



AIA
Continuing
Education
Provider

Waterpark Projects



**30 YEARS & 1000 PROJECTS
LATER...**

**OPENAIRE BUILDS
RETRACTABLE ROOFS
AROUND THE GLOBE**

IS YOURS NEXT?

What we do



How to Work with Us

- We work with architects, developers, investors, contractors, construction managers, general contractors, independent builders, property owners and more...
- OpenAire can participate in your project from design to manufacturing, to construction / installation and hand-over plus can provide architectural and engineering services, operations support, financial/investment planning, business planning etc.
- We are typically included in projects at the Concept Design or Schematic Design Phase. We work with your team to implement your vision.
- The best warranty in the industry: minimum 5 year full parts and labour warranty, training, worldwide support and maintenance

Collaborative Design

- In-house design and engineering
- Certified fabrication & welding facility
- Dedicated customer support and project management
- Revit, Solid Edge, CAD

Engineer Standards

- Minimum L/200 deflection criteria in every design
- Free span enclosures of over 180' (55 m)
- Free-span dome configurations more than 300' (91 m)
- Custom Engineering for all climates & geographies including:
 - High snow/rain loads
 - Seismic zones
 - Hurricane/tornados

Aluminum Construction

- Thermally broken aluminum frames/extrusions
- Baked on paint finish prevents corrosion making them Maintenance Free
- Proven Lower Lifecycle Costs for aluminum buildings
- Key component in energy efficient LEED certification



Salinas Municipal Aquatic Center, CA
LEED GOLD RATING



Roger Carter Community Center, MD
LEED SILVER RATING

8 BENEFITS OF ADDING A RETRACTABLE ROOF

TO YOUR DESIGN OR FACILITY



1 PROMOTES HEALTH AND HYGIENE

Opt for fresh air circulation and daylight for a healthier environment, a new standard in future design.



2 MAXIMIZING SPACE AND REVENUE

Convert unused space or extend "usable" space to turn it into a year-round revenue generator.



3 LOWER LIFECYCLE COSTS

Reduced operating costs add up to drastic savings.



4 NATURAL LIGHT AND ILLUMINATION

Welcome the outdoors inside with a retractable solution that allows for flexibility.



5 PERFECT CONDITIONS YEAR-ROUND

Rain or shine, your space converts to an indoor or outdoor space in minutes.



6 CREATE A PLACE PEOPLE WANT TO VISIT

Attract people to your bright, airy, stunning venue any time, any day.



7 MAINTENANCE-FREE

Never repaint again, means no more extended closures for downtime.



8 ENERGY EFFICIENT

Natural ventilation allows heat to escape and for reduced use of mechanical air-handling equipment.

www.openaire.com | sales@openaire.com

1. Promotes Health and Hygiene

Ventilation is required to achieve and maintain good air quality, as well as thermal comfort levels but also as the study shows, also the health and safety of staff and guests. Indoor pools are guided by the guidelines set out by ASHRAE 62.1, but per the CDC investigation into the “Investigation of Employee Symptoms at an Indoor Waterpark”¹, if you have a larger space or even a waterpark, these standards are insufficient.

There is little evidence that ventilation directly reduces the risk of disease transmission, but many studies suggest that **insufficient ventilation increases disease transmission**.²

Pools built with non-corrosive materials like aluminum are at a significant advantage both from a strength and durability perspective, plus from a cleanliness one. A bright, open space that also opens and ventilates naturally, simply doesn't corrode. Which allows operators to clean it appropriately, especially during a health crisis such as COVID-19.

A naturally ventilated space is proving to be healthier for guests and staff, as it removes the chloramines from the air. New studies demonstrate the correlation between the transmission of COVID19 in closed environments vs. open air circulation.

2. Maximizes Space and Revenue

If you have an existing pool that is seasonal, you can enclose it (lot coverage permitting) giving you additional footprint for year round programming. You can also add a retractable skylight and retractable walls (to some building types) to areas that may be under-utilized or purpose specific, turning these into more flexible/programmable environments

Length of stay, programming, accessibility, sustainability, increased demand & memberships, and updated amenities are all critical to driving revenue growth but all of these combined increase facility operating costs.

Adding an amenity with lower maintenance costs and operating costs allows management teams to focus capital on other areas, and reduce overhead.

*In a recent Japan study, the odds a primary case transmitted COVID-19 in a closed environment was 18.7x greater compared to an open-air environment.*³

3. Lower Life-Cycle Costs

Savings when operating a retractable roof (translucent or transparent) enclosure include both the cost of hydro, gas and reduce your reliance on electrical lighting during the day.

