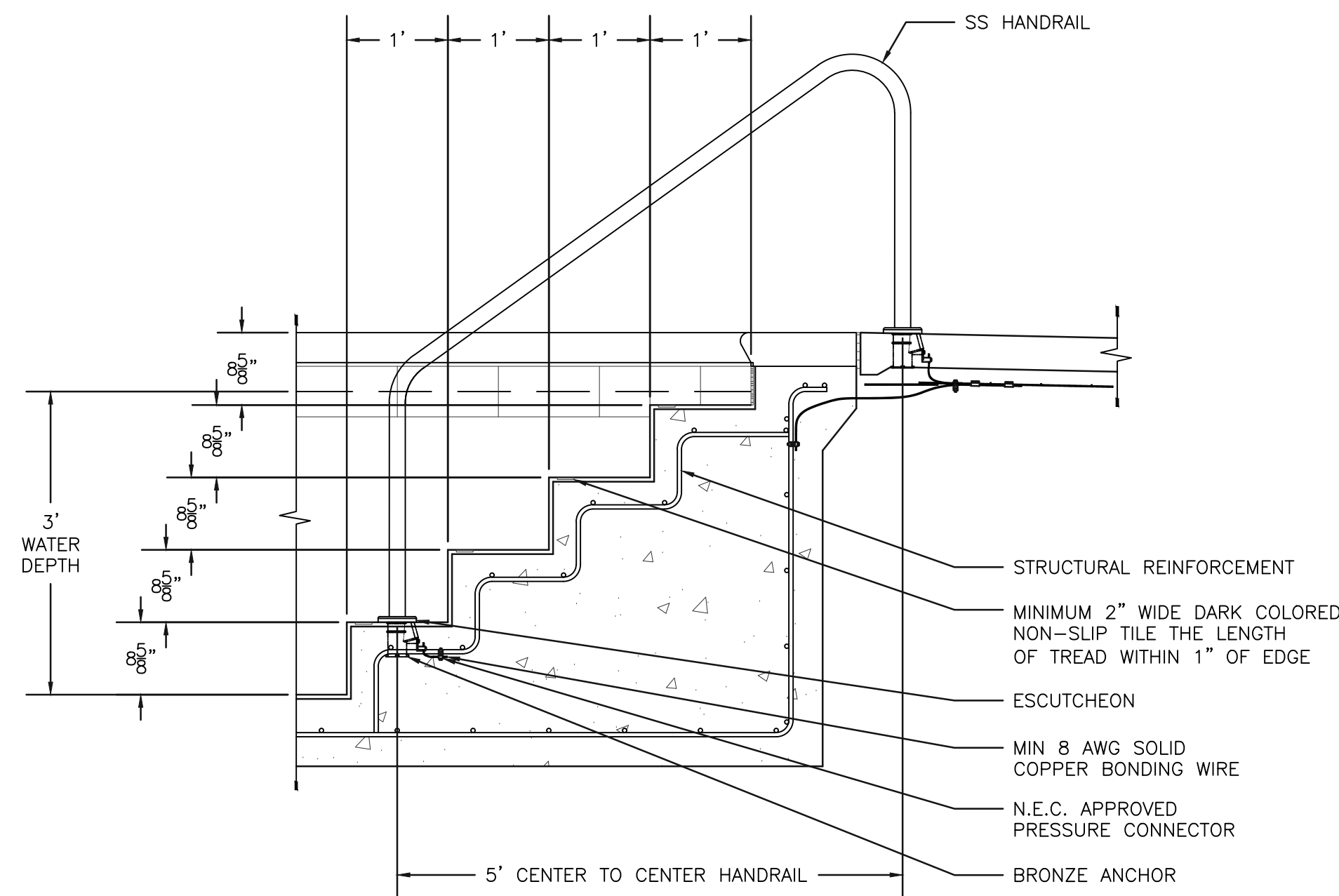
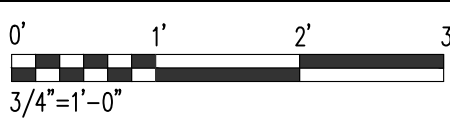
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SP-4

ZERO ENTRY AND STAIR DETAIL

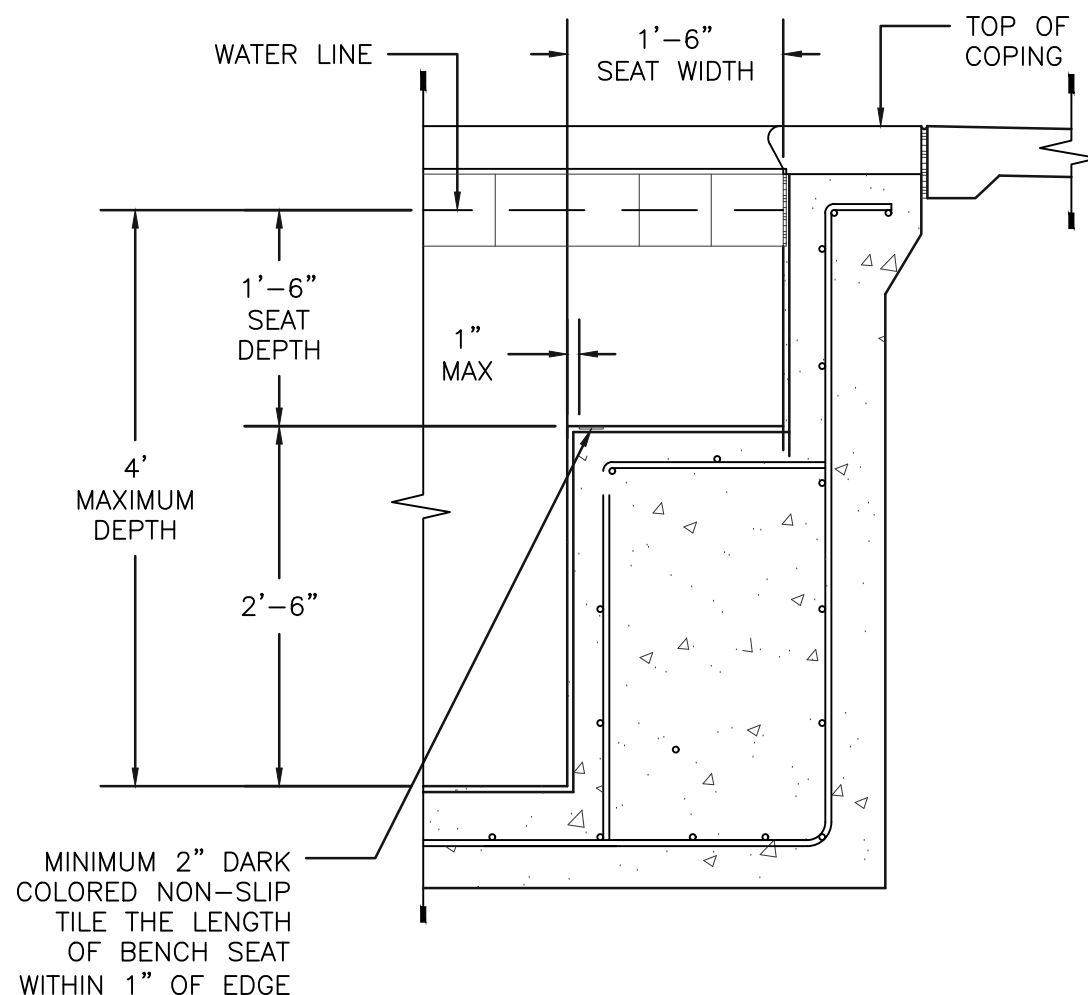
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SP-4

STAIR DETAIL

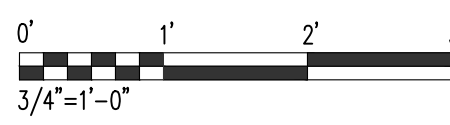
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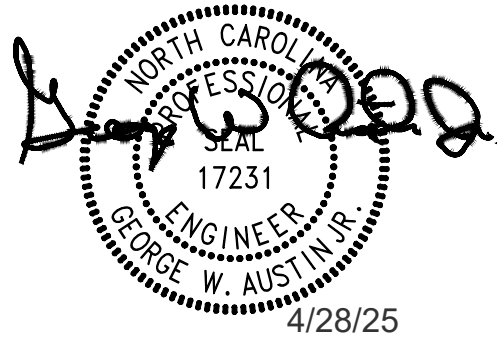
BENCH DETAIL

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SHULTZ  
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GROUP, PC

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1	HEALTH DEPT COMMENTS	4.28.25	GWA
0	ISSUE FOR PERMIT	3.31.25	GWA
A	ISSUE FOR REVIEW	02.13.25	GWA
NO.	REVISION	DATE	BY

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Harnett, NC

POOL SECTIONS

DATE: 01.21.25

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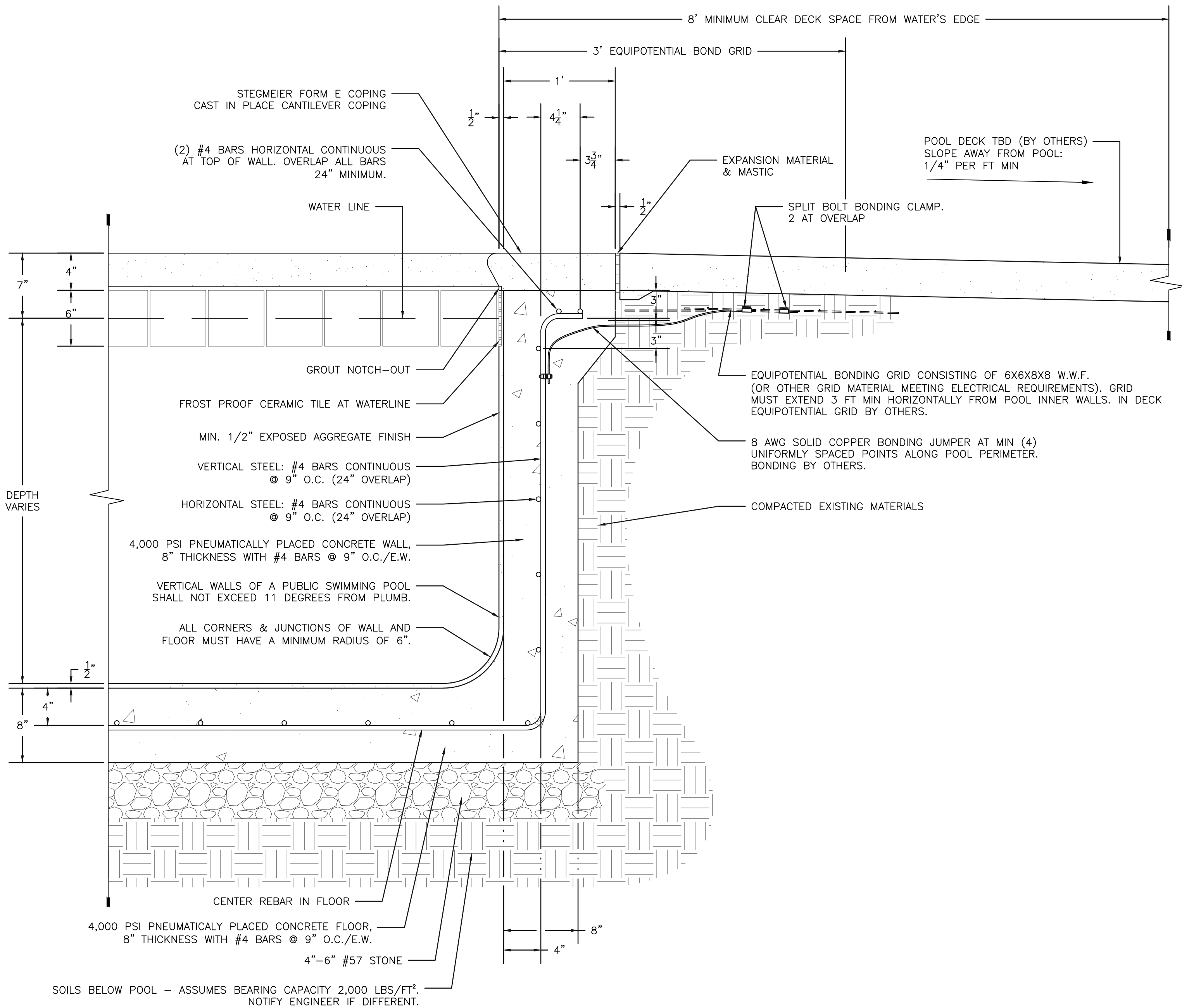
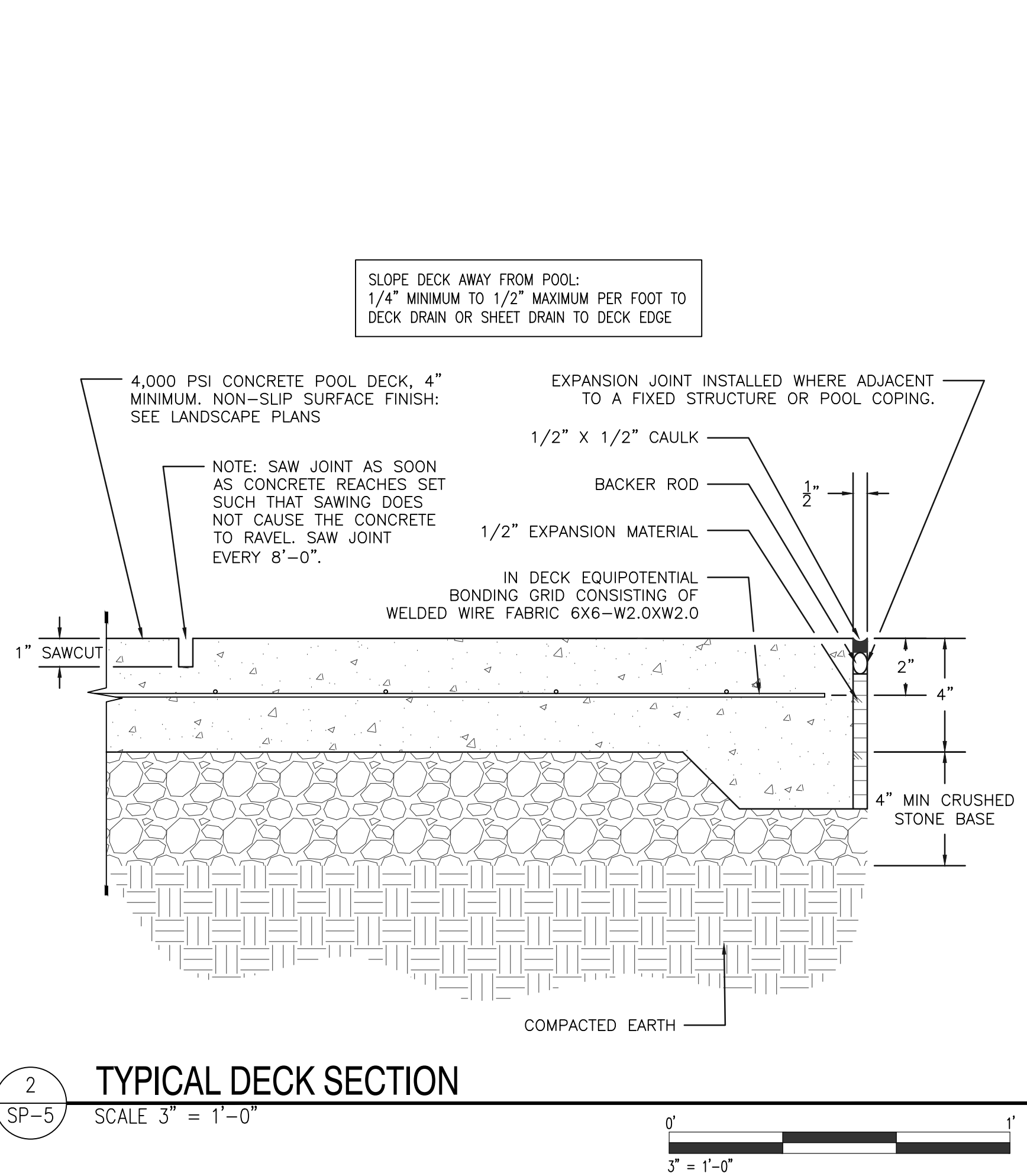
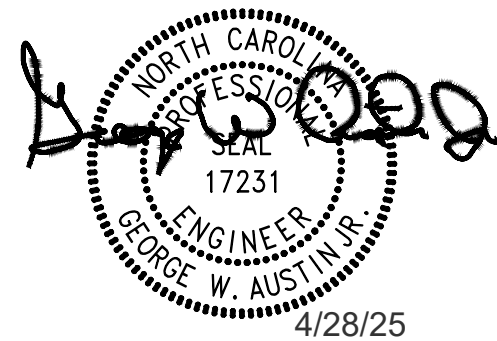
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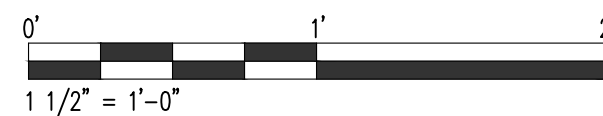
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1  
SP-5

**TYPICAL WALL DETAIL**  
SCALE 1 1/2" = 1'-0"



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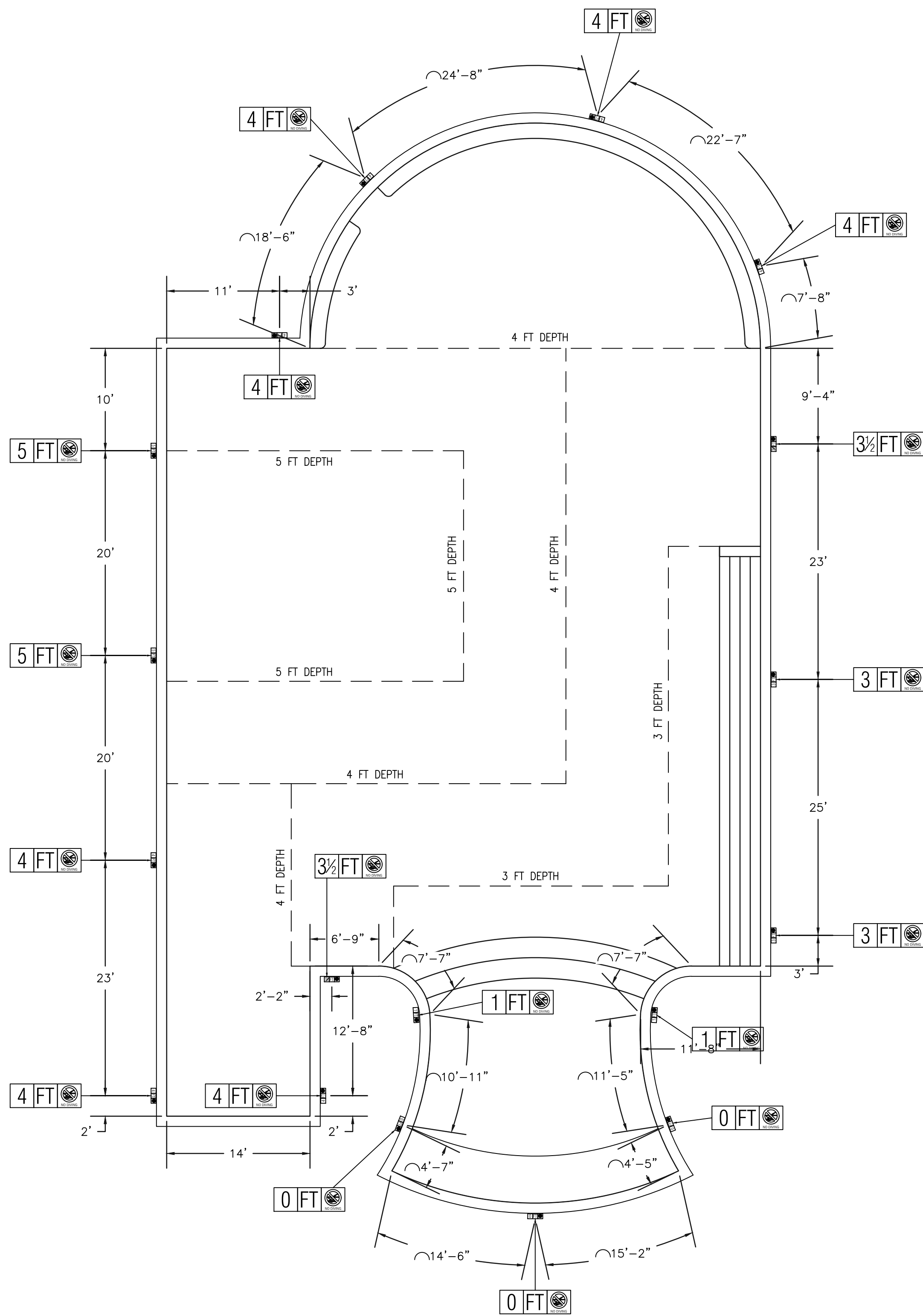
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PROJECT ID: 1074

SP-5

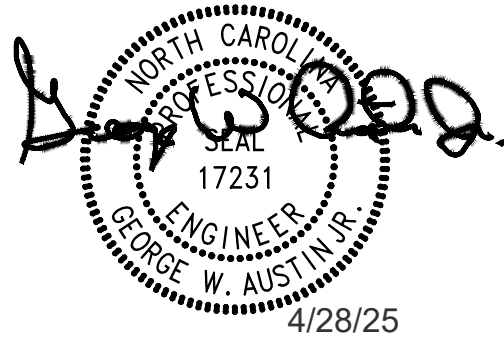


NOTE:  
DEPTH MARKERS MUST BE SPACED AT  
NOT MORE THAN TWENTY FIVE (25) FEET  
INTERVALS ON CENTER, AS MEASURED  
AROUND THE PERIMETER OF THE POOL.



