

MAIN POOL DATA	
POOL DIMENSIONS:	85'-3" X 94'-9" OVERALL IRREGULAR SHAPE.
POOL DEPTHS:	8'-9" SHELF w/ 3'-5"
POOL VOLUME:	151,292 GALLONS
SURFACE AREA:	5,945 SQFT.
PERIMETER:	355 LF
COPING:	BULLNOSE INDEPENDENT
REQUIRED FLOW:	420 GPM @ 65 TDH
DESIGN FLOW:	420 GPM @ 65 TDH
SHELL MATERIAL:	4000 PSI SHOTCRETE
INTERIOR FINISH:	QUARTZ PLASTER
BATHER LOAD:	396 PERSONS
BACKWASH TO:	STORM SEWER
WATER SOURCE:	IN-LINE AUTOFILL
PIPE SIZING:	
MAIN DRAINS:	(4) 6" SCH 40 PVC
SKIMMERS:	(16) 4" SCH 40 PVC
VACUUM LINE:	(2) 2" SCH 40 PVC
INLETS:	(23) 6" SCH 40 PVC
FILTER TYPE:	HIGH RATE SAND
SIZE PROVIDED:	4 @ 7.06 SF (EA) = 28.24
SIZE REQUIRED:	28.00 SF TOTAL
MEDIA CIRC. RATE:	20 GPM/SF
BACKWASH RATE:	20 GPM/SF
TURNOVER RATE:	6 HOURS

1 Pool Dimension Plan
SP1
1/8" = 1'-0"

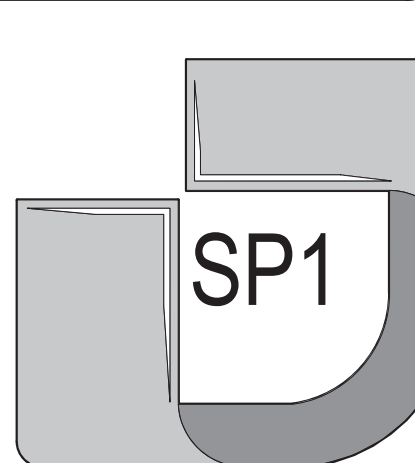


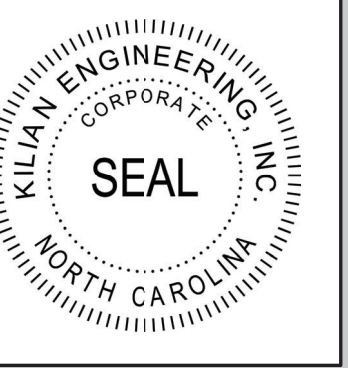
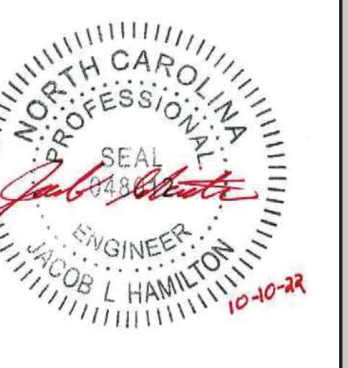
Kilian Engineering, Inc.
 PO Box 3301, Henderson, NC 27536 | www.kilianengineering.com
 (773) 252-4388/8718 | CORPORATE LICENSE C227

NO.	REVISION	DATE

SHEET DISCRPTION
Pool Dimension Plan
 PROJECT #: 2018.037
 DATE ISSUED: 12/14/2021
 DRAWING BY: BSJ/JVD
 CHECKED BY: DSC/JLH

**SERENITY AMENITY
 GREENFIELD COMMUNITIES
 CLUBHOUSE PLANS**
 Fuquay-Varina, NC

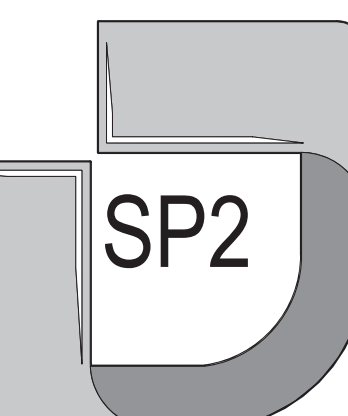




DATE	REVISION	NO.
10/11/2022	Field Change	6

SHEET DISCRPTION	
PROJECT #:	2018.037
DATE ISSUED:	12/14/2021
DRAWING BY:	BSJ/JVD
CHECKED BY:	DSC/ARH

**SERENITY AMENITY
GREENFIELD COMMUNITIES
CLUBHOUSE PLANS**
Fuquay-Varina, NC



POOL EQUIPMENT SCHEDULE

TAG	COUNT	MANUFACTURER	MODEL	COMMENTS
1	3	PENTAIR	XFE-20	5 HP SELF-PRIMING PUMPS W/ STRAINER BASKET + EXTRA BASKET
2	4	PENTAIR	TR-140C	36" DIA HIGH RATE SAND FILTER W/ 7.06 SF OF MEDIA
3	4	PENTAIR	PAC-06-3080	3" PUSH PULL BACKWASH VALVE
4	1	PENTAIR	HC-3315	HIGH CAPACITY CHLORINE/BROMINE FEEDER
5	1	FLOVIS	FV-6-40	6" INLINE COMMERCIAL FLOWMETER
6	2	AQUASTAR	1216101D	12" x 12" ANTI-ENTRAPMENT SUCTION OUTLET COVER W/ 4" SOCKET DEEP PVC SUMP
7	2	AQUASTAR	18MF101 W/ FPK-50-818-6	18" x 18" VGB SUCTION OUTLET COVER W/ A.S.A. MFG. INC SUMP
8	2	AQUASTAR	HVC101	SELF-CONTAINED HYDROSTATIC VALVE ASSEMBLY
9	16	AQUASTAR	SKR101	COMMERCIAL SKIMMER - WHITE
10	2	AQUASTAR	ES1022S12001 W/ VLK15T01	VACUUM LINE FITTING W/ LOCK CAP
11	8	AQUASTAR	ES1022S12001 W/ BP101	RETURN FLOOR INLETS - DIRECTIONAL W/ BUBBLER PLATE (15 GPM DESIGN RATE)
12	7	PENTAIR	542044	ANTI-WAVE CUP ROPE ANCHOR - ANTI-WAVE BY HOA
13	2	AQUASTAR	4DIV101 / DIV101	4" ADJUSTABLE FLOOR RETURN FITTING W/ WATER STOP
14	22	AQUASTAR	ES1022S12001 W/ 4101	RETURN WALL FITTING W/ EYEBALL FITTING
15	1	AQUASTAR	GDD101	OVERFLOW DRAIN TO DAYLIGHT
16	4	PENTAIR	LIGHT - 602104	190 W EQUIVALENT GLOBRITE LED LOW VOLTAGE LIGHT
17	6	PENTAIR	LIGHT - 601307	400 W EQUIVALENT INTELLIBRITE LED LOW VOLTAGE LIGHT
18	1	AQUASTAR	AFB101	AQUALEVEL - AUTOFILL LINE - WHITE
19	3	INTERMATIC	PJBXS2100	COMBO CONNECT JUNCTION BOX W/ 100 W TRANSFORMER
20	1	NATURAL STRUCTURES	1800-17-96	7" - 6" DIA MUSHROOM FEATURE (200 GPM AT 3" DIA) - BLUE CAP
21	2	SR SMITH	F4H - 100S - MG	MARINE GRADE DECK MOUNTED ADA HAND RAILS - 24" INSIDE CLEAR SPACE
22	3	SR SMITH	F4H-100-MG / 25578-000-000	MARINE GRADE HANDRAILS - W/ RECESSED STEPS
23	7	SR SMITH	DMS-101B - MG	MARINE GRADE DECK MOUNTED HANDRAILS
24	6	SR SMITH	AS-100S-MG W/ 20-103-MG	STAINLESS STEEL STANCHION ANCHOR (1.90" O.D.) - BACKSTROKE ANCHORS
HC	1	SR SMITH	MULTI-LIFT	ADA COMPLIANT MULTI-LIFT WITH FOLDING SEAT

POOL SAFETY REQUIREMENTS

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

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

EMERGENCY TELEPHONE SERVICE:

- TELEPHONE CAPABLE OF DIRECTLY DIALING 911 OR OTHER EMERGENCY NOTIFICATION SYSTEM SHALL BE PROVIDED AND ACCESSIBLE TO ALL POOL USERS.
- THE TELEPHONE SHALL BE PERMANENTLY AFFIXED TO A LOCATION INSIDE THE POOL ENCLOSURE OR OUTSIDE THE ENCLOSURE WITHIN 75' OF THE BATHER ENTRANCE.
- THE TELEPHONE SHALL BE VISIBLE FROM WITHIN THE POOL ENCLOSURE OR A VISIBLE SIGN SHALL BE POSTED INDICATING THE LOCATION OF THE EMERGENCY PHONE.
- AT THE TELEPHONE - PROVIDE A SIGN WITH LEGIBLE LETTERS PROVIDING THE FOLLOWING INFORMATION:
 - DIALING INSTRUCTIONS
 - ADDRESS OF THE POOL LOCATION
 - TELEPHONE NUMBER OF THE POOL LOCATION.

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

POOL DECK SIGNAGE REQUIREMENTS

POOL SIGNAGE TO BE POSTED IN THE MAIN POOL AREA:

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

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

POOL SAFETY RULES

- CHILDREN SHOULD NOT USE THE SWIMMING POOL WITHOUT ADULT SUPERVISION.
- ADULTS SHOULD NOT SWIM ALONE.
- PETS ARE PROHIBITED IN THE POOL AREA.
- GLASS CONTAINERS ARE PROHIBITED IN THE POOL AREA.
- NO DIVING IS ALLOWED IN POOL AREA

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

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

POOL DECK MARKINGS

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

- LOCATED ON TOP OF POOL DECK AND AT OR ABOVE THE WATER SURFACE ON THE VERTICAL WALL
- SHALL BE IN ARABIC NUMERALS AT LEAST 4" HIGH AND OF A COLOR CONTRASTING W/ THE BACKGROUND.
- MARKINGS SHALL INDICATE THE DEPTH OF THE POOL IN FEET AND SHALL INCLUDE THE WORD "FEET" OR THE SYMBOL "FT" TO INDICATE THE UNIT OF MEASUREMENT. MARKINGS IN POOL DECK SHALL PROVIDE A SLIP RESISTANT WALKING SURFACE.
- NOT TO EXCEED 25'-0" IN SPACING ALONG THE PERIMETER OF THE POOL.
- "NO DIVING" MARKINGS: IN LOCATIONS AS SHOWN ON THE DRAWINGS AND ADHERING TO THE FOLLOWING:
 - NOT TO EXCEED 25'-0" IN SPACING. ALONG COPING EDGE.
 - DENOTED IN ONE OF THE FOLLOWING MANNERS:
 - CONSISTING OF THE WORDS "NO DIVING" IN LETTERS AT LEAST 4" HIGH AND OF A COLOR CONTRASTING WITH THE BACKGROUND.
 - AT LEAST A 6"x6" IN SIZE INTERNATIONAL SYMBOL FOR NO DIVING IN RED AND BLACK ON A WHITE BACKGROUND. (VERIFY WITH MANICAPALITY)

POOL DECK EXIT REQUIREMENTS

POOL DECK AREA - 8,219 SF @ 15 SF PER PERSON
DECK OCCUPANT LOAD IS 548.

