



MANAGING THE AGING PROCESS OF YOUR AQUATIC CENTER

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PUBLIC POOL PLANNING
CRITERIA HAS EVOLVED



PUBLIC POOL PLANNING
CRITERIA HAS EVOLVED

AQUATIC RECREATION

- Many Different Ways to Spend Time
- Many Different Ways to Spend Money



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1950 TO 1980 PLANNING CRITERIA

- Old NRPA Standard - One Pool per 20,000 Population (Neighborhood Pool Concept)
- Typical Pool : 4-8 Lap Lanes, Diving Board, Wading Pool
- Admission \$.50 to \$1.00
- Most Used by Children and Lap Swimmers



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1980 TO 1990 PLANNING CRITERIA

- Diving Board and Slide Removal
 - Changing / More Stringent
 - Codes (TDH, ADA, VGB)
- Pool Attendance Decreased
 - Competition for Recreation Time and \$ (AC, TV, Movies, Video Games, Internet, Vacations)
- Pool Closings
 - Decreased Attendance, Changing Codes, and Higher Operating Costs
- Increasing demand for pool admission prices to offset increased operating expenses



1990 to 2010 PLANNING CRITERIA

- New Standards – One Pool per 50,000 or More Population (Community Pool Concept)
- Typical Pool: More Fun Amenities (Water Slides, Lazy Rivers, and Children's Play Structures)
- Admission \$3.00 to \$7.00
- Most Used by Families with Children - Something for Everyone!



CURRENT NATIONWIDE PLANNING CRITERIA

- Regional Aquatic Facilities in lieu of smaller neighborhood pools
- Use of Splash Pads to replace smaller neighborhood pools
 - \$250,000 to \$500,000
- High quality indoor/outdoor recreation center pools
 - Costs \$10M and Up
- Incorporation of more commercial waterpark aquatic features
 - Large Slide Ride Attractions
 - Thrill Rides
 - Water surfing
- Cost Recovery Operations Model



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CHANGES IN AQUATIC USER EXPECTATIONS

- Multiple programming opportunities
- Entertainment value
- Extreme features
- Increased customer service
- **Vision and expectations vary amongst age groups**



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VISION AND EXPECTATIONS

ADULT'S VISION



VISION AND EXPECTATIONS

CHILD'S VISION

Georgia Tech



VISION AND EXPECTATIONS

AQUATIC SPORT VISION



VISION AND EXPECTATIONS

THERAPUATIC VISION

DEALING WITH EXISTING FACILITIES

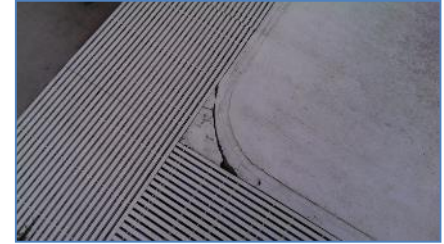
- Physical Obsolescence Issues
 - Aging Facility
 - Codes and Standards
- Functional Obsolescence Issues
 - Definition of Aquatics
 - User Expectations
- Meet Programmatic Needs
- Decide Best Use of Money



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FACILITY ASSESSMENT/AUDIT

- Review Existing Information
 - Facility Drawings
 - Prior Studies/Reports
 - Observations/Goals of City
- Conduct On-Site Audit of Facility
 - Pools and All Equipment
 - Support Facilities
 - Code Compliance including ADA Review



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FACILITY ASSESSMENT/AUDIT

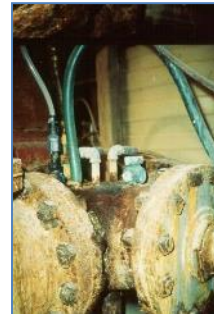
- Comprehensive Plan
 - Recommendations for Physical Issue Corrections
 - Recommendations for Addressing Functional Issues
 - Cost Implications of Identified Action Plan.
 - Forecasting Remaining Life of Systems
 - Identification of “fatal flaws” or Major Concerns.



