

Lifeguard Positioning Analysis

Grande Cache Recreation Centre

Town of Grande Cache

July 5, 2013



LIFESAVING SOCIETY

The Lifeguarding Experts

GRANDE CACHE RECREATION CENTRE, TOWN OF GRANDE CACHE LIFEGUARD POSITIONING ANALYSIS

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The Lifesaving Society is Canada's lifeguarding expert. The Society works to prevent drowning and water-related injury through its training programs, Water Smart® public education initiatives, water-incident research, aquatic safety management services, and lifesaving sport.

Annually, well over 1,000,000 Canadians participate in the Society's swimming, lifesaving, lifeguard, and leadership training programs. The Society sets the standard for aquatic safety in Canada and certifies Canada's National Lifeguards.

The Society is an independent, charitable organization educating Canadian lifesavers since the first Lifesaving Society Bronze Medallion Award was earned in 1896.

The Society represents Canada internationally as an active member of the royal Life Saving Society and the International Life Saving Federation. The Society is the Canadian governing body for lifesaving sport - a sport recognized by the International Olympic Committee and the Commonwealth Games Federation.

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ABOUT THE LIFESAVING SOCIETY

- Saving lives for over 100 years

The Lifesaving Society is a full service provider of programs, products, and services designed to prevent drowning. The Society saves lives and prevents water-related injuries through its training programs, Water Smart® public education, drowning research, aquatic safety management and lifesaving sport. The Society is a national volunteer organization and registered charity composed of ten provincial/territorial branches, tens of thousands of individual members, and over 4,000 affiliated swimming pools, waterfronts, schools, and clubs.

The Society has been teaching swimming, water safety and water rescue in Canada since 1986. Established in England (1891) as the Swimmers' Lifesaving Society, it became The Royal Lifesaving Society in 1904. Today, it is known simply as the Lifesaving Society. The Lifesaving Society is a leader and partner in the delivery of water safety education throughout Canada and around the world.

Teaching Canadians to save themselves and rescue others

Annually 1,000,000 Canadians participate in the Lifesaving Society's swimming, lifesaving, lifeguard, first aid, and leadership programs. Each year, the Society certifies thousands of instructors who provide the leadership for its training programs. Over 30,000 Canadians earn the Society's Bronze Medallion each year. As Canada's lifeguarding experts, the Lifesaving Society sets the standard for lifeguard training and certifies Canada's National Lifeguards.

Making Canadians Water Smart

The Lifesaving Society focuses Water Smart drowning prevention efforts on people most at risk - like men fishing in small boats - or on those who can make a significant difference, such as parents of young children. The Society delivers Water Smart messages through its swim program, through the media and community action. The Society's Swim to Survive® Program provides the essential minimum skills required to survive an unexpected fall into deep water.

Drowning Research

The Lifesaving Society conducts research into fatal and non-fatal drowning, aquatic injury and rescue interventions. Ongoing research and analysis supports the Society's evidence-based water rescue training and Water Smart drowning prevention education.

Setting the Standard

The Lifesaving Society establishes aquatic safety standards and consults on aquatic safety issues for the aquatic industry, governments and the judiciary. The Society offers a suite of services to help aquatic facility operators maintain and improve safe pool and waterfront operations. The Society performs aquatic safety audits and serves as experts in legal cases involving aquatic safety.

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Lifeguard Positioning Analysis

Grande Cache Recreation Centre, Town of Grande Cache

1 LIFEGUARD POSITIONING ANALYSIS PURPOSE

The Town of Grande Cache retained the Lifesaving Society to undertake an audit of lifeguard positioning at the Grande Cache Recreation Centre.

It was agreed that the purpose of the lifeguard positioning analysis was to maximize the safety, supervision and customer service for guests of the Grande Cache Recreation Centre. The lifeguard positioning analysis would identify what steps should be taken to minimize the risk of drowning or serious water-related injuries within the area of lifeguard surveillance systems.

The scope of the topical audit would include facilitated discussions and activities with management and staff.