POOL AREA IS 5,945 SF @ 50 SF PER PERSON,
POOL OCCUPANT LOAD IS 119.

TOTAL OCCUPANT LOAD OF 667 * 0.2 EQUAL
133.4 INCHES REQUIRED. 144" SHOWN ON PLAN.

REQ'D EXIT SEPARATION - 168" 0" / 2 = 84" 0"
105" 8" SHOWN ON PLANS.

BUILDING FIXTURE DATA

TOTAL BATHER LOAD = 5945/15 = 396 PERSONS
(50% - 50% SPLIT) = 198 PERSONS

CLUBHOUSE & PUMP HOUSE REQUIREMENTS:
MINIMUM FIXTURE REQUIREMENTS ARE:

198 MEN

- 2 LAVATORIES
- 2 WATER CLOSET(S)
- 2 URINAL(S)

198 WOMEN

- 3 LAVATORIES
- 3 WATER CLOSET(S)

2 SHOWERS ARE REQUIRED

SEE ARCHITECTURAL PLANS BY OTHERS FOR RESTROOM LOCATION & LAYOUTS

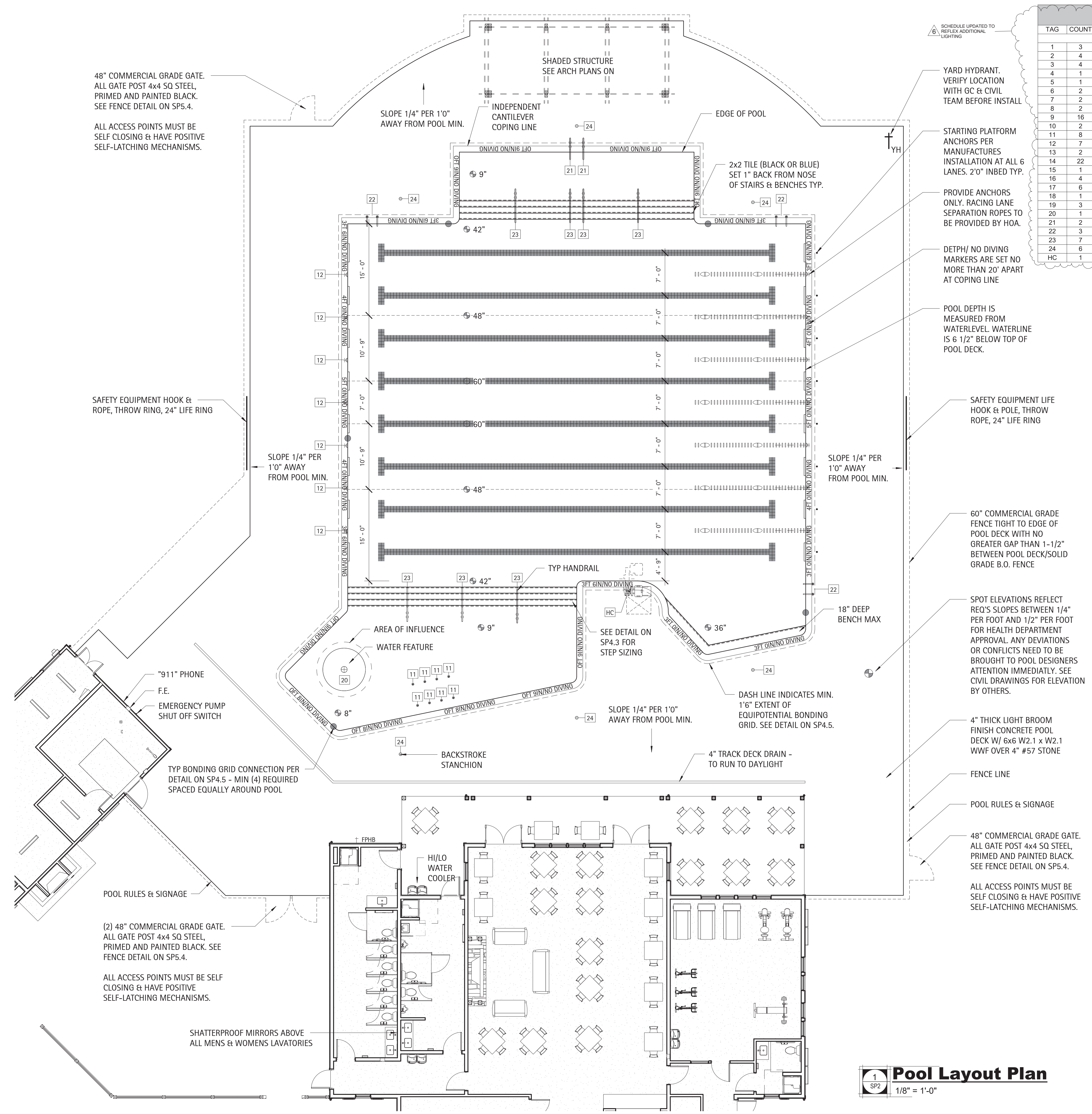
POOL DESIGN NOTES

- SEE PLANS BY OTHERS FOR CONSTRUCTION OF BATHHOUSE, PUMP & CHEMICAL STORAGE ROOMS, SITE WORK, ETC.
- POOL IS DESIGNED FOR DAWN TO DUSK SWIMMING ONLY.
- GROUND LEVEL DOORS AND WINDOW OPENINGS FROM OCCUPIED BUILDINGS TO THE POOL DECK SHALL BE CHILD PROTECTED BY MEANS OF WINDOW LATCH OR OTHER PROTECTIVE BARRIERS.

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1
SP2
1/8" = 1'-0"



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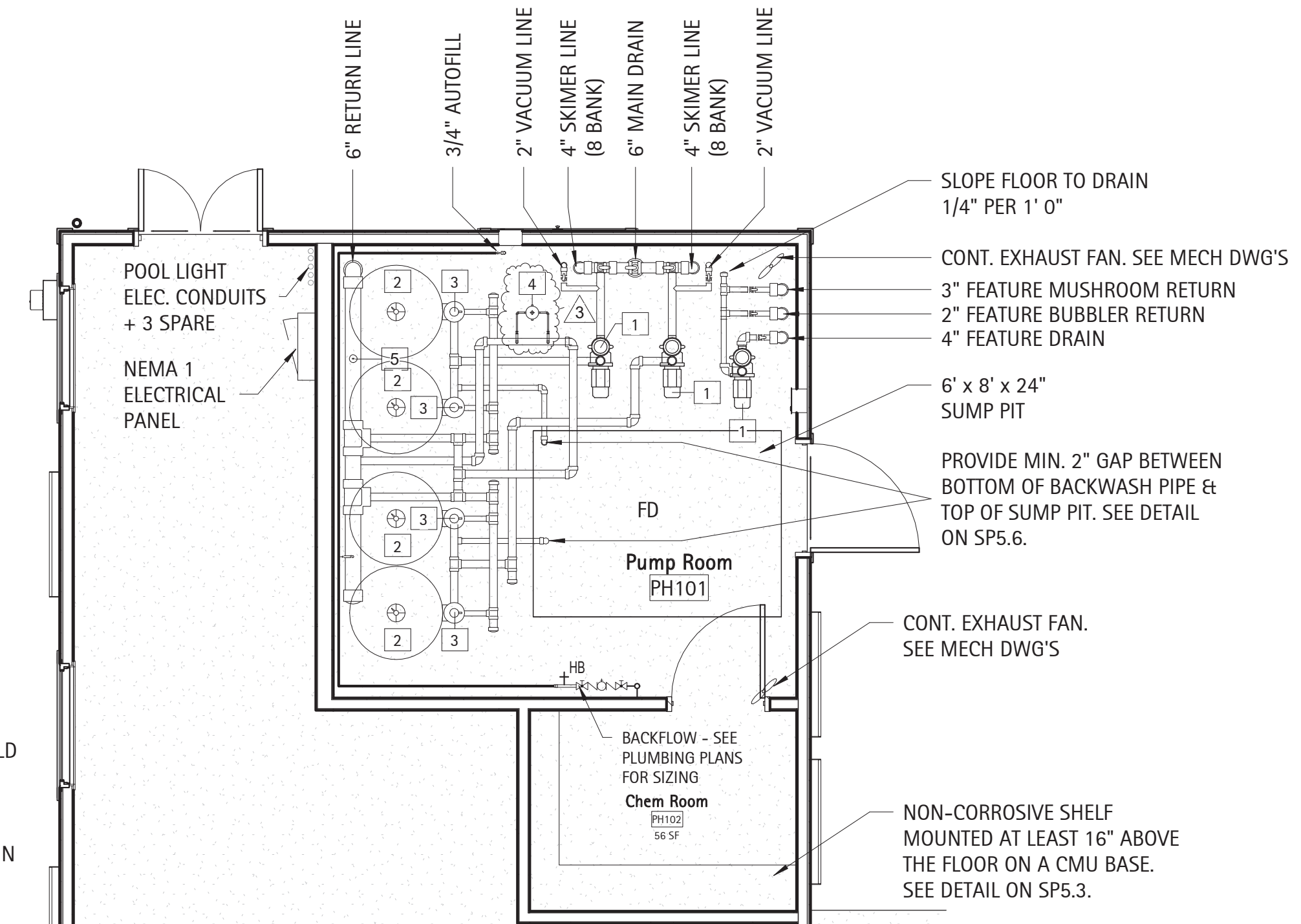
SHEET DESCRIPTION
Pool Piping & Electrical Plan

PROJECT #: 2018.037
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**SERENITY AMENITY
GREENFIELD COMMUNITIES
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HC	1	SR SMITH	MULTI-LIFT	ADA COMPLIANT MULTILIFT WITH FOLDING SEAT



PUMP FLOW PIPE SIZING
(2) XFE-20 (MAIN) PUMP FLOW AT 65 FT OF WATER IS 210 GPM EACH (420 TOTAL), WITH SPECIFIED:
6" MAIN DRAIN PIPING VELOCITY IS 4.66 FPS.
4" SKIMMER PIPING VELOCITY IS 5.29 FPS.
6" RETURN PIPING VELOCITY IS 4.66 FPS.

