City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

PERMIT CARD – PLEASE POST AT JOB SITE

THIS DOCUMENT BECOMES YOUR PERMIT WHEN PROPERLY VALIDATED

Per FBC 105.3.3: An enforcing authority may not issue a building permit for any building construction, erection, alteration, modification, repair or addition unless the permit either includes on its face or there is attached to the permit the following statement: **"NOTICE: In addition to the requirements of this permit, there may be additional restrictions applicable to this property that may be found in the public records of this county, and there may be additional permits required from other governmental entities such as water management districts, state agencies, or federal agencies."** The issuance of this permit does not grant permission to violate any applicable City, Orange County, State of Florida and/or Federal codes and/or ordinances. Separate permits are required for Signs, Roofing, Electrical, Gas, Plumbing and Mechanical services. This permit becomes VOID if the work authorized is not commenced within 6 months, or is suspended or abandoned for a period of 6 months after commencement. WORK SHALL BE CONSIDERED SUSPENDED IF AN APPROVED INSPECTION HAS NOT BEEN MADE WITHIN A 6 MONTH PERIOD. PERMISSION IS GRANTED TO DO THE FOLLOWING WORK ACCORDING TO THE CONDITIONS HEREON AND THE APPROVED PLANS AND SPECIFICATIONS, SUBJECT TO COMPLIANCE WITH THE ORDINANCES OF THE CITY OF BELLE ISLE, FLORIDA.

Scope of Work: BUILDING: pool & deck

Comments: None

Project Information
Address: 4124 Isle Vista Avenue, Belle Isle, FL 32812
Parcel ID: 20-23-30-0669-00-350
Property Owner: JPC Construction Inc
Phone Number: 954 947 5400

****

Company Name: Dreamscapes Pools & Spas, LLC
Contractor Name: Mark Shaughnessy
License Number: CPC1457433
Address: 1330 Tropic Park Drive, Sanford, FL 32773
Phone Number: 407-268-3539

Permit Number: 2017-03-091

Date of Application: 03/28/2017
Date Permit Issued: 04/14/2017

WARNING TO OWNER: "YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT." ON THE JOB INSPECTION(S) MUST BE MADE BEFORE PROCEEDING WITH SUBSEQUENT WORK. THIS CARD MUST BE DISPLAYED OUTSIDE AND BE PROTECTED FROM THE WEATHER WHILE BEING VISIBLE FROM THE STREET UNTIL THE FINAL INSPECTIONS HAVE BEEN APPROVED.

BUILDING FEATURES

IMPACT FEES
School $
Traffic $

ZONING FEES
Zoning Fee $165.00

UNIVERSAL ENG - BUILDING FEES

Cert of Occ	$
Demo	$
Building	$271.50
Fence	$
Driveway	$
Shed	$
Window(s)	$
Door(s)	$
PrePower	$
Electrical	$
Temp Pole	$
Plumbing	$
Mechanical	$
Gas	$
Roofing	$
Boat Dock	$
Screen Encl	$
Swimming Pool	$
Sign	$

SURCHARGE FEES

Surcharge Fee	$4.07
Surcharge Fee	$4.07

TOTAL FEES $444.64

Date Paid 4-17-17
CC or Check # 5201
Amount Paid 444.64

The person accepting this permit shall conform to the terms of the application on file and construction shall conform to the requirements of the Florida Building Code (FS 553).

BUILDING INSPECTOR USE ONLY

IF APPLICABLE:
Have Zoning Approval Conditions Been Met? YES NO **Have Stormwater Approval Conditions Been Met?** YES NO **Silt fencing in place?** YES NO **Turbidity Barrier in place?** YES NO

☐ **BUILDING**
1st _____ (Footing/Foundation)
Survey specific foundation plan must be onsite before slab pour. Approved Plan on Site? ____
2nd _____ (Slab)
3rd _____ (Lintel)(Wall Reinforcing on Masonry Building)
4th _____ (Exterior Framing)(Roof/Wall Sheathing)
5th _____ (Framing) (To be made after Plumbing/ Mechanical/ Electrical Rough-Ins & Windows/Doors Installed)
6th _____ (Insulation to be Made After Roof Installed)
7th _____ (Drywall)
8th _____ (Sidewalk/Driveway)
9th _____ (Other)
10th _____ (Final – After MEP and Other Applicable Finals)

☐ **ROOFING**
1ST ROOFING Deck Nailing/Dry-in/Flashing _____
2nd ROOFING Covering In-Progress _____
3rd ROOFING Covering Final _____

☐ **PLUMBING** (Pool-Piping, Solar, Irrigation, Water Treatment Equip, Etc...)
☐
1ST _____ (Underground) 2nd _____ (Sewer)
3rd _____ (Rough-In/Tub Set) 4th _____ (Final)

CHECK APPROPRIATE BOX
☐ **GAS** __**Natural** ___**LP** ☐ **MECHANICAL** ☐**ELECTRICAL** ☐ **LOW VOLTAGE**
1st _____ (Rough-In) 2nd _____ (Final)

Inspection requests are to be emailed to BIDscheduling@UniversalEngineering.com; a confirmation email will be sent back to you upon scheduling. Next-Day Inspection requests must be made by 4pm. Please include the following in your request: Permit #, project address, type of inspection, date of the requested inspection, a contact name & a contact phone number. AM or PM may be requested but cannot be guaranteed.

For a copy of your permit, or to check inspection results, please visit https://universalengineering.sharefile.com

login ID = cobi@universalengineering.com password = universal13

City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
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RECEIVED
MAR 28 2017
BY:

Building Permit (Land Use) Application

DATE: 3-27-17

PERMIT # 2017-03-091

PROJECT ADDRESS 4124 Isle Vista Ave Orlando FL, Belle Isle, FL ☐ 32809 ☑ 32812

PROPERTY OWNER Jose Herrera PHONE 321-332-3229 **VALUE OF WORK (labor &material)** $ 40,000.00

PLEASE LIST THE NATURE OF YOUR PROPOSED IMPROVEMENTS

Inground Concrete Swimming Pool and Paver Deck

Please provide information, if applicable.

- **SINGLE FAMILY RESIDENCE:** 8.5"x11" Plat Survey, Plot Plan of Home and Floor Plans of New Construction/Revision Required
- **BOAT DOCK:** DEP Clearance Required with Application (Call 407-897-4100); please provide a copy of their report
- **SEPTIC SYSTEM (RESIDENTIAL):** – Provide verification of OC Health Dept approval for on-site septic tank system, per FAC Chap. 64E-6
- Homeowners will be required to have a contractor on record for homes that are rented and/or not homestead

Please Complete for the City of Belle Isle Zoning Review: **Parcel Id Number:** 20-23-30-0669-00-350

To obtain this information, please visit http://www.ocpafl.org/Searches/ParcelSearch.aspx

SPECIAL CONDITIONS: STRUCTURES MAY NOT ENCROACH INTO ANY EASEMENT OR REQUIRED SETBACK. Survey specific foundation plan required to show compliance with zoning setbacks. Note: this Zoning Approval MAY or MAY NOT be in conflict with your Deed Restrictions. For New Single Family Residence, a Traffic Impact Fee and School Impact will be assessed.

ZONING APPROVED

PLANNING & ZONING APPROVAL: Date: 4/11/17 By: _____ DATE City of Belle Isle

Wind Exposure Category: B____ C____ D____

PLEASE COMPLETE for Building Review (min. of 2 sets of signed/sealed plans required)

CONSTRUCTION TYPE _____

OCCUPANCY GROUP _____ **Comm** **Res:** _____ **Single Fam** _____ **Multi Fam**

#BLDG. _____ #UNITS _ #STORIES _____ **TOTAL SQ.FT.** _____

MAX. FLOOR LOAD _____ MAX. OCCUPANCY _____

MIN. FLOOD ELEV. _____ LOW FLOOR ELEV. _____

WATER SERVICE _____ **WELL** _____ **SEPTIC** _____

BUILDING REVIEWER JR Crum BU540 **DATE** 4/14/2017

VERIFIED CONTRACTOR'S LICENSE & INSURANCE ARE ON FILE _____ **DATE** _____

SPRINKLERS REQ'D	Y	N	_____
If Required – SUBMIT COPY OF PLANS FOR FIRE REVIEW	**Date:** Sent _____	RCD _____	
ZONING	(Y)	N	$ 165.-
CERT OF OCC	Y	N	$ _____
TRAFFIC	Y	N	$ _____
SCHOOL	Y	N	$ _____
FIRE	Y	N	$ _____
SWIMMING POOL	(Y)	N	$ 271.50
SCREEN ENCLOSURE	Y	N	$ _____
ROOFING	Y	N	$ _____
BOAT DOCK	Y	N	$ _____
BUILDING	Y	N	$ _____
WINDOW(S)	Y	N	$ _____
DOOR(S)	Y	N	$ _____
FENCE	y	N	$ _____
SHED	Y	N	$ _____
DRIVEWAY	Y	N	$ _____
OTHER _____	Y	N	$ _____
3% FL SURCHARGE			8.14
TOTAL			444.64
By Owner Form	Y	NA	
Notice of Commencement	Y	NA	
Power of Attorney	Y	NA	
Contractor Packet Incuded?	Y	N	
OTHER PERMITS REQUIRED:			
ELECTRICAL	Y	NA	
PREPOWER	Y	NA	
MECHANICAL	Y	NA	
PLUMBING	Y	NA	
ROOFING	Y	NA	
GAS	Y	NA	

Per FSS 105.3.3:
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Republic Services is by legal contract the sole authorized provider of garbage, recycling, yard waste, and commercial garbage and construction debris collection and disposal services with the city limits of the City. Contractors, homeowners and commercial businesses may contact Republic Services at 407-293-8000 to setup accounts for Commercial, Construction Roll Off, or other services needed. Rates are fixed by contract and are available at City Hall or from Republic Services. The City enforces the contract through its code enforcement office. Failure to comply will result in a stop work order.

SEPARATE PERMITS ARE REQUIRED FOR ROOFING, ELECTRICAL, PLUMBING, GAS, MECHANICAL, SIGNS, POOLS, ENCLOSURES, ETC.

$2465

1ST LIC
4 x 39

25
152
181÷2
90.50
271.50

City of Belle Isle
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Building Permit (Land Use) Application
To be completed as required by State Statute Section 713 and other applicable sections.

PERMIT # 2017-03-091

Owner's Name Jose Herrera

Owner's Address 4124 Isle Vista Ave Orlando FL 32812

Contractor Name Mark Shaughnessy	**Company Name** Dreamscapes Pools & Spas LLC
License # CPC1457433	**Company Address** 1330 Tropic Park Dr
Contact Phone/Cell 407-268-3539	**City, State, ZIP** Sanford FL 32773
Contact Email poolmark@yahoo.com	**Contact Fax** 407-268-3574

WARNING TO OWNER: Your failure to record a Notice of Commencement may result in your paying twice for improvements to your property. A notice of commencement must be recorded if job is $2500(+) or if A/C Replacement $7500(+) and posted on the job site before the first inspection. If you intend to obtain financing, consult with your lender or an attorney before recording your Notice of Commencement.

I hereby make Application for Permit as outlined above, and if same is granted I agree to conform to all Division of Building Safety Regulations (www.floridabuilding.org) and City Ordinances (www.municode.com) regulating same and in accordance with plans submitted. The issuance of this permit does not grant permission to violate any applicable City and/or State of Florida codes and /or ordinances. Application is hereby made to obtain a permit to do the work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work will be performed to meet the standards of all laws regulating construction in this jurisdiction. I understand that a **separate** permit must be secured for all other construction including ROOFING, ELECTRICAL, MECHANICAL, PLUMBING, GAS, SIGNS, POOLS, SCREEN ENCLOSURES, ETC.

OWNER'S AFFIDAVIT: *I certify that all the foregoing information is accurate and that all work will be done in compliance with all applicable laws regulating construction and zoning.*

Owner Signature _____

The foregoing instrument was acknowledged before me this 3/15/17

by JOSE HERRERA who is personally known to me

and who produced DL
as identification and who did not take an oath.

Notary as to Owner Jessica Ann Miller
State of Florida
County of Orange

Contractor Signature _____

COMPANY NAME Dreamscapes Pools & Spas LLC

The foregoing instrument was acknowledged before me this 3/15/17

by MARK SHAUGHNESSY who is personally known to me

and ~~who produced~~ _____
as identification and who did not take an oath.

Notary as to Owner Jessica Ann Miller
State of Florida
County of Orange

JESSICA ANN MILLER
MY COMMISSION # GG008654
EXPIRES July 05, 2020
(407) 398-0153 FloridaNotaryService.com

Impervious Surface Ratio Worksheet
Development Zoned A-1. A-2, R-1-AAA, R-1-AA, R-1-A, R-1 per City Code, Section 50-74: Impervious Surface Ratio

1. Total Lot Area (sqft) X 0.35 = Allowable Impervious Area (BASE).
   Total Lot Area 21053 SF X 0.35=
   Allowable Impervious Area (BASE) 7368.55

2. Calculate the "proposed" impervious area on the lot. This includes the sum of all areas that do not allow direct percolation of rainwater.
   Examples include house, pool, deck, driveway, accessory building, etc
   - **House** 4064 SF
   - **Driveway** 1567 SF
   - **Walkway** 78 SF
   - **Accessory Buildings** 1317 SF
   - **Pool & Spa** 447 SF
   - **Deck & Patio** 891 SF
   - **Other** 51 SF

   Actual Impervious Area (AIA) 8,415 SF

3. If AIA is less than BASE, subtract AIA from BASE to determine the amount of impervious area that may be added without providing onsite retention.

