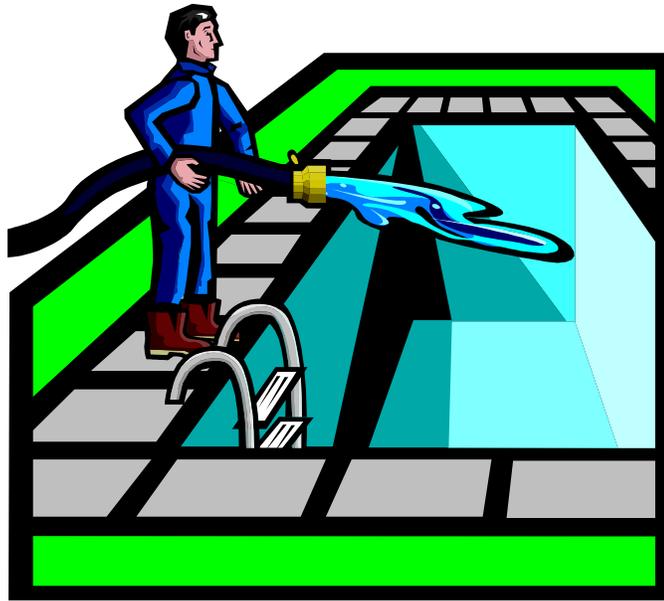


# PLUMAS COUNTY

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## GUIDE FOR THE CONSTRUCTION OF PUBLIC POOLS AND SPRAY GROUNDS

THIS INFORMATION IS PROVIDED BY  
PLUMAS COUNTY ENVIRONMENTAL HEALTH



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Updated  
March 28, 2016

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# Plumas County Environmental Health Guide for the Construction of Public Pools and Spray Grounds

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# Plumas County Environmental Health Guide for the Construction of Public Pools and Spray Grounds

## INTRODUCTION:

The purpose of this guide is to assist planners, developers, contractors and others through the permit process for public swimming pool and spray ground construction. Following this guide will streamline the process and ensure that your application is processed in a timely manner.

State law requires public swimming pool and spray ground plans include all requested information. If the information is not provided, the plan check review can not be completed and Environmental Health cannot release the plans to begin construction. Be advised that detailed decking, fencing, gate, and ancillary facility plans must be included as part of the pool plan submittal package. References such as “by others” and “per code” are not acceptable and will result in delays in plan approval.

The use of approved materials and professional installation workmanship are significant factors in the evaluation and final approval of a public pool or spray ground facility.

The following laws and regulations are the regulatory standards for this document and should be referred to for the specific language regarding the construction of a public pool or spray ground:

1. *California Health and Safety Code* (H&S) (revised as of January 1, 2014):
  - A. Division 2.5, Chapter 3, Article 5 “Personnel”, Section 1797.182
  - B. Division 104, Part 10, Chapter 5, Article 2.7 “Wave Pool Safety Act”, Sections 115950-115952
  - C. Division 104, Part 10, Chapter 5, Article 5 “Swimming Pool Sanitation”, Sections 116025-116068
2. *California Code of Regulations* (CCR) (revised as of January 1, 2015):
  - A. Title 22, Division 4, Chapter 20 “Public Swimming Pools”, Articles 1-3, Sections 65501-65551
  - B. Title 24, Part 2, “California Building Standards Code” (CBC) (revised 2013):
    - 1) Chapter 31B, Division I, “Public Swimming Pools”, Sections 3101B-3141B
    - 2) Chapter 31B, Division II, “Public Swimming Pools”, Sections 3160B-3162B
    - 3) Chapter 11B, Division 1, “Accessibility to Public Buildings, Public Accommodations, Commercial Buildings, and Public Housing”, Sections 101-1009

Chapters 11B & 31B are available for viewing (no printing) at:

<http://www.iccsafe.org/content/historical-free-resources/>

3. *California Business and Professions Code* (BPC):
  - Division 3, Chapter 3, Sections 5535-5538 (Requirements for a Registered Architect or Registered Professional Engineer to stamp plans).

Sections 5535-5538 are available at:

[http://www.leginfo.ca.gov/html/bpc\\_table\\_of\\_contents.html](http://www.leginfo.ca.gov/html/bpc_table_of_contents.html)

4. *CA Health & Safety Code* and *CA Code of Regulations* regarding pools are available at:  
<http://www.cdph.ca.gov/HealthInfo/environhealth/water/Pages/CaliforniaPublicSwimmingPoolRequirements.aspx>

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Guide for the Construction of Public Pools and Spray Grounds**

**POOL AND SPRAY GROUND CLASSIFICATIONS:**

1. Public Swimming Pool: “Public swimming pool,” as used in this article, means any public swimming pool, bathhouse, public swimming and bathing place and all related appurtenances (H&S 116025).
2. Public Pool: means any public swimming pool, public bathhouse, public swimming place, and public bathing place that is or includes an artificial basin, chamber, or tank constructed or prefabricated with impermeable surfaces and such pools, bathhouses, and places are used or intended to be used for public swimming, diving, or recreational water activities, “Public Pool” does not include individual therapeutic tubs or baths where the main purpose is cleaning of the body (CCR Title 22 Sec 65501(h)).
3. Pool or Public Pool: is an artificial basin, chamber or tank constructed or prefabricated with impermeable surfaces that is used, or intended to be used for public swimming, diving or recreational activities but does not include individual therapeutic tubs or baths where the main purpose is the cleaning of the body. Any manmade lake or swimming lagoon with a sand beach or sand bottom is not a public pool (CBC 3102B).
4. Spa Pool or Spa: is a pool that incorporates a water jet system, an aeration system or a combination of the two systems used in conjunction with heated water (CBC 3102B & CCR Title 22 Sec 65501(k)).
5. Special Purpose Pool: A pool constructed exclusively for a specific purpose, such as instruction, diving, competition, or medical treatment (CBC 3102B & CCR Title 22, Sec 65501(l)).
6. Wading Pool: A public pool intended to be used for wading by small children and having a maximum depth of 18 in. (457 mm) at the deepest point. (CBC 3102B and CCR Title 22, Sec 65501(p)).
7. Spray Grounds: is a pool with no standing water in the splash zone and consists of a surge basin with a recirculation system from which water is directed through water features for contact with pool users (CBC 3102B & CCR Title 22, Sec 65501(n)).
8. Wave Pool: means a swimming pool designed for the purpose of producing breaking wave action in the water and that is not primarily designed for standup surfing or bodyboarding (H&S, Sec 115951(d)).
9. Private Pool: A private pool is any constructed pool, permanent or portable, that is intended for use by occupants of not more than three residential units. Private pools are not public pools for the provisions of this chapter (CCR Title 22, Sec 65503(d))