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FACILITY ASSESSMENT – PHYSICAL REVIEW

- Pool structure and finishes
- Recirculating system, piping, fittings, and valves
- Filtration system, mechanical and overflow recovery system
- Water chemistry treatment system
- Pump, flow meters, gauges, and controls, etc.
- Deck equipment



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EXISTING FACILITIES - WHAT ARE OUR CHOICES?

- Emergency Mode -- Stay Open
- Repair Existing Pool
- Renovate Facility
- Replace Facility



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EMERGENCY MODE

- Reactionary approach
- Likely to spend more money over time in lieu of investing in a capital improvement project



EMERGENCY MODE

- New “1970” pool responding only to the Physical Obsolescence
- Does Not Respond to Functional Obsolescence



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EMERGENCY MODE – Items addressed

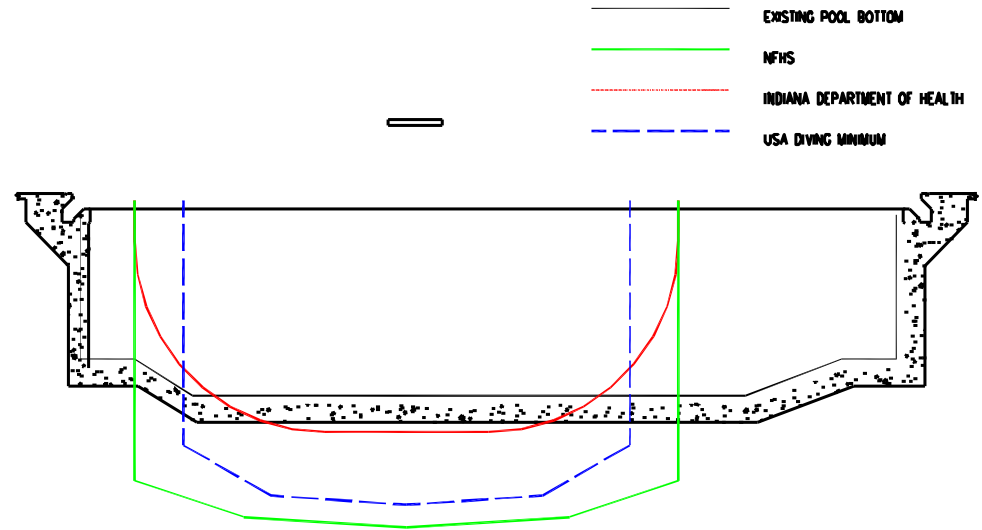
- Turnover/Filtration Rate Requirements
- Chemical Storage Requirements
- Backwash Discharge
- ADA Issues
- Watertight Issues
- Pool Finishes



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EMERGENCY MODE – Items NOT addressed

- Depth Under Diving Boards
- Diving Tank Issues
- Starting Block Depths



CHANGES IN CODES AND STANDARDS

- New Knowledge
 - Chloramines
 - RWI's
- Modern Technologies
 - LEED
 - Reduced Maintenance
- Industry Expectations
 - Regulatory Agencies (NCAA, FINA, etc.)
 - User Environment



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STANDARDS AFFECTING AQUATIC DESIGN

- American National Standards Institute
- American Public Health Association
- American Red Cross
- ASHRAE
- Aquatic Exercise Associates
- Council for National Cooperation in Aquatics
- Consumer Product Safety Commission
- Federation Internationale de Natation Amateur
- Illuminating Engineering Society of North America
- National Collegiate Athletic Association
- National Electric Code
- National Fire Prevention Association
- National Recreation and Park Association
- National Sanitation Foundation
- National Spa and Pool Institute
- National Swimming Pool Institute
- Royal Life Saving Society
- State Boards of Health, Water Quality, Amusements
- United States Diving
- United States Lifesaving Association
- United States Swimming
- United States Synchronized Swimming
- United States Water Polo Association
- World Water Park Association.



