

Model Aquatic Health Code

Facility Maintenance and Operation Code Section for the First 60-day Review

**Posted for Public Comment on 10/31/2011
Currently Open for Public Comment that Closes on 12/29/2011**

In an attempt to speed the review process along, the MAHC steering committee has decided to release MAHC draft modules prior to their being fully complete and formatted. These drafts will continue to be edited and revised while being posted for public comment. The complete versions of the drafts will be available for public comment again when all MAHC modules are posted for final public comment. The MAHC committees appreciate your patience with the review process and commitment to this endeavor as we all seek to produce the best aquatic health code possible.

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MAHC Facility Maintenance and Operation Module Abstract

Aquatic facility operation and maintenance is a critical component of maintaining health and safety. Past outbreaks have commonly found operation and maintenance lapses to be critical contributors to disease outbreaks and injuries. The Facility Maintenance and Operation Module lays the foundation for operational improvement by containing requirements for:

- 1) Closure and reopening guidance for long and short term closures.
- 2) Comprehensive plans for preventive maintenance, equipment inventorying, and development of an operations manual to be maintained at the facility.
- 3) Reducing and mitigating excessive glare and reflection on the pool surface through design and adjustments to windows and lighting equipment.
- 4) Comprehensive daily records of pool operation & maintenance and of operational items inspected daily.

MAHC Facility Maintenance and Operation Module Review Guidance

The **[Model Aquatic Health Code \(MAHC\) Steering](http://www.cdc.gov/healthywater/swimming/pools/mahc/steering-committee/)** (<http://www.cdc.gov/healthywater/swimming/pools/mahc/steering-committee/>) and **[Technical Committees](http://www.cdc.gov/healthywater/swimming/pools/mahc/technical-committee/)** (<http://www.cdc.gov/healthywater/swimming/pools/mahc/technical-committee/>) appreciate your willingness to review this draft MAHC module. Your unique perspectives and science-based suggestions will help ensure that the best available standards and practices for protecting aquatic public health are available for adoption by state and local environmental health programs.

Review Reminders:

- Please download and use the **[MAHC Comment Form](http://www.cdc.gov/healthywater/swimming/pools/mahc/structure-content/)** (<http://www.cdc.gov/healthywater/swimming/pools/mahc/structure-content/>) to submit your detailed, succinct comments and suggested edits. Return your review form by December 29, 2011, as an email attachment to **MAHC@cdc.gov**.
- If part of a larger group or organization, please consolidate comments to speed the MAHC response time to public comments.
- To provide context for this module review, please consult the **[MAHC Strawman Outline](http://www.cdc.gov/healthywater/pdf/swimming/pools/mahc/structure-content/mahc-strawman.pdf)** (<http://www.cdc.gov/healthywater/pdf/swimming/pools/mahc/structure-content/mahc-strawman.pdf>). Section headers of related content have been included in this draft module to assist reviewers to see where each section fits into the overall MAHC structure. Additional MAHC draft modules that contain this content will be or already have been posted for your review.

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Reviewer Note on Module Section Numbering:

Please use the specific section numbers to make your comments on this Draft Model Aquatic Health Code module. These numbers may eventually change during the editing of the compiled draft that will be issued for a final round of comments.

- MAHC Grading System
 - A grading system is provided for the recommended standards. It is based on the perceived reliability and accuracy of the material presented. This grading system is divided into three levels. The MAHC grading system is as follows:
 - Grade A: Practice supported by science/research/data.
 - Grade B: Generally accepted practice not supported by science/research/data.
 - Grade C: No generally accepted practice. Proposed language not yet supported by science/research/data.
- The complete draft MAHC, with all of the individual module review comments addressed will be posted again for a final review and comment before MAHC publication. This will enable reviewers to review modules in the context of other modules and sections that may not have been possible during the initial individual module review.
- The published MAHC will be regularly updated through a collaborative all-stakeholder process.

Please address any questions you may have about MAHC or the review process to MAHC@cdc.gov. You may also request to be on the direct email list for alerts on the other draft MAHC modules as they are released for public comment.