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**CONSTRUCTION PERMIT APPLICATION PROCESS**

**Step 1: Research and Preparation:**

1. Consult with the Building & Planning Department in the appropriate jurisdiction\* to:
  - A. Ensure the proposed pool or spray ground is compatible with the proposed location; and
  - B. Determine the required accessibility requirements.

\* Projects in unincorporated areas of Plumas County: Plumas County Planning and Building at 555 Main St., Quincy, CA 95971

\* Projects within the city limits of Portola: Portola City Hall at 35 Third Ave, Portola, CA 96122
2. Consult with Environmental Health regarding the layout, construction, equipment, handicap accessibility requirements, and operation of the proposed pool or spray ground facility.
3. Prepare Building Plans pursuant to CBC 3103B:
  - A. Submission of plans and specifications are required for the construction, renovation, or alteration of a pool, the ancillary facilities or pool equipment and appurtenances;
  - B. Plans must describe in detail each pool, and/or spray ground, the equipment and equipment area, and all ancillary facilities including and not limited to: restrooms, shower facilities, dressing rooms, drinking fountains, and enclosure fence & gates;
  - C. Plans must be drawn in a professional manner at the prescribed scales; and
  - D. Plans and specifications for the pool(s) and/or spray ground(s) including ancillary facilities\*\*, equipment, and appurtenances, must be submitted as a complete package under seal (wet stamp) of a California Registered Architect, or a California Registered Engineer with experience in design in public pools. (CA Business & Professions Code, Division 3, Chap 3, Sec 5535-5538).

\*\* Ancillary facility is any area used in conjunction with or for the operation of a pool such as public dressing rooms, lockers, shower or bathroom areas, drinking fountains, equipment room, pool deck area, pool enclosure or building space that is intended to be used by pool users (CBC 3102B Definitions).

**Step 2: Submit Application and Documentation:**

All applications, fees, plans, and supporting documentation must be submitted to the Building & Planning Department for your jurisdiction.

The following are required as part of the plan submission:

1. A "Plan Review Application" and processing fees for each pool and/or spray ground.
2. Documentation of potable water supply and waste disposal:
  - A. Source of potable water:
    - 1) Public water source Will-Serve letter; OR
    - 2) On-site water source – water system permit information.
  - B. Means of sewage disposal:
    - 1) Public sewer Will-Serve letter; OR
    - 2) On-site sewage disposal – septic system documentation.

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3. Four (4) sets of engineer or architect wet-stamped plans that encompass the entire project:
- A. Two (2) sets for Building Department; AND
  - B. Two (2) sets for Environmental Health.

Important Notes:

- The applicant will be notified after the plans are approved (or if plans are rejected).
- Incomplete plan packages, plans requiring significant changes, or plans that are otherwise not approved, will be returned to the applicant.
- Any changes to plans after approval will require approval from both the respective jurisdictional Building Department and from Environmental Health.

**Step 3: Pickup Approved Building Plans and Permits from Building Department:  
Start Construction!**

**Step 4: Call for Construction Inspections:**

All construction and equipment installations are subject to on-site inspection by both the jurisdictional Building Department and by Environmental Health during all phases of construction (CCR Title 22 Sec 65511 & CBC 3105B).

1. Requests for inspections must be coordinated with Environmental Health and with the respective Building Department (CCR Title 22 Sec 65511).
  - A. Environmental Health requests scheduling at least two (2) business days in advance.
  - B. Check with your Building Department to determine their advance notice requirement for inspections.
2. Required Environmental Health construction inspections (Sec 3105B):
  - A. Exposed plumbing / 4R (rough framing, plumbing, electrical, and mechanical): for pool, deck, pump house, restrooms, showers, and surge tank (spray grounds and perimeter overflow pools).
  - B. Prior to applying pneumatically placed concrete.
  - C. Prior to applying the final surface to the pool shell:
    - 1) Contrasting tiles and markers set: Water line, water line depth markers, break-in-slope line, lane lines, step edges, and bench edges (spa only);
    - 2) Pool fencing and gates installed and secured;
    - 3) Pool filled from an approved potable water source.
  - D. At the completion of construction (Final Inspection):
    - 1) Pool water is clean & clear obtained from an approved water source;
    - 2) The pool (shell, deck, deck side pool depth and no-diving markers, stair and ladder handrails, enclosure fencing & entrance gates), pump room, and restroom facilities are finished and conform to the latest set of approved plans;
    - 3) Hose bibbs around pool or spray grounds deck are functional, protected from back-flow, and available for use;
    - 4) All utilities (electric, gas, potable water, sewer) are connected and “on”;
    - 5) All recirculation equipment is in place and operational;
    - 6) The enclosure gates are self-closing and securely self-latching;
    - 7) Spas only:
      - a) The emergency shut-off switch is operational and in plain view.
      - b) The water temperature is set at or below 104<sup>0</sup> F.

