Health Protection

Environmental Health Services

Guide and Pool Safety Plan for Pool Operators

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This document has been created and revised through the collaboration of the Provincial Recreational Water Committee with the input of multiple members within the following Health Authorities:

- Fraser Health
- Vancouver Coastal Health
- Vancouver Island Health
- Interior Heath
- Northern Health

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Disclaimer

The contents of this document are intended to be used as a guide to create a Pool Safety Plan as required by the *Pool Regulation (BC Reg.296/2010)*. This document should be used in conjunction with other reference materials such as the *Pool Regulation*, the *BC Guidelines for Swimming Pool Operations* and the *BC Guidelines for Swimming Pool Design* and other information, some of which is provided in the Appendices. The guide is designed for commercial pools and public pools.

This document cannot address every situation that may occur in a pool facility. Whether an issue is addressed in the pool safety plan or not it is necessary to comply with the *Pool Regulation* and always operate the pool facility in a safe manner. Failure to do so may result in legal actions.

Note: When there is a discrepancy between the *Pool Regulation* and any other document the *Pool Regulation* shall prevail.

Table of Contents

Appendices – Index

Pool Safety Plans

Section 13 of the *Pool Regulation (BC Reg. 296/2010)* requires that a pool operator must develop a comprehensive written pool safety plan customized for his/her facility that provides information about the actions to ensure the health and safety of pool patrons.

Maintenance technicians and pool staff should participate in the development of the pool safety plan, due to their familiarity with the operations of the pool on a day-to-day basis.

The plan is to be reviewed and updated as appropriate, or at least annually.

The plan is to be made readily available to pool staff. Each staff member is to be trained in the pool's general safety protocols and the use of the equipment they are responsible for using and maintaining. It is the pool operator's responsibility to ensure compliance with the plan by all staff members.

The plan will be reviewed by your Environmental Health Officer.

Additional information and web links are provided to the *Pool Regulation, BC Guidelines for Swimming Pool Design* and *BC Guidelines for Pool Operation* in Appendix 1.

What is a Pool Safety Plan?

- It is a written plan specific to each facility / pool that provides information and describes actions to protect the health and safety of pool users.
- Main components the plan must include are:
    - Procedures to be followed in the event of a serious injury, emergency or incident.
    - The type of lifesaving, lifeguarding and first aid equipment and if required the number of lifeguards and other staff that are to be on duty while the pool is in use.
    - Operating procedures for the pool.
    - A schedule of cleaning and maintenance for the pool.
    - Staff training.

What do I need to do as a Pool Operator?

- Write a pool safety plan that is specific to my facility.
    - It is a good idea to involve maintenance technicians and pool staff to help create these plans, as they are familiar with how the pool runs on a day to day basis.
- Train my staff in accordance with this written plan.

- Review and update the plan on an annual basis and make required changes as needed.
- Have the pool safety plan reviewed by my Environmental Health Officer.

Remember: You may already have a lot of this information in place for your pool. The pool safety plan simply helps you to bring it all together in a single location.

Make the plan easy to use by keeping it in a binder with tabs for each section.

Section 1

Pool Information

Index

Section 1 – Pool Information

The intent of this section is to provide easy access to specific details of each pool in your facility.

Check all boxes that apply to your facility and fill in the missing information. If you do not have an up to date data sheet, you may need to do calculations.

1.1 Pool Administration / Information	
Facility Name	
Facility Address	
Pool Safety Plan Prepared by	Date
Last Reviewed / Updated by *(Required to be done at least once a year)*	Date

Pool data sheets, engineered plans and/or pool drawings should be included if available. *(Your Environmental Health Officer may be able to provide some of these documents)*
Location of Pool Data Sheets *(It is recommended that a laminated copy be posted in the filter room)*
Location of Engineered Plans and/or Pool Drawings
Additional Information *(if required)*

Contact Information			
Facility Owner/Property Management/Strata:	Name:	Phone Number:	Cell Number:
Facility Manager:	Name:	Phone Number:	Cell Number:
Operator/Maintenance:	Name:	Phone Number:	Cell Number:

Staff Trained in Pool Safety Plan *(Update as required)*

By initialing below I acknowledge that I have reviewed the pool safety plan and understand the sections relevant to my duties.

Staff Name	Title	Section Relevant to Duties	Month/Year	Initials

1.2 Pool Details *(Provide details for each pool in the facility)*

Pool Name or Description *(e.g. main pool, hot tub)*	Pool 1 Name ____ Facility/Premises# ____	Pool 2 ☐ N/A Name ____ Facility/Premises# ____	Pool 3 ☐ N/A Name ____ Facility/Premises# ____
	Date Constructed:	Date Constructed:	Date Constructed:
Pool Type	Indoor ☐ Outdoor ☐	Indoor ☐ Outdoor ☐	Indoor ☐ Outdoor ☐
	Commercial pool: At least 61cm (2ft) deep, owned/operated by educational, recreational, business enterprise or strata and only for use by members, tenants, patrons, etc. of the enterprise or strata and their guests. **Public pool:** At least 61 cm (2ft) deep, available for swimming, recreational bathing or physiotherapy and is not a commercial pool.		
	Choose one of the following: Public Pool ☐ Commercial Pool ☐ Hot Tub ☐ Spray Pool *(Recirculating)* ☐ Spray Pool *(Non-recirculating)* ☐ Wading Pool *(< 61 cm depth)* ☐	Choose one of the following: Public Pool ☐ Commercial Pool ☐ Hot Tub ☐ Spray Pool *(Recirculating)* ☐ Spray Pool *(Non-recirculating)* ☐ Wading Pool *(< 61 cm depth)* ☐	Choose one of the following: Public Pool ☐ Commercial Pool ☐ Hot Tub ☐ Spray Pool *(Recirculating)* ☐ Spray Pool *(Non-recirculating)* ☐ Wading Pool *(< 61 cm depth)* ☐
Months of Operation	**12 months** ☐ or List months of operation: ____ to ____	**12 months** ☐ or List months of operation: ____ to ____	**12 months** ☐ or List months of operation: ____ to ____
Bather Load *(refer to Appendix 2)*			
Area of Pool			
Volume			
Depth	Minimum ____ Maximum ____	Minimum ____ Maximum ____	Minimum ____ Maximum ____
Flow Rate *Refer to Appendix 3 for Data Sheet Flow Rate Location Refer to Appendix 4 for typical flow meter locations*	Correct flow meter readings confirm flow through the main drain will not create a suction hazard and is adequate for the correct turnover rate. The flow rate can be found on the pool data sheet. ▪ All pools should have at least one flow meter. ▪ Hot tubs should have at least two flow meters. ▪ Pools with water features may have additional flow meters.		
	Pool recirculation ____ Water features ____ or Hot tub recirculation ____ Hot tub hydro air ____	Pool recirculation ____ Water features ____ or Hot tub recirculation ____ Hot tub hydro air ____	Pool recirculation ____ Water features ____ or Hot tub recirculation ____ Hot tub hydro air ____

1.3 List of Equipment and Amenities		*Items listed should be discussed in the Operation, Maintenance and/or Prevention sections in further detail.*			
Pool 1		**Pool 2**		**Pool 3**	
Choose all that apply (✓):		Choose all that apply (✓):		Choose all that apply (✓):	
Diving Board(s)	☐	Diving Board(s)	☐	Diving Board(s)	☐
Starting Blocks	☐	Starting Blocks	☐	Starting Blocks	☐
Slides over 10 ft. height	☐	Slides over 10 ft. height	☐	Slides over 10 ft. height	☐
Slides under 10 ft. height	☐	Slides under 10 ft. height	☐	Slides under 10 ft. height	☐
Portable Stairs	☐	Portable Stairs	☐	Portable Stairs	☐
Ladder(s) # ____	☐	Ladder(s) # ____	☐	Ladder(s) # ____	☐
Rope Swing(s)	☐	Rope Swing(s)	☐	Rope Swing(s)	☐
Climbing Wall	☐	Climbing Wall	☐	Climbing Wall	☐
Chair Lift	☐	Chair Lift	☐	Chair Lift	☐
Ramp Entry	☐	Ramp Entry	☐	Ramp Entry	☐
Sauna	☐	Sauna	☐	Sauna	☐
Steam Room	☐	Steam Room	☐	Steam Room	☐
Inflatable Play Equipment	☐	Inflatable Play Equipment	☐	Inflatable Play Equipment	☐
Spectator Seating	☐	Spectator Seating	☐	Spectator Seating	☐
Underwater Lighting	☐	Underwater Lighting	☐	Underwater Lighting	☐
Underwater Platforms	☐	Underwater Platforms	☐	Underwater Platforms	☐
Bulkhead	☐	Bulkhead	☐	Bulkhead	☐
Other Features *(list)*		Other Features *(list)*		Other Features *(list)*	
_____	☐	_____	☐	_____	☐
_____	☐	_____	☐	_____	☐
_____	☐	_____	☐	_____	☐
_____	☐	_____	☐	_____	☐

This space may be used to record additional information and/or details that are specific to your pool. Add additional sheet if space is insufficient.

Section 2

Emergency Procedures

Index

Section 2 – Emergency Procedures

The intent of this section is to:

- Develop written procedures so that you and your staff know how to efficiently and safely handle injuries, emergencies or incidents in your facility.
- Describe the equipment that is required and the emergency procedures for staff to follow for each type of situation.
- Describe preventative measures to reduce the risk of emergencies occurring.

