

WTI Presents Embracing Aquatic Learning Centre Design



Facility Resource Hub Webinar Series brought to you by:





Partnership Update



- CSCA has set up a Facility resource hub powered by Myrtha Pools in partnership with WTI-<https://csca.org/facilities.aspx>
- All CSCA Coaches, PSO's and Clubs can access this content
- PSO's are encouraged to provide a link to the resource hub and will be extended free start up consulting conversations to activate facility advocacy strategies.

WTI

WATER TECHNOLOGY, INC

Ryan Nachreiner

Steve Crocker



Presentation Topics

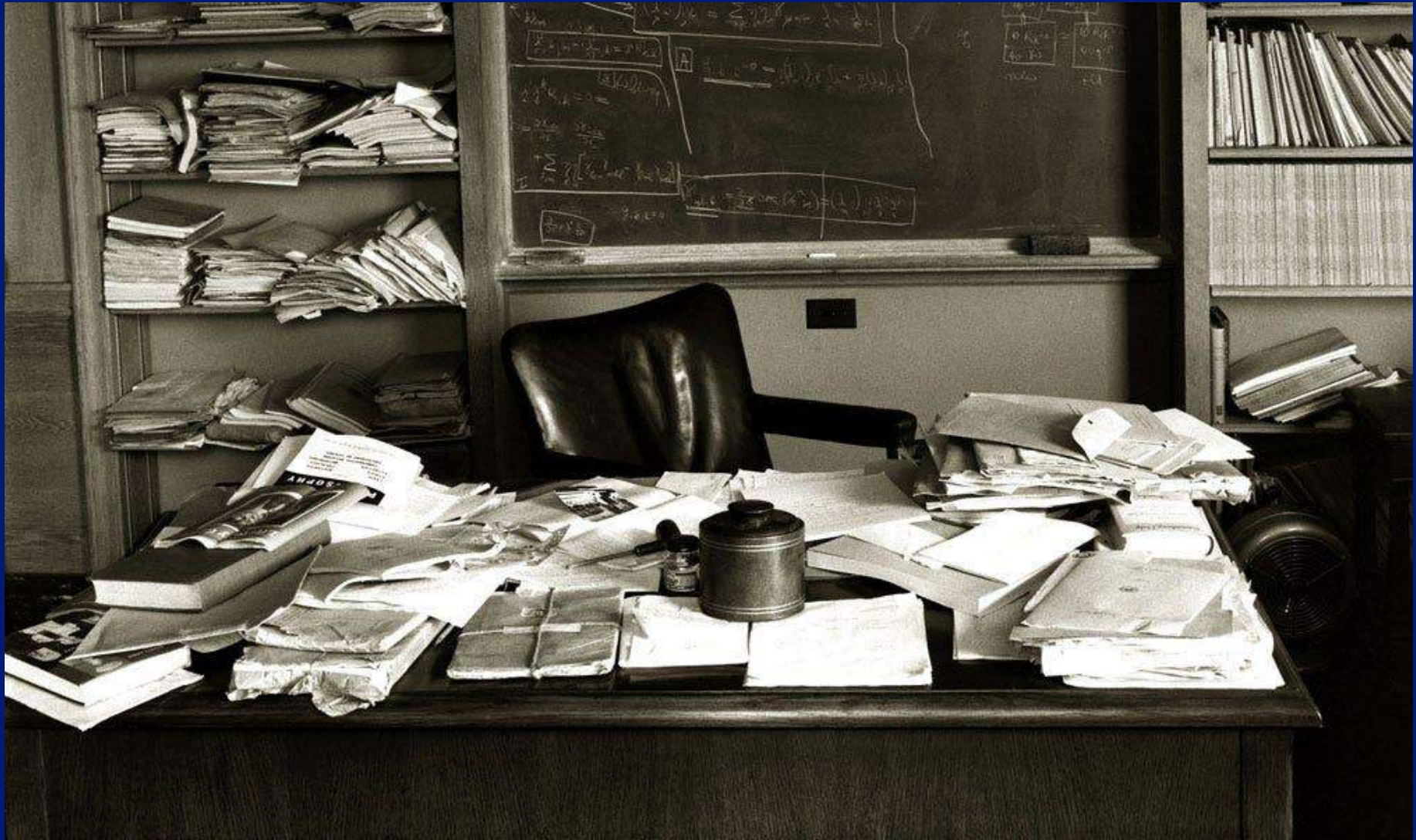
- Review Aquatic Programming and Decision Process
 - How to be Influential
- Programming for Revenue and Operational Costs
 - Overall Facility – Balance and Flexibility
 - Programming Competition-Focused Water
 - Expanding Training Pool Opportunities
 - Utilizing Warm Water
 - Impact of Support Spaces