Thank you again, and we look forward to your help in this endeavor.
Sincerely,

Douglas C. Sackett, Director
MAHC Steering Committee

The following chart shows the context of Facility Maintenance and Operation module in the overall Model Aquatic Health Code's Strawman.

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4.0 Design Standards and Construction

5.0 Facility Maintenance and Operation

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Acronyms in this Module

AHJ	authority having jurisdiction
ASTM	American Society for Testing and Materials
GFCI	ground-fault circuit interrupter
MAHC	Model Aquatic Health Code
NEC	National Electrical Code

Glossary Terms in this Module

“Aquatic Facility” means a physical place that contains one or more aquatic venues and support infrastructure under a single management structure

“Aquatic Venue” means an artificially constructed or modified natural structure where the general public is exposed to water intended for recreational or therapeutic purpose. Such structures do not necessarily contain standing water so water exposure may occur via contact, ingestion, or aerosolization. Examples include swimming pools, wave pool, river, spas (including spa pools and hot tubs), therapeutic pools, spray pads.

“Authority Having Jurisdiction” means an agency, organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

“Bather” means a person at an aquatic venue who has contact with water either through spray or partial or total immersion. Bathers can be exposed to contaminated water as well as potentially contaminate the water.

“Chlorine” means an element that at room temperature and pressure is a heavy green gas with characteristic odor and is extremely toxic. It can be compressed in liquid form and stored in heavy steel tanks, but most pools now add other chlorine compounds (e.g. hypochlorite) that similar to the liquid form release hypochlorous acid when dissolved in water. Chlorinating agents are the most commonly used disinfectants for pools.

“Code” means a systematic statement of a body of law, especially one given statutory force.

“Contaminant” means a substance that soils, stains, corrupts, or infects another substance by contact or association.

“Deck” means surface areas serving the pool, beyond perimeter deck, which is expected to be regularly trafficked and made wet by pool users.

“Disinfection” means the reduction of pathogens (disease causing organisms).

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“Diaper Changing Station” means the surface on which the child's diaper is changed or the surface for diaper changing plus trash receptacle, hand-washing sink, etc.

“Generally Accepted Practice” means a technique or methodology that is widely used but may or may not be the “best practice.”

“Ground-Fault Circuit Interrupter” means a device for protection of personnel that de-energizes an electrical circuit or portion thereof in the event of excessive ground current.

“pH” means a symbol that expresses the negative log of the concentration of hydrogen ions. When water ionizes, it produces hydrogen ions (H+) and hydroxide ions (OH-). If there is an excess of hydrogen ions the water is acidic. If there is an excess of hydroxide ions the water is basic. pH ranges from 0 to 14. Pure water has a pH of 7.0. If pH is higher than 7.0, the water is said to be basic, or alkaline. If the water's pH is lower than 7.0, the water is acidic. As pH is raised, more ionization occurs and chlorine disinfectants decrease in effectiveness.

“Pool” means a subset of aquatic venue designed to have impounded/standing water for total or partial bather immersion.

“Sprayground” means no standing water, features included that spray bathers with recirculating water

“Storage” means the condition of remaining in one space for one hour or more. Materials in a closed pipe or tube awaiting transfer to another location shall not be considered to be stored.

Preface: *This document does not address all safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to each use.*

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Model Aquatic Health Code Facility Maintenance and Operation Module

Keyword	Section	Code	Grade
	5.0	Facility Maintenance and Operation	
	5.4	Recreational Water Venue Operations and Facility Maintenance	
<i>Closure and Reopening</i>	5.4.1	Closure and Reopening	A
<i>Long and Short Closures</i>	5.4.1.1	<i>Long and Short Closures</i>	
<i>Safe Condition</i>	5.4.1.1.1	The AQUATIC FACILITY shall be maintained in safe condition during planned or seasonal closures of more or less than seven days.	
<i>Drain / Cover</i>	5.4.1.1.2	The water in an AQUATIC FACILITY closed for more than seven days shall be drained or an approved safety cover that meets ASTM F1346-91 shall be installed.	
<i>Long Closures</i>	5.4.1.1.3	The water in an AQUATIC FACILITY closed for more than seven days that is not drained shall be recirculated and treated to assure water quality parameters meet the criteria of this CODE.	
<i>Short Closures</i>	5.4.1.1.4	The water in an AQUATIC FACILITY closed for seven days or less shall be recirculated and treated to assure water quality parameters meet the criteria of this CODE.	
<i>Reopening</i>	5.4.1.2	<i>Reopening</i>	
<i>Criteria</i>	5.4.1.2.1	An owner or operator of an AQUATIC FACILITY closed for more than seven days shall verify that the facility meets all criteria of this CODE before reopening the AQUATIC FACILITY.	
<i>Preventive Maintenance Plan</i>	5.4.2	Preventive Maintenance Plan	A
<i>Written Plan</i>	5.4.2.1	<i>Written Plan</i>	