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**Step 5: Submit an application for Permit to Operate a Public Pool:**

Submit an application for a permit to operate the pool or spray ground to Plumas County Environmental Health at 270 County Hospital Road, Suite 127, Quincy, CA 95971.

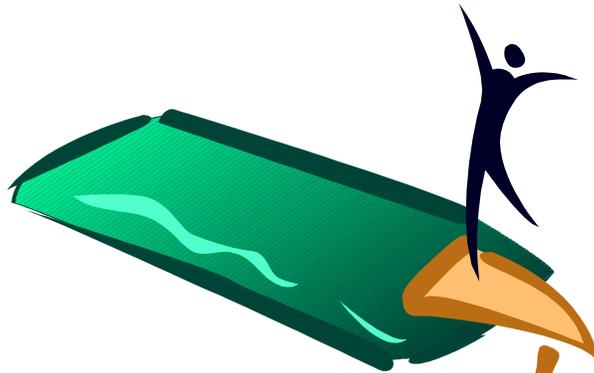
For public pools within the city limits of Portola, a business license may be required by the City of Portola in addition to the operating permit issued by Environmental Health.

**Step 6: Call Environmental Health for Pre-Opening Operational Inspection:**

1. A pool operator has been designated (CCR Title 22 Sec 65521(a));
2. The pool operator has written procedures for the operation of the pool site, and has the equipment manufacturer instructions available (CCR Title 22 Sec 65521(b)&(c));
3. The recirculation system, automatic disinfectant and chemical feeder(s) are operational and functioning properly (CCR Title 22 Sec 65525(a)&(b));
4. The operation log sheet & chemical test kit are ready for use (CCR Title 22 Sec 65523);
5. The water is clean and clear (CCR Title 22 Sec 65527);
6. The water disinfectant residual, cyanuric acid (if used), and pH are within specifications (CCR Title 22 Sec 65523, 65529 & 65530).
7. Body hook (fixed to a 12 foot length rescue pole), life ring (with attached 3/16" diameter rope long enough to span the width of the pool), first aid kit, and backboard and head immobilizer, are present and available for immediate use (CCR T22 65540);
8. Safety signs are posted in plain view from the pool (CBC 3120B);
9. Restrooms & Showers (CBC 3116B & CCR Title 22 Sec 65551):
  - A. Hand sinks and showers have hot and cold or tempered running water with fixed maximum temperature limit of 110<sup>0</sup>F that is not adjustable by the bather;
  - B. Hand sinks have single-service hand soap & single-service towels in dispensers or air blowers;
  - C. Showers have single-service soap in dispensers; and
  - D. Toilet stalls have tissue in dispensers.

**Step 7: Obtain Building Department Certificate of Occupancy:**

Open pool for business!



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Guide for the Construction of Public Pools and Spray Grounds**

**REQUIRED PLAN ELEMENTS**

1. **Accessibility** – Consult with the Building Department for your jurisdiction to ensure compliance with the Americans with Disabilities Act (ADA).
2. **Pool / Spray Ground Plan Specifications** (CBC 3103B):
  - A. Plans must be to scale using non-erasable ink or print (no pencil):
    - 1) Swimming, spray grounds, and special use pools: ¼ in. = 1 ft;
    - 2) Spa and wading pools: 1 in. = 1 ft.
  - B. Each set of plans must include the following information:
    - 1) The name and physical address of the pool facility;
    - 2) The name, telephone number, and e-mail address of the owner, contractor, pool designer, and contact person(s);
    - 3) The volume and surface area square footage of each pool;
    - 4) The source of potable water for the pool (example: community water or on-site well);
    - 5) The method of disposal for filter backwash waste (community sewer or on-site septic system).

Note: The disposal of bulk water from a swimming pool, spa pool, or spray grounds may require a permit from the Regional Water Quality Control Board.
3. **Site Plan:**
  - A. Locate pool(s) in relationship to buildings and property lines;
  - B. Show pump room, surge tank (spray grounds and/or perimeter overflow pool), restrooms, showers, and change rooms;
  - C. Fresh water and sewer connections and/or septic system; and
  - D. Show compass north arrow.
4. **Plan View:**
  - A. Pools (swim, spa, & wading):
    - 1) Shape, dimensions, break-in-slope (pools 5 ft. depth or less exempt), depth markers, and lighting;
    - 2) Diving boards and/or diving platforms (if proposed);
    - 3) Decking, deck drainage, and deck lighting;
    - 4) Enclosure fencing and gates;
    - 5) Location, dimensions, and flow volume and velocity calculations of: plumbing lines, drains, skimmers, surge tanks (if used), water returns, water fill, hydrostatic relief valve(s), deck area hose bibbs, back-flow devices, drinking fountains; and for spas: bubble jet piping and drains; and
    - 6) Stairs, ladders, handrails, and for spas only: benches.
  - B. Spray Grounds:
    - 1) Shape, dimensions, location and configuration of spray nozzles;
    - 2) Decking, deck drainage, and deck lighting;
    - 3) Enclosure fencing and gates (if proposed); and
    - 4) Location, dimensions, and flow volume and velocity calculations of plumbing lines, drains, surge tank, water returns, water fill, deck area hose bibbs, back-flow devices, surge tank(s), and drinking fountains.

