Natare® Stainless Steel Swimming Pool
Elevated
Typical Specification

(Continued...)

Natare® Stainless Steel Swimming Pool Elevated Specification

The following pages include a typical specification (in the Construction Specification Institute format). This specification is intended to be used as part of a project or as a stand-alone specification for the purchase of a swimming pool, aquatic facility or water feature item.

This specification is not proprietary or intended to limit competition. To the contrary, the purpose of this specification is to establish the minimum performance and qualify standards. The use of this specification does not preclude other manufacturers or suppliers from bidding. In fact, the use of a comprehensive and detailed specification ensures that the purchaser or owner actually receives the expected quality and performance required.

Natare recommends that purchasers understand their needs, specify the item that meets their requirements and demand that all potential suppliers meet those minimum requirements.

Please contact Natare for assistance is selecting and specifying your swimming pool, aquatic facility or water feature items.

Natare encourages the use of these specifications and permission for modification, reproduction, change or distribution of these specifications is granted. These specifications are also available on request as word processing documents in most common file formats.

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SECTION 1315_ - NATARESTAINLESS STEEL SWIMMING POOL SYSTEM ELEVATED

PART 1 - GENERAL

1.1 SUMMARY

The method of swimming pool construction and designs specified and shown on the detailed drawings if intended as the basis for receiving bids and is the preference of the Owners. It is not the intent of these Specifications to in any way limit competition or restrict the bidder in the preparation of his bid. It is assumed, however, that unless stated otherwise, that the bidder is offering exactly the equipment, products and quantities of items as specified herein and is totally obligated to furnish that equipment in literal compliance with these Specifications. Substitute system(s) must be approved by the Architect/engineer a minimum of ten (10) days prior o the bid opening date by submitting a full equipment list of all items he intends to supply, showing pool construction techniques, materials and system, structural data, engineering calculations and other pertinent data as outlined in the Specification. Said request for substitution should include a detailed explanation of why s substitute is being requested. In the event an alternate system is approved, all contractors will be so advised per addendum prior to bid opening allowing all contractors a fair and equitable opportunity to include such a system or equipment in their bids.

1.2 The System specified shall be a Natar Stainless Steel Swimming Pool System and shall be the proprietary product and sole property of Natare Corporation, 5905 West 74th Street, Indianapolis, Indiana 46278. Other aspects, equipment and construction within the project have been designed to utilize its principles. No alternates will be accepted under this base bid as they could adversely affect the ultimate performance of the system.

1.3 SCOPE OF WORK

The system hereinafter specified consists of and shall include an all stainless steel pre-fabricated sidewall system with an integrally formed filtered water supply duct and perimeter overflow channel, as detailed on the drawings. The stainless steel sidewall system shall be joined to a cast in place concrete pool bottom in the dimensions and slopes as indicated on the drawings. The concrete floor shall include main drain boxes with integral hydrostatic valves and PVC grating. The entire system shall be flush, with no protrusions, to ensure the accurate use of the electronic timing devices. The stainless steel wall shall be supported by a bitumastic-coated mild steel A-frame buttress system and horizontal support members engineered to withstand the forces of backfill when the pool is empty, and water when the pool is full. The stainless steel perimeter recirculation system consists of an overflow gutter with skimming weirs, a supply tube with multiple jet inlets disposed about the perimeter of the pool and stainless steel gutter collector and supply converter boxes at locations indicated on the drawings. The entire swimming pool shall be built as a single unit with all steel and stainless steel components welded together as indicated on the drawings.

A. (Optional): Also included shall be an integral perimeter deck drain, also formed from stainless steel, which shall be continuous around the periphery of the swimming pool.

B. Deck equipment and other pool accessory items as detailed in other project specifications, including all anchors, inserts and sleeves, shall be furnished in the types described and quantities shown on the drawings for installation by the Contractor, as noted.

C. Anchor bolts and anchors with location plans for setting shall be furnished to the Pool Contractor for installation in the pool perimeter footers.

D. Related swimming pool work and responsibilities have been assigned to the various trades or are being assumed by the Owner. The following areas of work which are associated with the swimming pool system are not the responsibility of the swimming pool system's installer and are to be provided by other Contractors or by the Owner in accordance with the specification outlined herein and detailed notations on the drawings.

