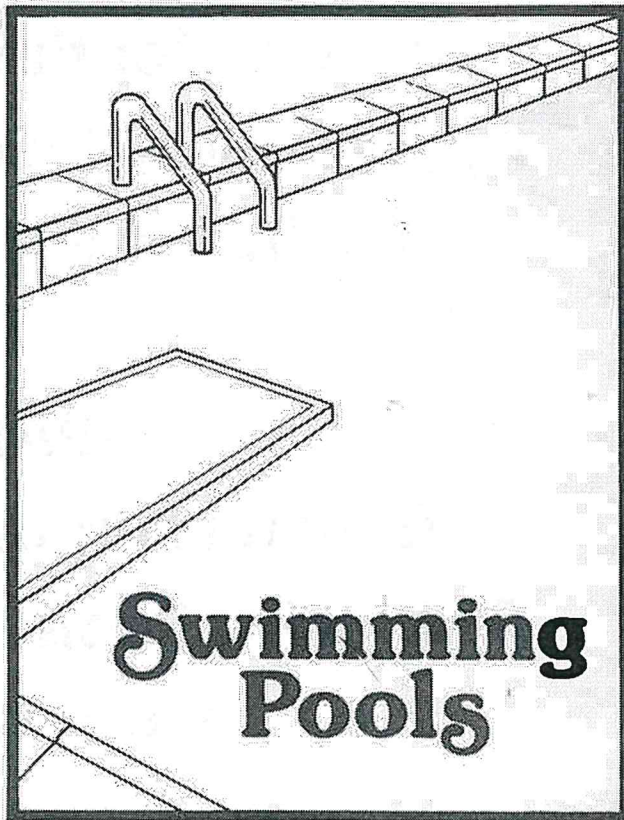


# Public Bathing Place Manual

PA



## PART I

A guide for the preparation of applications, reports and plans for public bathing place permits for general purpose recreational swimming pools, including wading and spray pools.



COMMONWEALTH OF PENNSYLVANIA  
Tom Ridge, *Governor*

DEPARTMENT OF ENVIRONMENTAL RESOURCES  
James M. Seif, *Secretary*

BUREAU OF WATER SUPPLY AND COMMUNITY HEALTH  
DIVISION OF COMMUNITY HEALTH

PA. DEPT. OF HEALTH  
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Uptown Plaza  
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Harrisburg, PA 17110-2107

MARCH 1995

# **Public Bathing Place Manual**

## **A Guide for the Preparation of Applications, Reports, and Plans for Public Bathing Place Permits**

### **PART I**

## **General Purpose Recreational Swimming Pools, Including Wading and Spray Pools**

**Pennsylvania Department of Environmental Resources  
Bureau of Water Supply and Community Health  
Division of Community Health  
Harrisburg, Pennsylvania**

**March 1995**

## PREFACE

Safe and healthful bathing places are great assets to our leisure time pursuits. The legal responsibility for the approval of proper construction and safe operation of public bathing places is vested in the Pennsylvania Department of Environmental Resources (Department or DER). For this reason it is necessary that plans for public bathing places be reviewed and approved by the Department and/or the county health department having jurisdiction.

Part I of this manual has been prepared as a guide for those persons responsible for the design and construction of general purpose recreational swimming pools, wading pools and spray pools. Other special purpose public bathing facilities, such as water theme parks and recreational bathing facilities with accommodations for physically or mentally handicapped persons, require additional design consideration and will be handled on an individual basis.

Numerous sources of information were consulted during the writing of this manual but Recommended Standards for Swimming Pool Design and Operation by the Great Lakes Upper Mississippi River Board of State Sanitary Engineers was the primary reference used to develop this manual.



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- 1.0 GENERAL INFORMATION** - The Public Bathing Law, Act of June 23, 1931, P.L. 899, as amended, regulates public bathing places and all related appurtenances in matters of sanitation, cleanliness and safety, and prescribes penalties for violations. This act makes it unlawful for any person or persons, club, firm, corporation, partnership, institution, association, municipality or county to construct, add to, modify, operate, or continue to operate any public bathing place without having first obtained a permit or be in possession of a permit issued by the Department.

In addition, the permittee is required to notify the Department when construction is complete, to allow inspection of the public bathing place prior to operation.

A permit shall be obtained from the Department prior to any construction or operation of a public bathing place. Where the ownership of such public bathing place changes or where the public bathing place is leased by the owner, it shall be the responsibility of the new owner or lessee to secure a permit issued in his name.

**1.1 THE BUREAU OF WATER SUPPLY AND COMMUNITY HEALTH**

- 1.1.1 Function** - The Department of Environmental Resources is the agency which reviews the technical aspects of all permit applications for public bathing places and approves or denies such applications. In Bucks and Erie Counties the Department has delegated application review responsibility to the county health department.
- 1.1.2 Regulations** - The Chapter 193 Public Swimming and Bathing Places Regulations were promulgated by the Department to implement the provisions of the Public Bathing Law. Copies of the act and the regulations may be obtained at any regional office of the Bureau of Water Supply and Community Health.
- 1.1.3 Offices** - The Department maintains six regional offices through which it conducts its field work and permitting responsibilities. Questions concerning the completion of public bathing place applications and/or the engineering aspects of such projects may be discussed with personnel in these regional offices or in Bucks and Erie County Health Department Offices. Completed applications and all supporting data shall be submitted to the appropriate DER regional office for review and approval.

## REGIONAL OFFICES

Southeast Region  
Suite 6010 Lee Park  
555 North Lane  
Conshohocken, PA 19428  
Tel: 610-832-6059

Northeast Region  
2 Public Square  
Wilkes-Barre, PA 18711-0790  
Tel: 717-826-2525

Southcentral Region  
One Ararat Blvd.  
3555 North Progress Avenue  
Harrisburg, PA 17110  
Tel: 717-657-4586

Northcentral Region  
200 Pine Street  
Williamsport, PA 17701  
Tel: 717-327-3675

Southwest Region  
400 Waterfront Drive  
Pittsburgh, PA 15222-4745  
Tel: 412-442-4217

Northwest Region  
230 Chestnut Street  
Meadville, PA 16335-3481  
Tel: 814-332-6899

## COUNTIES SUPERVISED

Bucks  
Chester

Delaware  
Montgomery

Philadelphia

Carbon  
Lackawanna  
Lehigh  
Luzerne

Monroe  
Northampton  
Pike  
Schuylkill

Susquehanna  
Wayne  
Wyoming

Adams  
Bedford  
Berks  
Blair  
Cumberland

Dauphin  
Franklin  
Fulton  
Huntingdon  
Juniata

Lancaster  
Lebanon  
Mifflin  
Perry  
York

Bradford  
Cameron  
Centre  
Clearfield  
Clinton

Columbia  
Lycoming  
Montour  
Northumberland  
Potter

Snyder  
Sullivan  
Tioga  
Union

Allegheny  
Armstrong  
Beaver  
Cambria

Fayette  
Greene  
Indiana  
Somerset

Washington  
Westmoreland

Butler  
Clarion  
Crawford  
Elk

Erie  
Forest  
Jefferson  
Lawrence

McKean  
Mercer  
Venango  
Warren

## COUNTY HEALTH DEPARTMENTS

Bucks County Department of Health  
Neshaminy Manor Center, Bldg. K  
Doylestown, PA 18901  
Tel: 215-345-3324

Erie County Health Department  
606 West Second Street  
Erie, PA 16507  
Tel: 814-451-6700



## **1.2 SUBMISSION OF APPLICATION**

**1.2.1 Procedures** - To make application for a permit from the Department, the owner or lessee of a public bathing place must submit an application prepared by a registered professional engineer or registered architect, along with a permit application fee, as specified in Section 5c of the Public Bathing Law, Act 299. The permit application fee check or money order is to be made payable to the Commonwealth of Pennsylvania.