2 LIFEGUARD POSITIONING ANALYSIS PROCESS

2.1 FACILITATOR

The Lifesaving Society was represented by Kelly Carter, Standards and Safety Manager as the Chief Auditor, and Michelle Osinchuck a certified aquatic safety auditor. The Lifesaving Society has extensive experience in aquatics and facility evaluation.

The Town of Grande Cache appointed Jacquie Hill, Leisure Services Coordinator as the primary contact for the auditors.

2.2 LIFEGUARD POSITIONING ANALYSIS COMPONENTS

The auditors followed a process that included:

- Guided facilitation with staff at various levels within the aquatic facility
- Debriefing with management
- Completion of a draft and final report

2.3 LIFEGUARD POSITIONING ANALYSIS FACILITATION PROCESS

The auditors facilitated the lifeguard positioning analysis with nine (9) staff on June 23, 2013. The positioning analysis took place during a quiet public swim. The questions that were asked were:

1. What is the role of National Lifeguards?

Answers provided by staff:

- "Safety of patrons, first aid, role model, maintenance, janitorial, lessons, paperwork, report cards, chemical additions, customer experience, babysit, customer service in general, discipline, and are like parents."

2. Who else has a safety and supervision role in the facility?

Answers provided by staff:

- "Operations: they come and help, escort people out, safety and security, chemical additions, janitorial and clean change rooms."
- "Custodians: clean change rooms, call lifeguards for first aid."
- "Front Desk: customer service, bookings, supervise upstairs, wristband everyone under 7, inform lifeguards of complaints, inform lifeguards of angry patrons."
- "Supervisors: make sure policy and procedures are followed, conduct follow up, hand out suspensions."
- "Summer Camp Councilors: go in water with kids, take care of the group, discipline as needed."

3. What are your facility demographics?

Answers provided by staff:

- Most common user group: "seniors and kids 17 & under"

Weekdays

- Early Morning: "aquafit and school lessons"
- Morning: "aquafit, toddler splash, lane swim, school lessons"
- Afternoons: "children and families, adults and parents"
- Evening: "swim club, fitness/lane swimmers, water running, water zumba, kids 8-15 during public swim"

Weekends

- "Families and adolescents"

4. How do you decide to adjust your lifeguard positions and who would make this decision?

- "Positions are posted in the staff office, guards can decide to adjust positioning based on user location and density."

5. Do you have any concerns that you want addressed through the Lifeguard Positioning Analysis?

- "No"

6. Where do you think your blind spots and glare are located?

- Lifeguards drew what they thought their blind spots and glare would be on a map of the pool, prior to testing their predictions.

The next step in the facilitation was to position the lifeguards on the pool deck and experience the ability to scan and determine blind spots from the existing lifeguard positions. A manikin was positioned around the pool to identify where blind spots and glare are located. The exercise was very beneficial and enlightening for the staff.

This process was followed by a debriefing; staff were then asked the following questions:

1. Can you lifeguard the pool with one lifeguard only? Answers: "No"
2. Can you lifeguard the pool from standing in one spot? Answers: "No"
3. What must you do for surveillance to manage blind spots and glare? Answers: "Move"

The debriefing included staff drawing where blind spots were found based on the exercise on a large map of the pool for each of the lifeguard positions. Staff then identified changes and suggestions that would be beneficial to help reduce the amount of blind spots and glare in their lifeguard supervision system.

2.4 REPORTING PROCESS

Drawing on all documentation supplied by the facility, facilitation notes, assessments and observations, the Lifesaving Society has documented a report for review by the Town of Grande Cache.

Upon receiving feedback and updated information from the facility, the final report will be formalized and delivered for consideration of implementation.

3 LIFEGUARD POSITIONING ANALYSIS OUTCOMES

3.1 BLIND SPOTS

Blind spots exist in multiple areas of the facility, and include areas where glare was present. Blind spots are indicated in the attached charts are based on observations from the Lifeguards during the Lifeguard Positioning Analysis.

