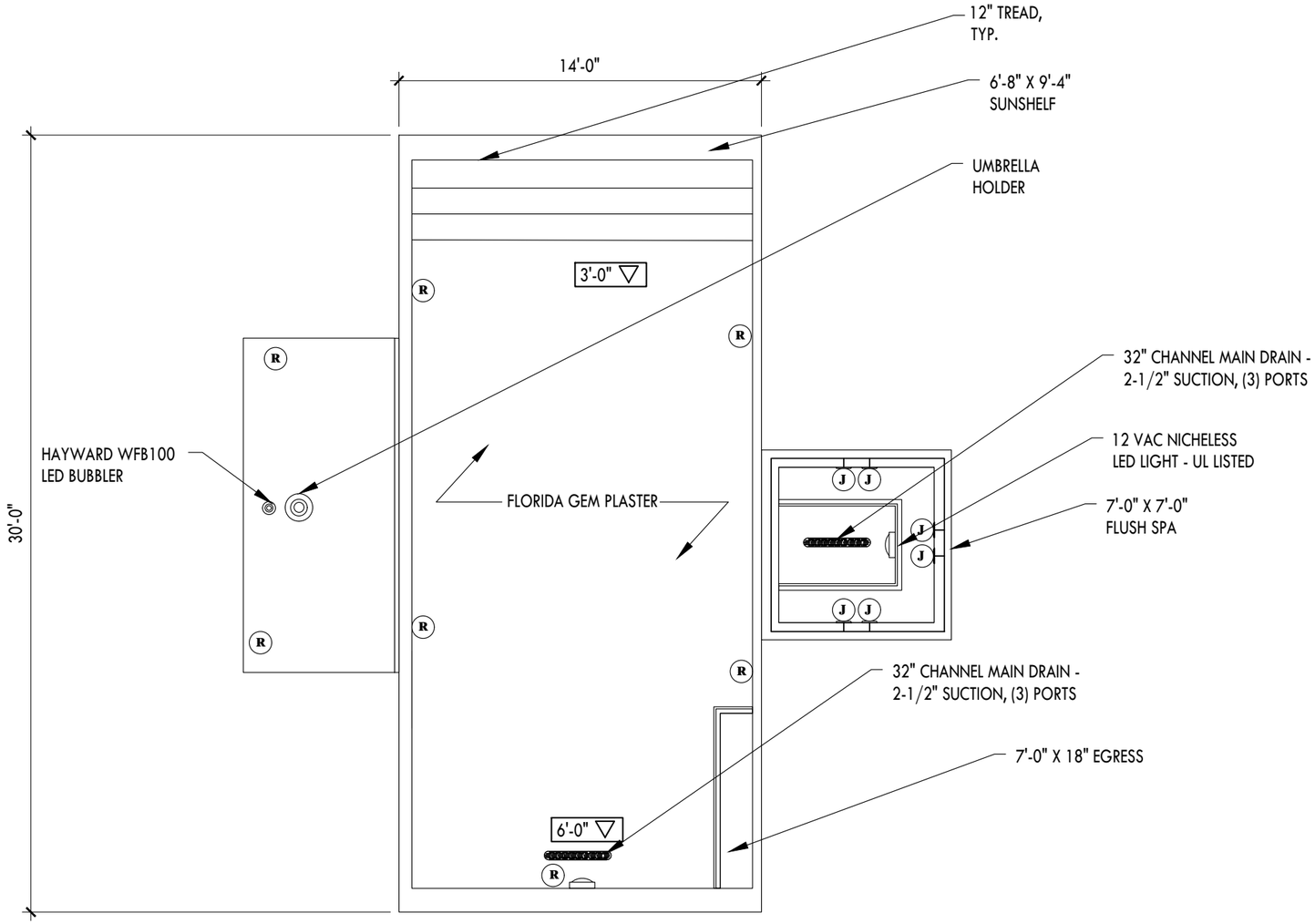
ALL INGRESS & EGRESSES SHALL BE ALARMED PER 454.2.17, 2023 FBC (8TH EDITION)

Columbia County Building Department
Plans Reviewed for Code Compliance
State of Florida

EQUIPMENT SCHEDULE		
ITEM	MODEL	MODEL
PUMP X2	PENTAIR INTELLIFLO3 3HP	011075, 3.0 HP, VS - 230 VAC
FILTER	AQUASTAR CARTRIDGE	PLF27000 - 200 FT² FILTER
AUTOMATION	PENTAIR INTELLICENTER	523962, WITH SALT SYSTEM
SANITATION	PENTAIR INTELLICHLOR	ICLPLUS40, 40K GALLON
LIGHTING	PENTAIR MICROBRITE	620426, (4) LIGHTS TOTAL
HEATER	AQUACAL 140K BTU HEAT PUMP	SQ140R, 140 KBTU/HR