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- C. Restrooms, changing rooms, and showers:
  - 1) Hand sinks, and showers;
  - 2) Toilets, urinals, floor drains (recommend “drippers” for floor drainage p-traps) and sewer lines;
- D. Pump & Equipment room(s):
  - 1) Pump(s), filter(s), piping, flow meter(s), pressure and vacuum gauges, chemical feeders and disinfection equipment;
  - 2) Light and ventilation;
  - 3) Floor drains (recommend “drippers” for floor drainage p-traps) and filter element wash down area;
  - 4) Surge tank (spray grounds and perimeter drain pools); and
  - 5) Sanitary sewer connection for filter backwash.
- 5. **Section View:**
  - A. Pools and Spas:
    - 1) Contour, depth, water line, dimensions, spring line\*\*\*, and break-in-slope;  
\*\*\* Pool Spring Line is the point from which the pool wall breaks from vertical and begins its arc in the radius of curvature.
    - 2) Stair and ladder contours, dimensions, and handrails;
    - 3) Diving boards or platforms showing overhead clearance (if applicable);
    - 4) Pool shell, water line tiles, depth markers, hand holds (coping or cantilevered decking) dimensions, and/or perimeter overflow dimensions;
    - 5) Location, elevation, and direction of flow for water outlets (bottom drains, rim overflow troughs and/or wall skimmers), and the location of water returns relative to water line;
    - 6) Surge tanks and gravity flow lines showing direction of flow for rim overflow and submerged edge pools.
  - B. Spray Grounds:
    - 1) Contour of splash zone and decking to show drainage slope;
    - 2) Surge tanks and gravity flow lines showing direction of flow for splash zone and provision for diversion of storm flow drainage;
- 6. **Electrical Plan:**
  - A. Electrical control panel(s) with ground-fault circuits;
  - B. Deck and pool lighting;
  - C. Pump room lighting and ventilation;
  - D. Restroom/shower room lighting and ventilation; and
  - E. For spas: deck accessible spa pool shutoff switch.
- 7. **Plumbing Plan:**
  - A. Filter system supply and returns with direction of flow;
  - B. Skimmers and drains with direction of flow;
  - C. Domestic water lines, deck hose bibbs, and pool fill lines;
  - D. Type and location of backflow protection devices;
  - E. Filter flow meters and pressure gauges; and
  - F. Sewer lines.

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8. **Finish Schedule:** Describe in detail the following:
- A. Pool shell material and color, hand holds (pool edge coping or rim overflow), decking, water line tiles, break in slope line tiles, lane marking tiles (if applicable), enclosure fencing and gates;
  - B. Restroom, change room, and shower room walls, ceilings, floors, and floor/wall juncture coving.

Environmental Health will need to review samples of proposed materials prior to plan approval.

**CONSTRUCTION AND EQUIPMENT REQUIREMENTS**

- 1. **Pool Structure:**
  - A. Alternative Equipment, Materials and Methods of Construction (CBC 3107B & CBC 3123B).
  - B. All new and replacement equipment must meet applicable standards for public pool use as established by the National Sanitation Foundation (NSF) / American National Standards Institute (ANSI) 50-2012 effective September 2012, or other equivalent and recognized sanitation standard(s) (CBC 3123B).
  - C. In the absence of applicable standards, the equipment design, construction and installation is subject to approval by Environmental Health prior to installation (CBC 3107B).
- 2. **Pool and Spray Ground Construction** (CBC 3106B, 3109B through 3115B and 3138B)
- 3. **Pool and Spa Geometry** (CBC 3109B & Figures 31B-1 through 31B-7)

Exception: A special purpose pool may be exempted from construction standards that are not applicable to the proposed use (CBC 3109B.1).

Note: "Sloped Entry" and "Submerged Edge" pools must be shown to provide adequate water circulation and skimming action to maintain the water clean, clear, and free of floating debris (CCR Title 22 Sec 65533 and CBC 3136B).

  - A. Permanent Markings (CBC 3110B)
  - B. Steps, Recessed Steps, Ladders, and Stairs (CBC 3111B)
  - C. Handholds (CBC 3112B)
  - D. Diving Boards and Platforms (CBC 3113B)
  - E. Pool Decks (CBC 3114B)
  - F. Pool Lighting (CBC 3115B)
  - G. Pool Handicapped Access (CBC 11B 242-242.4 & CBC 11B 1009-1009-6.2)
- 4. **Ancillary Facilities:**
  - A. Bathhouse, Dressing, Shower, and Toilet Facilities (CBC 3116B)
  - B. Drinking Fountains (CBC 3117B)
  - C. Hose Bibbs (CBC 3118B)
  - D. Pool Enclosure (CBC 3119B)
  - E. Required Signs (CBC 3120B)
  - F. Direction of Flow (CBC 3120B.17)
  - G. Indoor Ventilation (CBC 3121B)

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**5. Recirculation and Treatment System Components:**