(1) XFE-20 (FEATURE) PUMP FLOW AT 65 FT OF WATER IS 210 GPM, WITH SPECIFIED:
4" MAIN DRAIN PIPING VELOCITY IS 5.29 FPS.
4" RETURN PIPING VELOCITY IS 5.29

UNDERWATER LIGHTING DATA
MAIN POOL AREA: 5,945 SQFT.
5,945 SF x 0.5 WATTS = 2,973 WATTS

LIGHTING PROVIDED (12V LED EQ.)
6 INTELLIBRITE @ 400 WATTS
4 GLOBRITE @ 190 WATTS
TOTAL PROVIDED = 3,160 WATTS

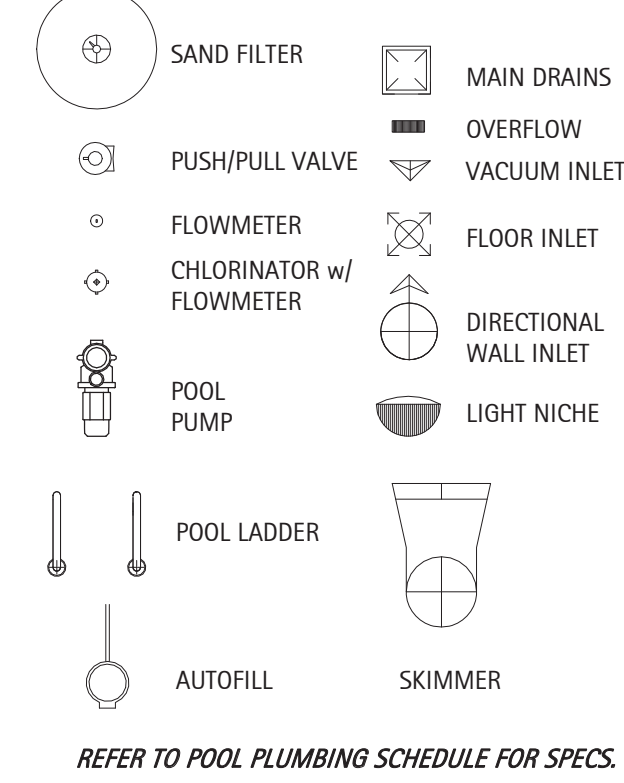
CHEMICAL STORAGE DATA
CHEMICAL STORAGE REQUIREMENTS FOR A 151,292 GALLON POOL ARE:

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

+47 SF (1 SF PER 3,000)(141,292/3,000 = 47)

BUILDING PROVIDES MIN OF 52 SF FOR CHEMICAL STORAGE.
-SEE BUILDING PLANS BY OTHERS FOR EXACT LAYOUT. 52 SF PROV.

POOL SYMBOLS LEGEND



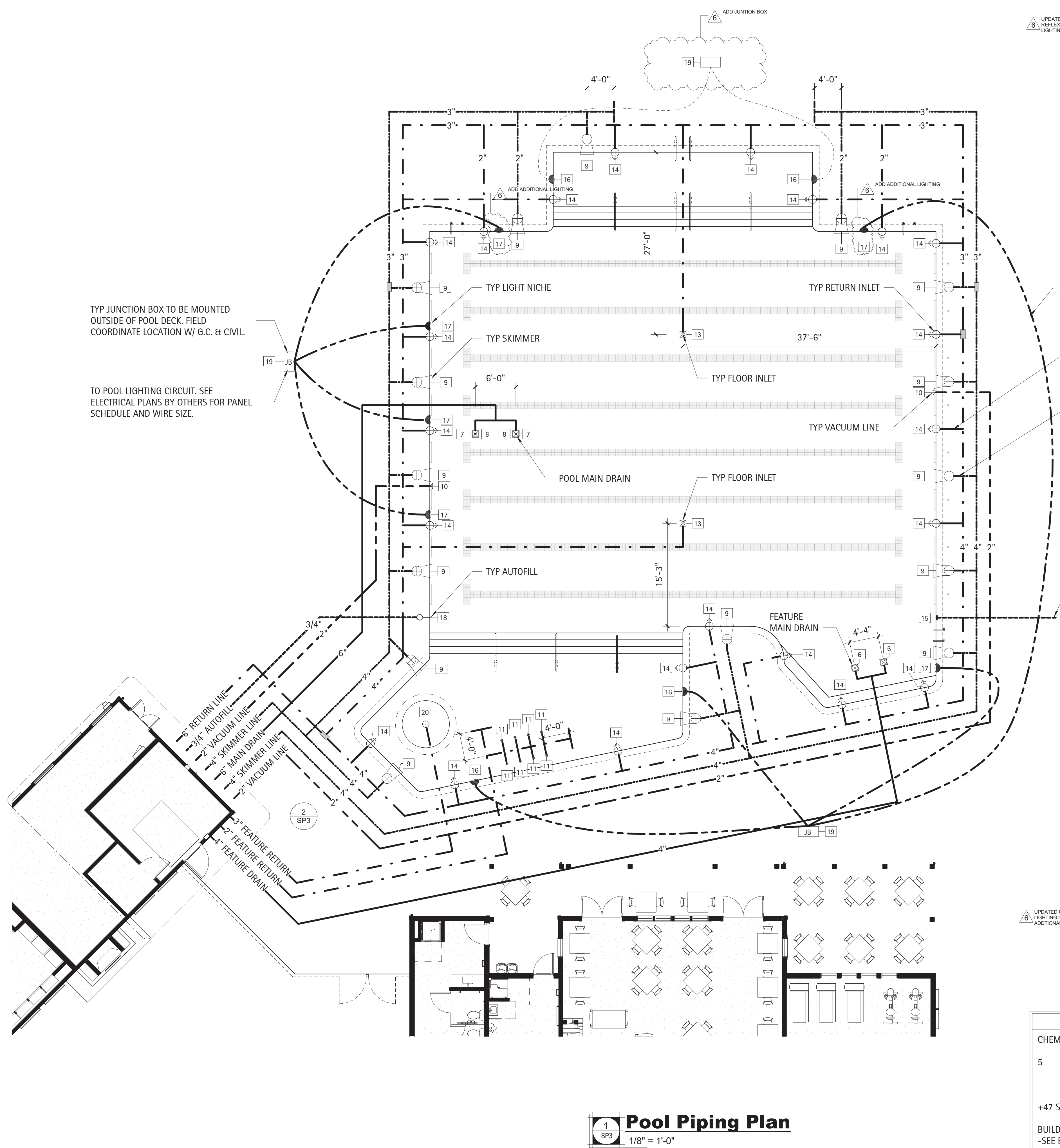
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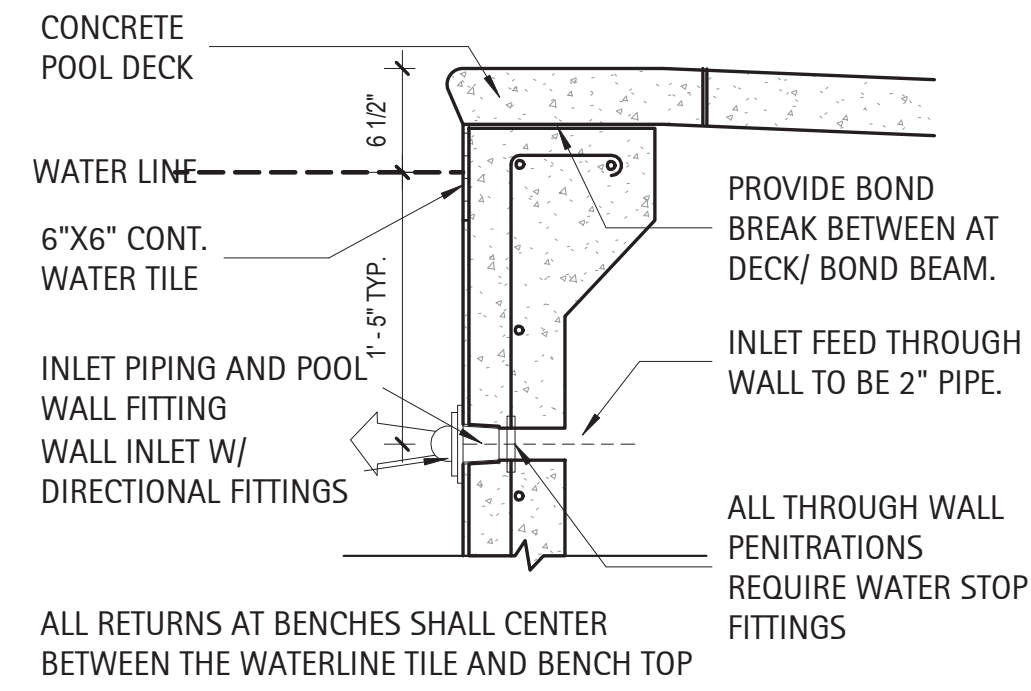
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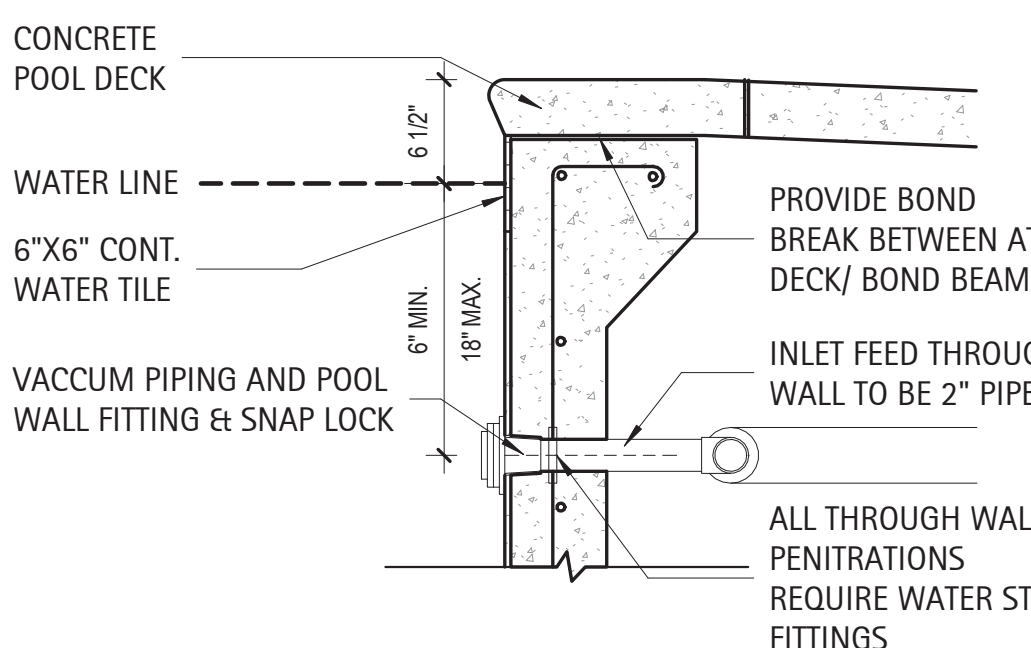
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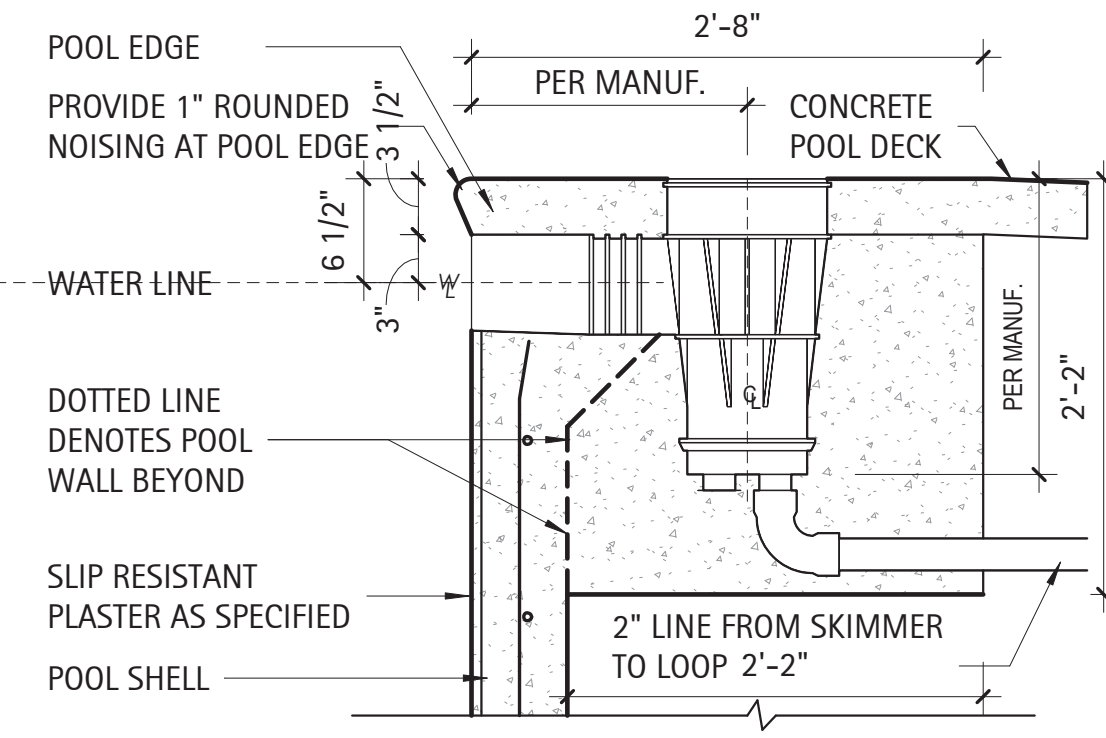




