

Scope of Work

The City of Little Rock is requesting bids for the remodeling of the swimming pool mechanical systems for the Jim Dailey Fitness Center located at 300 S. Monroe St, Little Rock, AR. The project includes the demolition and removal of the existing filtration system and installation of new filtration system for the main swimming pool. It also includes the installation of chemical delivery systems with automation for the main swimming pool and activity pool. The project specifications are detailed below. For questions concerning this project, please contact:

Josh Mayes
Facility Director
Jim Dailey Fitness & Aquatic Center
501-295-9244
jmayes@littlerock.org

ALL SEALED BIDS MUST BE SENT TO:

Abdoul Kabaou
500 West Markham Street
Little Rock, AR 72201

Company Name: _____

Company Contact: _____

Address: _____

Phone (email optional): _____

BID TOTAL (Tax Not Included): _____

Main Swimming Pool

Site Preparation & Demolition

Removal of the existing filtration system for the main pool is required for this project. Contractor must complete the following:

Removal and Disposal:

- Four (4) existing 78" filtration tanks
- All filter media from existing tanks
- All supply and discharge plumbing from existing filtration system
- Removal of existing recirculation pump – plumbing and electrical
- Existing chlorination system
- All miscellaneous items (plumbing, etc.) remaining from existing system

Installation

Installation of new equipment as specified below. Installation shall be in accordance with all plumbing and electrical codes as set forth by the City of Little Rock, State of Arkansas, and the Arkansas Department of Health. Any deviations from equipment specified in the following summary must be approved by Arkansas Department of Health / Engineering department. A drawing of the mechanical room will be supplied upon request. No other construction documents will be provided.

Main Swimming Pool Equipment Specifications

POOL DATA

Main Pool Capacity, **235,000** gallons.

Rate of turnover at a velocity of 7.5 gpm per sq. ft. of filter surface area through **76.93** sq. ft. of filter surface area equals 8 hours.

Rate of recirculation 490-577gpm

Intent

It is the intent of these specifications to limit the bidding to a product which exemplifies highest quality production standards and is manufactured by a company which has a proven history and performance record.

Alternates

Alternate systems will be considered only when submittal of complete drawings and specifications have been previously approved by the Arkansas Department of Health.

All approved alternate systems must be bid as required on the bid form. Bidders must identify alternates and note any/all exceptions to specifications where applicable. Bidders must include name of manufacturer and model number of products(s) bid.

Qualifications

The equipment specified herein shall be the product of a manufacturer regularly engaged in the fabrication of filtration systems for a period of not less than ten (10) years.

Guarantee

The equipment supplier shall guarantee that equipment furnished meets or exceeds those as specified, are of the correct size and capacity, and when installed according to manufacturers and/or engineers direction, will provide water returning to the pool to be clear, bright, free of suspended matter visible to the unaided eye and will be sanitary to the satisfaction of all authorities having jurisdiction. Equipment supplier shall ensure that all equipment furnished be guaranteed for a period of one (1) year from date of initial operation against faulty workmanship or material. Supplier shall repair or replace any faulty parts or equipment within the one year period at no cost to the owner other than freight and labor.

Capacity

The filter plant shall consist of a battery of two (2) high-rate pressure sand filter(s), 84" in diameter, with an effective filter surface area of 76.93 sq. ft. When operating at a filtration rate of 7.5 gallons per minute per square foot of filter surface area. The Swim time catalog number is P251840.

Filter Tank

The tank shall be constructed of carbon steel with 48" side shell height, 1/4" nominal thickness. Tank shall be designed for a working pressure of (min.) 50 psi and shall be hydrostatically tested to 75 psi. The tank shall be assembled by a rated welder using the automatic submerged arc welding method for continuous, full penetration welds. All welds are to be continuous butt weld. Lap welds of the heads to the side sheet will not be permitted, nor will the lap welding of the side sheet seam be permitted. The top head of each tank shall be fitted with a 24" round manway with cast or forged yoke(s) located in the top head. Manway seal shall be complete with one piece neoprene gasket and shall be designed so that internal pressure shall augment the seal. No additional hardware or through bolts shall be allowed. Tank shall be fitted with lifting lugs on top and bottom head. Each tank shall be supported by adjustable jack legs. A 1 1/4" drain tube with media retainer extending above the contractor supplied concrete shall be fitted into the bottom of each tank. All tank fittings 2" and smaller shall be threaded connection. Tank fittings larger than 2" shall be 150 lb. class flanged connections.

Interior Lining

Prior to application of interior lining, all welds shall be wire brushed clean and smooth. All interior steel surfaces shall be sandblasted to a near white finish.