4. If AIA is greater than BASE, then onsite retention **must be provided.**

Assuming 7.5 inches of rainfall based on a 24hr 10 year Rain Event (TP40), the formula is: **(7.5 inches rainfall/12 inches p/foot) X (result from line 4) = cubic feet of storage volume needed**

PROJECT NUMBER [illegible]

TASK NUMBER 13, 14, 15

CITY OF BELLE ISLE
Permit Application Review Sheet

Permit Number	2017-03-091 (B) 092(P) 093 (E)
Property Owner	
Address	4124 Isle Vista Ave
Nature of Improvement	POOL
Received Application	3-28-17
Sent for Stormwater Review	3-29-17
Stormwater Approved	4-11-17 by April Fisher
Sent for Zoning Review	3-29-17 all 3 sets & plans + bldg appcopy
Zoning Approved	4-11-17 by April Fisher WO 796 98
Applied for Variance	If approved, Please stamp all 3 oversized surveys
Variance Approved	Thank you
Sent to BO for Review	
Building Official Approved	

Comments	
1. Susan 3-28-17	Platinum Electric need GL & WC
2.	Dreamscape Pools need LTR
3.	ISR is OVER → OK per April Fisher
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	

LIMITED POWER OF ATTORNEY

Date: 3/27/17

I, Mark Shaughnessy, hereby name and appoint Jessica Miller of Dreamscapes Pools & Spas LLC. to drop off and pick up permits on my behalf and apply to the Belle Isle building department.

Owner

Dreamscapes Pools & Spas LLC.
Business Name

CPC1457433
License Number

The foregoing instrument was acknowledged before me this 27 day of March 20 17 by Mark Shaughnessy, who is personally known to me and did not take oath.

State of Florida

County of Seminole

MICHAEL MANTIANO
MY COMMISSION # FF 091807
EXPIRES: March 5, 2018
Bonded Thru Notary Public Underwriters

(Seal)

Notary

DOC# 20170162859
03/27/2017 03:52:02 PM Page 1 of 1
Rec Fee: $10.00
Phil Diamond, Comptroller
Orange County, FL
MB - Ret To: DREAMSCAPES POOLS & SPAS

Permit Number: _____
Folio/Parcel Identification Number: 20-23-30-0669-00-350
Prepared by: Dreamscapes Pools & Spas LLC
1330 Tropic Park Dr
Sanford FL 32773
Return to: Dreamscapes Pools & Spas LLC
1330 Tropic Park Dr
Sanford FL 32773

NOTICE OF COMMENCEMENT

State of Florida, County of Orange

The undersigned hereby gives notice that improvement will be made to certain real property, and in accordance with Chapter 713, Florida Statutes, the following information is provided in this Notice of Commencement.

1. **Description of property** (legal description of the property, and street address if available)
   Belle Vista on Lake Conway Re-Plat of Lots 34&35 79/21 Lot 35 4214 Isle Vista Ave Orlando FL 32812
2. **General description of improvement**
   Inground Concrete Swimming Pool & Paver Deck
3. **Owner information or Lessee information if the Lessee contracted for the improvement**
   Name Jose A Herrera-Soto
   Address 4124 Isle Ave Orlando FL 32812
   Interest in Property owner
   Name and address of fee simple titleholder (if different from Owner listed above)
   Name n/a
   Address n/a
4. **Contractor**
   Name Dreamscapes Pools & Spas LLC Telephone Number 407-268-3539
   Address 1330 Tropic Park Dr Sanford FL 32773
5. **Surety** (if applicable, a copy of the payment bond is attached)
   Name n/a Telephone Number n/a
   Address n/a Amount of Bond $ n/a
6. **Lender**
   Name n/a Telephone Number n/a
   Address n/a
7. **Persons within the State of Florida designated by Owner upon whom notices or other documents may be served as provided by §713.13(1)(a)7, Florida Statutes.**
   Name n/a Telephone Number n/a
   Address n/a
8. **In addition to himself or herself, Owner designates the following to receive a copy of the Lienor's Notice as provided in §713.13(1)(b), Florida Statutes.**
   Name n/a Telephone Number n/a
   Address n/a
9. **Expiration date of notice of commencement** (the expiration date may not be before the completion of construction and final payment to the contractor, but will be 1 year from the date of recording unless a different date is specified) n/a

WARNING TO OWNER: ANY PAYMENTS MADE BY THE OWNER AFTER THE EXPIRATION OF THE NOTICE OF COMMENCEMENT ARE CONSIDERED IMPROPER PAYMENTS UNDER CHAPTER 713, PART I, SECTION 713.13, FLORIDA STATUTES, AND CAN RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.

Under penalty of perjury, I declare that I have read the foregoing notice of commencement and that the facts stated in it are true to the best of my knowledge and belief.

X _____ Owner
Signature of Owner or Lessee, or Owner's or Lessee's Authorized Officer/Director/Partner/Manager — Signatory's Title/Office

The foregoing instrument was acknowledged before me this 15 day of 3/17 (month/year) by Jose Herrera (name of person)

as Owner (Type of authority, e.g., officer, trustee, attorney in fact) for _____ (Name of party on behalf of whom instrument was executed)

Jessica Ann Miller
Signature of Notary Public – State of Florida

_____
Print, type, or stamp commissioned name of Notary Public

JESSICA ANN MILLER
MY COMMISSION # GG008654
EXPIRES July 05, 2020
(407) 398-0153 FloridaNotaryService.com

Personally Known _____ OR Produced ID _____
Type of ID Produced _____

Form Revised: September 26, 2011

State of FLORIDA County of ORANGE
I hereby certify that this is a true copy of the document recorded in the public records of ORANGE COUNTY COMPTROLLER
PHIL DIAMOND, C.P.A., D.C.
BY: _____
DATED: 3/27/17

CITY OF BELLE ISLE, FLORIDA

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

RESIDENTIAL SWIMMING POOL SAFETY AFFIRMATION

Date: 3/15/17 Permit #: _____

I, Mark Shaughnessy (print contractor's name), License # CPC1457433,
hereby affirm that the pool will be isolated from access from within the dwelling AND from adjacent properties by a barrier that meets the pool barrier requirements of Florida Statute 515.29 and the 2014 Florida Building Code Section 454.2.

Check the applicable barrier requirements from the following options and show on the site plan:

_____ The pool will be equipped with an approved safety pool cover that complies with ASTM F1346 (Standard Performance Specifications for Safety Covers for Swimming Pools, Spas and Hot Tubs) per FBC 454.2.17, Exception.

✓ The pool will be isolated from access by a mesh safety barrier that meets the requirements of FBC 454.17.1.15.

_____ The pool will be isolated from access by a screen enclosure that meets the requirements of FBC 454.2.17.1.11.

_____ The pool will be isolated from access by a fence and pedestrian gates that meet the requirements of FBC 454.2.17.1.1 through 454.2.17.1.8.

Does any part of the barrier consist of dwelling walls which contain doors or windows?

Yes ☐ No ☑ If yes, then check which of the two options below are applicable:

☐ All doors and windows providing direct access from the dwelling to the pool will be equipped with an exit alarm that meets the requirements of FBC 454.2.17.1.9(1) unless Exceptions a, b or c apply.

☐ All doors providing direct access from the dwelling to the pool will be equipped with self-closing, self-latching devices installed 54" above the threshold that meet the requirements of FBC 454.2.17.1.9, exception 2.

I understand that the final electrical and barrier code inspection shall be completed prior to filling the pool with water unless it's a vinyl liner or fiberglass FBC 454.2.19.

(contractor's signature) (property owner's signature)

Reviewed for Code Compliance
Universal Engineering Sciences

HAYWARD® Pool Products
A Hayward Industries, Inc. Company

Owners Manual

OWNER'S MANUAL

INSTALLATION, OPERATION, & PARTS

DUAL SUBMERGED SUCTION OUTLET SET

[Commonly called main drains]

Basic safety precautions should always be followed, including the following: Failure to follow instructions can cause severe injury and/or death.

⚠ This is the safety-alert symbol. When you see this symbol on your equipment or in this manual, look for one of the following signal words and be alert to the potential for personal injury.

⚠ **WARNING** warns about hazards that **could** cause serious personal injury, death or major property damage and if ignored presents a potential hazard.

⚠ **CAUTION** warns about hazards that **will** or **can** cause minor or moderate personal injury and/or property damage and if ignored presents a potential hazard. It can also make consumers aware of actions that are unpredictable and unsafe.

The **NOTICE** label indicates special instructions that are important but not related to hazards.

⚠ - WARNING - Read and follow all instructions in this owner's manual and on the equipment. Failure to follow instructions can cause severe injury and/or death.

IMPORTANT SAFETY INSTRUCTIONS

USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

⚠ WARNING – Suction Entrapment Hazard.

Suction in suction outlets and/or suction outlet covers which are damaged, broken, cracked, missing, or unsecured can cause severe injury or death due to the following entrapment hazards:

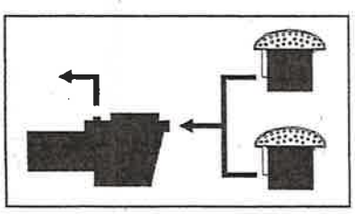
Hair Entrapment- Hair becomes knotted or snagged in an outlet cover.

Limb Entrapment- A limb sucked or inserted into an opening of a circulation outlet with a broken or missing cover in the pool resulting in a mechanical bind or swelling

Body Suction Entrapment- Suction applied to a large portion of the body or limbs resulting in an entrapment.

Evisceration/ Disembowelment Entrapment- Suction applied directly to the intestines through an unprotected sump or suction outlet with a missing or broken cover.

Mechanical Entrapment- Potential for jewelry, swimsuit, hair decorations, finger, toe or knuckle to be caught in an opening of an outlet or cover.



To Reduce the risk of Entrapment Hazards:

- A minimum of two functioning suction outlets per pump must be installed. Suction outlets in the same plane (i.e. floor or wall), must be installed a minimum of three feet (3') [.91 meter] apart, as measured from suction pipe center to suction pipe center. (See Diagram 1. If suction outlets are to be located closer then three feet (3') [.91 meter] apart, they shall be located in different planes (i.e., one on the bottom, and one on the vertical wall, or one on each of two separate vertical walls.) (See Diagram 2)
- Dual suction fittings shall be placed in such locations and distances to avoid "dual blockage" by a user.
- Dual suction fittings shall not be located on seating areas or on the backrest for such seating areas.
- The maximum system flow rate shall not exceed the flow rating of any listed (per ASME/ANSI A112.19.8M-1987, ASME A112.19.8-2007, APSP-7) suction outlet cover installed.
- Keep suction outlet components clear of debris, such as leaves, dirt, hair, paper and other material.
- Never use a Pool or Spa if any suction outlet component is damaged, broken, cracked, missing, or not securely attached.
- Prior to each use of the swimming pool and/or spa, observe and replace damaged, broken, cracked, missing, or not securely attached suction outlet components immediately.
- Remove pressure test plugs and/or plugs used in winterization of the pool/spa from the suction outlets.
- Two or more suction outlets per pump should be installed in accordance with latest APSP Standards and CPSC guidelines. Follow all National, State, and Local codes applicable.
- Multiple layers of protection are available including installation of a vent pipe system, a gravity flow system, or a vacuum release system.
- Suction outlet components have a finite life, the cover/grate should be inspected frequently and replaced at least every seven years or if found to be damaged, broken, cracked, missing, or not securely attached.
- Do not exceed maximum flow rate stated on suction fitting.
- Only replace a pump with one with a similar flow curve, avoid a pump with a higher horsepower rating.

- **RECOMMENDED SYSTEM SPECIFICATIONS:**

ACCEPTABLE PIPE SIZE FOR MAXIMUM RECOMMENDED SYSTEM FLOW RATE PER APSP-7 (6 FT/SEC IN THE BRANCH LINE)

Pipe Size [mm]	Flow rate GPM [Liter/Min]	Pipe Size [mm]	Flow rate GPM [Liter/Min]
1 ½" [50]	40 [150]	2 ½" [75]	90 [340]
2" [63]	63 [240]	3" [90]	138 [522]

Chart 1

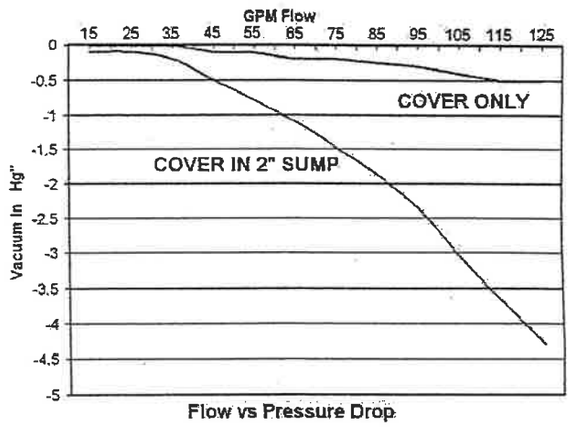


FIG 1

Note: 1" Hg = 1.13 Ft of Head

WGX1048E Suction Outlet Covers are rated for Floor Only at 125 GPM

WG1048EW Suction Outlet Covers are rated for Wall or Floor at 72 GPM

In the event of one suction outlet being blocked, the remaining suction outlets serving that system shall have a flow rating capable of the full flow of the pump(s) for the specific suction system.