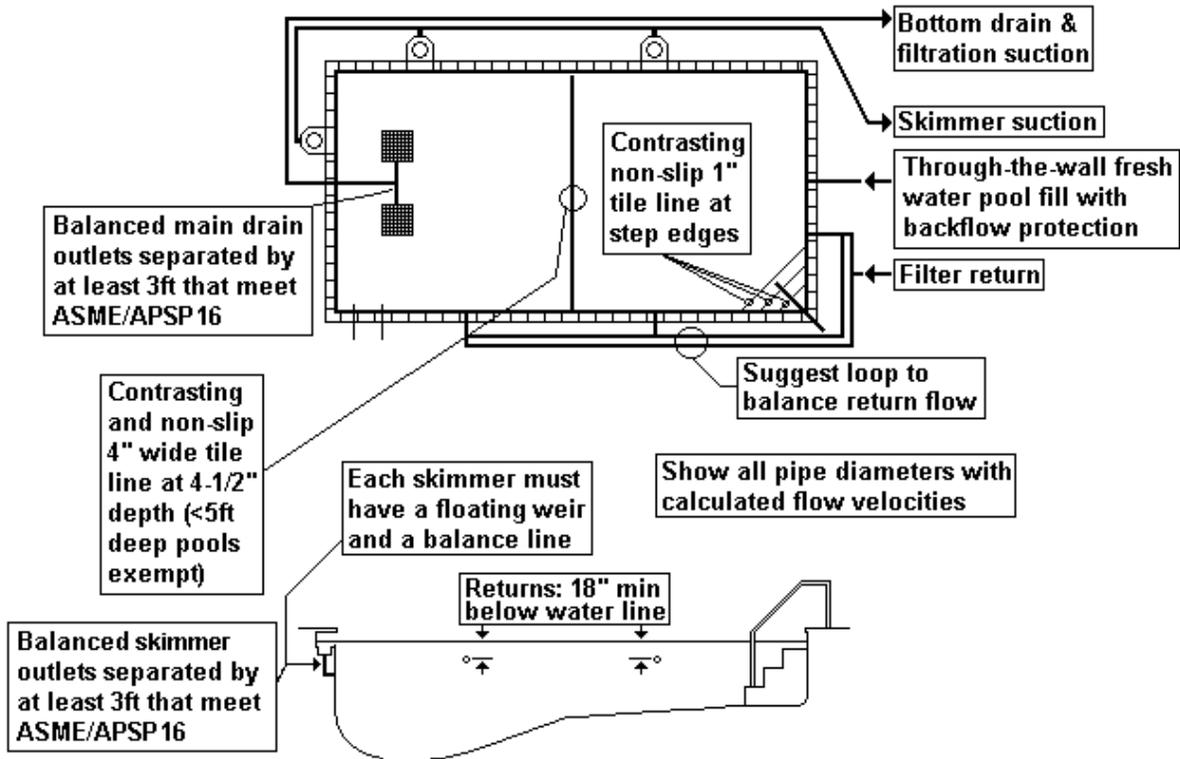
- A. Pool Equipment Enclosure (CBC 3122B)
- B. Recirculation System Components General Requirements (CBC 3123B)
- C. Turnover Time (CBC 3124B)
- D. Recirculation Piping System and Components (CBC 3125B)
- E. Recirculation Pump Capacity (CBC 3126B)
- F. Water Supply Inlets (CBC 3127B)
- G. Filters (All Types) (CBC 3128B)
  - 1) Rapid Sand Pressure Filters (CBC 3129B)
  - 2) Diatomaceous Earth Filters (CBC 3130B)
  - 3) High-Rate Sand Filters (CBC 3131B)
  - 4) Cartridge Filters (CBC 3132B)
- H. Chemical Feeders (CBC 3133B)
- I. Disinfectant Feeders (CBC 3134B)
- J. Gas Chlorination Equipment Room (CBC 3135B)
- K. Pool Skimming Systems (CBC 3136B)
- L. Pool Fittings - Outlets and Inlets (CBC 3137B)
- M. Spa Pool Special Requirements (CBC 3138B)
- N. Solar Heating Installations (CBC 3139B)
- O. Cleaning Systems (CBC 3140B)
- P. Wastewater Disposal (CBC 3141B)

**6. Division II – Public Swimming Pools:**

- A. Ground Fault Circuit Interrupters (CBC 3160B)
- B. Wading Pools (CBC 3161B)
- C. Anti-entrapment Devices and Systems (CBC 3162B)

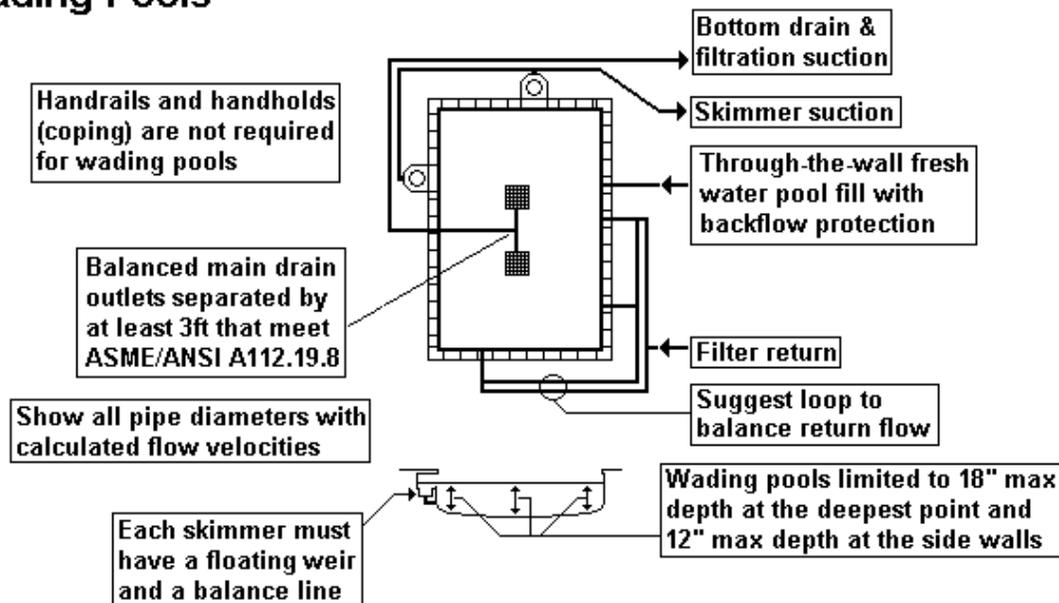
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**DIAGRAM 1 – SWIMMING POOL PLAN ELEMENTS**  
**Swimming Pools**