The application must be accompanied by duplicate copies of an engineer's report, specifications and plans showing pertinent details of the bathing place. The engineer's report shall consist of but not be limited to the appropriate permit application modules furnished by the Department. The report, specifications and front cover or fly leaf of each set of plans must bear the signature and imprint of the seal of a registered professional engineer or registered architect, legally qualified to practice in Pennsylvania.

In all counties the application and accompanying data, along with the permit application fee check, must be submitted to the appropriate regional office as indicated in Section 2.1.3.

If, upon receipt by the regional office, the application form is found to be properly completed and the accompanying modules, plans, specifications and check appear to be complete, the application will be accepted for processing. If the application or any supporting data is incomplete, the application will be returned and the applicant will be advised concerning documentation which must be submitted in order to complete the application.

After acceptance of the application, the regional office will review the supporting data. If the project is in compliance with the requirements, as defined in Chapter 193 of the Department's Public Swimming and Bathing Places Regulations and this manual, the regional office will issue a permit.



If, during review by the regional office or county health department, additional information or changes are needed to comply with the requirements of the Department, conferences may be held with the designing engineer or architect. If the application does not meet the requirements of the Department and cannot be revised satisfactorily, the permit is denied. When a permit is denied, the applicant may request a hearing.

- 1.2.2 Engineer's Report** - The engineer's report shall consist of the appropriate bathing place permit application modules which are available from the regional offices. All modules pertaining to the project must be included. Hydraulic computations of head losses for all piping and recirculation equipment and pump curves for the recirculation pump shall be included to show that the recirculation system will adequately handle the proposed flow.

Chapter 102 (Erosion Control) of the Department's rules and regulations require that an erosion and sedimentation control plan be developed for all earthmoving activities. A copy of this plan must be submitted as part of the bathing place application.

Private sewage disposal systems with stream discharges and individual sewage disposal systems using sub-surface disposal must be approved by the Department or the municipal Sewage Enforcement Officer, as appropriate. Approval must first be obtained from the Bureau of Water Quality Management, and is based on satisfactory compliance with waste water disposal regulations Chapters 71, 72, 73 and 93. Proof of compliance with these requirements must be submitted with each bathing place permit application.

- 1.2.3 Specifications** - Complete, detailed specifications for the construction of the public bathing place, including recirculation system, filtration facilities, disinfection equipment, bathhouse, and all other appurtenances provided in the detailed plans shall be supplied for all phases of the proposed project.

- 1.2.4 Plans** - All plans for public bathing places shall bear a suitable title showing the name and location of the bathing place, the name and address of the owner, the scale, north arrow, date, name, address and professional seal of the design engineer or architect.

Plans shall be legible and shall be drawn to a scale which will permit all necessary information to be correctly and clearly shown. The size of the plans shall not be larger than 36 inches by 50 inches. The front cover of each folio of plans must bear the signature and imprint of the seal of the design engineer or architect. In addition, each plan submitted shall bear an imprint or legible facsimile of such seal.

Detailed plans shall be submitted which consist of a plan and the necessary construction or layout plans, which, together with the specifications, provides the working information necessary for the construction of the bathing facility. The plan of the property shall indicate the location of water supply wells, sewerage systems, present and proposed structures and the location of the proposed bathing facility. Construction plans shall consist of plan and elevation views of the proposed bathing facilities, schematic diagrams of the spa water treatment system and location of all recirculation piping with elevations.

- 1.2.5 Revisions to Approved Plans** - Any deviation from approved plans or specifications affecting capacity, hydraulic conditions, operating units, the functioning of water treatment processes or any changes which may affect user health or safety must be approved by the Department and a new permit issued before such changes are made. Revised plans or specifications must be submitted in time to permit the review and approval of such plans or specifications before any construction work is begun. The engineer or architect should contact the appropriate regional office as soon as a change is anticipated to allow timely review of revised plans and specifications.

## **2.0 SITE LAYOUT**

- 2.1. ENVIRONMENTAL HAZARDS** - The swimming pool should be so located as to reduce to a practical minimum the possibility of pollution of the swimming pool from smoke, dust, leaves, grass or other undesirable matter, and should not be subject to hazards in the surrounding area. This includes proper location of overhead electrical lines.
- 2.2 STRUCTURAL AND LANDSCAPE HAZARDS** - The location of the pool shall be such that no structure (wall, bathhouse, shed, etc.), fence or tree can be used for diving into the pool. Any such structure, fence or tree which is not intended to be used for diving into the pool, but which could be used for diving into the pool shall not be located within 15 feet of the edge of the pool.
- 2.3 POOL ENTRANCE** - The entrance to the pool area shall be at the shallow end of the pool.



**3.0 POOL SIZE AND USER LOAD** - The pool size is to be based on the estimated maximum number of users which may be frequently expected at any one time in the pool and on the deck.

**3.1 POSTING OF USER LOAD** - A sign shall be posted at all the entrances to the pool area displaying the maximum number of patrons permitted in the pool area based on the design parameters listed in Section 3.3.

**3.2 DESIGNATION OF AREAS** - For purposes of computing user load within the pool enclosure, those portions of the swimming pool five feet or less in depth shall be designated the "shallow area". Those portions of the swimming pool over five feet in depth shall be designated "deep area".

**3.3 AREA LOADING**

**3.3.1 Shallow Area**- Ten (10) square feet of pool water surface area shall be provided for each patron. Fifteen (15) square feet of pool water surface area shall be provided for each patron in pools which are all shallow area.

**3.3.2 Deep Area** - Twenty-five (25) square feet of pool water surface area shall be provided for each patron.

**3.3.3 Diving Area** - Three hundred (300) square feet of pool water surface area shall be reserved around each diving board or diving platform for a total of three (3) patrons, and this area should not be included in computing the permissible user load of the deep area.

- 3.3.4 Excess Lounging (Deck) Allowance** - Allowance will be made for facilities with expansive lounging, sunning, play and picnic areas enclosed within the pool area on the basis of one additional patron allowed per each 50 square feet of pool deck in excess of the minimum area of deck required, so long as the maximum number of patrons in the pool area (pool and excess lounging area) does not exceed the following limit (P).

$$P = \frac{B}{0.25}$$

- P = Maximum number of patrons permitted through the gate to the pool area, so long as sufficient excess lounging area is available.
- B = Maximum number of bathers that the pool is designed to accommodate at any one time in accordance with Sections 3.3.1, 3.3.2 and 3.3.3.
- 0.25 = Maximum percent of patrons in the pool area who are expected to be in the pool at the same time on a peak use day (Saturday, Sunday and extremely hot days).

**Example:**

If a pool is designed to accommodate 675 bathers (B), how many patrons may be permitted through the gate into the pool area, and how much excess lounging area is required to accommodate these patrons?

$$\frac{675}{0.25} = 2700 \text{ Maximum number of patrons permitted into pool areas.}$$

$$2,025 \text{ patrons} \times 50 \text{ sq. ft./patron} = 101,250 \text{ square feet}$$

101,250 square feet of excess lounging area is required to allow the maximum number of patrons into the pool area.

Any excess lounging area over 101,250 square feet cannot be used in determining the number of patrons permitted in the pool area.

#### **4.0 CONSTRUCTION AND MATERIALS**

- 4.1 MATERIALS** - Swimming pools shall be constructed of materials which are inert, stable, non-toxic, watertight and enduring. Pool bottoms and walls shall be of rigid construction. Sand or earth bottoms are not permitted. Vinyl liners are generally not considered acceptable and will only be permitted if their design and construction meet all other requirements for "Materials," "Corners" and "Finish" with proven compliance from a testing agency acceptable to the Department.
- 4.2 CORNERS** - All corners formed by intersection of walls and floor shall be rounded.
- 4.3 FINISH** - Bottom and sides shall be white or a light color with a smooth and easily cleanable surface. Bottom surfaces shall be of a non-slippery finish.