Lifeguard Position 1

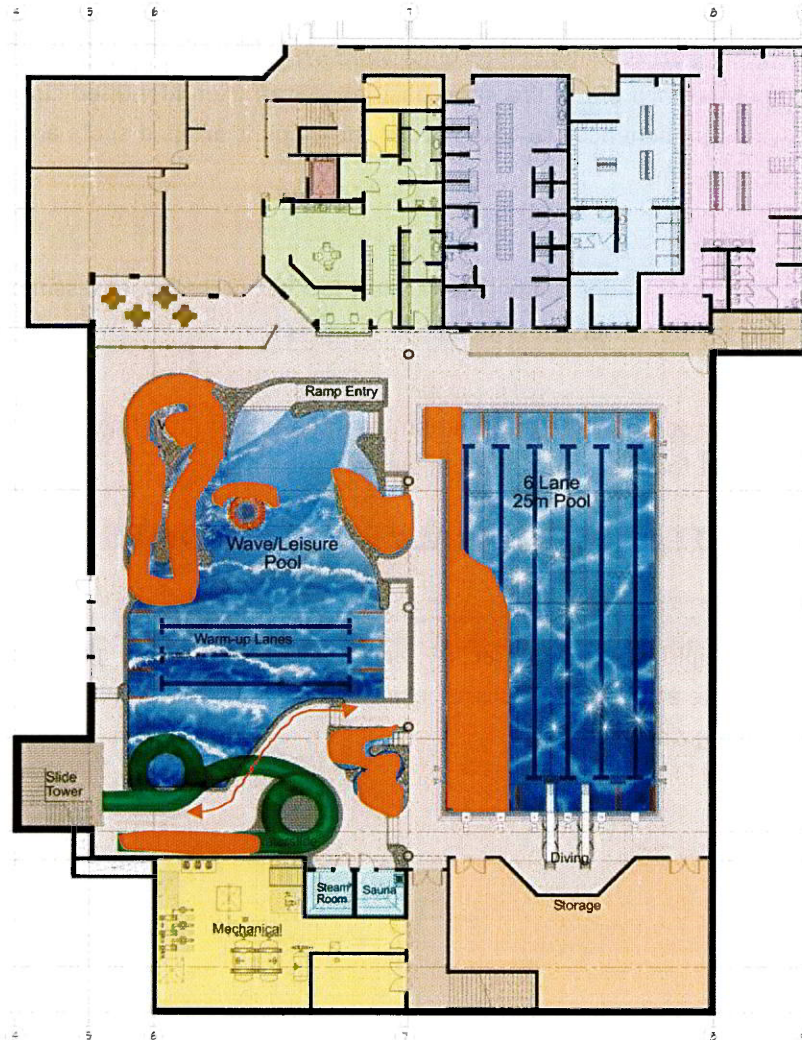


Lifeguard pathway



Blind spots

- "When standing at the edge of the pool the manikin was clearly visible under your feet, but not visible when stepping back onto the skimmers."
- "Difficult to see manikin on the end of the lane markings (blue T's)"