1. Building-permit fees, fees, licenses and Health Department approvals.
2. Temporary utilities and site requirements
    a. Provide temporary water at 50-psi minimum for cleaning, rinsing and test purposes, as well as facilities for draining pool and maintaining workable conditions within the excavated area.
    b. Provide temporary electrical and lighting as required to the pool site.
    c. Provide and maintain all necessary barricades, signs, lights, and flares as required, to protect workmen and the public.
    d. Provide access to site for pre-fabricated materials and for accomplishing erection of pool.
    e. Provide adequate protection of finished pool until total project is complete.
3. Layout and locations; layout horizontal dimensions and initial grade elevations from established lines and benchmarks.
4. Sub-drainage system.
5. Hoisting of pool components and equipment, if required for access to work site.
6. Concrete work, including but not limited to footers for buttress supports, footers for deck equipment, manhole sumps, surge tanks and other cast-in-place or precast concrete members.
7. Storage of pool components and equipment.
8. Framing or sharing of the excavation as required for installation.
9. Perimeter sealant between pool and deck slab.
10. Installation of deck and accessory equipment.
11. Plumbing work, including fresh water and waste lines.
12. Electrical work, including grounding of pool, installation of underwater lights or other components.
13. Paint and coatings of the pool structure or shell are specified herein.
14. Protection during and after installation.
    a. Immediately after installation, protect pool from damage, contamination, spatter and spillage caused by construction work of other trades. This shall include

covering of the pool with protective materials, when necessary, and responsibility for prompt repair or corrective measures in the event of damage.

b. Do not permit heavy equipment with 10' of pool wall or any pool component.

c. Do not permit placement of any acid or alkaline material in contact with the pool structure.

d. Do not permit connection or the hanging of pipe, electrical conduit or other materials to the pool system without prior written approval of the pool installer.

15. Provide verification of initial and ongoing engineering review of structural capacity and integrity of the building to ensure adequacy of the structure to receive the support of the swimming pool.

E. At time of start-up, Owner shall furnish operating personnel, or a designated representative to meet with qualified representative of Manufacturer, who will provide instruction in proper operation of all equipment and systems specified herein.

PART 2 - PRODUCTS

2.1 MANUFACTURER

The system specified herein, as manufactured by Natare Corporation of Indianapolis, Indiana, shall be the basis for materials, procedure and technical quality.

2.2 COMPONENTS

Unless otherwise specified, all stainless steel parts are to be fabricated of 12-gauge, low carbon Type 304 stainless steel, polished to a #3 finish.

A. The gutter channel shall be covered with a reinforced "T" bar style grating. The grating bearing bars shall be installed parallel with the gutter face and joined by structural crossties every 12". The grating shall sustain a uniform distributed load of 100 pounds per sq. ft. and shell be secured with special stainless steel anchors to prevent vandalism or removal without tools. Grating shall be shipped in 12' long sections. No cycolac, ABS or molded plastic grating of any kind will be acceptable.

B. Stainless Steel Supply Tube: The supply tube shall be of the size and configuration detailed on the drawings. The front and top of the supply tube shall form the gutter face and overflow rim, and the back of the supply tube shall form part of the gutter trough. The bottom front of the tube shall form a "V" notch at the point of contact with the pool wall. Jet inlet orifices of 3/8" in diameter shall be drilled in the notch throughout the perimeter of the pool. The orifices shall project downward at 45° angle to assure optimum distribution of the filtered water. There shall be one orifice for every 10 gpm of the recirculation rate. Supply tubes formed from PVC pipe will not be acceptable. The recirculation tube must have the capability of operating at a pressure of at least 15 psi. All horizontal welds must be accessible for inspection and repair.

C. Stainless Steel Gutter Trough: The gutter trough shall be fabricated from a single piece of 12 gauge, low carbon, Type 304 stainless steel with a #3 polish. This piece shall be formed to the dimensions and configuration detailed on the drawings and shall form a deck trim, as well ass the bottom and back of the gutter. The shop-fabricated sections shall be delivered to the jobsite for field installation. The gutter shall be a minimum of ____ " deep, measured from the

overflow lip to the bottom of the trough, and shall contain a minimum of ____ square inches of cross-sectional area to assure smooth, unimpeded flow of water. PVC piping shall not be utilized for any function within the gutter trough.

D. Stainless Steel Wall Panels: The stainless steel sidewall shall be shop-fabricated in a manner to ensure that no cutting by the installer will be necessary in order to meet vertical dimension requirements. The top of each upper wall panel shall have a 45° bend in order to form the aforementioned "V" notch when welded to the supply tube. Wall panels shall be fabricated and shipping in at least 10' lengths to minimize welding.