PVC "Uniflex" Lining

Vessel shall be provided with a 60-90 mil. (Interior) (Exterior) heat-set PVC lining. Prior to sand blasting, vessel(s) substrate shall be heated to 350-400 degrees F for a period of not less than one (1) hour. Vessel(s) shall cool to ambient temperature. Following near-white sandblast, all interior metallic surfaces shall receive one (1) coat of "Uniflex" adhesive primer, 2-3 dry mils. Primer shall air dry for 15 minutes and then be heat-set at 350-400 degrees F for a minimum of 15 minutes. Vessel(s) shall cool to ambient temperature prior to application of "Uniflex" finish coat. After cooling, the tank(s) shall receive a minimum two (2) coat application of "Uniflex" finish coat, 30-45 mils per coat, for a total finished thickness of 60-90 mils. Finish coat shall be heat-set at 370-425 degrees F for a minimum of one (1) hour. After cooling, all connections shall be chased or trimmed. The interior lining shall be holiday tested using accepted spark test equipment at 7,000 to 10,000 volts and shall be free of imperfections. Tank(s) fabrication, application and heat setting of interior lining and spark testing shall all be performed by manufacturer's personnel at manufacturer's facility. Tank(s) conforming to these specifications shall receive a fifteen (15) year limited warranty.

Internals

Working internals shall consist of a 6" diameter influent distribution head so constructed as to facilitate an even and adequate distribution of the influent. The underdrain collection system shall consist of a 6" header with 1 1/2" double slotted .016", capped laterals, spaced a maximum of 5" center to center, and shall be constructed of schedule 80 PVC.

Face Piping

Influent and effluent nozzles shall consist of 6" schedule 40 steel pipe. Flanges shall be 150 lb. class steel. Fittings shall be minimum ANSI B16.1 class 125 lb. cast iron. Nuts and bolts shall be zinc plated and gaskets shall be full face high quality synthetic rubber. All other supply and discharge piping shall be schedule 40 PVC.

Valves

All valves 2" and smaller shall be PVC tru-union ball valves.

Pressure Gauges

The filter plant shall be supplied with one stainless steel gauge panel consisting of two (2) 3 1/2" diameter pressure gauges reading from 0-60 psi. Gauges shall have glass faces with stainless steel face rings. Gauges shall have brass bourdon tubes and shall be liquid filled. One gauge shall be directly connected to the influent of the filter plant and shall be designated "Influent" on the gauge panel. The other shall be directly connected to the effluent of the filter plant and shall be designated "Effluent" on the gauge panel. Each gauge shall be equipped with a pressure snubber creating a column of air acting as a vibration dampener between the pool water under pressure and the gauge itself. *Note: Influent and effluent connections by installer.*

Backwash Sight Glass

There shall be supplied for installation on the backwash line, one backwash sight glass having a bronze frame and easily removable glass. The sight glass shall have a 1 1/2" MIP threaded connection. *Installation of sight glass by installer.*

Air Release

A manual air release assembly shall be included for each tank and shall consist of 1/2" schedule 40 galvanized steel pipe and fittings with a 1/2" bronze gate valve.

Base Fill

Prior to loading the media in the tank(s), the *contractor shall* fill the void in the bottom of the tank with concrete to within 1" of the level of the bottom of the laterals. Concrete shall be floated level and troweled smooth. All gravel fill will also be accepted using 1/4" – 1/2" rock per manufacturer specifications.

Media

Graded filter media shall be washed, cleaned and properly graded to allow greater distribution during backwash and reduce head loss through the filter bed while filtering. The media shall be of quartzite or silica in nature, hard, not smooth, and free of insoluble particles. 90-95% insoluble in warm muriatic acid. It must have a uniformity coefficient of 1.7 in .45-.55 mm fine sand. Not more than 1% clay, loam dust, or other foreign materials allowable.

Media shall be shipped in 100 lb. Bags (1 cu. ft.) and properly labeled showing grade therein. The tank shall be carefully loaded with the media to prevent damage of the effluent header/lateral assembly. Each grade of media shall be struck smooth with a straight edge and level before placing the next grade of media in the tank. The media shall consist of three (3) grades in required quantities. The filter media shall be .45-.55 mm in size with support gravel of 1/8" - 1/4", followed by a bottom layer of 1/4" - 1/2" rock.

The entire filter system shall be National Sanitation Foundation (NSF) listed.

Flow Meter

Self-Powered Type

There shall be supplied 6" , self-powered, paddle wheel driven, in line flow sensor with saddle fitting and 25' cable to be connected to a remote digital meter reading directly in gallons per minute. Georg Fisher Model 8150 Totalizer with 515 Roto-X flow sensor

Pump & Motor

There shall be supplied one (1) flooded suction pump and motor with hair and lint strainer. Pump shall be a Pentair Model EQK 1000 (Pentair p/n 340034) 10hP, 3 phase, 208-230/460V, capable of 497gpm @ 60'TDH. Hair & Lint strainer is to be included with the pump and motor unit.