POOL DIMENSIONS		
DECK	AREA	---
	PERIMETER	---
POOL	AREA	420 FT²
	PERIMETER	88'-0"
SPA	AREA	49 FT²
	PERIMETER	28 FT
DEPTH	SHALLOW	3'-0"
	DEEP	6'-0"



POOL & DECK PLAN

SCALE: $\frac{3}{16}$"=1'-0"

1
SP.1

Digitally signed by Jeffrey A Torres
Date: 2025.06.16 '14:37:16 -04'00

JEFFREY A. TORRES LICENSE No 80379 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Jeffrey A. Torres, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

JEFFREY A. TORRES, P.E.
FL PE #80379

SUNSMART ENGINEERING
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REV	DATE	REMARK	BY

PROJECT:

RESIDENTIAL SWIMMING POOL PLANS

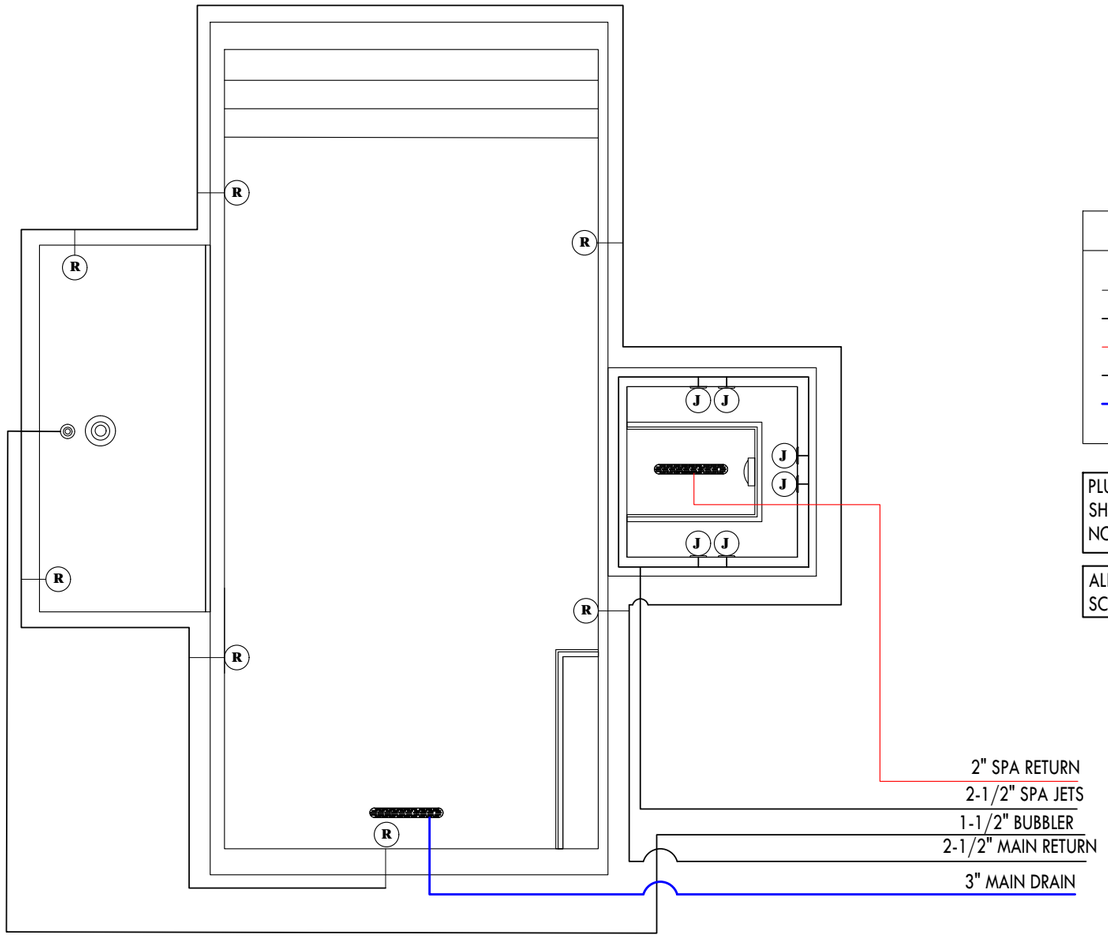
PROJECT NAME: DANIELLE MCCALLISTER RESIDENCE
PROJECT ADDRESS: 583 SW JEANLEA PL
FORT WHITE, FL 32038