E. Stainless Steel Rope Hooks: Rope hooks shall be provided at locations shown on the plans, and shall be made of 3/8" diameter stainless steel rod, welded to the gutter and extending back into the concrete deck for secure attachment.

F. Stainless Steel Collector and Converter Boxes: There shall be ____ stainless steel supply converter box(es) and ____ stainless steel gutter collector box(es) supplied for the recirculation system.. (The/Each) supply converter box shall be provided with (a/an) ____ " IPS (flanged) connection. (The/Each) gutter collector box shall be provided with (a/an) ____ " IPS (flanged) connection.

G. (Optional) Underwater Lights: Underwater lights and niches shall be provided at locations shown on the plans.

H. (Optional) Integral Perimeter Deck Drain: The integral perimeter deck drain shall be continuous around the periphery of the swimming pool and shall be formed from a specially-fabricated stainless steel section which shall join to the back of the gutter. It shall consist of straight parallel sections continuously welded to the parallel sections continuously welded to the gutter section to provide a continuous opening of approximately 1/4". It shall be secured by spacer rods located approximately 1' on center. Outfall box(es) with flange connections shall be provided for the continuation by others of the deck drain wasteline to sewer, sump or other outfall.

I. Stainless Steel Steps: Recessed steps are to be fabricated of 12 gauge, low carbon, Type 304 stainless steel. The tread, or bottom inside surface, is to be coarse sand blasted so as to provide a non-skid surface. All other portions of the step shall have a 2B finish. All exposed joints are to be Heliarc welded and ground smooth.

2.3 WARRANTIES AND GUARANTEES

The swimming pool system shall be guaranteed by the manufacturer for workmanship, material and performance for a period of five (5) years. Guarantee shall include all labor and material for replacement of any defective material or work, but shall not include or cover abusive or improper treatment to the recirculation system by others during either the construction period or when operational.

2.4 ENGINEERING SERVICES

The pool system supplier shall provide a full set of fabrication and installation drawings, certified if requested, showing all features of the system construction and indicating proper sizing and locations along with complete dimensional details.

A. The equipment manufacturer shall supply the services of a competent and experience field engineer for a period of at lease (3) days to inspect the completed installation, adjust the automatic controls to the proper set points, place the system in operation and give operating instructions relative to its care and use.

PART 3 - EXECUTION

3.1 All work under this section shall be performed by an authorized licensee of the system's manufacturer or as directed by said licensee so that the complete system will operate in accordance with the intent of the Specifications and to provide the Owner with a safe, economic, operating and sanitary swimming/diving facility.

3.2 All equipment unloading, storage and installation is to be the responsibility of the General or Pool Contractor. Proper care is to taken at all times to protect the equipment from exposure and handling damage.

3.3 INSPECTION

The system installation shall inspect all previous and contiguous work for dimensional accuracy and/or other variations that will adversely affect the execution and/or quality of the swimming pool system.

A. Grade tolerance for swimming pool bottom base at pool wall line with reference to benchmark shall be) ½.

B. Report unsatisfactory conditions to the proper authority. he swimming pool system installer shall not start work until all conditions are corrected by trade or trades responsible.

3.4 Additional foundation and/or structural work required for the placement and operation of systems other than that so noted herein or on the drawings shall be provided at the direction of the swimming pool installer under this Contract.

3.5 The Contractor shall provide a properly prepared sub-base consisting of uniformly graded granular material. The excavation shall extend a minimum of 12" horizontally beyond all edges of the pool foundation system. The sub-grade shall then be densified to a minimum 90% modified proctor density in accordance with ASTMD-1557. All gravel material shall be

densified to a 60% relative density in accordance with ASTMD-2049. Slope all gravel materials in accordance with drawings to the lowest point beneath the pool.

The sub-base shall be graded to pool dimensions as indicated on the plans. All slopes and transitions shall be formed by the Contractor in accordance with the dimensions as shown on the plans.

A. Entire system is to be set level, true and square to dimensions as noted on drawings.

B. The joint between the pool deck and the gutter channel shall be an expansion joint, allowing the deck to expand or move independently of the gutter cannel. The top edge of the joint shall be filled with a Thiokol (polysulfide)-based caulking and sealing compound equal to "Sikaflex 1A" to a depth and width of ½".