Typically a retractable roof on an aquatic center can save operators up to 30% y.o.y on energy bills.

This is compared to a traditionally constructed natatorium which requires year round mechanical ventilation.

In a nutshell when the roof is open, you turn off the mechanical systems and lights in the space. This is the intent of all global energy codes. To use less energy.

Using outdoor air as a dehumidifying source when it is cost effective, rather than using a mechanical dehumidification system, can greatly reduce total operating costs, provide better indoor air quality, and improve system reliability.⁴

4. Natural Light and Illumination

There is undeniable evidence first, that daylit spaces hold the potential to yield substantial benefits, including increased energy savings, increased revenue in retail applications, and improvements to human health and productivity.⁵

There are a variety of studies showing that daylight is the third most important factor in improving retail sales, behind hours of operation and years since last renovation.⁶

In other words, a day lit space with good hours and a clean, new environment will make more money. Utilizing natural light can also lead to substantial energy savings, whereby a you won't require artificial lighting during daytime hours.

Lighting loads can be reduced by incorporating natural lighting into the envelope design and by using efficient lighting options.⁷

5. Perfect Year Round Conditions

Open and Close the roof at the push of a button. Typically an aquatic center is just that, an aquatic center. But what if it can be more? A space for events, parties, an indoor outdoor rentable venue. The options are endless and not limited to traditional venue rental issues. Mother Nature will no longer have an impact on any use of your space. The roofs of our largest facilities close in minutes. So with the addition of optional rain sensors the enclosure will do the work for you.



6. Create a place people want to Visit

To compete in towns and cities across the country, all clubs, public or private, must stay ahead of the trends to attract new members to their facility. This is called improving your marketability.

Offering upgraded attractions and amenities to compete with other venues is critical. Ensuring that these can be open year round enhances their value and ROI via programming opportunities.

A retractable roof ensures you are free from weather related concerns. In addition, the 'peace of mind' associated with being in a bright, open and naturally ventilated space is appealing and "marketable" to attract new members.



7. Maintenance Free Facility

Few buildings present the risks and challenges found in indoor swimming pools enclosures or natatoriums.

Indoor pools, in all locations, suffer from the effects of chloramines, the off-gases in the air, which have become worse as pools have become bigger/warmer and as attractions; such as slides, surfing, splash pads, have become common features.

As a result, operators and owners are continually on the look out for building envelope failures that can appear quickly and severely and are caused by improper design and construction.

*This is because the air in a natatorium often contains nearly three times the moisture per unit volume as a typical, non-humidified building.*⁸

Aluminum is lightweight, high-strength, corrosion-resistant and widely recycled. It maximizes building efficiency by balancing the functions of heating, cooling, lighting, shading and ventilation. In addition, aluminum in buildings has been proven to last for multiple decades with minimal maintenance, lowering the lifecycle footprint of a building.⁹

8. Energy Efficient

All energy codes, globally, require new or renovated structures and buildings to use less energy. Aluminum is superior to steel and iron in its ability to reflect the infrared (heat) rays of the sun. **Properly coated aluminum roofs can reflect up to 95 percent of the solar energy that strikes them, dramatically improving energy efficiency. This makes aluminum is a key component in LEED-certified green buildings should you be looking for that designation.**¹¹

In addition when the roof is open and the walls are open, you space becomes a naturally “chimney”. This is a low cost alternative to expensive energy consuming mechanical ventilation systems.





Original POOL



Scheu Family YMCA, Upland, CA

Already Have a Pool?

YES... we can add a Retractable Roof!

Learn & Earn

OpenAire now offers a
Continuing Education Credit
for Architects = 1 AIA LU-HSW

LEARN:

- How they can be added to new & existing buildings
- The health, safety, benefits for occupants
- How retractable roofs can save energy costs \$\$
- The benefits of a Naturally Ventilated Space
- How large volumes of air will potentially reduce the load of airborne disease pathogens
- How retractable roofs are a sustainable and can reduce the carbon footprint of a building
- How they can your reduce building yearly operating costs

<https://openaire.com/continuingeducation/>

AIA
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Provider

Credits:

 0.1 IACET CEU*	 1 AIA LU/HSW	 1 AIBD P-CE	 AAA 1 Structured Learning Hour	 AANB 1 Hour of Core Learning	 AAPEI 1 Structured Learning Hour
 MAA 1 Structured Learning Hour	 NLAA 1 Hour of Core Learning	 NSAA 1 Hour of Core Learning	 NWTAA 1 Structured Learning Hour	 OAA 1 Learning Hour	 SAA 1 Hour of Core Learning