- 5.0 DESIGN, DETAIL AND STRUCTURAL STABILITY** - All swimming pools shall be designed and constructed to withstand all anticipated loading for both full and empty conditions. A hydrostatic relief valve and/or a suitable underdrain system shall be provided. The designing engineer or architect shall be responsible for ensuring the structural stability and safety of the pool in both full and empty conditions.
- 5.1 SHAPE** - The shape of any swimming pool shall be such that the circulation of pool water and user safety are not impaired. There shall be no underwater or overhead projections or obstructions which would endanger the user or interfere with proper pool operation.
- 5.2 MINIMUM DEPTH** - The minimum depth of water in the pool shall be three feet.
- 5.3 MAXIMUM DEPTH** - The maximum depth in the shallowest end of the "shallow area" of the swimming pool shall not exceed three feet, six inches. The maximum depth at the deep end of the swimming pool shall not exceed 13 feet.
- 5.4 BOTTOM SLOPE** - The bottom of the pool shall slope toward the main drain. The slope in water depths five feet or less shall not exceed one foot vertical in 12 feet horizontal and said slope shall be uniform. In portions of the pool with a depth greater than five feet but not greater than seven feet, the slope shall not exceed one foot vertical in three feet horizontal. In portions of the pool with depths greater than seven feet, the slope should not exceed one foot vertical in three feet horizontal, and shall not exceed one foot vertical in two feet horizontal.
- 5.5 AREA BOUNDARIES** - The boundary line between the shallow and deep areas shall be marked by a line, approximately four inches wide, of contrasting color on the floor and walls of the pool. A safety rope and buoys with buoy keepers shall be attached to the pool wall one to two feet toward the shallow end of the pool from the floor breakpoint. Safety rope fastening devices shall be recessed into the pool wall.

**5.6 POOL WALLS** - Walls of a swimming pool shall be vertical except that the bottom of pool walls may be radiused to the pool bottom to facilitate cleaning. In deep water the radius should not exceed one foot, and in the shallow water the radius should not exceed six inches. Vertical is interpreted to permit slopes not greater than approximately one foot horizontally for each five feet of depth of sidewall (11 degrees from vertical). Ledges for any purpose on the pool wall shall not be permitted.

**5.7 DIVING AREAS** - The minimum dimensions of the swimming pool and appurtenances in the diving area shall conform to Table 1 and Figure 1 for competitive and non-competitive general purpose pools. With the exception of pools restricted to competitive diving only, diving boards and platforms shall not be greater than three (3) meters above the water surface and water depth shall not exceed 13 feet.

**5.7.1 Restricted Use** - If a diving area with a board and/or platform greater than three (3) meters in height is proposed, a separate diving well not part of the general purpose pool will be required. The diving well to be used for competitive purposes only, shall be constructed in accordance with the standards of the National Collegiate Athletic Association (NCAA).

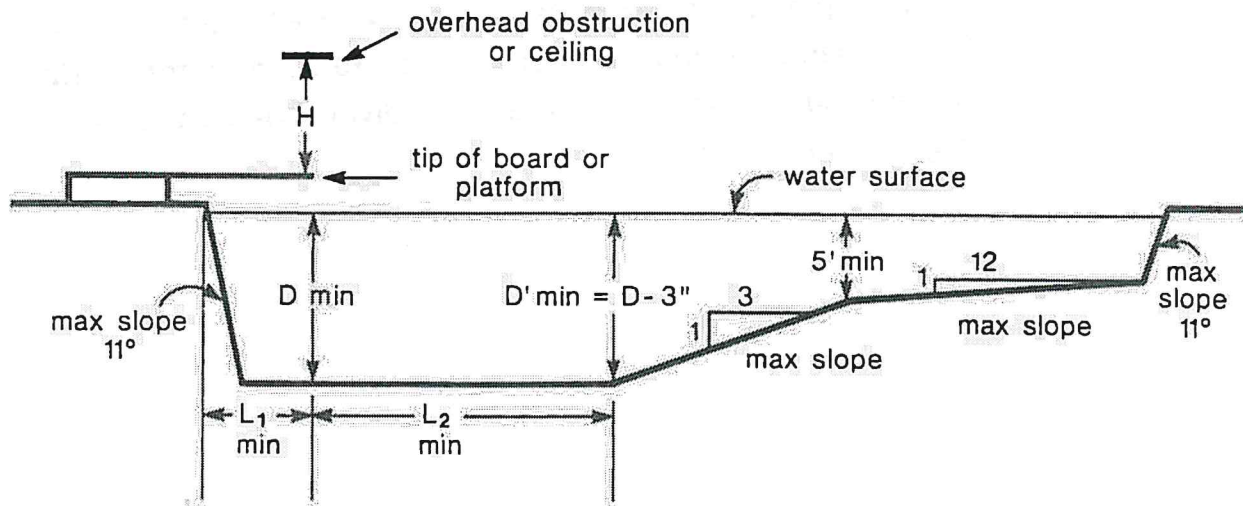


**TABLE I**  
**MINIMUM DIMENSIONS**  
**FOR POOLS WITH DIVING EQUIPMENT**

**DIVING AREA CHART**

Board/Platform Height Over Water	Diving Boards			Platforms	
	less than 1M	1M	3M	1M	3M
Max. Diving Board Length - Plt. Area	12'	16'	16'	* 5'x16'	* 5'x16'
D	10'	12'	13'	12'	13'
L <sub>1</sub>	3'	6'	6'	5'	5'
L <sub>2</sub>	16'	20'	20'	17'	20'
H	16'	16'	16'	10'	10'
From Plummet to Pool Wall at Side	10'	12'	12'	10'	10'
From Plummet to Adjacent Plummet	10'	12'	12'	10'	10'

**FIGURE 1**



\* Minimum recommended dimensions of the 1M and 3M diving platform by NCAA. Other minimum lengths and widths that will be accepted are the current Federation Internationale de Natation Amateur (FINA) standards and the current United States of America Diving, Inc. (USA Diving) standards.



- 5.7.2 Water Glare** - To avoid glare from the sun, diving boards and platforms at outdoor pools should face north if possible with east being the second choice. Placement of windows and overhead lights at indoor pools should be such that glare is avoided to the greatest extent possible.
- 5.7.3 Steps and Guardrails for Diving Boards and Platforms** - Supports and steps for diving boards and platforms shall be of substantial construction and of sufficient structural strength to safely carry the maximum anticipated loads. Steps shall be of corrosion-resistant material, easily cleanable and of non-slip design. Handrails shall be provided on both sides of all steps and ladders leading to diving boards or platforms more than one meter above the water. Platforms and diving boards which are one meter or less in height shall be protected on both sides with guard rails 30 inches high extending at least one foot out over the water from the edge of the pool (Example Diagram Fig. 2). The guard rails for platforms and diving boards higher than one meter should be of a completely closed design but in no case shall the opening between rails be greater than 12 inches vertical (Example Diagrams Fig. 3 and 4). Steps leading to a diving board or platform three meters or more above the water surface shall be installed at an angle not greater than 50 degrees from horizontal. Vertical ladders are not acceptable for diving boards and platforms higher than one meter.