Remember: Staff must be trained in the implementation of the emergency response procedures.

2.1 Site Plan

You should post a site plan, diagram or outline of the entire facility in a visible area and by the emergency phone. The site plan should include the locations of the following if applicable:

- Alarms (fire and horns / intercom, etc.)
- Emergency phones
- Emergency exits
- Specialized Emergency Equipment
- Emergency vehicle access

Attach a copy to the back page or include at the back of the Pool Safety Plan binder.

2.2 Emergency Response Phone Numbers

It is very important to have easy access to emergency response numbers and to keep the list current.

Use this template to create an Emergency Contact List for your facility and post a copy in a visible location as well as by the Emergency Phone.

Emergency Contact List *(Post next to the telephone or in another visible location if no telephone available)*		
First Responders		
Ambulance	911 or ( )	
Fire Department	( )	
Police	( )	
	( )	
	( )	
Building Contacts Trained in First Aid / Emergency Response / CPR		
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
Additional Contact Information		
Local Hospital	( )	
Poison Control	( )	
Public Health Department	( )	
Pool Company	( )	
Gas Company	( )	
	( )	
	( )	

Above list reviewed and updated by: _____ _____

Print Name Print Date (yyyy/mm/dd)

2.3 Emergency Response Procedures

It is important to remember that:

- Emergency response procedures should be easy to follow.
- Incidents should be recorded in the daily log book.
    - Major incidents should be recorded on an Incident Report form. Sample forms are provided in Appendix 6. These forms may be changed to meet your facility needs.

Complete the emergency phone script as provided on the following page or write your own script and then post in a visible location (i.e. where phone number and site plan are located).

Facilities with Emergency Phone at Pool Side

Provide an emergency phone script. Include the facility address and all details required to assist in locating the pool site.

Post in view of the emergency phone.

Facilities with No Emergency Phone at Pool Side

The location of nearest telephone or individual(s) on duty with a phone, cell phone, satellite phone, or emergency radio should be indicated on site plan. (e.g. concierge, manager, front desk, strata member, etc.).

If a telephone is not available please indicate that no phone is available and that people should use their personal cell phones in case of an emergency.

Provide other systems/alternate methods of alerting emergency responders as applicable. (e.g. location of alarms/horns/intercom devices etc.)

In Case of an Emergency

☐ Use Emergency Phone and follow script

☐ No Emergency Phone on site – Please Use

Cell Phone or _____

_____

Example of emergency phone script

1. Dial **911** and specify police, ambulance or fire.

2. State **Who You Are** along with the address and the phone number you are calling from:

   - Hello, I'm _____ (*name*) at _____ (*facility*)
   - The address is _____ (*facility street address*)
   - The swimming pool phone number is _____ (*facility phone number*)

3. **State the nature** of the situation. If there is a fire, advise them of the chemical storage room location

   _____

4. **Tell** them the best way to come to the facility: *(Provide directions i.e. front entrance through the parking lot)*

5. Ask what their estimated time of arrival is.

6. **Send someone** _____ *(i.e. front desk staff)* to meet and direct emergency personnel to scene.

Facility Emergency Response

The following table provides examples of various types of injuries and/or events that may occur at your facility. Emergency response plans can help you identify practices to reduce risk of emergencies occurring.

As a pool operator, make sure you advise patrons that have been injured to see their doctor, even if they are feeling well. For example, a head injury could be serious.

Note: This list does not cover all possible incidents therefore you may need to change it to meet your facility needs.

Type of Incident	Facility Procedure *(insert procedure)*	Prevention *(may include)*
Medical Emergencies		
Near Drowning / Drowning	Additional sheet attached ☐	- Signage posted - Staff Training - Pool Monitoring - Ensure all pool changes are approved - Access points secure *(refer to B.C. Guidelines for Swimming Pool Design)* - Depth markings visible - Water Quality - Other
Major Incidents • Chest pain • Spinal and/or head injury • Broken bones or sprains • Seizures • Allergic reactions	Additional sheet attached ☐	- Signage posted and enforcement - Staff Training - Other
Minor Incidents/First Aid	Additional sheet attached ☐	- Signage posted - Patron Education - First Aid Kit well stocked - No glass on deck - Other

Type of Incident	Facility Procedure *(insert procedure)*	Prevention *(may include)*
Heat-Related Incidents	Additional sheet attached ☐	- Hot Tub Max 40ºC - Signage posted - Tempering valves and taps on showers - Clock to monitor time spent in hot tub - Access to tempered water to cool down - Staff monitoring of hot tub, sauna, steam room areas - Provide shaded area at outdoor pools - Other
Health / Hygiene Emergencies		
Fecal/Vomit/Blood Body Fluid Incidents *(Refer to Appendix 1 for link to US CDC Protocol)* *(Refer to Appendix 11 for Health Authority sample protocols)*	Additional sheet attached ☐	- Signage posted - Patron education - Develop procedures for different types of incidents - Other
Disease Outbreaks *(e.g. rashes, eye or ear infection, athlete's foot, fungal infections)* *Advise the health department if there are 2 or more complaints of the same nature.*	Additional sheet attached ☐	- Signage posted and enforced - Exclude patrons as per required signage education *(I.e. if patrons are obviously ill; have diarrhea and/or communicable diseases* - Minimize dirt from entering pool *(i.e. no shoes on pool deck, no dirt draining from planters)* - At hand sinks / showers ensure soap is provided - Follow pool safety plan cleaning procedures - Balance pool chemistry - Prevent animals from entering pool enclosure - Other
Patron Related Emergencies		
Entrapped Person	Additional sheet attached ☐	- Physical inspection *(i.e. no gaps between 3.5 – 9 inches, no catch points)* - Signage - Patron education - Develop procedures *(i.e. provide scissors in first aid kit)* - Other

Type of Incident	Facility Procedure *(insert procedure)*	Prevention *(may include)*
Suction Hazards	Additional sheet attached ☐	- Flow through main drain not to exceed 1½ ft/sec *(flow meters regularly checked)* - Inspection of main drain, skimmers - Develop procedures for shutting down pumps - Main drain replaced "like for like" *(Pool Reg. 10(2)(k) – pool water must not pass through any drain grate at a speed greater than 46 cm per second when the pool is operating at the design flow rate)* - Equalizer lines disabled - Other
Hostile Person	Additional sheet attached ☐	- Staff training *(i.e. to recognize and handle people influenced by drugs and/or alcohol)* - No drinking, no alcohol or drugs - Other
Missing Person	Additional sheet attached ☐	- Parents supervise children - Patron education - Other
Facility Emergencies		
Gas Leak	Additional sheet attached ☐	- Know where and how to shut off gas at the meter - Maintenance *(i.e. leak prevention; check for corrosion)* - Monitoring systems as required *(i.e. propane, natural gas, chlorine, ozone)* - Staff training - Other
Chemical Spill	Additional sheet attached ☐	- Staff training and personal protective equipment (PPE) - Knowledge of chemicals and chemical interactions - Proper storage - Material Safety Data Sheets (MSDS) - Other

Type of Incident	Facility Procedure *(insert procedure)*	Prevention *(may include)*
Fire *Include:* - *Evacuation plan* - *Site plan including the location of alarms, exits, specialized equipment, etc.* - *Chemical room door clearly marked, inform fire dept. of chemical storage*	Additional sheet attached ☐	- Staff training - Fire alarms and extinguishers - Exit sign clearly marked - Maintenance / inspection checklist - Other
Power Failure	Additional sheet attached ☐	- Staff training - Emergency lighting tested and functioning - Emergency generator - Other
Sewer Back Up	Additional sheet attached ☐	- Staff training - Other
Electrical Discharge	Additional sheet attached ☐	- Monthly ground fault circuit interruptor checks of underwater lights - Ground wires in good condition - Other
Air Quality *(Plan for the worst case scenarios for chemical spills and mixtures of chemicals)*	Additional sheet attached ☐	- Staff education - Maintain pool chemistry - Clean and maintain ventilation system - Monitor warning signs *(i.e. log air quality complaints)* - Other

Type of Incident	Facility Procedure *(insert procedure)*	Prevention *(may include)*
Natural Disasters		
Lightning	Additional sheet attached ☐	- Be proactive *(i.e. check procedures for your facility)* - Close outdoor pool in thunderstorm - Other
Flood, Earthquake, Other		- Staff training - Other

2.4 Emergency Equipment

All pool facilities are required to have various types of emergency, safety and first aid equipment to help respond to injuries and/or incidents.

Staff should know where all emergency equipment is located and be appropriately trained to use it. Emergency equipment must be routinely checked as per manufacturer's specifications.

Fill in the following table to record all emergency equipment and its location.

Emergency Equipment *(Check all that apply)*	**Location(s)**
For Both Public and Commercial Pools	
☐ A non-conductive reaching pole/hook at least 3.5 meters in length mounted at poolside. *	
☐ A throwing ring, attached to a line of at least 6 mm in diameter and having a length of at least half the width of the pool plus 3 meters mounted at poolside. *	
☐ Basic First Aid Kit *(Recommended)*	
☐ Other _____	
Additional Equipment for Public Pools *(Please refer to BC Guideline for Pool Operations)*	
☐ First Aid Kit	
☐ A spine board (with at least 3 straps and a head securing device)**	
☐ Oxygen equipment *(400 litres or greater)* with regulator and protective carrying case and a spare oxygen tank **	
☐ Full set of airways **	
☐ Automated External Defibrillator (A.E.D.) **	
☐ Personal protective equipment including pocket mask and gloves.	
☐ Eye wash stations.	
☐ Other _____	

* Required under regulation.