GOALS



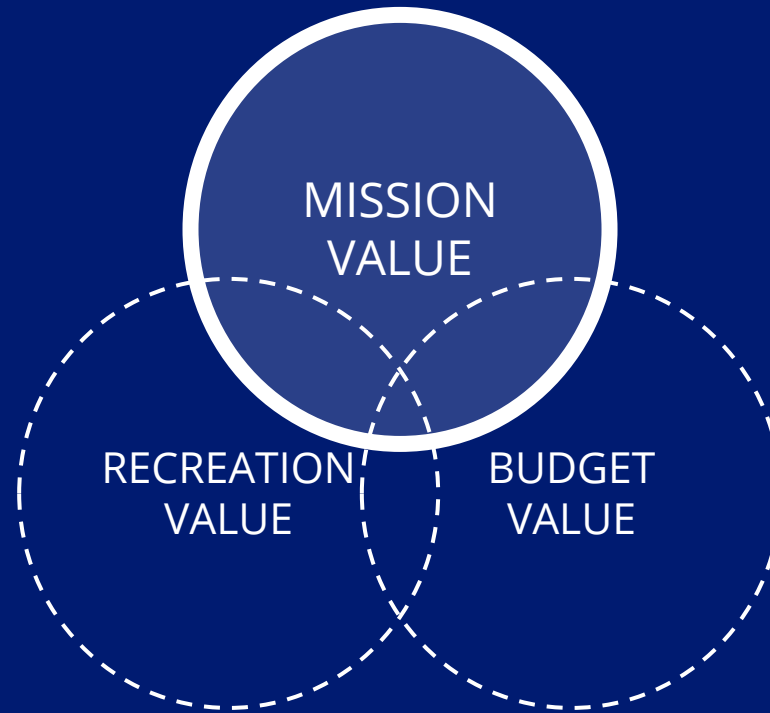




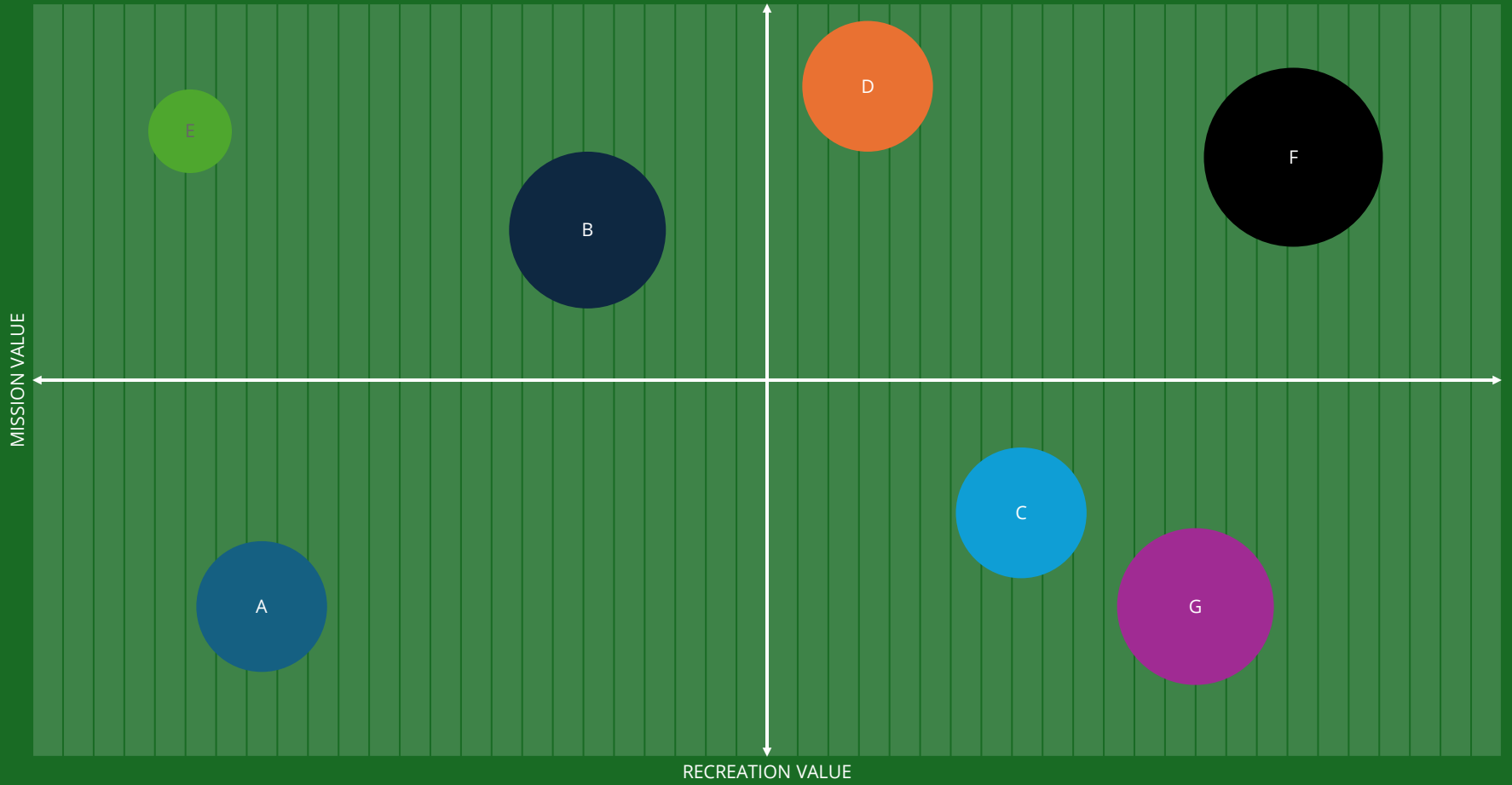
PURPOSE DRIVEN DESIGN



PROGRAM VALUE

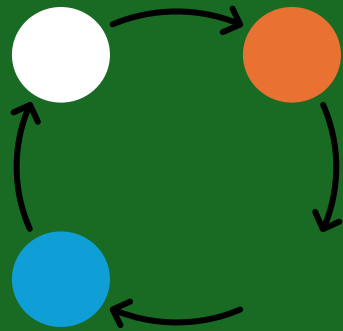


PROGRAM VALUE MATRIX

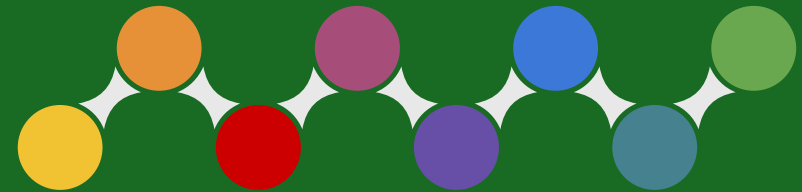


DESIGN PROCESS

Ideation

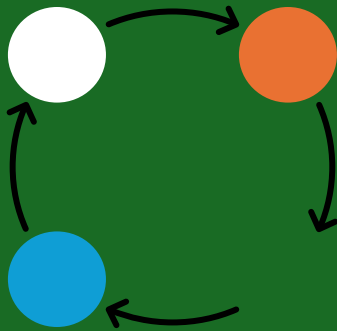


Documentation



DESIGN PROCESS – Concept Development

Ideation

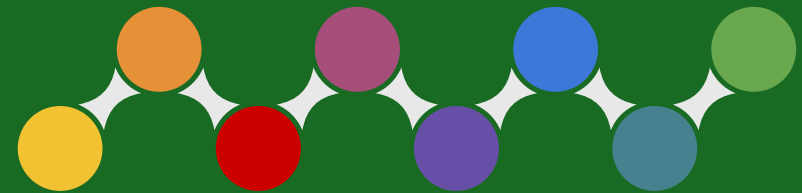


- **Community Surveys**
- **Program Option Testing**
- **Operational Cost Modeling**
- **Public Engagement**
- **Concepts & Alternates**
- **Fundraising Campaigns**
- **Budget Estimation**
- **Graphics / Renderings**

DESIGN PROCESS – Detailed Documentation

- **Schematic Design**
- **Design Development**
- **Construction Documents**
- **Permitting & Approvals**
- **Bidding & Negotiations**
- **Construction**

Documentation



SUSTAINABILITY



ENVIRONMENTAL



FINANCIAL



SOCIAL



Establish Aquatic Goals
Understand User Groups
+ their Aquatic Goals

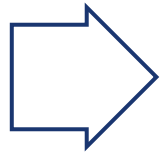
Define Programs
+
User Group Size

Number of Pools

Accessibility

Air + Water Quality

SCHEDULE / BUDGET / PROGRAM



Get and Keep a Seat at the Table

- Be the trusted, **go-to expert**...ex. “we will pass it by Mike”
- Must see/understand overall aquatic community, **can't be selfish**.
- Be the **smartest person in the room** - understand trends, technology, and best practices
- Ideally **be ahead of city/municipal design process**...not just part of community engagement process
- **Provide vision**, facility examples, facility costs examples, etc. (not outdated). Realistic meet selection, economic impact data.



Swim Training Facilities

Considerations

- Capacity of swimmers, # Lanes
- Water depth? Are starts required?
- Lane width – depends on groups
- Short course or long course (or both)
- Diving can share the end of the pool



Must haves

- Adequate lanes based on schedule
- Space for Dry Training?
- Water temperature for training
- Starting blocks?
- Headwall?
- Pace clocks
- Storage for their gear
- Air quality/water quality
- Good acoustics for teaching
- Locker/changing facility

DESIGN CONSIDERATIONS

- TEMPERATURES
- DEPTHS
- CAPACITIES (BASED ON ACTIVITIES)
- CONFIGURATIONS | ADJACENCIES
- SEPARATION

Maximize User Participation



Resistance Walking



Wibit



Climbing Wall



Water Aerobics



Water Tables



Water Basketball & Volleyball



Log Rolling



Ninja Cross



Competitive Swimming



Canoe / Kayak Classes

Multi-generational Appeal

- Depth, space, and temperatures to:
Maximize Participation
- A multi-generational facility offers recreation, fitness, learn to swim, wellness – appeals to the youth of all ages by satisfying the needs for:
Programs
Water-tainment
Social Interaction