Difficult to see manikin by rocks



Can not see manikin in alcove

Lifeguard Position 2

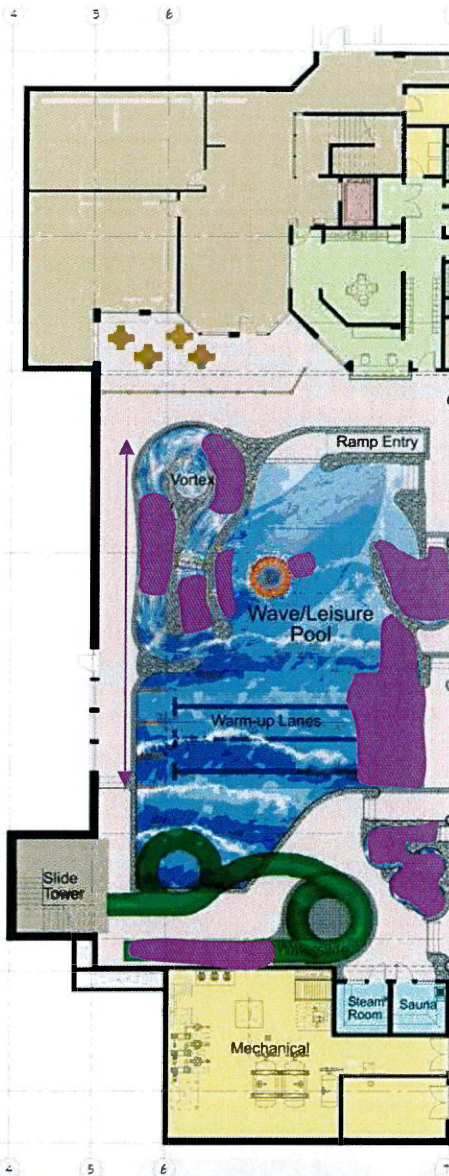


Lifeguard pathway



Blind spots

- "Tough to see the manikin against the black crosses in the shallow end (on end walls)"
- "Manikin disappears on the lane line markings"



Can not see manikin in alcove



Can not see manikin in lazy river with jets on

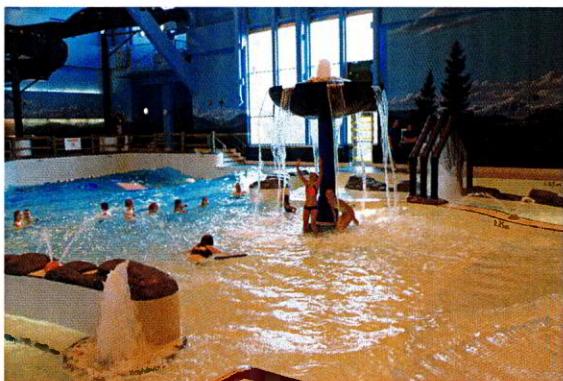
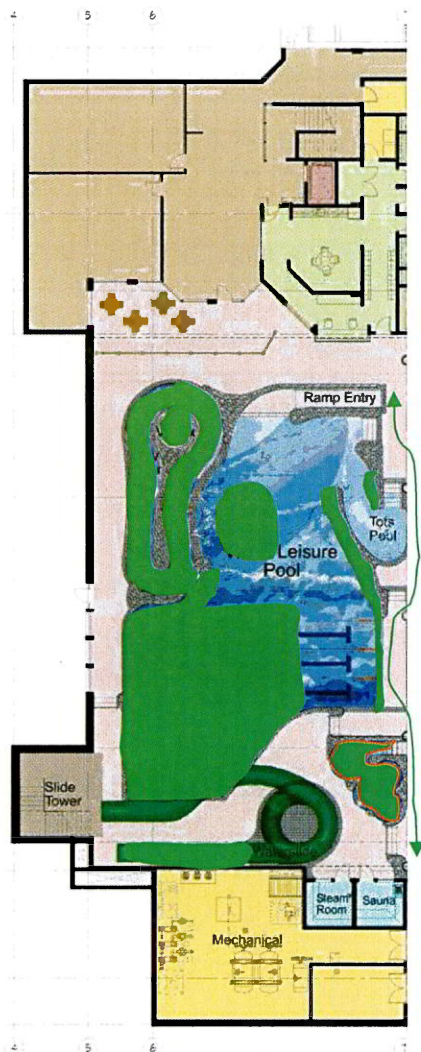
Lifeguard Position 3

↔ Lifeguard pathway



Blind spots

- "Along the walls it was tough to see the manikin"
- "Glare is really bad in the zero depth area"
- "Toys in the zero depth area makes it tough to see, they block a lot of the view"