** Lifeguards, assistants or other personnel must be trained in their use.

2.5 Evacuation Procedures

A good evacuation procedure is important for all pool facilities. It is important to consider extreme weather conditions when writing the evacuation plan.

For example, include procedures required if you need to evacuate the building when you have:

- patrons in bathing suits in the middle of winter
- special needs patrons
- different age groups *(i.e. preschool children or elderly)*
- it is also important to know:
    - escape routes, routes to nearest hospital, etc.
    - know the meeting area / Muster station

Staff should be familiar with evacuation procedures. Evacuation procedures should be practiced and dates should be recorded.

Evacuation Procedure	*Should include procedures for poor weather conditions, persons with special needs, age groups, etc. Attach building plan with evacuation routes and designated meeting areas.*

2.6 Facility Signage

The *Pool Regulation* requires specific signs to be posted in visible locations. Signs can help prevent health risks, injuries, and accidents. Consider the needs of your facility to determine which additional warnings or instructions are required. Pool signs may be available from your Environmental Health Officer.

It is important to know the signs posted in your facility and to keep them in good condition.

The following table provides a checklist for required and recommended signs for pools and hot tubs.

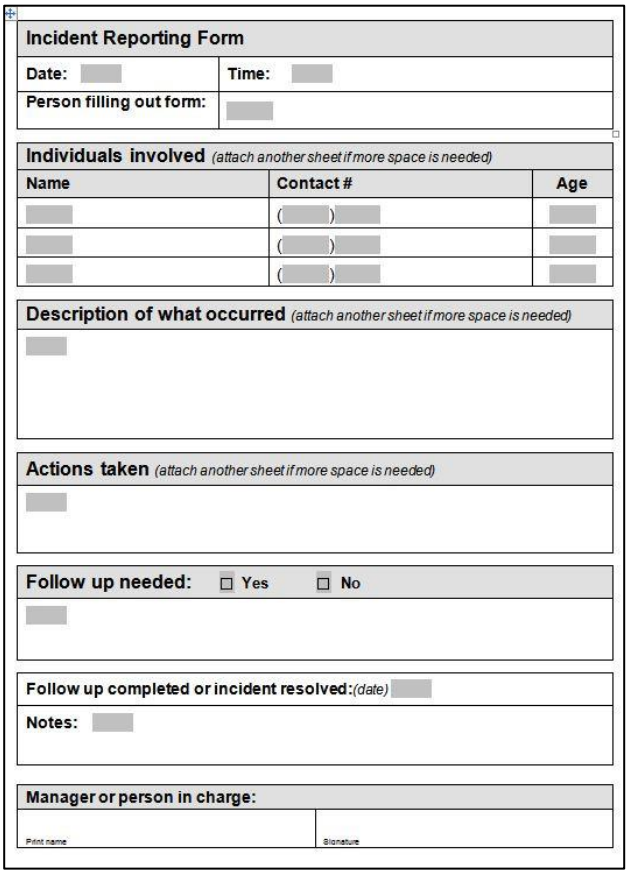
Required Signage *(Pool Regulation / Guidelines)*	Check all that apply ✓
Pool Rules *(Refer to Appendix 10)* *(must be posted in a prominent position within the pool enclosure)*	☐
Hot Tub Rules *(Refer to Appendix 10)* *(must be in easy view of all users of the hot tub)*	☐
No Lifeguard on Duty – children must be supervised by an adult *(Refer to Appendix 10) (must be posted at each entrance to the pool)*	☐
Emergency Numbers and Facility Address Posted by the Phone *(Hospital / Ambulance / Police / Fire)*	☐
Location of Phone	☐
Location of First Aid Kit	☐
Location of Exits	☐
Recommended Signs *(Additional examples from BC Guideline for Pool Operation)*	
Bather Load	☐
Diving Area Rules	☐
Pool Slide Rules	☐
Emergency Procedures for Patrons	☐
Chemical Storage Room *(sign on the door)*	☐
No Animals Allowed Except Guide Animals	☐
No Glass in Pool Area	☐
No Use While Under Influence	☐
Must have clean and appropriate bathing attire as determined by Pool Management	☐

2.7 Incident Reporting Forms

Operators must ensure that the following types of records are kept and available onsite for inspection by the health officer upon request:

- All complaints and injuries sustained at or within the pool.
- All occurrences of fecal and vomit contamination at or within the pool.

The following are two examples of incident reporting forms *(Refer to Appendix 6).*



Incident Reporting Form

Date:	**Time:**
Person filling out form:	

Individuals involved *(attach another sheet if more space is needed)*

Name	Contact #	Age
	( )	
	( )	
	( )	

Description of what occurred *(attach another sheet if more space is needed)*

Actions taken *(attach another sheet if more space is needed)*

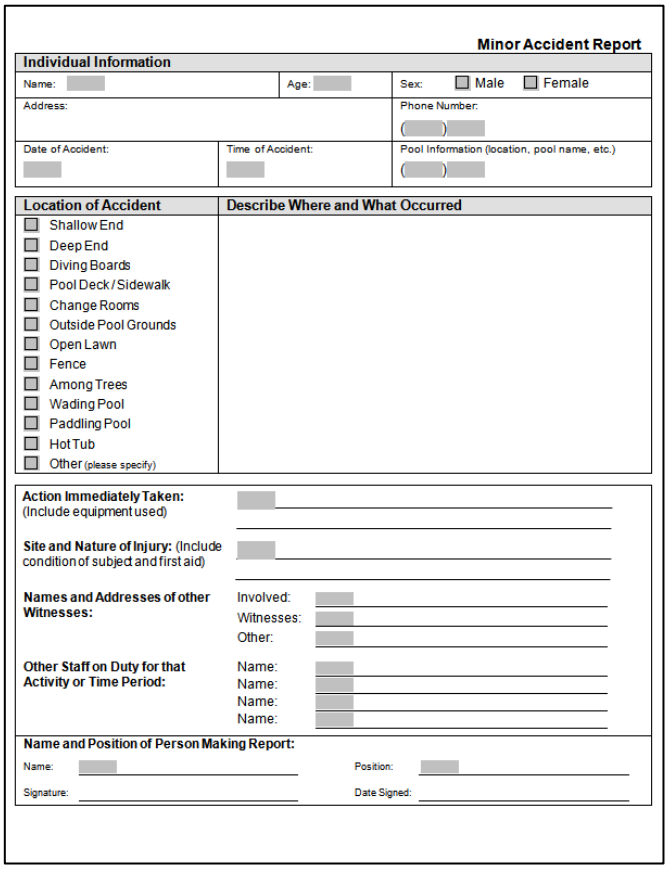
Follow up needed: ☐ Yes ☐ No

Follow up completed or incident resolved: *(date)*

Notes:

Manager or person in charge:

Print name	Signature



Minor Accident Report

Individual Information

Name:	Age:	Sex: ☐ Male ☐ Female
Address:		Phone Number: ( )
Date of Accident:	Time of Accident:	Pool Information (location, pool name, etc.) ( )

Location of Accident	Describe Where and What Occurred
☐ Shallow End ☐ Deep End ☐ Diving Boards ☐ Pool Deck / Sidewalk ☐ Change Rooms ☐ Outside Pool Grounds ☐ Open Lawn ☐ Fence ☐ Among Trees ☐ Wading Pool ☐ Paddling Pool ☐ Hot Tub ☐ Other (please specify)	

Action Immediately Taken: (Include equipment used)

Site and Nature of Injury: (Include condition of subject and first aid)

Names and Addresses of other Witnesses:
Involved:
Witnesses:
Other:

Other Staff on Duty for that Activity or Time Period:
Name:
Name:
Name:
Name:

Name and Position of Person Making Report:

Name: Position:

Signature: Date Signed:

Section 3

Pool Operation and Maintenance

Index

Section 3 – Pool Operation and Maintenance

The intent of this section is to:

- Provide written operating and maintenance procedures to ensure the health and safety of pool patrons and staff.
- Provide information regarding the equipment and supplies needed and how to handle them correctly and safely.

3.1 Operating Permit

Every pool that is being operated must have a valid operating permit issued under the *Pool Regulation*. You are required to post the permit in a prominent place on the premises. It is a good idea to keep a copy of the permit in your pool safety plan binder.

3.2 Staff and Operator Training

The following are examples of training that staff and operators may consider taking:

- New staff training regarding pool safety plan and orientation to facility.
- Pool course(s) *(refer to Appendix 1 for website links)*:
  - BC Recreation and Parks Association (BCRPA) Course – www.bcrpa.bc.ca/poolop
  - Recreation Facilities Association of BC Level 1 and 2 – www.rfabc.com
  - Health Authority Swimming Pool Training – refer to health authority websites for training schedules
  - Resident Managers Training Institute – Certified Swimming Pool Course – www.rmti.ca/cspo
  - Lowry School of Pool and Spa Chemistry
  - Advanced Lifeguard Training (ALT International) – www.aquaticpro.com
  - National Swimming Pool Foundation courses
- Lifeguarding
- Swimming Instruction
- First Aid
- Specialization first aid equipment training
- WHIMS
- Injury prevention program *(i.e. back care)*
- WorkSafe BC training for new and young workers
- PoolSafe BC
- Violence in the Workplace

3.3 When to Close the Pool to Swimmers

All staff should know when to close a pool. The safety of the swimmers must always be considered when making this decision. When in doubt, close the pool (keep **'POOL CLOSED'** signs handy), assess the situation, seek guidance from other professionals if needed to correct the problem. Only reopen the pool when you know it is safe to do so or you have had it inspected and cleared by your local Environmental Health Officer or other professional.