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Charlotte, NC 28204  
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NC FIRM LICENSE NUMBER: C-0898



1	HEALTH DEPT COMMENTS	4.28.25	GWA
0	ISSUE FOR PERMIT	3.31.25	GWA
A	ISSUE FOR REVIEW	02.13.25	GWA
NO.	REVISION	DATE	BY

Altis Serenity  
Harnett, NC

POOL DEPTH  
MARKERS

DATE: 01.21.25

DRAWN BY: TDE CHECKED BY: GWA

PROJECT ID: 1074

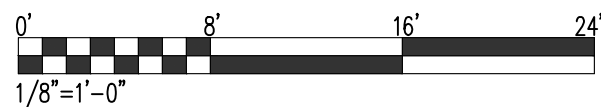
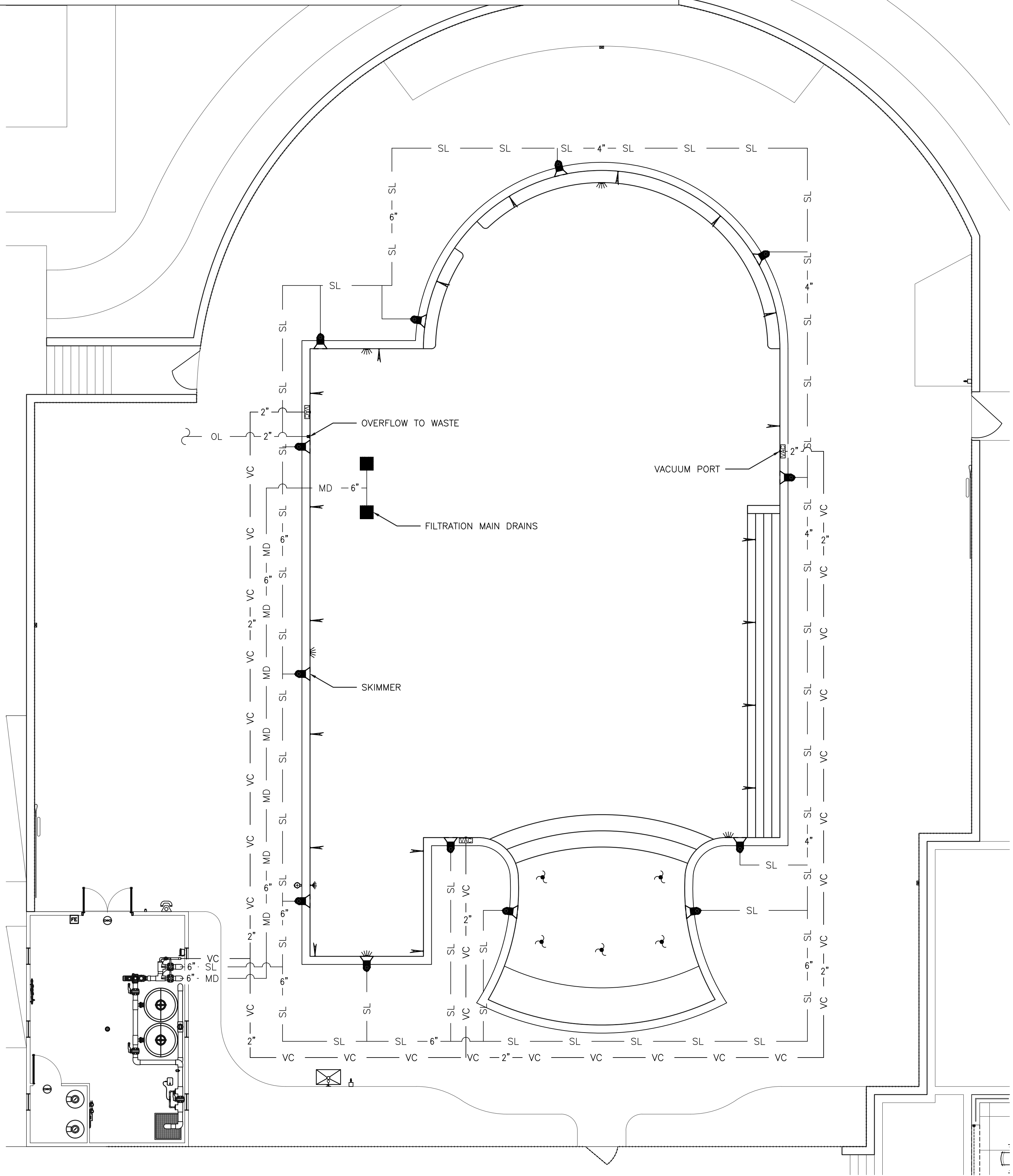
SP-6



- KEY
- MD — MD — MD — MD — POOL MAIN DRAIN SUCTION LINE
- SL — SL — SL — SL — POOL SKIMMER SUCTION LINE
- VC — VC — VC — VC — POOL VACUUM SUCTION LINE
- OL — OL — OL — OL — POOL OVERFLOW LINE

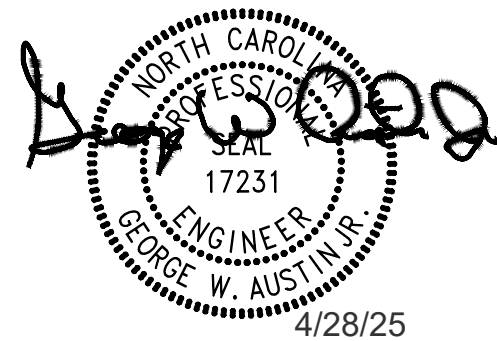
- NOTE:
- ALL SCHEDULE 40 PVC PRESSURE RATED PIPING UNLESS NOTED OTHERWISE.
  - ONLY SDR 26 (CLASS 160) AND SDR 21 (CLASS 200) PVC PIPE MEETING ASTM STANDARD D1785 OR D2241 ARE ACCEPTABLE IN SIZES 12" & SMALLER. NO HEAT BENDING OF PVC PIPE IS ALLOWED.
  - CPVC PIPE SHALL BE USED FOR CONNECTING TO HEATERS.

NOTE:  
TO AVOID ENTRAPMENT, ALL SUCTION  
OUTLETS SHALL BE DESIGNED AND INSTALLED  
IN ACCORDANCE WITH ANSI/APSP-7



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Altis Serenity  
Harnett, NC

POOL SUCTION  
PIPING SCHEMATIC

DATE: 01.21.25

DRAWN BY: TDE

CHECKED BY: GWA

PROJECT ID: 1074

SP-7

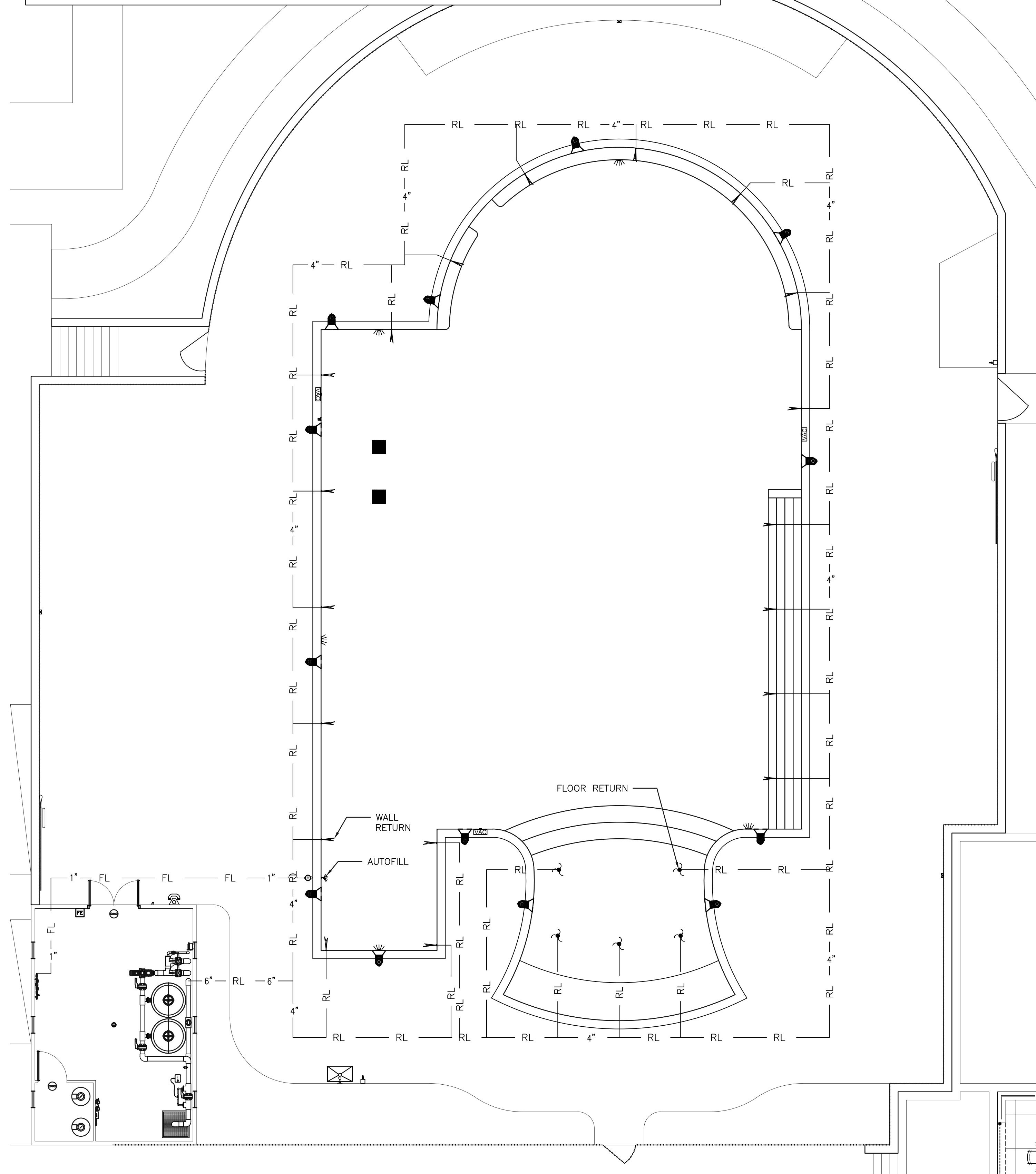


KEY

— RL — RL — RL — RL — FILTRATION RETURN LINE  
— FL — FL — FL — FL — AUTOFILL LINE

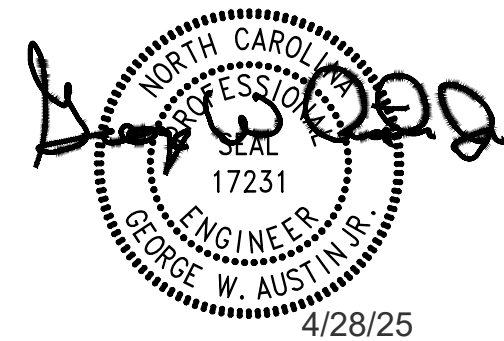
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Harnett, NC

POOL RETURN PIPING  
SCHEMATIC

DATE: 01.21.25

DRAWN BY: TDE

CHECKED BY: GWA

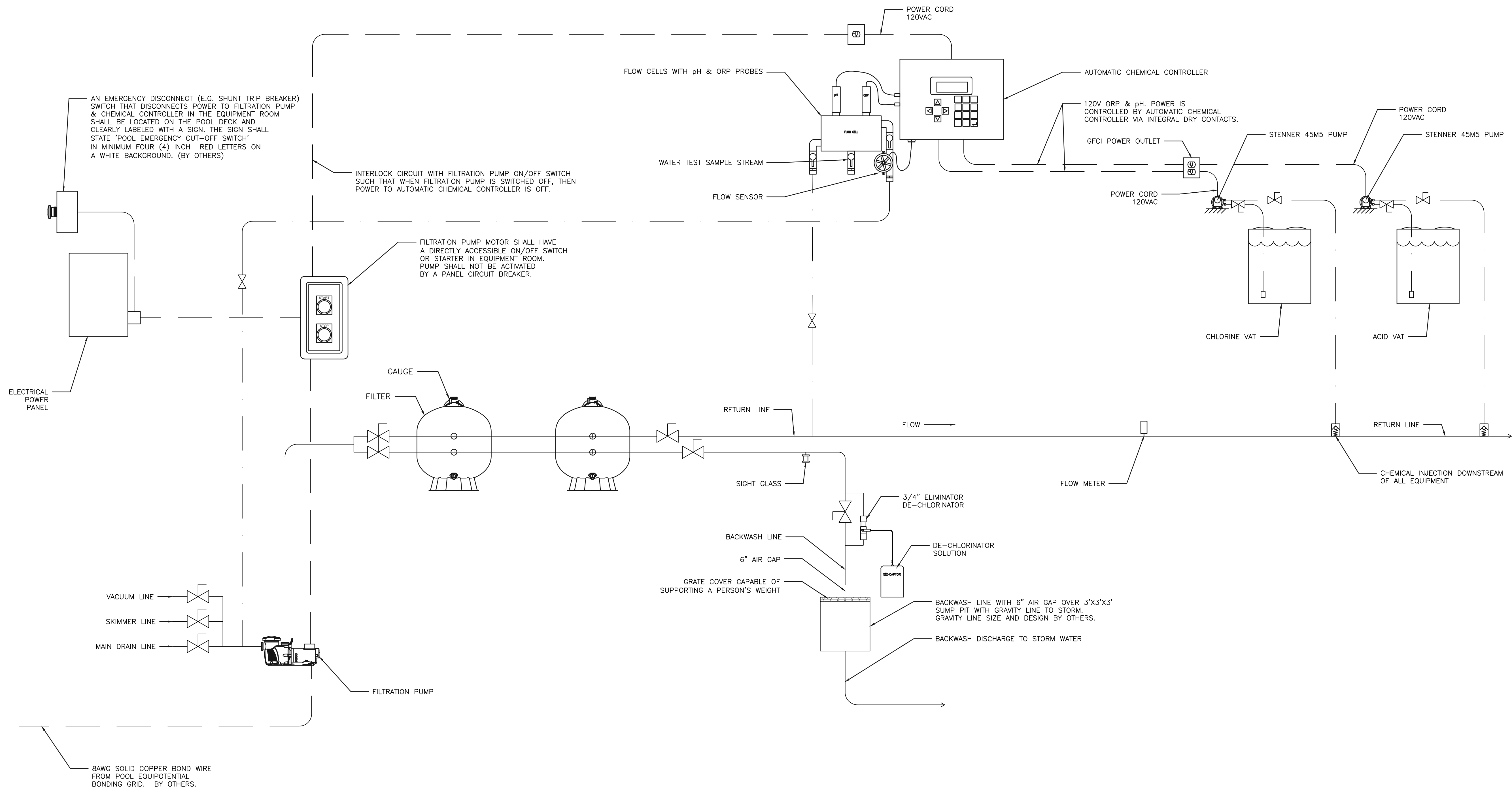
PROJECT ID: 1074

SP-8



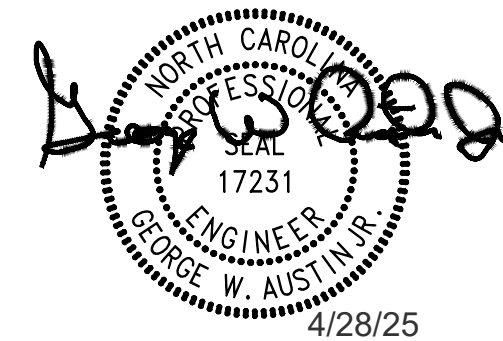
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  - CPVC PIPE SHALL BE USED FOR CONNECTING TO HEATERS.

ELECTRICAL AND MECHANICAL NOTES ARE SHOWN FOR COORDINATION PURPOSES ONLY – ALL ELECTRICAL, MECHANICAL, FRESH WATER AND SANITARY DESIGN TO BE SHOWN ON BUILDING PME DOCUMENTS INCLUDING E-STOP LOCATED ON THE POOL DECK AND POOL EQUIPOTENTIAL BONDING PLAN.