AQUATIC SPECIFIC CODE AND STANDARDS

Various Codes and Standards

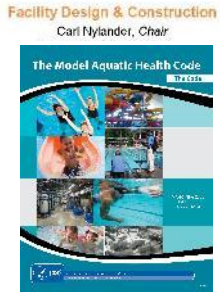
Federal, State, County, Municipal

- Industry guidelines
- Model Aquatic Health Code (MAHC)

Over 450 design decisions

- Over 5,000 Industry Suppliers
- Over 3,000 Swimming Pool Contractors

ADA Requirements



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RENOVATE FACILITY

- Decide Best Use of Money
- Physical Obsolescence Addressed
- Functional Obsolescence Addressed

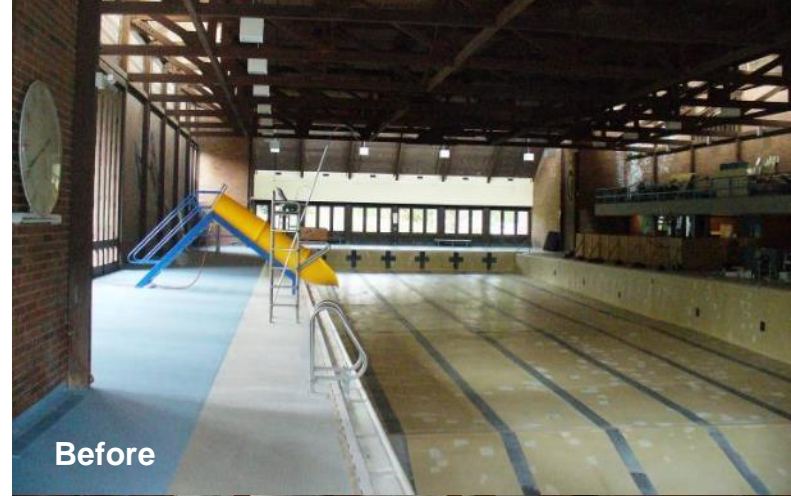


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RENOVATRE FACILITY

Re-use Of Existing Pool Considerations

- Structure Durability
- Water Depth Changes
- Addition of Interior Pool Walls
- Finishes
- Mechanical, Filtration, Chemical Treatment Equipment



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RENOVATE FACILITY

Re-use Of Existing Pool Considerations

- Utilization of existing structure **Concerns**
 - Water tightness
 - Structural durability
 - Material Finishes
 - Hydraulic design
- Utilization of existing structure **Opportunities**
 - Excavation savings
 - Using existing structure as formwork



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MAXIMIZING THE VALUE OF OPEN WATER

Programming Considerations

- Adapting Open Water Spaces into Recreational Experiences



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MAXIMIZING THE VALUE OF OPEN WATER

Programming Considerations

- Climbing Walls
- Zip Lines
- Water Volleyball and Basketball
- Wibit Floatable
- Log Rolling



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MAXIMIZING THE VALUE OF OPEN WATER

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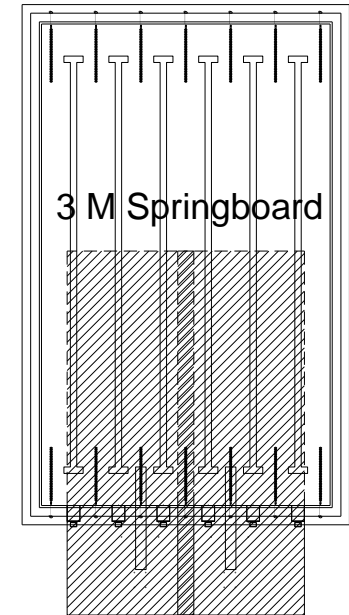
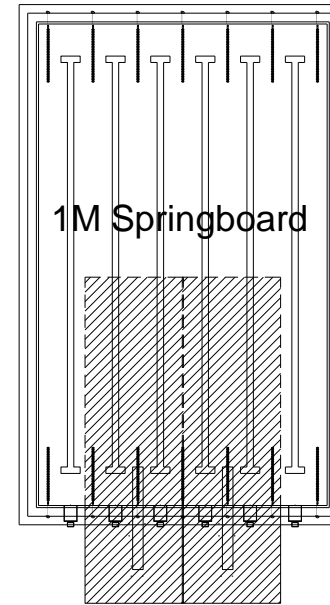