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Keyword	Section	Code	Grade
Maintenance Plan Available	5.4.2.1.1	A written comprehensive maintenance plan shall be available at the AQUATIC VENUE for each AQUATIC FACILITY.	
Contents	5.4.2.1.2	The AQUATIC FACILITY maintenance plan shall include details and frequency of owner's or operator's planned routine facility inspection, maintenance or servicing, and recirculation and water treatment component replacement.	
Facility Documentation	5.4.2.2	Facility Documentation	
Original Plans and Specifications Available	5.4.2.2.1	A copy of the approved plans and specifications shall be available at the AQUATIC VENUE for each AQUATIC FACILITY constructed after the adoption of this CODE.	
Equipment Inventory	5.4.2.2.2	A comprehensive inventory of all equipment associated with each AQUATIC FACILITY shall be available at the AQUATIC VENUE.	
Inventory Details	5.4.2.2.3	This inventory shall include: <ol style="list-style-type: none"> 1) Equipment name and model number, 2) Manufacturer and contact information, 3) Local vendor/supplier & technical representative, if applicable, and 4) Replacement or service dates and details. 	
Equipment Manuals	5.4.2.2.4	Operation manuals for all equipment associated with each AQUATIC FACILITY shall be available at the AQUATIC VENUE.	
General Operations	5.4.3	General Operations	
	5.5	Shell	
	5.6	Indoor/Outdoor Environment	
Lighting	5.6.1	Lighting	A
Lighting Maintained	5.6.1.1	Lighting Maintained	

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Keyword	Section	Code	Grade
Light Levels	5.6.1.1.1	Lighting systems, including emergency lighting, shall be maintained in all patron areas and maintenance areas, to ensure the required lighting levels are met as specified in MAHC 4.6.1.	
Main Drain Visible	5.6.1.1.2	The AQUATIC FACILITY shall not be open if light levels are such that the main drain is not visible.	
Underwater Lighting	5.6.1.1.3	Underwater lights shall be operational and maintained as designed.	
Cracked Lenses	5.6.1.1.4	Cracked lenses on all lights shall be replaced before the POOL reopens to patrons.	
Glare	5.6.1.2	Glare	
Glare Assessments	5.6.1.2.1	The operator shall assess and document glare conditions throughout operating hours during the day and season.	
Glare Reduction	5.6.1.2.2	Windows and lighting equipment shall be adjusted to mitigate glare and excessive reflection on the POOL surface.	
Ventilation	5.6.2	Ventilation	
Electrical	5.6.3	Electrical	A
Electrical Repairs	5.6.3.1	Electrical Repairs	
Local Codes	5.6.3.1.1	Repairs or alterations to electrical equipment and associated equipment shall preserve compliance with the NEC, or with applicable local CODES prevailing at the time of construction, or with subsequent versions of those CODES.	
Immediately Repaired	5.6.3.1.2	All defects in the electrical system shall be immediately repaired.	
Overhead Wiring	5.6.3.1.3	Overhead electrical wiring, whether permanent or temporary, done for maintenance, repair, or display shall comply with the National Electrical Code (NEC)	