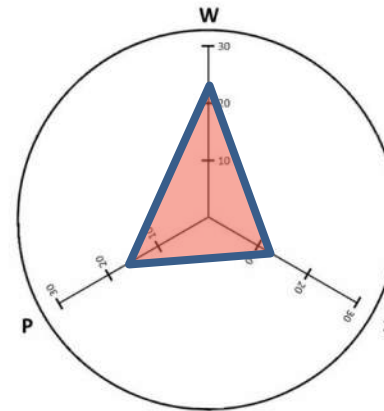
PROGRAM CHOICES



Recreation / Aquatic Facilities Feasibility Study Aquatic Components Preferences

Rank Top 5	Feature	Cost	Revenue	Water-tainment	Program	Social
	Zero Depth Entry	Low	\$\$\$	4	2	4
✓	Interactive Water Sprays	Low	\$\$	8	0	2
	Water Play Structure	Mid	\$\$	9	0	1
✓	Water Slide	High	\$\$\$	9	0	1
	Lazy River	High	\$\$\$	3	4	3
	Activity Area	Mid	\$\$	5	3	2
	Vortex	Low	\$	8	0	2
	Crossing Activity	High	\$\$	7	0	3
	Underwater Benches	Lo	\$\$	3	2	5
	Iconic Attraction	Extreme	\$\$\$	8	0	2
	Warm Water Lap Lanes	Mid	\$\$	2	7	1
✓	Cool Water Lap Lanes	Mid	\$\$	1	8	1
	Springboard Diving	High	\$\$	4	4	2
	Diving Tower	Extreme	\$	1	9	0
✓	Adult Whirlpool	High	\$\$\$	5	0	5
	Family Whirlpool	High	\$\$\$	4	2	4
✓	Wellness Pool	Mid	\$\$\$	0	7	3
	Splash Pad	Mid	\$\$\$	8	0	2
	Total			23	15	12

Group Members:

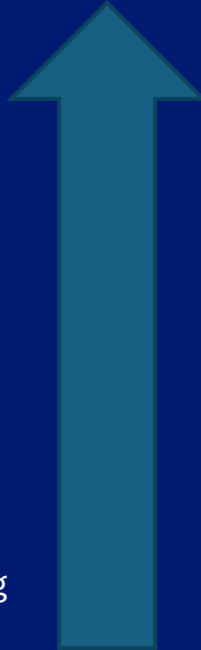


PREFERENCE MAP



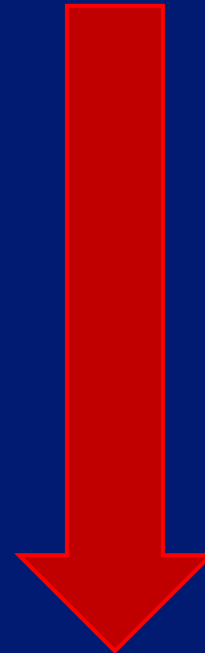
TEMPERATURE

Adult Whirlpool
Family Whirlpool
Therapy Pool
Wellness Pool
Leisure Pool
Lazy Rivers
Interactive Features
Waterslides
Diving
Water Polo
Competition Swimming



DEPTH

Play & Leisure
Learn to Swim
Water Fitness/Aerobics
Swimming Lessons
Starting Platforms
Lifeguard Training
1-Meter Diving
Climbing Walls
3-Meter Diving
Platform Diving
Scuba Lessons



Water Depth

Starting Blocks, 2-Meters

Lap Swimming, 1.2-Meters

Diving, 3.4 – 5.0 meters

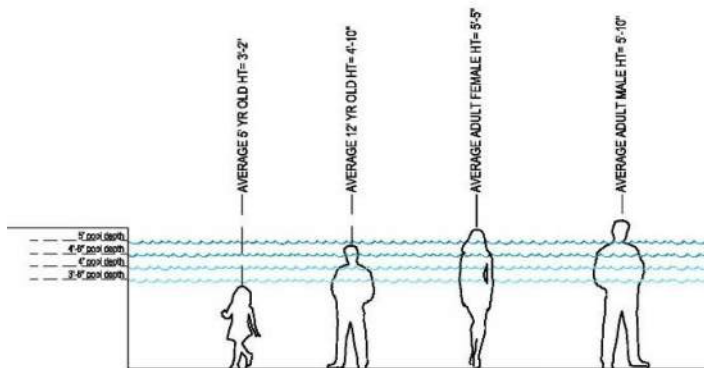
Depth Contours

3:1 Slope in Deep Areas

12:1 Slope in shallow Areas

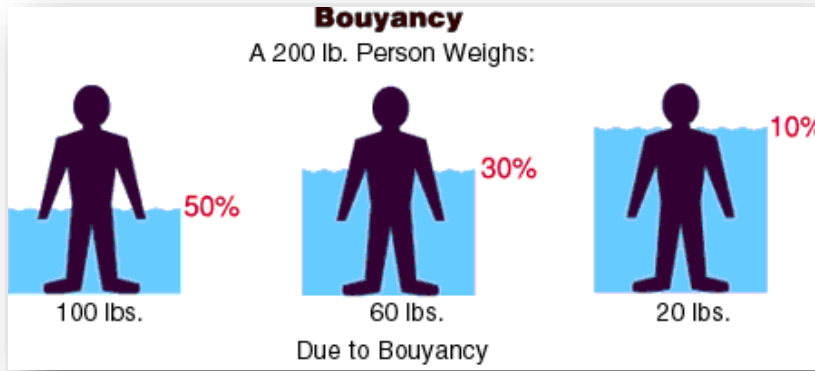
Water Polo requires 2 meters (6'-7") and is recommended for entire course. Minimum Course dimensions are 45' x 75'.

Artistic Swimming Requires 3 meters in an area 12 meters x 12 meters and 2 meters depth in a surrounding area of 12 meters wide.

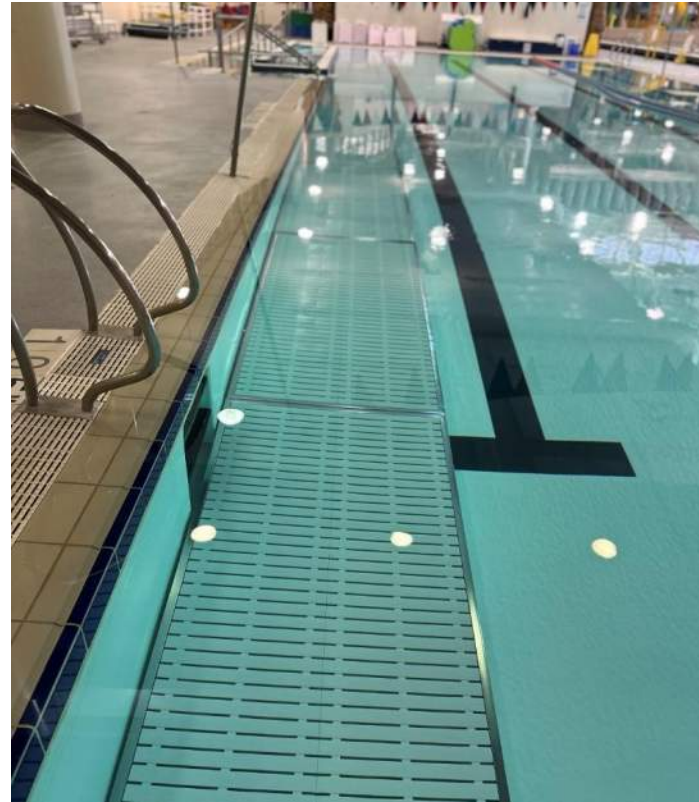
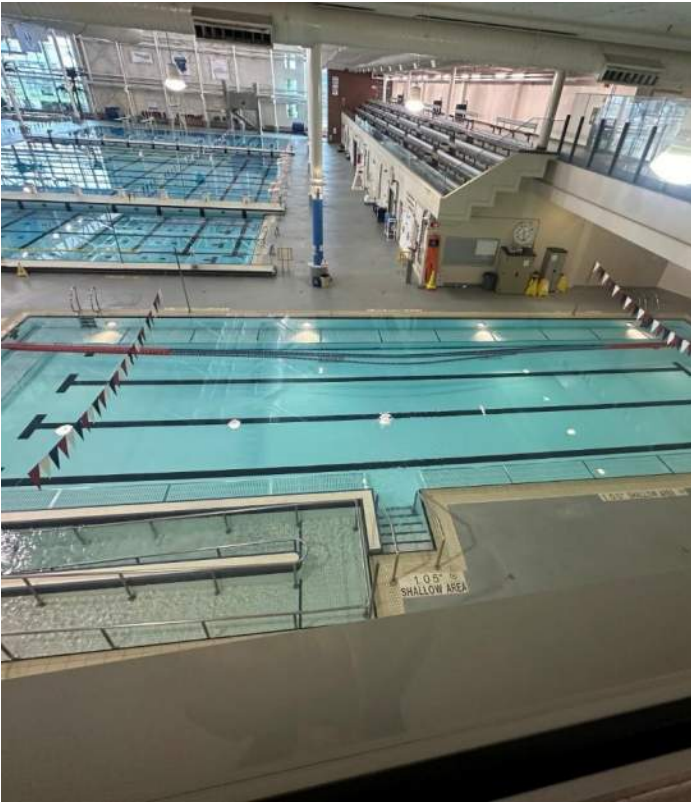