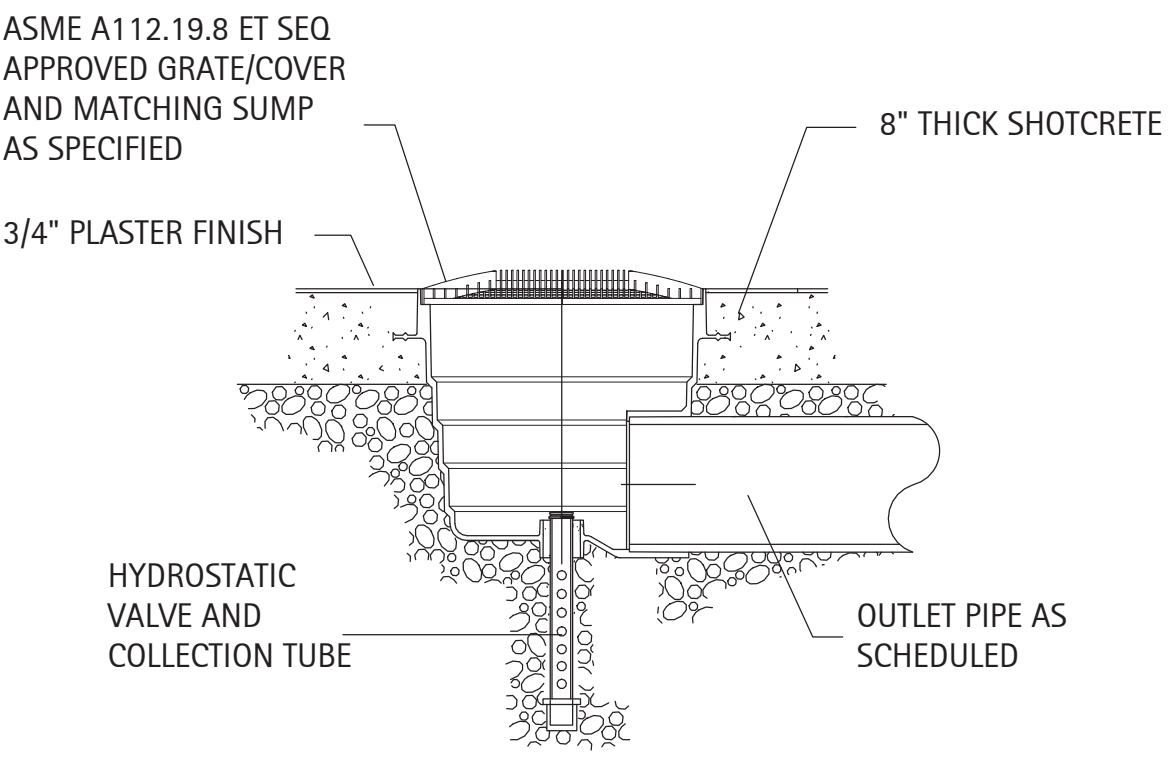
7 Detail - Inlet Pipe Detail
1" = 1'-0"



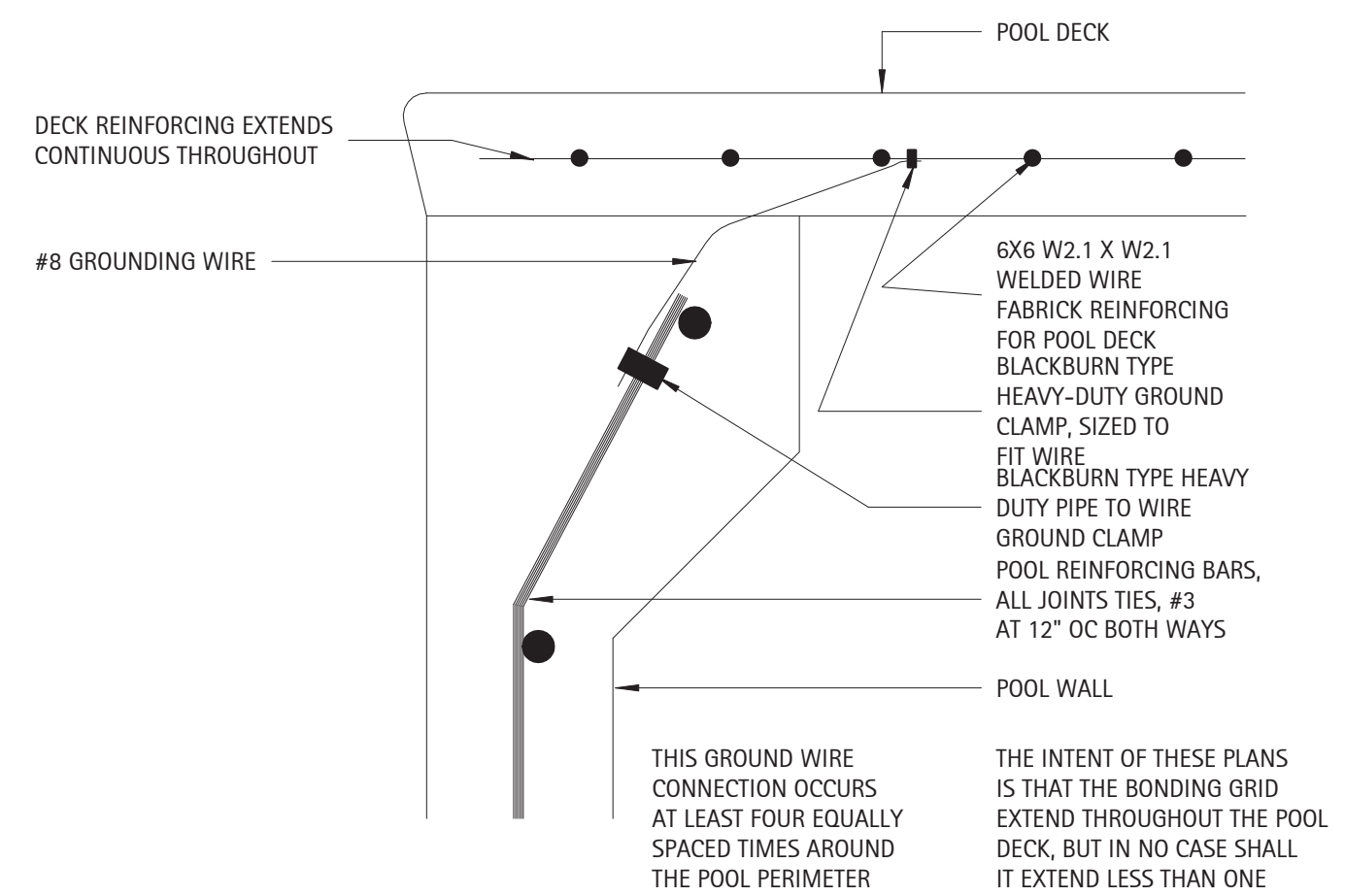
8 Detail - Vacuum Inlet Detail
1" = 1'-0"