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Keyword	Section	Code	Grade
		Article 225 and Article 680 and other applicable sections, or with applicable local CODE.	
<i>Electrical Receptacles</i>	5.6.3.2	<i>Electrical Receptacles</i>	
<i>New Receptacles</i>	5.6.3.2.1	The installation of new electrical receptacles shall be deemed new construction, and thus subject to electrical-construction requirements of this CODE and applicable local CODE.	
<i>Repairs</i>	5.6.3.2.2	Repairs or maintenance to existing receptacles shall maintain compliance with the NEC, especially NEC Article 680.22, and with CFR 1910.304(b) (3) (ii).	
<i>Replacement</i>	5.6.3.2.3	Replacement receptacles shall be of the same type as the previous ones, e.g. grounding-type receptacles shall be replaced only by grounding-type receptacles, with all grounding conductors connected and proper wiring polarity preserved.	
<i>Substitutions</i>	5.6.3.2.4	Where the original-type of receptacle is no longer available, a replacement and installation shall be in accordance with applicable local CODE.	
<i>Ground-Fault Circuit Interrupter</i>	5.6.3.3	<i>Ground-Fault Circuit Interrupter</i>	
<i>Manufacturer's Recommendations</i>	5.6.3.3.1	Where receptacles are required to be protected by GFCI devices, the GFCI devices shall be tested following the manufacturer's recommendations.	
<i>Permanent Facilities</i>	5.6.3.3.2	For permanent aquatic facilities, required GFCI devices shall be tested monthly as part of scheduled maintenance.	
<i>Temporary Facilities</i>	5.6.3.3.3	For temporary aquatic facilities, required GFCI devices shall be tested on the first day of operation, and monthly thereafter until the body of water is drained and the equipment is prepared for STORAGE.	
<i>Grounding</i>	5.6.3.4	<i>Grounding</i>	
<i>Maintenance and repair of</i>	5.6.3.4.1	Maintenance or repair of electrical circuits or devices shall preserve grounding compliance with the NEC,	

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Keyword	Section	Code	Grade
electrical circuits		especially Article 250 Grounding and Bonding, Article 680 Swimming Pools, Fountains, and Similar Installations, and Chapter 3, or with applicable local CODES.	
Grounding Conductors	5.6.3.4.2	Grounding conductors that have been disconnected, except for minor repairs, shall be re-inspected by the local building CODE authority prior to AQUATIC FACILITY being used by patrons.	
Damaged Conductors	5.6.3.4.3	Damaged grounding conductors and grounding electrodes shall be repaired immediately.	
Damaged Conductor Repair	5.6.3.4.4	Damaged grounding conductors or grounding electrodes, associated with recirculation or DISINFECTION equipment or with underwater lighting systems, shall be repaired by a qualified person.	
Public Access	5.6.3.4.5	The public shall not have access to the body of water until such grounding conductors or grounding electrodes are repaired by a qualified person.	
Facility Closure	5.6.3.4.6	The AQUATIC FACILITY where damaged grounding conductors or grounding electrodes, associated with recirculation or DISINFECTION equipment or with underwater lighting systems, shall be closed until repairs are completed and inspected by the local building CODE authority.	
Bonding	5.6.3.5	Bonding	
Local Codes	5.6.3.5.1	Maintenance or repair of all metallic equipment, electrical circuits or devices, or reinforced concrete structures shall preserve bonding compliance with the NEC, or with applicable local CODES.	
Bonding Conductors	5.6.3.5.2	Bonding conductors shall not be disconnected except for immediate replacement.	
Disconnected Conductors	5.6.3.5.3	The AQUATIC FACILITY shall not be used by patrons while bonding conductors are disconnected.	
Removable Covers	5.6.3.5.4	Removable covers protecting bonding conductors, e.g. at ladders, shall be kept in place except during	