DATE	6/13/25
DRAWN BY:	JLA
CHECKED BY:	JLA
REC. NO. #	35170
SCALE	AS NOTED

DRAWING #

SP.1

SHEET 1 OF 5

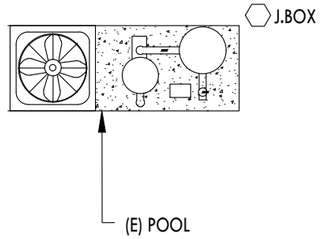


PLUMBING LEGEND

- 6"
- 1-1/2"
- 2"
- 2-1/2"
- 3"

PLUMBING & CONDUIT ROUTES SHOWN ARE DIAGRAMMATIC AND NOT INDICATIVE OF FINAL LOCATION.

ALL PIPING SHALL BE SCHEDULE 40 PVC



POOL PLUMBING PLAN

SCALE: $\frac{3}{16}$"=1'-0"

1 / SP.2

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SP.2
SHEET 2 OF 5

DOCUMENT NOT VALID WITHOUT SIGN AND SEAL

JEFFREY A. TORRES, P.E.
FL PE #80379

SWIMMING POOL NOTES

GENERAL

1. ALL POOL DESIGN, CONSTRUCTION AND WORKMANSHIP SHALL BE IN CONFORMITY WITH THE FOLLOWING REQUIREMENTS:
   - 2023 FBC: BUILDING (8TH EDITION)
   - 2023 FBC: RESIDENTIAL (8TH EDITION)
   - 2020 NATIONAL ELECTRIC CODE (NFPA 70)
   - ANSI/APSP/ICC-3
   - ANSI/APSP/ICC-5
   - ANSI/APSP/ICC-7
   - ANSI/APSP/ICC-15
2. DESIGN IS FOR MAX. 25'-0" x 50'-0" RESIDENTIAL POOL, WITH MAXIMUM DEPTH OF 8'-6".
3. FOR POOL PLAN, SIZE, DECK, AND SPECIAL DETAILS, SEE CONTRACTOR'S POOL PLAN.
4. DIVING EQUIPMENT INSTALLED SHALL MEET N.S.P.I. STANDARDS.
5. SWIM-OUTS OR LADDERS ARE REQUIRED ON RESIDENTIAL POOLS.
6. ALL GLASS WINDOWS OR DOORS WITHIN 5' OF WATER EDGE MUST COMPLY WITH R308.4 FOR SAFETY GLAZING.
7. THE CONTRACTOR MUST PROTECT EXISTING STRUCTURES FROM FAILURE BY ACCEPTABLE METHODS IF REQUIRED. THE ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE SAFETY OF EXISTING STRUCTURES.
8. THE DESIGN ENGINEER ASSUMES NO RESPONSIBILITY FOR POOL CONSTRUCTION IN EASEMENTS OR REQUIRED SETBACK AREAS. POOL CONTRACTOR AND/OR OWNER SHALL VERIFY THE LAYOUT AND ALL DIMENSIONS SHOWN PRIOR TO CONSTRUCTION.
9. CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL UTILITIES IN RELATION TO THE POOL AND ITS EQUIPMENT AND ENSURE MINIMUM CLEARANCES IN ACCORDANCE WITH LOCAL REGULATIONS AND ORDINANCES.
10. CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY FENCING AROUND THE CONSTRUCTION AREA TO PREVENT UNAUTHORIZED ENTRY INTO THE POOL AREA.
11. ALL POOL AND SPA HEATERS SHALL BE EQUIPPED WITH AN ON/OFF SWITCH MOUNTED FOR EASY ACCESS TO ALLOW THE HEATER TO BE SHUT OFF WITHOUT ADJUSTING THE THERMOSTAT SETTINGS AND TO ALLOW RESTARTING WITHOUT RELIGHTING THE PILOT LIGHT.
12. ALL STRUCTURAL, FILTRATION AND ELECTRICAL DETAILS OUTLINED IN THESE DRAWINGS ALSO RELATE TO SPA CONSTRUCTION.
13. THE POOL AREA SHALL BE FENCED OR SCREENED IN ACCORD WITH COUNTY OR CITY ORDINANCE. GATES OR SCREEN DOORS SHALL BE SELF-LATCHING AND SELF-CLOSING.
14. WARNING! POOL SHELL HAS NOT BEEN DESIGNED TO RESIST POSSIBLE HYDROSTATIC UPLIFT FORCES. TO EMPTY THE POOL FOR ANY REASON, THE HYDROSTATIC UPLIFT PRESSURE MUST BE ELIMINATED. THE OWNER MUST CONSULT A CONTRACTOR EXPERIENCED IN ELIMINATING UPLIFT PRESSURE.