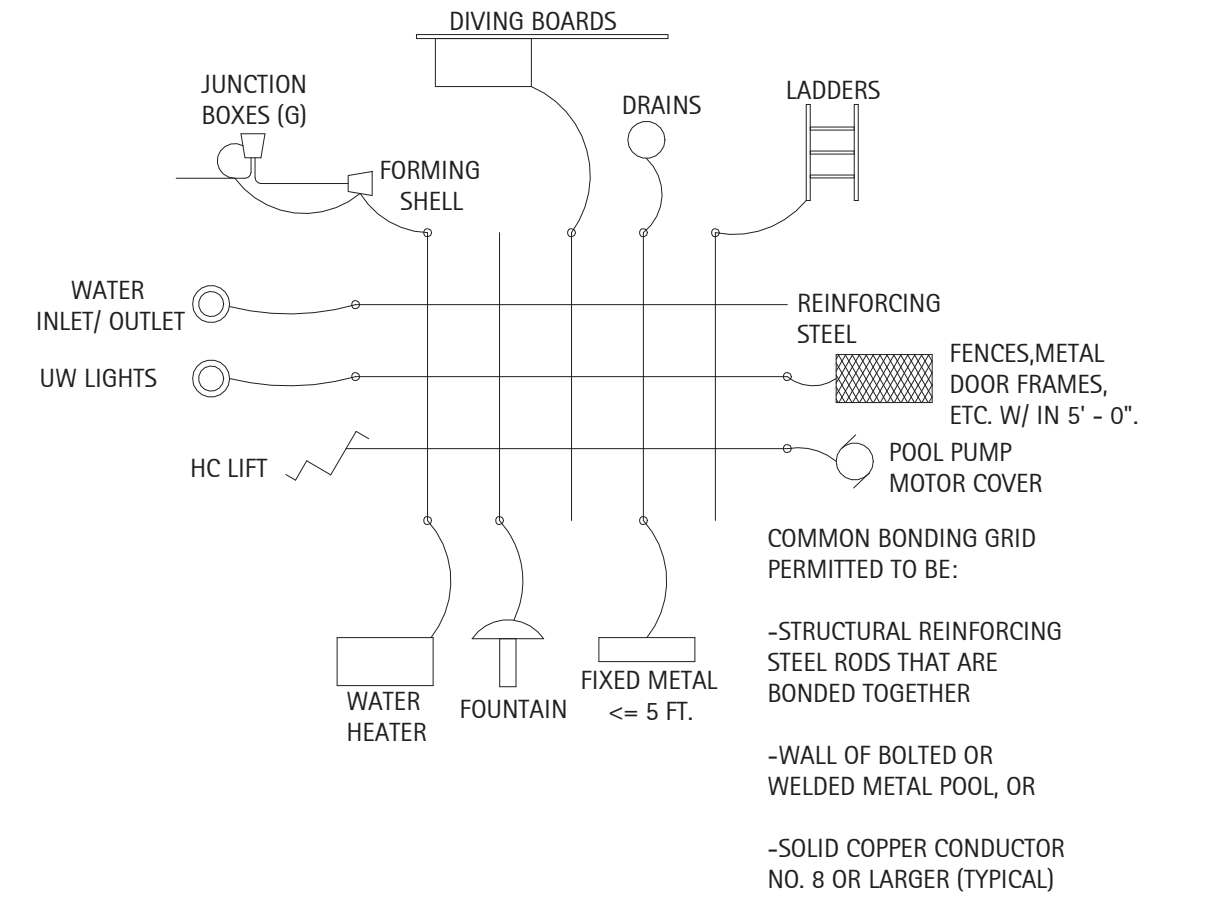
9 Detail - Pool Skimmer
1" = 1'-0"



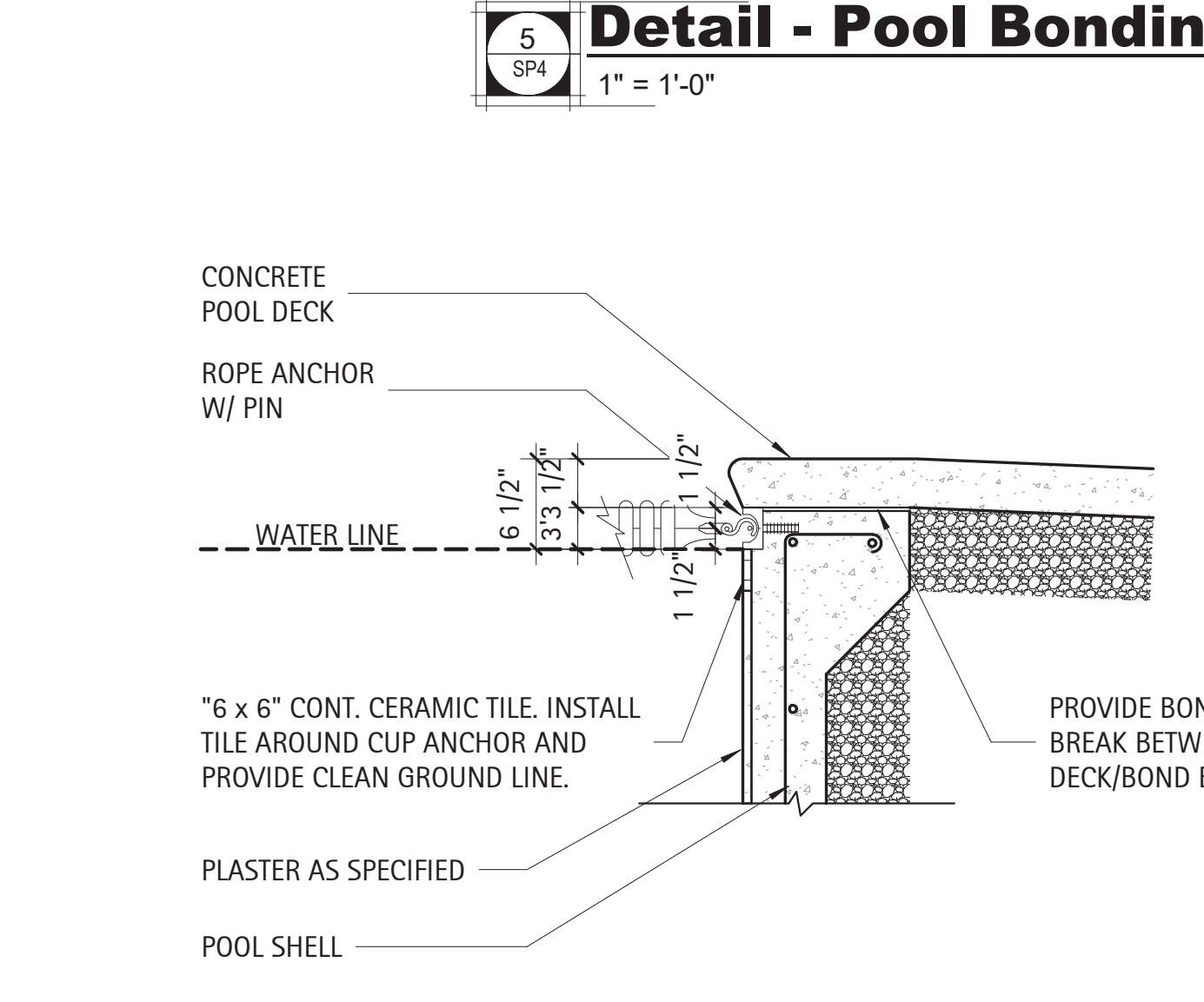
10 Detail - Main Drain
1" = 1'-0"