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Programming Considerations

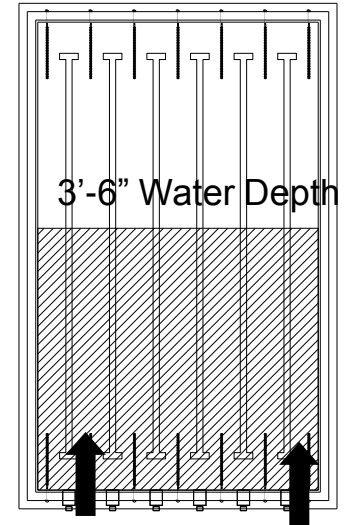
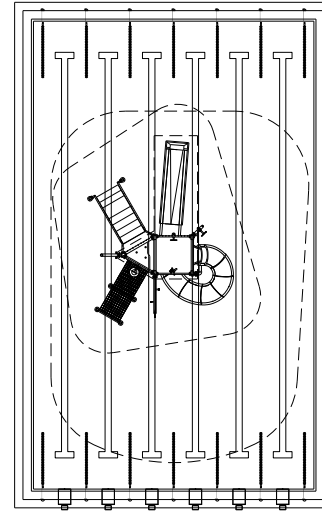
Turning Lap Water into Recreational Water

- Springboard Diving Clearances



Programming Considerations Turning Lap Water into Recreational Water

- Zero Entry and Play Structure Clearances



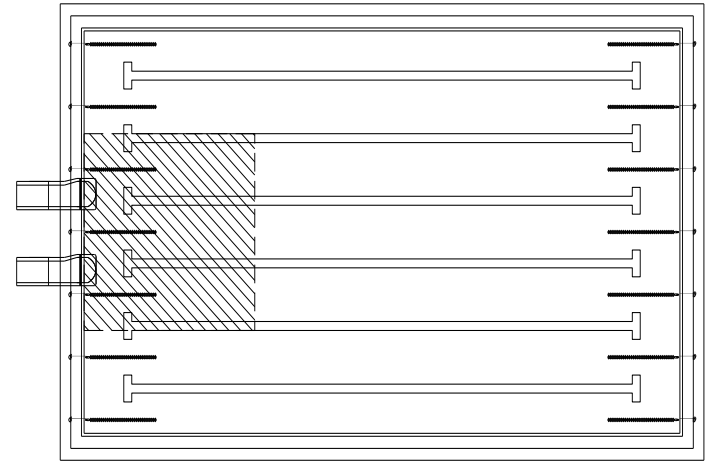
Zero Entry



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Programming Considerations Turning Lap Water into Recreational Water

- Waterslide Clearances

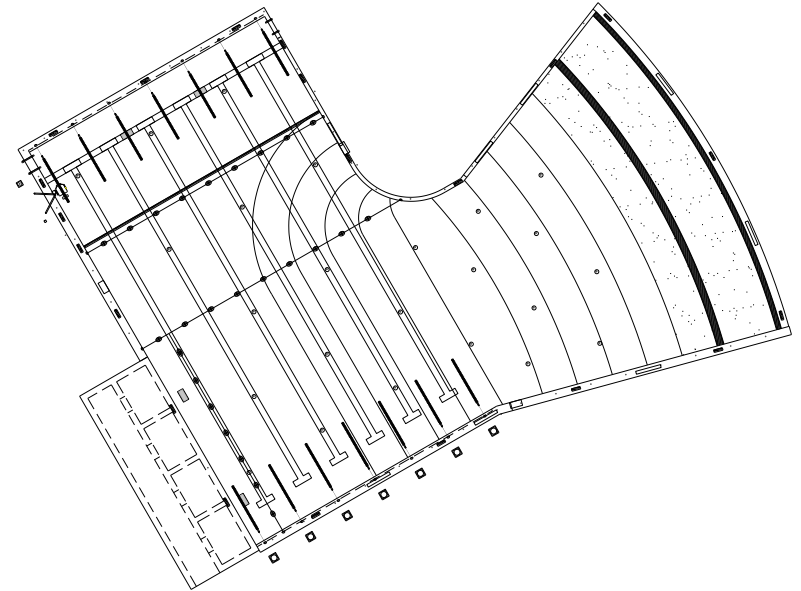


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Programming Considerations

Turning Lap Water into Recreational Water

- Zero Entry/Wave Pool/Lap Lane Combination



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REPLACE FACILITY

- Why replace in lieu of repair or renovate?
 - Cannot meet programmatic needs
 - Recreation value remains inadequate
 - Limited opportunity to improve operational proforma
- Will community expectations be met?