STRUCTURAL

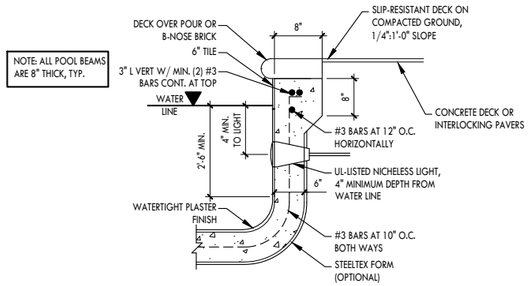
1. POOL SHALL BE REINFORCED CONCRETE FRAMED AND SPRAYED CONCRETE APPLICATION. CONCRETE SHALL HAVE MINIMUM (28) DAY COMPRESSIVE STRENGTH OF 3000 PSI.
2. REBAR TO BE GRADE 40 DEFORMED BARS TO BE BENT, LAPPED AND PLACED ACCORDING TO ASTM A615 & A.C.I. STANDARDS.
3. POOL WALLS SHALL BE 6" THICK AND FLOORS SHALL BE 6" THICK AND SHALL BE PNEUMATICALLY APPLIED CONCRETE WITH A COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS. CONCRETE DECKS SHALL BE 2,500 PSI. CONCRETE CONSTRUCTION WILL CONFORM TO ACI STANDARD 318.
4. ALL REINFORCING STEEL TO CONFORM TO ASTM 615, GRADE 40. REINFORCING SHALL BE #3 BARS AT 12" ON CENTER IN EACH DIRECTION, W/ 15" LAP JOINTS IN WALLS AND FLOORS UP TO 6'-0". WHERE THE POOL DEPTH IS OVER 6'-0" (MEASURED VERTICALLY DOWN FROM THE WATERLINE), USE #3 BARS AT 6" O.C. IN EACH DIRECTION IN THE AREAS THAT EXCEED 6FT IN DEPTH. IF CONCRETE IS CAST AGAINST BARE EARTH WITHOUT A SEPARATION BARRIER, THE MINIMUM COVER SHALL BE 3". WITH A BARRIER (STEELTEX) BETWEEN CONCRETE AND EARTH, THE MINIMUM COVER SHALL BE 1-1/2". MIN. COVER SHALL BE 11-12' BETWEEN STEEL AND MAIN DRAINS AND PIPING.
5. POOL OR PATIO SHALL BEAR ONLY ON ROCK OR CLEAN SAND, WHICH SHALL BE COMPACTED TO PROVIDE A STRUCTURALLY SAFE BEARING CAPACITY. ANY UNSUITABLE MATERIAL ENCOUNTERED IN EXCAVATION SHALL BE REMOVED IN ITS ENTIRETY AND THE AREA SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND PROPERLY COMPACTED. WHERE UNSUITABLE MATERIAL CANNOT BE REMOVED, THE POOL MUST BE REDESIGNED.
6. BACKFILL AROUND POOL IS PLACED IN 12" LAYERS MAX & COMPACTED TO 95% DENSITY MINIMUM.
7. PER FBCR CH3 322.3.4 CONCRETE SLABS BELOW BASE FLOOD ELEVATION SHALL BE INDEPENDENT OF MAIN STRUCTURE FOUNDATION, SHALL BE FRANGIBLE, A MAX OF 4" THICK, WITHOUT TURN DOWN EDGES, NO REINFORCING, AND ISOLATION JOINTS AT PILES & COLUMNS, WITH CONTROL JOINTS NO MORE THAN 4" O.C. IN BOTH DIRECTIONS.