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Keyword	Section	Code	Grade
		bonding conductor inspections, repair or replacement.	
<i>Scheduled Maintenance</i>	5.6.3.5.5	Bonding conductors, where accessible, shall be inspected semi-annually as part of scheduled maintenance.	
<i>Corrosion</i>	5.6.3.5.6	Bonding conductors and any associated clamps shall not be extensively corroded.	
<i>Continuity</i>	5.6.3.5.7	Continuity of the bonding system associated with recirculation or DISINFECTION equipment or with underwater lighting systems shall be inspected by the local building CODE authority following installation and any major construction around the facility.	
<i>Continuity Verification</i>	5.6.3.5.8	Continuity of the bonding system associated with recirculation or DISINFECTION equipment or with underwater lighting systems shall be verified by the local building CODE authority at least every five years since the last inspection.	
<i>Extension Cords</i>	5.6.3.6	Extension Cords	
<i>No Substitute</i>	5.6.3.6.1	Extension cords shall not be used as a substitute for a required receptacle.	
<i>Minimum Distance from Water</i>	5.6.3.6.2	All parts of an extension cord shall be restrained at a minimum of 6 feet (1.8m) away when measured along the shortest possible path from a body of water during times when the AQUATIC FACILITY is open.	
<i>Exception</i>	5.6.3.6.3	<i>An extension cord may be used within 6 feet (1.8m) of the nearest edge of a body of water if a permanent floor, wall, ceiling, or roof exists between the body of water and the extension cord.</i>	
<i>GFCI Protection</i>	5.6.3.6.4	The circuit supplying an extension cord shall be protected by a GFCI device when the extension cord is to be used within 6 feet (1.8m) of a body of water.	
<i>Local Code</i>	5.6.3.6.5	<i>An extension cord incorporating a GFCI device may be used if that is acceptable under applicable local CODE.</i>	

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Keyword	Section	Code	Grade
Compliance	5.6.3.6.6	The use of extension cords shall comply with CFR 1910.304	
Portable Electrical Devices	5.6.3.7	Portable Electric Devices	
Near water	5.6.3.7.1	Portable line-powered electrical devices, such as radios or drills, shall not be used within 6 feet (1.8m) horizontally of the nearest inner edge of a body of water, unless connected to a GFCI-protected circuit.	
Communication Devices	5.6.3.8	Communication Devices and Dispatch Systems	
Facility Heating	5.6.4	Heating	A
Facility Heating	5.6.4.1	Facility Heating	
Maintenance and Repair	5.6.4.1.1	Maintenance, repairs, and alterations to facility-heating equipment shall preserve compliance with applicable CODES.	
Defects	5.6.4.1.2	Defects in the facility-heating equipment shall be immediately repaired.	
Temperature	5.6.4.1.3	Air temperature of a natatorium shall be controlled to the original specifications or in the absence of such, a minimum of 2° above the POOL water temperature to prevent condensation from forming.	
Combustion Device	5.6.4.1.7	Items shall not be stored within the combustion device manufacturer's specified minimum clearance distance.	
Pool Water Heating	5.6.4.2	Water Heating	
Maintenance and Repair	5.6.4.2.1	Maintenance, repairs, and alterations to POOL-water heating equipment shall preserve compliance with applicable CODES.	
	5.6.5	First Aid Room	
	5.6.6	Emergency Exit	
Plumbing	5.6.7	Plumbing	

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Keyword	Section	Code	Grade
<i>Water Supply</i>	5.6.7.1	<i>Water Supply</i>	
<i>Water Pressure</i>	5.6.7.1.1	All plumbing shall be maintained in good repair with no leaks or discharge.	
<i>Availability</i>	5.6.7.1.2	POTABLE water shall be available at all times to BATHERS.	
<i>Drinking Fountains</i>	5.6.7.2	<i>Drinking Fountains</i>	B
<i>Good Repair</i>	5.6.7.2.1	Drinking fountains shall be in good repair.	
<i>Clean</i>	5.6.7.2.2	Drinking fountains shall be clean.	
<i>Catch Basin</i>	5.6.7.2.3	Drinking fountains shall be adjusted so that waste water does not go outside the catch basin.	
<i>Backflow</i>	5.6.7.2.4	Drinking fountains shall be adjusted so that waste water does not fall back into the drinking water stream.	
<i>Water Pressure</i>	5.6.7.2.5	Drinking fountains shall have sufficient water pressure to allow correct adjustment.	
<i>Waste Water</i>	5.6.7.3	<i>Waste Water</i>	B
<i>Waste Water Disposal</i>	5.6.7.3.1	AQUATIC VENUE waste water, including backwash water and cartridge cleaning water, shall be disposed of in accordance with local CODES.	
<i>Filters</i>	5.6.7.3.3	Filters shall be backwashed, cleaned and maintained according to the manufacturer's instructions.	
<i>Drain Lines</i>	5.6.7.3.4	Filter backwash lines, DECK drains, and other drain lines connected to the AQUATIC FACILITY or the AQUATIC FACILITY recirculation system shall be discharged through an approved air gap.	
<i>No Standing Water</i>	5.6.7.3.5	No standing water shall result from any discharge, nor shall they create a nuisance, offensive odors, stagnant wet area, or create an environment for the breeding of insects.	
<i>Waste Receptacles</i>	5.6.8	<i>Solid Waste</i>	B