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REPLACE FACILITY

- Cost benefit analysis should be review
 - Capital cost
 - Operational cost



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DEFINE THE COMMUNITY EXPECTATIONS

– ECONOMIC DRIVEN

- Revenue generation
- Increase in property values
- Business partnership opportunities

– OPPORTUNITY DRIVEN

- Every child learn to swim
- Provide an opportunity for community aquatic recreation to all residents



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DECISION MAKING AND ECONOMIC IMPACT

WHAT IS INCLUDED

- Who is Going To Use It
- How They Are Going To Use It
- What Elements They Need
- Specific Cost of Each Amenity

HOW IT WILL BE OPERATED

- Funding Requirements
- Fee Schedule
- Revenue
- Expenses
- Operating Performance



	2014	2015	2016	2017	2018
Option 1					
Project Cost	\$15,416,000				
Attendance	92,717				
Revenue	\$1,175,204	\$1,199,241	\$1,223,482	\$1,246,725	\$1,271,346
Expense	\$1,436,045	\$1,471,946	\$1,508,745	\$1,546,463	\$1,585,125
Operating Cashflow	(\$260,841)	(\$272,705)	(\$285,263)	(\$299,738)	(\$313,779)
Recapture Rate	82%	81%	81%	81%	80%
Capital Replacement Fund	\$77,100	\$77,100	\$77,100	\$77,100	\$77,100
Cashflow	(\$337,941)	(\$349,805)	(\$362,363)	(\$376,838)	(\$390,879)

Option 2					
Project Cost	\$19,472,000				
Attendance	114,643				
Revenue	\$1,476,111	\$1,505,807	\$1,535,749	\$1,564,367	\$1,594,764
Expense	\$1,625,317	\$1,665,950	\$1,707,599	\$1,750,289	\$1,794,046
Operating Cashflow	(\$149,206)	(\$160,143)	(\$171,850)	(\$185,922)	(\$199,281)
Recapture Rate	91%	90%	90%	89%	89%
Capital Replacement Fund	\$97,400	\$97,400	\$97,400	\$97,400	\$97,400
Cashflow	(\$246,606)	(\$257,543)	(\$269,250)	(\$283,322)	(\$296,681)