Adjustable Depth





Therapy



Swim Platforms



Minimize Operational Costs

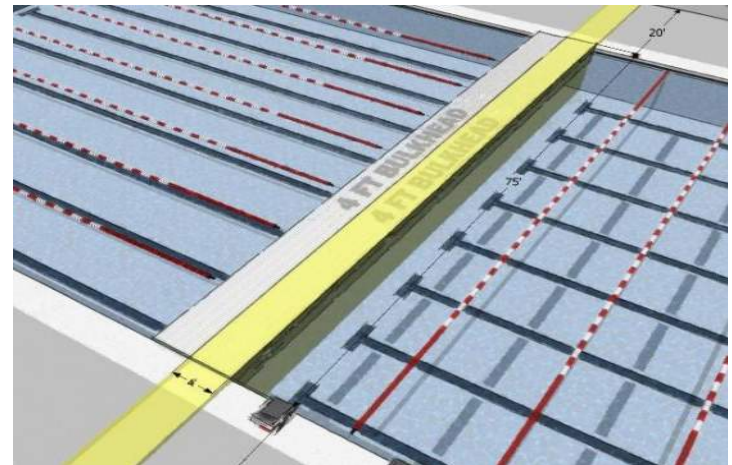
- Staffing
- Utilities
- Equipment and Material Lifecycle Costs
- Service and Replacements



Acoustics – essential for teaching environment



Bulkheads



Warm Water Pool (Same Room)



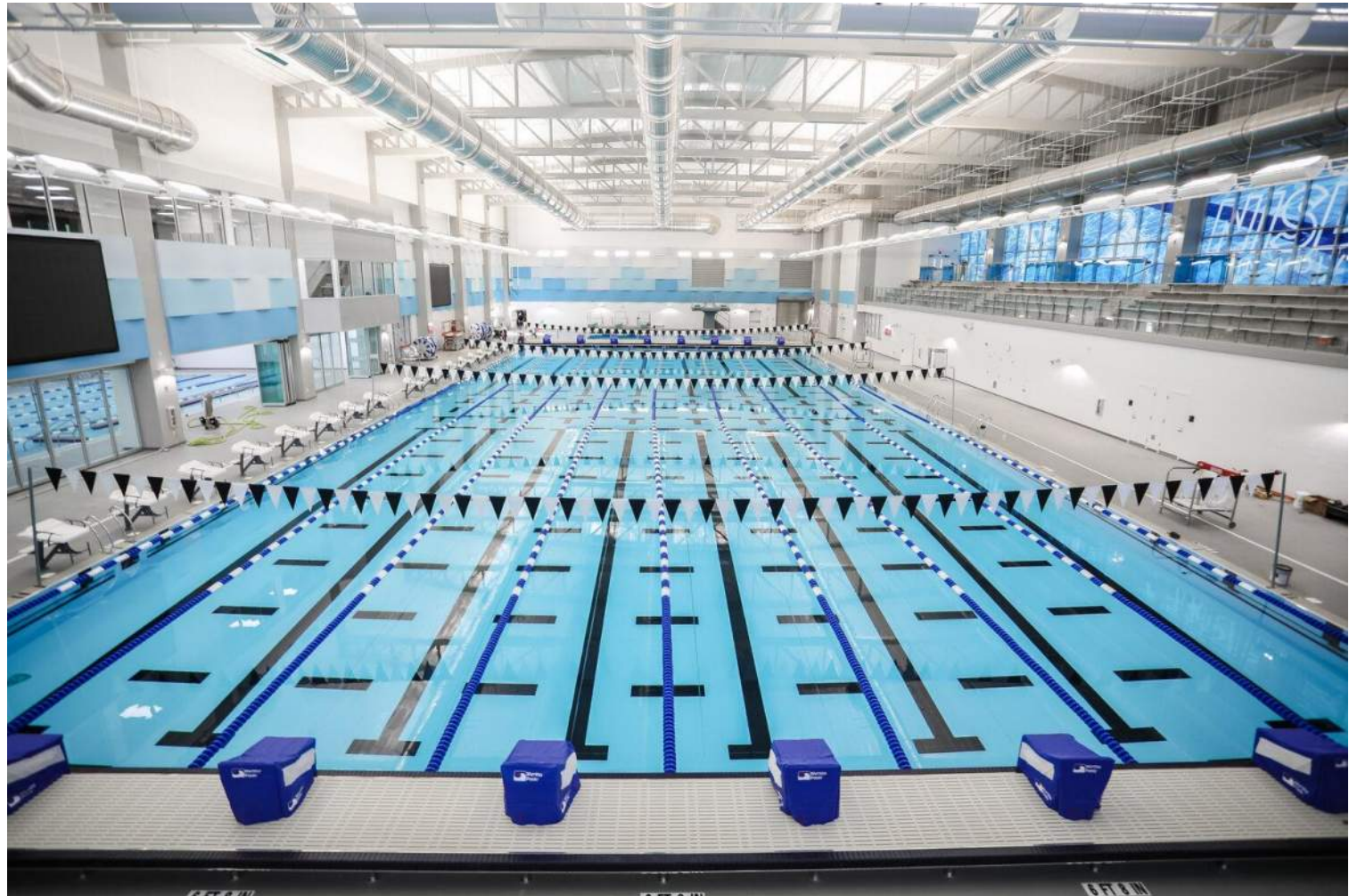
Same Room



Warm Water Pool (Separate Rooms)