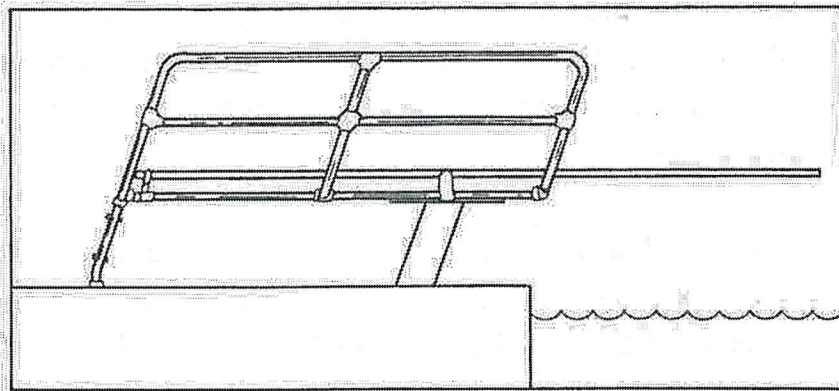


FIGURE 2

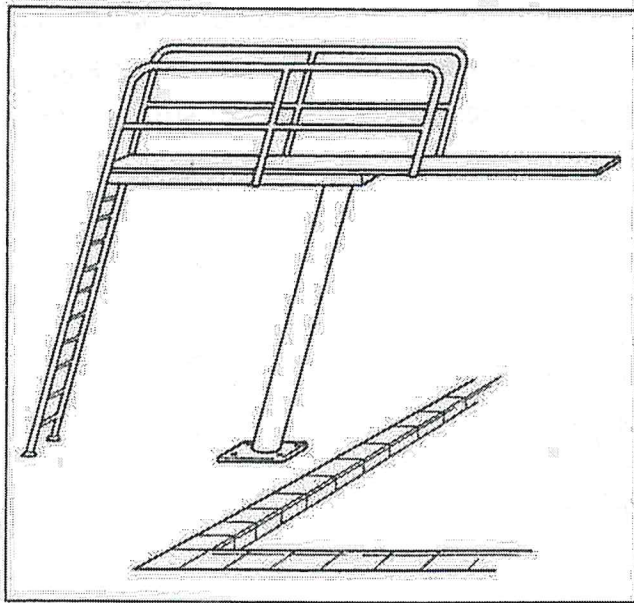


FIGURE 3

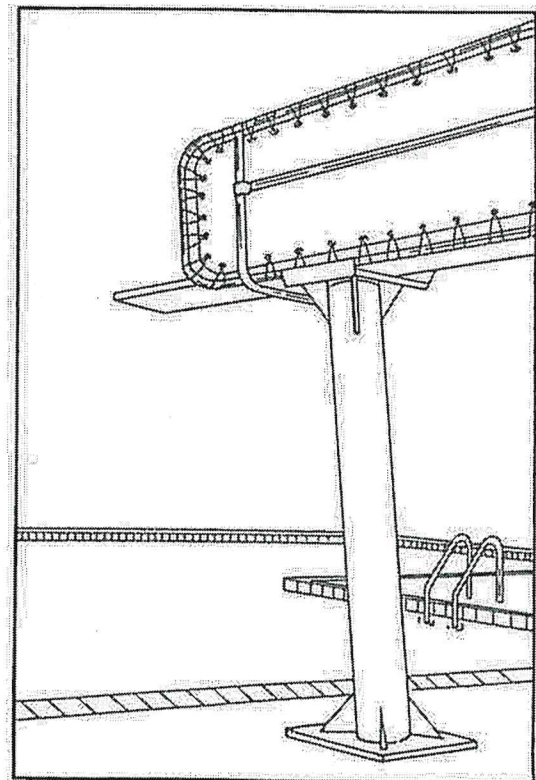


FIGURE 4

## 5.8 RECESSED STEPS, STAIRS, AND LADDERS

- 5.8.1 Location** - Steps, stairs, or ladders shall be provided at the shallow end of the pool. Steps or ladders shall be provided in the deep portion. Steps, stairs or ladders shall be provided at least every 75 feet of pool perimeter.
- 5.8.2 Recessed Steps** - Recessed steps shall be readily cleanable with a slip resistant surface and shall be designed to drain into the pool. Recessed steps shall have a minimum tread of five inches and a minimum width of 14 inches. Recessed steps at the centerline on the tread shall have uniform vertical spacing of 12 inches maximum and seven inches minimum. The maximum vertical distance between the pool coping edge or deck and the uppermost recessed tread shall be 12 inches and seven inches minimum. There shall be a handrail at the top of each side of the steps extending over the coping or edge of the deck, but ending at least six inches above the water surface. (Example Diagram Fig. 5)

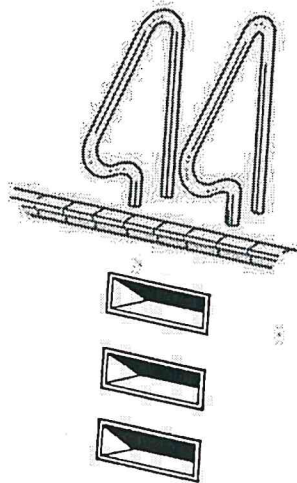


FIGURE 5



- 5.8.3 Recessed Stairs** - Where stairs are provided, they shall be recessed out away from swimming lanes or main pool body and located in the shallowest end of the pool. Stairs shall be of non-slip design, have a minimum tread of 12 inches, a minimum rise of seven inches, and a maximum rise of 10 inches. Where recessed stairs are provided, there shall be a handrail at each side of the stairs. (Example Diagram Fig. 6)

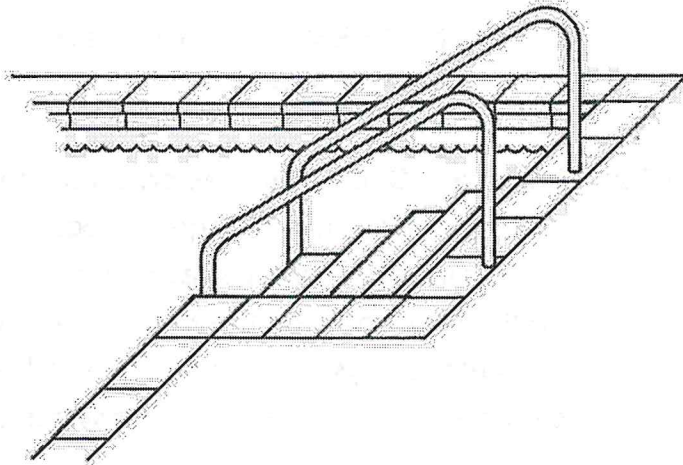


FIGURE 6

- 5.8.4 Ladders** - Pool ladders shall be corrosion-resistant and equipped with non-slip treads. All ladders shall be so designed as to provide a handhold. There shall be a clearance of not more than six inches nor less than three inches between any ladder and pool wall. (Example Diagram Fig. 7)

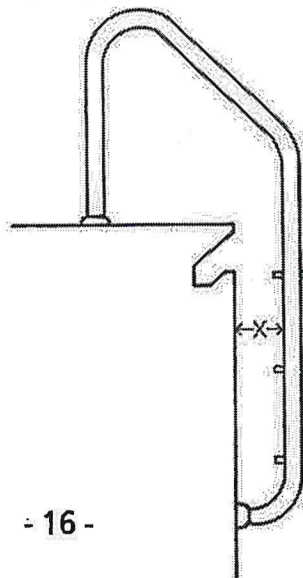


FIGURE 7

- 5.9 DECKS** - There shall be provided, completely around every swimming pool, a clear, unobstructed paved walk or deck not less than four feet wide, extending from the pool edge or coping of the pool. The deck width behind a diving board or platform shall be a minimum of six feet and preferably eight feet, measured from the back of the equipment (ladder, railing, board edge, etc.) (Example Diagram Fig. 8). The deck shall be of a uniform, easily cleaned, impervious material, and be of slip-resistant construction. The deck shall be protected from surface runoff, and drain away from the pool.
- 5.9.1 Slope** - The deck shall be sloped at least one-fourth inch per foot to deck drains or grade.
- 5.9.2 Drainage** - Deck drains, when used, shall be spaced and arranged so that not more than 400 square feet of area is tributary to each drain, and drains shall not be spaced more than 25 feet apart. There shall be no direct connection between the pool deck drains and the pool recirculation system. An air gap shall be used if deck drainage is conveyed to the sanitary sewer system.
- 5.9.3 Carpeting** - Carpeting shall not be permitted within the minimum deck width area of four feet.
- 5.9.4 Starting Blocks** - Starting blocks used for competitive swimming at general purpose pools shall be so designed and installed that they can be easily and completely removed from the deck when not being used by competitive swimmers. Starting blocks shall only be used during supervised practices or swim meets and shall be located at the deepest end of the racing lane.
- 5.9.5 Hose Bibs** - Hose bibs shall be provided to facilitate flushing of the deck areas. They shall be located so they do not pose a tripping hazard.