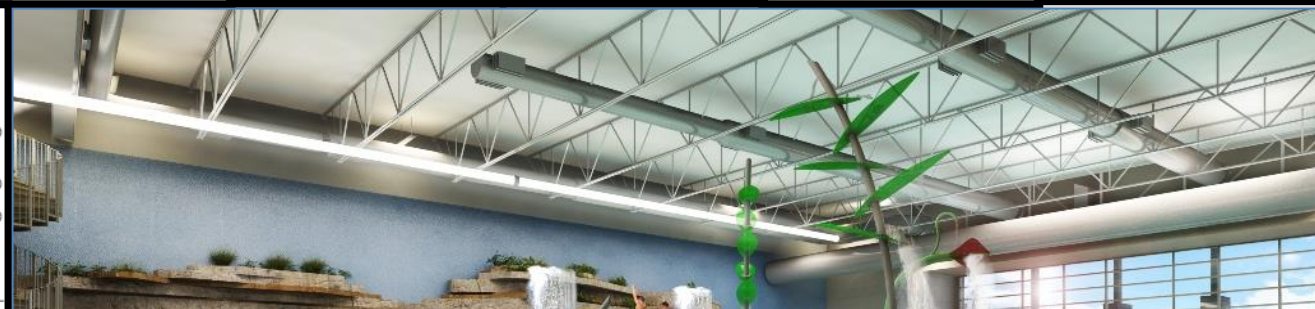
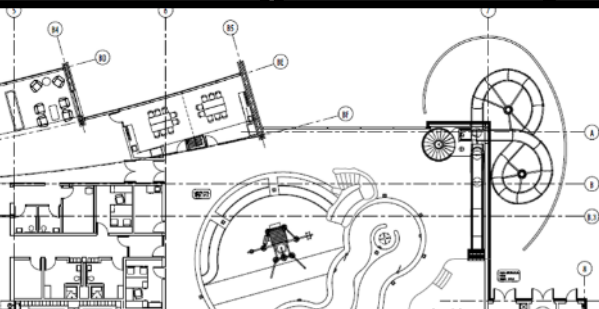
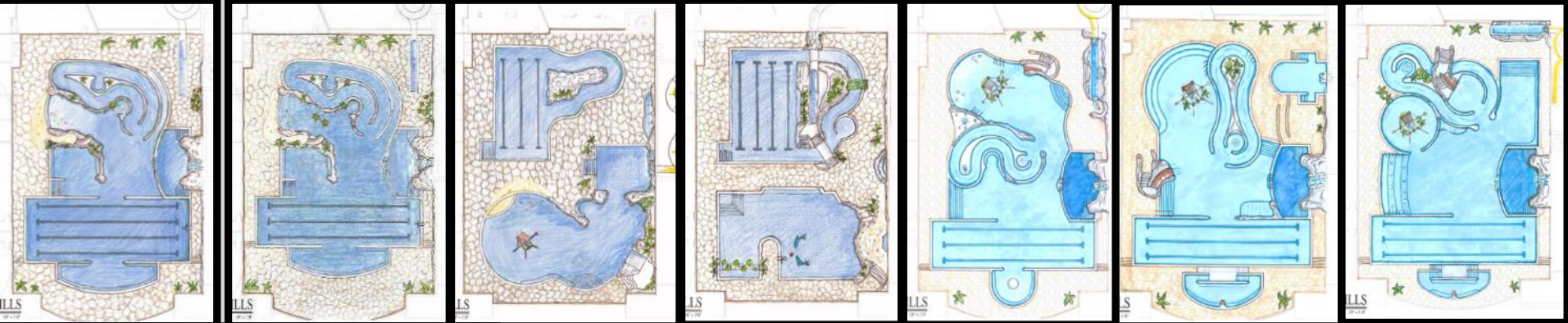
Option 3					
Project Cost	\$19,247,000				
Attendance	110,476				
Revenue	\$1,440,416	\$1,469,081	\$1,497,986	\$1,525,561	\$1,554,911
Expense	\$1,650,003	\$1,691,253	\$1,733,534	\$1,776,873	\$1,821,294
Operating Cashflow	(\$209,587)	(\$222,172)	(\$235,548)	(\$251,312)	(\$266,384)
Recapture Rate	87%	87%	86%	86%	85%
Capital Replacement Fund	\$96,300	\$96,300	\$96,300	\$96,300	\$96,300
Cashflow	(\$305,887)	(\$318,472)	(\$331,848)	(\$347,612)	(\$362,684)

CREATING AN EXPERIENCE

- Prioritize Aquatic Users Needs
- Zoning
 - (age/user groups)
 - (Active and passive spaces)
- Image/Aesthetics/Finishes
- Theming
- **Creative design process**



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CREATIVE DESIGN
PROCESS

IDENTIFYING YOUR KEY AQUATIC USERS

- Competition
- Recreation
- Instructional
- Wellness and Therapy



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COMPETITION USERS

CREATING A FAST POOL

Natatorium Environment

- Space Layout

Pool Configuration

- Race Course Layouts
- Lane Configuration
 - Lane Widths
 - Water Depths
- Diving Considerations