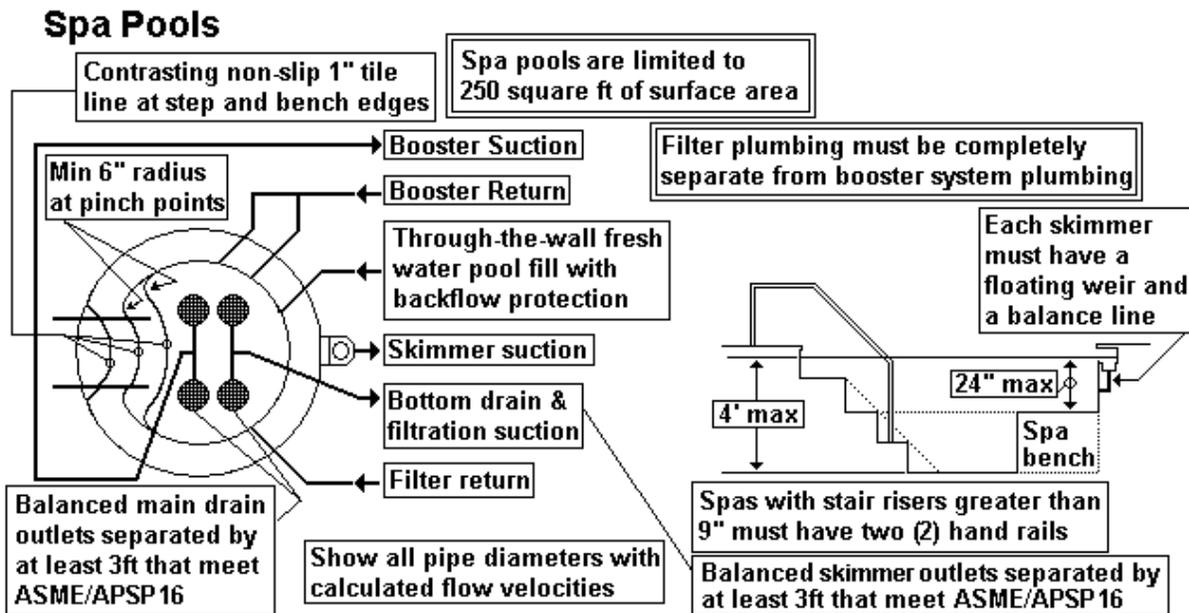
**DIAGRAM 2 – WADING POOL PLAN ELEMENTS**

**Wading Pools**

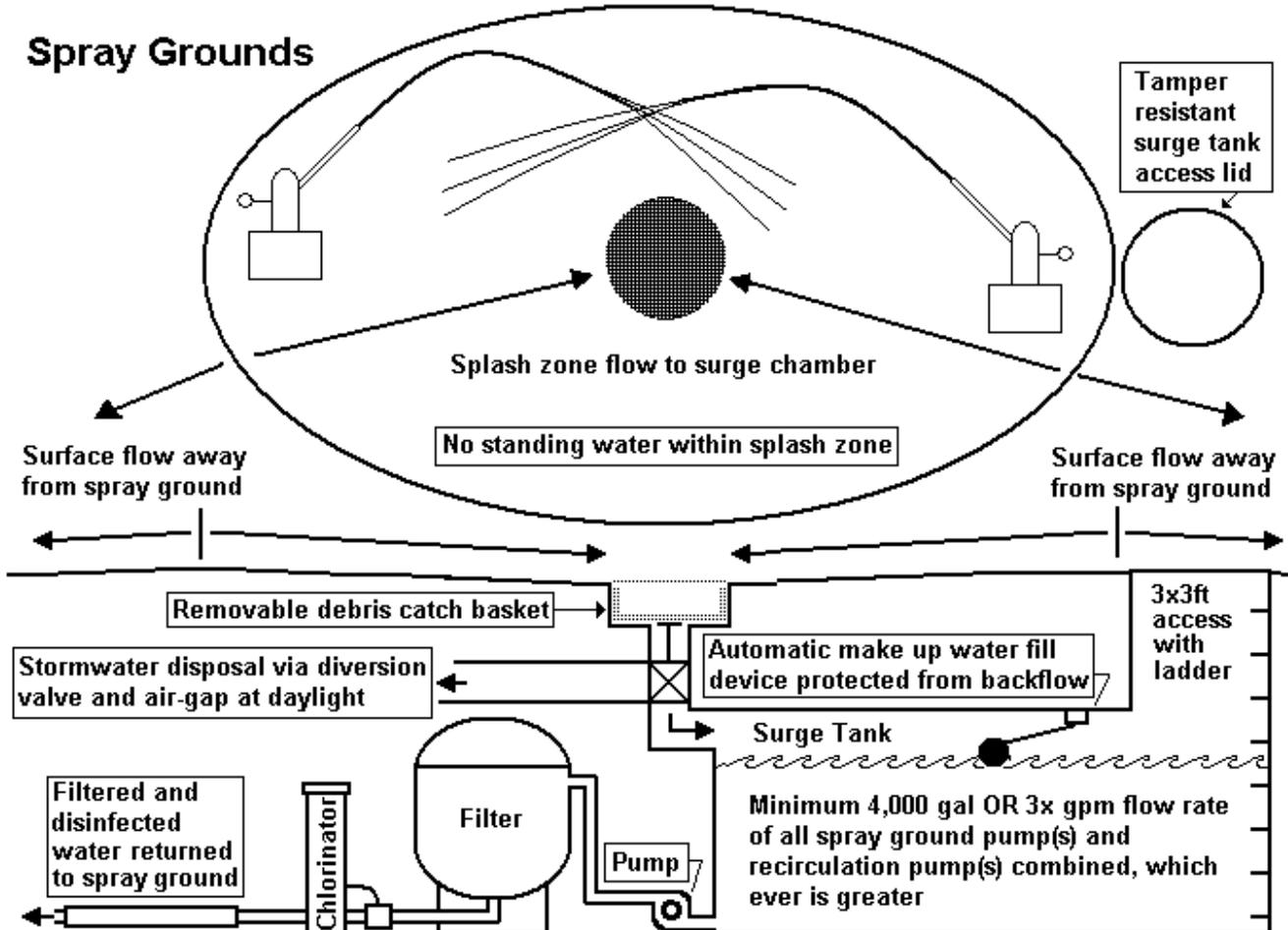


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**DIAGRAM 3 – SPA POOL PLAN ELEMENTS**