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Keyword	Section	Code	Grade
<i>Storage Receptacles</i>	5.6.8.1	Storage	
<i>Good Repair and Clean</i>	5.6.8.1.1	Outside waste and recycling containers shall be maintained in good repair and clean condition.	
<i>Storage</i>	5.6.8.1.2	Outside waste and recycling containers shall be stored as specified in this CODE.	
<i>Areas</i>	5.6.8.1.3	Outside waste and recycling STORAGE areas shall be maintained in good repair and clean condition.	
<i>Disposal</i>	5.6.8.2	Disposal	
<i>Frequency</i>	5.6.8.2.1	Solid waste and recycled materials shall be removed at a frequency to prevent attracting vectors or causing odor.	
<i>Local Code Compliance</i>	5.6.8.2.2	Solid waste and recycled materials shall be disposed of in compliance with local CODES.	
<i>Decks</i>	5.6.9	Decks	
<i>Food</i>	5.6.9.1	Food Preparation and Consumption	
<i>Preparation</i>	5.6.10.1.1	Food preparation and cooking shall only be permitted in designated areas as specified in this CODE.	
<i>Patrons</i>	5.6.10.1.2	Patrons shall not eat or drink while in or partially in the AQUATIC FACILITY's body of water.	
<i>Glass</i>	5.6.9.2	Glass	
<i>Glass</i>	5.6.10.2.1	Glass food and beverage containers shall be prohibited in patron areas of aquatic facilities.	
<i>Glass Tables</i>	5.6.10.2.2	Glass tables shall not be used in AQUATIC FACILITY.	
<i>Deck Maintenance</i>	5.6.9.3	Deck Maintenance	
<i>Free from Obstructions</i>	5.6.9.3.1	DECK areas shall be maintained free from obstructions, including patron seating, to preserve space required for life saving and rescue.	B

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Keyword	Section	Code	Grade
Diaper Changing	5.6.9.3.2	Diaper changing shall only be done at approved DIAPER-CHANGING STATIONS in the restrooms or other designated areas.	
Vermin	5.6.9.3.4	DECK areas shall be kept free of debris, vermin, and vermin harborage and cleaned daily.	
Original Design	5.6.9.3.5	DECK surfaces shall be maintained to their original design slope and integrity.	
Standing Water	5.6.9.3.6	DECK areas shall be free from puddled water.	
Drains	5.6.9.3.7	DECK drains shall be cleaned and maintained to prevent blockage and pooling of stagnant water.	
Wet Areas	5.6.9.3.8	Wet areas shall not have absorbent materials that cannot be removed for cleaning and DISINFECTION daily.	
Circulation Path	5.6.9.3.9	Fixed equipment, loose equipment, and DECK furniture shall not intrude upon the AQUATIC VENUE circulation path.	
Aquatic Facility Maintenance	5.6.10	Aquatic Facility Maintenance	
Diving Boards and Platforms	5.6.10.1	Diving Boards and Platforms	B
Slip-Resistant Finish	5.6.10.1.1	The finish and profile of surfaces of diving boards and platforms shall be maintained to prevent slips and falls.	
Loose Bolts and Cracked Boards	5.6.10.1.2	Diving boards shall be inspected daily for cracks and loose bolts with cracked boards removed and loose bolts tightened immediately.	
Steps / Guardrails	5.6.10.2	Steps and Guardrails	
Immovable	5.6.10.2.1	Steps and guardrails shall be secured so as not to move during use.	B
Maintenance	5.6.10.2.2	The profile and surface of steps shall be maintained to prevent slips and falls.	