Waterparks



Waterparks



- Watiki Waterpark Rapid City, SD
 - 30,000 sf
- Water-Zoo Waterpark, Clinton, OK
 - 30,000 sf
- Pump House Waterpark, Jay Peak, VT
 - 50,000 sf
- Aquapark Terminal, Kiev, Ukraine
 - 220,000 sf
- Silverleaf at the Villages, Tyler, TX
 - 19,000 sf
- South Dakota, Rapid City, SD
 - 8,100 sf
- Americana Waterpark, Niagara Falls, ON
 - 25,000 sf
- Epic Waters, Grand Prairie, TX
 - 62,000 sf
- Kalahari Poconos, Pocono Mountains, PN
 - 220,000 sf
- Pirates Cay Waterpark (Fox River), Sheridan, IL
 - 19,000 sf
- Cape Codder Waterpark, Hyannis, MA
 - 30,000 sf
- Zehnders, Frankenmuth, MI
 - 50,000 sf
- Big Splash, French Lick, IN
 - 40,000 sf
- Aqua Sferra, Donetsk, Ukraine
 - 70,000 sf
- Tropicana Waterpark, Stadthagen, Germany
 - 70,000 sf
- The Cove at Lakefront, Little Elm, Texas
 - 40,000 sf
- OWA Waterpark, Foley, Alabama
 - 65,000 sf
- Island Waterpark @ Showboat Atlantic City, NJ
 - 100,000 sf
- Turtle Island Waterpark Belcourt ND
 - 20,000 sf
- North Segment Community Center New Town ND
 - 13,000 sf





Hotel: 1331 rooms

100,000SF
LARGEST BEACHFRONT
SINGLE RETRACTABLE
ROOF WATERPARK IN THE
WORLD



Hotel: 1331 rooms

Island Waterpark @ Showboat Resort - COMING SOON
Atlantic City, New Jersey





Island Waterpark @ Showboat Resort - COMING SOON
Atlantic City, New Jersey



Island Waterpark @ Showboat Resort - COMING SOON
Atlantic City, New Jersey



Island Waterpark @ Showboat Resort - COMING SOON
Atlantic City, New Jersey



Island Waterpark @ Showboat Resort - COMING SOON
Atlantic City, New Jersey

NOW OPEN!



WATERPARK RESORT



NOW OPEN!

Tropic Falls Waterpark at OWA
Foley Alabama



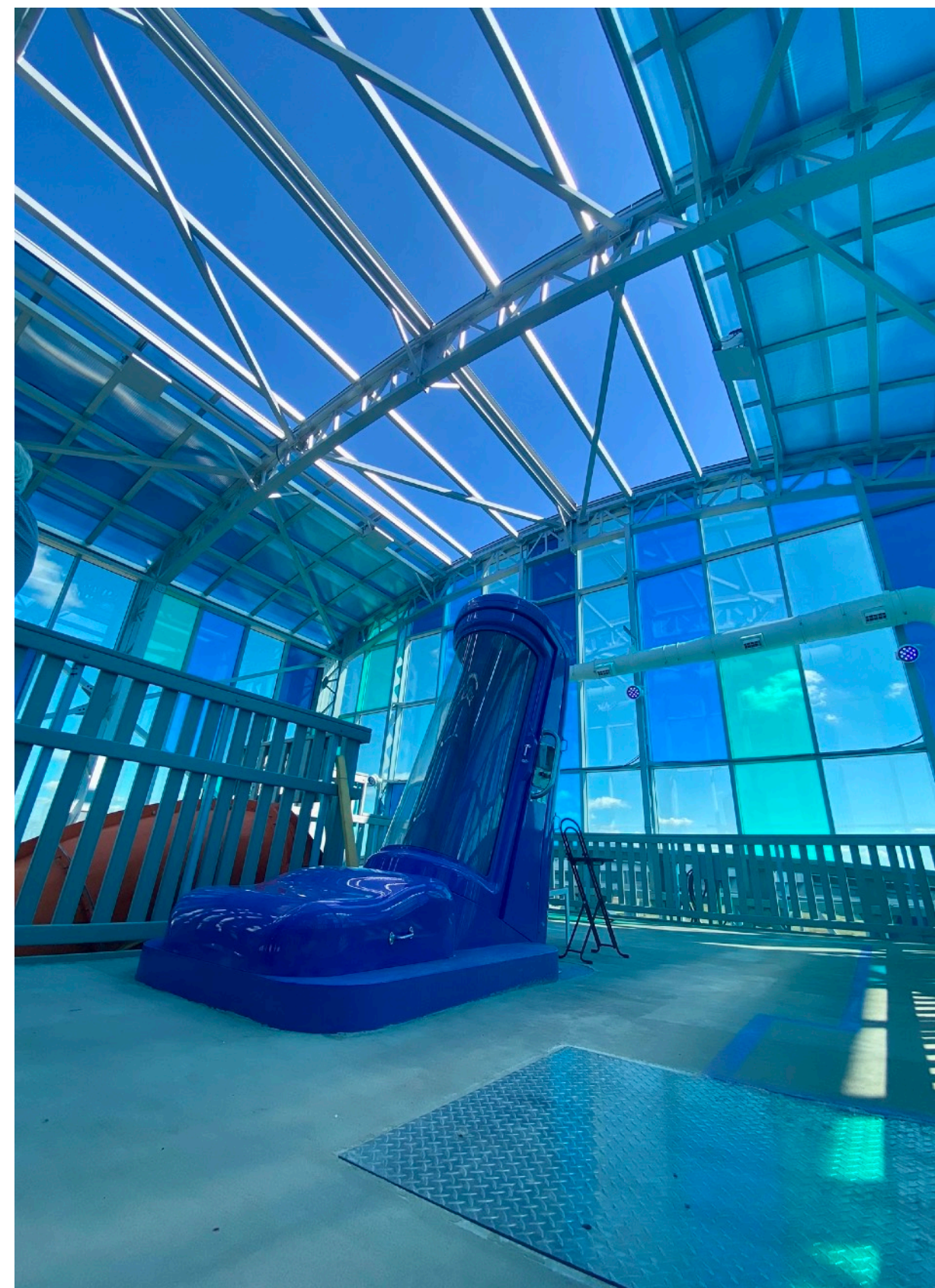
Tropic Falls Waterpark at OWA
Foley Alabama