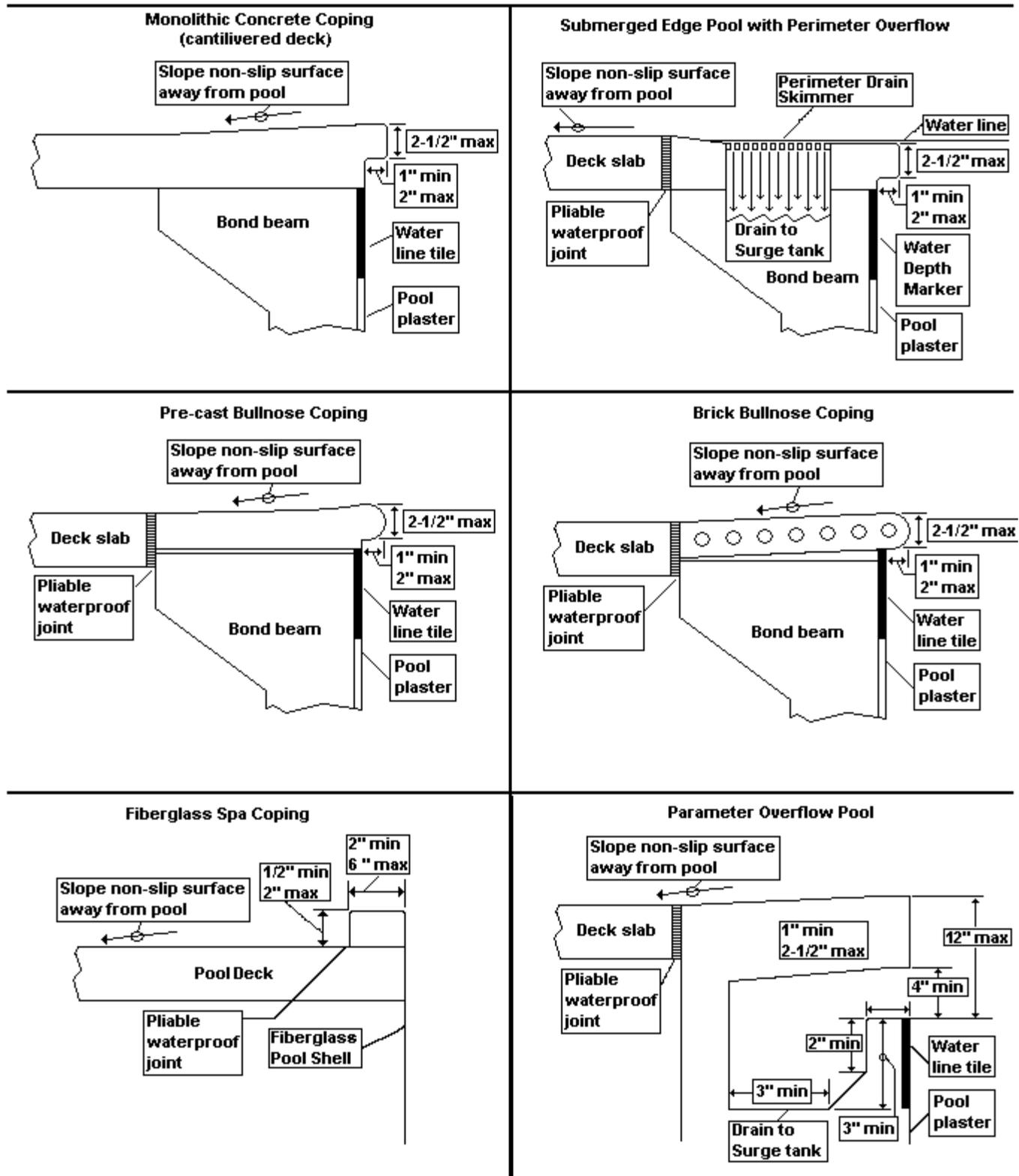


**DIAGRAM 4 – SPRAY GROUND PLAN ELEMENTS**



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**DIAGRAM 5 – HANDHOLDS**

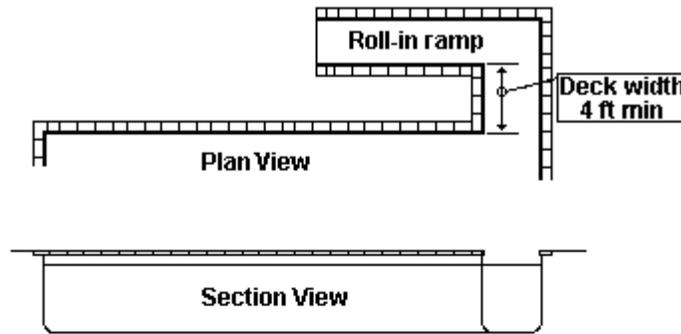


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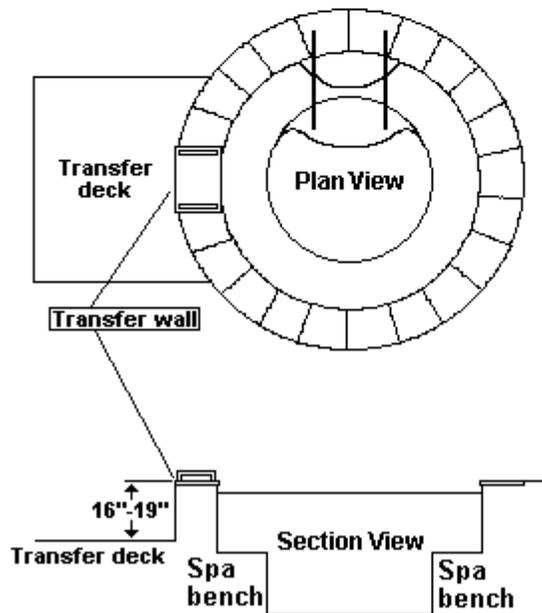
**DIAGRAM 6 – ADA OPTIONS – Refer to CBC 11B 241-1009**

Note: Pools with a perimeter of 300 ft or more are required to have two (2) accessible means of entry (fixed pool lifts and/or sloped entries).