**5.9.6 Spectator Areas** - There shall be an effective separation (i.e. fence, railing, ledge, wall, etc.) to limit access between spectator areas and the pool area (pool and area around the pool intended to be used by bathers) to minimize degradation of pool water quality. The spectator areas shall also be designed to meet the requirements in Section 2.2.

**5.9.7 Food Concessions** - So as to maintain safe and sanitary conditions in and around the pool, if food and drink are served, a designated area away from the pool shall be provided for serving and consuming food and drinks. The designated area shall be designed to minimize any unsafe or unsanitary conditions which food and drinks may create in the pool area.

**5.10 SECURITY** - All pools shall have a means of being closed to users (other than a "pool closed" sign) during periods when supervision is not provided. All outdoor pools must be completely surrounded by a fence or wall designed to prevent entrance during periods of closure. The fence or wall shall not be less than four feet in height above the adjacent ground surface and in certain situations (i.e. anticipated problems with swimming when the pool is closed and located in an area where people gather) a fence or wall of greater height is desirable. All entrances to the pool shall be provided with a self-closing and self latching gate with a lock. Indoor pools, located in a room which may be used for activities unrelated to the pool, shall also be surrounded by a fence or wall similar to that required to secure an outdoor pool.



## **6.0 SAFETY REQUIREMENTS**

### **6.1 SAFETY MARKINGS**

**6.1.1 Location of Depth Markings** - Depth of water shall be plainly marked at or above the water surface on the vertical pool wall and on the edge of the deck, at points of change in bottom slope, and spaced at not more than 25-foot intervals measured peripherally. Markings shall be on both sides and ends of the pool. Where depth markings cannot be placed on the vertical walls above the water level, other means shall be used so that the markings will be plainly visible to persons in the pool.

**6.1.2 Design of Depth Markings** - Depth markings shall be indicated in feet and inches, and may also be indicated in meters depths. They shall be shown in numerals, and the units of depth shall be indicated as follows:

- (1) feet or ft.
- (2) inches or in.
- (3) meters or m

No other depth designations are acceptable. The English numbers and units shall be a minimum of four inches in height, while the metric numbers and units, if used, shall be approximately half the height of the English markings. Both English and metric numbers and units shall have colors which contrast with the background.

- 6.1.3 Bottom Slope Breakpoint and Bottom Reference** - The breakpoint separating the shallow and deep areas of the pool shall be marked by a black or red stripe approximately four inches wide on the pool floor and walls. In the absence of pool bottom lines for competitive swimming, a black or red line approximately four inches wide shall be placed in the center of the pool bottom, from the breakpoint marking to the end of the deep portion of the pool. (Example Diagram Fig. 8)

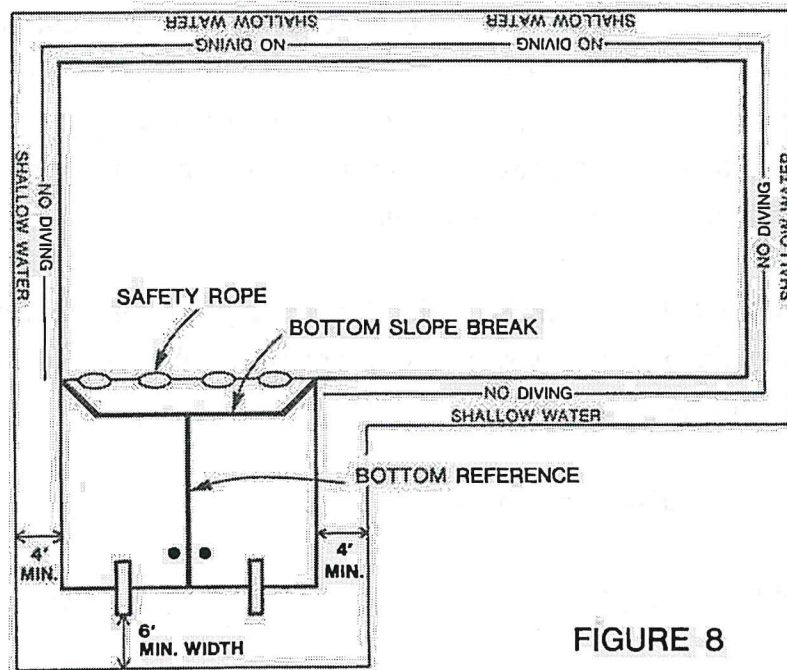


FIGURE 8

- 1.4 Marking Potential Water Hazards** - The leading edge of all underwater steps, or other obstacles shall have a black or red stripe at least two to three inches wide to facilitate identification by swimmers and those descending the steps.

**6.1.5 No Diving Areas** - In all areas of the pool where the water depth is five feet or less, the words "No Diving- Shallow Water" shall be clearly marked on the pool deck with red letters or acceptable contrasting color of at least four inches in height. The warnings shall be placed every 15 feet around the shallow portion of the pool, and the warnings should be connected with a solid three inch wide red stripe or acceptable contrasting color.

**6.2. SAFETY ROPE** - A safety rope and buoys with buoy keepers shall be attached to the pool wall one to two feet toward the shallow end of the pool from the floor breakpoint. The safety rope shall be securely anchored and recessed into the pool wall. It shall have corrosion resistant fixtures, be of sufficient size and strength to provide a handhold, and be able to support an adult bather with their head above water.

**6.3 LIFEGUARD CHAIRS** - Chairs should be placed in locations which will minimize sun glare on the water, and in positions which will give complete visual coverage of the pool.

**6.3.1 Lifeguard Chairs Required --**

<u>Number of Chairs</u>	<u>Surface Area of Pool (ft<sup>2</sup>)</u>
0	1,000 or less
1	1,001-2,000
2	2,001-4,000
3	4,001-6,000
4	6,001-8,000
5	8,001-10,000

**Note:** As the surface area of the pool increases over 10,000 square feet the same ratio of chairs to surface area will exist as demonstrated in the above chart, (1) one chair for every 2,000 square feet.



**6.3.2 Location and Design** - Chairs shall be located at waterside and should be five to six feet above the deck. The stands should have swivel chairs with straight backs. The lifeguard shall have a field of view of the water surface extending 90° on either side of a direct line of sight straight out from the chair.

**6.4 FIRST AID ROOM** - Swimming pools with a surface area in excess of 4,000 square feet shall have a readily-accessible room or area designated and equipped for emergency care. The room or area shall have a cot, sink and telephone. The room should be located so that it is readily accessible to the street or road for easy transport of accident victims.

**6.5 EMERGENCY EXIT/ENTRANCE** - An emergency exit/entrance from and to the pool area shall be provided. The entrance shall be designed so that ambulances and other emergency vehicles have easy access to the pool area and first aid room.

## **7.0 LIGHTING, ELECTRICAL, VENTILATION AND ACOUSTICAL REQUIREMENTS**

**7.1 LIGHTING** - Artificial indirect lighting shall be provided at all swimming pools which are to be used at night or which do not have adequate natural lighting so that all portions of the pool, including the bottom, may be readily seen without glare or veiling reflections.

**7.1.1 Water Surface** - Overhead illumination on the water surface of an indoor pool shall be a minimum of 30 foot-candles. For outdoor pools, the minimum overhead illumination should also be 30 foot-candles and shall be at least 10 foot-candles. These standards apply when underwater lighting as specific in Section 7.1.2 is provided. Without underwater lighting, a minimum illumination of 50 foot candles on the water surface shall be provided.

**7.1.2 Underwater** - When underwater lighting is provided, at least 60 lamp lumens per square foot of pool surface for outdoor swimming pools, and 100 lamp lumens per square foot of pool surface for indoor swimming pools shall be provided.

## **7.2 ELECTRICAL**

**7.2.1 Wiring** - All wiring shall conform to the National Electrical Code as published by the National Fire Protection Association.

**7.2.1.1 Overhead Clearance** - For outdoor pools no electrical wiring shall pass overhead within a 20 foot horizontal distance of the pool water surface. For indoor pools, all wiring over the swimming pool, diving structures and observation stands must be concealed by the building structure.