NOW OPEN!



Tropic Falls Waterpark at OWA
Foley Alabama



Tropic Falls Waterpark at OWA
Foley Alabama



Tropic Falls Waterpark at OWA
Foley Alabama



Tropic Falls Waterpark at OWA
Foley Alabama



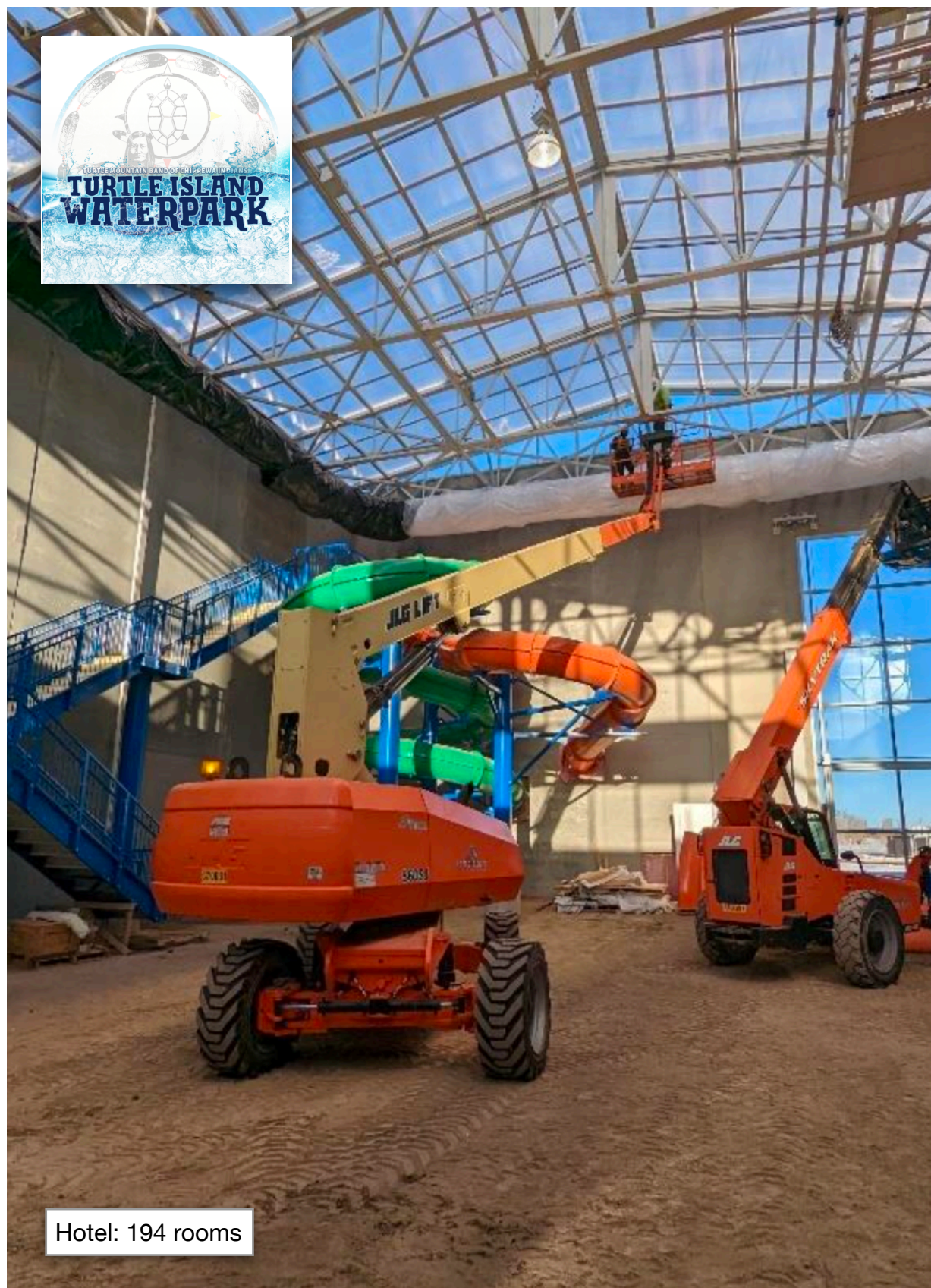
Tropic Falls Waterpark at OWA
Foley Alabama