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PIPING SCHEMATIC

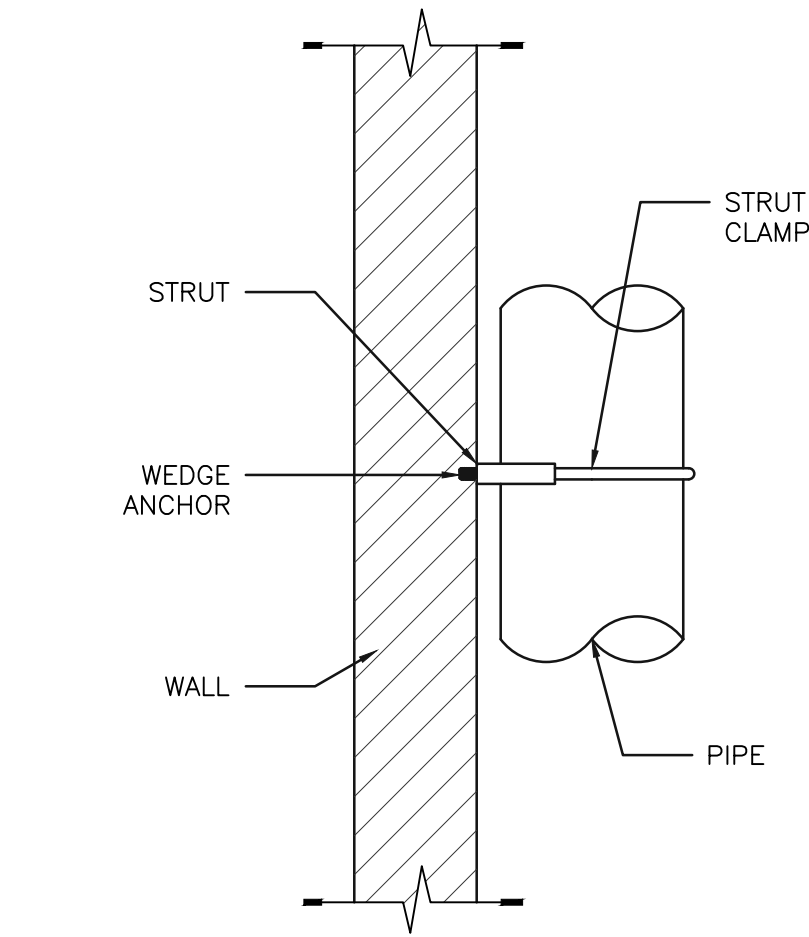
DATE: 01.21.25  
DRAWN BY: TDE CHECKED BY: GWA  
PROJECT ID: 1074

SP-9

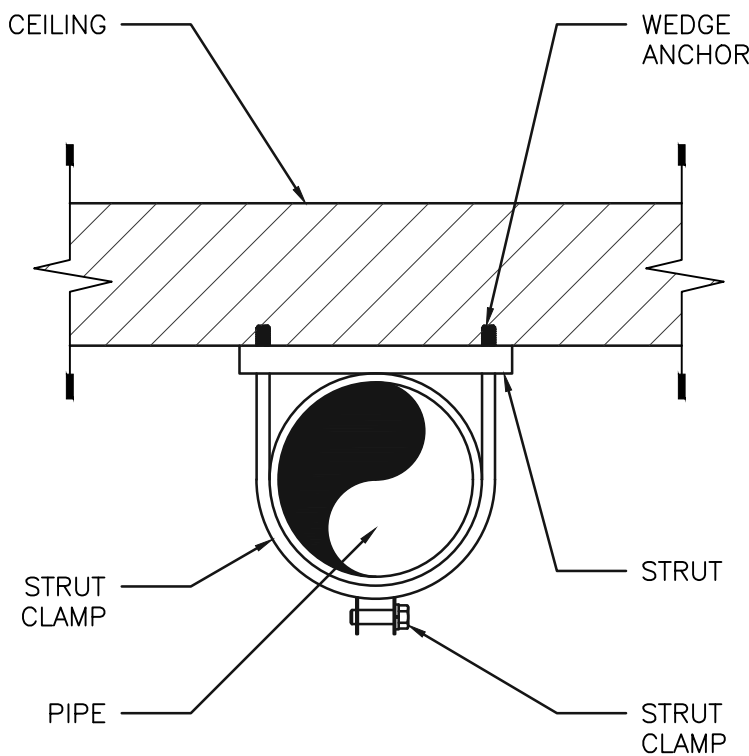
POOL ELECTRICAL REQUIREMENTS			
QTY	EQUIPMENT	ELECTRICAL	NOTES (WORK BY OTHERS)
1	12.5 HP FILTRATION PUMP	230/460V, 3PH, 31.6/15.8A	RUN POWER TO DISCONNECT IN EQUIPMENT ROOM
2	1/30 HP PUMP, CHEMICAL	120-220V, 1.7/0.9A	POWER CORD TO WATER CHEMISTRY CONTROLLER CONTACT, CHEMISTRY CONTROLLER CONTROLS PUMP POWER
1	AUTOMATIC CHEMISTRY CONTROLLER	120V, 15A, 60HZ	INTERLOCK WITH FILTRATION PUMP. IN THE EVENT THE PUMP SHUTS OFF, THEN CONTROLLER SHUTS OFF
5	LED, 500 W EQUIV UNDERWATER POOL LIGHTS	12V, 31 WATT	POWER FROM POOL EQUIPMENT ROOM GFCI CIRCUITS TO TRANSFORMER/JUNCTION BOXES ON POOL DECK
1	POOL EQUIPOTENTIAL BONDING GRID	MINIMUM 8 AWG SOLID COPPER BONDING WIRE	EQUIPOTENTIAL BOND GRID AT POOL PERIMETER AND CONTINUOUS #8 COPPER WIRE TO POOL EQUIPMENT ROOM
1	EMERGENCY CUT-OFF SWITCH	CONNECT TO ALL PUMPS	LOCATED ON POOL DECK

ANY MECHANICAL OR ELECTRICAL NOTES ARE SHOWN ONLY FOR COORDINATION PURPOSES. MECHANICAL AND ELECTRICAL DESIGN WILL BE BY PME ENGINEER AND THEIR DESIGN MAY DIFFER FROM OUR NOTES: EXHAUST REQUIREMENTS, ELECTRICAL WIRING REQUIREMENTS, BONDING REQUIREMENTS, ETC....

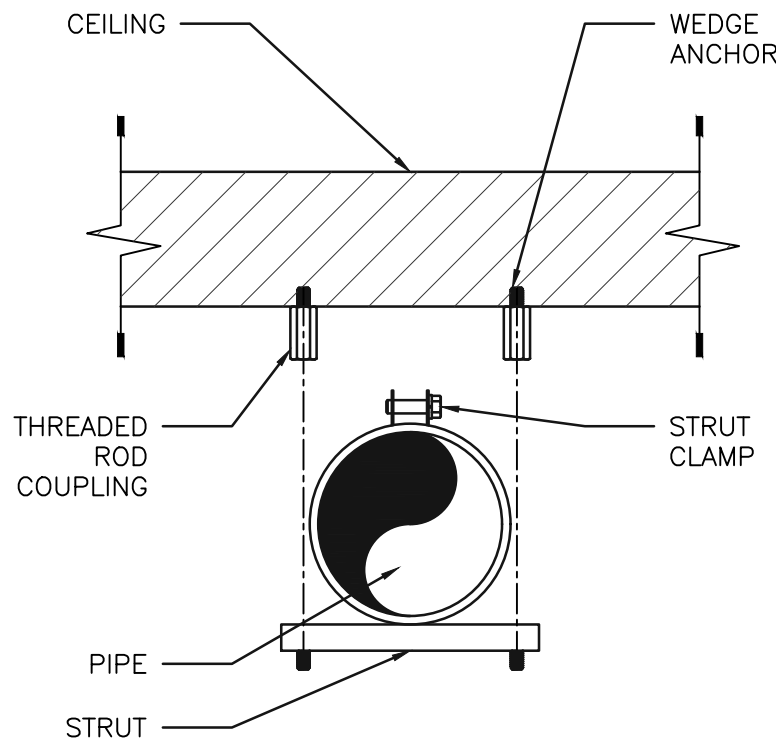
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  - CPVC PIPE SHALL BE USED FOR CONNECTING TO HEATERS.



2 PIPE WALL SUPPORT  
SCALE: NTS



3 PIPE CEILING SUPPORT  
SCALE: NTS

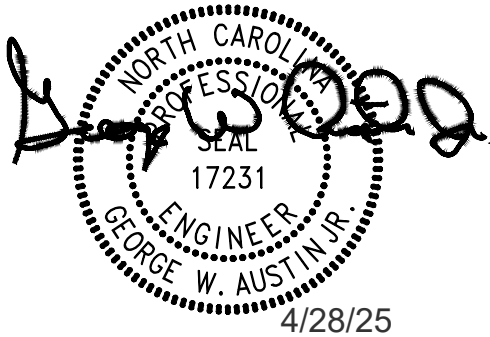


4 PIPE CEILING SUPPORT  
SCALE: NTS



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Altis Serenity  
Harnett, NC

EQUIPMENT ROOM  
DETAILS

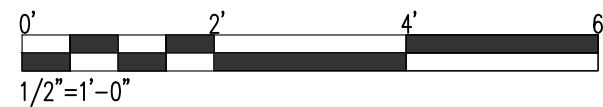
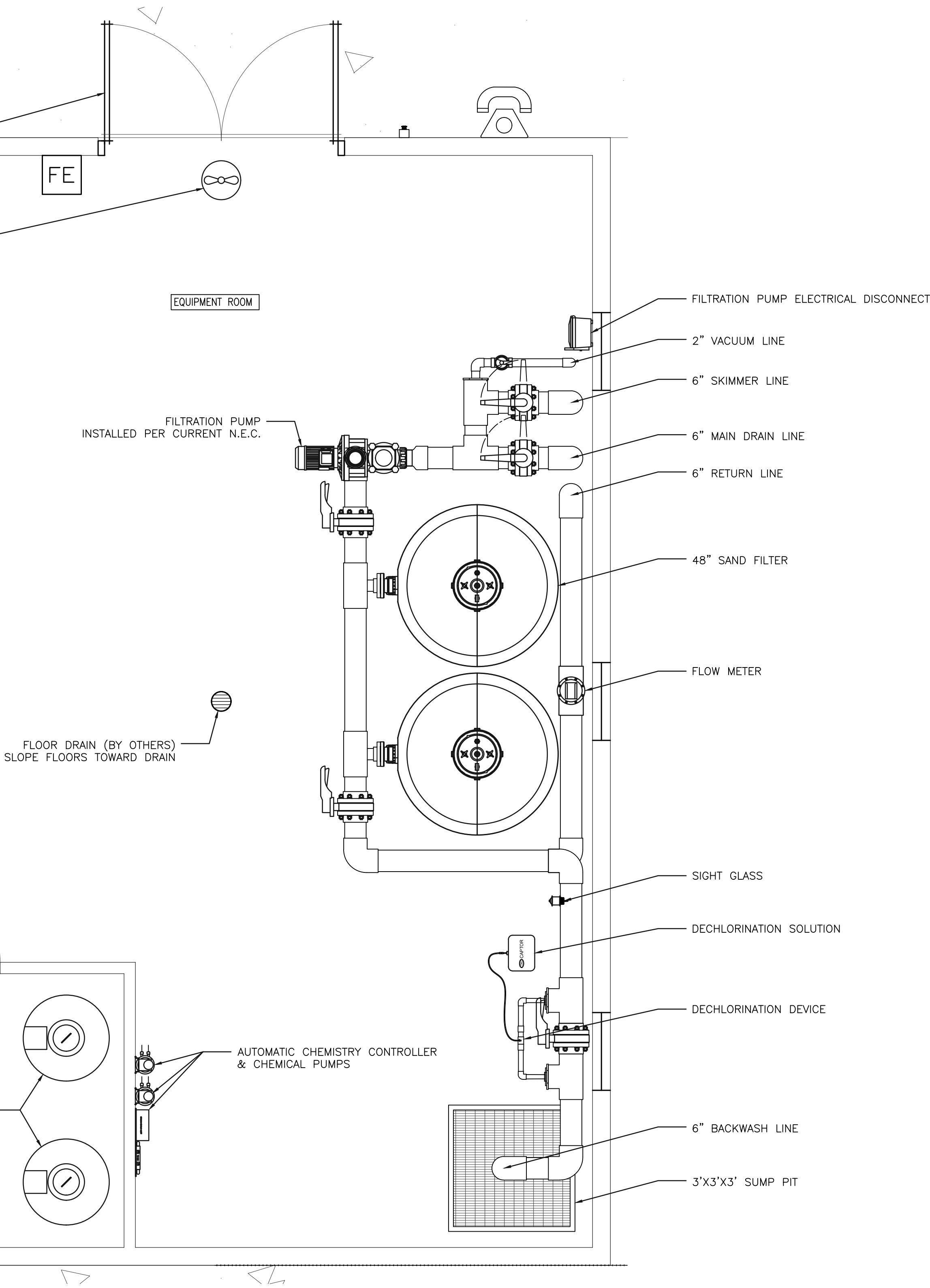
DATE: 01.21.25

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PROJECT ID: 1074

SP-10

1 EQUIPMENT ROOM  
SCALE: 1/2" = 1'-0"



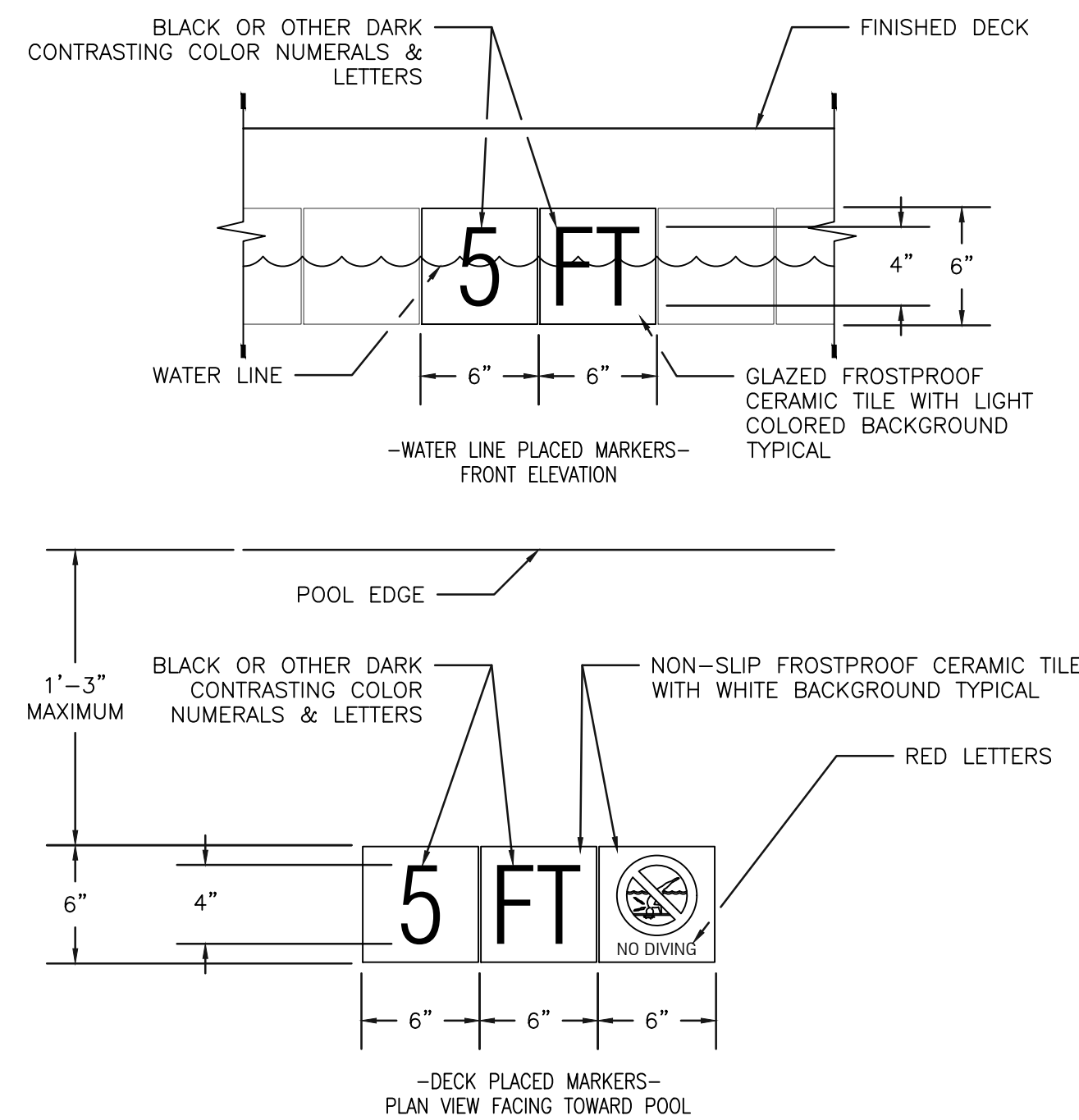


- SHOWER BEFORE ENTERING POOL.
- NO PETS OR GLASS CONTAINERS ALLOWED IN THE POOL AREA.
- CHILDREN SHOULD NOT USE THE SWIMMING POOL WITHOUT ADULT SUPERVISION.
- ADULTS SHOULD NOT SWIM ALONE.

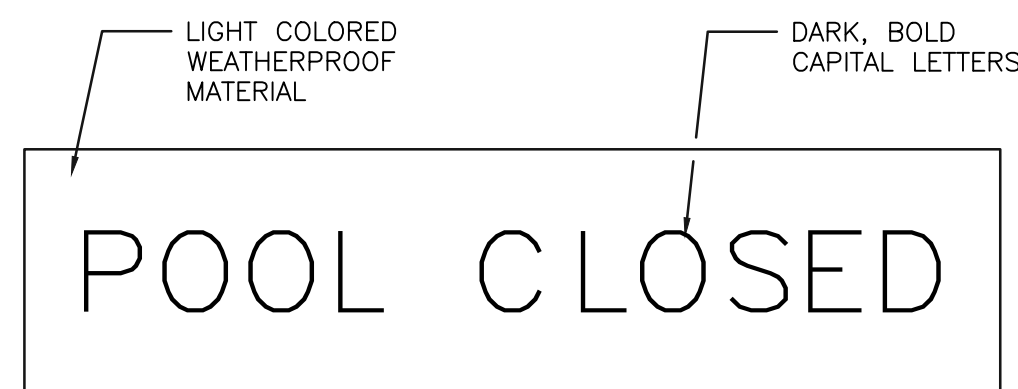
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NOTES:

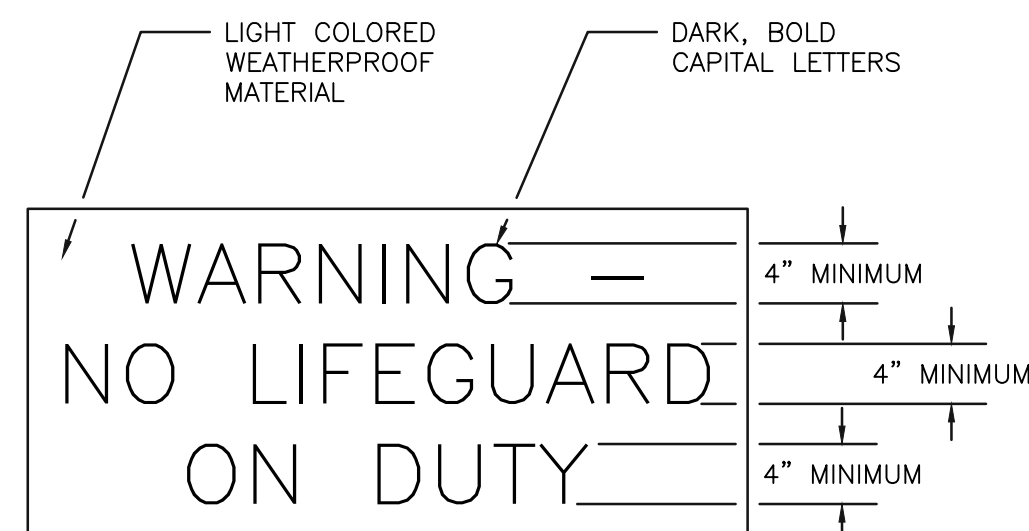
1. FENCE AND GATE TO MEET 15A NCAC 18A.2528 FENCES STANDARDS.
2. PEDESTRIAN ACCESS GATES SHALL OPEN OUTWARD AWAY FROM THE POOL AND SHALL BE SELF-CLOSING AND HAVE A SELF LATCHING DEVICE.
3. COMPLIANT PANG BAR RELEASE MECHANISM SHALL BE MOUNTED ON THE POOL SIDE OF THE GATE.
4. ACCESS TO THE POOL DECK MAY REQUIRE THE USE OF A KEY OR CARD READER AND SHALL BE ADA COMPLIANT.
5. SIZE AND SPACING OF VERTICAL FENCE POST PER FENCE MANUFACTURER'S SPECIFICATIONS FOR POOL SAFETY FENCE.
6. FOOTINGS TO BE SPECIFIED BY MANUFACTURER.
7. FENCE IS CHAIN LINK, THEN THE MAXIMUM MESH SIZE IS 2.25 INCH SQUARE.
8. CONTRACTOR TO SUBMIT SHOP DRAWINGS PRIOR TO CONSTRUCTION.
9. FINAL DESIGN AND COLOR TO BE DETERMINED.