**Swimming Pool  
Roll-in-Ramp Option for ADA Access**



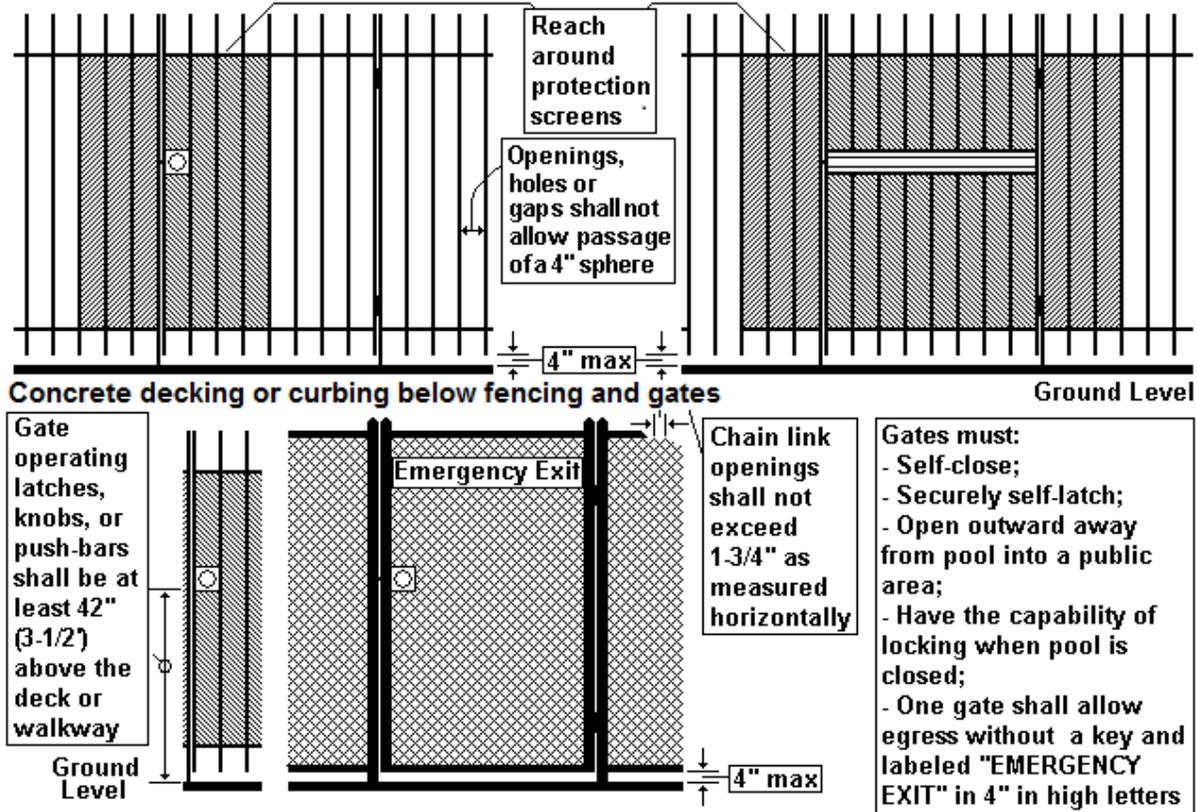
**Spa Pool  
Transfer Wall Option for ADA Access**



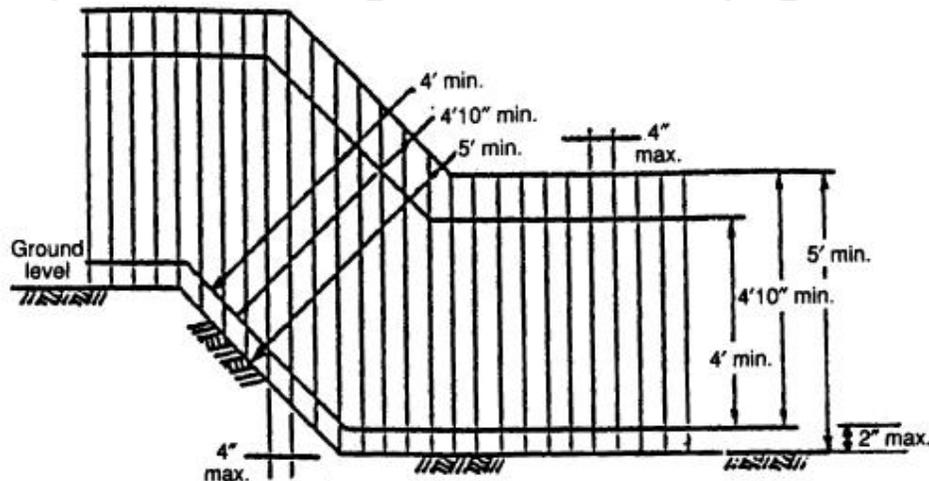
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DIAGRAM 7 – ENCLOSURE FENCES & GATES

**POOL ENCLOSURE FENCING & GATES**



**Perpendicular Fencing Dimensions on Sloping Ground**



**Effective Fencing Height**

INSIDE      OUTSIDE