The following are some of the conditions that require pool closure. Add additional items to meet the needs of your facility.

- In the presence of vomitus or feces *(refer to Appendix 11).*
- When minimum sanitizer level cannot be maintained.
- When water is too cloudy to see the pattern of the main drain.
- When the recirculation system is not working.
- When there is a power outage.
- When superchlorinating or shocking (free chlorine more than 10 ppm).
- When any hazardous situation exists that could negatively impact the health and safety of swimmers.
- When adding chemicals directly to the pool.
- Other _____

3.4 Pool and Hot Tub Water Chemistry

It is important to check your pool chemistry on a regular basis to maintain pool water parameters within the acceptable ranges. This will help:

- Promote adequate disinfection and good water clarity.
- Keep pool chemistry balanced.
- Reduce corrosion and scaling *(i.e. this lowers long term costs).*

It is your responsibility as the pool operator to test pool chemistry as required by the *Pool Regulation*. The table on the following page provides the minimum testing frequencies for each pool chemical.

Remember your pool may need more frequent testing depending on the bather load, temperature, type of use and type of pool.

Operators must ensure a daily record is kept for each pool. The record must be available onsite for inspection by the health officer upon request. Records must include:

- Results of pool water tests performed.
- The amount and types of chemicals added to the pool water.

Records are to be retained related to the maintenance of mechanical equipment. All records are to:

- Indicate the date and time the test or corrective action was taken.
- Include the name of the individual conducting the test and making the entry.
- Be readily available for review on request of the Environmental Health Officer.

A sample pool and hot tub testing and maintenance log is in Appendix 8, which may be copied and adopted.

Good record-keeping helps develop a historic record that can be used to resolve problems, track chemical use, troubleshoot unexpected results and respond to adverse events. For example, it is very helpful to know the exact amounts of chemical required to affect a particular amount of change in pool chemistry.

It is important to use a test kit that will test all the required parameters that need to be tested on a daily or weekly basis.

Pool Water Chemistry Requirements

Parameters requiring testing	Minimum Testing Frequency	Test results required	
Disinfectants			
Disinfectant [1] [2]		**Water temp ≤ 30ºC**	**Water Temp >30ºC**
Free Available Chlorine or	2 x / day	0.5 ppm or greater	1.5 ppm or greater
Chlorine Cyanurate (stabilized chlorine) or	2 x / day	1.0 ppm or greater	2.0 ppm or greater
Bromine	2 x / day	1.5 ppm or greater	2.5 ppm or greater
Other Parameters			
pH	2 x / day	Within range of 7.2 – 7.8	
Combined Chlorine	2 x / day	Less than 1 ppm	
Alkalinity	1 x / week	Within range of 80 – 120 ppm	
Cyanuric Acid [3]	1 x / week	Less than 80 ppm	
Calcium Hardness [4]	1 x / week	180 – 220 ppm	

[1] Depending upon the product used, one of the listed disinfectant levels must be checked. Although the testing procedures are the same, required levels of disinfectant are higher if stabilized chlorine is used.

[2] Recommend testing every 4 hours during periods of heavy use as well as before and after.

[3] Check only if adding Cyanuric Acid or using a stabilized form of Chlorine.

[4] Not specified in Pool Regulation, but recommend at least weekly.

3.5 Pool and Hot Tub Test Kit and Reagents

- Provide step by step written instructions on how to use the pool test kit. Keep a copy of your instructions in your pool safety plan and one in your test kit. Water often damages instructions.
- All reagents have a limited shelf life and you need to know what the shelf life is. Complete the shelf life table below. *(Refer to Appendix 7)*.
- Write the correct "expiry date" on each bottle *(i.e. add 6 months to the date of purchase).*
- Store your reagents according to the manufacturer's directions. Do not switch the reagent caps. Store in a cool, dark place, to avoid temperature fluctuations.
- Make sure your color comparator and vials are in good condition (i.e. no discoloration or cracks).

Name and Model of Test Kit _____

(may attach procedures for testing and calibration)

Name of Reagent	Manufacturer's Recommended Shelf Life

3.6 Pool and Hot Tub Water Chemical Adjustment

Chemicals must be used according to label instructions and in compliance with WorkSafeBC. Knowing your pool volume will help determine how much of each chemical to use. Post the pool volume where the chemicals are stored so that it is handy for calculations.

If an outside company maintains the pool, describe when the company should be called to trouble shoot the problem and who is responsible to make the call. This is particularly important on weekends and holidays.

Additional sheet attached ☐ N/A ☐ Maintained by pool company

If maintained by onsite staff, provide step by step written instructions on how to adjust pool chemistry from start up:

Additional sheet attached ☐ N/A ☐ Maintained by pool company

If chemistry is adjusted by a staff member provide product specific procedures for troubleshooting the problems below:

(Attach additional sheets as required)

Troubleshooting Problem	**Product**	**General Procedures** *(e.g. describe dilutions and rates of application or use product label information and customize to your pool)*
Disinfectant too high (pool volume, chemical name and quantity used)		
Disinfectant too low (pool volume, chemical name and quantity used)		
Combined chlorine too high		
pH too high		
pH too low		
Alkalinity too high		
Alkalinity too low		
Cyanuric acid too high		
Cyanuric acid too low		
Cloudy Water		
Other		

3.7 Safe Handling of Chemicals used in Water Chemistry

Provide step by step written procedures for the safe handling of chemicals and storage. Describe how to safely add chemicals directly to the pool. If you are a small facility with few chemicals on site then only basic information may be needed. The greater the volume of chemicals used, the more detailed this section needs to be. *(Refer to Appendix 1*)

Always read and follow label directions

Use a highlighter to make the important items easier to find on the Material Safety Data Sheet (MSDS).

Chemicals Used in Water Chemistry	Essenital Information / Precautions
E.g. Sodium hypochlorite	*(i.e. Corrosive, causes severe eye injury, skin burns, respiratory burns. Use protective gear to handle, do not mix with muriatic acid, chlorinator tank requires containment.)*

3.8 Maintenance of Mechanical Equipment

Installation and operating manuals are located _____.

Record in daily log or _____ when maintenance has been done.

Use the following table as a guide to make your own facility Mechanical Maintenance schedule. The list provides examples of equipment that may be found in your facility and is not intended to be a complete list.

Equipment	What Needs to be Checked	Maintenance Frequency	Date Checked
Filters Model # / Type: _____	▪ Filter media functioning: No grease building up in sand	▪ Replace sand every 2 years	
	▪ Backwash gauges		
Chemical Feeder Model # / Type: _____	▪ (i.e. tubing) ▪ (i.e. build up of minerals, clogging)		
Ozone Model # / Type: _____			
Pumps Model # / Type: _____	▪ (i.e. hair and lint strainer) ▪ Cavitation, unusual noise ▪ Leaks _____		
Water Heater Model # / Type: _____	▪ (i.e. scaling/corrosion) _____		

Equipment	What Needs to be Checked	Maintenance Frequency	Date Checked
Ventilation Model # / Type: _____	▪ (i.e. vents dirty, etc.) _____		
Ultraviolet Model # / Type: *Ultraviolet Light Tube* _____			
Model # / Type: _____			
Model # / Type: _____			

3.9 General Pool Maintenance

Write a detailed maintenance schedule specific to your facility. This can be done by describing the daily and long term tasks associated with a job description or it can be done by outlining the tasks that need to be done in the facility as a whole, as below *(Refer to Appendix 9)*:

Opening Procedures

Closing Procedures

Daily Task List

Procedures for Draining the Pool

Weekly Task List

Monthly Task List

Yearly Task List

Seasonal Pool Opening Procedures

Seasonal Pool Closing Procedures

Operation and Maintenance Responsibilities Related to Facility			
Duties *(i.e. Clean deck; test pool chemistry; monitor and repair equipment as needed, etc.)*	**Person, Job Title or Company** *(i.e. Joe Smith; Building Engineer; housekeeping; ACME Pool Company, etc.)*	**Backup Person, Job Title or Company**	**Training Required for Job Duties** *(Refer to Appendix 5 for examples)*

3.10 Pool Cleaning Schedule

Area	**Chemical, Cleaner or Other Products Used**	**How to Handle Safely** *(refer to MSDS)* List all the critical information including personal protective equipment	**Cleaning Frequency**	**Person or Position Responsible**
Floors				
Change Room				
Showers/Washrooms				
Halls				
Pool Deck				
Floor/Deck Drains				
Other:				
Surfaces				
Benches/Lockers, etc.				
Shower Walls				
Toilet Bowls				
Sinks/Mirrors				
Other:				
Pool Basin				
Tiles at water mark				
Skimmer baskets				
Vacuuming				
Other:				
Supplies				
Toilet paper/towels				
Soap				
Other:				
Other Areas				

More complex pools will require more complex cleaning procedures.
Always read and follow label directions.