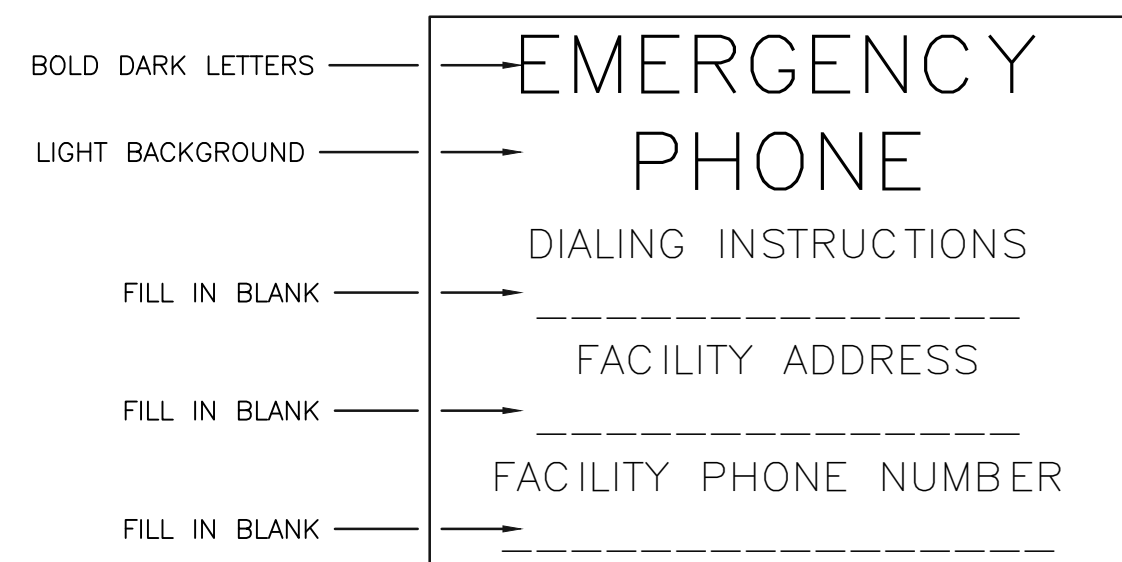
SP-11 SCALE: NTS



SP-11 SCALE: NTS

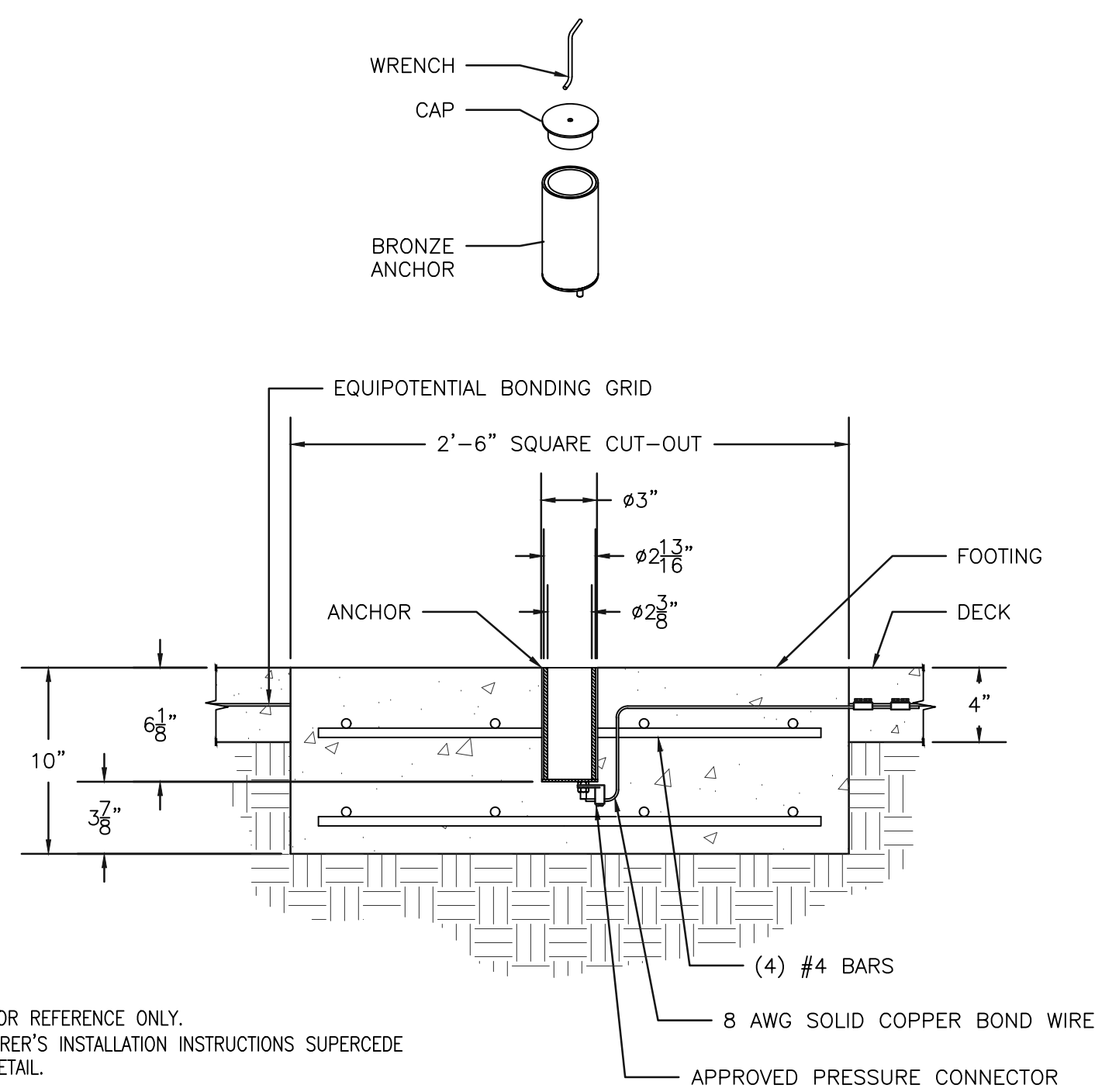


SP-11) SCAIF: NTS

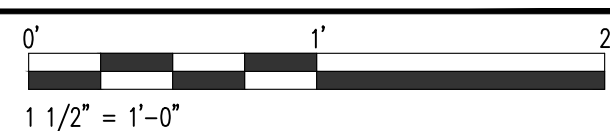


1  
SP-11

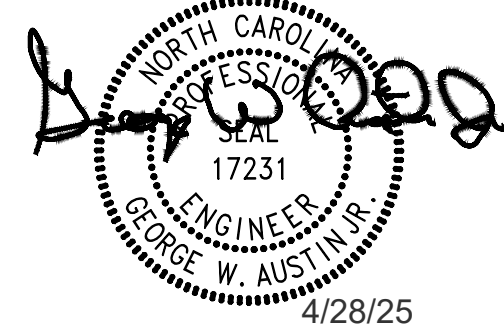
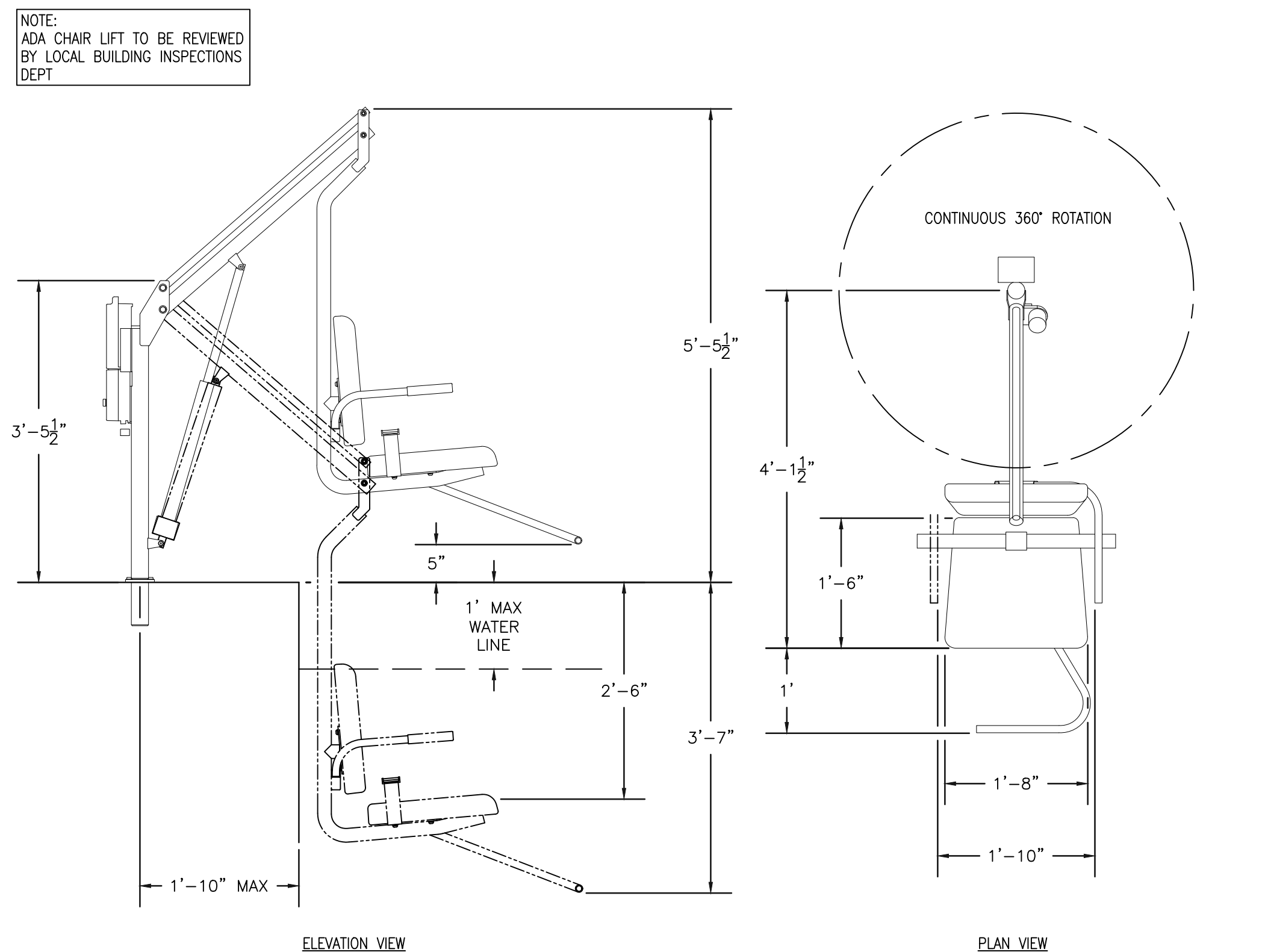
SP-11 SCALE: NTS



(SP-11) SCALE: 1 1/2"=1'



SP-11 SCALE: 3/4"=1'-0"



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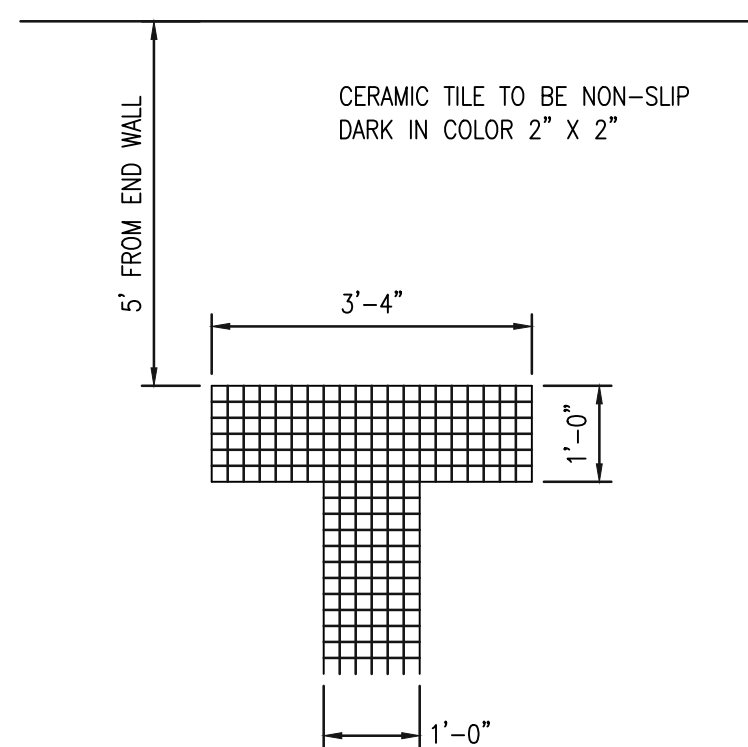
## POOL DETAILS

DATE: 01.21.25

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SP-11



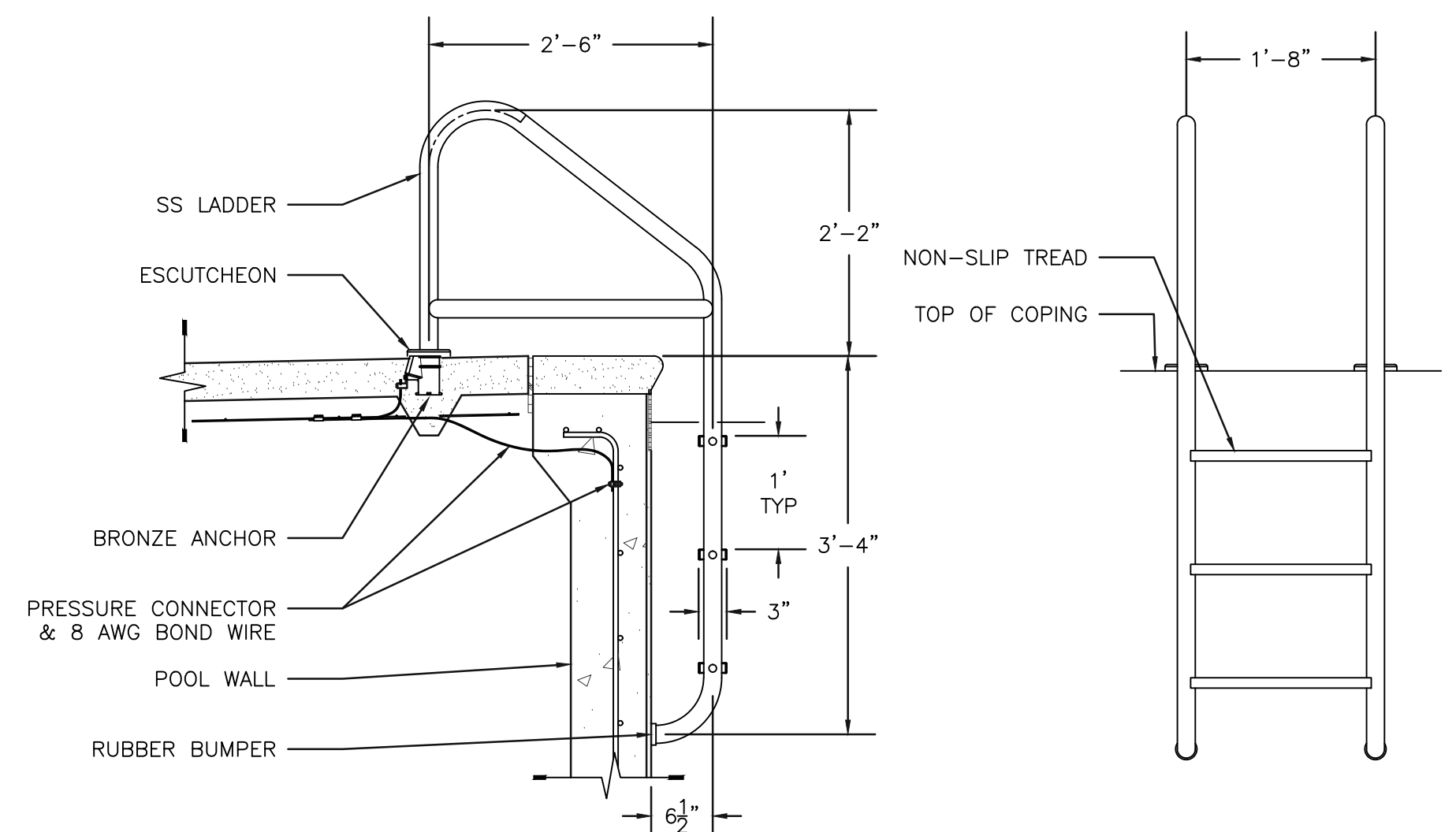
A schematic diagram showing a flow meter installed in a horizontal pipe. The flow meter is a cylindrical device with a top cap and a central body. A label 'FLOWIS FLOW METER' points to the top cap. The pipe has an arrow indicating 'FLOW' direction from left to right.

**DIGITAL FLOW METER**

SCALE: 3" = 1'-0"

0' 1'

3" = 1'-0"



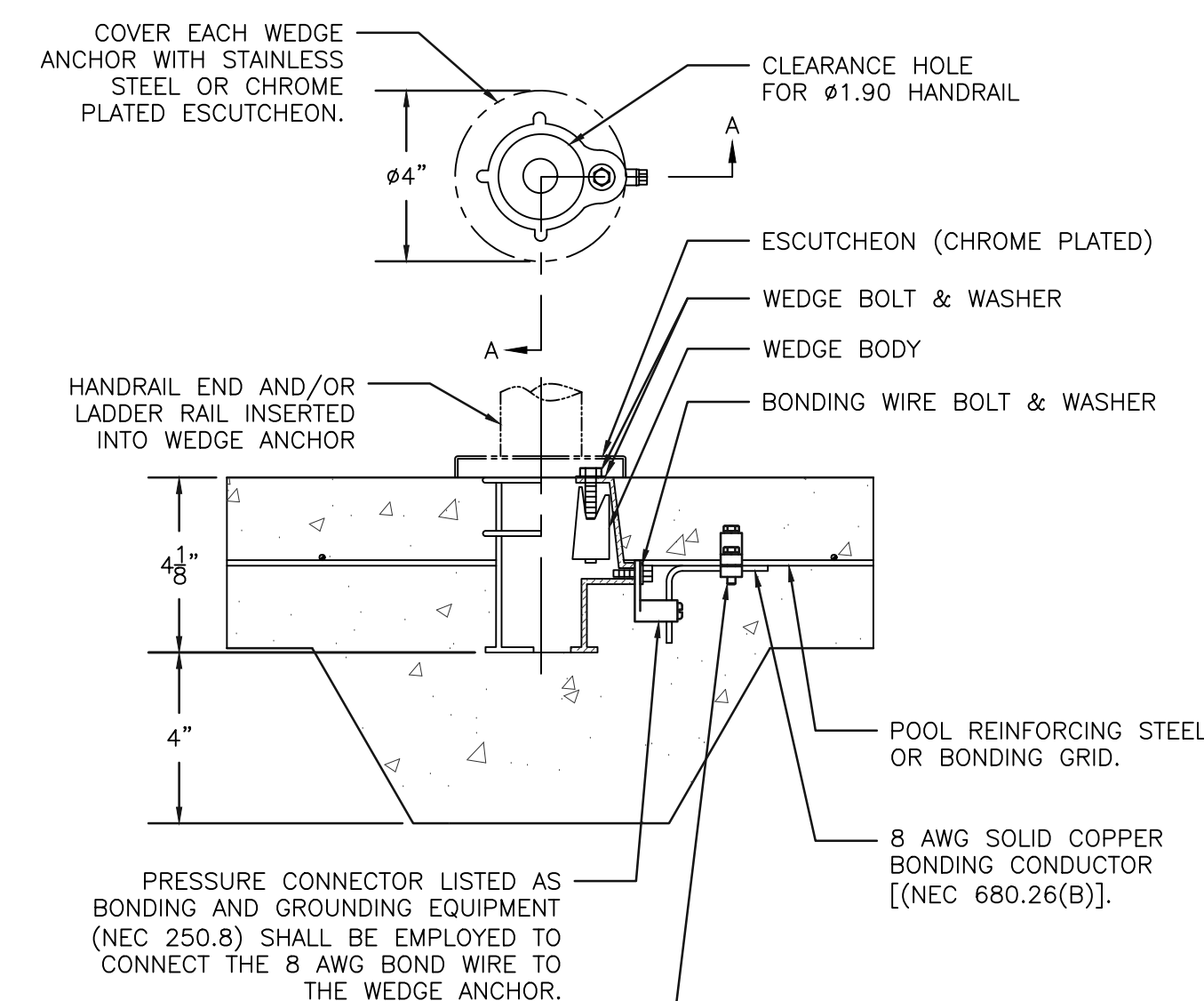
3  
SP-12

LADDER

3/4"=1'

0' 1' 2'

3/4"=1'-0"



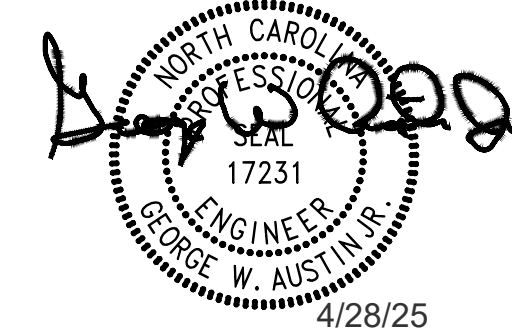
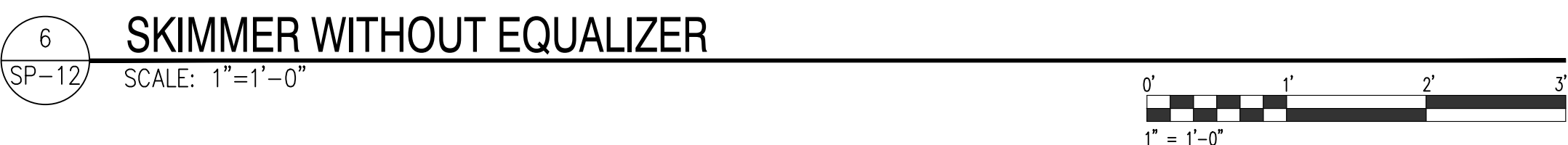
PRESSURE CONNECTOR LISTED AS BONDING  
AND GROUNDING EQUIPMENT (NEC 250.8)  
SHALL BE EMPLOYED TO CONNECT THE 8  
AWG BOND WIRE TO THE STRUCTURAL STEEL.