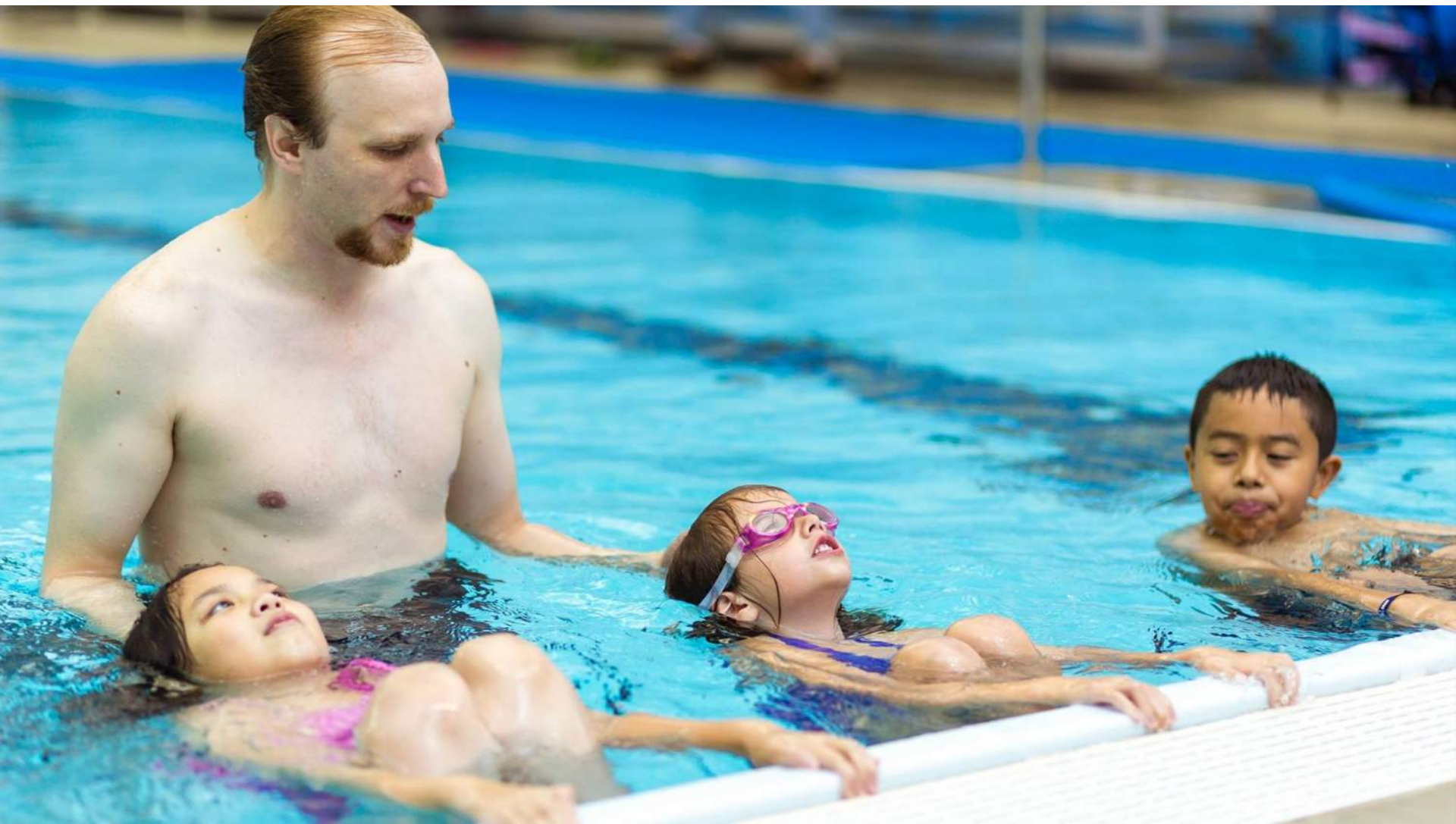
Same Room or Separate (NanaWall)



Programming a Rectangle



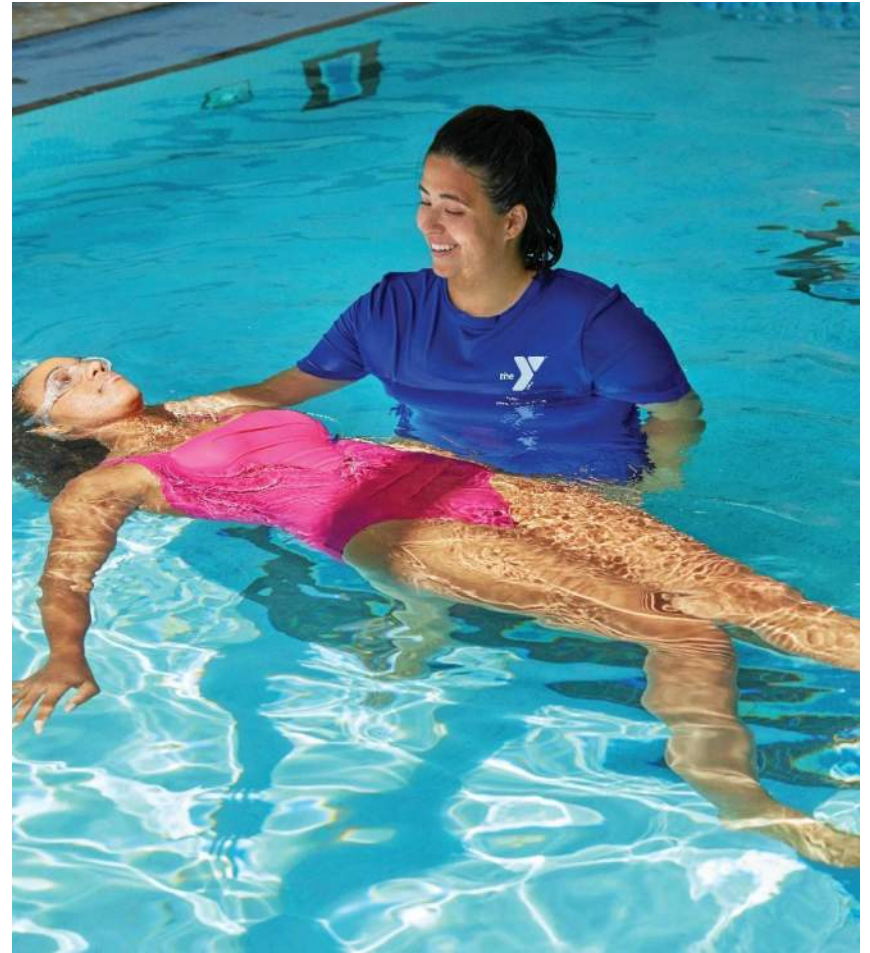
Learn to Swim



Mom and Tot



Lap Swimming / Learn-to-swim for Adults



Lifeguard Training



Other types of Training?

- Rescue
- Military/ROTC
- Simulation (Storm, Cold Water, etc.)

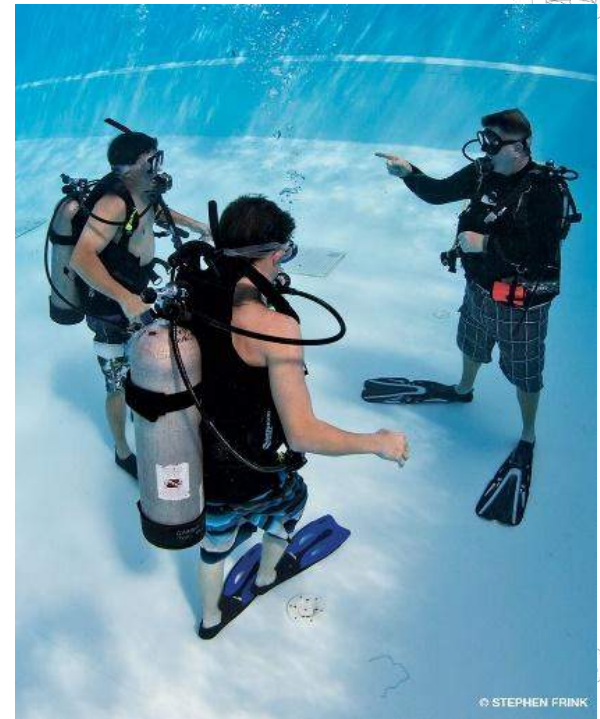


Aquatic Dance Classes

- Fun alternative to traditional water aerobics
- Zumba – Aqua (growing trend among all ages)



Scuba Training



LIQUID GYM







Water Workout Stations



Aquatic Fitness

- **Popular Aquatic Fitness Classes**

- **Aqua Aerobics / Water Fitness:** General, low-impact cardio classes combining water resistance with aerobic moves.
- **Deep Water Aerobics:** A moderate to high-intensity workout in deep water, often using flotation belts.
- **Aqua HIIT (High-Intensity Interval Training):** Intense interval training that combines maximum effort with recovery periods.
- **Aqua X Fit/Power Waves:** Intense, strength-focused classes often using drag equipment (bells, webbed gloves) for intense resistance.
- **Aqua Pilates/Yoga:** Mind-body classes focused on strengthening, balancing, and flexibility in the water.
- **Aqua Boxing (JAB Wet):** Aquatic boxing workout designed to boost cardio and strength.
- **Aqua Jogging:** Running in place or across the pool (deep or shallow) to simulate jogging without the impact. [1, 2, 3, 4, 5, 6]