Difficult to see manikin under tea cup



Difficult to see manikin in hot tub with jets on

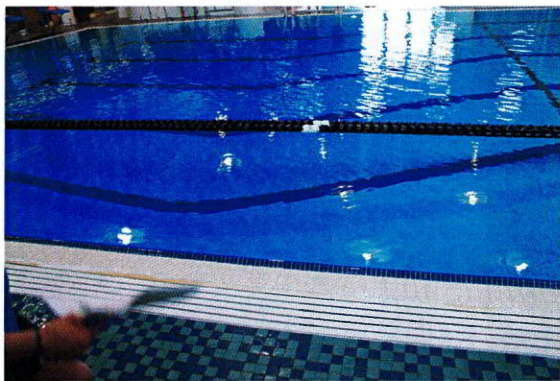
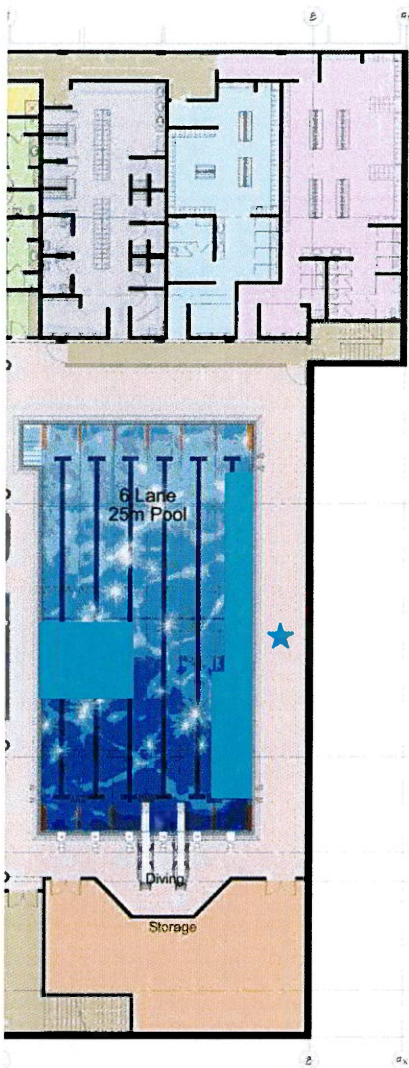
Lifeguard Position 4

★ Lifeguard pathway



Blind spots

- "Can not see in the hot tub"
- "It is extremely difficult to see the manikin in the deep end"



Can not see manikin against wall in front of chair



Difficult to see manikin by stairs

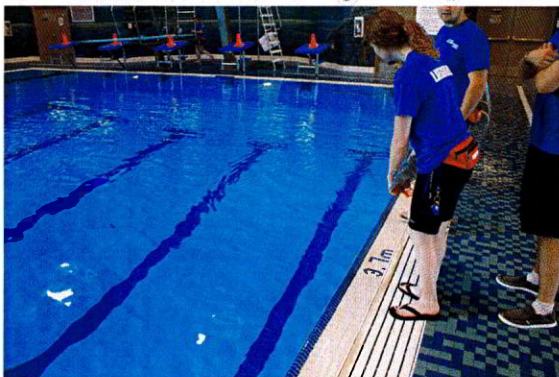
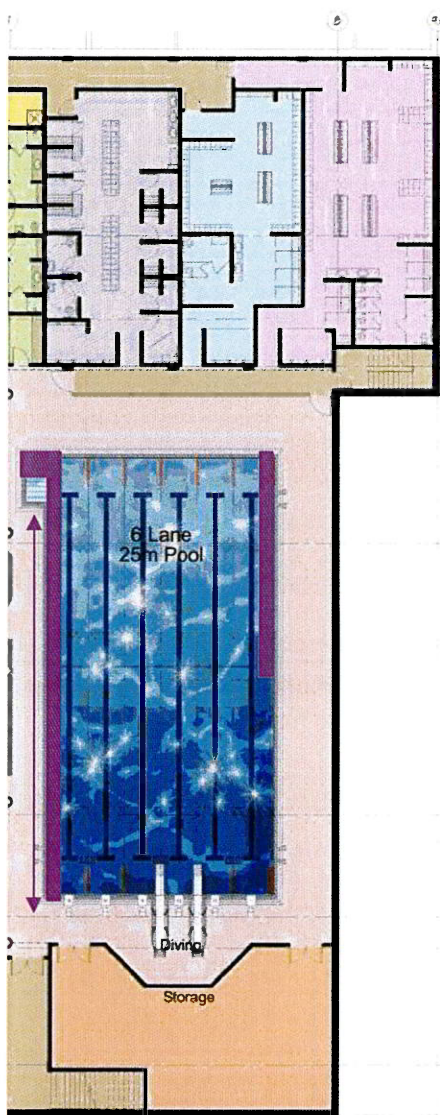
Lifeguard Position 5

↔ Lifeguard pathway



Blind spots

- "Can not see in the hot tub"
- "It is extremely difficult to see the manikin in the deep end"



Must step and lean over edge to see manikin



Difficult to see manikin in front of stairs

3.2 GLARE

There are a number of areas in the pool that are affected by glare. Lifeguards need to recognize glare on the water and adjust their positioning accordingly. The use of pathways helps reduce the effects of glare, as lifeguards move the glare changes.