WATERPARK @ SKY DANCER CASINO



Turtle Island Waterpark @ Sky Dancer Casino
For the Turtle Mountain Band of Chippewa Indians, Belcourt, ND



Turtle Island Waterpark @ Sky Dancer Casino
 For the Turtle Mountain Band of Chippewa Indians, Belcourt, ND

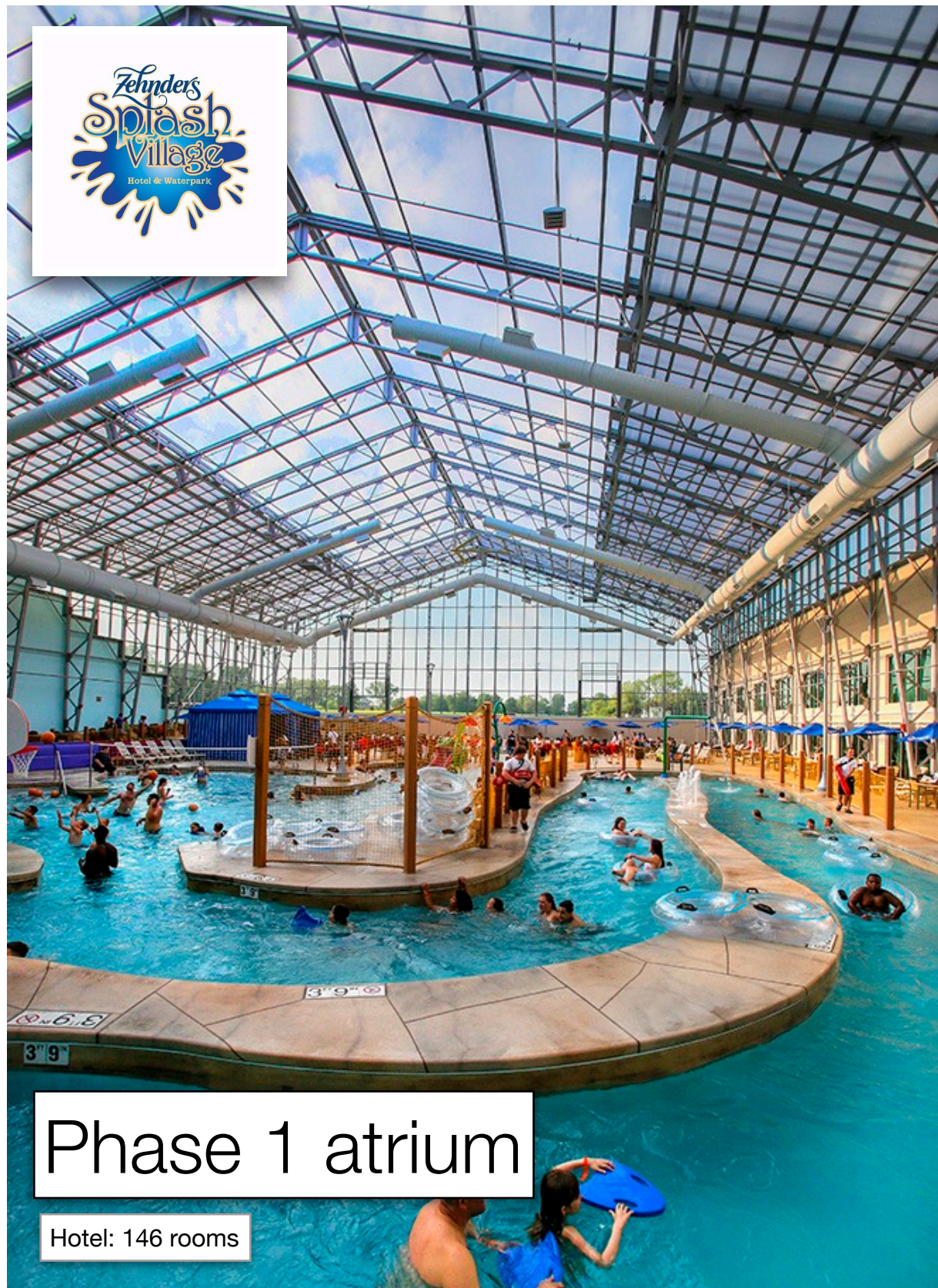


OpenAire continues to work with Zehnder's ownership to renovate their facility.

2014- In Phase 1 a 30,000sf Atrium was added to the resort.

2020 - In Phase 2a+b the roof and walls were ripped off and replaced with a NEW retractable roof and operable walls





Zehnder's Splash Village Waterpark
Frankenmuth, MI



Phase 1 atrium

Hotel: 146 rooms





Phase 2a ROOF

Hotel: 146 rooms

Zehnder's Splash Village Waterpark
Frankenmuth, MI



Phase 2a ROOF

Hotel: 146 rooms



Phase 2b WALLS

Hotel: 146 rooms

Zehnder's Splash Village Waterpark
Frankenmuth, MI



Phase 2b WALLS

Hotel: 146 rooms





#1 of TOP 10

220,000 sf
WATERPARK RESORT



Kalahari Resort Poconos, Biggest Indoor Waterpark in the USA
Pocono Mountains, Pennsylvania



Kalahari Resort Poconos, Biggest Indoor Waterpark in the USA
Pocono Mountains, Pennsylvania



Hotel: 884 rooms

Kalahari Resort Poconos, Biggest Indoor Waterpark in the USA
Pocono Mountains, Pennsylvania