Example: In the System shown in **Diagram 1**, two (2) "Floor Only" suction outlet covers are selected and mounted. These covers are individually rated for 125 GPM. For a desired flow rate through the pump of 100 GPM, a minimum pipe size from the **Chart 1** is selected at 3". At the desired flow of 100 GPM one cover could be partially blocked and the other suction outlet flow would be below the rated 125 GPM of the "Floor" mounted suction outlet cover. Since there are two outlets flowing in normal operation, and the allowable velocity in the interconnecting piping is only 3ft/sec, the same pipe size is required in the interconnecting piping.

Example: In the System shown in **Diagram 2**, one (1) "Floor Only" suction outlet cover, rated at 125 GPM, and one (1) "Wall or Floor" suction outlet cover, rated at 72 GPM are selected and mounted. For a desired flow rate through the pump of 50 GPM, a minimum pipe size from the **Chart 1** is selected at 2". At the desired flow of 50 GPM either cover could be totally blocked and the other suction outlet flow would be below the rated 72 GPM of the wall mounted suction outlet cover. Note: Flow may be limited by entrapping force in dual suction systems.

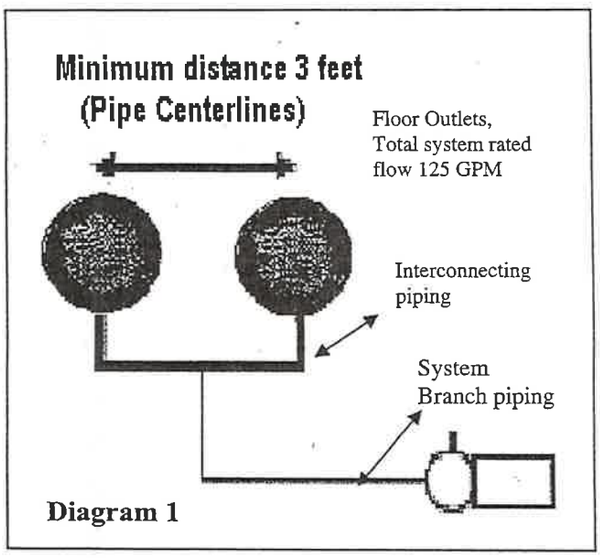


Diagram 1

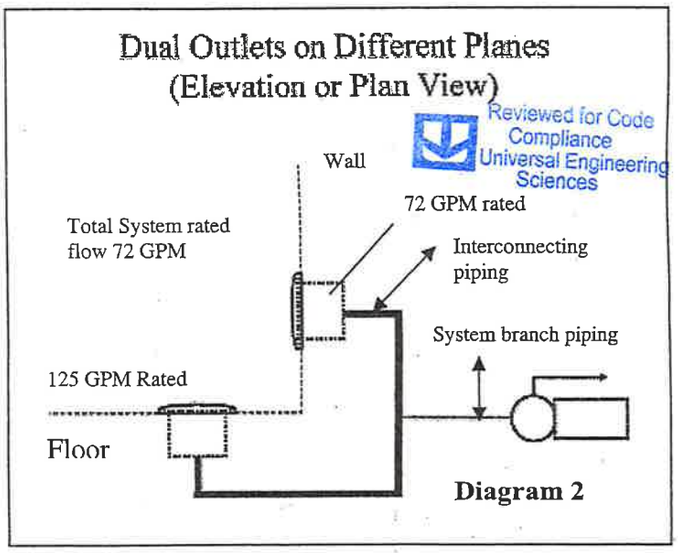


Diagram 2

INSTALLATION INSTRUCTIONS: - Use a #2 Philips head Screwdriver.
NOTICE: When installing WG1030AVPAK2 refer to ASME A112.19.8-2007 for the proper instructions on how to construct the field-fabricated sump. Figure 2 is an illustration of some of the requirements.

Suction outlets for a pool with a vinyl liner and for fiberglass pools are provided with a WG1048B mounting ring and two (2) gaskets. The gaskets should be placed such that they sandwich the liner or fiberglass, that is, one gasket on each side. The ring (WG1048B) is attached to the suction outlet by eight (8) screws that pass through both gaskets and the liner. See diagram below.

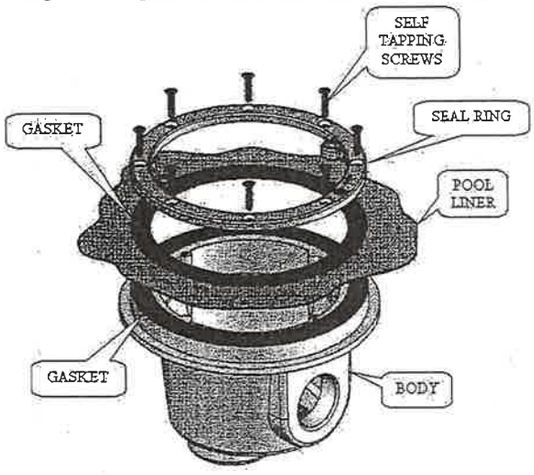
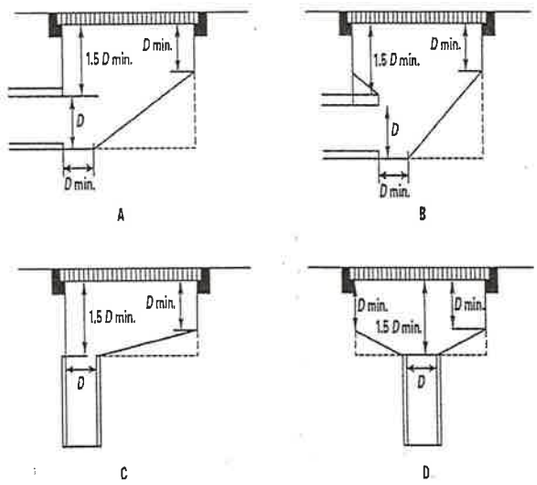


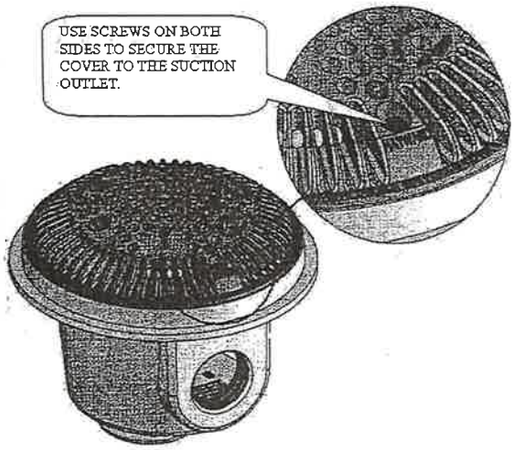
Fig. 2 Field Built Sump



GENERAL NOTES:
(a) D = inside diameter of pipe.
(b) All dimensions shown are minimums.
(c) A broken line (_ _) indicates suggested sump configuration.

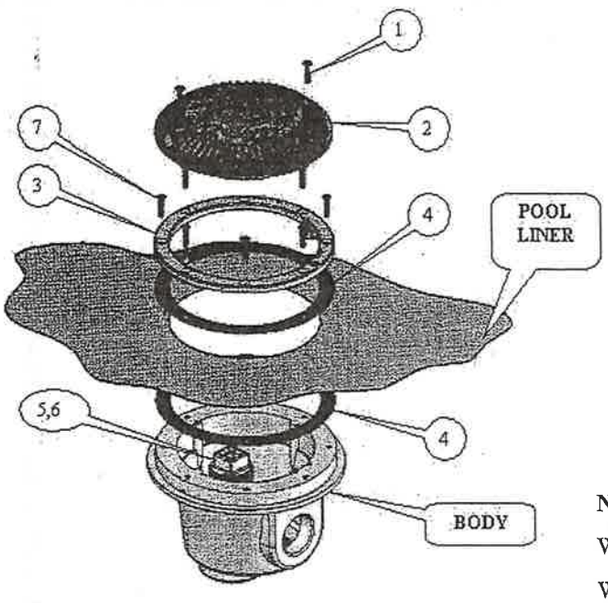
Suction outlets for a concrete or gunite pools are designed to be plastered with the top surface flush to the pool surface. An Adjustable Collar WG1051X may be used to aid in obtaining the desired configuration.

Two screws MUST be used to secure the cover to the suction outlet. USE ONLY HAYWARD GENUINE REPLACEMENT PARTS INCLUDING THE SCREWS.



For installations utilizing a hydrostatic relief valve (SP1056), using a collector tube (SP1055) will maintain a clear path to the hydrostatic valve. At least one hydrostatic relief valve in a set of suction outlets will allow hydrostatic uplift pressure caused by ground water to be relieved into the pool or spa.

- **SPARE PARTS LISTS**



WG1048AVPAK2/ WG1049AVPAK2

ITEM	SPARE PART	DESCRIPTION	QTY
1	*WGX1030Z2A	SCREW SET	1.0
2	**WGX1048E	COVER, SUCTION OUTLET	1.0
2	**WG1048EW	COVER, SUCTION OUTLET	1.0
3	WGX1048B	RING, SUCTION OUTLET	1.0
4	SPX1048D	GASKET	2.0
5	SPX1051Z1	1 1/2 IN PLASTIC PIPE PLUG	1.0
6	SPX1053Z1	2 IN PLASTIC PIPE PLUG	1.0
7	SPX1039Z18	SCREW SET	1.0

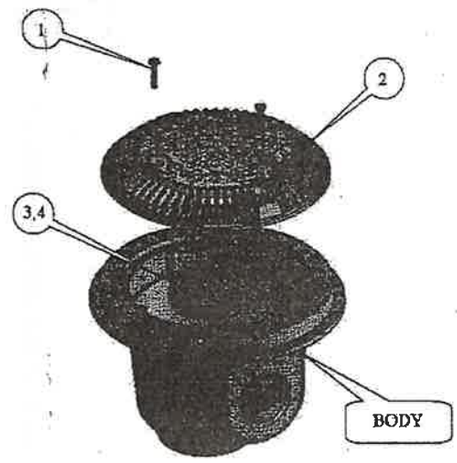
NOTES:

WG1048AVPAK2 / WG1049AVPAK2 1 ½" NPT Bottom Plug

WG1049AVPAK2 2" NPT Side Plug

*-SPARE SCREW SET INCLUDES SCREWS FOR SUMPS WITHOUT METAL INSERTS. IF SUMP HAS METAL INSERTS INSTALLED ADD (M) TO END OF PART NUMBER.

**-SPARE COVER INCLUDES SCREWS FOR ALL VARIATIONS OF SUMPS, WITH OR WITHOUT METAL INSERTS.



WG1051AVPAK2/ WG1052AVPAK2/
WG1053AVPAK2/ WG1054AVPAK2

ITEM	SPARE PART	DESCRIPTION	QTY
1	*WGX1030Z1A	SCREW SET	1.0
2	**WGX1048E	COVER, SUCTION OUTLET	1.0
2	**WG1048EW	COVER, SUCTION OUTLET	1.0
3	SPX1051Z1	1 1/2 IN PLASTIC PIPE PLUG	1.0
4	SPX1053Z1	2 IN PLASTIC PIPE PLUG	1.0

NOTES:

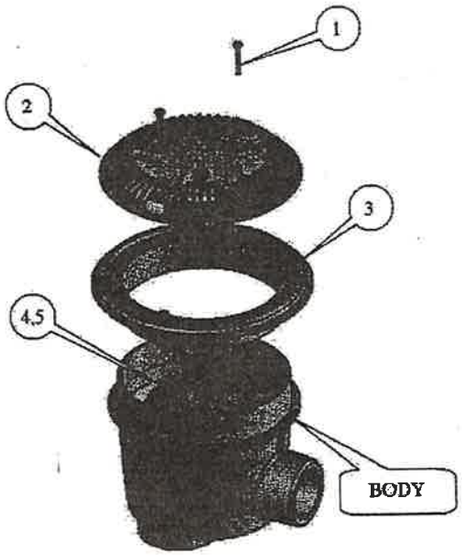
WG1051AVPAK2 / WG1052AVPAK2 1 ½" NPT Bottom Plug

WG1053AVPAK2 / WG1054AVPAK2 2" NPT Bottom Plug

*-SPARE SCREW SET INCLUDES SCREWS FOR SUMPS WITHOUT METAL INSERTS. IF SUMP HAS METAL INSERTS INSTALLED ADD (M) TO END OF PART NUMBER.