PLUMBING

1. ALL POOL PIPING TO BE SCHEDULE 40 PVC, BEARING THE MARK OF NSF APPROVAL UNLESS OTHERWISE NOTED. PRESSURE TEST ALL PIPING TO A MINIMUM OF 35 PSI PRIOR TO BURIAL.
2. MAXIMUM VELOCITY IN SUCTION LINES SHALL BE 8 FPS. MAXIMUM VELOCITY IN PRESSURE LINES SHALL BE 10 FPS.
3. THERE SHALL BE AT LEAST (1) SKIMMER PER 800 FT² AND (1) WALL RETURN INLET PER 300 FT² OF POOL SURFACE.
4. IF A WATER SUPPLY IS PROVIDED, A MINIMUM 3" ATMOSPHERIC BREAK WILL BE PROVIDED. WATER SUPPLY & DISPOSAL SHALL BE SO ARRANGED TO INSURE AGAINST CONTAMINATION OF WATER SUPPLY.
5. SUCTION OUTLETS SHALL HAVE ANTI-VORTEX COVERS THAT COMPLY WITH ANSI/APSP/ICC-7 AND SHALL BE AN APPROVED ENTRAPMENT AVOIDANCE DEVICE.
6. PER FBC R322.2.4 ALL TANKS SHALL HAVE A HYDROSTATIC RELIEF VALVE INSTALLED IN THE MAIN DRAIN.

ELECTRICAL

1. ALL METALLIC POOL FITTINGS WITHIN 5'-0" OF THE INSIDE WALL AND DECK REINFORCING STEEL TO BE BONDED TO THE POOL REINFORCING STEEL WITH #8 AWG COPPER WIRE. THE #8 COPPER WIRE TO BE RUN INTERNALLY AND EXTERNALLY WITH THE NEC APPROVED PVC LIGHT CONDUIT FORM THE LIGHT NICHE TO THE JUNCTION BOX. COMPLETION OF THE POOL GROUNDING TO THE ELECTRICAL PANEL GROUND TO BE BY ELECTRICIAN.
2. BOND ALL SHEATHED CABLES, RACEWAYS, METAL PIPING AND ALL FIXED METAL PARTS NOT SEPARATED BY O PERMANENT BARRIER. IF WITHIN 5'-0" HORIZONTALLY FROM WATER AND 12'-0" VERTICALLY OF MAXIMUM WATER LEVEL.
3. EQUIPMENT & AREA AROUND POOL IS TO BE BONDED PER NEC 2020 680.26. INSTALL EQUIPOTENTIAL BONDING GRID TO 3'-0" OUT FROM WATERS EDGE USING #3 BARS TIED AT 12" O.C. E.W. OR 6x6x10 WELDED WIRE FABRIC OR USE #8 (MIN) BARE COPPER CONDUCTOR FROM 18" TO 24" FROM WATERS EDGE 4" TO 6" UNDER GROUND AROUND ENTIRE POOL. ALL METALLIC PARTS OF POOL & EQUIPMENT SHALL BE BONDED. A MIN 9 IN² CONDUCTIVE SURFACE IN CONTACT WITH WATER WILL BE BONDED.
4. ELECTRICAL SYSTEMS SHALL BE ELEVATED TO A MIN OF 1'-4" ABOVE BASE FLOOD ELEVATION.
5. QUANTITY OF POOL LIGHTING IS VARIABLE.
6. EXISTING ELECTRICAL RECEPTACLES WITHIN 10 FT OF POOL EDGE SHALL BE CAPPED PER NEC 2020 680.22. A MINIMUM OF ONE GFCI RECEPTACLE SHALL BE INSTALLED IN COMPLIANCE WITH NEC 2020 680.22(3).

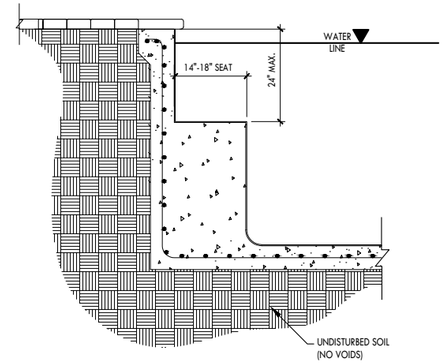


TYPICAL POOL WALL

TYPICAL POOL WALL SECTION DETAIL

SCALE: N.T.S.

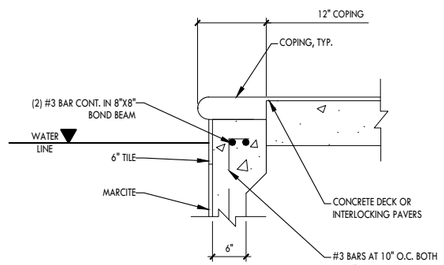
1 / SP.3



TYPICAL BENCH/SWIMOUT DETAIL

SCALE: N.T.S.