Material Safety Data Sheets (MSDS) Location _____

3.11 Pool Construction, Repair, Renovation or Alteration

The new *Pool Regulation* defines "construction" as including the design, installation, repair, renovation and alteration of a pool. It also states that a person must not construct a pool unless the person holds a construction permit and complies with the terms and conditions of that construction permit.

Remember

Always contact your local Health Authority ***prior to*** making any changes or repairs to your pool or hot tub.

In some cases your health officer may waive the requirement for a construction permit if repairs or alterations are:

- Performed for emergency purposes.
- So minor that they do not pose a risk to the public.
    - Some examples would be replacing small areas of floor or deck tiles (i.e. less than 10m^2), replacing a pool fixture with a new pool fixture that would be considered a like for like replacement (i.e. flow meters, chlorinators, boilers, heaters, UV, ozone systems etc.)

A construction permit will usually be required for:

- New pool construction
- Major renovations including resurfacing the pool basin
- Replacement of main drains and/or their covers, sumps, pumps, filters, chlorinators, etc. that are not "like for like".
- Installation of slides, play equipment and other pool features including railings, ladders or stairs.
- Replacement of pool deck and/or changeroom floor surfaces (i.e. over 10m^2).

Construction permits must be applied for by using the appropriate form provided by your local health officer and completed by a P.Eng. or P.Architect. The form must be accompanied by any plans and/or specifications for the construction and a completed Pool Data Sheet that includes all updates.

Section 4

Lifeguarding

Index

This section is not required for

Commercial Pools

Section 4 – Lifeguarding

Lifeguarding needs are different for every facility. You need to provide details specific to your facility and expand upon this section of the pool safety plan as necessary.

The intent of this section is to:

- Describe the training required for Lifeguards in your facility.
- Describe the opportunities for in-service and other training for staff.
- Provide staffing levels and schedules for all times that the facility is in use.
- Develop written lifeguarding procedures for your facility.

4.1 Qualifications

The onus is now on the public pool operator to hire lifeguards that are appropriately trained for their position and nature of responsibilities. This will help ensure the safety of pool patrons.

- **Lifeguard Qualifications**
  - Is at least 16 years of age.
  - Is trained in the procedures and in the use of the equipment described in the pool safety plan.
  - Is responsible for the conduct and safety of pool patrons.
  - Is performing no duty other than pool surveillance.
- **Additional Person**
  - On duty within the swimming facility and available to assist the lifeguard in an emergency.
  - Trained in the procedures and in the use of the equipment described in the pool (Guidelines recommend regular in-service training and training in CPR).
  - Designated by the operator for this purpose.

Lifeguarding Information

Name	Age	Phone #	Training	Notes

4.2 Training

Training can include but is not limited to, regular in-services, specialized training such as scuba and other training through agencies such as Royal Lifesaving Society, Red Cross or YMCA.

Training and In-service Registry

Staff Name	Phone #	Type of Training / In-service Completed	Date

4.3 Staffing Requirements

A public pool operator must ensure that, when the pool is open to the public, pool supervision is provided by at least one lifeguard and any additional lifeguards as required by the pool safety plan.

There must also be at least one additional person who is trained in the procedures and use of the equipment described in the pool safety plan – and designated by the operator for this purpose – on duty within the swimming facility available to assist the lifeguard in an emergency.

However, if the pool is being used only for aquatic instruction, both an aquatic instructor providing close supervision of the persons being instructed and at least one other person, both trained in the emergency procedures and in the use of the emergency equipment described in the pool safety plan, must be on duty.

Describe the Lifeguard to Patron Ratios for Your Facility

Number of Swimmers	Number of Lifeguards	Number of Assistants	Notes

4.4 Lifeguard Procedures

- **Communication**
  - Describe any communication protocols between staff, use of public address systems, use of whistles, use of radios, hand signals, etc.

- **Positions and Rotations**
  - Describe any procedures for lifeguarding such as, what areas to check.
  - Provide guidelines for use and supervision of play equipment *(refer to the prevention protocols in Section 2.2 Itemized Incident Response)*.
  - Describe any restrictions related to age and adult supervision required.

Describe Lifeguard Procedures for Your Facility

Lifeguard Procedures	Notes

Appendices - Index

The following Appendices are provided as a resource to help write your pool safety plan. The Appendices can also be used for future reference.

Web Links: Additional Resources *(Please note this is not an exhaustive list)*

Web Link	
Pool Regulation	
http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/296_2010	
BC Pool Guidelines:	
▪ B.C. Guidelines for Swimming Pool Design	
http://www.health.gov.bc.ca/protect/pdf/bc-pool-design-guidelines.pdf	
▪ B.C. Guidelines for Swimming Pool Operations	
http://www.health.gov.bc.ca/protect/pdf/bc-pool-operations-guidelines.pdf	
BC Ministry of Health	
▪ Recreational Water	
http://www.health.gov.bc.ca/protect/ehp_recreational_water_quality.html	
Pool Courses	
▪ Fraser Health	www.fraserhealth.ca
▪ Vancouver Coastal Health	www.vch.ca
▪ Resident Managers Training Institute Certified Swimming Pool Operators Certificate Course	http://www.rmti.ca/cspo
▪ Lowry School for Pool and Spa Chemistry	http://www.lowryschools.com
▪ Recreational Facilities Association of BC	http://www.rfabc.com
▪ BC Lifesaving Society	www.lifesaving.bc.ca
▪ ALT International	http://www.leisurerecgroup.com
BC Ministry of Health - BC Health Link Files	
▪ #39: Safety Tips for Swimmers	http://www.healthlinkbc.ca/healthfiles/hfile39.stm
▪ #27b: Hot Tubs: Safe Water Quality	http://www.healthlinkbc.ca/healthfiles/hfile27b.stm
▪ #27a: Hot Tubs: Health & Safety Tips	http://www.healthlinkbc.ca/healthfiles/hfile27a.stm

Web Link
WorkSafe BC Resources ▪ PoolSafe BC http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/poolsafebc.pdf ▪ Emergency Response http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/emergency_response_guide.pdf ▪ Staff Safety – Violence Prevention http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/take_care.pdf ▪ Chlorine Gas http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/chlorine.pdf ▪ Confined Space http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/bk80.pdf ▪ WHIMIS http://www.worksafebc.com/publications/health_and_safety/whmis/assets/pdf/whmis_basics.pdf ▪ Lockout Procedures http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/lockout.pdf ▪ Working Alone http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/BK131.pdf **US Center for Disease Control (CDC)** ▪ Fecal Incident Response http://www.cdc.gov/healthywater/pdf/swimming/pools/fecal-incident-response-recommendations.pdf **National Swimming Pool Foundation (USA)** ▪ General References http://www.nspf.org/en/resources.aspx

Bather Load Calculations

The bather load for your pool can be found on your Pool Data Sheet and may also be noted on your Pool Permit. If you are not able to find your pool data sheet, then you can calculate the bather load for your pool using the information below.

Swimming Pools

- **Imperial: Maximum bathing load = (D/27) + (S/10)**

  Where D = area of swimming pool in sq ft where the water depth is more than 5 ft
  Where S = area of swimming pool in sq ft where the water depth is less than 5 ft.
  Pool depths of less than 2 ft shall not be considered in the calculations.

- **Metric: Maximum bathing load = (D/2.5) + (S/0.93)**

  Where D = area of swimming pool in sq m where the water depth is more than 1.5 m
  Where S = area of swimming pool in sq m where the water depth is less than 1.5 m.
  Pool depths of less than 60 cm shall not be considered in the calculations.

Hot Tubs

Bather load for hot tubs may be determined at a rate of 30 cm (2 ft) of seating per person. *(BC Guidelines for Pool Design – June 2014)*

Spray Parks

The bather load for spray pools should be 1 person per m^2 of spray pad surface. *(BC Guidelines for Pool Design – June 2014)*

Location of Flow Rate Information

Pool Data Sheet – Sample 1 (Page 1 of 2)

POOL DATA SHEET
(Metric units may be used; all units of measurement must be shown clearly)

NAME OF POOL:			**Address of Pool (Civic):**		
Lap Pool/ Hot Tub/ Wading Pool/ Others:					
Indoor:	**Outdoor:**		**City or Town:**		
Owners (Legal Corporate) : Name: Phone and email: Address:			**Designer:** Name: Phone and email: Address:		
			Prof. Eng.	**Arch.**	
Pool Area: sq.ft	**Deck Area:** sq.ft		**Water Depth (ft.) :**	Min.	Max.
Maximum Bathing Load:	Shallow (S)		Deep (D)	Total:	
Pool Volume (USGPM) :			Pool Basin Colour:		
Turnover (hours) :			Design recirculation flow rate (USGPM / min.)		
Re-circulating Pump - Make & Model:			Flow 24 USGPM at	ft. TDH	
Hydro-Air Pump – Make & Model:			Flow 100 USGPM at	ft. TDH	
Other Pumps (Spray Feature, Waterslide Pumps etc…) – Make & Model:					
			Flow USGPM at	ft. TDH	
			Flow USGPM at	ft. TDH	
			Flow USGPM at	ft. TDH	
FILTERS: Sand	D.E.	Pressure	Vacuum	Gravity	NSF Approved: Yes / No
Filter Make and Model:			Number of filters:	Number of elements:	
Surface area (ea. Filter): sq. ft.			Total area (all filters): sq. ft.		
Surface area (ea. Element): sq. ft.			Total area (all elements): sq. ft.		
Rate of Filtration (USPM / ft.^{2}): (≤15 USGPM / sq. ft.)			Rate of Backwash (USPM / ft.^{2}):		
Total Filter Capacity (Rate of filtration x total area) USGPM					