**-SPARE COVER INCLUDES SCREWS FOR ALL VARIATIONS OF SUMPS, WITH OR WITHOUT METAL INSERTS.

DUAL SUCTION OUTLET SET



WG1153AVPAK2/ WG1154AVPAK2

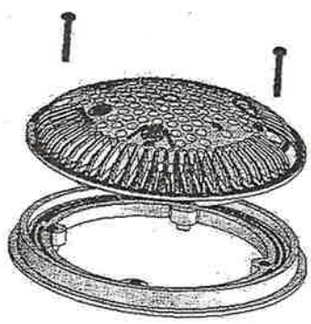
ITEM	SPARE PART	DESCRIPTION	QTY
1	*WGX1030Z1A	SCREW SET	1.0
2	**WGX1048E	COVER, SUCTION OUTLET	1.0
2	**WG1048EW	COVER, SUCTION OUTLET	1.0
3	WGX1153B	EXTENSION COLLAR	1.0
4	SPX1051Z1	1 1/2 IN PLASTIC PIPE PLUG	1.0
5	SPX1053Z1	2 IN PLASTIC PIPE PLUG	1.0

NOTE:

SP1153AVPAK2 / SP1154AVPAK2 2" NPT Bottom Plug

*-SPARE SCREW SET INCLUDES SCREWS FOR SUMPS WITHOUT METAL INSERTS. IF SUMP HAS METAL INSERTS INSTALLED ADD (M) TO END OF PART NUMBER.

**-SPARE COVER INCLUDES SCREWS FOR ALL VARIATIOI OF SUMPS, WITH OR WITHOUT METAL INSERTS.



WG1030AVPAK2

ITEM	SPARE PART	DESCRIPTION	QTY
1	*WGX1030Z1A	SCREW SET (8" ROUND)	1.0
2	**WGX1048E	COVER, SUCTION OUTLET	1.0
2	**WG1048EW	COVER, SUCTION OUTLET	1.0
3	WGX1058C	ROUND FRAME	1.0

*-SPARE SCREW SET INCLUDES SCREWS FOR SUMPS WITHOUT METAL INSERTS. IF SUMP HAS METAL INSERT INSTALLED ADD (M) TO END OF PART NUMBER.

**-SPARE COVER INCLUDES SCREWS FOR FRAME, WITH (WITHOUT METAL INSERTS.

SEE NOTICE ON PAGE 3 FOR FIELD FABRICATED OUTLETS

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

HAYWARD® LIMITED WARRANTY

This equipment was inspected before shipment from our plant. To original purchasers of this equipment, Hayward Pool Products, 620 Division Street, Elizabeth, New Jersey, warrants its products free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Parts which fail or become defective during the warranty period, except as a result of freezing, negligence, improper installation, use, or care, shall be repaired or replaced, at our option, without charge, within 90 days of the receipt of defective product, barring unforeseen delays.

To obtain warranty replacements or repair, defective components or parts should be returned, transportation paid, to the place of purchase, or to the nearest authorized Hayward service center. For further Hayward dealer or service center information, contact Hayward customer service department. No returns may be made directly to the factory without the express written authorization of Hayward Pool Products

To original purchasers of this equipment, Hayward Pool Products warrants its vacuum release systems to be free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Vacuum Release Systems which become defective during the warranty period, except as a result of freezing, negligence, improper installation, use or care, shall be repaired or replaced, at our option, without charge.

All other conditions and terms of the standard warranty apply.

Hayward shall not be responsible for cartage; removal and/or reinstallation labor or any other such costs incurred in obtaining warranty replacements.

The Hayward Pool Products warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply.

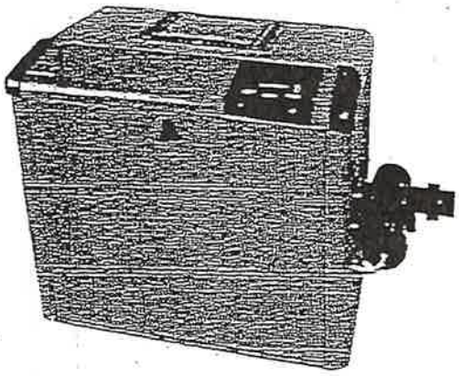
Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

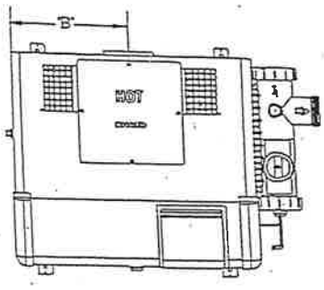
This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

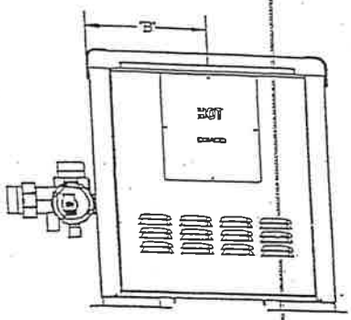
Jandy® Pro Series by ZODIAC®

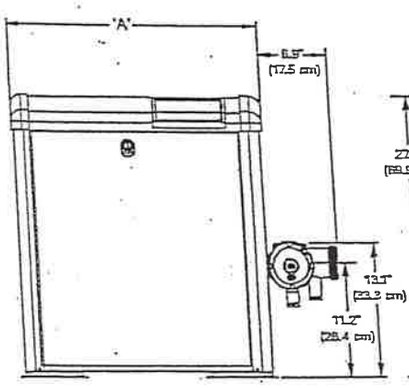
Technical Specifications

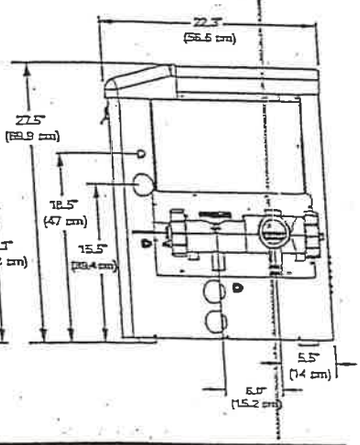
LXi™ Heaters











- Digital, remote control, automation ready
- Communicates with the AquaLink® RS family of controls
- Fan assisted low NOx combustion
- Lightweight polymer headers
- NN and PN models include cupro-nickel tubes
- NC and PC models include copper tubes, bronze headers and ASME® Certified rating.
- NS and PS are cupro-nickel and bronze ASME Certified

Part No.	Description
LXi250N	LXi 250K BTU, NAT, Polymer Headers
LXi250P	LXi 250K BTU, LP, Polymer Headers
LXi300N	LXi 300K BTU, NAT, Polymer Headers

Part No.	Description
LXi300P	LXi 300K BTU, LP, Polymer Headers
LXi400N	LXi 400K BTU, NAT, Polymer Headers
LXi400P	LXi 400K BTU, LP, Polymer Headers

LXi Specifications

Model	Heater Width Dim 'A'		Heater Side to Mid-Vent		Vent Diameter (Category I)		Firing Rate		Heater Vent Location Dim 'B'	
	in.	cm	in.	cm	in.	cm	BTU/HR	kcal	in.	cm
250	23.5	59.7	10.5	26.7	6	15.2	250,000	63	10.5	26.7
300	26.5	67.3	12.9	32.8	7	17.8	300,000	75	12.9	32.8
400	32.0	81.3	15.6	39.7	8	20.3	399,000	101	15.6	39.6

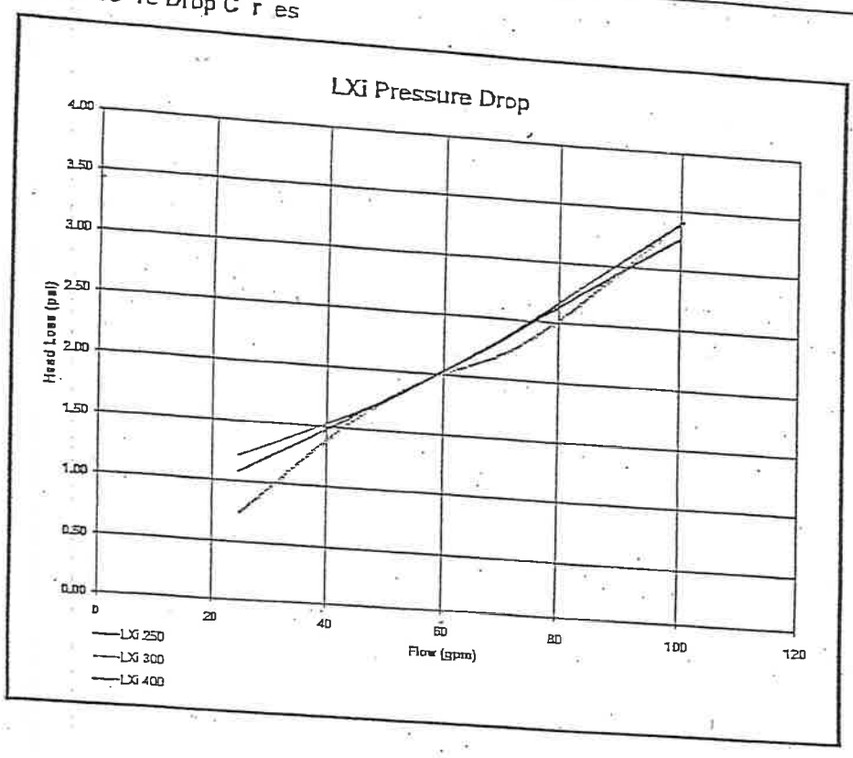
LXi™ Heater rdering Instr ctions

ample f Part N m er Breakdo .n For rdering LXi Models

Part n m ers contain et een ' to ' characters.

Model	Si e	F el Type	Heat changer and Heat changer Headers	B mer Tray ptions and Additional Special Rating for High and Higher Altit des
LXi	250 300 400	Natural as N Propane as P	Left blank or with dash Standard Copper Heat Exchanger, Polymer Headers N Nickel Cupro-Nickel Heat Exchanger, Polymer Headers C Bronze Headers, Copper Heat Exchanger, ASME® Rating S Bronze Headers, Cupronickel Heat Exchanger, ASME Rating Salt	All models can be installed at high altitudes.

LXi Press re Drop C r es



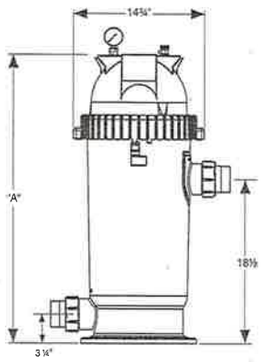
Jandy® Pro Series by ZODIAC®
CS SERIES
SINGLE ELEMENT CARTRIDGE FILTER

Jandy Pro Series CS Series Single Element Cartridge Filters

The CS Filters utilize single element cartridges designed to provide the same great filtration as the CV and CL Models, but in a more compact body. The cartridges on the CS are easily removed, making it simple to clean and care for. Available in 100, 150, 200, and 250 square foot models.

- **Universal unions fit most Jandy Pro Series products**
- **Easy grip handles for easy lid removal**
- **Extra large 2" drain port for easy cleaning of debris**
- **Pressure gauge with clean/dirty indicator that makes it easy to assess filter condition**
- **The CS Filter is complatible with the Jandy Versa Plumb® System.**

DIMENSIONS



CS Filter

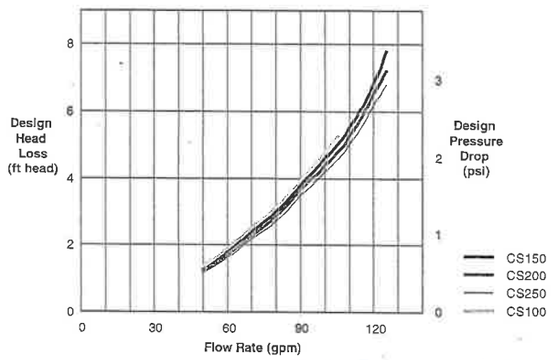
SPECIFICATIONS

Specifications and Dimensions, CS Series Filters

Model Number	CS100	CS150	CS200	CS250
Filter Area	100 ft²	150 ft²	200 ft²	250 ft²
Design Flow Rate	1 gpm/ft²	.85 gpm/ft²	.625 gpm/ft²	.5 gpm/ft²
Maximum Flow	100 gpm	125 gpm	125 gpm	125 gpm
Six (6) Hour Capacity	36,000 gallons	45,000 gallons	45,000 gallons	45,000 gallons
Eight (8) Hour Capacity	48,000 gallons	60,000 gallons	60,000 gallons	60,000 gallons
Normal Start Up Pressure	6-15 psi	6-15 psi	6-15 psi	6-15 psi
Max. Working Pressure	50 psi	50 psi	50 psi	50 psi
Cartridges Required	1	1	1	1
Shipping Weight	28 lbs.	28 lbs.	34 lbs.	36 lbs.
Height ("A")	32⅜"	32⅜"	42½"	42½"

PERFORMANCE

CS Filter Head Loss Curves



Zodiac Pool Systems, Inc.
2620 Commerce Way, Vista, CA 92081
1.800.822.7933 | www.ZodiacPoolSystems.com

Zodiac Pool Systems Canada, Inc.
2115 South Service Road West, Unit #3, Oakville, ON L6L 5W2
1.888.647.4004 | www.ZodiacPoolSystems.ca

ZODIAC®

VS FLOPRO 2.0 HP VARIABLE-SPEED PUMP

With Digital Controller

Jandy Pro Series by ZODIAC®

VS FLOPRO™ VARIABLE SPEED PUMP

Save up to 90% on energy costs with the VS FloPro 2.0 HP Variable-Speed Pump

VS FloPro is designed to save you money. It's variable speed motor allows for dramatic energy savings, especially when operated at lower speeds. In addition, it's innovative adjustable base allows for simple installation on new construction, or quick and easy replacement of existing pumps.