Therapy and Rehab

- Active aging adults
 - Fountain of youth
 - Why water is best
 - Fixes balance...fear of falling
 - Can do many things in pool that you cannot do on land
 - Feels great
 - Overweight people are not overweight in pool
- Sports and Post-surgical rehab



Water Walking



SURFBOARD WATER POLO



log roll



ZORB



Drop Slide



SLACKLINE







Growing Sport



COMPETITION VENUE

(not today's topic)

Considerations

- What type and quantity of meets
- Competition requirements?
- Spectator and athlete seating requirements
- Parking requirements
- Bulkhead
- Additional support spaces
- Higher operational cost
- Diving is disruptive in swimming pool
- Programming deep water



Must haves

- Fast Pool
- 2.5 meter lane width
- Headwall
- Bulkhead for spectator orientation (50m & 25M)
- 2-meter depth throughout
- Warm-up space
- Support spaces for hospitality, etc.
- Spectators/bathrooms
- Locker/changing facility meeting Safe Sport
- HVAC for event mode
- Deck space and proper pathways for officials, etc
- Athlete seating and support
- Timing system and scoreboard
- Audio and acoustics for public address
- Video for streaming
- Competition-level lighting

NOT ALL POOL MUST BE FAST!

What Makes a Pool Fast?



Smooth Water Surface

Deep gutter troughs

Lane dividers



Deep Pool

Recommend minimum depth of 2 meters

(2.5 meters preferred)



Uniform Circulation

Reducing filtration speed during events to lessen water disturbance

Locate inlets low in the water column



Lane Width

Wider is better

2.5 meters for national competitions



Clear, clean water

High quality filtration & UV



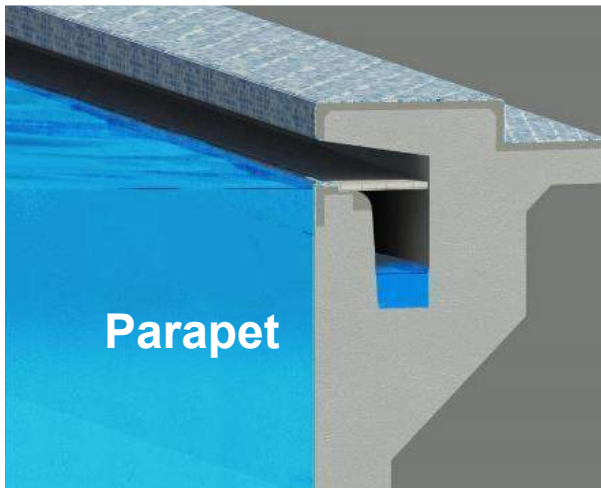
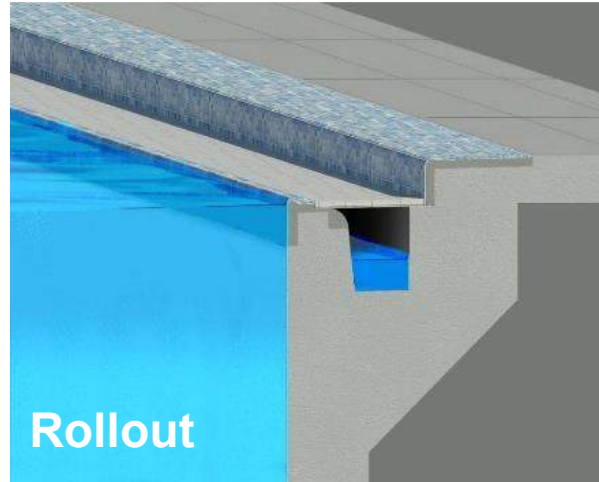
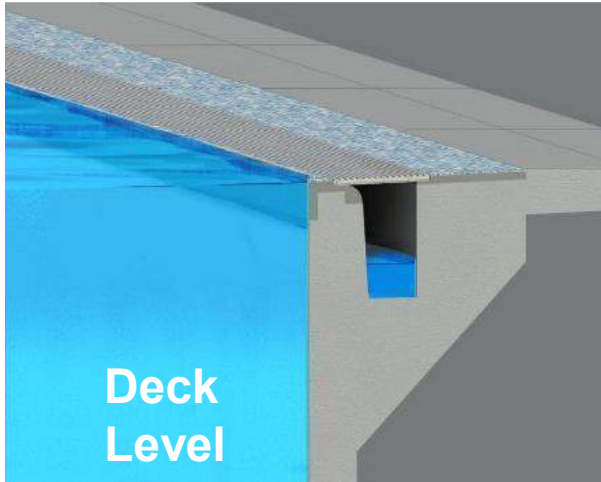
Air Quality

Source capture

Realistic expectations team/group sizes and lanes required.



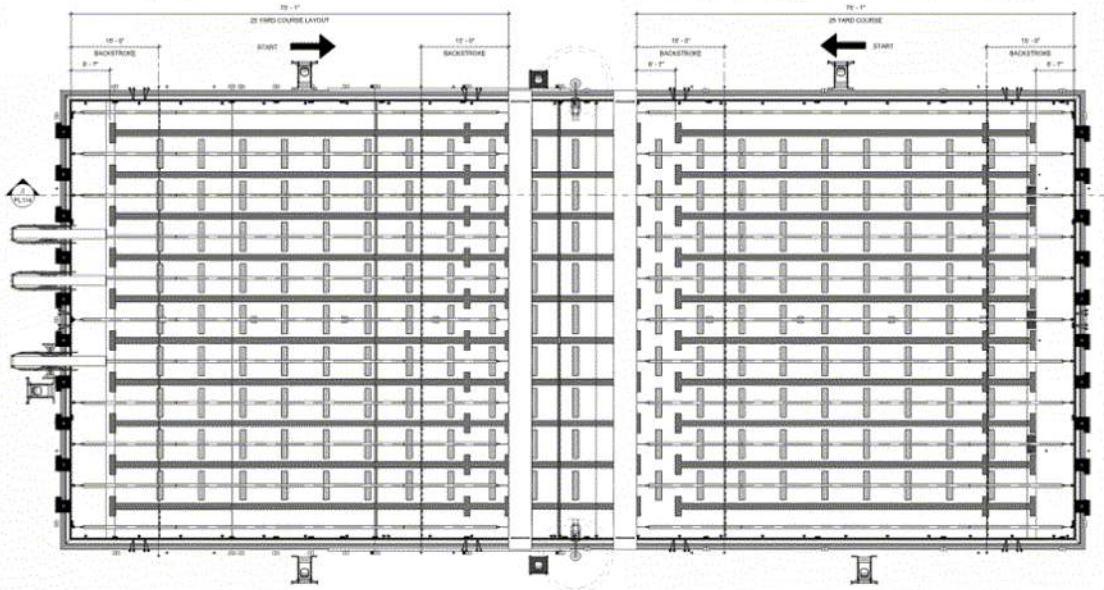
Gutter Configurations



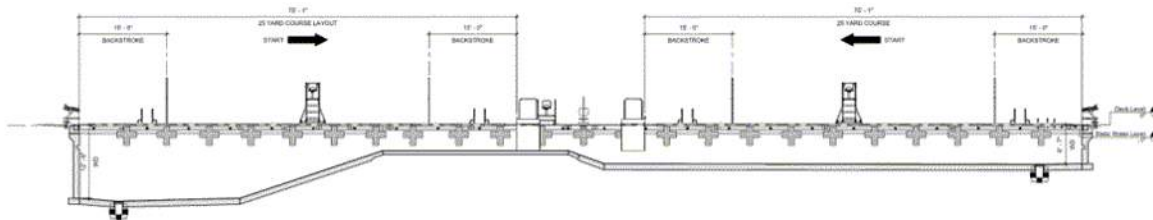
Gutter Configurations



Depth Contour Options



POOL A - 25M COMPETITION POOL 25 YARD COURSE LAYOUT
1/8" = 1'-0"