#3 of TOP 10



epicwaters
INDOOR WATERPARK

65,000 sf
MUNICIPAL WATERPARK



Epic Waters
Grand Prairie, Texas



Epic Waters
Grand Prairie, Texas



Epic Waters
Grand Prairie, Texas



Epic Waters
Grand Prairie, Texas



THE COVE AT THE LAKEFRONT™

40,000 sf
MUNICIPAL WATERPARK



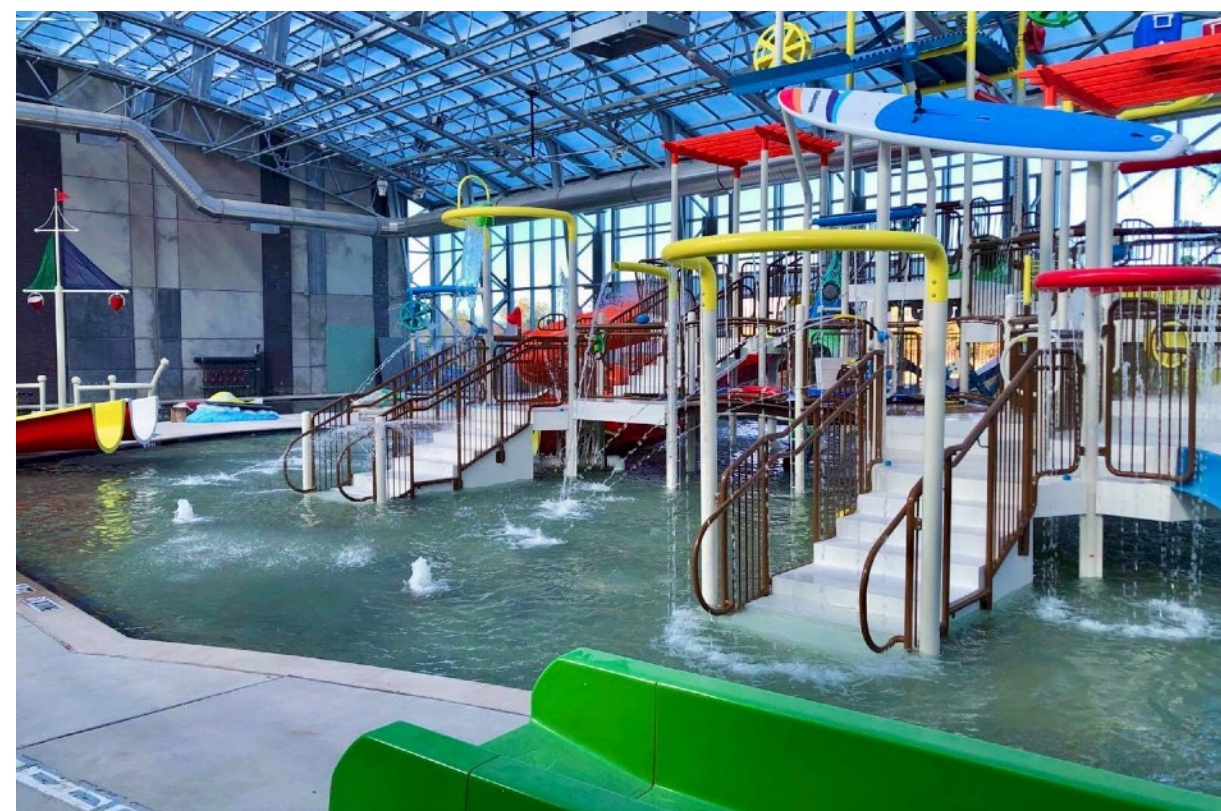
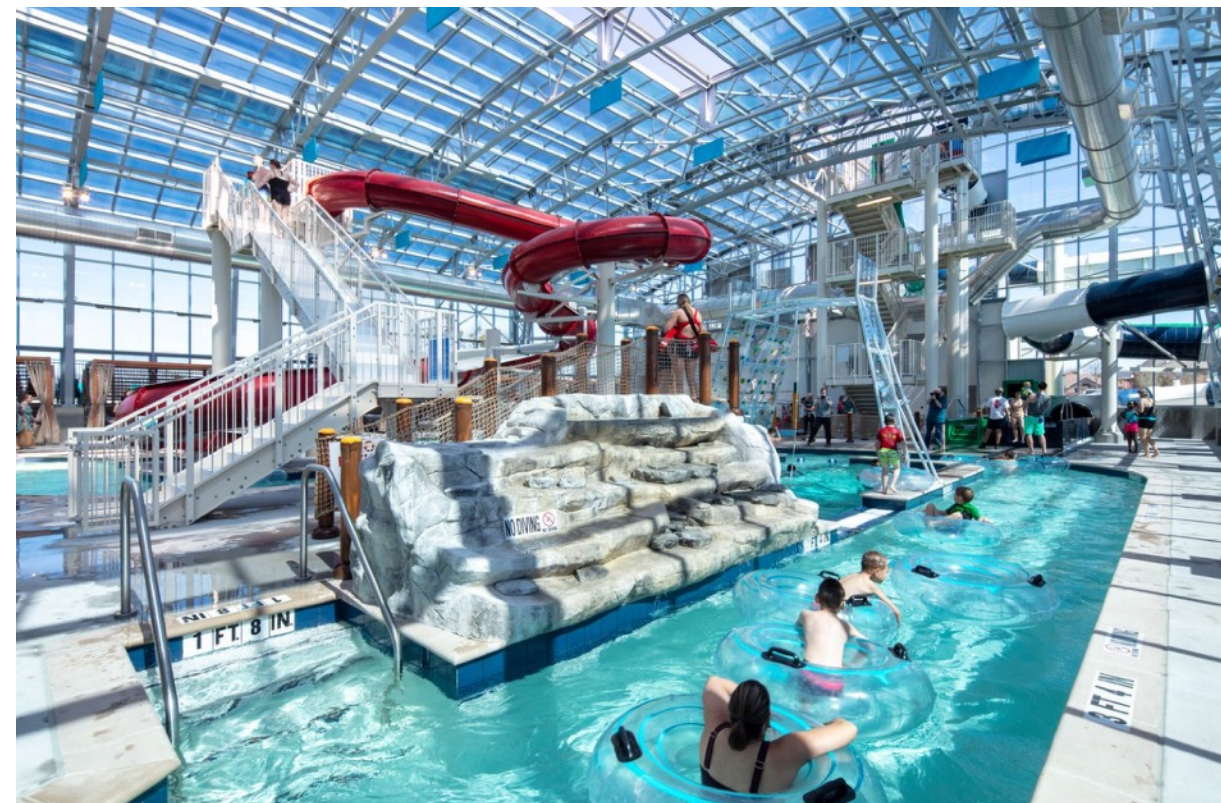
The Cove at Lakefront, Little Elm Aquatic Center
City of Little Elm, Texas