2  
SP-12

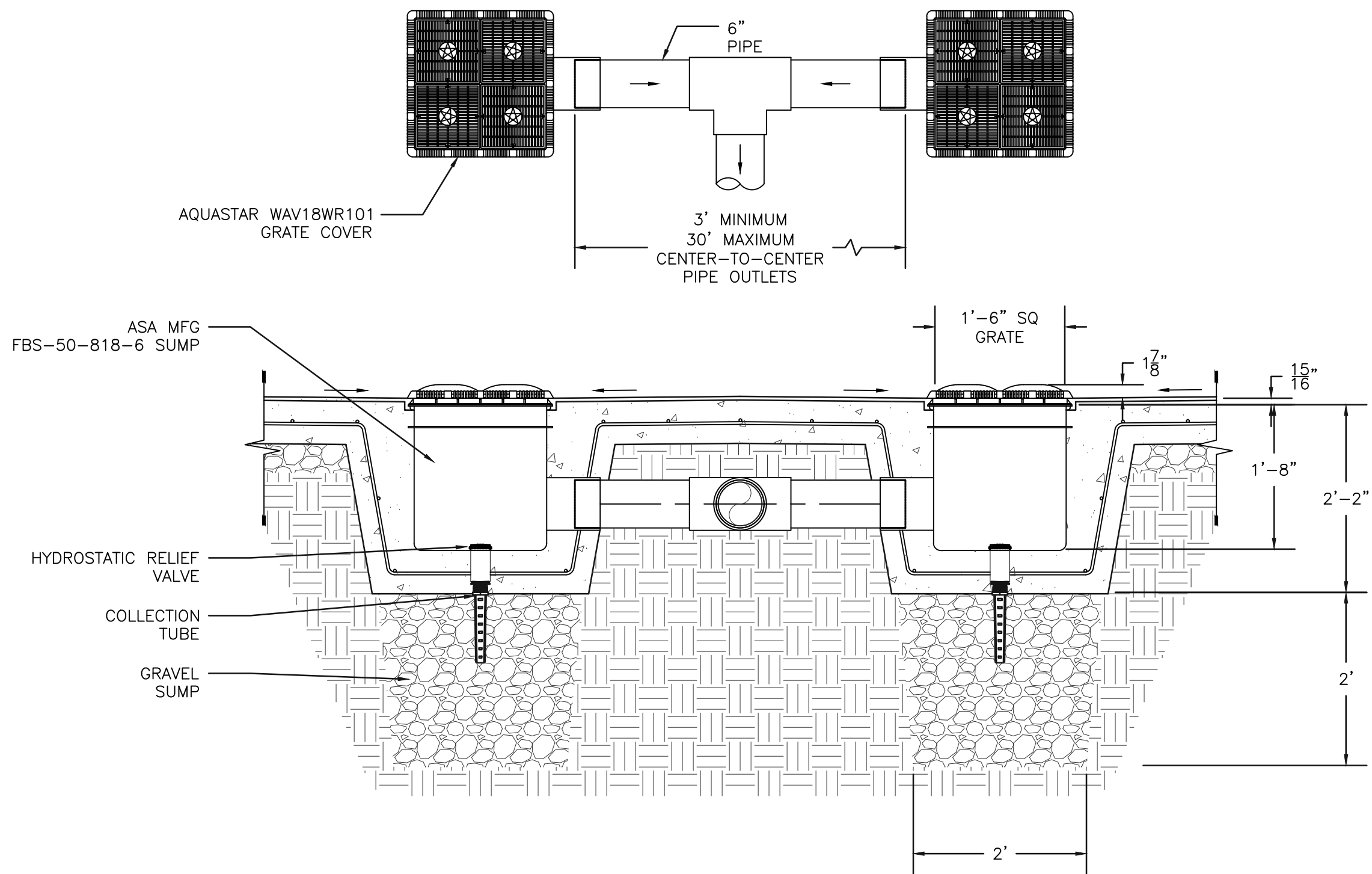
**WEDGE ANCHOR AS-100B**

SCALE: 3"=1'

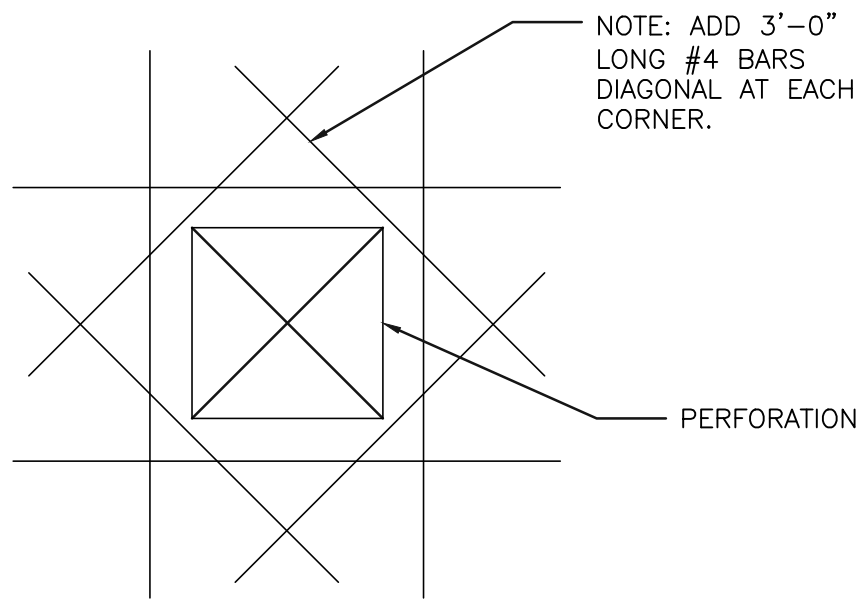
0'  
3' = 1'-0"

SP-12



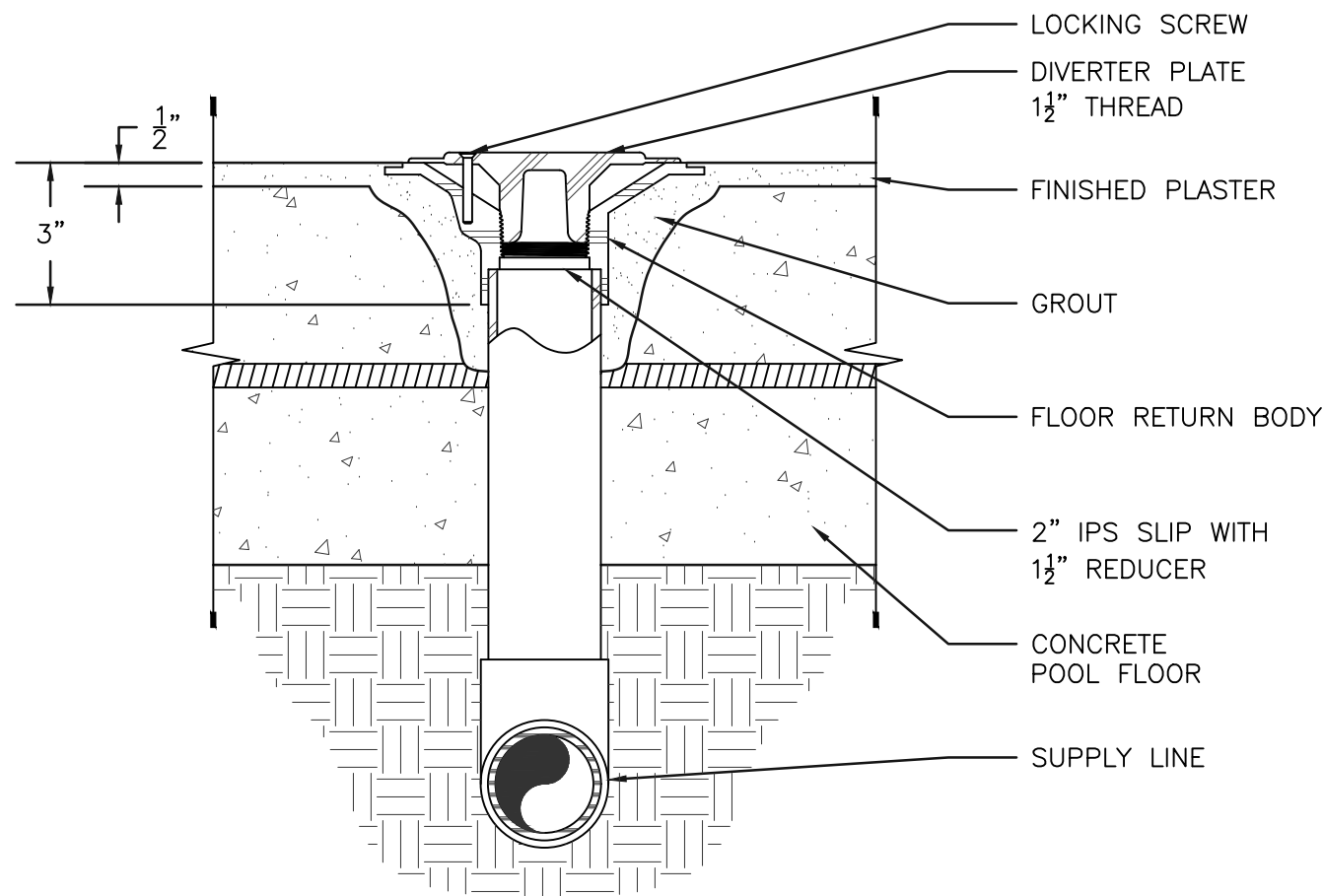


6 POOL FILTRATION DRAINS  
SCALE: 3/4"=1'

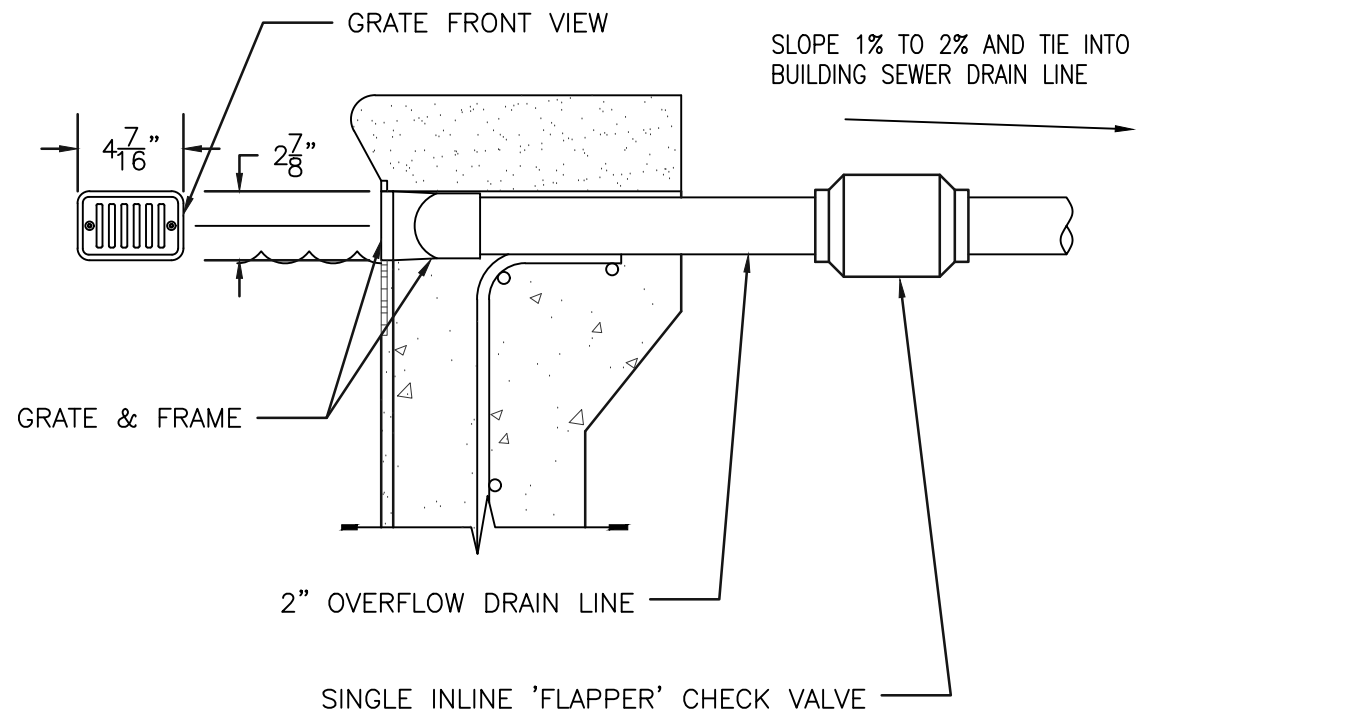


2 DIAGONAL BARS  
SCALE: NTS

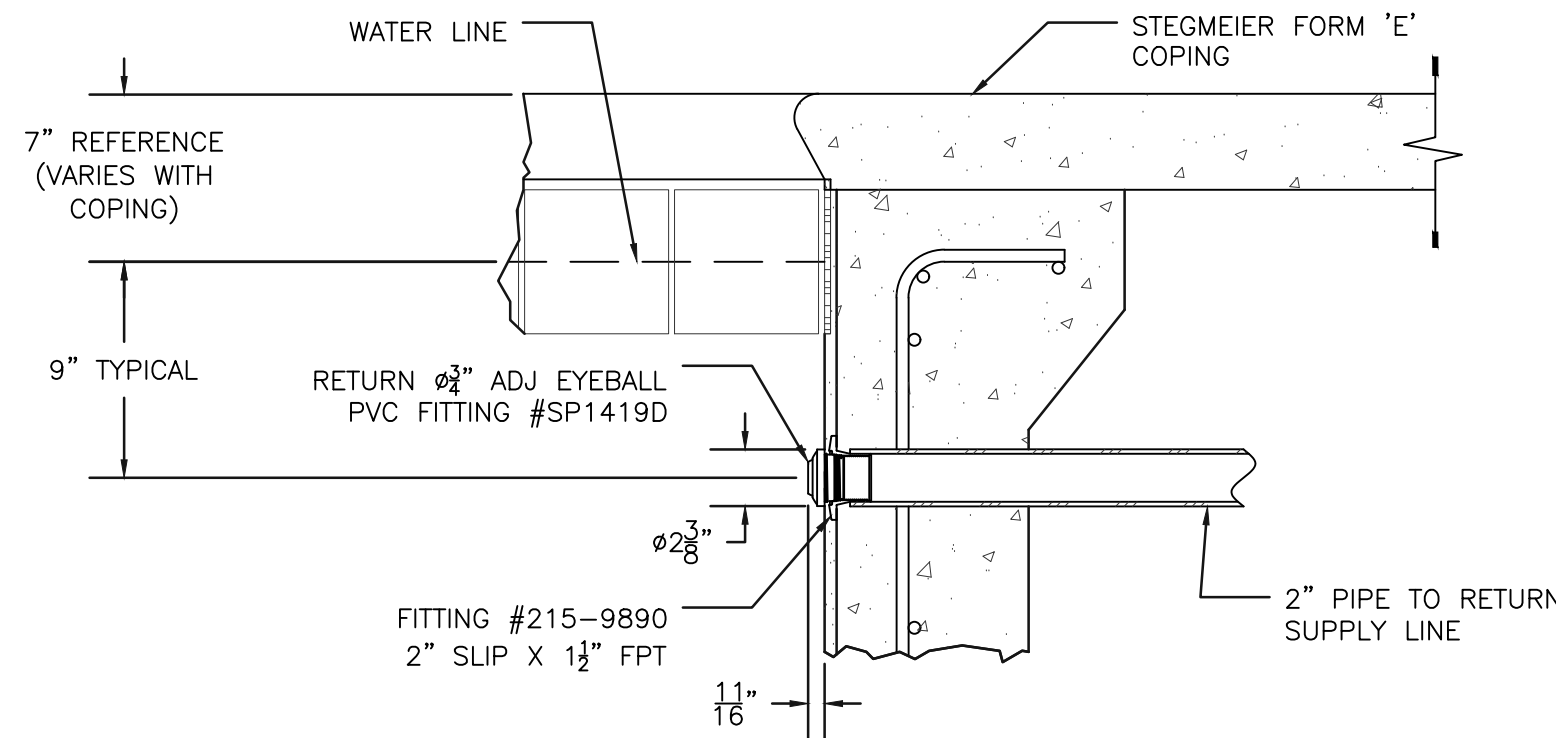
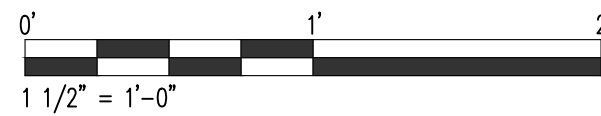
NOTE: FLOOR INLET SHALL BE INSTALLED SO THAT IT DOES NOT PROTRUDE ABOVE THE POOL FLOOR. ALL INLETS SHALL BE INSTALLED SO AS NOT TO PRESENT OR CONSTITUTE SHARP EDGES OR PROTRUSION HAZARDS TO BATHERS.