» Ultra high efficiency motor
Features a totally enclosed fan-cooled (TEFC) permanent magnet brushless DC motor for cooler operation and extended motor life.

» Quiet
Advanced motor design allows VS FloPro to run at energy saving lower speeds for significantly quieter operation.

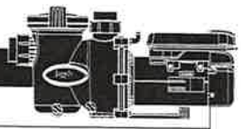
» Digital controller included
2 x timed speeds/8 speeds total. Remotely mounted controller provides easy access to pump controls. Reliable battery backup ensures time and settings are stored during power outages.

» Compact
High performance pump in an ultra compact body. Fits easily in small equipment areas.

» Additional Features
- Adjustable base included
- 2" unions and 2" internal threads
- Ergonomic easy-transport handle
- High profile easy-grip handles with large capacity basket

» Complies with Appliance Efficiency Standards (CEC Title 20 & ANSI®/APSP-15) and qualifies for power rebates, where offered.

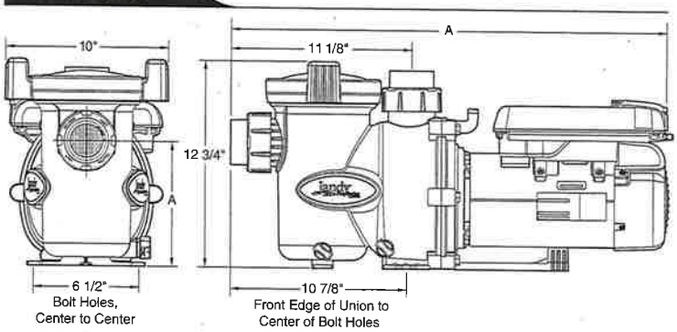
BASE OPTIONS



Type of Base	Components	Fits
Option 1	No base required	Hayward® Super Pump,® Pentair® SuperFlo,® Sta-Rite® SuperMax®
Option 2	Small base	Hayward Super II,™ Jandy Pro Series Plus HP & Max HP
Option 3	Small base with spacers	Pentair WhisperFlo,® Sta-Rite® Dyna-Glas
Option 4*	Small base + large base	Sta-Rite Max-E-Pro® Sta-Rite Dura-Glas,® Sta-Rite Dura-Glas II, Sta-Rite Max-E-Glas®

*Optional: Part # R0546400

DIMENSIONS



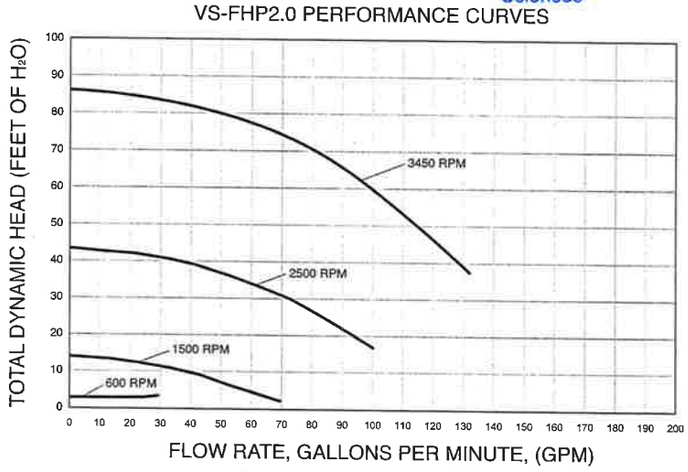
SPECIFICATIONS

Model No.	Horse Power	Voltage	Watts	Recommended Pipe Size*	Carton weight	Overall Length 'A'
VS-FHP 2.0	2.0	208-230 VAC	2,400 W	2½–3"	56.0 lbs	27 3/16"

*Always follow local building and safety codes for pipe sizing and guidelines

PERFORMANCE

VS-FHP2.0 PERFORMANCE CURVES



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ENERGY STAR

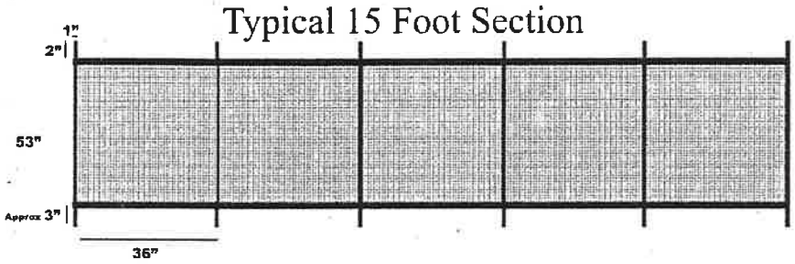
ZODIAC®

safe zone®
POOL SAFETY FENCE

SAFE ZONE FENCING® SPECIFICATION SHEET

SAFE ZONE FENCING® has always strived to produce a quality product. We use only the best material available for all of our individual component parts. We have had our fence tested by an independent testing laboratory and these tests are available upon request. Because we are so sure of our product, we offer a lifetime warranty to the original purchaser of our fence. **SAFE ZONE FENCING®** meets or exceeds all of the requirements of the Florida Building Code. Our fence is available in fifteen-foot sections.

Typical 15 Foot Section



Poles / Molding We use only the finest aluminum alloys in the make up of our poles and moldings. **SAFE ZONE FENCING ®** poles are re-enforced to insure that they are among the strongest in the industry. Approximately three inches of the poles are set into non-conductive sleeves. The poles are set on 36" centers (30" center on our five foot tall fence) Our poles are 53" overall length (64" on the five foot tall fence). These poles have been tested by an independent engineering firm and certified to meet the requirements of the Florida Building Code.

Powder Coating All of our metal parts are powder coated in a state of the art powder coating facility. This process insures longer lasting protection of our metal parts against the harsh chemicals commonly found around a swimming pool.

Mesh We use vinyl coated mesh that is considered one of the finest in the industry. It has been tested to resist mold, mildew, and fading. It is so strong that it will not tear even after being cut. It meets the three different ASTM standards required by the Florida Building Code.

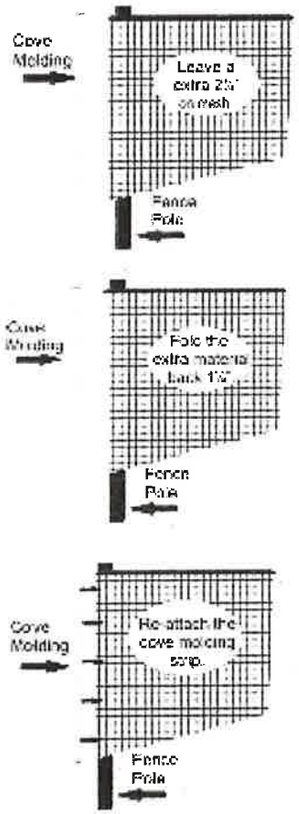
Binding / Thread Our binding is Marine quality, re-enforced to resist tearing, and UV protected to inhibit fading. The thread is coated to stand up to the tough elements found around swimming pools.

Screws We use stainless steel #8 x ½" screws. No less than ten screws per pole are used. There is a minimum of two screws at the top and two screws at the bottom and the remaining screws are evenly spaced throughout the pole.

Adjusting the Length of a Section

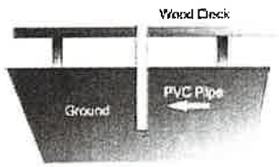
On some installations it may be necessary to adjust the length of one panel in a section of fence. This adjustment is usually done on a panel of fence towards the back of the pool. Adjustments are easily done by following this steps:

1. Remove the cove molding from the last pole on the you are about to shorten.
2. Determine the length of your last panel. Remember to leave 2"-3" for the last latch.
3. Add 2.5" to the material. You will need this extra mesh to double over and re-enforce the mesh where you made you cut.
4. Cut the material and fold it over. Leave about a 1/2" of material to extend past the molding after it is re-attached.
5. Re-install the molding strip. Please remember to use all of the screws that came with the original fence.



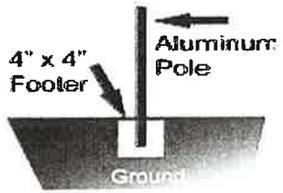
Wood Decks

The recommended method is to insert a piece of PVC pipe at least 12" below the grade. Please remember to account for the height of the deck above the grade before cutting any pipe. The hole you drill in the deck should be the same as the outside diameter of the pipe you are using.



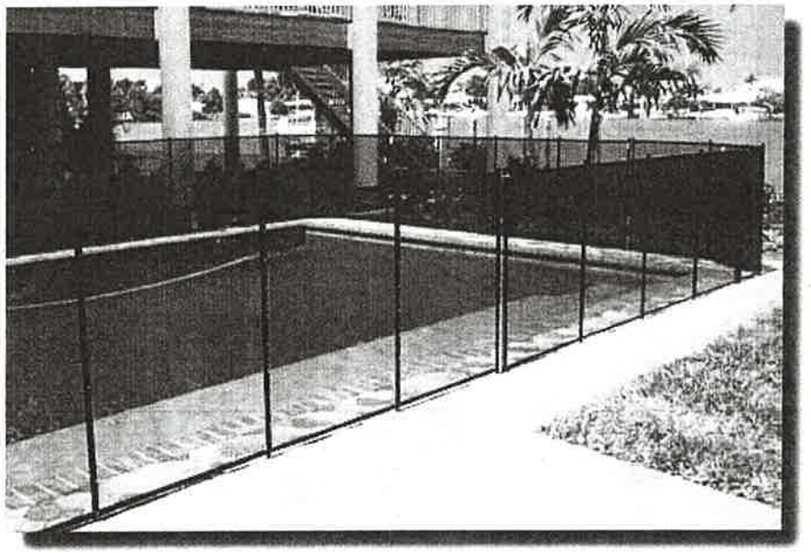
Grass or Dirt

Never extend panels of fencing more than 6 feet over grass or dirt without putting down a concrete or wood footer. For sections of less than 6 feet, insert a PVC pipe into the ground. The PVC pipe will support your poles.



safe zone®
POOL SAFETY FENCE
"Every backyard needs a safe zone!"

INSTALLATION GUIDE



MEASURING

The recommended distance between the edge of the pool and your SAFE ZONE® fencing should be between 20 and 24 inches. This will allow your pool maintenance people to access the edge of the pool. In order to avoid running short on fence, always remember to use the same perimeter as you used when you estimated the footage for your pool. Do not place any poles less than 8 inches from the pool edge or outside of the deck.

Dealer Info

MACTEC

February 10, 2004

Subject: **Test Report Letter of Certification**
Vinyl Coated Polyester Core Mesh
ASTM G154 (G53) – Weatherability
MACTEC Project 6380-04-0202.01

As requested and authorized, MACTEC has reviewed the test report from Q-Lab Florida of Homestead, Florida, dated November 14, 2003 (and addendum letter dated February 5, 2004), which you provided to us. The test report described the test procedures and results for the accelerated weathering tests performed on the samples of mesh to be used in the safe zone™ pool fence you provided Q-Lab Florida.

It should be noted that as stated in the addendum letter to the report, ASTM has replaced the G53 weatherability test specified in the Florida Building Code with ASTM standard G154 (see attached), which was used for these tests.

Based solely on a review of this report, the subject mesh exceeds the performance requirements for weatherability (1,200 hours) specified in Section 424.2.17.1.15.2 of the Florida Building Code, 2004 revisions. A copy of the test report is attached to this letter for reference.

Please contact us if you have any questions concerning this letter.

Sincerely,
MACTEC ENGINEERING AND CONSULTING, INC.

Robert D. Stricklin
Project Manager

2/10/04

Brian J. DuChene, P.E.
Principal Engineer
Licensed, Florida
No. 45856

Attachment: ASTM G53 Abstract
Q-Lab Report

P: LAB-Groups Facilities PROJECTS Project 2004 0202 TikiTek\0202 G154-G53 ltr doc

MACTEC Engineering and Consulting
4... S. John Young Parkway • Orlando, FL 32804-...
407-522-7570 • Fax 407-522-7576

Reviewed for Code Compliance
Universal Engineering Sciences

CTL CERTIFIED TESTING LABORATORIES
7252 Narcoossee Rd., Orlando, FL 32822
407-384-7744 • Fax 407-384-7751
Website: www.ctlarch.com
E-mail: ctlarch.com

CTL Number: 0912J
Test Date: 24th October 2003
Report Date: 24th October 2003

Data Sheet

Tension Test #1:

- Tension test on One (1) inch extruded aluminum X-Pole fifty-three (53) inches in length.
- The test assembly was secured into a one (1) inch I.D. plastic sleeve that was embedded four (4) inches into standard construction concrete approximately 3,000 PSI. The pole was placed into the plastic sleeve 3 5/8" inches down into plastic sleeve
- The specimen was pulled with the one (1) 2,000 pound Cable-Hoist secured with chains and/or straps to fixed re-action mask from thirty-six 36" inches measured upward from the concrete surface.
- Ultimate tension load reached was 52 pounds when specimen reached attainable load. the X-Pole started to deform at the concrete surface, at the top of the plastic sleeve area, the test was terminated. Based on these test results, the aluminum X-Pole complies with Section 424.2.17.1.15 (1) of the Florida building code.