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Keyword	Section	Code	Grade
<i>Starting Blocks</i>	5.6.10.3	<i>Starting Blocks</i>	
<i>Good Repair</i>	5.6.10.3.1	The profile and surface of starting blocks steps shall be in good repair to prevent slips and falls and pinch hazards.	B
<i>Restrictions</i>	5.6.10.3.2	Starting blocks shall only be used for swimmer training or competitive swimming activities.	
<i>Covers or Cones</i>	5.6.10.3.4	Covers or cones shall be used to deter access and designate when use of starting blocks is prohibited.	
<i>Removed Blocks</i>	5.6.10.3.5	Removable starting blocks shall be removed at all times when use is prohibited.	
<i>Deck Slides</i>	5.6.10.4	<i>Deck Slides</i>	
<i>Maintenance</i>	5.6.10.4.1	Slides shall be maintained and operated to manufacturer's/designer's specifications.	
<i>Slime and Biofilm</i>	5.6.10.4.2	Slime and biofilm layers shall be removed on all accessible slide surfaces.	B
<i>Flow Rates</i>	5.6.10.4.3	Slide water flow rates shall be checked before venue opening to be within designer or manufacturer's specifications.	
<i>Disinfectant Levels</i>	5.6.10.4.4	Disinfectant levels shall be maintained in all slide lines susceptible to holding stagnant water.	
<i>Fencing</i>	5.6.10.5	<i>Fencing and Barriers</i>	
<i>Maintenance</i>	5.6.10.5.1	Required fencing, barriers, and gates shall be maintained at all times.	A
<i>Tested Daily</i>	5.6.10.5.2	Gates, locks and alarms, if required, shall be tested daily prior to opening.	
<i>Aquatic Facility Cleaning</i>	5.6.10.6	<i>Aquatic Venue Cleaning</i>	
<i>Cleaning</i>	5.6.10.6.1	The AQUATIC FACILITY shall be kept clean of debris and organic materials from the water and surfaces.	B

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Keyword	Section	Code	Grade
Vacuuming	5.6.10.6.2	Vacuuming shall only be done when the AQUATIC FACILITY is closed.	
Port Openings	5.6.10.6.3	Vacuum port openings shall be covered with an approved device cover when not in use.	
Slime and Biofilm	5.6.10.6.4	Slime and biofilm layers shall be removed on all accessible surfaces.	
	5.7	Recirculation and Water Treatment	
	5.8	Decks and Equipment	
	5.9	Filter and Equipment Room	
	5.10	Hygiene Facilities	
	5.11	Water Supply/ Wastewater Disposal	
Specific Venues	5.12	Specific Venues, Special Requirements	
Slides	5.12.1	Water Slides	
Signage	5.12.1.1	Warning signs shall be provided in accordance with manufacturer's recommendations.	
Wave Pools	5.12.2	Wave Pools	
Life Jackets	5.12.2.1	Life jackets shall be provided free for use by BATHERS who request them.	
Moveable Floors	5.12.3	Moveable Floors	
Starting Platforms	5.12.3.1	The use of starting platforms in the area of a moveable floor shall be prevented when the water depth is shallower than the minimum required water depth of 79 inches (2m).	
Diving Boards	5.12.3.2	When a moveable floor is installed into a diving POOL, and the minimum water depth for diving is shallower than the minimum required water depth of 114 inches (3m), the diving boards shall be not be used.	
Bulkheads	5.12.4	Bulkheads	
Open Area	5.12.4.1	If a bulkhead is operated with an open area	

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Keyword	Section	Code	Grade
		underneath, no one shall be allowed to swim beneath the bulkhead.	
Spraygrounds	5.12.5	Spraygrounds	
Cracks	5.12.5.1	Cracks in the SPRAYGROUND shall be repaired when they may be a potential for leakage, present a tripping hazard, a potential cause of lacerations, or impact the ability to properly clean and maintain the SPRAYGROUND area.	
Cleaning	5.12.5.2	When cleaning the SPRAYGROUND, all materials and CONTAMINANTS on the surface of the SPRAYGROUND shall be flushed to waste and not discharged into the SPRAYGROUND treatment tank.	
Wading Pools	5.12.6	Wading Pools	
Drainage	5.12.6.1	Drainage shall not be returned to an adjacent POOL or its water treatment facilities.	