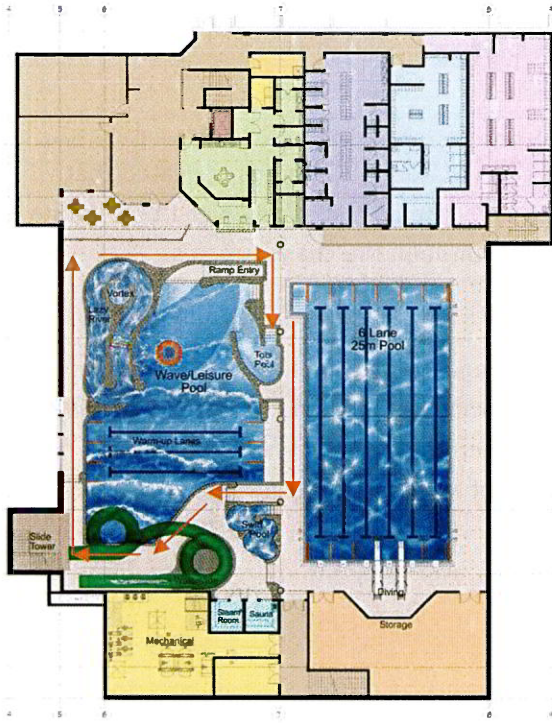
3.3 ROTATION NOTES

All lifeguards understood the facility procedure for rotation. Lifeguards indicated that when you come on for your shift you go to position one (1) by the hot tub, they would then rotate clockwise to other positions as needed and end with a walk through the change rooms.

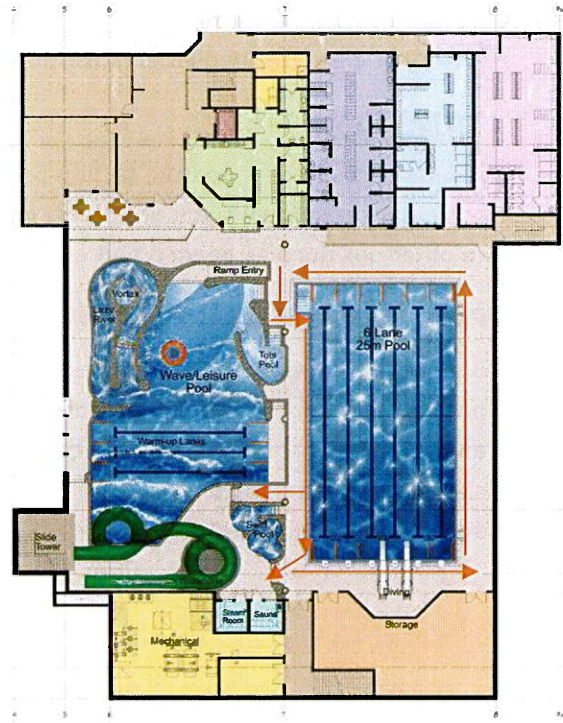
3.4 POSSIBLE LIFEGUARD PATHWAYS

Suggested pathways were identified during the lifeguard positioning analysis and serve as one possible procedure for lifeguard surveillance, pathways, positioning, and rotation. Ongoing facility analysis and adaptation based on bather loads, user demographics, and operational realities should be taken into consideration by management and lifeguards in formulating the safety and supervision plan.