Tension Test #2:

- Tension test on One (1) inch extruded aluminum X-Pole fifty-three (53) inches in length.
- The test assembly was secured into a one (1) inch I.D. plastic sleeve that was embedded four (4) inches into standard construction concrete approximately 3,000 PSI. The pole was placed into the plastic sleeve 3 5/8" inches down into plastic sleeve
- The specimen was pulled with the one (1) 2,000 pound Cable-Hoist secured with chains and/or straps to fixed re-action mask from thirty-six 36" inches measured upward from the concrete surface.
- Ultimate tension load reached was 70 pounds and held for thirty-seconds. failure occurred at 80 pounds.
- Failure occurred when the X-Pole started to deform at the concrete surface, at the top of the plastic sleeve area. Based on these test results, the aluminum X-Pole complies with Section 424.2.17.1.15 (1) of the Florida building code.

Tested by Joshua L. Smith

Ramesh Patel P.E.
3/11/04

Reviewed for Code Compliance
Universal Engineering Sciences

CERTIFIED TESTING LABORATORIES

7252 Narcoossee Rd., Orlando, FL 32822
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Tension Test #2:

- Tension test on One (1) inch extruded aluminum X-Pole fifty-three (53) inches in length.
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Tested by Joshua L. Smith

Ramesh Patel P.E.

10/24

Reviewed for Code Compliance
Universal Engineering Sciences

CTL CERTIFIED TESTING LABORATORIES
7252 Narcoossee Rd., Orlando FL 32822
407-384-7744 • Fax 407-384-7751
Website: www.ctlarch.com
E-mail: ctlarch.com

CTL Number: 0912J
Test Date: 24th October 2003
Report Date: 24th October 2003

Client: Pool Sitter, Inc.
12087 62nd Street Unit 8
Largo, FL 33773

Product Type:
The product tested is referred to as an aluminum X-Pole; the specimen is a one (1) inch extruded aluminum (6063 T6) pole with a length of fifty-three (53) inches. TikiTek Outdoor-the manufacture of Safe Zone Pool Barriers provided the specimens.

Test Specification:
Horizontal tension tests on one (1) inch extruded aluminum X-Pole fifty-three (53) inches in length. The testing was intended to demonstrate compliance with the horizontal load requirements specified in Section 424.2.17.1.15 (1) of the Florida Building Code.

Test Equipment:
Test set-ups were secured with a one (1) inch I.D. plastic sleeve that was embedded four (4) inches into standard construction concrete approximately 3,000 PSI. One (1) 2,000-pound Cable-Hoist was used for Tension Testing the fifty-three (53) inch X-Pole. One (1) 10,000-pound Omega Force Gauge S.N.# 1101164 was used to measure ultimate tension force.

Test Procedure:
Two (2) aluminum X-Poles were tested for tension. Each test assembly was secured into a one (1) inch I.D. plastic sleeve that was embedded four (4) inches into standard construction concrete approximately 3,000 PSI. The pole was placed into the plastic sleeve 3 5/8" inches down into plastic sleeve. please refer to Typical Setup picture View 1. The specimens were pulled with the one (1) 2,000 pound Cable-Hoist secured with chains and/or straps to fixed re-action mask from thirty-six 36" inches measured upward from the concrete surface. please refer to Typical Setup picture View 2. Each assembly was independently put under tension with constant increments until 52 pounds of tension was reached or failure occurred. Ultimate failure is defined at the point of maximum load under tension before load started to decrease due to specimen starting to deform under tension.

Test Results:
Please refer to the attached data sheet and views 3 and 4 for specimen #1 and views 5 through 8 for specimen #2 for calculation of maximum load under tension and type of failures.

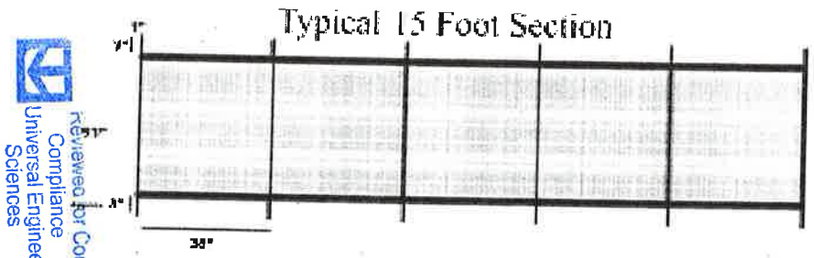
Tested by Joshua L. Smith

Ramesh Patel P.E.
2/11/04

Reviewed for Code Compliance
Universal Engineering Sciences

Drilling

The four foot tall Safe Zone® removable mesh comes in 15 foot lengths with 36 inches between poles. Our five foot tall fence comes in 12.5 foot lengths with 30" between poles. You will need to drill 1.25" diameter holes.



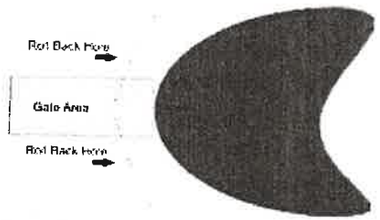
There is no substitute for good planning. Compute how many sections you will need. Starting at the middle of main access point to the pool, start to measure and mark off 36" segments. When you reach the end on your first 15 foot section, leave a 2" to 3" gap.

36" 36" 36" 36" 36" 2"-3"

Hole Drilling Guideline For Typical 15' Section 2"to 3" Gap Between Sections

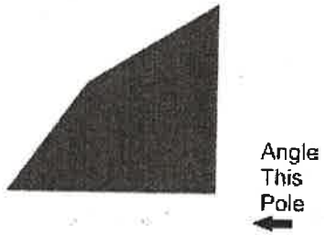
Then repeat the marking process for your next section.

Move around the pool working clockwise. If you need to make any cuts or alter any sections, you may want them in the back of the pool as far removed from the main access point as possible.



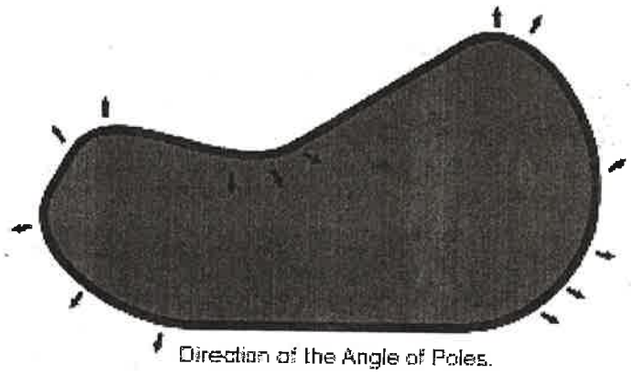
Roll Back Gate

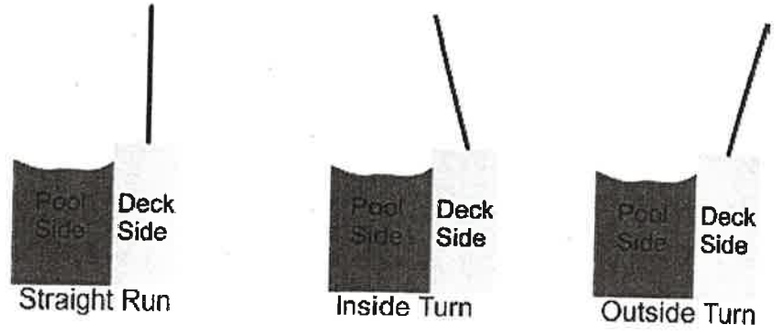
Roll back or fold back gate holes are drilled using the guidelines shown to the right. Check with you customer determine which sections they want drilled with gate holes.



Inside/Outside Curves

Poles on a curve need to be angled away from the inside of the curve. To accomplish this, adjust the drill angle 5 degrees. The more you angle the poles the poles the tighter the mesh will be. See the drawing below.





After the drilling is complete, remove the concrete plugs and tap down the non-conductive sleeves into each hole. The deck is now ready for you to drop the fence into it.

Drop each section into the sleeves remembering to start each pole at an angle and then straighten them as you put each pole into the sleeve. Work your way around the pool until every section is in the deck.

The final step is to install the fasteners between each section. Remove the second screw down from the top of the molding and insert the eyes. **HAND TIGHTEN ONLY DO NOT USE A TOOL TO TIGHTEN.**

Total Dynamic Head Calculation Worksheet

ZODIAC POOL SYSTEMS, INC.

Company:	Dreamscapes Pools and Spas, llc.	**Job #:**		**Date:**	3/27/2017
Job Name:	HERRERA	**Address:**	4124 ISLE VISTA		
City/Town:	ORLANDO	**State:**	FL.	**Zip Code:**	32818

Instructions: Data can only be added to the yellow cells. Steps #1 & 2 are for calculating Pool Volume in Gallons and for establishing a turnover rate in Gallons Per Minute (GPM). If the turnover rate is already established, click on the GPM cell at the end of Step #2 and input flow rate, then proceed to Step #3. Pressing the RESET button will clear all inputed information to start a new worksheet. Worksheet can be saved to a file or printed for future reference.

Caution: Pressing the RESET button will clear all yellow cells to start a new worksheet.

System TDH Calculation Results

Total Friction Loss in Ft. of Water (TDH)	32.23
Total Friction Loss in PSI	13.95

Versa Plumb Reduction Results

TDH Reduction	2.90
al System TDH with Versa Plumb	29.33

Step # 1

Calculate Pool Volume:

Width	Length	Surface Area	Av. Depth	Gallons
17	27	376	4.5	10,100

Step # 2

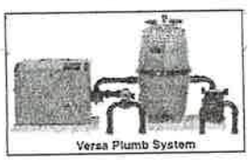
Calculate GPM & Turnover Rate in Hours:

Gallons	Run Time (hrs.)	Run time (min.)	GPM
10,100	8	480	40

Step # 3

Calculate Total Length of Suction Pipe: (recommended velocity: 6 fps and below)

System GPM	Suction Pipe Size	Velocity (ft./sec.) at System GPM	Friction loss in Ft. of water / ft.	Total Length of Pipe	Friction Loss in Ft. of Water	Friction Loss in PSI
40	1.5"		0.095		0.00	0.00
	2"	3.84	0.028		0.00	0.00
	2.5"	2.72	0.012	95	1.13	0.49
	3"	1.72	0.004		0.00	0.00
	4"	1.00	0.001		0.00	0.00
	6"	0.44	0.000		0.00	0.00
				TOTAL	1.13	0.49



Versa Plumb System

Step # 4

Calculate Total Length of Return Pipe: (recommended velocity: 8 fps and below)

Return Pipe Size	Velocity (ft./sec.) at System GPM	Friction loss in Ft. of water / ft.	Total Length of Pipe	Friction Loss in Ft. of Water	Friction Loss in PSI
1.5"	6.28	0.095		0.00	0.00
2"	3.84	0.028	100	2.77	1.20
2.5"	2.72	0.012		0.00	0.00
3"	1.72	0.004		0.00	0.00
4"	1.00	0.001		0.00	0.00
6"	0.44	0.000		0.00	0.00
			TOTAL	2.77	1.20

Step # 5

Calculate Total Number of Pipe Fittings: (input Total of each Size Fitting in Yellow Cells)

Fitting Size	Standard 90° Elbow	Long Radius 90° Elbow	Standard 45° Elbow	Insert Coupling	Tee (straight flow)	Tee (branch flow)	Friction Loss in Ft. of Water	Friction Loss in PSI
1.5"							0.00	0.00
Friction Loss in Ft. of Water	0.00	0.00	0.00	0.00	0.00	0.00		
2"	21			5		2	4.43	1.92
Friction Loss in Ft. of Water	3.49	0.00	0.00	0.26	0.00	0.67		
2.5"	16			5		1	1.88	0.81
Friction Loss in Ft. of Water	1.52	0.00	0.00	0.18	0.00	0.18		
3"							0.00	0.00
Friction Loss in Ft. of Water	0.00	0.00	0.00	0.00	0.00	0.00		
4"							0.00	0.00
Friction Loss in Ft. of Water	0.00	0.00	0.00	0.00	0.00	0.00		
6"							0.00	0.00
Friction Loss in Ft. of Water	0.00	0.00	0.00	0.00	0.00	0.00		
						TOTAL	6.31	2.73

Step # 6

Calculate Static Suction & Discharge Lift:

Input Total Feet of Lift	Friction Loss in Ft. of Water	Friction Loss in PSI
0.5	0.50	0.22

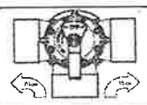
Step # 7

Calculate Exit Loss:

Input Size of Return Eyeball	Input Number of Return Eyeballs	Individule Return GPM	Friction Loss in Ft. of Water	Friction Loss in PSI
1/2"	3	13	9.34	4.04

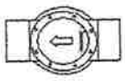
Step # 8

Select 3-Way Valve Straight Flow Size: Straight Through Flow



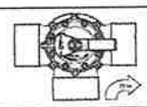
3-way Valve Pipe Size	Input Number of 3-way Valves	Friction Loss in Ft. of Water	
Option will be available with the next revision.		0.00	0.00
		0.00	0.00
		0.00	0.00
		0.00	0.00

Select Check Valve Straight Flow Size: Straight Through Flow



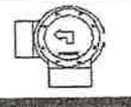
3-way Valve Pipe Size	Input Number of 3-way Valves	Friction Loss in Ft. of Water	Friction Loss in PSI
1.5"		0.00	0.00
2"		0.00	0.00
2.5"	1	0.72	0.31
3"		0.00	0.00

Select 3-Way Valve 90° Flow Size: 90° Flow



Check Valve Pipe Size	Input Number of Check Valves	Friction Loss in Ft. of Water	Friction Loss in PSI
1.5"		0.00	0.00
2"		0.00	0.00
2.5"	5	6.35	2.75
3"		0.00	0.00
Total 3-Way Valve Loss		6.35	2.75

Select Check Valve 90° Flow Size: 90° Flow



Check Valve Pipe Size	Input Number of Check Valves	Friction Loss in Ft. of Water	Friction Loss in PSI
1.5"		0.00	0.00
2"		0.00	0.00
2.5"		0.00	0.00
3"			
Total Check Valve Loss		0.72	0.31

Step # 9

Select Jandy Filter Type and Size:

Select Filter	Friction Loss in Ft. of Water	Friction Loss in PSI
CS150	1.00	0.43

Step # 10

Select Jandy Heater Type and Size:

Select Heater	Friction Loss in Ft. of Water	Friction Loss in PSI
LXi250	3.42	1.48

Step # 11

Select Jandy Backwash Valve:

NLBV

Slide Valve

MPV

Select Backwash Valve	Friction Loss in Ft. of Water	Friction Loss in PSI
None	0.00	0.00

Step # 12

Select AquaPure Salt Cell:

180° Install

90° Install

Select Salt Cell	Friction Loss in Ft. of Water	Friction Loss in PSI
AP1400 180°	0.69	0.30

Step # 13

Select Caretaker In-floor Valve:

Select In-floor Valve	Friction Loss in Ft. of Water	Friction Loss in PSI
None	0.00	0.00

ZODIAC POOL SYSTEMS, INC.