For Reference Only:
Example Calculation

Jet Suction Velocity

$$\frac{(24 + 100) \times .385}{2 \times 42} = 0.56 \text{ cps}$$

Recirculation Flow = 24 IGPM

Hydro Air Flow = 100 IGPM

Note: 1 IGM = 1.2 US GPM
(most flow meters are US GA)

Flow rate found here

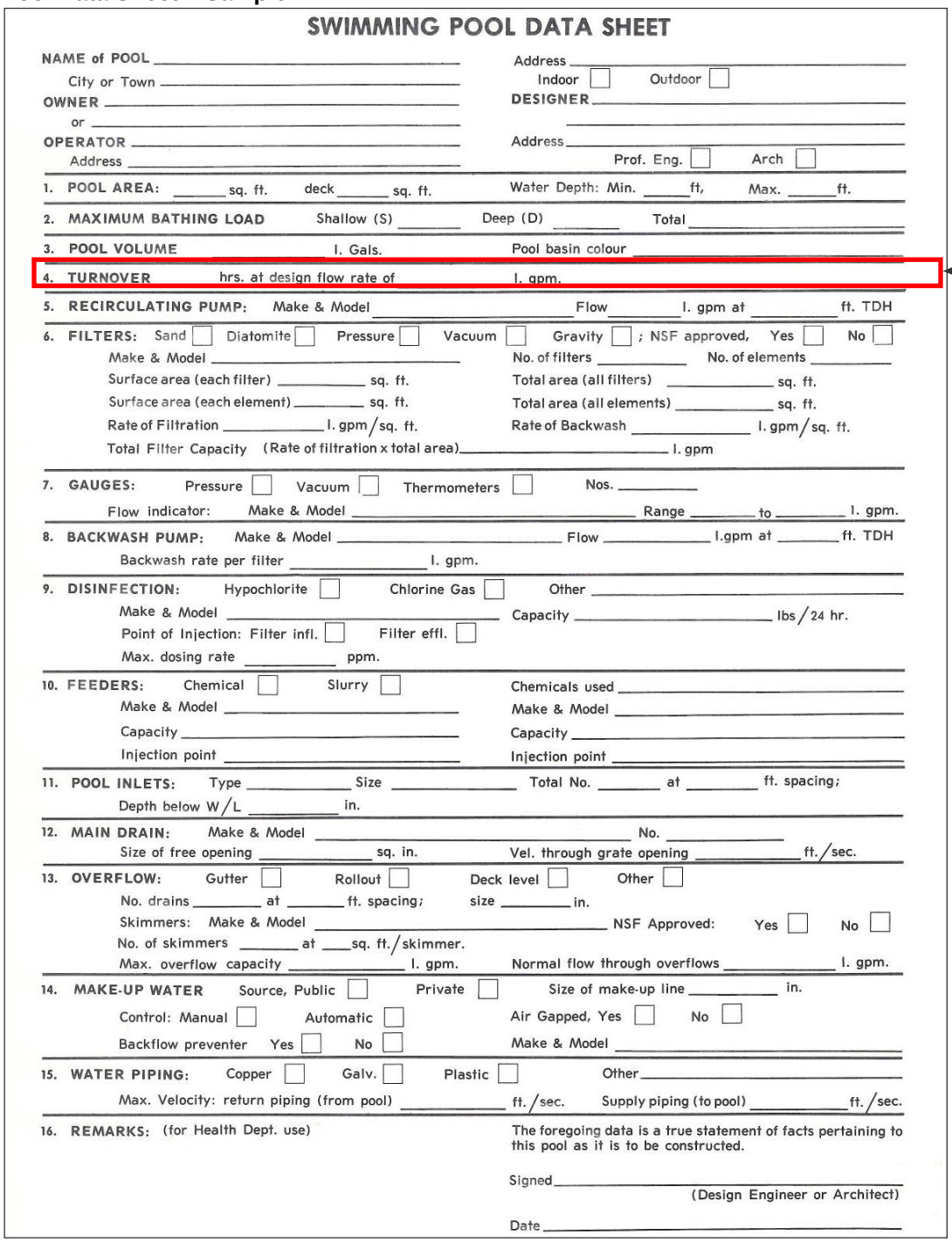
Continued on page 2

Pool Data Sheet – Sample 1 (Page 2 of 2)

GAUGES:	Pressure	Vacuum	Thermometers	Nos.
Flow Indicator:	Make & Model:		Range (USGPM) :	to
Backwash Pump - Make & Model:			Flow :	USGPM at ft. TDH
Backwash rate per filter (USGPM)				
DISINFECTION:	Hypochlorite	Chlorine Gas	Other:	
Make and Model:		Capacity (lbs. / 24 hr.)		
Point of Injection:	Filter Influent / Filter Effluent			
Maximum dosing rate (ppm):				
FEEDERS:	Chemical	Slurry	Chemicals used:	
Make and Model:		Make & Model:		
Capacity:		Capacity:		
Injection point:		Injection point:		
POOL INLETS:	Type:	Size:	Total No. at	ft. spacing
Depth below water level (in.) (must be deeper than 24" or nearest pool floor if water depth is ≤ 24"; floor inlets must be used if pool sidewalls are more than 44' apart)				
MAIN DRAIN: (minimum 2 drains per pools)	Make and Model:		No.	
Flow from Re-circulating Pump (USGPM)		Flow from Hydro-Air Pump (USGPM)		
Size of free opening sq. in. (total of all drains)		Velocity through grate opening ft / sec		
DRAIN FOR HYDRO-AIR PUMPS (for Whirlpool, if separate from main drain):	Make and Model:		No.	
Size of free opening sq. in.		Velocity through grate opening ft. / sec.		
Expand and List all drains if more than one pump draws from more than two drains in spaces that follow, use additional page if req.				
DRAIN:	Make and Model:		No.	
Size of free opening sq. in.		Velocity through grate opening ft. / sec.		
Size of free opening sq. in.		Velocity through grate opening ft. / sec.		

Location of Flow Rate Information

Pool Data Sheet – Sample 2



SWIMMING POOL DATA SHEET

NAME of POOL _____ Address _____
City or Town _____ Indoor ☐ Outdoor ☐
OWNER _____ DESIGNER _____
or _____
OPERATOR _____ Address _____
Address _____ Prof. Eng. ☐ Arch ☐

1. POOL AREA: _____ sq. ft. deck _____ sq. ft. Water Depth: Min. _____ ft, Max. _____ ft.
2. MAXIMUM BATHING LOAD Shallow (S) _____ Deep (D) _____ Total _____
3. POOL VOLUME _____ l. Gals. Pool basin colour _____
4. TURNOVER hrs. at design flow rate of l. gpm.
5. RECIRCULATING PUMP: Make & Model _____ Flow _____ l. gpm at _____ ft. TDH
6. FILTERS: Sand ☐ Diatomite ☐ Pressure ☐ Vacuum ☐ Gravity ☐ ; NSF approved, Yes ☐ No ☐
   Make & Model _____ No. of filters _____ No. of elements _____
   Surface area (each filter) _____ sq. ft. Total area (all filters) _____ sq. ft.
   Surface area (each element) _____ sq. ft. Total area (all elements) _____ sq. ft.
   Rate of Filtration _____ l. gpm/sq. ft. Rate of Backwash _____ l. gpm/sq. ft.
   Total Filter Capacity (Rate of filtration x total area) _____ l. gpm
7. GAUGES: Pressure ☐ Vacuum ☐ Thermometers ☐ Nos. _____
   Flow indicator: Make & Model _____ Range _____ to _____ l. gpm.
8. BACKWASH PUMP: Make & Model _____ Flow _____ l.gpm at _____ ft. TDH
   Backwash rate per filter _____ l. gpm.
9. DISINFECTION: Hypochlorite ☐ Chlorine Gas ☐ Other _____
   Make & Model _____ Capacity _____ lbs/24 hr.
   Point of Injection: Filter infl. ☐ Filter effl. ☐
   Max. dosing rate _____ ppm.
10. FEEDERS: Chemical ☐ Slurry ☐ Chemicals used _____
    Make & Model _____ Make & Model _____
    Capacity _____ Capacity _____
    Injection point _____ Injection point _____
11. POOL INLETS: Type _____ Size _____ Total No. _____ at _____ ft. spacing;
    Depth below W/L _____ in.
12. MAIN DRAIN: Make & Model _____ No. _____
    Size of free opening _____ sq. in. Vel. through grate opening _____ ft./sec.
13. OVERFLOW: Gutter ☐ Rollout ☐ Deck level ☐ Other ☐
    No. drains _____ at _____ ft. spacing; size _____ in.
    Skimmers: Make & Model _____ NSF Approved: Yes ☐ No ☐
    No. of skimmers _____ at ___ sq. ft./skimmer.
    Max. overflow capacity _____ l. gpm. Normal flow through overflows _____ l. gpm.
14. MAKE-UP WATER Source, Public ☐ Private ☐ Size of make-up line _____ in.
    Control: Manual ☐ Automatic ☐ Air Gapped, Yes ☐ No ☐
    Backflow preventer Yes ☐ No ☐ Make & Model _____
15. WATER PIPING: Copper ☐ Galv. ☐ Plastic ☐ Other _____
    Max. Velocity: return piping (from pool) _____ ft./sec. Supply piping (to pool) _____ ft./sec.
16. REMARKS: (for Health Dept. use)

The foregoing data is a true statement of facts pertaining to this pool as it is to be constructed.