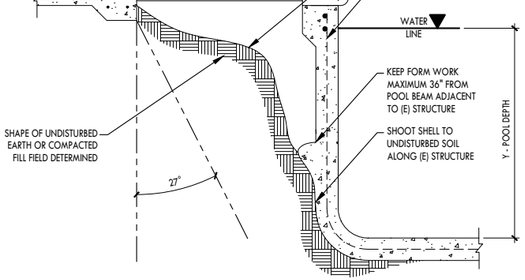
2 / SP.3



TYPICAL WALL COPING DETAILS

SCALE: N.T.S.

3 / SP.3



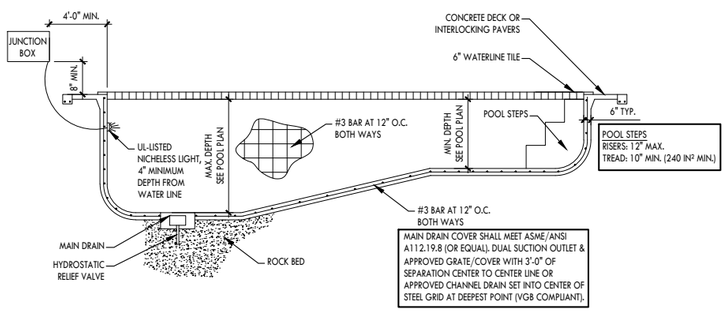
POOL/SPA INTERFACE WITH SPILLWAY DETAIL

SCALE: N.T.S.

4 / SP.3

POOL SHELL REINFORCING REQUIREMENTS	
CASE	REQUIREMENT
X > Y + 1	REPOSE ANGLE IS WITHIN TOLERANCE FOR SINGLE STEEL
X ≤ Y	DOUBLE STEEL REQUIRED - #3 BAR AT 6" O.C. BOTH WAYS
X ≤ Y - 1.5	SHORING REQUIRED - CONSULT E.O.R. FOR SHORING REQ'S

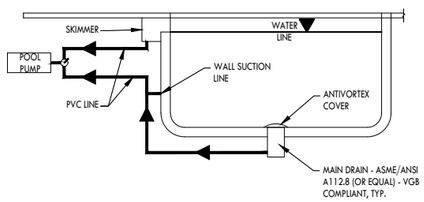
NOTES:
1. X = DISTANCE FROM EXISTING STRUCTURE TO POOL SHELL EDGE IN FEET.
2. Y = POOL DEPTH IN FEET.
3. FBC 2023 8TH ED SECTION 1804.1: EXCAVATIONS SHALL NOT REDUCE LATERAL SUPPORT FROM ANY FOUNDATION.
4. FORCE TRANSMISSION FROM FOOTING DOWNWARD IS TYPICALLY TAKEN AS 2: 1 SLOPE, 27 DEG FROM VERTICAL. NO SHELL MITIGATION REQUIRED.
5. PROVIDE FOR MECHANICAL COMP ACTION OF BACK FILL BETWEEN EXISTING STRUCTURE AND POOL SHELL.
6. IF DURING EXCAVATION, SOIL CONDITIONS APPEAR TO LEAD TO LOSS OF CONTACT THE ENGINEER FOR FURTHER MITIGATION REQUIREMENTS.
7. IF AFTER EXCAVATION, THE CONTRACTOR FINDS A LOSS OR THREATENED LOSS OF SOIL SUPPORT AT THE FOUNDATION, CONTACT THE ENGINEER FOR MITIGATION SPECIFICATION.
8. THIS IS SUPPLEMENTAL TO STANDARD STRUCTURE DETAILS SHOWN ON THIS SHEET.
9. CONTACT ENGINEER IF CONDITIONS DIFFERENT FROM THOSE SHOWN HERE ARE FOUND DURING CONSTRUCTION.



TYPICAL POOL SECTIONS

SCALE: N.T.S.

5 / SP.3



FLOW THROUGH SCH. 40 PVC PIPE			
PIPE SIZE	FLOW VELOCITY		
Ø	6 FPS	8 FPS	10 FPS
1"	16 GPM	21 GPM	26 GPM
1.5"	38 GPM	51 GPM	63 GPM
2"	63 GPM	84 GPM	105 GPM
2.5"	90 GPM	119 GPM	149 GPM
3"	138 GPM	184 GPM	230 GPM

PER FBC, VERIFY MAX. FLOW RATE ON PUMP SUBMITTAL IS NOT MORE THAN TWICE SHOWN IN TABLE FOR PIPE SIZE USED. THERE ARE (2) SUPPLIES & RETURNS (MIN) SO PUMP FLOW IS DIVIDED BETWEEN THEM.