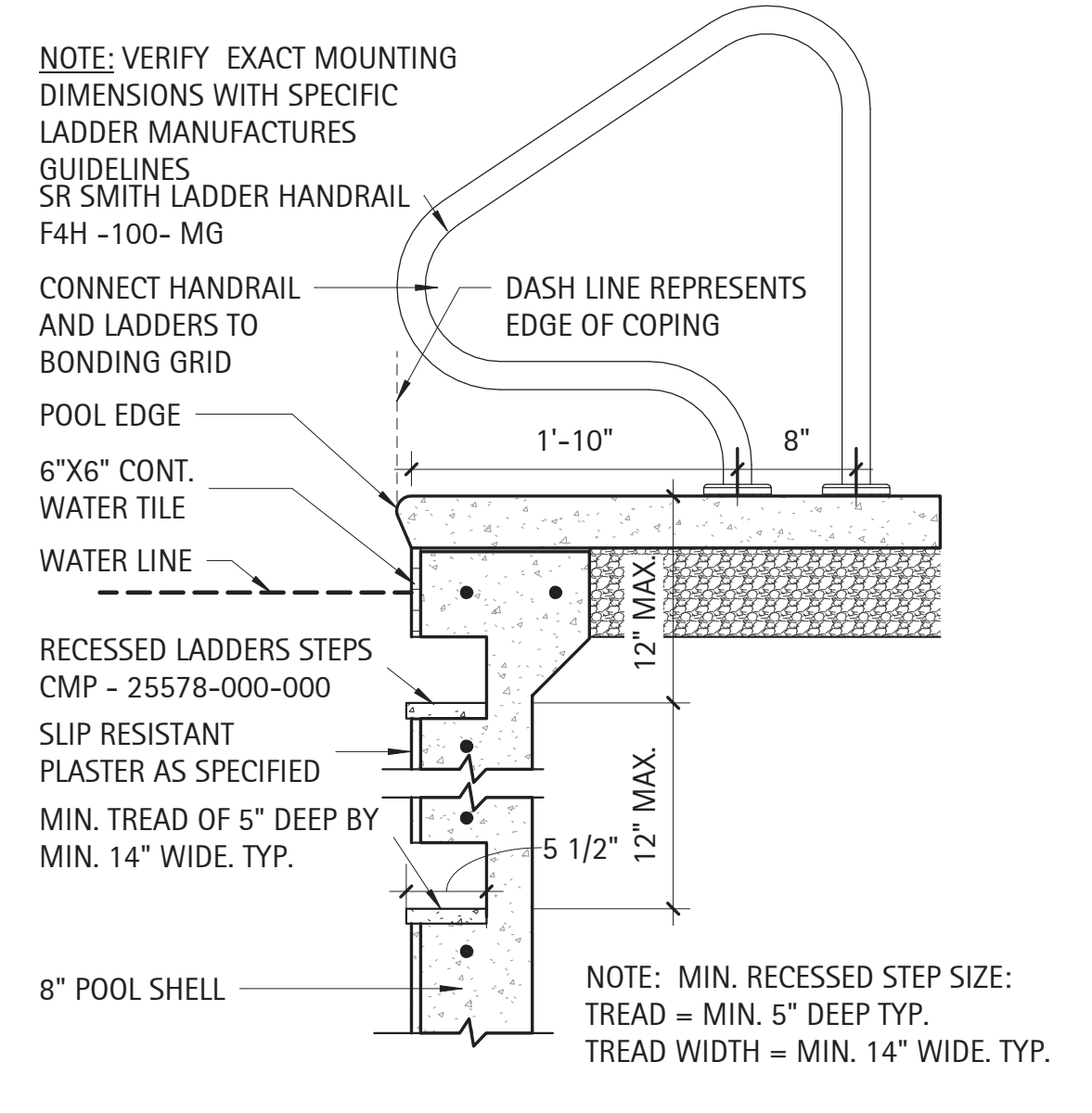
EQUIPOTENTIAL BONDING GRID DETAIL



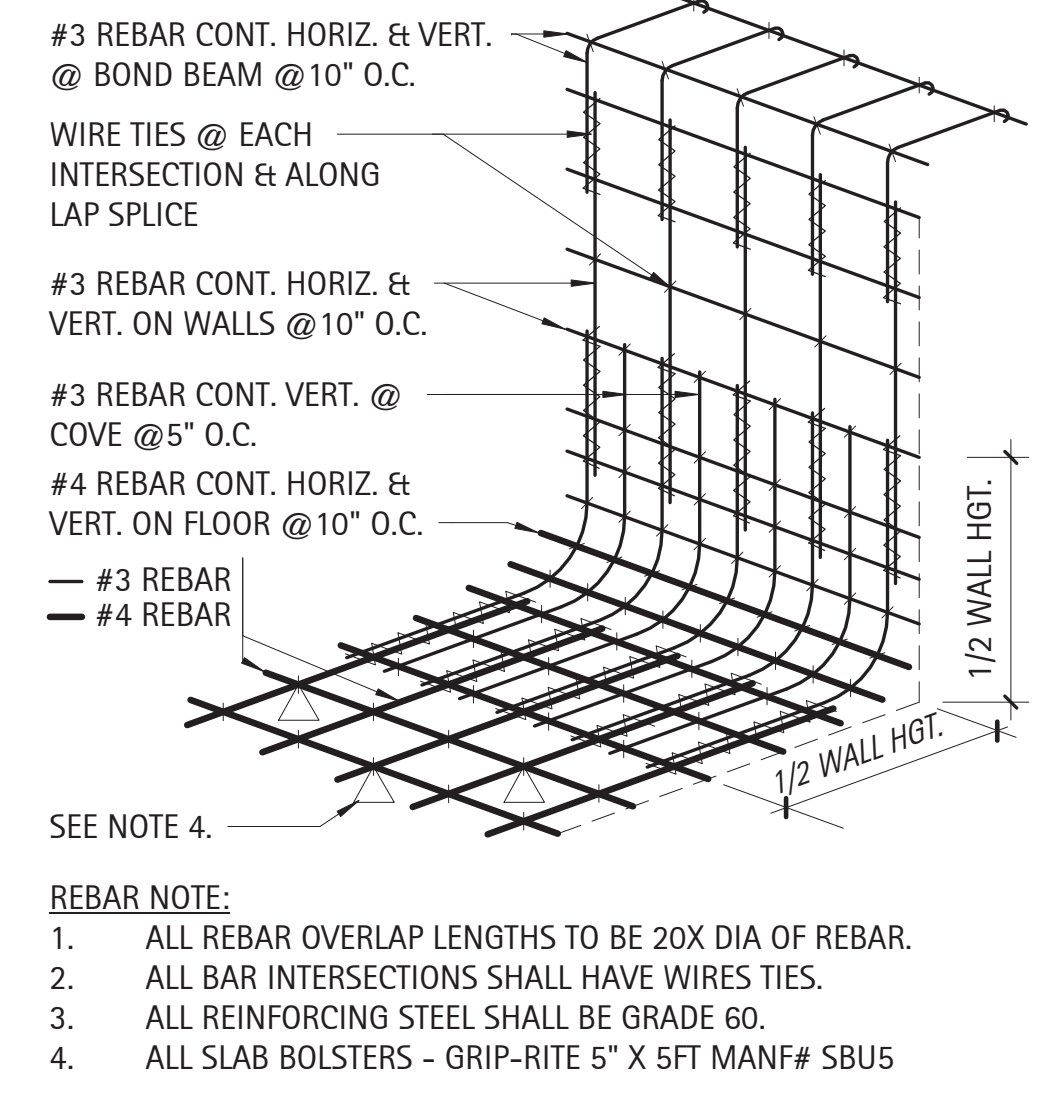
SWIMMING POOL BONDING RISER



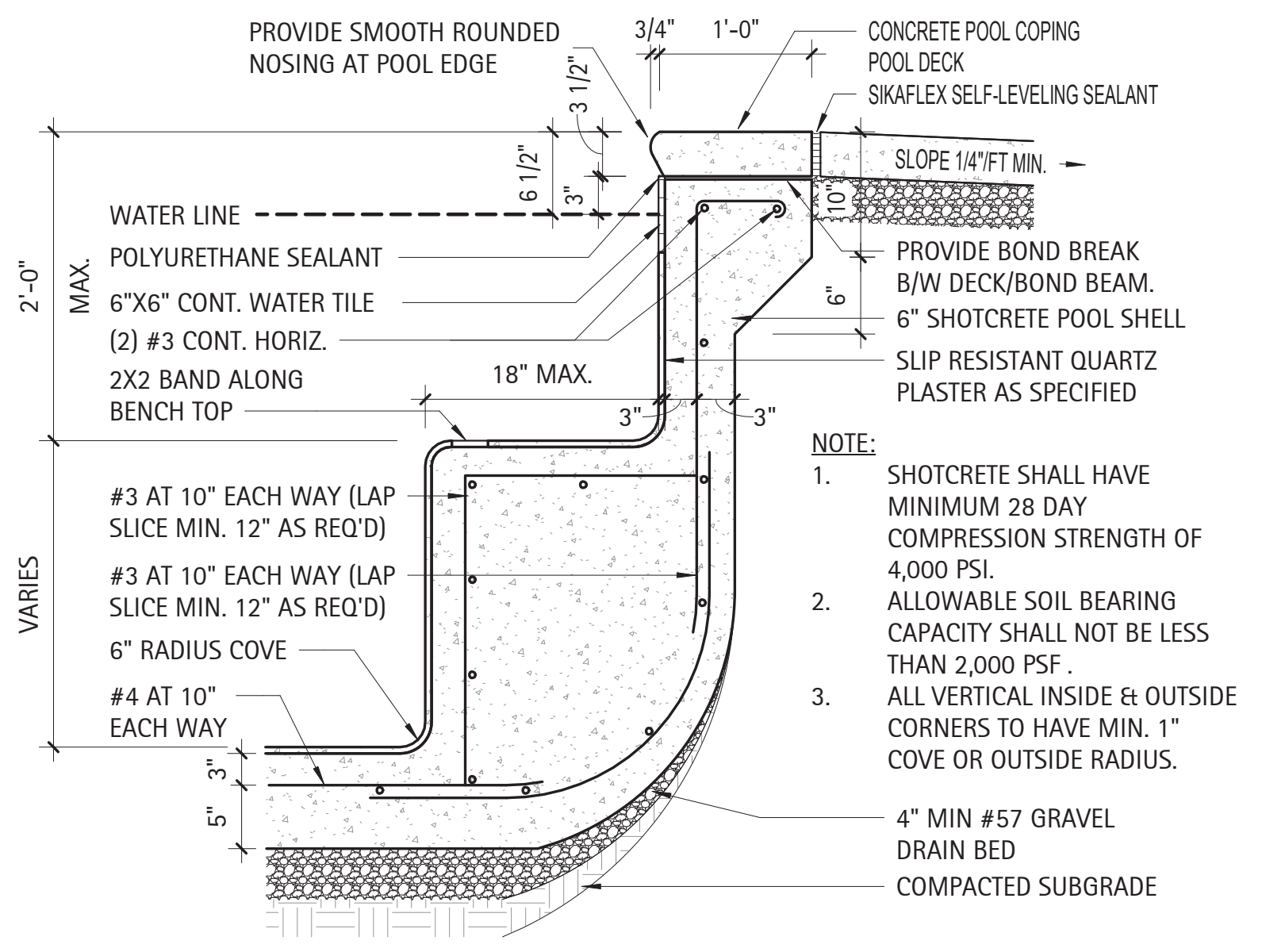
5 Detail - Pool Bonding
1" = 1'-0"



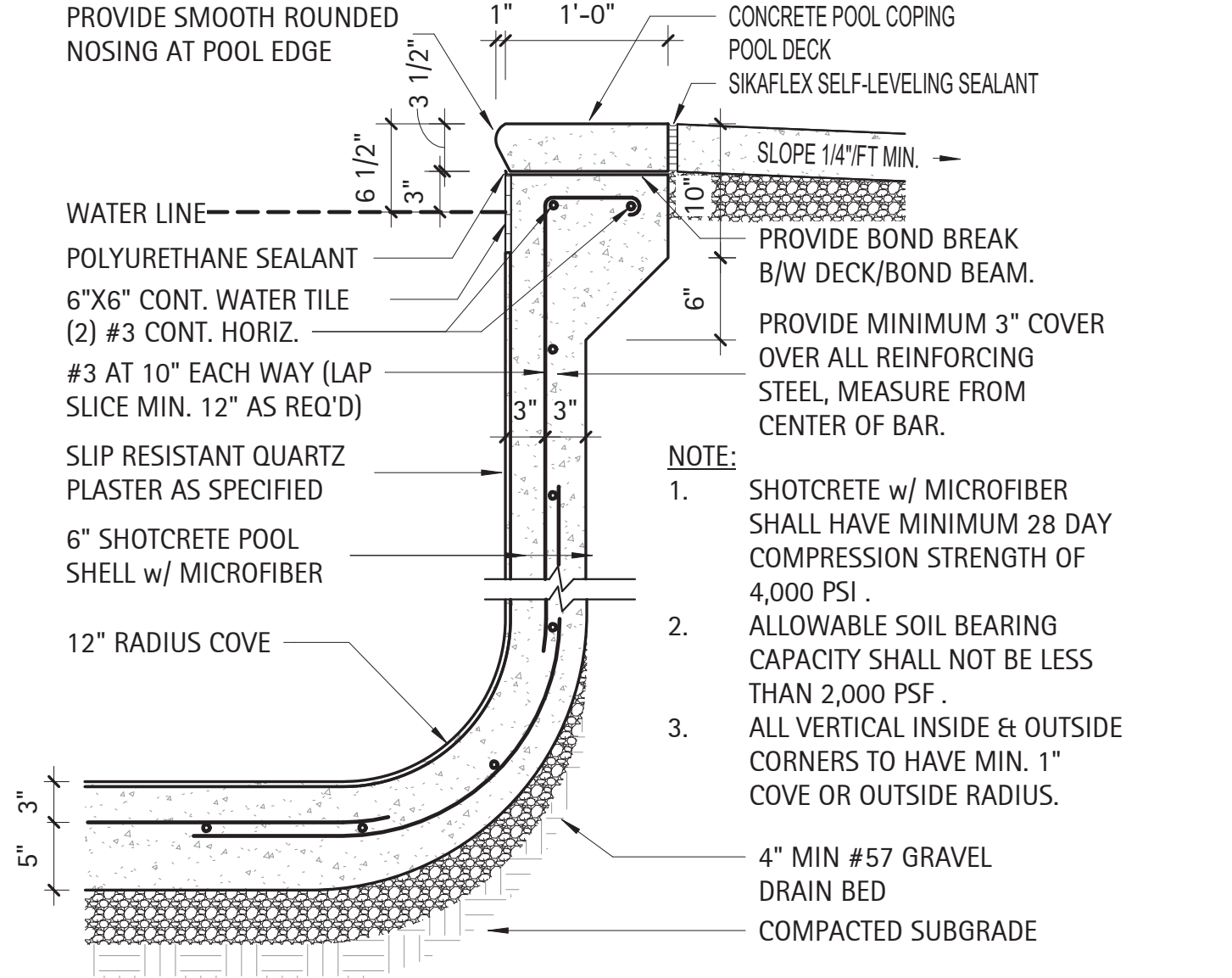
4 Detail - Ladder Steps
1" = 1'-0"