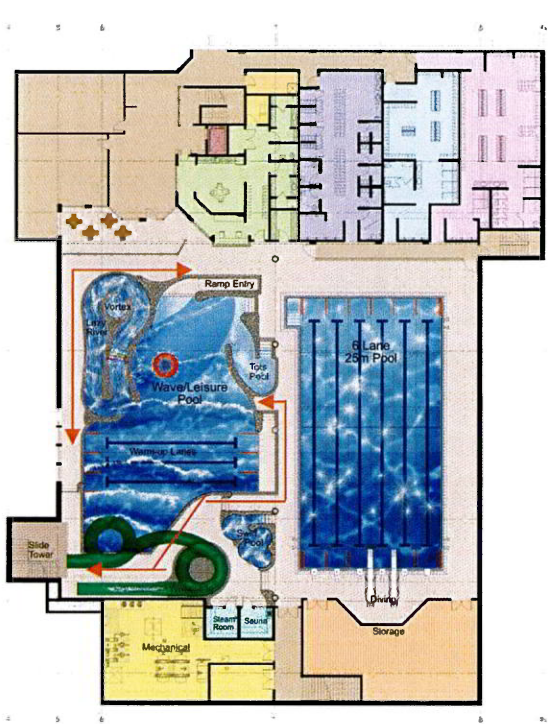
One Lifeguard Wave Pool



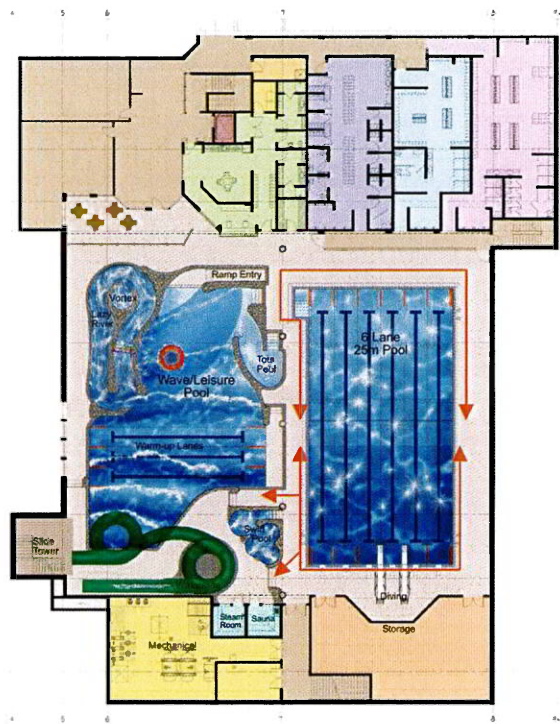
One Lifeguard Competition Pool



Two Lifeguards Wave Pool



Two Lifeguard Competition Pool

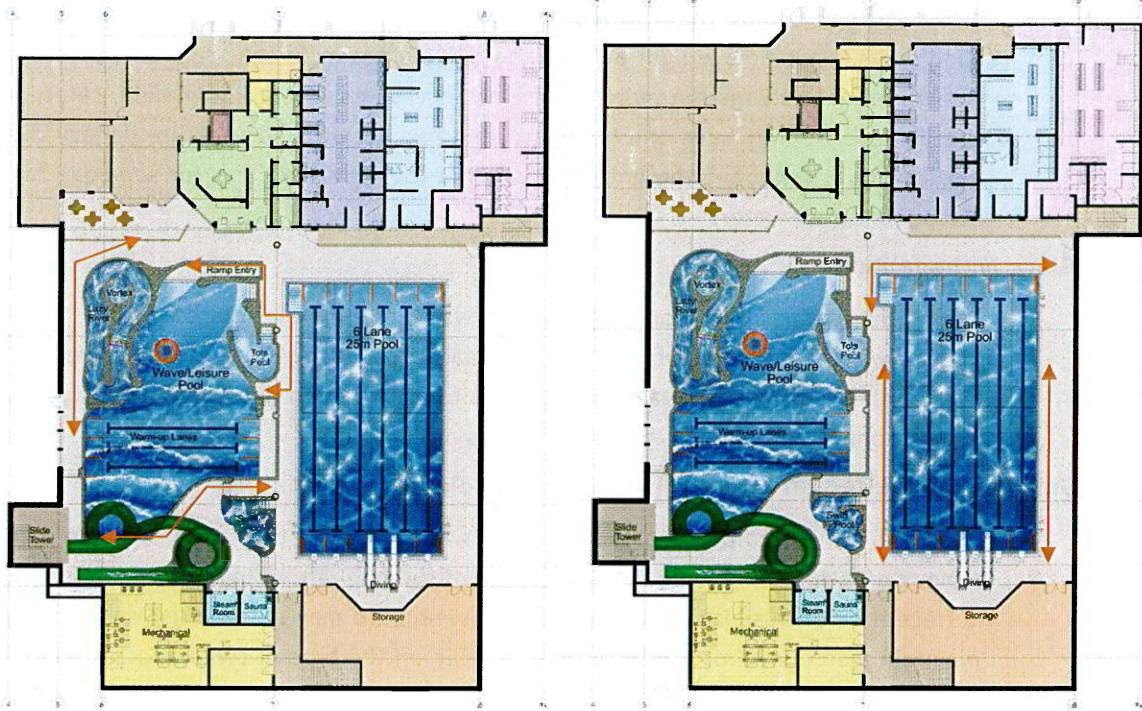


Legend

↔ Lifeguard Pathway

Three Lifeguards Wave Pool

Three Lifeguards Competition Pool



Legend

↔ Lifeguard Pathway

4 LIFEGUARD POSITIONING ANALYSIS FINDINGS

Comments from lifeguards and staff as a result of this process:

Overall Staff Comments:

- "There are more blind spots than I thought, lots of glare, jets and lights contribute to blind spots, waves move light around and make it easier to see, bubbles bad, need to change to make things run more effectively, couldn't see manikin in slide, safety wise I cant believe we only have one (1) guard, the number of blind spots in the lazy river, had anxiety as I can not see the bottom of the hot tub, how easy it is for someone to disappear under water."

Glare Management

- During the lifeguard positioning analysis it was identified that glare was present from the outside windows. It is recommended that management investigate ways to reduce the amount of glare which can assist lifeguards to see through the water column. Some suggestions would include the use of blinds or curtains.

Size of Single Lifeguard Supervision Zone For Public Swims

- During the lifeguard positioning analysis it was noted that the size of a single lifeguard zone is greater than 400m² when all areas of the pool are in use. In a pool with a water surface area of this size, more than one (1) lifeguard may be required to be on duty to maintain a safe level of supervision depending on the type of swim and bathers.

Hot Tub

- During the lifeguard positioning analysis it was noted that when the jets were turned on in the hot tub the manikin was not visible once it was submerged. It is recommended that the management investigate ways to manage this, one option to consider is alternative jets in the hot tub which do not inject air into the water. This may help to increase the visibility of the bottom.