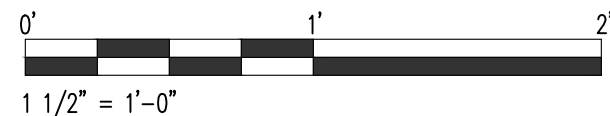
3 FLOOR RETURN DETAIL  
SCALE: 3"=1'-0"



1 OVERFLOW DETAIL  
SCALE: 1 1/2"=1'-0"

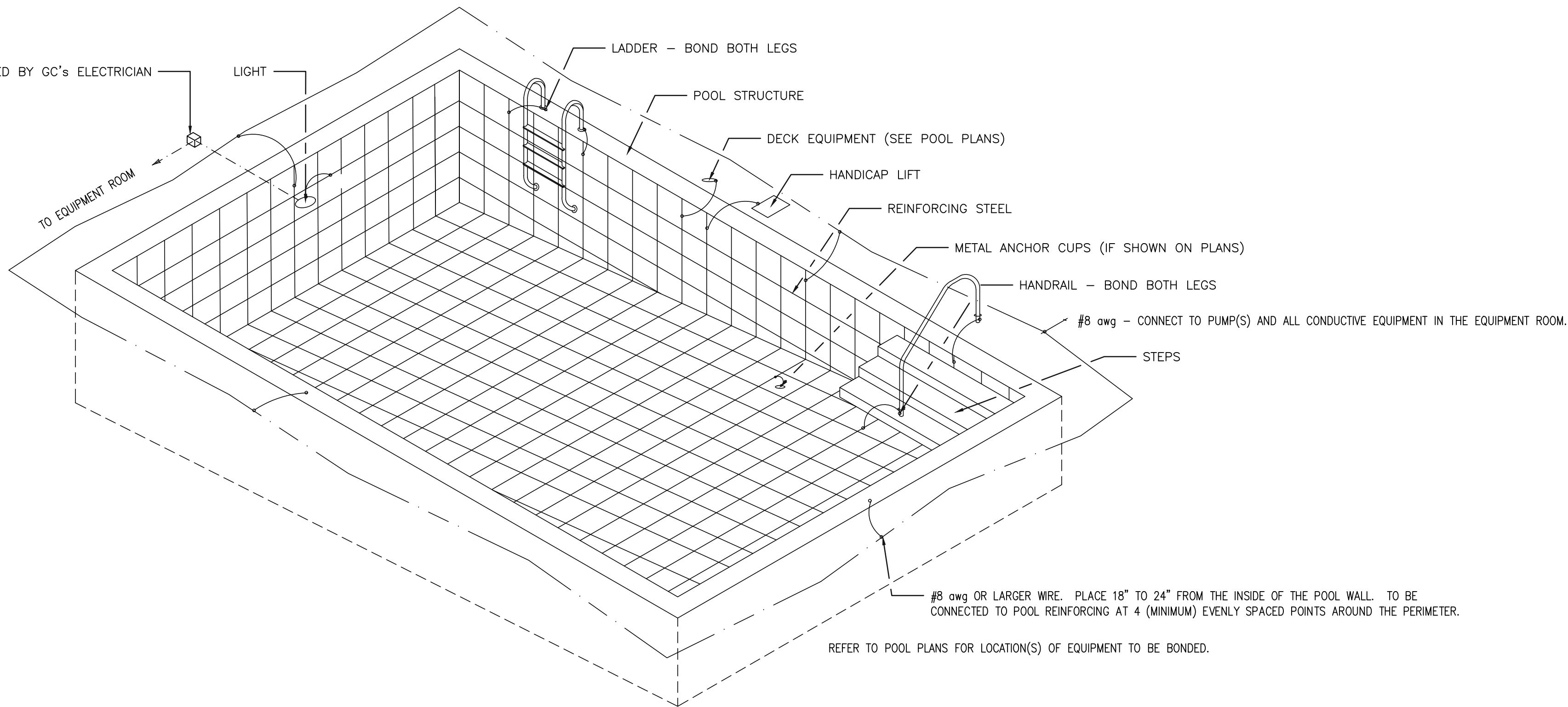
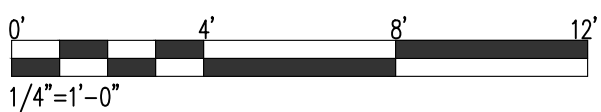


4 WALL RETURN  
SCALE: 1 1/2"=1'



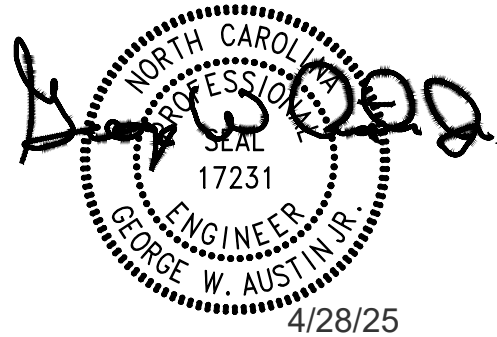
BONDING NOTES:	
1.	BONDING WIRE TO BE #8 awg OR LARGER. PLACE 18" TO 24" FROM INSIDE OF POOL WALLS.
2.	BONDING WIRE TO BE CLAMPED TO POOL STEEL IN 4 (MINIMUM) EVEN SPACES AROUND THE POOL PERIMETER.
3.	ALL BONDING TO MEET SECTION 680 OF THE CURRENT NEC CODE. BONDING WIRE TO BE #8 awg OR LARGER TO MEET THE REQUIREMENTS OF NEC SECTION 680.26(2).
4.	BONDING LUG TO BE PANDUIT COPPER PLN-4C OR EQUIV
5.	GROUNDING WIRE TO BE #8 awg OR LARGER.
6.	ANY OVERLAPS IN GROUNDING WIRES SHALL BE CLAMPED IN TWO PLACES.
7.	ALL METAL AND CONDUCTIVE EQUIPMENT SHALL BE CLAMPED TO THE BONDING GRID. LIGHT(S), NICHE(S) ABS JUNCTION BOX(ES) SHALL BE CLAMPED TO THE BONDING GRID PER CURRENT NEC CODE.
8.	ALL CONDUCTIVE EQUIPMENT IN THE POOL'S EQUIPMENT ROOM SHALL BE CLAMPED TO THE GRID PER CURRENT NEC. CODES.
9.	ALL BONDING TO BE VERIFIED AND CONNECTED BY GC'S ELECTRICIAN.
10.	VERIFY ALL BONDING REQUIREMENTS WITH LOCAL CODE OFFICIALS PRIOR TO CONSTRUCTION.
11.	GC'S ELECTRICIAN TO FURNISH, LOCATE AND INSTALL ALL J-BOXES.
12.	BONDING INCLUDES PERIMETER SURFACES EXTENDING 36" HORIZONTALLY BEYOND THE INSIDE POOL WALL. (PER NEC 680.26)

5 TYPICAL BONDING DETAIL  
SCALE: 1/4"=1'-0"



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Altis Serenity  
Harnett, NC

POOL DETAILS

DATE: 01.21.25

DRAWN BY: TDE CHECKED BY: GWA

PROJECT ID: 1074

SP-13



SCOPE OF WORK

- 1.1. THE WORK COVERED HEREIN INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT TO COMPLETE TO ACCORDANCE WITH THE PLANS AND THESE SPECIFICATIONS A COMPLETE AND OPERATIONAL STEEL REINFORCED GUNITE / SHOTCRETE PUBLIC SWIMMING POOL IN THE STATE OF NORTH CAROLINA. (RULES GOVERNING PUBLIC SWIMMING POOLS 15A NCAC 18B 0500)
- 1.2. AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS.
- 1.3. MATERIAL SOCIETY FOR TESTING AND MATERIALS (ASTM).
- 1.4. AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), CODING AND LABELING.
- 1.5. NATIONAL SANITATION FOUNDATION (NSF), SEAL OF APPROVAL PROGRAM.
- 1.6. NATIONAL ELECTRIC CODE (NEC), CURRENT EDITION.
- 1.7. UNDERWRITERS' LABORATORIES, INC. (UL).
2. GENERAL
- 2.1. THE TERM "POOLS" AS USED HEREIN SHALL BE CONSTRUED TO MEAN THE N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES FOR PUBLIC SWIMMING POOLS AND SPAS. THESE SPECIFICATIONS SHALL APPLY TO ANY AND ALL TYPES INCLUDED IN THE PROJECT UNLESS OTHERWISE NOTED.
- 2.2. THE STRUCTURAL DESIGN OF THE POOL IS BASED UPON THE ASSUMPTIONS THAT THE SITE IS NOT FILL GROUND OR EXPANSIVE SOIL. THE SOIL HAS ADEQUATE BEARING CAPACITY BEFORE AND AFTER EXCAVATION OF A MINIMUM OF 2,000 P.S.F. TO SUPPORT THE POOL. NO PRESENT OR FUTURE SURCHARGE WILL EXERT PRESSURE ON THE POOL STRUCTURE, NO SUBTERRANEAN WATER WILL BE ENCOUNTERED, NO UPWARD OR DOWNWARD SLOPE OF EXCESSING 1" RISE FALL IN 1' EXIST. MAXIMUM 20" OF THE POOL AND ALL SURFACE DRAINAGE IS DIRECTED AWAY FROM THE POOL AND DECKING.
- 2.3. NO CONCRETE, DECK TOPPING, GUNITE/SHOTCRETE OR PLASTER WORK SHALL BE PERFORMED DURING PERIODS OF INCLEMENT WEATHER, IN HIGH WIND CONDITIONS OR WHEN THE TEMPERATURE IS EXPECTED TO FALL BELOW 40 DEGREES FAHRENHEIT WITHIN THE FOLLOWING 24 HOURS.
4. IF NECESSARY, NEWLY PLACED MATERIALS SHALL BE PROTECTED FROM RAIN OR DIRT BY CANVAS OR OTHER COVER UNTIL THEY HAVE SET.
3. LAYOUT OF WORK
- 3.1. BEFORE ANY EXCAVATION OR CONSTRUCTION SHALL COMMENCE, THE POOL CONTRACTOR SHALL PLACE BATTER BOARDS PERMANENTLY LOCATING THE PERIMETER OF THE POOL AN ESTABLISHING THE FINISHED ELEVATION OF SAME.
4. BONDING AND GROUNDING
- 4.1. ALL STEEL REINFORCING, LIGHT NICHES AND OTHER METAL PARTS OF THE POOL, DECK REINFORCING, METAL DECK EQUIPMENT (I.E., LADDERS, HANDRAILS AND FILLSPOUTS) AND OTHER METAL WITHIN 5' OF THE POOL WATERS EDGE SHALL BE BONDED AND GROUNDED.
- 4.2. BONDING AND GROUNDING SHALL CONFORM TO NEC CURRENT CODE EDITION, ARTICLE 680.
5. PLACEMENT OF EMBEDDED FITTINGS AND FIXTURES
- 5.1. ALL LIGHTS AND FIXTURES TO BE EMBEDDED IN CONCRETE SHALL BE INSTALLED PRIOR TO COMMENCING STRUCTURAL CONCRETE INSTALLATION.
6. GUNITE/SHOTCRETE
- 6.1. SHOTCRETE STRUCTURED CONCRETE SHALL BE DESIGNED ACCORDING TO ACI STANDARDS TO YIELD A MINIMUM COMPRESSION STRENGTH OF 4000 PSI IN 28 DAYS.
- 6.2. INSTALLATION OF THE SHOTCRETE SHALL BE INSTALLED IN ACCORDANCE WITH ACI 506.2-95 SPECIFICATIONS.
- 6.3. THE SHOTCRETE SHEET IS PLACED ON EACH SIDE OF EVERY DEPTH MARKER TILE. DEPTH MARKER TILE SHALL BE LIGHT IN COLOR WITH A REFLECTANCE OF 55% OR GREATER.
- 6.4. ALL CORNERS AND EDGES SHALL BE ROUNDED AND SMOOTHED TO PREVENT CUTS AND ABRASIONS TO SWIMMERS.
- 6.5. ALL POOL CORNERS AND JUNCTIONS OF THE WALLS AND FLOOR SHALL BE RADIUS AS SHOWN ON THE PLANS WITH A MINIMUM 6" RADIUS.
- 6.6. THE STRUCTURE SHALL BE WATER CURED BY WATER SPRAY AT LEAST TWICE DAILY FOR A MINIMUM OF SEVEN DAYS.

**POOL REGULATIONS**

1. WATER LINE TILE
- 1.1. A MINIMUM 6" TALL BAND OF GLAZED, FROST PROOF CERAMIC TILE SHALL BE PLACED AROUND THE ENTIRE POOL PERIMETER AT THE NORMAL WATER LINE. THE TILE SHALL BE IN COMPLIANCE WITH ONE OF THE FOLLOWING ALTERNATIVES:
  - 1.1.1. THE TILE SHALL BE LIGHT IN COLOR WITH A REFLECTANCE OF 55% OR GREATER.
  - 1.1.2. MULTICOLORED TILE MAY BE USED IF A SINGLE 6" X 6" LIGHT COLORED TILE WITH A REFLECTANCE OF 55% OR GREATER IS PLACED ON EACH SIDE OF EVERY DEPTH MARKER TILE. DEPTH MARKER TILE SHALL BE LIGHT IN COLOR WITH A REFLECTANCE OF 55% OR GREATER.
- 1.2. TILE SHALL BE PLACED ON THE SIDE AND BOTTOM OF SKIMMER THROAT NICHES.
- 1.3. THE TILE SHALL BE INSTALLED STRAIGHT, LEVEL, AND TRUE TO LINE IN A FULL BED OF CEMENT MORTAR.
- 1.4. GROUT FOR THE TILE SHALL BE ONE PART WHITE PORTLAND CEMENT AND TWO PARTS GREY MARBLE WHITE POOL MIX.
2. DEPTH MARKERS
- 2.1. PERMANENT DEPTH MARKERS SHALL BE PLACED IN THE TILE LINE AND ON THE DECK ADJACENT TO THE POOL AT LOCATIONS INDICATED ON THE PLANS.
- 2.2. DEPTH MARKERS SHALL BE WHITE IN COLOR, WITH DARK NUMERALS 4" MINIMUM HIGH AND HAVE THE ABBREVIATION "FT" FOLLOWING THE NUMBER. LETTERS SHALL ALSO BE 4" HIGH.
- 2.3. BACKGROUND COLOR OF WATER LINE TILE SHALL BE WHITE IN COLOR.
- 2.4. DEPTH MARKERS ON THE POOL DECK SHALL BE NON-SLIP AND POSITIONED SO AS TO BE READ WHILE FACING THE POOL.
- 2.5. DEPTH MARKER MAXIMUM SPACING SHALL BE 25 FEET BETWEEN ADJACENT MARKERS AS MEASURED ALONG THE PERIMETER OF THE POOL.
3. NO DIVING MARKER TILES
- 3.1. THE TILES SHALL BE AS FOLLOWS:
  - 3.1.1. PLACED IN THE DECK ADJACENT TO DEPTH MARKERS AROUND THE POOL AS INDICATED ON THE PLANS.
  - 3.1.2. HAVE NON-SLIP FINISH AND THE BACKGROUND SHALL BE LIGHT IN COLOR.
  - 3.1.3. THE INTERNATIONAL NO DIVING SYMBOL AND WORDING "NO DIVING", IN BLACK OR OTHER DARK CONTRASTING COLOR, SHALL BE INCORPORATED ON THE MARKER FOR DEPTHS OF FIVE FEET OR LESS.
  - 3.1.4. POSITION THE MARKERS TO BE READ WHILE FACING THE POOL.
4. SAFETY ROPE AND FLOATS
- 4.1. A SAFETY ROPE SHALL BE PROVIDED AT THE BREAKPOINT WHERE THE SLOPE OF THE BOTTOM CHANGES TO EXCEED A 1 TO 10 VERTICAL RISE TO HORIZONTAL DISTANCE AT A WATER DEPTH OF FIVE FEET (1.5M) OR LESS.
- 4.2. THE LIFELINE SHALL BE MADE OF 3/4" DIAMETER POLYETHYLENE WITH 5" TO 9" SOFT PLASTIC FLOATS PLACED AT NOT MORE THAN 5' INTERVALS AND CLAMP TYPE CPB HOOKS ON EACH END.
- 4.3. ANCHORS FOR THE LIFELINE SHALL BE COMPLETELY RECESSED IN THE POOL WALL.
- 4.4. A PERMANENT NON-SLIP BLACK OR DARK COLORED TILE STRIPE SHALL BE INCORPORATED IN THE FLOOR AND THE WALLS OF THE POOL TO MARK THE TRANSITION POINT. THIS TILE STRIPE SHALL BE A MINIMUM OF 2" AND A MAXIMUM 6" WIDE.
5. DRAINING OF POOL
- 5.1. AFTER COMPLETION, THE POOL SHALL BE KEPT FULL OF WATER AT ALL TIMES EXCEPT FOR REQUIRED CLEANING OR REPAIR.
- 5.2. DRAINING OF THE POOL SHALL BE PERFORMED BY, OR UNDER THE DIRECT SUPERVISION OF AN EXPERIENCED POOL BUILDER OR AN EXPERIENCED SERVICE TECHNICIAN ONLY.
- 5.3. WADING POOLS, KIDDEE POOLS, SPRAY POOLS, SPRAY DECKS, WET DECKS, TREATMENT POOLS, HEALTH SPA POOLS, HOT TUBS AND THERAPY POOLS SHALL BE PROVIDED WITH MEANS OF COMPLETELY DRAINING WITHOUT THE WATER PASSING THROUGH THE FILTER(S).
6. PIPE AND FITTINGS
- 6.1. ALL PLUMBING LINES FOR THE POOL SHALL BE OF SCHEDULE 40 PVC.
- 6.2. EACH PIPE SECTION AND FITTING SHALL BEAR THE NSF SEAL.
7. PIPE FITTING AND INSTALLATION
- 7.1. PIPE LINES SHALL BE CONSTRUCTED OF FULL LENGTH SECTIONS INASMUCH AS POSSIBLE.
- 7.2. PIPE SHALL BE STRAIGHT AND TRUE, SPRINGING OR FORCING INTO PLACE SHALL NOT BE PERMITTED.
- 7.3. THE REMOVING OF JOINTS SHALL NOT BE PERMITTED.
- 7.4. JOINTS SHALL BE SMOOTH AND UNOBSTRUCTED INSIDE AND CUT PIPE ENDS SHALL BE THOROUGHLY REAMED.
- 7.5. SCREW JOINTS SHALL BE MADE TIGHT WITH TONGS OR WRENCHES.
- 7.6. PIPE RUNS AND CONNECTIONS SHALL BE CAREFULLY MADE TO INSURE UNRESTRICTED FLOW, ELIMINATE AIR POCKETS, AND PERMIT COMPLETE DRAINAGE OF THE PLUMBING SYSTEM FOR WINTERIZATION INsofar AS POSSIBLE.
- 7.7. ENDS AND OPENINGS IN ALL PIPE AND FITTINGS SHALL BE CAPPED OR PLUGGED IMMEDIATELY TO EXCLUDE DIRT DURING CONSTRUCTION.
- 7.8. PIPE SIZE REDUCTIONS SHALL BE MADE BY REDUCING FITTINGS. BUSHINGS SHALL NOT BE USED UNLESS REDUCING FITTINGS ARE NOT AVAILABLE.
- 7.9. ALL PIPING SHALL BE ADEQUATELY SUPPORTED TO PRECLUDE ANCHOR SETTLEMENT.
- 7.10. GRAVITY WASTE LINE SHALL SLOPE 1/4" PER FOOT TOWARD DISCHARGE POINT.
- 7.11. PRESSURE AND SUCTION LINES SHALL HAVE A UNIFORM SLOPE IN A DIRECTION OF NOT LESS THAN 3" IN 100 FT. AND INSTALLED AS TO BE ABLE TO COMPLETELY DRAIN OF WATER FOR WINTERIZATION.
- 7.12. ALL ABOVE GRADE PIPE LOCATED IN THE EQUIPMENT ROOM SHALL BE MARKED WITH DIRECTIONAL FLOW ARROWS.
8. PIPE TESTING
- 8.1. ALL PIPE RECOUPRATION PIPE LINES SHALL BE TESTED AND MADE TIGHT AT A MINIMUM PRESSURE OF 30 PSI OR 1-1/2 TIMES THE NORMAL OPERATING PRESSURE ON THE RETURN LINE (WHICHEVER IS GREATER) PRIOR TO BEING COVERED BY EARTH, DECK OR POOL STRUCTURE.
- 8.2. GRAVITY DRAIN LINES SHALL BE TESTED STATICALLY.
- 8.3. LEAKING PIPE OR FITTINGS SHALL BE REMADE AND RE-TESTED.
- 8.4. PRESSURE SHALL REMAIN ON PIPE LINES DURING ALL PHASES OF CONSTRUCTION AND SHALL ONLY BE RELIEVED AT THE TIME OF FILTRATION EQUIPMENT INSTALLATION.
9. WASTE WATER
- 9.1. ALL WASTE LINES SHALL BE RUN TO A LOCATION THAT IS APPROVED BY THE LOCAL ENVIRONMENTAL QUALITY

CONTROL OFFICER.

9.2. THERE SHALL BE NO CROSS-CONNECTION BETWEEN ANY WASTE LINES AND POOL PLUMBING.

10. HANDHOLD

10.1. POOLS WITH A WATER DEPTH OF 3'-0" OR GREATER SHALL BE PROVIDED WITH A SUITABLE HANDHOLD AROUND THE ENTIRE PERIMETER. SEE PLANS FOR HANDHOLD SPECIFICATIONS.