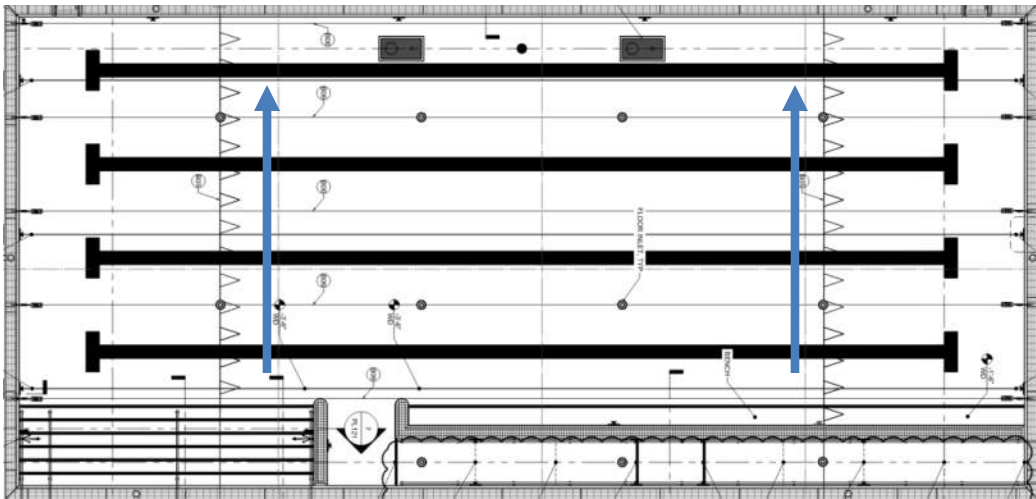
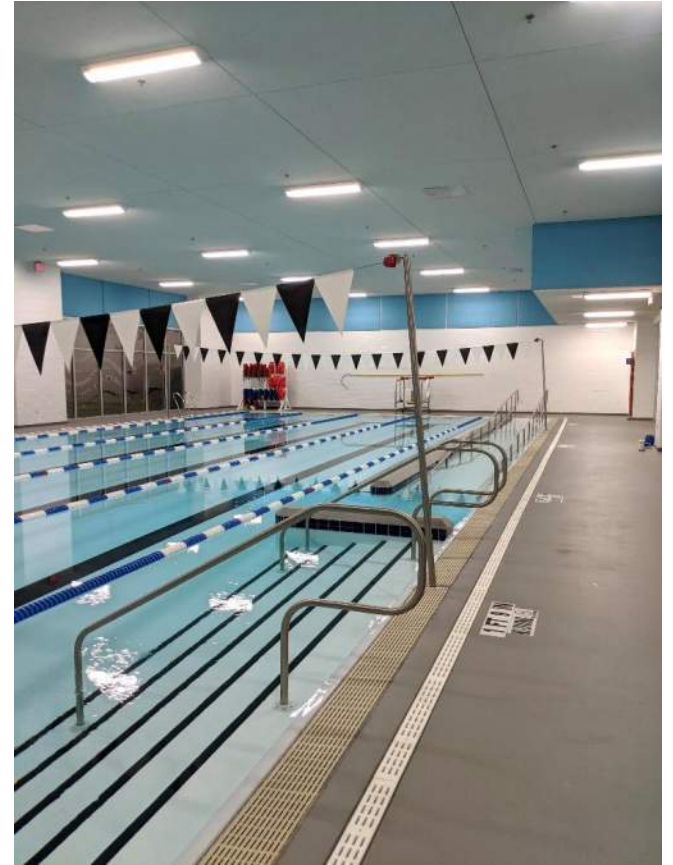
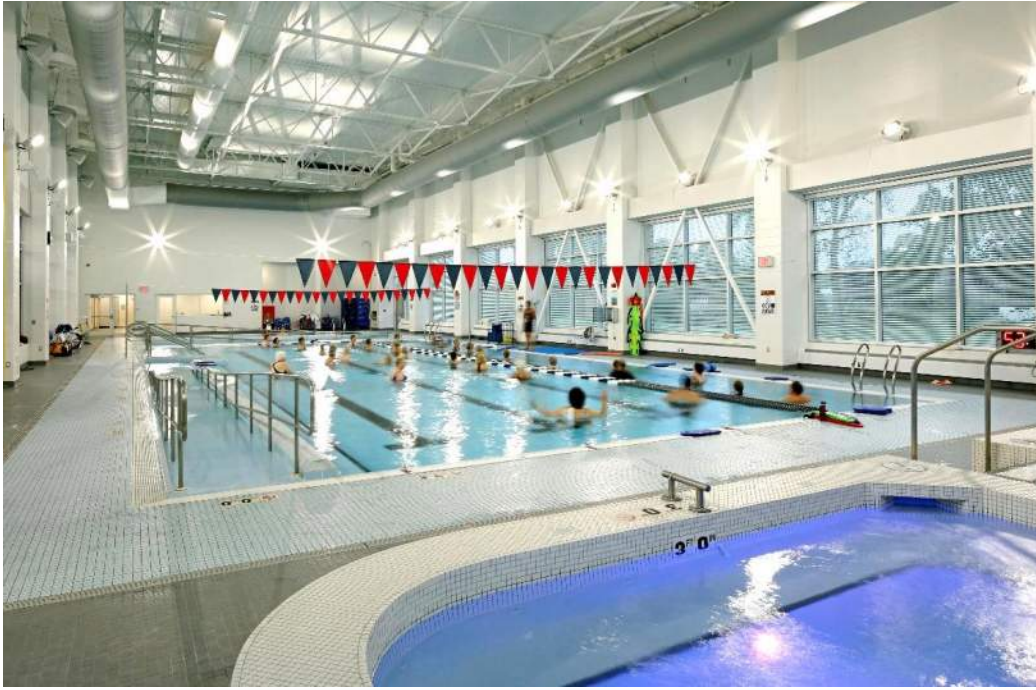
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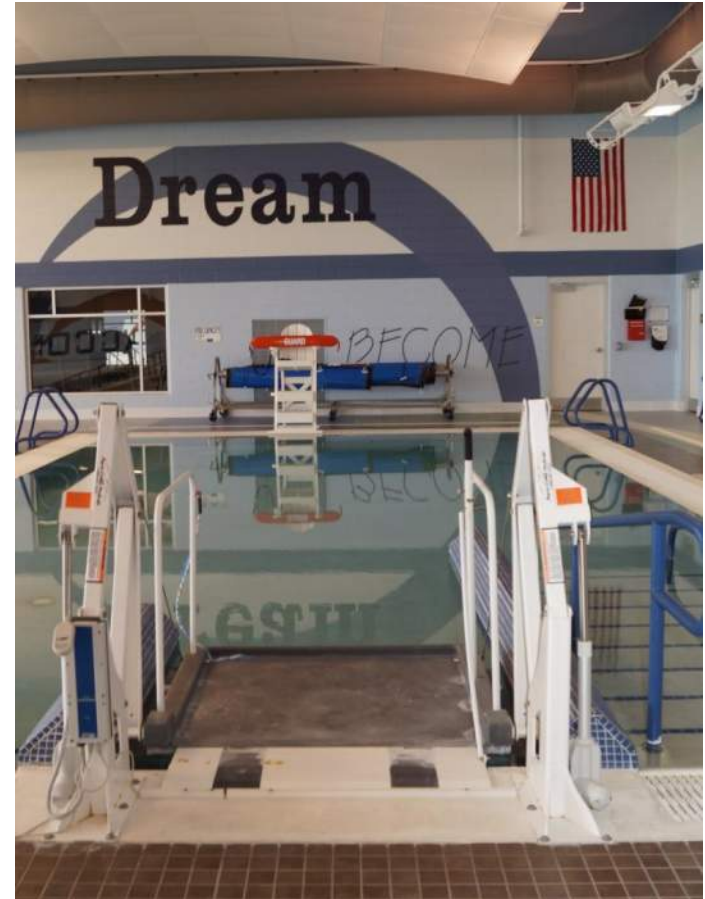