C. All installation is to be performed by skilled technicians (welders with at least (5) years experience in field welding stainless steel recirculation systems). If requested, the Contractor shall submit the installer's experience in writing to the Architect for approval prior to ordering the recirculation system. All work is to be performed in accordance with manufacturer's technical bulletins. Should the requirement of these bulletins contradict this or any other section of the Specifications, the procedures called for in the bulletin shall govern.

D. All welding shall be performed in accordance with the procedures established by the American Standards Association. All exposed weld beads shall be cleaned to a smooth uniform non-corrodible finish. All exposed weld beads shall be flush, smooth and uniform with minimum irregularities. All spatter must be removed. Welds shall be cleaned, and all burn and discoloration removed. Interior welds made on the underside of an exposed surface must e completed so that there is no noticeable discoloration, burn-through or sugaring on the exposed face. No grinding of any welds will be permitted.

E. Installation shall be performed by a licensee of the manufacturer. The stainless steel sidewalls shall be erected on a heavy steel frame consisting of a series of structural angle buttresses welded to anchors embedded in a reinforced concrete footing which is poured continuously round the entire outside of the pool perimeter by the General Contractor. Buttresses shall be erected a maximum of 5' apart and shall be bitumastic-coated after installation.

F. The stainless steel sidewalls and circulation system shall be entirely shop-fabricated in at least 10' sections. These sections shall be brought to the jobsite and welded to the frame assembly to form a continuous, smooth, strong, leak-proof wall. All welds shall be as detailed in Item #4 above.

G. After the wall is erected, the swimming pool floor is cast, taking care to provide at least 4" of concrete cover at the base of the pool wall at the poll side and at least 12" of concrete cover at the rear.

1. Prior to placing any concrete, adequately protect the stainless steel pool walls with heavy gauge polyethylene.

2. Provide a tooled joint at the junction of the stainless steel pool wall and the concrete floor. Joint dimensions should be approximately 1" wide x 1" deep. After the concrete has cured, place an appropriate bond breaker at the bottom of the joint and fill with a polysulfide based caulking for immersion service.

H. Upon completion of wall and gutter installation, the supply tube shall be pressure tested (before the jet inlets have been drilled). The supply tube shall be supplied with 15 psi air pressure and shall be maintain 15 psi for four hours. During the four-hour period, all joints shall be soap tested. Pressure testing shall be done by the installer.

I. Immediately following pressure testing, the pool bottom shall be sand blasted using iron-free silica sand to remove any weld scale and provide a uniform, brushed finish for the pool bottom.

J. Immediately following sand blasting, the entire system shall be cleaned and passivated by washing with an acid solution to remove carbide and scale impurities and establish a chromium oxide coating on the stainless steel.

K. After the stainless steel recirculating system has been installed on the pool wall, the Contractor shall form a joint between the pool deck and the gutter channel which shall be an expansion joint allowing the deck to expand or move independently of the gutter channel. The top edge of the joint shall be filled with a Thiokol (polysulfide)-based sealing compound equal to "Sikaflex 1A." This seal shall have a minimum depth and width of ½".

L. The installation shall be in accordance with approved shop drawings which shall be furnished by the swimming pool system's manufacturer. The pre-fabricated bottom and sidewall sections shall be carefully placed, leveled and aligned, assembled and welded, braced and anchored to the embedded anchors. Pool walls and perimeter overflow lip shall straight, plumb and level within specified tolerances.

1. Vertical tolerance for pool walls and perimeter systems shall be) ¼" per 100' lineal dimension.
2. Horizontal tolerance for gutter overflow lip and gutter members shall be) ¼" per 100'.
3. Horizontal tolerance for swimming pool bottom when filled and ready for operation shall be) 1" with reference to benchmark or pool water line.

3.6 FIELD QUALITY CONTROL

All field welds shall be tested with the procedure equivalent to the use of water-washable dye check penetrating procedure, utilizing WWI red penetrating liquid to reveal pinholes, surface cracks and similar defects. Procedure includes pre-cleaning, dry application, rinsing, drying, developing and final rinsing. A field test of all peripheral lines shall be completed as detailed earlier in this Specification.

3.7 PAINTING

Apply at least two coats of Kopper's "Type A" swimming pool paint, or equal, in a color chosen by the Architect in strict accordance with the manufacturer's instructions. Apply necessary depth and safety markings subsequent to painting. Warranty paint installation for a period of not less than two years or two pool seasons.