11. CONCRETE DECKING BY DECK CONTRACTOR

11.1. CONCRETE FOR THE DECKING SHALL BE DESIGNED ACCORDING TO ACI STANDARDS TO YIELD A MINIMUM COMPRESSION STRENGTH OF 3,000 PSI IN 28 DAYS.

11.2. THE DECK SHALL BE LIGHT IN COLOR WITH A REFLECTANCE OF 55% OR GREATER, RECEIVE A NON-SLIP FINISH, SLOPE 1/4" TO 1/2" MAXIMUM PER FOOT AWAY FROM THE POOL.

11.3. ALL PERIMETER EDGES OF DECKING SHALL BE RBEVELED WITH A 1/2" RADIUS.

11.4. NO CARPET OR WOOD DECKING SHALL BE PLACED WITHIN THE REQUIRED MINIMUM DECK WIDTHS.

11.5. POOL SIDE TABLES AND CHAIRS OR OTHER EQUIPMENT SHALL NOT OBSTRUCT THE DECK AREAS WITHIN THE MINIMUM REQUIRED WIDTHS; INDOOR POOLS: 5 FT OF CLEAR WALKING SPACES.

11.6. CONTROL JOINTS & DETAILS BY OTHERS

12. INTERIOR FINISH

12.1. THE INTERIOR FINISH SHALL BE OF WHITE CEMENT PLASTER CONSISTING OF 1 PART WHITE PORTLAND CEMENT, 2 PARTS GEORGIA MARBLE WHITE POOL MIX AND POTABLE WATER (FINISH MAY BE WHITE OR LIGHT COLORED MATERIAL).

12.2. INTERIOR SURFACES OF THE POOL SHALL BE THOROUGHLY CLEANED OF DUST, OIL, DIRT, PAINT, REBOUND OR OTHER LOOSE MATERIAL BEFORE APPLICATION OF ANY SUCCEEDING PLASTER COATS. THE SURFACES SHALL BE WASHED DOWN WITH A DILUTE MIXTURE OF MURIATIC ACID AND WATER. AFTER ACID WASHING, A SOLUTION OF SODA ASH AND WATER SHALL BE SPREAD OVER THE ENTIRE INTERIOR SURFACE TO NEUTRALIZE THE ACID.

12.3. THE WHITE PLASTER SHALL BE MINIMUM OF 3/8" IN THICKNESS, APPLIED MONOLITHICALLY TO WALLS AND FLOOR IN 2 COATS, FLOATED TO A UNIFORM PLANE AND TROWELED TO A DENSE, MODERATELY SMOOTH, NON-SLIP SURFACE EXERCISING CARE TO AVOID STAINS AND TROWEL BURNS.

12.4. WHEN PLASTERING OF THE POOL AS SOON AS PLASTER HAS DRIED SUFFICIENTLY AS TO NOT BE DAMAGED AS THE WATER SHALL NOT BE SHUT OFF UNTIL IT HAS REACHED THE CENTER OF THE WATER LINE TILE.

12.5. ALL CORNERS AND EDGES SHALL BE SMOOTHED AND ROUNDED TO PREVENT CUTS AND ABRASIONS TO SWIMMERS.

12.6. PLASTER SHALL BE SPRAYED WITH WATER AS MANY TIMES DAILY AS REQUIRED TO PREVENT DRYING TOO RAPIDLY.

12.7. PLASTER SHALL HAVE REFLECTANCE GREATER THAN 50%.

13. DECK DRAINS

13.1. IF DECK DRAINS ARE SHOWN ON THE PLANS, ALL DISCHARGE SHALL BE TO WASTE OR APPROVED DISCHARGE LOCATION.

13.2. DECK DRAIN GRATES SHALL BE REMOVABLE TO FACILITATE CLEANING.

13.3. THERE SHALL BE NO CROSS-CONNECTION BETWEEN DECK DRAINS AND POOL PLUMBING.

14. WATER SUPPLY

14.1. WATER FOR POOL(S), SPA(S), DRINKING FOUNTAIN, SHOWERS, FOOT SHOWERS, HOSE BIBBS AND MINIMUM TOILET FACILITIES OR BATH HOUSE SHALL BE FROM AN APPROVED SOURCE.

14.2. WHEN A MANUAL SAND FILTER IS USED A FILL VALVE ASSEMBLY IS LOCATED BESIDE THE FILTER. THE FILL WATER TO FLOW INTO THE FILTER WITH A MINIMUM 6" AIR GAP THROUGH A MANUAL OR AUTOMATIC VALVE.

14.3. WHEN A PRESSURE SAND FILTER IS USED, AN APPROVED DOUBLE CHECK VALVE ASSEMBLY IN THE PLUMBING LINE SUPPLYING WATER TO THE POOL SHALL BE USED. THE DEVICE SHALL BE INSTALLED IN A LOCATION WHICH IS READILY ACCESSIBLE FOR VISUAL INSPECTION AND FOR TESTING, REPLACEMENT AND / OR REPAIR. THE ASSEMBLY SHALL BE TESTED BY A CERTIFIED TESTER AFTER INSTALLATION AND BEFORE USE. THE MAINTENANCE PERSONNEL OR WATER UTILITY WHICH SUPPLIES THE FACILITY SHALL BE PROVIDED A COPY OF THE TEST RESULTS.

15. EQUIPMENT AND ACCESSORIES INSTALLATION

15.1. ALL EQUIPMENT AND ACCESSORIES, INCLUDING, BUT NOT LIMITED TO PUMPS, FILTERS, CHORINATORS, HEATERS AND FLOW METERS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THEIR RESPECTIVE MANUFACTURER'S RECOMMENDATIONS.

16. PUMP(S)

16.1. THE PUMP SHALL BE FULL-RATED AND DESIGNED TO DELIVER THE REQUIRED FLOW RATE AT THE TOTAL DYNAMIC HEAD OF 65 FT.

16.2. WHEN A PRESSURE SAND FILTER IS USED, EACH PUMP SHALL BE EQUIPPED WITH A HAIR AND LINT STRAINER FURNISHED WITH NON-CORROSIIVE STRAINER BASKETS.

16.3. UNIONS OR CHECK VALVES SHALL BE INSTALLED ON THE INFLUENT AND EFFLUENT SIDE OF EACH PUMP FOR EASE OF SERVICE AND/OR REPLACEMENT.

16.4. WHERE MULTIPLE PUMPS ARE REQUIRED ON ONE SYSTEM, THEY SHALL BE INSTALLED IN PARALLEL AND HAVE A CHECK VALVE LOCATED ON THE EFFLUENT SIDE OF EACH PUMP. FURTHER, MULTIPLE PUMPS SHALL BE ELECTRICALLY WIRED AS A SINGLE UNIT SO THEY CANNOT BE OPERATED INDEPENDENTLY.

16.5. AN ON/OFF SWITCH OR STARTER SHALL BE PLACED ON THE WALL WITHIN ARMS REACH OF THE PUMP(S). USE OF A CIRCUIT BREAKER TO TURN PUMPS(S) ON AND OFF SHALL NOT BE PERMITTED.

16.6. PUMPS AND MOTORS UNDER 5 HP SHALL BE ON A GFI BREAKER AND BE NSF SD 50 OR EQUIVALENTLY APPROVED.

17. FILTER(S)

17.1. THE FILTER(S) SHALL BE LISTED BY AND BEAR THE NSF SEAL.

17.2. MANUAL AND INTERNAL AIR RELIEF SHALL BE PROVIDED FOR EACH FILTER.

17.3. WHERE MULTIPLE FILTERS ARE PROVIDED ON ONE SYSTEM, THEY SHALL BE INSTALLED IN PARALLEL.

17.4. A PRESSURE GAUGE(S) SHALL BE REQUIRED FOR EACH FILTER FOR DETERMINING THE NEED FOR BACKWASHING OR CLEANING FILTER(S).

17.5. A SIGHT GLASS SHALL BE PROVIDED TO DETERMINE WHEN THE BACKWASH WATER IS CLEAR. THE SIGHT GLASS IS NOT REQUIRED ON INSTALLATION WITH CARTRIDGE TYPE FILTER(S).

18. BACKWASH DISPOSAL

18.1. BACKWASH OR OTHER WASTE WATER FROM THE RECIRCULATION / FILTRATION SYSTEM SHALL BE PIPED TO A STORM DRAIN, DISPOSAL PIT, TILE FIELD OR OTHER DISPOSAL METHOD APPROVED BY THE S.C. HEALTH DEPARTMENT.

18.2. A MINIMUM 6" AIR GAP SHALL BE PROVIDED AND MAINTAINED BETWEEN THE BACKWASH /WASTE PIPE AND THE DISCHARGE POINT.

18.3. THERE SHALL BE NO CROSS-CONNECTION BETWEEN THE BACKWASH / WASTE LINE AND THE POOL PLUMBING

19. HALOGEN FEEDER

19.1. NSF LISTED HALOGEN DISINFECTANT FEEDER(S) WITH RATE OF FLOW INDICATOR SHALL BE PROVIDED.

19.2. FEEDERS SHALL BE EQUIPPED WITH THE MEANS OF ADJUSTING FEED RATE.

19.3. THE CONTROL POINT FOR THE HALOGEN DISINFECTANT SHALL BE LOCATED DOWNSTREAM OF ALL EQUIPMENT.

20. AUTOMATIC CONTROLLERS

20.1. IF REQUIRED (WATER SLIDES, WAVE POOLS, RAPID RIDES, LAZY RIVERS AND OTHER SIMILAR FEATURES), POOLS SHALL BE EQUIPPED WITH AUTOMATIC CONTROL SYSTEM TO PROVIDE ADEQUATE FEED RATE OF HALOGEN AND PH ADJUSTING CHEMICALS IN ORDER TO KEEP THE DISINFECTANT AND PH AT REQUIRED LEVELS ON A CONTINUOUS DEMAND BASIS.

20.2. A WARNING LIGHT OR OTHER INDICATOR SHALL BE PROVIDED IN A VISIBLE LOCATION FOR SUPERVISORY CONTROL. THE WARNING INDICATOR SHALL INDICATE ABSENCE OF CHEMICALS IN FEEDERS OR VATS, IMPROPER ADJUSTMENT OF CHEMICAL DOSAGE, OR OTHER MECHANICAL OR OPERATIONAL MALFUNCTIONS.

20.3. THE CONTROLLER SHALL BE DIRECTLY WIRED TO THE FLOW SWITCH AND RECIRCULATION PUMP SUCH THAT WHEN AN EXHAUSTION FLOW STOPS, THE CHEMICAL PUMPS ARE SWITCHED OFF.

20.4. THE CONTROLLER SHALL BE INSTALLED AND OPERATED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

21. FLOW METER

21.1. A FLOW METER (RATE OF FLOW INDICATOR) SHALL BE PROVIDED IN THE RETURN LINE.

21.2. THE METER SHALL BE PLACED IN A STRAIGHT, LEVEL SECTION OF PIPE WITH A MINIMUM OF 10 I.D. PIPE DIAMETERS UPSTREAM AND 4 I.D. PIPE DIAMETERS DOWNSTREAM OF ANY VALVE, FITTING OR OTHER TURBULENCE CREATING DEVICE / ITEM.

22. GAS FIRED HEATERS

22.1. HEATERS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND LOCAL BUILDING CODES TO INSURE PROPER VENTILATION.

22.2. THE HEATER MUST NOT AFFECT THE MINIMUM REQUIRED DESIGN FLOW RATE.

22.3. HEATERS SHALL BE EQUIPPED WITH A TEMPERATURE LIMITING DEVICE RESTRICTING THE MAXIMUM WATER TEMPERATURE TO 104 DEGREES FAHREHMIT FOR SPAS AND 90 DEGREES F. FOR SWIMMING POOLS.

22.4. TEMPERATURE CONTROLS SHALL ONLY BE ACCESSIBLE TO THE POOL OPERATOR.

23. FENCES

23.1. PUBLIC SWIMMING POOL SHOULD BE COMPLETELY ENCLOSED BY A FENCE, WALL, BUILDING, OR OTHER ENCLOSURE, OR A COMBINATION THEREOF, WHICH ENCLOSES THE SWIMMING POOL AREA SUCH THAT ALL CONDITIONS ARE MET.

23.2. CHECK THE LOCAL CODES ON THE HEIGHT OF THE FENCE 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 2 INCHES MEASURED ON THE SIDE OF THE BARRIER THAT FACES AWAY FROM THE SWIMMING POOL.

23.3. OPENINGS IN THE BARRIER SHALL NOT ALLOW PASSAGE OF A 4 INCH DIAMETER SPHERE AND SHALL PROVIDE NO EXTERNAL HAND HOLDS OR FOOTHOLDS.

23.4. 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 4 INCHES.

23.5. ACCESS GATES SHALL COMPLY WITH DIMENSIONAL REQUIREMENTS FOR FENCES AND SHALL BE EQUIPPED TO ACCORDANCE WITH A LOCKING DEVICE.

23.6. GATES SHALL OPEN AWAY FROM THE POOL AND SHALL BE SELF-CLOSING.

23.7. 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.

24. EQUIPMENT ROOM

21. THE OWNER SHALL PROVIDE A WEATHERPROOF EQUIPMENT ROOM OF SUBSTANTIAL AND ENDURING CONSTRUCTION.

22. THE ROOM SHALL HAVE A MINIMUM CEILING HEIGHT OF 7'-0" AND A STANDARD SIZE LOCKING ENTRANCE DOOR.

23. ADEQUATE LIGHTING SHALL BE PROVIDED TO ALLOW THE OPERATOR TO SEE ALL GAUGES AND CONTROL DEVICES.

24. VALVES AND CONTROL DEVICES SHALL BE VISIBLE TO THE OPERATOR WITH THREE FEET CLEAR WALKWAY SPACE FOR ACCESSIBILITY.

25. THE FLOOR SHALL BE SLOPED 1/4" PER FOOT MINIMUM AND INCLUDE NECESSARY SUMPS AND FLOOR DRAINS.

26. THE ROOM SHALL HOUSE NECESSARY POOL MECHANICAL EQUIPMENT, STORAGE OF ANY OTHER MATERIALS OR EQUIPMENT SHALL NOT BE PERMITTED. ELECTRICAL PANELS, SWITCHES, OR CONTROLS NOT PERTINENT TO THE OPERATION OF THE POOL SHALL NOT BE LOCATED IN THE EQUIPMENT ROOM.

27. NATURAL CROSS DRAFT OR CONTINUOUS FORCED VENTILATION SHALL BE PROVIDED.

28. A HOSE BIBB WITH AN APPROVED BACKFLOW PREVENTION DEVICE SHALL BE LOCATED WITHIN 50 FEET OF THE EQUIPMENT ROOM.

29. CHEMICAL STORAGE

29.1. THE OWNER SHALL PROVIDE A DRY, WEATHERPROOF POOL CHEMICAL STORAGE ROOM SEPARATE FROM THE EQUIPMENT ROOM.

29.2. THE ROOM SHALL HAVE A MINIMUM CEILING HEIGHT OF 7'-0" AND A STANDARD SIZE LOCKING ENTRANCE DOOR.

29.3. ADEQUATE LIGHTING SHALL BE PROVIDED.

29.4. NATURAL CROSS DRAFT OR CONTINUOUS FORCED VENTILATION IS REQUIRED.

29.5. POOL CHEMICALS TO BE STORED IN WATERPROOF CONTAINERS OR ABOVE THE FLOOR ON SHELVES, PALLETS, OR DOLLIES.

29.6. NO ELECTRICAL PANELS, SWITCHES, CONTROLS OR MECHANICAL EQUIPMENT SHALL BE PLACED IN THE ROOM.

30. RETURN INLETS

30.1. INLETS SHALL BE PROVIDED AND ARRANGED TO PRODUCE A UNIFORM CIRCULATION OF WATER AND MAINTAIN A UNIFORM DISINFECTANT RESIDUAL THROUGHOUT THE POOL.

30.2. THE NUMBER OF INLETS FOR ANY SWIMMING POOL SHALL BE DETERMINED BASED ON RETURN WATER FLOW. THERE SHALL BE AT LEAST ONE INLET PER 20 GALLONS PER MINUTE OF RETURN WATER FLOW. THERE SHALL BE A MINIMUM OF FOUR INLETS FOR ANY SWIMMING POOL.

30.3. INLETS SHALL BE LOCATED SO THAT NO PART OF THE SWIMMING POOL IS MORE THAN 25 FEET OF HORIZONTAL DISTANCE FROM THE NEAREST RETURN INLET.

30.4. PROVISION SHALL BE MADE TO PERMIT ADJUSTMENT OF THE FLOW THROUGH EACH INLET, EITHER WITH AN ADJUSTABLE ORIFICE OR PROVIDED WITH REPLACEABLE ORIFICES TO PERMIT ADJUSTMENTS OF THE FLOW.

31. SKIMMERS

31.1. THE SKIMMER(S) SHALL BE LISTED BY AND BEAR THE NSF SEAL (APPROVED BY THE NSF STANDARD #50).

31.2. THE SKIMMER(S) SHALL BE PLACED AS SHOWN ON THE PLANS.

31.3. EACH SKIMMER SHALL BE EQUIPPED WITH A REMOVABLE LEAF STRAINER.

31.4. SKIMMER(S) SHALL NOT PROTRUDE INTO THE POOL.

31.5. WHEN MULTIPLE SKIMMERS ARE SHOWN ON THE PLANS, THEY SHALL BE INSTALLED UNIFORMLY LEVEL WITH A MAXIMUM ELEVATION VARIANCE OF PLUS OR MINUS 1/4"; THEY SHOULD BE ARRANGED SO AS NOT TO INTERFERE WITH EACH OTHER AND TO COMPLETELY COVER THE POOL SURFACE.

31.6. THE WATER OPERATING LEVEL SHALL BE NO MORE THAN 9" BELOW THE TOP OF DECK.

32. MAIN DRAINS

32.1. A MINIMUM OF 2 MAIN DRAINS OUTLETS, VGB COMPLIANT, ARE PROVIDED ON THE BOTTOM FLOOR OF THE POOL, WITH AT LEAST ONE AT THE LOWEST POINT TO COMPLETELY DRAIN THE ENTIRE POOL.

32.2. MAIN DRAIN OUTLETS SHALL BE INTERCONNECTED AND THE PIPE SIZE BETWEEN THEM SHALL BE THE SAME SIZE AS THE MAIN DRAIN LINE RUNNING TO THE PUMP.

32.3. EACH MAIN DRAIN OUTLET SHALL BE COVERED BY A GRATE VGB COMPLIANT THAT HAVE SLOTS OR OPENINGS NO WIDER THAN 1/2".

32.4. MAIN DRAIN GRATES OR PLATES SHALL SECURED IN PLACE WITH NON-CORROSIVE SCREWS.

32.5. HYDROSTATIC RELIEF VALVES AND COLLECTION TUBES SHALL BE INCORPORATED INTO EACH MAIN DRAIN. THE HYDROSTATIC COLLECTION TUBES SHALL EXTEND A MINIMUM OF 1'-0" BELOW THE POOL FLOOR AND PLACED IN A MINIMUM 24" X 24" X 24" GRAVEL SUMP.

33. RECIRCULATION PATTERN

33.1. THE NORMAL PATTERN RECIRCULATION SHALL BE MAINTAINED AT 50% FLOW THROUGH THE GUTTER/SKIMMER(S) AND 50% FLOW THROUGH THE MAIN DRAINS.

34. OVERFLOW

34.1. IF REQUIRED, WHEN A VACUUM SAND FILTER IS USED THE OVERFLOW DRAIN SHALL BE LOCATED IN THE FILTER INLET.

34.2. IF REQUIRED, WHEN A PRESSURE SAND FILTER IS USED THE OVERFLOW DRAIN SHALL BE LOCATED IN THE PERIMETER SYSTEM GUTTER AND SHALL DRAIN INTO AN APPROVED DISCHARGE AND LOCATION WITH CHECK VALVE.