Reviewed for Code Compliance
Universal Engineering Sciences

ANSI-7 Suction Outlet Safety Compliance Data Sheet

(One sheet for each drain or set of drains in the system)

Job Name: HERRERA

Address: 4124 ISLE VISTA AVE

BELLE ISLE, FL. 32812

THIS DATA IS FOR THE: POOL ☒ AUXILIARY (Spa, Feature(s) etc.) ☒

SUCTION OUTLET(S)

Are there drains: yes ☒ no ☐ (if no, go to trunk & return pipe size)

Single unblockable ☐ Two or more ☒

(if single unblockable, indicate make, model & flow rating then go to trunk & return pipe size)

Drain make & model: HAYWARD 8" ROUND

Listed cover flow rate: 125.7 gpm

SYSTEM FLOW RATE

System flow rate: 40GPM gpm

Method of determining system flow:

40GPM System flow from the TDH Calculator (attach calculation sheet)

32.23 Total dynamic head calculation (attach calculation sheet)

N/A Simplified total dynamic head (attach pipe length + filter + heater resistance)

PUMP SELECTION

Pump make & model: VARIABLE SPEED

(attach pump performance curve, indicating flow as calculated above)

PIPE SIZE

Branch piping size 2.5 inch @ 6 fps or lower

Trunk line size 2.5 inch @ 8 fps

Reviewed for Code Compliance
Universal Engineering Sciences

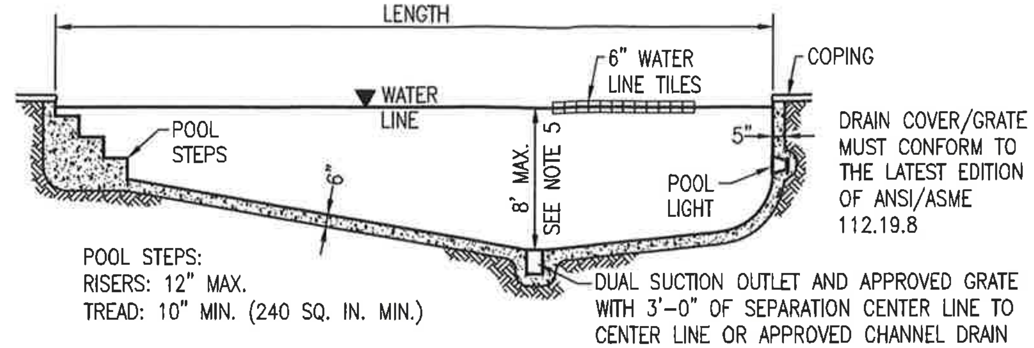
PIPE SIZE SUMMARY - THIS JOB - PER THE APPLICABLE STANDARD:

Suction side filtration branch piping size =	2.5 in.	per ANSI-1 5 or 7 @ 6 *fps*
Suction side filtration trunk line piping size =	2.5 in.	per ANSI-1 5 or 7 @ 6 *fps* or 8 *fps*
Return side filtration branch piping size =	2 in.	per ANSI-1 5 @ 8 *fps*
Return side filtration trunk line piping size =	2 in.	per ANSI-1 5 @ 8 fps
Auxiliary drain branch suction line piping size =	N/A in.	per ANSI-7 @ 6 fps
Auxiliary drain trunk suction line piping size =	N/A in.	per ANSI-7 @ 8 fps
Auxiliary return line piping size =	N/A in.	perANSI-5 @10fps

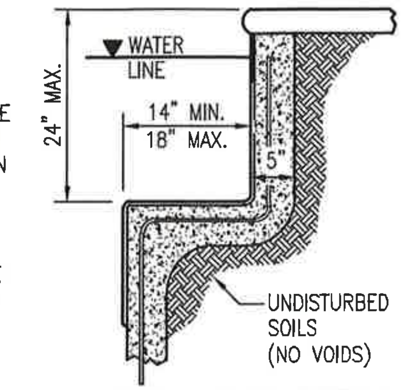
Vacuum line, if installed shall be sized to flow at 8 fps per ANSI-5 and shall be covered with a self-closing, self-latching cover per ANSI-7 2 in.

GENERAL NOTES

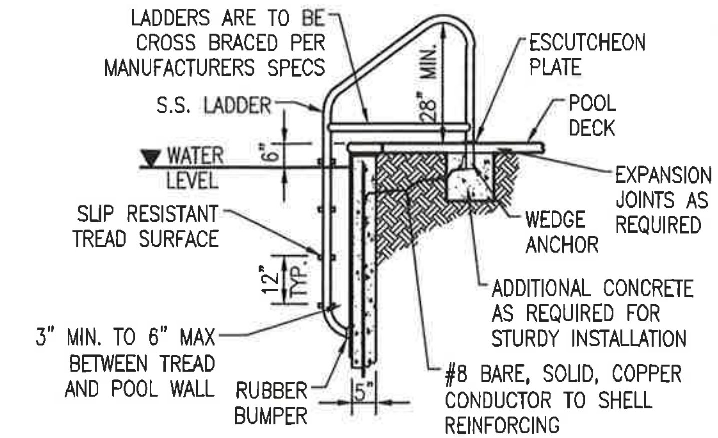
1. For pool plan, size, deck, and special details, see Contractor's Pool Plan.
2. Pool Walls shall be 5" thick and Floors shall be 6" thick and shall be pneumatically applied Concrete with a Compressive Strength of 3,000 psi in 28 days. Concrete Decks shall be 2,500 psi. Concrete construction will conform to ACI Standard 318.
3. All Pool design, construction and workmanship shall be in conformity with the requirements of Florida Building Code, 5th Edition, 2014 (FBC) Accessibility; FBC Building; FBC Residential, and; ANSI/NSPI-3, ANSI/APSP/ICC-4, ANSI/APSP/ICC-5;ANSI/APSP/ICC-6 and ANSI/APSP-7; ANSI/APSP-15 and the Adopted National Electric Code 2011 (NEC) and Chapter 42 and Chapter 45 of the 5th Edition of the FBC, Residential.
4. All Pool Piping to be Schedule 40 PVC, bearing the mark of NSF Approval unless otherwise noted.
5. 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'. Where the pool depth is over 6ft (measured vertically down from the Waterline), use #3 bars at 6" on center 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 1½".
6. All Metallic Pool Fittings within 5' 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.
7. Bond all Sheathed Cables, Raceways, Metal Piping and all Fixed Metal Parts not separated by a permanent barrier, if within 5'-0" Horizontally from Water and 12'-0" Vertically of Maximum Water Level.
8. Equipotential Bonding to be accomplished in accordance with Article 680 of the Adopted National Electrical Code 2011 (NEC).
9. 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.
10. The Contractor must protect Existing Structures from failure by acceptable methods if required. The Engineer accepts no responsibility for the safety of Existing Structures.
11. 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 dimesions shown prior to construction.
12. 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.
13. Contractor shall provide adequate Temporary Fencing around the construction area to prevent unauthorized entry into the Pool Area.
14. If a water supply is provided, a minimum 3" Atmospheric Break will be provided.
15. All Structural, Filtration and Electrical details outlined in these drawings also relate to Spa Construction.
16. 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.
17. WARNING! 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.



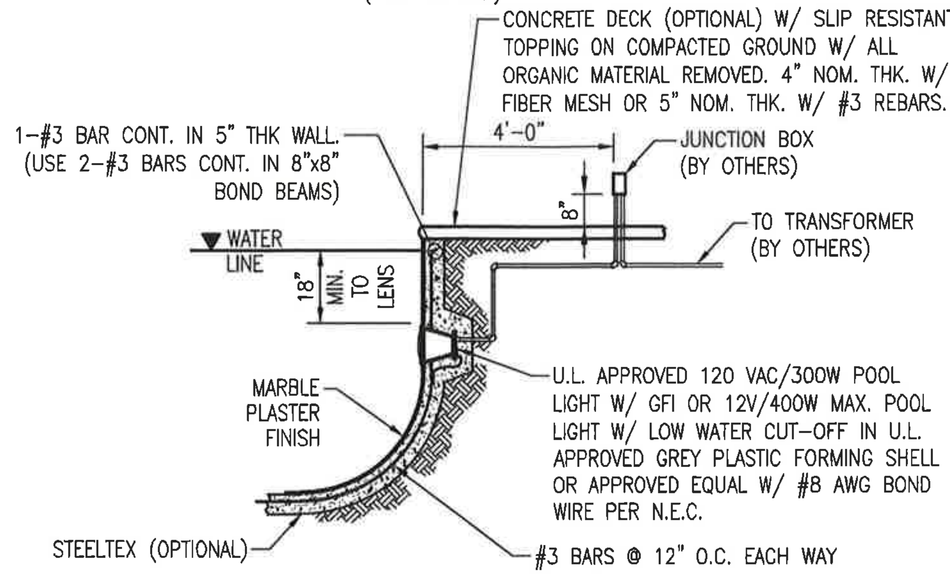
POOL SECTION
(LONGITUDINAL)



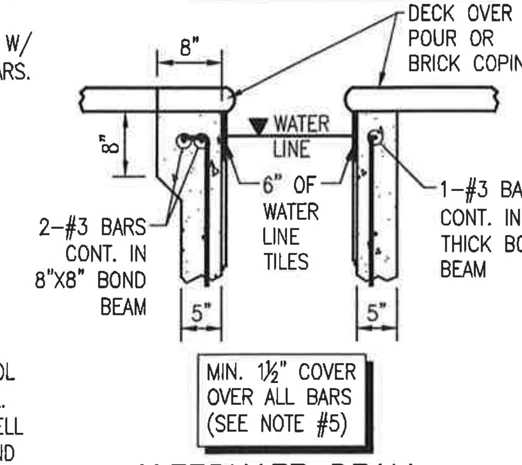
SWIM-OUT DETAIL



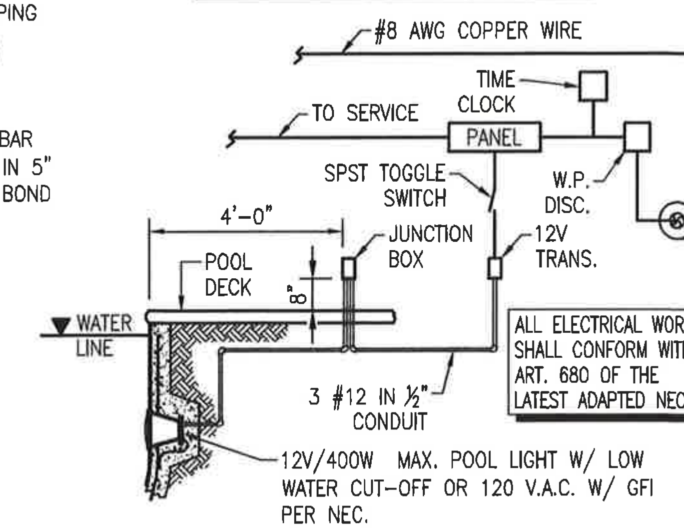
TYPICAL LADDER DETAIL



POOL STRUCTURAL DETAILS

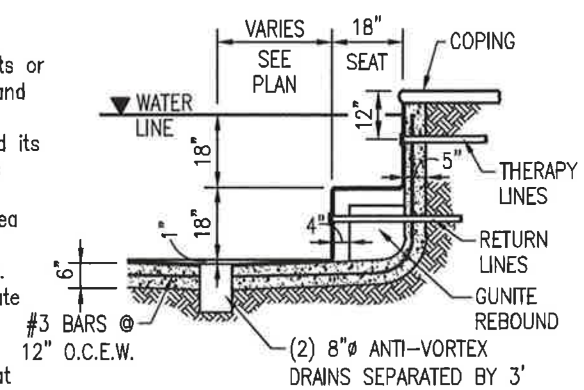


ALTERNATE BEAM FINISH DETAIL

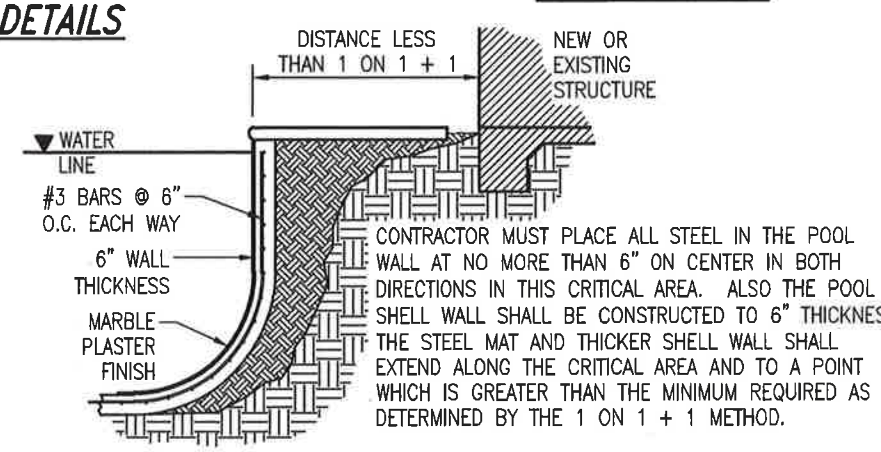


ELECTRICAL DIAGRAM

CITY OF BELLE ISLE
THE PLANS AND SPECIFICATIONS HAVE BEEN REVIEWED. FULL COMPLIANCE WITH CODES AND REGULATIONS ARE REQUIRED BY THE PERMIT HOLDER
APPROVED [signature] 4/14/2017 BU540