**7.2.2 GFCI** - All electrical equipment and pool wiring shall have ground fault circuit interrupters (GFCI) to prevent shock.

### **7.3 VENTILATION**

**7.3.1 Pool Area Ventilation** - Bathhouses, mechanical equipment rooms, storage areas and indoor swimming pool enclosures shall be adequately ventilated. Pool area ventilation shall prevent direct drafts on swimmers, build up of chloramines above the pool surface and shall minimize condensation. Fuel-burning heating units shall be properly vented to the outdoors.

**7.4 ACOUSTICAL CONTROL** - Acoustical control shall be provided for indoor pools. Surface material and furnishings used for acoustical control shall be constructed of nonabsorbent, water-resistant material.



## **8.0 WATER SUPPLY AND WASTEWATER DISPOSAL**

**8.1 WATER SUPPLY** - The quality of water supplied to all public bathing places shall conform to the following standards:

**8.1.1 Drinking Water Supply** - The quality of the water supplied to all drinking fountains, food concessions, lavatories and showers shall at all times meet the standards of the Department, as defined in Chapter 109 of the Department's Rules and Regulations.

**8.1.2 Pool Water Supply** - The pool water supply should be obtained from a public water supply and it shall meet the minimum requirements of the Department, as defined in Chapter 193 of the Department's Rules and Regulations.

**8.2 CROSS-CONNECTION CONTROL** - All portions of the water distribution and recirculation systems serving the swimming pool and auxiliary facilities shall be protected against backflow and back-siphonage. Water introduced into the pool, either directly or to the recirculation system, shall be supplied through an air gap. The air gap between the free flowing discharge end of a potable water supply line, faucet, plumbing fixture, or other device and the flood level rim of an open or non-pressure receiving vessel shall be at least two times the diameter of the pipe supplying the water.

**8.3 SANITARY WASTES** - An approved method for disposing of sanitary sewage shall be provided. Where available, a municipal sanitary sewerage system shall be used.

**8.4 POOL WASTEWATER** - Pool wastewater backwash shall be discharged in a manner acceptable to the Bureau of Water Quality Management.

**8.5 DEHUMIDIFIER AND AIR CONDITIONER WASTEWATER** - The condensate collected/produced from dehumidifiers and air conditioners shall not be discharged into swimming pool water.

- 9.0 RECIRCULATION SYSTEM** - All pools shall be provided with a recirculation and filtration system. The recirculation system will consist of pumps, piping, filters, water conditioning and disinfection equipment, and other accessory equipment which will clarify, chemically balance and disinfect the swimming pool. All filters, skimmers, pumps and chemical feed equipment shall be National Sanitation Foundation (NSF) approved or meet the minimum standards set forth by NSF, as determined by an independent testing agency acceptable to the Department. A minimum turnover of the entire volume of the pool every eight hours (three times in a 24 hour period) is required.
- 9.1 MATERIALS** - The recirculation piping and fittings shall be of nontoxic material, resistant to corrosion, and able to withstand operating pressures. Acceptable materials for pool recirculation systems are plastic, copper, stainless steel, aluminum, cast iron or other material suitable for water supply subject to approval by the Department.
- 9.2 CAPACITY** - The sizing of pipes, fittings and valves of the pool recirculation system shall be based on flow velocities not exceeding six feet per second under suction, ten feet per second under pressure and three feet per second in gravity.
- 9.3 DRAINAGE AND INSTALLATION** - All equipment and piping shall be designed and fabricated to drain completely by use of drain plugs, drain valves or other means. All piping shall be supported continuously or at sufficiently close intervals to prevent sagging. All suction piping shall be sloped in one direction, preferably toward the pump. All supply and return pipe lines to the pool shall be provided with insertable plugs or valves to allow the piping to be drained to a point below the frost line. Provision shall be made for expansion and contraction of pipes.

**9.4 COLOR CODING** - All exposed piping should be color coded in accordance with the following table.

<b>PIPING</b>	<b>COLOR CODE</b>
<b>Waterlines</b>	
Potable	Dark Blue
<b>Recirculation</b>	
Filtered	Aqua
Skimmer or Gutter Return	Olive Green
Main Drain	Black
<b>Chemical Lines</b>	
Alum	Orange
Cholorine (Gas and Solution)	Yellow
Soda Ash	White
Acid	Pink
<b>Waste Lines</b>	
Backwash Waste	Dark Brown
Sewer (Sanitary or Other)	Dark Gray
Deck Drains	Light Brown
<b>Other</b>	
Compressed Air	Dark Green
Gas (propane, natural)	Red

Where two colors do not have sufficient contrast to easily differentiate between them, a 6 inch band of contrasting color should be painted on one pipe at approximately 30 inch intervals. The name of the liquid or gas in each pipe and arrows indicating direction of flow should also be painted on the pipe.



**9.5 OVERFLOW SYSTEM** - All pools shall be designed to provide continuous skimming (removal of surface water). Make-up water supply equipment shall be provided to maintain continuous skimming.

**9.5.1 Gutters (Perimeter Overflow System)** - The overflow gutters shall extend completely around the pool and shall be level within a tolerance of plus or minus 1/8 inch to the pool deck. Piping connections should be considered to permit water to flow from overflows to waste, as well as to the recirculation system.

**9.5.1.1 Size and Shape** - The gutter system shall be designed for continuous removal of water from the pool's upper surface at a rate of at least 100% of the recirculation rate. The gutter shall be at least 3 inches deep and shall be designed to serve as a handgrip and to prevent entrapment of arms, legs, or feet of adults and children. It shall permit ready inspection, cleaning and repair.

**9.5.1.2 Outlets** - Drop boxes, converters, return piping or flumes used to convey water from the gutters shall be designed to handle at least 100% of the recirculation rate. Drainage shall be sufficient to minimize flooding and prevent backflow of skimmed water into the pool. Outlets shall be provided at least every 15 feet along the gutter bottom, with the gutter bottom sloped slightly to these outlets, unless an alternate design is found to be acceptable by the Department.

**9.5.1.3 Surge Capacity** - All overflow systems shall be designed with an effective surge capacity of not less than one gallon for each square foot of pool surface area. Surge shall be provided within a surge tank, in the gutter or filter above the normal flow line, or elsewhere in the system. Surge tanks, gutters and filter tanks should have overflow pipes to convey excess water to waste. Surge tanks shall be provided with means for complete draining.

**9.5.2 Surface Skimmers** - The use of skimmers shall be limited to pools with widths of 30 feet or less.

**9.5.2.1 Number** - At least two skimmers shall be provided. At least one surface skimmer shall be provided for each 500 square feet of water surface, and one for a major fraction thereof.

**9.5.2.2 Location** - Skimmers shall be so located as to provide effective skimming of the entire water surface with minimum interference and short-circuiting.

**9.5.2.3 Flow Rate** - Skimmers shall be designed for a flow-through rate of at least 30 gallons per minute or 3.75 gallons per minute per lineal inch of weir. The combined capacity of all skimmers in a pool shall be at least 100% the total recirculation rate.

**9.5.2.4 Control** - Skimmers shall have weirs that adjust automatically and operate freely and continuously with variations of at least 4 inches in water level. All skimmed water shall pass through an easily-removable and cleanable basket or screen before encountering control valves or entering the pump suction line.

Each skimmer shall be equipped with a device to control flow. If a skimmer is connected directly to the recirculation pump suction pipe, it should include a device to prevent an air-lock in the suction line. If equalizer pipes are used, they shall pass an adequate amount of water to meet pump suction requirements should the water in the pool drop below the weir level. The equalizer pipes shall be located at least 1 foot below the lowest overflow level of the skimmer. A valve or equivalent device that will remain tightly closed under normal operating conditions, but automatically opens when the water level drops below the minimum operating level of the skimmer, shall be provided on each equalizer pipe.



**9.5.2.5 Construction** - Skimmers shall be the built-in type recessed into the wall of the pool, shall be sturdy and shall be constructed of corrosion-resistant materials.