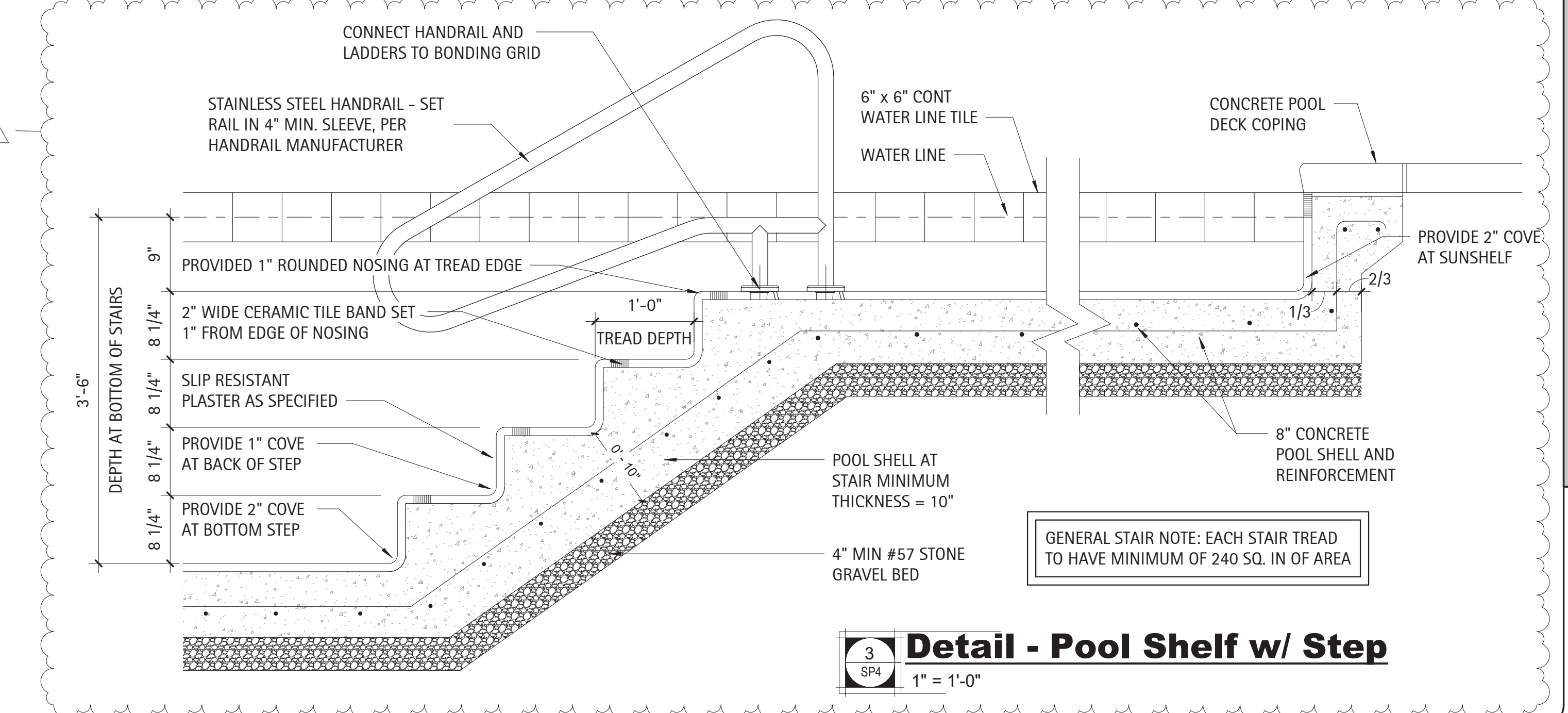
- REBAR NOTE:**
1. ALL REBAR OVERLAP LENGTHS TO BE 20X DIA OF REBAR.
 2. ALL BAR INTERSECTIONS SHALL HAVE WIRES TIES.
 3. ALL REINFORCING STEEL SHALL BE GRADE 60.
 4. ALL SLAB BOLSTERS - GRIP-RITE 5" X 5 FT MANF# SBU5



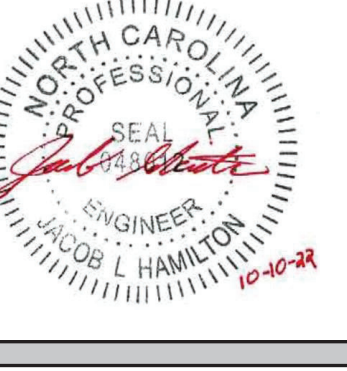
1 Detail - Pool Bench
1" = 1'-0"



2 Detail - Pool Wall
1" = 1'-0"



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



DATE	07/26/2022
REVISION	Field
NO.	3

Sections & Details

PROJECT #:	2018.037
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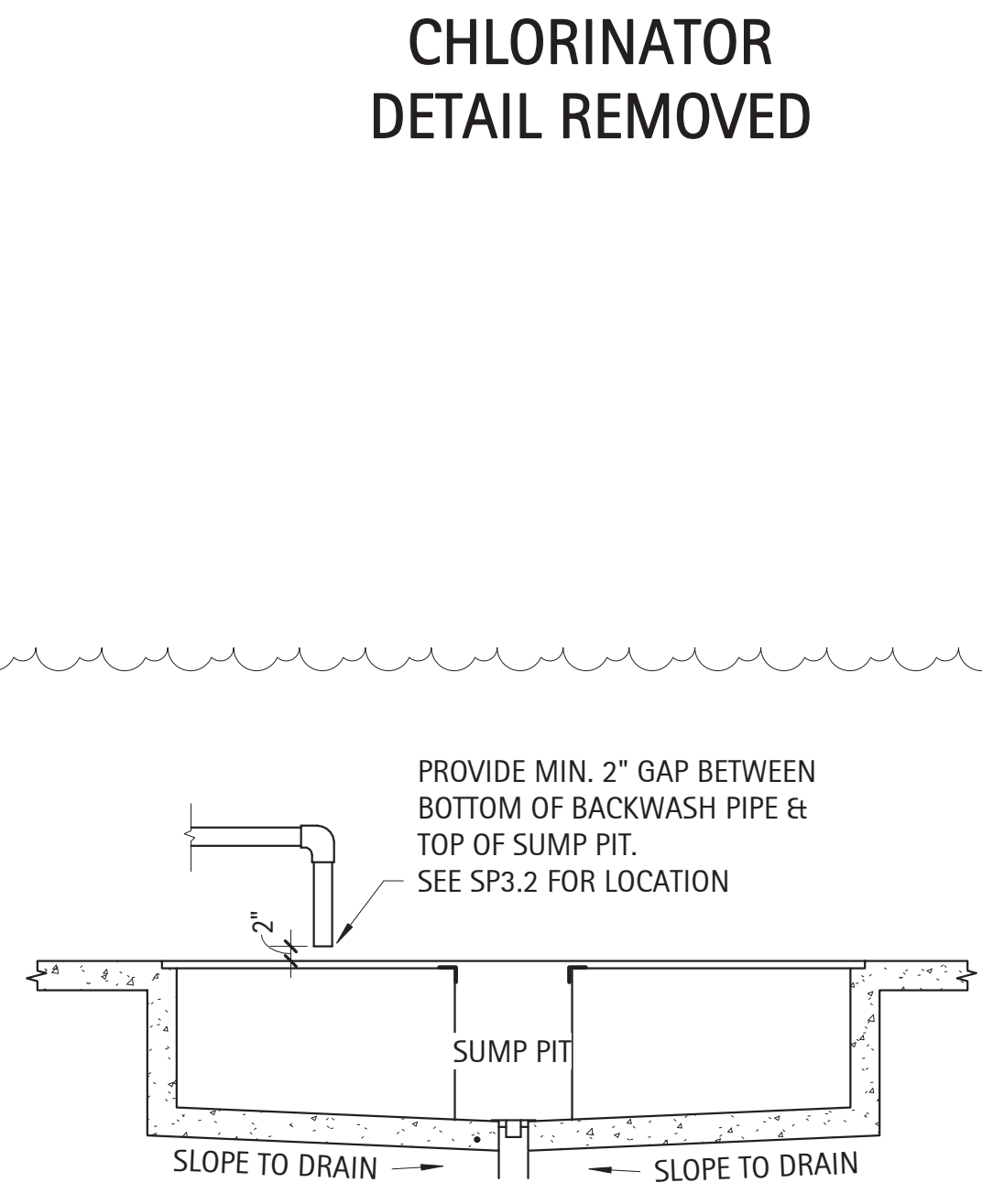
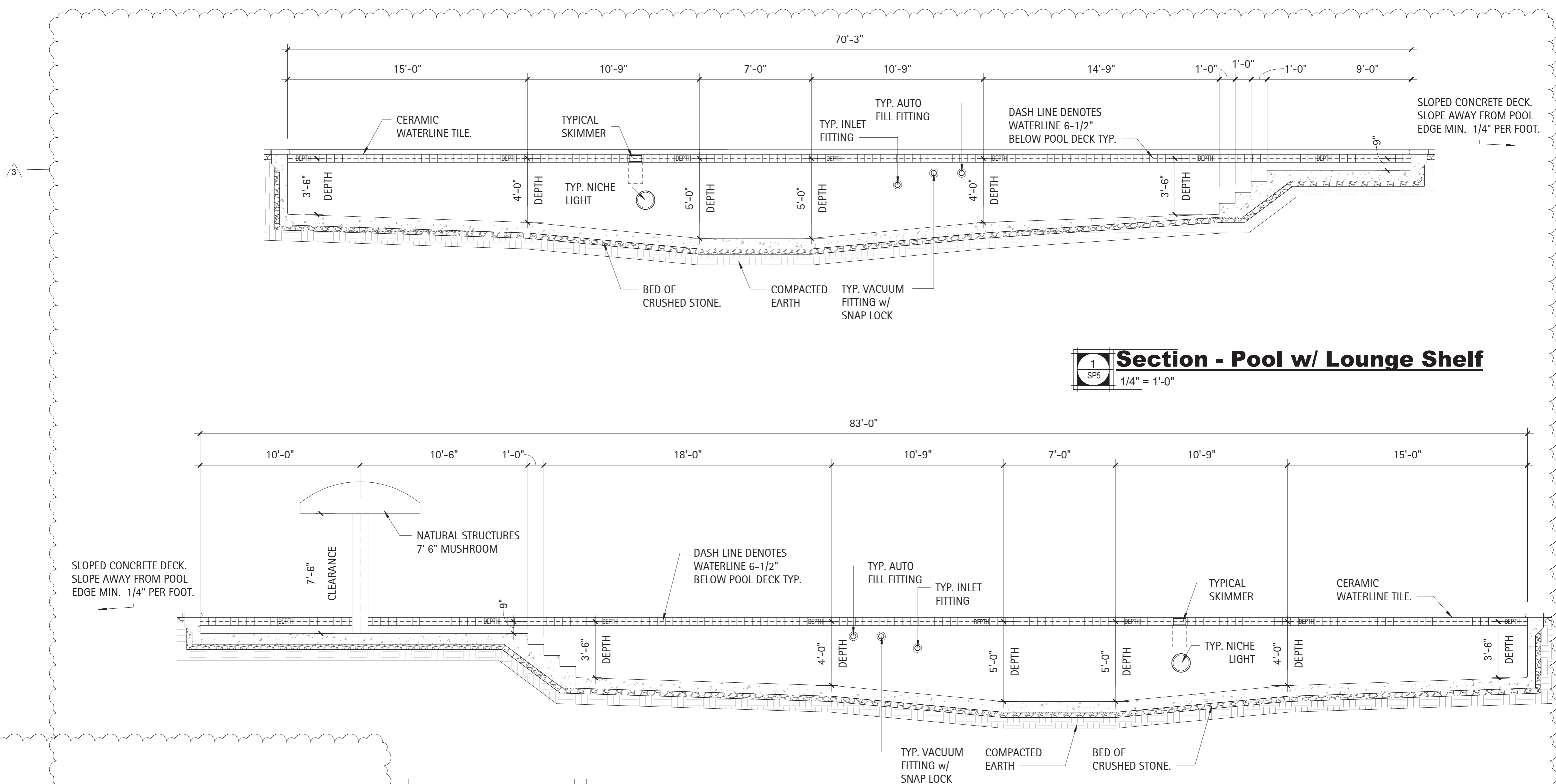
DATE	07/26/2022
REVISION	
NO.	3
Field	