Chemical Feeders

Chlorinator, Calcium Hypochlorite

Supply one (1) each calcium hypochlorite feed system for the delivery of chlorine, Accu-Tab model 3140AT per the following;

Installation:

- Two 2" plumbing connections (inlet and outlet)
- One electrical connection (plug included)
- One chemical controller connection (plug included)
- With or without a chlorine controller
- Compact design for snug pump rooms
- Skid-mounted on an aluminum frame – no additional setup

Standard Components:

- Chlorinator
- Pump
- Check valve
- Flow meter (up to 40 GPM)

Specifications:

- Footprint: 36" by 32"
- Inlet Connection: 2" NPT
- Outlet Connection: 1 ½ " NPT
- Electrical Requirements: 120 V 20 amp circuit
- UL listed electrical components
- Chemical controller: suggested but not required
- Indoor or outdoor installation

Capacity:

- 140 pound tablet storage capacity

- NSF 50 certified at 7.4 pounds of available chlorine per hour

Major Components:

- Hayward 1 1/2-hp pump (JSAEL)
- Blue-White flow meter
- Kerrick float valve
- Spears check valve (S1720C15)
- Chlorine tablet hopper
- Solution tank

Accu-Tab Blue SI Tablets:

- 3 1/8 inch diameter tablet
- 325 gram tablet weight
- Unique blue hue for safety
- Scale inhibitor for clean chlorinator operation

Muriatic Acid Feeder

There shall be supplied one muriatic acid feed pump(s), peristaltic, FlexFlo Blue White Pump, Model A-100N, 24gpd

SWIMMING POOL CHEMICAL AUTOMATION SYSTEM

A Programmable Chemical Automation System shall be supplied for continuous monitoring and control of pH and sanitizer ORP (oxidation-reduction potential) levels. The controller shall be a Pentair Acu-Trol Model AK110 chemical controller. The controller shall include: pH/ORP probes, flow sensor, thermometer, and flow cell assembly.

INSTALLATION SUMMARY

- Installation must be complete by May 15, 2015
- Complete installation of all equipment is required – includes all electrical, plumbing, etc.
- Deviations from equipment schedule must be approved by Arkansas Department of Health
- Once installed, final inspection will be made by the Arkansas Department of Health.
- Contractor responsible for all permits and fees

Scope of Work

Installation of chemical delivery and automation equipment on the Activity Pool. There are no changes to any other mechanical systems on this pool. Equipment summary is below:

Chlorinator, Calcium Hypochlorite

Supply one (1) each calcium hypochlorite feed system for the delivery of chlorine, Accu-Tab model 3070 AT per the following;

Installation:

- Two 2" plumbing connections (inlet and outlet)
- One electrical connection (plug included)
- One chemical controller connection (plug included)
- With or without a chlorine controller
- Compact design for snug pump rooms
- Skid-mounted on an aluminum frame – no additional setup

Standard Components:

- Chlorinator
- Pump
- Check valve
- Flow meter (up to 40 GPM)

Specifications:

- Footprint: 36" by 32"
- Inlet Connection: 2" NPT
- Outlet Connection: 1 ½" NPT
- Electrical Requirements: 120 V 20 amp circuit
- UL listed electrical components
- Chemical controller: suggested but not required
- Indoor or outdoor installation

Capacity:

- 70 pound tablet storage capacity
- NSF 50 certified at 2.7 pounds of available chlorine per hour

Major Components:

- Hayward 1 1/2-hp pump (JSAEL)
- Blue-White flow meter
- Kerrick float valve
- Spears check valve (S1720C15)
- Chlorine tablet hopper
- Solution tank

Accu-Tab Blue SI Tablets:

- 3 1/8 inch diameter tablet
- 325 gram tablet weight
- Unique blue hue for safety
- Scale inhibitor for clean chlorinator operation

Muriatic Acid Feeder

There shall be supplied one muriatic acid feed pump(s), peristaltic, FlexFlo Blue White Pump, Model A-100N, 16gpd

SWIMMING POOL CHEMICAL AUTOMATION SYSTEM

City of Little Rock
Jim Dailey Fitness & Aquatic Center
Swimming Pool Mechanical Renovation
Bid Specifications Bid Number 15117

January 23, 2015

A Programmable Chemical Automation System shall be supplied for continuous monitoring and control of pH and sanitizer ORP (oxidation-reduction potential) levels. The controller shall be a Pentair Acu-Trol Model AK110 chemical controller. The controller shall include: pH/ORP probes, flow sensor, thermometer, and flow cell assembly.

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