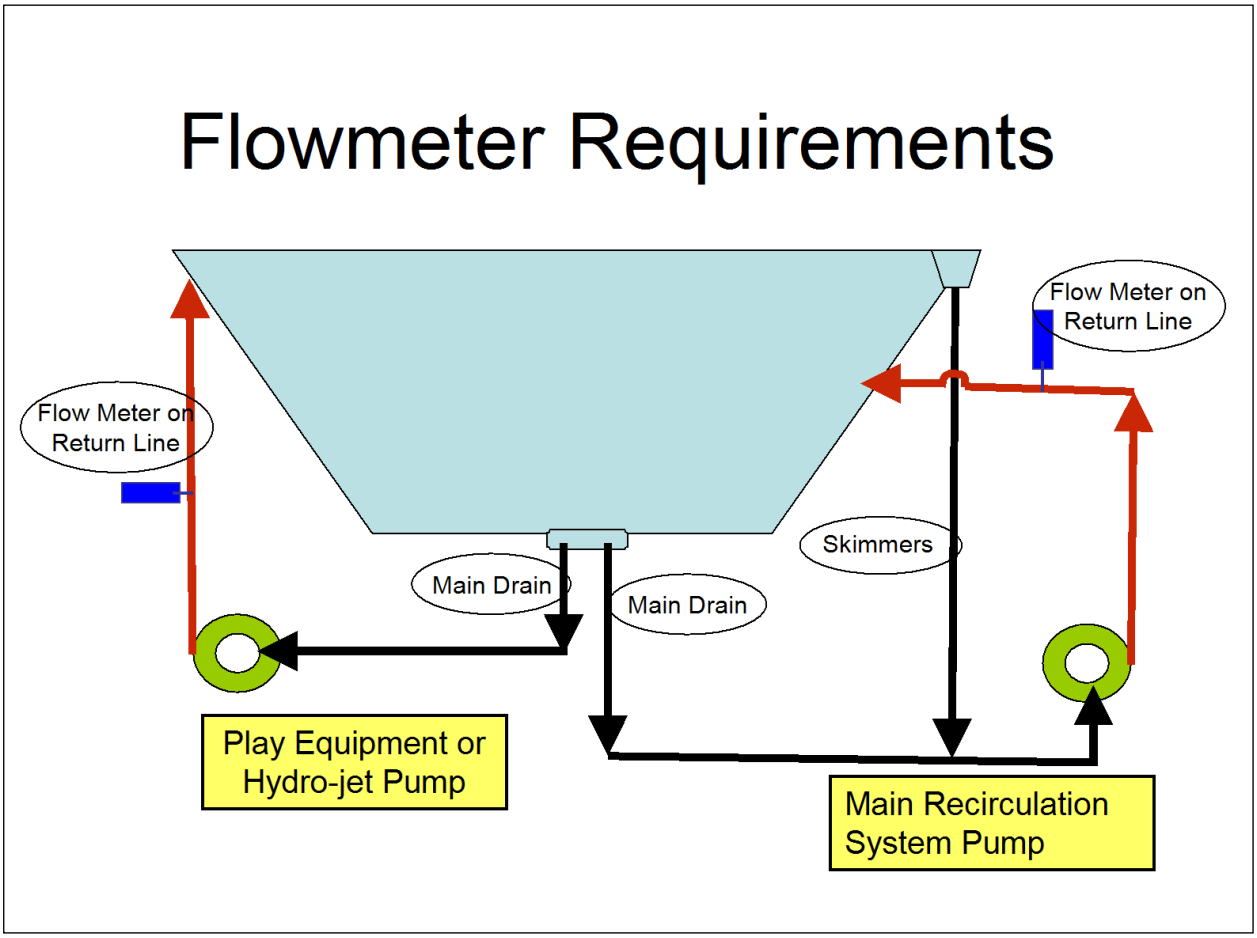
Signed _____
(Design Engineer or Architect)

Date _____

Flow rate found here

Diagram: Flow Meter Location

The location of flowmeters in a typical hot tub or pool with play equipment.



Timothy – Question to Committee:

Should this diagram be added to the specific section it pertains to?

Sample Forms – Incident Reporting

Example 1

Minor Accident Report

Individual Information		
Name:	Age:	Sex: ☐ Male ☐ Female
Address:		Phone Number: ( )
Date of Accident:	Time of Accident:	Pool Information (location, pool name, etc.) ( )

Location of Accident	**Describe Where and What Occurred**
☐ Shallow End	
☐ Deep End	
☐ Diving Boards	
☐ Pool Deck / Sidewalk	
☐ Change Rooms	
☐ Outside Pool Grounds	
☐ Open Lawn	
☐ Fence	
☐ Among Trees	
☐ Wading Pool	
☐ Paddling Pool	
☐ Hot Tub	
☐ Other (please specify)	

Action Immediately Taken: (Include equipment used) _____

_____

Site and Nature of Injury: (Include condition of subject and first aid) _____

_____

Names and Addresses of other Witnesses:

Involved: _____

Witnesses: _____

Other: _____

Other Staff on Duty for that Activity or Time Period:

Name: _____

Name: _____

Name: _____

Name: _____

Name and Position of Person Making Report:

Name: _____ Position: _____

Signature: _____ Date Signed: _____

Example 2

Incident Reporting Form	
Date:	**Time:**
Person filling out form:	

Individuals involved *(attach another sheet if more space is needed)*		
Name	**Contact #**	**Age**
	( )	
	( )	
	( )	

Description of what occurred *(attach another sheet if more space is needed)*

Actions taken *(attach another sheet if more space is needed)*

Follow up needed ☐ **Yes** ☐ **No**

Follow up completed or incident resolved *(Date)*
Notes:

Manager or person in charge	
Print name	Signature

Reagent Shelf List

Some reagents are coming out with expiry dates. However, if the reagent does not have an expiry date, the table below lists the suggested reagent shelf life for common test kits in use. Please note that one test kit is not endorsed over another and information is simply provided as examples.

- **Taylor Test Kit Reagents**

  www.taylortechnologies.com/ChemistryTopicsCM.SAP?ContentID=26

Name of Reagent	Shelf life (months)
R-0001 DPD #1	6
R-0002 DPD #2	6
R-003 DPD#3	6
R-0008 Total Alkalinity	6
R-0012 Hardness	6
R-0007 Thiosulphate	12
R-0009 Sulphuric acid	12
R-0010 Calcium Buffer	12
R-0011L Calcium indicator Liquid	12
R-0013 Cyanuric Acid	12
R-0854 Total hardness	12
R-0870 DPD Powder	12
R-0871 DPD Titrating Reagent	12
R-0004 Phenol red	12

- **La Motte Test Kit Reagents**

  The La Motte website has detailed information on how to determine the reagent shelf life.

  www.lamotte.com/support/reagent_refills_shelf_life.html

Pool Water Testing and Maintenance Log – Sample 1

Dates Year | Name of Pool | Location

Date Time	Initials	Free Chlorine	Total Chlorine	Combined Chlorine	pH	Total Alkalinity	Calcium Hardness	Cyanuric Acid	Flow Rate	Clarity	Temperature			Comments/Notes 1. Chemicals Added / amount 2. Make-up water added 3. Backwashed / cleaned filters 4. Vacummed 5. Mechanical breakdown 6. Swimmer incident or complaint 7. Fecal accidents 8. Other tests / maintenance / issues

Note: Bather load to be based on # of patrons in pool at time of testing.

Pool Water Testing Maintenance Log - Page 2 of 2

Recommended Parameters for Swimming Pool and Hot Tub Water Chemistry Parameters:

Parameters	Minimum	Maximum	Test Frequency
Free Chlorine (<30ºC)	0.5 ppm	5.0 ppm	Min. 2x/day
Chlorine Cyanurate (<30ºC)	1.0 ppm	5.0 ppm	Min. 2x/day
Bromine (<30ºC)	1.5 ppm	5.0 ppm	Min. 2x/day
Combined Chlorine	< 1.0 ppm	< 1.0 ppm	Min. 2x/day
pH	7.2	7.8	Min. 2x/day
Total Alkalinity	80 ppm	120 ppm	At least weekly
Calcium Hardness	180 ppm	220 ppm	Weekly
Cyanuric Acid (outdoor pools only)	30 ppm	50 ppm	At least weekly

Notes:

Pool Record Sheet (Weekly) – Sample 2

Name of Pool:		Operator:
Week of:	Year:	Emergency Phone Number:

Day		pH	Chlorine Residual * (<30°) Min 0.5 ppm unstabilized Min 1.0 ppm stabilized		Combined Chlorine	Alkalinity	Calcium Hardness	Cyanuric Acid	Temperature		Flow Rate	Filter Backwashed	Hair Strainer Cleaned	Basin Vacuumed	Water Clear	Initial
		(7.2 – 7.8)	Free (ppm)	Total (ppm)	(<1.0 ppm)	(80–120 ppm)	(180-220 ppm)	(<80 ppm)	Pool - Max 37°C Hot Tub-Max 40 °C		USGPM	minutes	Yes/No	Yes/No	Yes/No	
Monday	am								am				Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	
	pm								pm							
Tuesday	am								am				Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	
	pm								pm							
Wednesday	am								am				Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	
	pm								pm							
Thursday	am								am				Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	
	pm								pm							
Friday	am								am				Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	
	pm								pm							
Saturday	am								am				Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	
	pm								pm							
Sunday	am								am				Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	
	pm								pm							

Chemical Record		
Date	Chemical Added / Product Name	Amount Added (show units)

Date	**Comments** (include accidents, equipment failures, shutdowns, repairs, ground fault tests, closures, etc.)