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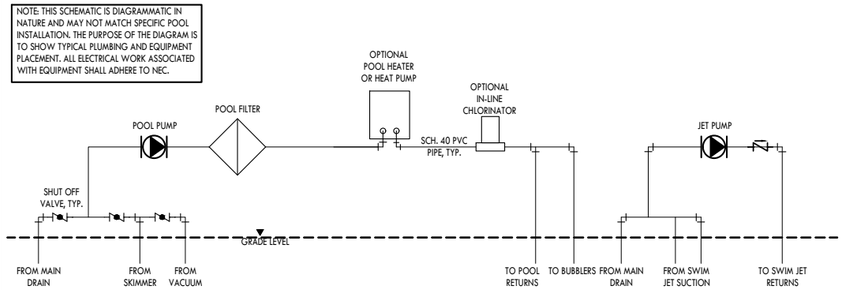
FL PE #80379



TYPICAL POOL EQUIPMENT PLUMBING SCHEMATIC

SCALE: N.T.S.

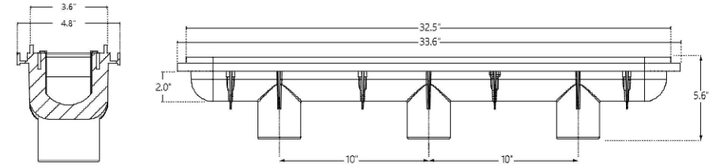
1 / SP.4

TECHNICAL GUIDE

- Single or Multiple Drain Use
- Seven Year Life on Cover
- Floor or Wall Installation
- IAPMO Listed
- 38.79in² Open Area
- Three 2" Socket × 2.5" Spigot Ports
- PVC Sump Body

IAPMO LISTED FLOW RATES			
PLUMBING	PORTS	FLOOR FLOW RATE	WALL FLOW RATE
2.5"	OUTER	308 GPM	212 GPM
2.5"	CENTER	200 GPM	168 GPM
2"	OUTER	268 GPM	192 GPM
2"	CENTER	184 GPM	176 GPM

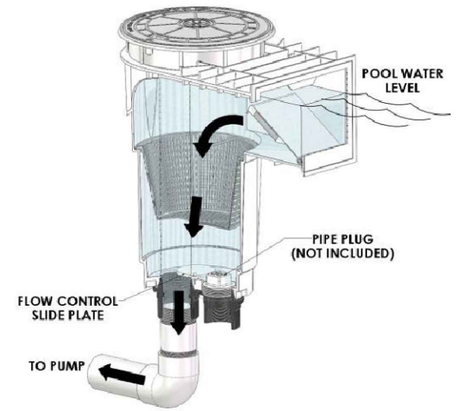
FLOW RATE VERIFIED MAY 2011 TO CPSC TEST PROTOCOL



TYPICAL CHANNEL MAIN DRAIN DETAIL

SCALE: N.T.S.

2 / SP.3



TYPICAL SKIMMER DETAIL

SCALE: N.T.S.

3 / SP.4

NOT USED

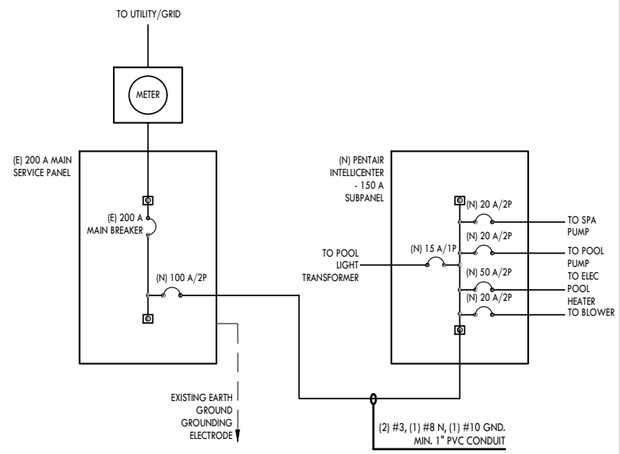
SCALE: N.T.S.

4 / SP.4

NOT USED

SCALE: N.T.S.

5 / SP.4



ELECTRICAL RISER DIAGRAM

SCALE: N.T.S.