Model Aquatic Health Code 6.0 Policies and Management

Keyword	Section	Code	Grade
	6.0	Policies and Management	
	6.4	Facility Management	
	6.4.1	Operations	
	6.4.1.1	<i>Operations Manual</i>	
Operations	6.4.1.1.1	Each AQUATIC FACILITY shall develop an operations manual to keep at the facility in both printed and electronic formats.	B
Operations Manual	6.4.1.1.2	The manual shall include, but not be limited to, basic information, chemical data, and operation and maintenance policies and instructions, including fecal/vomit and body fluid contamination response protocols, about each POOL, spa and spray ground feature at the facility.	
System Check Program	6.4.1.2	<i>System Check Program</i>	
Recordkeeping	6.4.1.3	<i>Recordkeeping</i>	
Schedule	6.4.1.3.1	Operating records shall be logged on a minimum schedule as prescribed in the following: <ol style="list-style-type: none"> 1) kept for a minimum of three (3) years and 2) be available upon request by the AHJ. 	
Log Contents	6.4.1.3.2	The log should contain at minimum the date, time, nature of the release and corrective actions. Local CODES may require additional documentation and forms.	

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Monitoring and
Testing Records
Include

6.4.1.3.3

Monitoring and testing records shall include, but are not limited to the following:

- 1) pH, disinfectant residuals, and combined CHLORINE concentrations logged when measured,
- 2) Operating pressures of water recirculation pumps and filters and the corresponding rate of flow meter readings, logged daily,
- 3) Amounts of chemicals added,
- 4) Kind and amount of chemicals received at facility,
- 5) If used, cyanuric acid levels,
- 6) Maintenance and malfunctioning of equipment, including dates and time of all equipment calibration,
- 7) If heated, POOL water temperature when sanitizer & PH tests run,
- 8) The time of filter backwash or cleaning-logged weekly,
- 9) Calcium hardness,
- 10) Total alkalinity,
- 11) Saturation Index,
- 12) Microbiological testing – dates/times samples were taken and results,
- 13) Any equipment failure, power outage or error resulting in the interruption of the circulation, filtration or DISINFECTION systems for more than one hour, and
- 14) The daily attendance at the facility is to be recorded. In POOLS where attendance is not ordinarily recorded, a guest sign in book can be used to track attendance.

Daily Inspection
Results

6.4.1.3.4

Inspection results including, but not limited to the following, shall be recorded daily before the POOL opens:

- 1) Skimmer baskets, weirs, lids, flow adjusters, and suction outlet lines are free of any blockage,
- 2) Inlet and return covers any other fittings are in place, secure, and unbroken,
- 3) Safety warning signs are in place around the

- POOL or spa, including emergency instructions and phone numbers, and
4) Entrapment prevention system is operational.

Requirements 6.4.1.3.5 Check all information required in MAHC section 6.4.1.3.4 of this regulation before filling a POOL or spa with water, after periodic maintenance, and after POOL or filter cleaning procedures.

Injury/Incident Report 6.4.1.3.6 An Injury/Incident report shall be made for each occurrence that:

- 1) Results in death,
- 2) Requires resuscitation,
- 3) Results in immediate transport to a hospital or emergency medical facility,
- 4) Results in an illness connected to the water/air quality at the facility, or
- 5) Is reported by a patron to the facility after the incident.

Body Fluid Release Log 6.4.1.3.7 A log shall be kept for recording releases of body fluids into the POOL and DECK.

Minimum Info 6.4.1.3.7.1 The log shall contain at minimum the date, time, nature of the release and corrective actions.

Staff Certifications on File 6.4.1.3.8 Proof of staff certifications shall be kept on file at the POOL and available for inspection by appropriate agencies.