90 Degrees - Family spa, Therapy, and parent/tot swim?





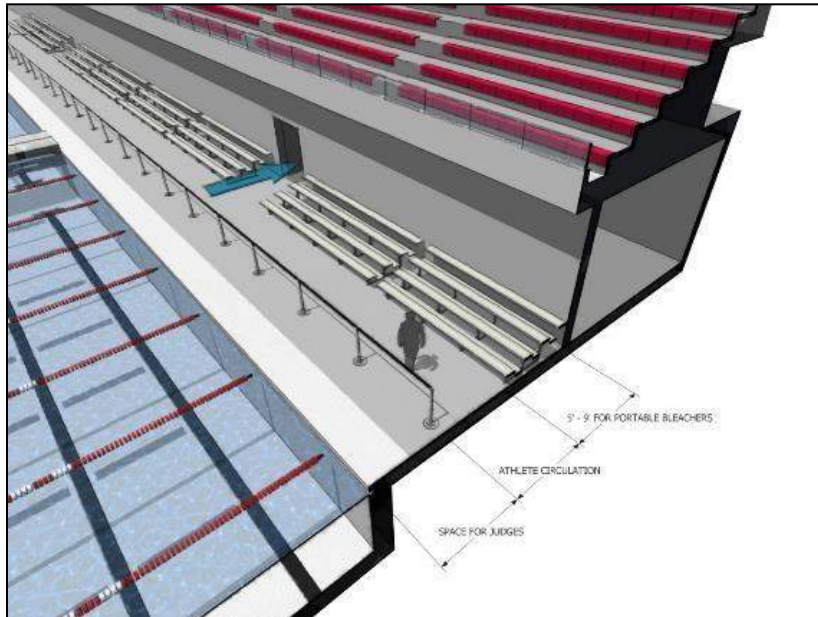
Platform Lift



Hand Rails



Deck Pathways



Deck storage strategies





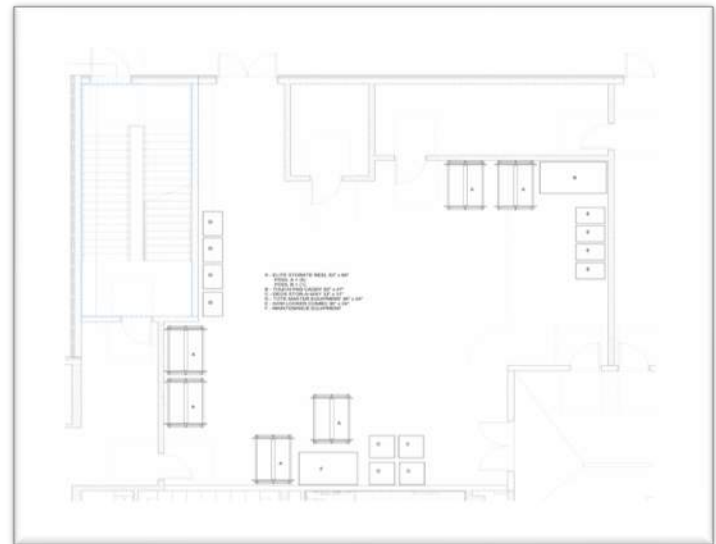
Spectators / Parents



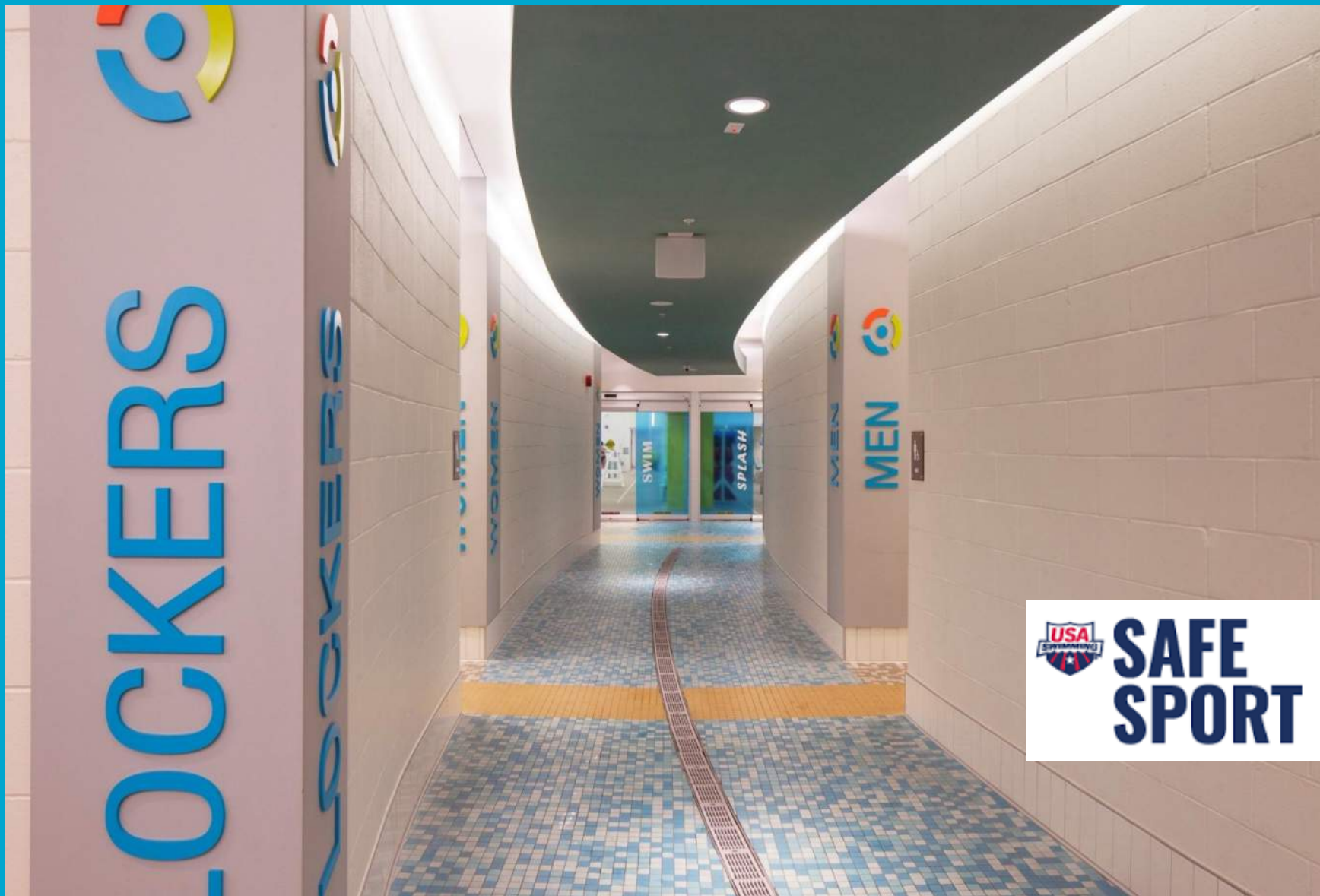
Multipurpose Rooms



Storage Room



Locker rooms – students/athletes/adults



CONCLUSIONS

- Optimizing Program
 - Maximize Revenue / Minimize Operational Cost
 - Multi-Purpose, Multi-Generational
- Full Utilization of Water
 - Training / Instruction / Lessons
 - Wide Appeal / Play Value / Skill-Building
 - Wellness / Health / Socialization
- User Experience Drives Success
- Plan for Success

Who to Contact regarding today's Webinar

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