SHEET DISCRPTION

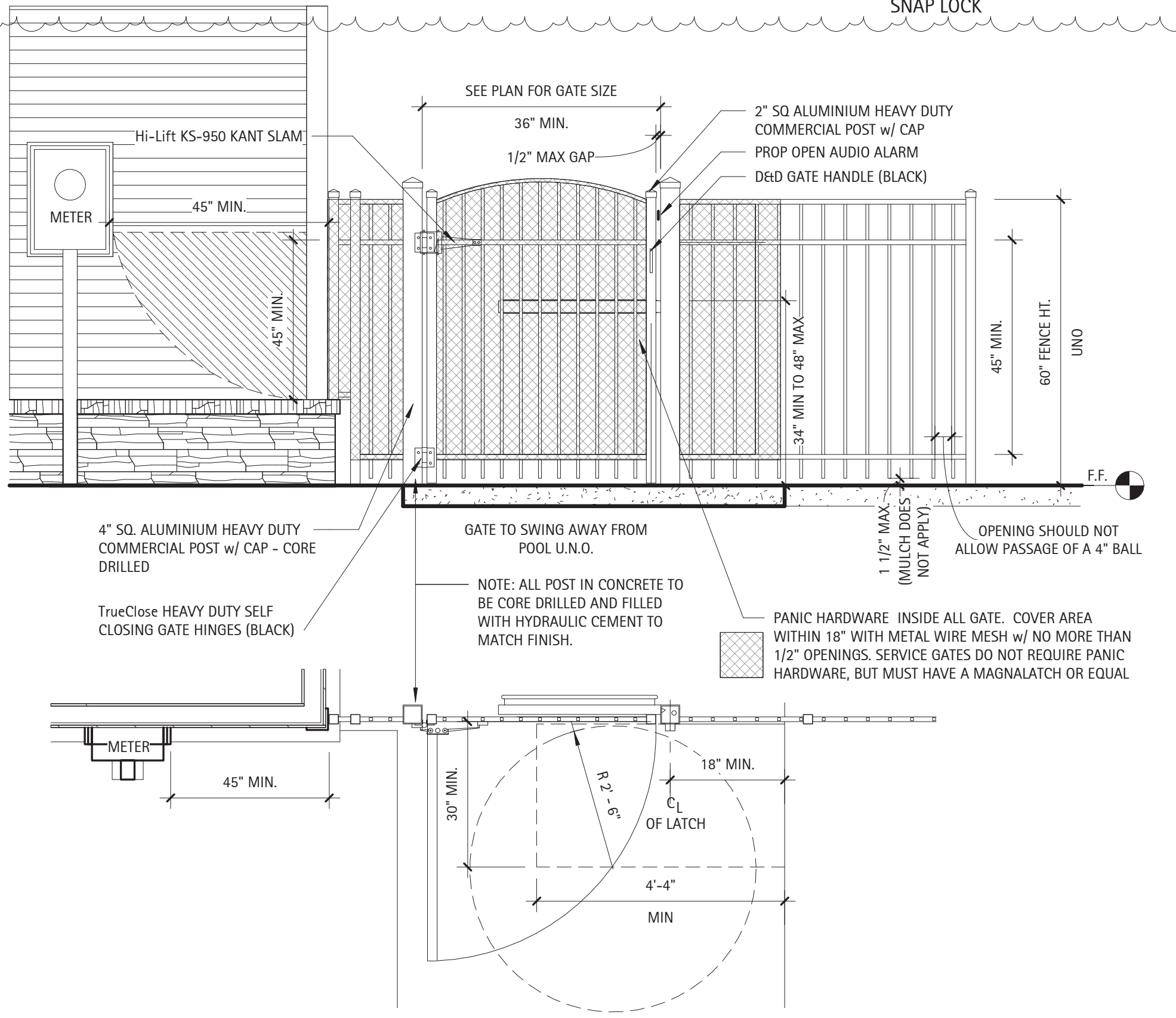
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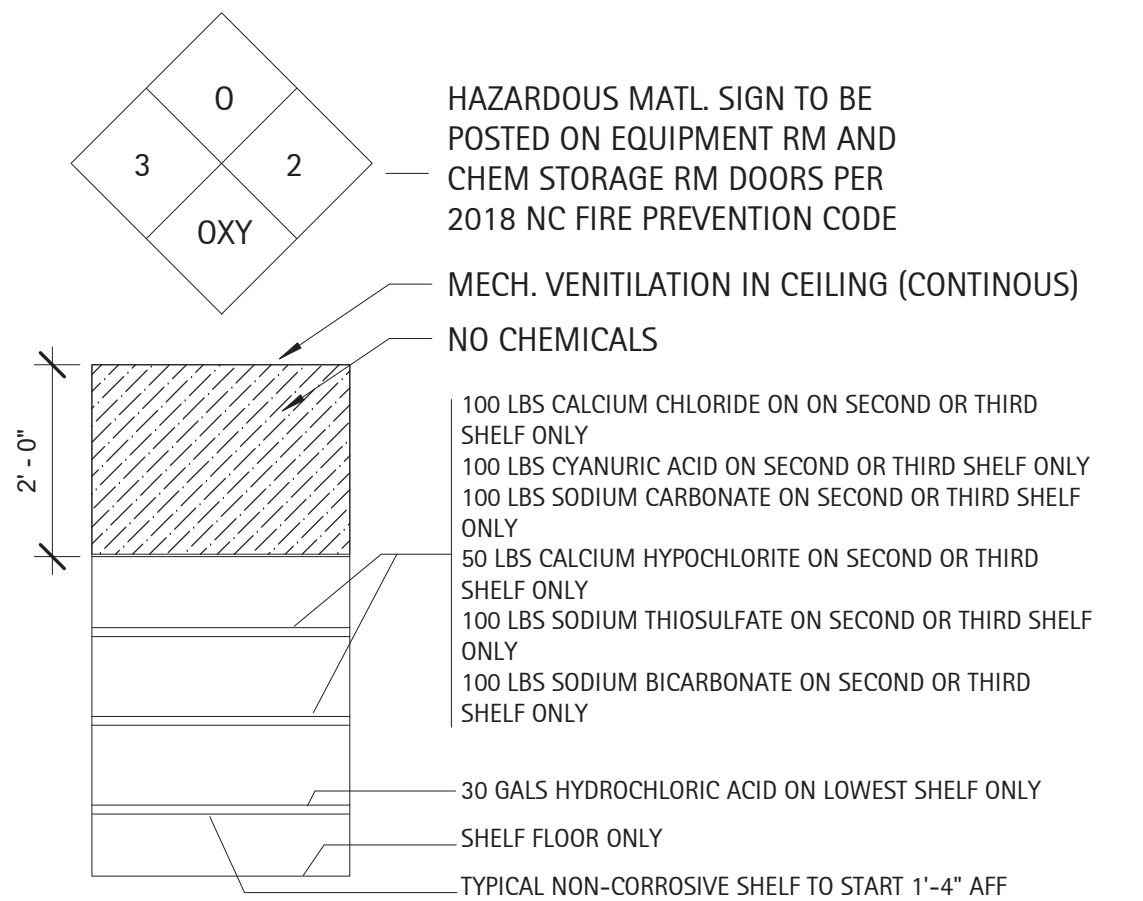
**SERENITY AMENITY
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CLUBHOUSE PLANS**
Fuquay-Varina, NC



6 SP5 Detail - 2" Air Gap
1/2" = 1'-0"



4 SP5 Detail - Fence
1/2" = 1'-0"



TYPICAL CHEMICAL ROOM SHELVEING w/ QUANTITIES

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

3 SP5 Detail - Chemical Storage
1/2" = 1'-0"