Pool Structure

- Perimeter Overflow
- Pool Shell

Water Temperature

- Warm Water Vs. Cool Water

Water Quality

- Filtration
- Chemical Treatment

Hydraulic Design



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Natatorium Layout

Athlete Circulation

- Adjacencies to Race Course
- Athlete Staging

Spectator Experience

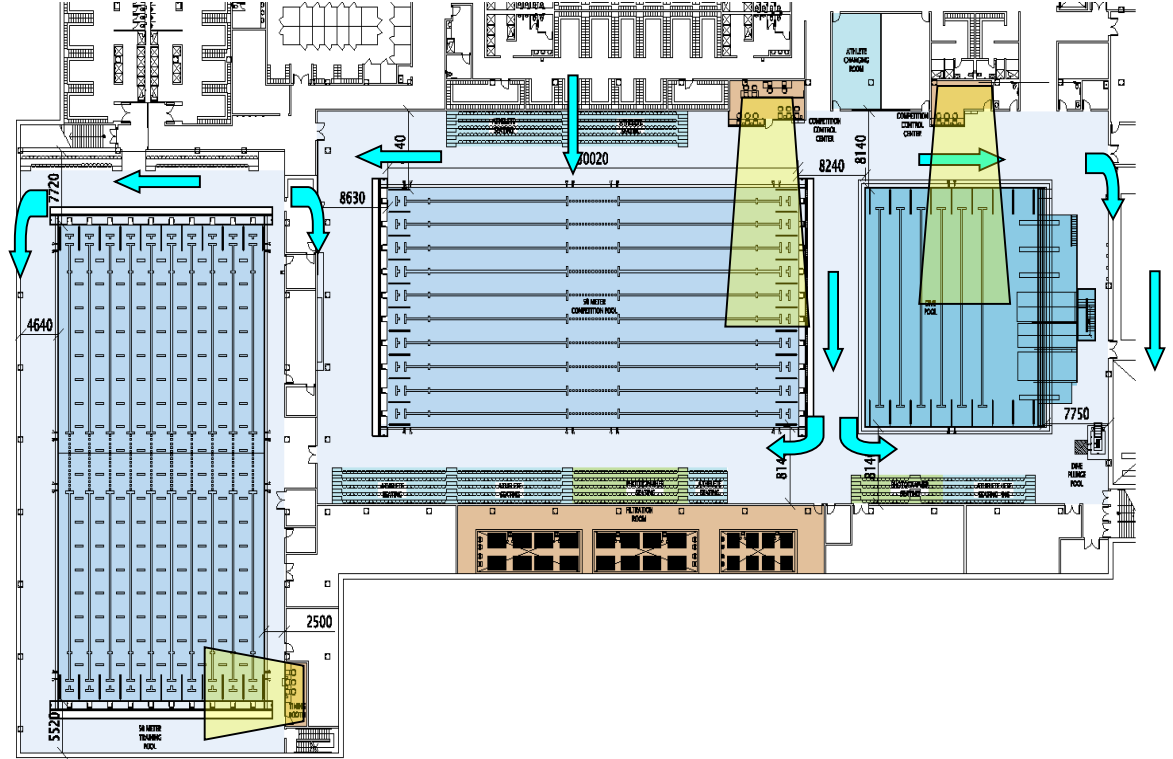
- Orientation to Race Course
- Quantity
- Accessibility
- Site Lines

Support Spaces

- Locker Rooms
- Meet Management
- Wet Classroom/Party Room
- Storage Space
- Mechanical Space

Pool Deck and Timing

- Deck Widths
- Coaches and Judge Circulation



Competition User Program Needs

- Specific Dimensional Requirements
- Water Depth Requirements
- Water Temperatures
- Spectator Seating
- Deck Spacing
- Bulkheads
- Movable Floors
- Platform and Springboard Diving
- Timing Systems / Scoreboards
- Gutter Design Preferences



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Competition Pool Sizes

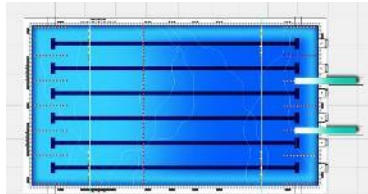
	Unit	Number	Dimensions	
			Unit Size	Per Unit
Natatorium				
	6-Lane 25-Yard	1 Area	45 Ft. X 75 Ft.	3,375
	8-Lane 25-Yard	1 Area	60 Ft. X 75 Ft.	4,500
	25-Yard X 25-Meter	1 Area	75 Ft. X 82 Ft.	6,150
	Stretch 25 w/ 1 Bulkhead	1 Area	75 Ft. X 125 Ft. 8 In.	9,412.5
	50 Meter X 25 Yards w/ 1 Bulkhead	1 Area	75 Ft. X 168 Ft.	12,600
	Stretch 50 w/ 3 Bulkheads	1 Area	75 Ft. X 216 Ft.	16,200