6 / SP.4

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SHEET 4 OF 5

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FL PE #80379

ANSI/APSP 7 TOTAL DYANMIC HEAD SYSTEM CALCULATIONS

FILTER PUMP DATA

PUMP TYPE: PENTAIR INTELLIFLO VSF 3 HP (013004)
MAXIMUM FLOW: 170 GPM

REQUIRED MINIMUM POOL FLOW RATE

POOL LENGTH:	30	FT.	**SPA JET QTY.**	6	
POOL WIDTH:	14	FT.	**GPM PER JET:**	12	GPM
AVG. POOL DEPTH:	4.5	FT.	**TOTAL SPA JET FLOW:**	72	GPM
POOL VOLUME:	14137	GAL.			
TURNOVER TIME:	4	HOURS	**ADDITIONAL FLOW:**	0	GPM
MIN. FLOW RATE:	58.91	GPM	**QTY. OF RETURNS:**	7	

SYTEM DESIGN FLOW RATE: 72.00 GPM (MAXIMUM OF MINIMUM POOL FLOW RATE AND SPA JET FLOW RATE)

TOTAL DYNAMIC HEAD LOSS THROUGH PIPING

LOCATION	PIPE SIZE	FLOW RATE	LENGTH	VELOCITY	LOSS/100 FT.	TOTAL LOSS
	IN.	GPM	FT.	FT./SEC.	FT.	FT.
MAIN SUCTION	3	72.00	100	3.27	1.291	*1.291*
BRANCH SUCTION	2	36.00	20	3.68	2.571	*0.514*
MAIN RETURN	2.5	58.91	100	3.85	2.161	*2.161*
SUB RETURN	2	36.00	30	3.68	2.571	*0.771*
BRANCH RETURN	1.5	10.29	30	1.87	1.024	*0.307*
TOTAL						***5.045***

NOTE: ALL PIPE LENGTHS SHOWN SHALL BE CONFIRMED IN THE FIELD PRIOR TO CONSTRUCTION OR CONTRACTOR ACCEPTS FULL RESPONSIBILITY

EQUIPMENT LOSSES

FILTER TYPE: AQUASTAR PLF27000
HEATER TYPE: PENTAIR MASTERTEMP 400

FILTER LOSS:	6	FT.
HEATER LOSS:	8	FT.
OTHER LOSSES:	4	FT.

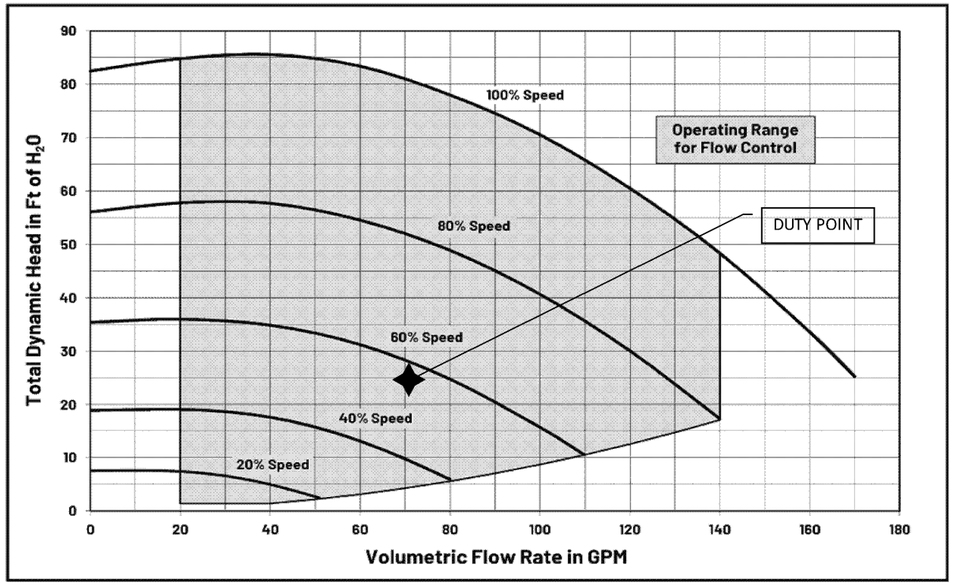
SYSTEM DESIGN VERIFICATION

SYTEM DESIGN FLOW RATE: 72.00 GPM
TOTAL LOSS: 23.045 FT.
--> SEE PUMP CURVE

MAIN DRAIN USED: CHANNEL MAIN DRAIN
MAXIMUM FLOW RATE: 168.00 GPM

168.00 > 72.00 ---> **OK**

Pump Performance Curves (3 HP Models)



SWIMMING POOL CALCULATIONS
SCALE: N.T.S.

1
SP.5

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