35. VACUUM LINES

35.1. VACUUM LINES, IF SHOWN ON PLANS, SHALL HAVE ITS CENTER LINE LOCATED A MINIMUM OF 6" AND A MINIMUM OF 18" BELOW THE NORMAL OPERATING WATER LEVEL.

35.2. VACUUM OUTLETS SHALL BE PROTECTED BY A SCREW-IN PLUG AT ALL TIMES EXCEPT WHEN USED TO VACUUM THE POOL. HAYWARD W-400 VAC LOCK.

36. LADDERS

36.1. LADDERS SHALL BE MADE OF STAINLESS STEEL WITH A MINIMUM OF 3 NON-SLIP STAINLESS STEEL TREADS.

36.2. LADDER RAIL END SHALL BE INSERTED INTO STEEL WEDGE ANCHORS SO AS TO BE EASILY REMOVED.

36.3. LADDERS SHALL BE FIRM AND STEADY WHEN IN PLACE.

36.4. EACH WEDGE ANCHOR SHALL BE COVERED WITH A CHROME PLATED ESCHUCTION.

37. WALK-IN STEPS

37.1. EACH SET OF STAIRS SHALL BE PROVIDED WITH AT LEAST ONE HANDRAIL TO SERVE ALL TRENDS AND RISERS.

37.2. STAIRS OF SET OF 20 FEET, ADDITIONAL HANDRAILS SHALL BE PROVIDED AND SPACED NO MORE THAN 10 FEET FROM ADJACENT HANDRAILS OR STAIR ENDS.

38. HANDRAILS

38.1. HANDRAILS SHALL BE MADE OF STAINLESS STEEL.

38.2. HANDRAILS SHALL BE INSERTED IN BRASS WEDGE ANCHORS SO AS TO BE EASILY REMOVED.

38.3. HANDRAILS SHALL BE FIRM AND STEADY WHEN IN PLACE.

38.4. EACH WEDGE ANCHOR SHALL BE COVERED WITH A CHROME PLATED ESCHUCTION.

39. SPA AND POOL BENCHES

39.1. THE FRONT TOP EDGE OF SPA AND POOL BENCHES SHALL HAVE A 2" WIDE BLACK NON-SLIP TILE STRIPE INSTALLED ACROSS THE ENTIRE LENGTH TO PLAINLY MARK THE BENCH AND START WITHIN 1" FROM THE FRONT EDGE OF THE BENCH.

40. UNDERWATER LIGHTS

40.1. UNDERWATER LIGHTING SHALL PROVIDE AT LEAST 0.5 WATTS OR 8.35 LUMENS PER SQUARE FOOT OF WATER SURFACE AND DECK LIGHTING SHALL PROVIDE NOT LESS THAN 10 FOOT CANDLES OF LIGHT MEASURED AT 6 INCHES ABOVE THE DECK SURFACE.

41. DECK LIGHTING

41.1. IF THERE IS NO UNDERWATER LIGHTING, THERE SHALL BE A MINIMUM OF 2.0 WATTS (INCANDESCENT) PER SQUARE FOOT OF POOL AREA PLUS 0.6 WATTS (INCANDESCENT) PER SQUARE FOOT OF DECK AREA.

41.2. OVERHEAD CONDUCTORS, WIRING AND LIGHTS

41.3. OVERHEAD CONDUCTORS AND WIRING NOT IN CONDUIT SHALL NOT PASS WITHIN AN AREA EXTENDING A DISTANCE OF 20 FEET HORIZONTALLY AWAY FROM THE INSIDE EDGE OF THE POOL WALLS.

41.4. THERE SHALL BE NO LIGHT FIXTURES OR CONDUCTOR SPLICES DIRECTLY ABOVE THE WATER SURFACE AT ANY OUTLET POOL.

41.5. WIRING AND GROUNDING FOR LIGHTS AND ALL ELECTRICAL POWER FOR SWIMMING POOL EQUIPMENT SHALL CONFORM WITH THE CODES OF THE CURRENT EDITION OF THE NATIONAL FIRE PROTECTION ASSOCIATION NATIONAL ELECTRIC CODE.

41.6. GROUND FAULT PROTECTION SHALL BE PROVIDED ON ALL ELECTRICAL CIRCUITS WITHIN THE POOL AREA INCLUDING ALL ACCESSORY EQUIPMENT AND BATHHOUSE / MINIMUM TOILET FACILITY RECEPTACLES.

41.7. ALL INDOOR LIGHT FIXTURES DIRECTLY OVER WATER SURFACES SHALL BE EQUIPPED WITH NON-BREAKABLE/ SHATTERPROOF LENSES.

42. SECOND STORY BALCONY AND ELEVATED STRUCTURES

42.1. IF THE POOL IS LOCATED WITHIN 10 FEET HORIZONTALLY OF ANY SECOND STORY BALCONY, ANY WALKWAY OR PASSAGEWAY, STAIRWAY OR ANY ELEVATED STRUCTURE, THE OWNER SHALL PROVIDE A PROTECTIVE BARRER/ GATE.

42.2. THE BARRIER SHALL BE A MINIMUM OF 5 FEET HIGH IN HEIGHT AND HAVE NO VERTICAL OPENING GREATER THAN 4" IN WIDTH.

43. POOL RULES SIGN

43.1. THE OWNER SHALL PROVIDE A POOL RULES SIGN WHICH SHALL BE POSTED IN A CONSPICUOUS PLACE IN THE POOL AREA.

43.2. THE SIGN SHALL BE BOLD AND LEGIBLE.

43.3. THE SIGN SHALL CONTAIN, AS A MINIMUM, THE FOLLOWING ITEMS:

A. SHOWER BEFORE ENTERING POOL.

B. NO PETS OR GLASS CONTAINERS ALLOWED IN THE POOL AREA.

C. NO GLASS ALLOWED IN THE POOL OR ON THE POOL DECK.

D. CHILDREN SHOULD NOT USE THE SWIMMING POOL WITHOUT ADULT SUPERVISION.

E. ADULTS SHOULD NOT SWIM ALONE.

44. ADDITIONAL SIGNS

44.1. A "WARNING-NO LIFEGUARD ON DUTY" SIGN IN MINIMUM 4" HIGH LETTERING PLACED AS SHOWN ON THE PLANS.

44.2. THERE SHALL BE A SIGN CONSPICUOUSLY POSTED STATING "THE CERTIFIED POOL OPERATOR AT THIS FACILITY IS \_\_\_\_\_ STATE CERTIFICATION NUMBER \_\_\_\_\_ (BLANKS MUST BE FILLED IN)."

44.3. THE EMERGENCY TELEPHONE SIGN SHALL BE POSTED NEAR THE EMERGENCY TELEPHONE. IT SHALL BE VISIBLE FROM THE POOL AREA OR AN ADDITIONAL SIGN SHALL BE POSTED INDICATING THE LOCATION OF THE EMERGENCY TELEPHONE. IN LEGIBLE LETTERS, THE EMERGENCY TELEPHONE SIGN SHALL PROVIDE DIALING

INSTRUCTIONS, ADDRESS OF THE POOL LOCATION, AND THE TELEPHONE NUMBER.

41.4. "POOL EMERGENCY SHUT-OFF SWITCH" SHALL BE LABELED IN RED WITH FOUR INCH LETTERS AT THE SWITCH LOCATION BY THE POOL. THIS SIGN SHALL HAVE A WHITE BACKGROUND.

42. SPA WARNING SIGN

42.1. IF THE PROJECT INCLUDES A HEATED SPA ABOVE 90 DEGREES FAHRENHEIT, THE OWNER SHALL PROVIDE A SPA WARNING SIGN ADJACENT TO SPA ENTRANCE.

42.2. THE SIGN SHALL BE WATERPROOF WITH BOLD, LEGIBLE LETTERING.

42.3. THE SIGNS SHALL CONTAIN THE FOLLOWING WARNING STATEMENTS:

42.1.A. CAUTION

42.1.B. THE OWNMENT WATERS, ELDERLY PERSONS, AND PERSONS SUFFERING FROM HEART DISEASE, DIABETES, OR HIGH OR LOW BLOOD PRESSURE, SHOULD NOT ENTER THE SPA/HOT TUB WITHOUT PRIOR MEDICAL CONSULTATION AND PERMISSION FROM THEIR DOCTOR

42.1.C. DO NOT USE THE SPA/HOT TUB WHILE UNDER THE INFLUENCE OF ALCOHOL, TRANQUILIZERS, OR OTHER DRUGS THAT CAUSE DROWSINESS OR THAT RAISE OR LOWER BLOOD PRESSURE

42.1.D. DO NOT USE ALONE

42.1.E. UNSUPERVISED USE BY CHILDREN IS PROHIBITED

42.1.F. ENTER AND EXIT SLOWLY

42.1.G. OBSERVE REASONABLE TIME LIMITS (THAT IS, 10-15 MINUTES), THEN LEAVE THE WATER AND COOL DOWN BEFORE RETURNING FOR ANOTHER BRIEF STAY

42.1.H. LONG EXPOSURE MAY RESULT IN NAUSEA, DIZZINESS, OR FAINTING

42.1.I. KEEP ALL BREAKABLE OBJECTS OUT OF THE AREA

42.1.J. THE MAXIMUM TEMPERATURE SPECIFIED BY THE NORTH CAROLINA DEPARTMENT OF HEALTH FOR ANY SPA IS 104 DEGREES FAHRENHEIT. THE ACTUAL TEMPERATURE OF THIS SPA AT \_\_\_\_\_ O'CLOCK TODAY IS \_\_\_\_\_ DEGREES FAHRENHEIT

42.1.K. THE CERTIFIED POOL OPERATOR FOR THIS FACILITY IS \_\_\_\_\_ STATE CERTIFICATION NUMBER \_\_\_\_\_

42.2. ALL BLANKS SHALL BE FILLED IN.

43. SPA SWITCHES

43.1. THE SPA SHALL BE EQUIPPED WITH A 15 MINUTE TIMER SWITCH WHICH WILL TURN OFF THE HYDRO AND AIR PUMPS.

43.2. THE TIMER SWITCH SHALL BE LOCATED WHERE BATHERS MUST EXIT THE POOL TO ACCESS THE SWITCH.

44. HOSE BIBBS

44.1. THE OWNER SHALL INSTALL HOSE BIBBS LOCATED AS SHOWN ON THE PLANS. THEY SHALL BE NO LESS THAN 10" AND NO MORE THAN 24" ABOVE DECK LEVEL AND BE FURNISHED WITH AN ASSE 1024 RESIDENTIAL RINSE CHECK VALVE.

45. DUAL SHOWERS

45.1. ALL OUTDOOR POOLS SHALL BE PROVIDED WITH A PULL CHAIN OR AUTOMATIC SHUT-OFF VALVE SHOWER(S).

45.2. SHOWER(S) SHALL BE PROVIDED BY THE OWNER AS SHOWN ON THE PLANS.

46. EMERGENCY TELEPHONE

46.1. THE OWNER SHALL PROVIDE A TOLL FREE PUBLIC TELEPHONE OR OTHER DEVICE TO NOTIFY EMERGENCY PERSONNEL WHICH IS PERMANENTLY AFFIXED TO A LOCATION INSIDE THE POOL ENCLOSURE OR OUTSIDE THE ENCLOSURE WITHIN 75 FEET OF A BATHER ENTRANCE.

46.2. A LIST OF EMERGENCY NUMBERS SHALL BE POSTED ADJACENT TO THE PHONE.

47. MINIMUM TOILET FACILITIES

47.1. THE OWNER SHALL PROVIDE MINIMUM TOILET FACILITIES ADJACENT TO THE POOL DECK WHERE TOILET FACILITIES ARE NOT PROVIDED FOR ALL SWIMMERS WITHIN 300 FT. OF THE POOL.

47.2. MINIMUM TOILET FACILITIES SHALL CONFORM TO THE FOLLOWING:

A. PARTITIONS SHALL BE OF MATERIAL NOT SUBJECT TO DAMAGE BY WATER AND SHALL BE DESIGNED SO THAT A WATERWAY PROVIDED BETWEEN PARTITIONS AND FLOOR TO PERMIT THOROUGH CLEANING OF THE WALLS AND FLOOR AREAS WITH HOSES AND BROOMS

B. FLOORS SHALL HAVE AN IMPERVIOUS, SLIP-RESISTANT SURFACE THAT SHALL BE SMOOTH TO ENSURE COMPLETE CLEANING. FLOORS SHALL BE SLOPED NOT LESS THAN 1/4 INCH PER FOOT TO ENSURE POSITIVE DRAINAGE (SUCH AS TO FLOOR DRAIN(S)).

C. HOSE BIBBS SHALL BE PROVIDED SUCH THAT ALL PARTS OF THE DRESSING FACILITY INTERIOR CAN BE REACHED WITH A 50 FOOT HOSE.

D. THE MINIMUM NUMBER OF FIXTURES REQUIRED IN DRESSING AND SANITARY FACILITIES SHALL BE BASED UPON THE MAXIMUM BATHING LOAD.

E. A MINIMUM OF ONE WATER CLOSET AND ONE LAVATORY SHALL BE PROVIDED FOR MALE USERS, AND A MINIMUM OF ONE WATER CLOSET AND ONE LAVATORY SHALL BE PROVIDED FOR FEMALE USERS.

F. THE WATER HEATER SHALL BE INACCESSIBLE TO USERS. THE SYSTEM SHALL BE DESIGNED SUCH THAT THE WATER TEMPERATURE AT THE LAVATORIES CANNOT EXCEED 99 FAHRENHEIT.

G. SOAP DISPENSERS WHETHER LIQUID OR POWDERED SOAP SHALL BE PROVIDED AT EACH LAVATORY. THE DISPENSER SHALL BE OF ALL METAL OR PLASTIC TYPE, WITH NO GLASS PERMITTED IN THESE UNITS. IF MIRRORS ARE PROVIDED, THEY SHALL BE OF SHATTERPROOF MATERIALS.

H. TOILET PAPER HOLDERS WITH TOILET PAPER SHALL BE PROVIDED AT EACH WATER CLOSET.

I. SINGLE SERVICE PAPER TOWEL DISPENSERS OR BLOWER TYPE HAND DRYERS SHALL BE PROVIDED.

J. EACH ROOM MUST BE FURNISHED WITH A MINIMUM OF 60 WATTS OF INCANDESCENT LIGHT AND HAVE ADEQUATE VENTILATION.

L. SANITARY FACILITIES SHALL BE KEPT CLEAN AND IN GOOD REPAIR.

M. MINIMUM TOILET FACILITIES ARE NOT REQUIRED IF ALL LIVING UNITS ARE WITHIN A 300 FOOT WALKING DISTANCE OF THE NEAREST WATER'S EDGE AND ARE EQUIPPED WITH PRIVATE FACILITIES.

48. EMERGENCY AND SAFETY EQUIPMENT

48.1. EMERGENCY AND RESCUE EQUIPMENT CONSISTING OF A 16 UNIT OSHA APPROVED FIRST AID KIT, A 20" DIAMETER U.S. COAST GUARD APPROVED RING BUOY WITH HEAVING LINE (HEAVING LINE SHALL BE A MINIMUM OF 1 1/2 TIMES THE MAXIMUM WIDTH OF THE POOL OR 50 FEET, WHICHEVER IS LESS) AND A LIFE HOOK PERMANENTLY ATTACHED TO A MINIMUM 12 FOOT ALUMINUM POLE SHALL BE PROVIDED. THE POLE ATTACHED TO THE LIFE HOOK SHALL BE NON-TELESCOPING, NON-ADJUSTABLE AND NON-COLLAPSIBLE.

48.2. THE EQUIPMENT SHALL BE KEPT WITHIN 25 FEET OF THE POOL AT ALL TIMES AND LOCATED ON THE POOL DECK. IF ANY FENCE, WALL OR OTHER ENCLOSURE.

49. OPERATING INSTRUCTIONS

49.1. THE POOL BUILDER SHALL GIVE THE OWNER AND OPERATORS 2 COMPLETE WRITTEN COPIES AND ORAL INSTRUCTIONS IN THE OPERATION AND MAINTENANCE OF THE FACILITY. ONE COPY OF THE WRITTEN INSTRUCTIONS SHALL BE ENCLOSED IN WATERPROOF COVERING AND PERMANENTLY POSTED IN THE EQUIPMENT ROOM.

50. VALVES

50.1. VALVE SIZES OF 1-1/2", 2" AND 2-1/2" SHALL BE BALL VALVES. VALVE SIZES OF 3" OR GREATER SHALL BE BUTTERFLY VALVES.

51. VALVE SCHEDULE

51.1. ALL VALVES SHALL BE PERMANENTLY TAGGED FOR PROPER IDENTIFICATION.

51.2. THE POOL BUILDER SHALL PROVIDE THE OWNER WITH 2 WRITTEN COPIES OF THE VALVE SCHEDULE. ONE COPY SHALL BE ENCLOSED IN A WATERPROOF COVERING SHALL BE PERMANENTLY POSTED IN THE EQUIPMENT ROOM.

52. TEST SET

52.1. THE POOL BUILDER SHALL FURNISH A TEST KIT FOR DPD CHLORINE, OR BROMINE IF SPECIFIED ON THE EQUIPMENT LIST, PH, TOTAL ALKALINITY, CALCIUM HARDNESS AND CYANURIC ACID.

53. WATER CHEMISTRY AND SANITATION

53.1. THE POOL BUILDER SHALL ADJUST THE POOL WATER WITHIN THE FOLLOWING PARAMETERS TO ENSURE BEST BACTERIA FREE OPERATION:

A. PH OF 7.4 TO 7.6

B. TOTAL ALKALINITY OF 100 TO 125 PPM.

C. CALCIUM HARDNESS OF 200 TO 300 PPM

D. CYANURIC ACID OF 25 TO 40 PPM ( IF USED )

E. SANITIZER OF 1.5 TO 2.5 PPM FOR CHLORINE OR 2.5 TO 4.0 PPM FOR BROMINE

54. OPERATION SUPERVISION

54.1. THE FACILITY SHALL BE OPERATED UNDER THE POOL BUILDER'S SUPERVISION FOR 3 DAYS AFTER START-UP.

55. EQUIPMENT SUBSTITUTION

55.1. EQUIPMENT INSTALLED IN THIS FACILITY SHALL BE AS SPECIFIED UNLESS PRIOR WRITTEN APPROVAL HAS BEEN OBTAINED FROM THE N.C. HEALTH DEPT. BY THE POOL BUILDER OR OWNER.

56. FINAL APPROVAL

56.1. THE POOL BUILDER OR OWNER SHALL INFORM THE N.C. HEALTH DEPT. IN WRITING WHEN THE POOL AND RELATED FACILITIES HAVE BEEN COMPLETED AND ARE READY FOR FINAL CONSTRUCTION APPROVAL AND OBTAIN AN OPERATING PERMIT.

56.2. NO PERSON SHALL BE ALLOWED TO USE THE FACILITY UNTIL FINAL CONSTRUCTION APPROVAL HAS GRANTED AND AN OPERATING PERMIT ISSUED BY THE N.C. HEALTH DEPT.

57. DRINKING FOUNTAIN

57.1. THE DRINKING FOUNTAIN IS ELECTRICALLY OPERATED, IT MUST BE POWERED BY A GROUND FAULT POWER SOURCE AND WIRED ACCORDING TO CURRENT NEC REGULATIONS.

58. SHATTER RESISTANT GLASS

58.1. ALL BUILDINGS AND STRUCTURES WITHIN TEN FEET OF THE POOL SHALL HAVE SHATTER RESISTANT DOORS AND WINDOWS.

1	HEALTH DEPT COMMENTS	4.28.25
0	ISSUE FOR PERMIT	3.31.25
A	ISSUE FOR REVIEW	02.13.25
NO.	REVISION	DATE

Altis Serenity  
Harnett, NC

GENERAL NOTES  
& HEALTH DEPT.  
REQUIREMENTS

DATE: 01.21.25
DRAWN BY: TDE                      CHECKED BY:
PROJECT ID: 1074