* Upper target for chlorine residual should be 5.0 ppm. Pool should be closed when chlorine > 10.0 ppm
* For pool temperatures >30°C Chlorine Residual: Min 1.5 ppm unstabilized; Min 2.0 ppm stabilized

Monthly Pool Record – Sample 3

Month / Year _____

Date	Clarity: Main Drain Visible	Temperature less than 30°C						pH (7.2 – 7.8)		Alkanility (min 1x/week) (less than 80 ppm)	Cyanuric Acid (min 1x/week) (less than 80 ppm)	Temperature ≤ 99°F / 37°C	Chemical Added	Backwash Drained
		Total Chlorine (TC)		Free Chlorine (FC) (min 0.5 ppm with CYA 1.0 ppm)		Combined Chlorine (TC – FC = CC) (less than 1.0 ppm)								
		am	pm	am	pm	am	pm	am	pm					
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Revised: January 2013

Monthly Hot Tub Record – Sample 4

Month / Year _____

Date	Clarity: Main Drain Visible	Temperature more than 30°C						pH (7.2 – 7.8)		Alkanility (min 1x/week) (less than 80 ppm)	Cyanuric Acid (min 1x/week) (less than 80 ppm)	Temperature ≤ 104°F / 40°C	Chemical Added	Backwash Drained
		Total Chlorine (TC)		Free Chlorine (FC) (min 1.5 ppm with CYA 2.0 ppm)		Combined Chlorine (TC – FC = CC) (less than 1.0 ppm)								
		am	pm	am	pm	am	pm	am	pm					
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Revised: January 2013

POOL WATER PARAMETERS

Disinfectant	Type of Residual	Temperature (Minimal ppm level)	
		≤ 30°C	> 30°C
Chlorine (Unstabilized) **	F A C	0.5 ppm	1.5 ppm
Chlorine cyanurate (i.e. pucks) **	F A C	1.0 ppm	2.0 ppm
Bromine **	Bromine	1.5 ppm	2.5 ppm

Parameter		Required Range	Ideal Range
Free Available Chorine (FAC) **		(see above)	Minimum: (see above) Maximum: 5ppm
Combined Chlorine (CAC) **		< 1.0ppm	0 ppm
Cyanuric Acid *		< 80 ppm	30 - 50 ppm
pH **		7.2 - 7.8	7.2 - 7.8
Total Alkalinity (TA) *		80 – 120 ppm	80 – 120 ppm
Calcium Hardness (CH)		N/A	180 – 220 ppm
TDS		N/A	200 – 800 ppm
Temperature	Swimming Pool	≤ 37°C (98°F)	≤ 37°C (98°F)
	Hot Tub	≤ 40°C (104°F)	≤ 40°C (104°F)

Adjustment Summary

Parameter	To Increase	To Decrease
T A	Add Sodium Bicarbonate	Add Muriatic Acid
C H	Add Calcium Chloride	Dilute with soft water
pH	Add Sodium Carbonate (Soda Ash)	Add Muriatic Acid or Sodium Bisulphate

*** Pool Regulation requires at least weekly testing** **** Pool Regulations requires at least twice a day testing**

General Maintenance Checklist

The following are some of the items that should be included in your schedule *(add items as required)*:

- ☐ Pool basin
  - ☐ Checked for entrapment hazard *(gap between 3.5 and 9")*
  - ☐ Check water intakes for possible suction hazards
  - ☐ Check for any safety hazard such as sharp projections
  - ☐ Main drain is secure and in good repair
  - ☐ Checked for signs of deterioration *(missing tiles, cracks etc.)*
  - ☐ Skimmer basket cleaned
- ☐ Handrails, ladders, deck equipment secure
- ☐ Water level is correct for removal of floating debris
- ☐ Depth markings clearly visible
- ☐ Steps are clearly marked in a contrasting color
- ☐ Floors are in good condition with non slip surfaces, free of pooled water, free of ice in freezing conditions
- ☐ Adequate fencing, doors, gates, alarms to prevent unauthorized entry
- ☐ Drinking water fountain is operational
- ☐ First aid kit well stocked
- ☐ Rescue equipment in good condition and easily accessible
- ☐ Signage is in place
- ☐ Permit posted
- ☐ Shower temperature < 49ºC
- ☐ Ground fault circuit interrupter for underwater lights functioning
- ☐ Backflow prevention devices are functional *(i.e. air gap, reduced pressure backflow assembly, hose bib vacuum breaker, annual testing or reduced backflow assembly)*
- ☐ Clock working and in place
- ☐ Adequate lighting for pool area
- ☐ Pool temperature ≤ 37ºC
- ☐ Hot tub ≤ 40ºC
- ☐ Flow meters working properly
- ☐ Drains secured, not broken
- ☐ Floating weirs

Pool Sign Sample

Health & Safety Rules for Pools

Before entering our pool YOU MUST:

- Ensure that you are not ill, including diarrhea, vomiting, open sore(s), bandages, head colds, discharging ears or noses, or ear infections. Remain out of the pool until 48 hours after symptoms stop.
- Take a cleansing shower
- Wear clean and appropriate bathing attire
- Ensure infants and toddlers wear swim diapers and/or elastic swim pants

When in our pool YOU MUST NOT:

- Contaminate or foul the pool (e.g. urinate / defecate)
- Run, fight, or engage in any activities that may cause an injury
- Dive into the pool, except in designated areas
- Bring glass into the pool area
- Use or be under the influence of alcohol or other intoxicants

Supervision of CHILDREN:

- All children less than 7 years of age must be closely supervised (within arm's reach at all times) by a responsible person who is at least 16 years of age
- Ensure one responsible person who is at least 16 years of age supervises a maximum of 3 children who are less than 7 years of age

Please REPORT to the pool manager or lifeguard:

- Any injury suffered while in the pool enclosure
- Any contamination or fouling (e.g. urination or defecation) of the pool
- Pool Manager Contact: _____

  Phone Number: _____

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Printshop #256708 July 2014 - Pool Version

Hot Tub Sign Sample

Health & Safety Rules for Hot Tubs

Maximum Water Temperature for a Hot Tub is 40°C (104°F)

Before entering our hot tub YOU SHOULD:

- Consult with your doctor if you:
  - Are elderly
  - Have heart disease, diabetes or high or low blood pressure
  - Are taking medication for cardiovascular or nerve disorders
  - Are pregnant
- Always have someone with you

When in our hot tub YOU MUST:

- Always enter and leave the hot tub slowly and cautiously
- Keep long hair out of water, away from all underwater fittings, especially suction fitting

When in our hot tub YOU MUST NOT:

- Dive into the water
- Stay in hot tub for more than 10 minutes at one time (long exposure may result in nausea, dizziness or fainting)
  Once finished you should:
  - Shower to cool down
  - Then, if you wish, return for another brief stay
- Totally immerse your body
- Use when under the influence of alcohol or other intoxicants

Supervision of Children:

- Keep young children under 7 years of age, especially infants, out of hot tubs as their small bodies overheat too fast
- Children must be constantly supervised - Unsupervised use by children is not allowed

Please REPORT to the pool manager or lifeguard:

- Any injury suffered while in the pool enclosure
- Any contamination or fouling (e.g. urination or defecation) of the pool
- Pool Manager Contact: _____
  Phone Number: _____

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Printshop #256709 July 2014 - Hot Tub Version

Warning – No Lifeguard on Duty

Health and Safety Rules – Provincial Example

HEALTH AND SAFETY RULES

The following are prohibited:

- **entering the pool with an illness, including open sores, bandages, head colds, discharging ears or noses or infected eyes**
- **entering the pool without taking a cleansing shower**
- **running, fighting or engaging in any conduct likely to cause injury in the pool enclosure**
- **contaminating or fouling the pool**
- **failing to report to management an injury suffered while in the pool enclosure**
- **failing to report to management the contamination or fouling of the pool**
- **failing to supervise children for whom one is responsible while in the pool enclosure**
- **diving**

Fecal / Vomit / Body Fluid Response Protocol

Insert procedures specific to your facility and/or your local health department.

You may also refer to the US Center for Disease Control (CDC) website to help you create your facility response protocol.

Weblink: http://www.cdc.gov/healthywater/pdf/swimming/pools/fecal-incident-response-recommendations.pdf

Note: Clean up Protocol for Tot Pools and Baby Vomit

Vomiting in the very young may not be a sign of illness and therefore may not need to follow the standard clean up protocol for vomit. In such cases the infant's parents should be interviewed to determine if the incident was part of a pattern of illness. If it appears the infant was ill, then standard vomit protocol should be followed.