**9.5.2.6 Handgrips** - Bullnosed coping not more than 2 inches thick or other handgrip adjacent to the pool wall shall be provided. The handgrip shall not be more than 9 inches above the minimum skimmer operating level. When the handgrip is formed by the pool deck, it shall slope away from the pool with a 1 inch drop in a 1 foot distance.

**9.5.3 Water-Level Deck Type Swimming Pools** - This type of swimming pool differs from the conventional pool in that the water level is maintained flush with the deck and there are no overflow gutters around the inside of the pool. Water is flushed over the edge of the pool onto grating covering a drainage trench. Runoff from the deck shall go to waste. This type of design shall meet the following general specifications:

- (a) the trench drains shall be spaced at approximately 15 foot intervals.
- (b) there shall be a balancing or make-up water tank or other means to maintain proper pool water level.

**9.6 MAIN DRAIN SYSTEM** - Main drains of the pool shall be installed in the pool floor at the deepest point, and should be outside the normal straight trajectory from any diving board.

**9.6.1 Spacing** - In pools with deep water, multiple drains should be provided where the width of the pool is more than 30 feet. In such cases, outlets should be spaced not more than 30 feet apart, nor more than 15 feet from side walls.

**9.6.2 Grating** - All main drain outlets shall be covered by a grating that is non-ferrous, contrasting in color to the pool floor, can not be removed



without tools, will not pose a tripping hazard, and is designed with slot openings not exceeding one-half inch, to prevent entrapment.

**9.6.2.1 Antivortex** - If only one main drain is provided, it shall be the antivortex type. The velocity of water through the grating shall not exceed 6 feet per second.

**9.6.2.2 Non-Antivortex** - If multiple non-antivortex main drain outlets are provided the system shall be designed with equal pipe diameters and so that it is not possible to reduce the number of drains connected to the suction line to fewer than two by use of a valve or by other means. The velocity of water through the grating shall not exceed 1.5 feet per second.

**9.6.3 Piping** - The piping shall be designed to carry 100% of the recirculation rate and shall be equipped with a valve to regulate flow.

## **9.7 STRAINERS AND PUMPS**

**9.7.1 Strainers** - Strainers shall be provided through which all water shall pass before entering the pump. The strainers shall be of rigid construction, fabricated of corrosion-resistant material and sufficiently strong to prevent collapsing when clogged. The openings shall be no greater than 1/8 inch in any dimension. The total clear area of all openings shall be at least ten times the area of the connecting pipe. The strainer shall have a quick opening cover. Spare strainer baskets shall be provided. In systems where the filter is located on the suction side of the pump, strainers are not required.

**9.7.2 Pumping Equipment** - The recirculation pump shall have adequate capacity to meet the design requirements of the pool, including filter backwashing. A strainer should be placed on the suction side of the pump to collect debris. It shall be of a self-priming type if installed above the hydraulic gradient. Multiple pumps should not be provided except for standby purposes. A gauge which indicates both pressure

and vacuum shall be installed on the pump suction header, and a pressure gauge shall be installed on the discharge side of the pump.

## **9.8 FLOW MEASUREMENT AND CONTROL**

**9.8.1 Flow Measurement** - A means of continuously measuring flow rate shall be provided in the recirculation system. For sand filters the flow measuring equipment shall be located where the backwash flow rate can also be determined. The indicator shall be capable of measuring at least 1.5 times the design flow rate, shall be accurate within ten percent of true flow and shall be easy to read. The indicator shall have a range of readings appropriate for the anticipated flow rates and shall be installed where it is readily accessible for reading and maintenance. Straight pipe upstream and downstream of any fitting or restriction in accordance with the manufacturer's recommendation shall also be provided. At a multiple pool facility, flow rate indicators shall be provided for each pool.

**9.8.2 Flow Control** - A device for regulating the flow rate shall be provided in the recirculation pump discharge piping.

**9.9 INLETS** - The recirculation system shall have inlets adequate in design, number and location to insure effective distribution of treated water, and maintenance of uniform disinfectant residual throughout the swimming pool. Inlets shall be located in the pool walls and/or pool bottom.

**9.9.1 Location** - Inlets in the pool wall shall be spaced not over 20 feet apart with one inlet within 5 feet of each corner of the pool, and one in each recessed stair area. Wall inlets shall be located at least 12 inches below the design water surface. Inlets in the pool bottom shall be uniformly spaced with a separating distance of no greater than 20 feet, and with rows of inlets within 15 feet of each side wall. In any pool over 30 feet in width, bottom inlets should be provided.

- 9.9.2 Type** - Inlet fittings shall be of the adjustable rate-of-flow type (i.e. individual gate valve to permit adjustment of water volume to obtain the best circulation). Directional flow inlets shall be used with skimmer type pools. Inlets shall not protrude from the floor or wall to create a hazard.
- 9.9.3 Testing** - Dye testing (crystal violet or equivalent) should be performed to determine and adjust the recirculation pattern prior to the initial opening of the pool.



**10.0 FILTRATION** - A swimming pool recirculation system shall be designed to be operated 24 hours/day and shall have one or more filters in operation at all times. Filters shall either bear the NSF seal or meet minimum criteria developed by the NSF for filter evaluation. The following criteria shall also apply.

**10.1 LOCATION** - Filters, chemical feeders, pumps and other equipment associated with filtration should be housed in a building to protect the equipment from the weather and from tampering.

**10.2 PRESSURE GAUGES** - The pressure filter shall be provided with pressure gauges on the inlet and outlet pipe or piping. Such gauges shall range to approximately 1.25 times the maximum anticipated working pressure and shall be readable and accurate within one pound per square inch for sand filters and two pounds per square inch for diatomaceous earth filters.

**10.3 SIGHT GLASSES** - Pressure filters shall be provided with an observable free fall or sight glasses installed on the waste discharge line in order that the filter washing progress may be determined. Where sight glasses are used, they shall be readily removable for cleaning.

**10.4 FILTER PIPING** - Filter piping shall be valved so that filters can be washed individually, and so that each filter can be isolated for repairs while the other units are in service. Filter backwash shall be discharged to waste through an air gap to protect against backflow.

**10.5 VACUUM GAUGE** - On vacuum-type filters a vacuum gauge shall be provided on the suction side of the recirculation pump.

**10.6 RATE-OF-FLOW INDICATOR** - A rate-of-flow indicator, reading in gallons per minute, shall be installed and located so that the rate of recirculation and backwash will be indicated. It shall be installed on a straight length of pipe at a distance downstream from any valve, elbow or other source of turbulence equal to at least 6 times the diameter of the pipe. The indicator shall be capable of measuring at least 1.5 times the design flow rate, shall be accurate within ten percent of true flow and shall be easy to read. In a multiple pool system, a rate-of-flow indicator shall be provided for each pool.

**11.0 DISINFECTION** - Swimming pools shall be designed to provide for continuous disinfection of the pool water with a chemical which is an effective disinfectant and which imparts an easily measured, active residual.

**11.1 LIQUID AND SOLID DISINFECTANTS** - An automatic feeder which is easily adjustable shall be provided for the continuous application of disinfectant. For all pools designed to contain more than 20,000 gallons of water, a positive displacement type chemical feed pump shall be provided to inject the chemical solution into the recirculation line. Disinfectant feed pumps shall be NSF approved or meet the minimum standards set forth by NSF, as determined by an independent testing agency acceptable to the Department. The following criteria shall also apply:

**11.1.1 Construction** - Feeders and piping shall be of sturdy construction and materials which will withstand wear, corrosion or attack by disinfectant solutions or vapors, and which are not adversely affected by repeated, regular adjustments, routine disassembly or other normal use conditions.

**11.1.2 Maintenance** - Feeders shall be capable of being easily disassembled for cleaning and maintenance.

**11.1.3 Operation** - The design and construction shall be such as to minimize stoppage from chemicals intended to be used or foreign materials that may be contained therein.