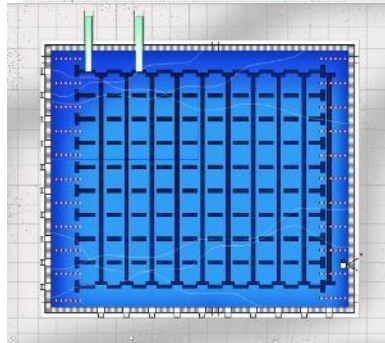
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Competition Pools



25 - Yard (6 25-Yard Lanes) **3,375 Sq. Ft.**

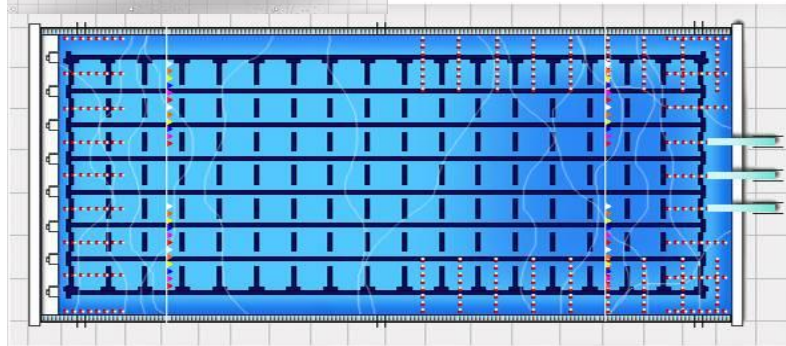


25-Yard By 25-Meter

11 25-Yard Lanes

6,150 Sq. Ft.

10 25-Meter Lanes



50-Meter by 25-Yard

8 or 10 (50-Meter Lanes)

17-22 (Cross Course

25-Yard Lanes)

12,600 Sq. Ft.



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RECREATION USERS

Recreation User Program Needs

- Age Specific Opportunities
- Varying Water Depth Requirements
- Combination of Active and Passive Water
- Maximizing Open Water Spaces



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ACTIVE WATER SPACES



PASSIVE WATER SPACES



WATERSLIDES



KIDDIE WATERSLIDES



WAVE TECHNOLOGY



ZERO ENTRY



SHALLOW STEP ENTRY



MOVING WATER



WATER FLOATABLES



VERTICAL WATER SPRAYS



MAXIMIZE OPEN WATER
SPACES



INSTRUCTIONAL USERS

Instructional User Program Needs

- Learn to swim
- Water safety instruction, Lifeguard instruction
- Life safety skills
- Survival swimming
- Scuba
- Other aquatic skills



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THERAPY AND WELLNESS USERS

Therapy and Wellness User Program Needs

Injury Rehabilitation
Therapeutic Exercise
Exercise and Wellness
Floor Based
Deep Floor



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FUTURE...

Future of Aquatic Facilities

- Larger and more diverse in function, especially in accommodating special needs, cultural groups, health care, and a recognized need to attract teens.
- Facilities built with multiple pools with strong consideration given to adaptability and concurrent programming.
- As aquatic facilities become the community hubs of recreation facilities emphasis on social spaces such as hot tubs/spas, wet decks, expansive deck area with shade, etc. will be in demand
- Public sector aquatics will offer attractions and experiences that become destination facilities with longer periods of stay.
- Designed for a greater ease of operation and maintenance, with as much thought going into cleaning, replacement, and daily operations.
- Pool operations are becoming ever more complex with technology advancements in water filtration, chemical treatment and air handling system.





WHAT WE BELIEVE



LIFE-CHANGING
EXPERIENCES



THEY'RE TRANSFORMED



IT FEELS LIKE FUN



WE SERVE THE
HUMAN EXPERIENCE



MEMORABLE MOMENTS



SUSTAINABLE FACILITY



A SENSE OF
COMMUNITY PRIDE



QUESTIONS