Lazy River

- During the lifeguard positioning analysis it was noted that when the jets were turned on in the lazy river the manikin was not visible once it was submerged. It is recommended that the management investigate ways to manage this. One option may include reviewing the jets to determine if air can be removed from the jets. This may reduce the amount of turbulence at the surface of the water and could make it easier to see the bottom.

Waterslide

- During the lifeguard positioning analysis it was noted that there is no system for monitoring the bottom of the waterslide. It is recommended that the management put a system in place to monitor the water at the bottom of the waterslide (i.e. mirror, amenity attendant, etc.) This was an area identified as a blind spot in all positions during the analysis.

Lifeguard to Bather Ratios

- Due to the size of the facility, amenities, number of blind spots, and square footage of the pool surface area it is recommended that the Lifeguard to bather ratios be reviewed. The lifeguard to bather ratio chart below represents the minimum number of lifeguards to bathers. Management may decide to use a lower ratio due to facility design, activity, bather swimming ability, etc.

Wave Pool

| # of Bathers | # of Lifeguards |
|--------------|-----------------|
| 1-40 | 1 |
| 41-80 | 2 |
| 81-140 | 3 |
| 141-200 | 4 |
| 200-300 | 5 |

Competition Pool

| # of Bathers | # of Lifeguards |
|--------------|-----------------|
| 1-40 | 1 |
| 41-80 | 2 |
| 81-140 | 3 |
| 141-200 | 4 |
| 200-300 | 5 |

5 IN CLOSING

We would like to thank the staff who participated in this lifeguard positioning analysis, and commend the Town of Grande Cache for continuing to take steps to ensure they provide a safe and enjoyable aquatic experience.