**11.1.4 Safeguards** - The feeders shall incorporate antisiphon safeguards so that the disinfectant cannot continue to feed into the swimming pool, the pool piping system, or the swimming pool enclosure if any type of failure of the pool equipment occurs.

**11.1.5 Capacity** - Feeders shall be capable of supplying disinfectant to the pool at a dosage rate up to 10 ppm chlorine or equivalent.



**11.2 GAS CHLORINATION** - When compressed chlorine gas is used, the following features shall be provided:

- 11.2.1 Location** - Chlorine and chlorinating equipment shall be in a separate room. The chlorinator room shall be at or above grade, and shall be located on the opposite side of the pool from the direction of the prevailing winds.
- 11.2.2 Gas Feeding Equipment** - The gas feeding equipment shall be a solution feed or vacuum type capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere.
- 11.2.3 Water Supply** - The water supply for the gas feeding equipment shall produce the flow rate and pressure required by the manufacturer's specifications for proper operation of the equipment. Where other than swimming pool recirculated water is used, the supply line shall be equipped with a suitable backflow preventer. Failure of the water supply shall automatically shutoff the release of chlorine.
- 11.2.4 Chlorine Room Venting** - The chlorine room shall have an airtight duct beginning near the floor and terminating at a safe point of discharge to the out-of-doors away from the pool and deck areas. A louvered air intake shall be provided near the ceiling opposite the duct or fan. A ventilating fan, capable of one air change per minute, and operated from a switch outside the door, shall be provided in conjunction with the airtight duct. The ventilating fan shall operate constantly while chlorine gas is being used in the room.
- 11.2.5 Chlorine Room Lighting** - Adequate lighting shall be provided with the switch located outside the room, adjacent to the door.
- 11.2.6 Chlorine Room Door** - For indoor pools, the door of the chlorinator room shall not open to the swimming pool and shall open to the out-of-doors. The door shall be provided with a shatterproof inspection window, and should be provided with "panic hardware" to exit the room.



**11.2.7 Chlorine Cylinders** - Full or empty chlorine cylinders shall be anchored to the wall or an immovable object. The cylinders in use shall stand anchored to a scale capable of indicating gross weight with one-half pound accuracy. Storage space shall be provided so that chlorine cylinders are not subjected to direct sunlight or extremes of heat.

**11.2.8 Injection Location** - The mixing of the chlorine gas and water shall occur in the chlorine room, except where "vacuum type" chlorinators are used.

**11.2.9 Backflow** - The chlorinators shall be designed to prevent the backflow of water or moisture into the chlorine gas cylinder.

**11.2.10 Breathing Apparatus** - A self-contained breathing apparatus meeting the requirements of the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA) shall be provided. The units shall use compressed air, have at least a 30-minute capacity and be compatible with, or exactly the same as, units used by local fire departments. A closed cabinet shall be provided to house the breathing apparatus. It shall be accessible without a key and must be located outside of the chlorinator room next to the door.

**11.2.11 pH Adjustment** - Mechanical feed equipment for the purpose of adding a chemical for pH adjustment shall be provided.

**11.3 HYPOCHLORINATORS** - Where hypochlorinators are used (calcium or sodium), the following requirements shall apply:

**11.3.1 Feed** - Feed shall be continuous under all conditions of pressure in the recirculation system without constriction of the recirculation pump suction.

**11.3.2 Solution Tanks** - The minimum capacity of a solution tank shall be adequate to provide one day's maximum usage. If calcium hypochlorite is used, a minimum of two solution tanks, one for mixing the chlorine compound with water and the other for collecting and feeding the decanted solution, shall be provided.

#### **11.4 TEST KITS**

**11.4.1 Disinfectant Test Kits** - Halogen residual test equipment recognized in the latest edition of "Standard Methods for the Examination of Water and Wastewater" shall be provided and must be capable of measuring disinfectant residuals to the nearest 0.1 mg/L up to a maximum of 3.0 mg/L. Electronic residual monitoring devices may be used in addition to the test kit.

**11.4.2 pH Test Kit** - A pH test kit with a range of 6.8 to 8.4, accurate to the nearest 0.2 pH unit, shall be provided. Electronic residual monitoring devices may be used in addition to the test kit.

**11.4.3 Cyanuric Acid Test Kits** - In the case of pools using cyanurates for disinfection, a test kit to measure the cyanuric acid concentration shall be provided. It shall permit readings to at least 100 ppm with increments of 25 ppm.

**12.0 WADING POOLS AND SPRAY POOLS** - These pools shall not be physically connected to another swimming pool, and they shall have their own recirculation systems. All pertinent design requirements for swimming pools, except where otherwise noted, shall apply to wading and spray pools. Wading and spray pools shall be separated from the swimming or main pool by an effective barrier (one which restricts young children from entering the main swimming pool area without the barrier posing threat of injury to the child) or fence, with a self-latching, self-closing gate, unless it is separated from the main pool by a distance of at least 15 feet. In which case, it shall be located adjacent to the shallow end of the main pool. No obstructions such as raised drains, steps or concrete gadgets, which may pose a threat of injury to the child shall be placed in the wading or spray pool area.

**12.1 WADING POOLS** - An independent recirculation, filtration, and disinfection system of adequate size to turnover the pool's water in a period of time not greater than two hours shall be provided. The water depth in wading pools shall not exceed two feet.

**12.2 SPRAY POOLS** - It is desirable to install a spray pool in lieu of a wading pool. A spray pool is one where no water stands at any time, but is drained away freely as it is sprayed over the area. If provided, a spray pool shall be constructed of an impervious material which shall have a relatively smooth, non-slip surface. The spray pool bottom shall slope not less than 3 inches in ten feet towards the drains. The drain shall be of such size and design that water sprayed into the pool will not pond in the pool bottom.



## **13.0 BATHER PREPARATION FACILITIES**

**13.1 GENERAL** - Adequate dressing facilities, showers, lavatories, toilets and appurtenances shall be provided for bathers at all public bathing places unless these facilities are otherwise available within 500 feet and no more than one floor level above or below the bathing place.

### **13.2 DESIGN CRITERIA**

**13.2.1 Bathhouse Routing** - Location of the bathhouse shall be such that the patrons pass through the bathhouse to enter the bathing place. Every reasonable effort should be made to locate the bathhouse in such a manner as to facilitate ease of user access prior to entering the pool. The layout of the bathhouse shall be such that the patrons, on leaving the dressing room pass the toilets, then the showers, if provided, on route to the bathing place.

**13.2.2 Bathhouse Design** - Bathhouses to be used by both sexes shall be divided into two parts, separated by a tight partition and designated for men and women. The entrances and exits shall be screened to break the line of sight. Dressing rooms should provide 10 square feet/patron. Floors of the bathhouse shall be of smooth-finished material with non-slip surfaces, impervious to moisture, easily cleanable and sloped at least one-fourth inch per foot to drains. Carpeting shall not be permitted in shower and toilet areas. Junctions between walls and floors shall be coved. Walls and partitions shall be of smooth, impervious materials, free from cracks or open joints. Partitions between dressing cubicles, when provided shall terminate at least 10 inches above the floor, or shall be placed on continuous raised masonry or concrete bases at least 4 inches high. Lockers, when provided shall be set either on solid masonry or concrete bases at least 4 inches high or with legs with the bottom of locker at least 10 inches above the floor. Lockers shall be properly vented.

## **14.0 MISCELLANEOUS**

- 14.1 POOL CLEANING SYSTEM** - A cleaning system shall be provided to remove dirt from the bottom of the pool. When a vacuum system is used as an integral part of the recirculation system, connections may be located in the walls of the swimming pool at least 8 inches below the waterline, and at such point that the floor of the pool can be cleaned with not more than 50 feet of suction hose. Nothing in this section shall prohibit the use of surface skimmers for vacuum cleaning purposes.
- 14.2 OPERATIONS MANUAL** - It is recommended that a manual be provided for the operation of the pool. It should include drawings, illustrations, charts, operating instructions, and parts list to permit proper installation, operation, winterization and maintenance of each filter, disinfection unit, pump or other piece of equipment.