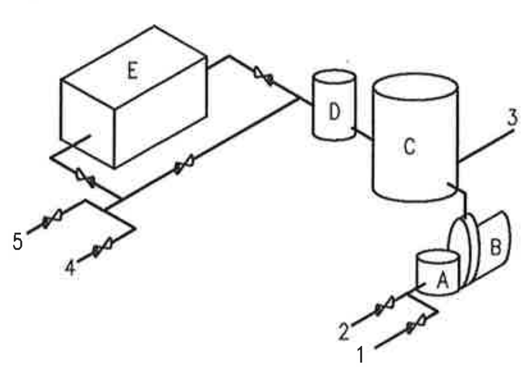


SPA STRUCTURAL DETAILS



TYPICAL WALL AND FLOOR WITHIN ANGLE OF REPOSE

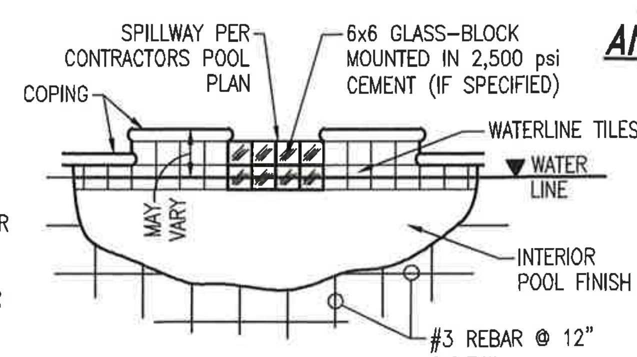
Dreamscapes Pools and Spas, Inc.
4044 W. Lake Mary Blvd.
Suite 104327
Lake Mary, FL 32746
(321) 229-5526
CPC1457433



1 MAIN DRAIN LINE
2 SKIMMER LINE
3 WASTE LINE
4 RETURN LINE
5 PRESSURE CLEANING LINE (OPTIONAL)

A HAIR & LINT STRAINER
B RECIRCULATION PUMP
C FILTER
D IN-LINE CHLORINATOR (OPTIONAL)
E HEATER (OPTIONAL)

FILTER SYSTEM



RAISED SPA DETAIL

Reviewed for Code Compliance
Universal Engineering Sciences

PLAN EXPIRES 1 YEAR FROM THE SIGNATURE DATE OR THE EFFECTIVE DATE OF A MAJOR FLORIDA BUILDING CODE CHANGE WHICHEVER IS SOONER

MAR 16 2017
Date

Skilo Engineering Services, Inc.
Larry B. Schaper, P.E.
FL PE NO. 32046
2431 Aloma Ave., Ste. 124
Winter Park, FL 32792
(407) 275-1099

Swimming Pool Specification For:

JOSE HERRARA-SOTO
4124 ISLE VISTA AVE
BELLE ISLE FL 32812

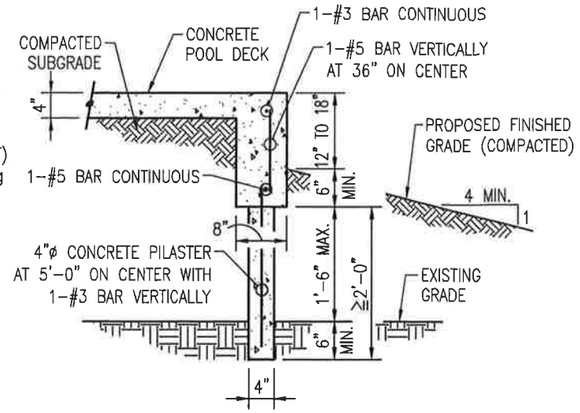
Scale: None Rev 10 – 06/30/15 T

TURNDOWN NOTES

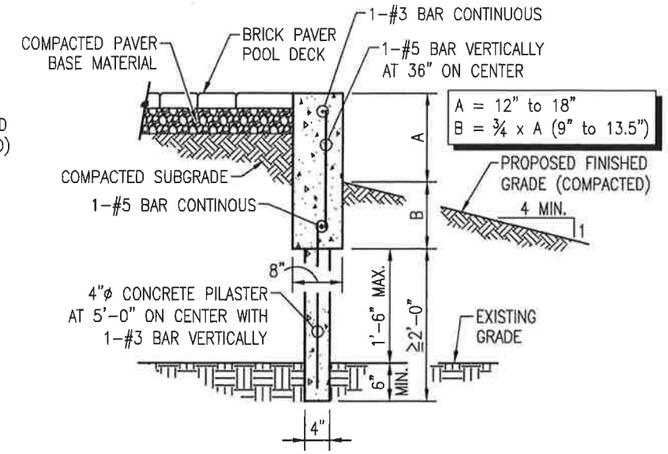
1. Detail is based on NO surcharge behind the Turndown and the Ground away from the Turndown is Level (>4 to 1). Turndown may abut Ribbon Footer and be tied into Footer if Appropriate, with #3 Rebar.
2. Turndown shall bear on Rock, Clean Sand or Structurally Sound Soils (>1,500 PSF) that shall be compacted to provide Optimum Bearing Capacity and prevent Settling or Shifting.
3. All Reinforcing Steel is to Conform to ASTM 615, Grade 40.
4. Concrete shall contain Fiber Mesh and have a 28 Day Compressive Strength of 2,500 PSI.
5. All Construction to Conform to Florida Building Code, 5th Edition, 2014, FBC Building and FBC Residential.
6. Refer to Contractor's Plan on file with the Building Department for Details on Turndown Location.
7. If the Base of the Turndown does not extend into the Old (Existing) Ground, a 4"ø Pilaster will be required every 5'-0" that will be either 2'-0" into the Ground or to 6" into the Indigenous Material, Whichever is Deeper. The Pilaster will have a #3 Rebar tied into the #5 Rebar in the base of the Vertical Pour.
8. A Deck Turndown is NOT intended to be a substitute for a Retaining Wall. If the Vertical Dimension from the Top of the Concrete Deck to the Old (Existing) Ground reaches 42" for a 12" Turndown, 48" for a 18" Turndown, for more than 20% of the Turndown Length or the Finished Grade Slope exceeds (steeper than) 4' Horizontally and 1' Vertically, a Turndown should not be used.
9. For a Paver Deck, if the Vertical Dimension from the Top of the Deck to the Old (Existing) Ground reaches 30.0" for a 12" Turndown, 36.0" for a 18" Turndown, for more than 20% of the Turndown Length or the Finished Grade Slope exceeds (steeper than) 4' Horizontally and 1' Vertically, a Turndown shall not be used.
10. A Screen Enclosure is not to be installed on top of any of the depicted Turndowns.

FOOTER NOTES

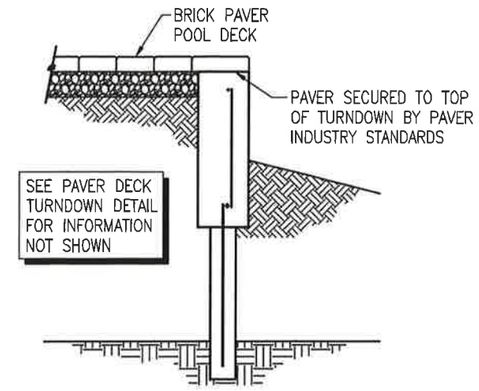
1. If a Screen Enclosure is to be installed, the Swimming Pool Contractor must Coordinate Design and Construction of any required Footer with the Screen Contractor. Specific Details for Footer to be Provided by the screen Enclosure Engineer.
2. Footer shall bear on Rock, Sand or Structurally Sound Soils (>1,500 PSF) that shall be compacted to provide Optimum Bearing Capacity and prevent Settling or Shifting.
3. Concrete shall have a 28 Day Compressive Strength of 2,500 PSI with Fiber Mesh or 6x6-10x10 W.W. Mesh.
4. (3) #3 Rebars is Equivalent to (1) #5 Rebar.
5. A Footer may be installed with a Brick Paver Pool Deck if required by the Jurisdiction or at the Option of the Contractor and may be placed over the Top of the Footer or Abutting the Side of the Footer.



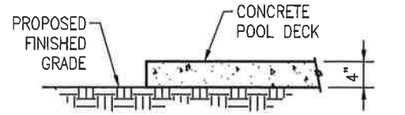
CONCRETE DECK TURNDOWN



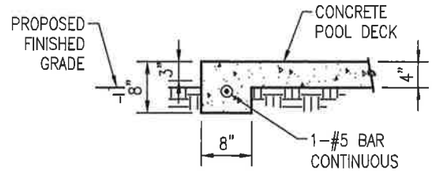
PAVER DECK TURNDOWN



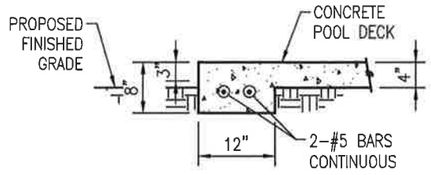
ALTERNATE PAVER ON TURNDOWN



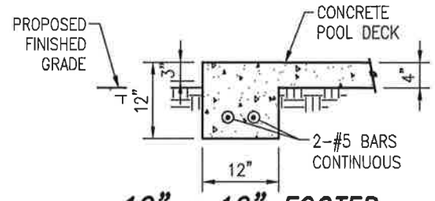
NO FOOTER



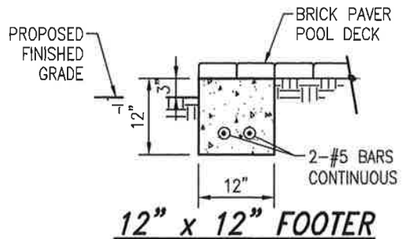
8" x 8" FOOTER



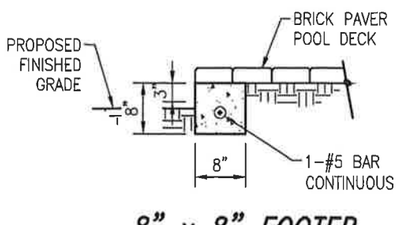
8" x 12" FOOTER



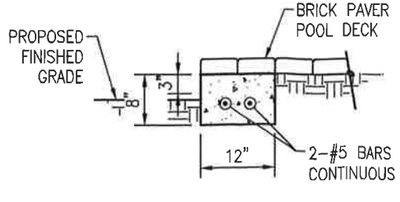
12" x 12" FOOTER



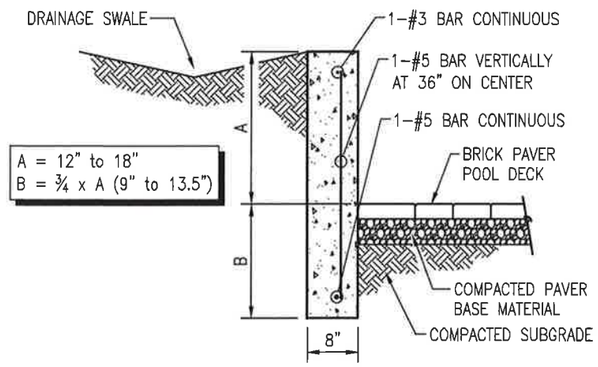
12" x 12" FOOTER W/ PAVER DECK



8" x 8" FOOTER W/ PAVER DECK



8" x 12" FOOTER W/ PAVER DECK



ALTERNATE PAVER LOCATION

Reviewed for Code Compliance
Universal Engineering Sciences

MAR 16 2017

Skilo Engineering Services, Inc.
Larry B. Schaper, P.E.
FL PE NO. 32046
2431 Aloma Ave., Ste. 124
Winter Park, FL 32792
(407) 275-1099

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Pools and Spas, Inc.
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