The Cove at Lakefront, Little Elm Aquatic Center
City of Little Elm, Texas



The Cove at Lakefront, Little Elm Aquatic Center
City of Little Elm, Texas



The Cove at Lakefront, Little Elm Aquatic Center
City of Little Elm, Texas



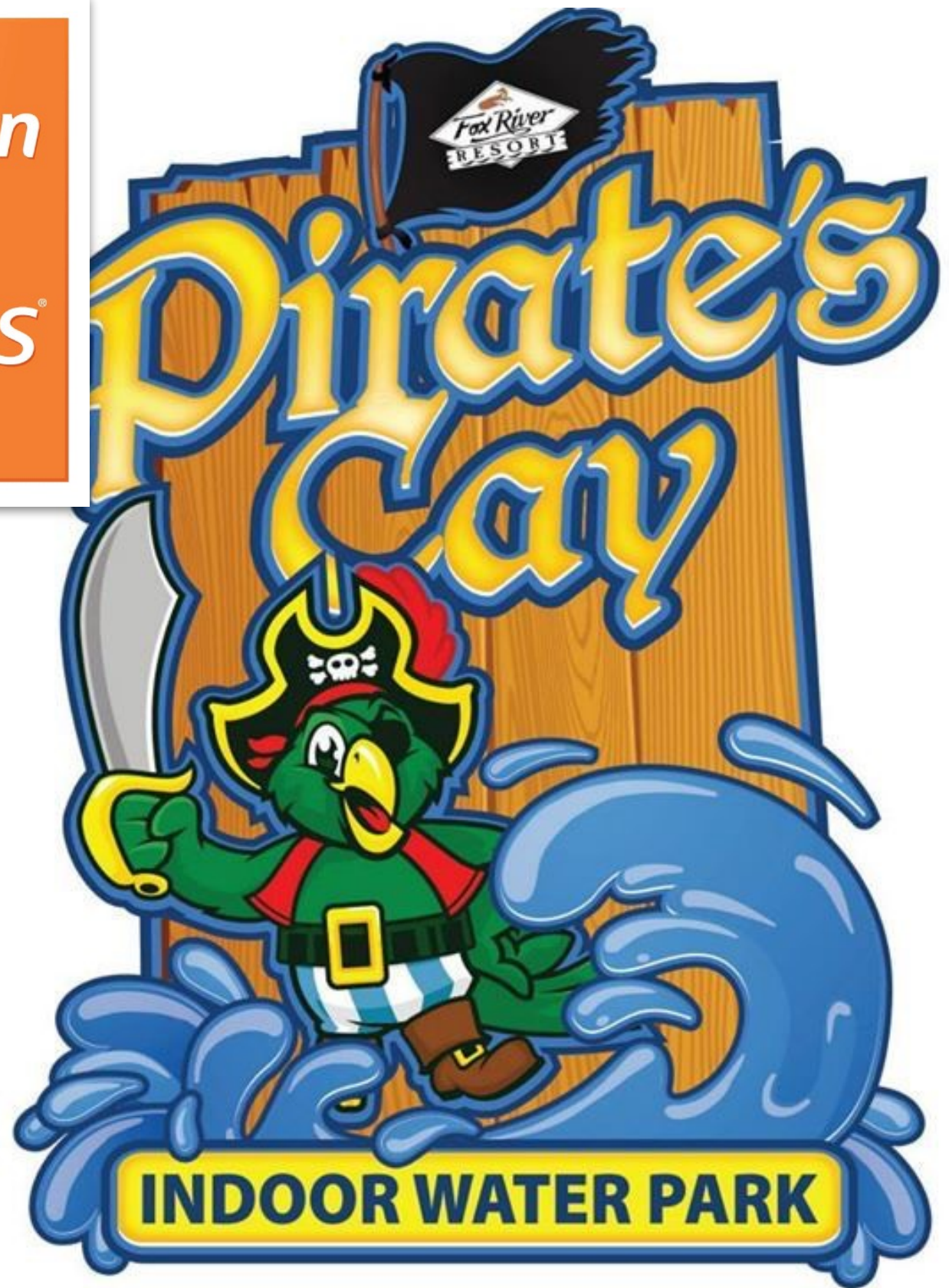
Project Rendering



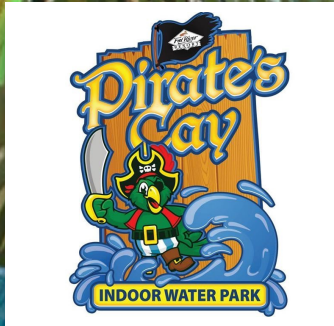
Project Rendering



The Cove at Lakefront, Little Elm Aquatic Center
City of Little Elm, Texas



19,000 sf
WATERPARK PART OF HOLIDAY INN VACATION CLUB PROPERTY



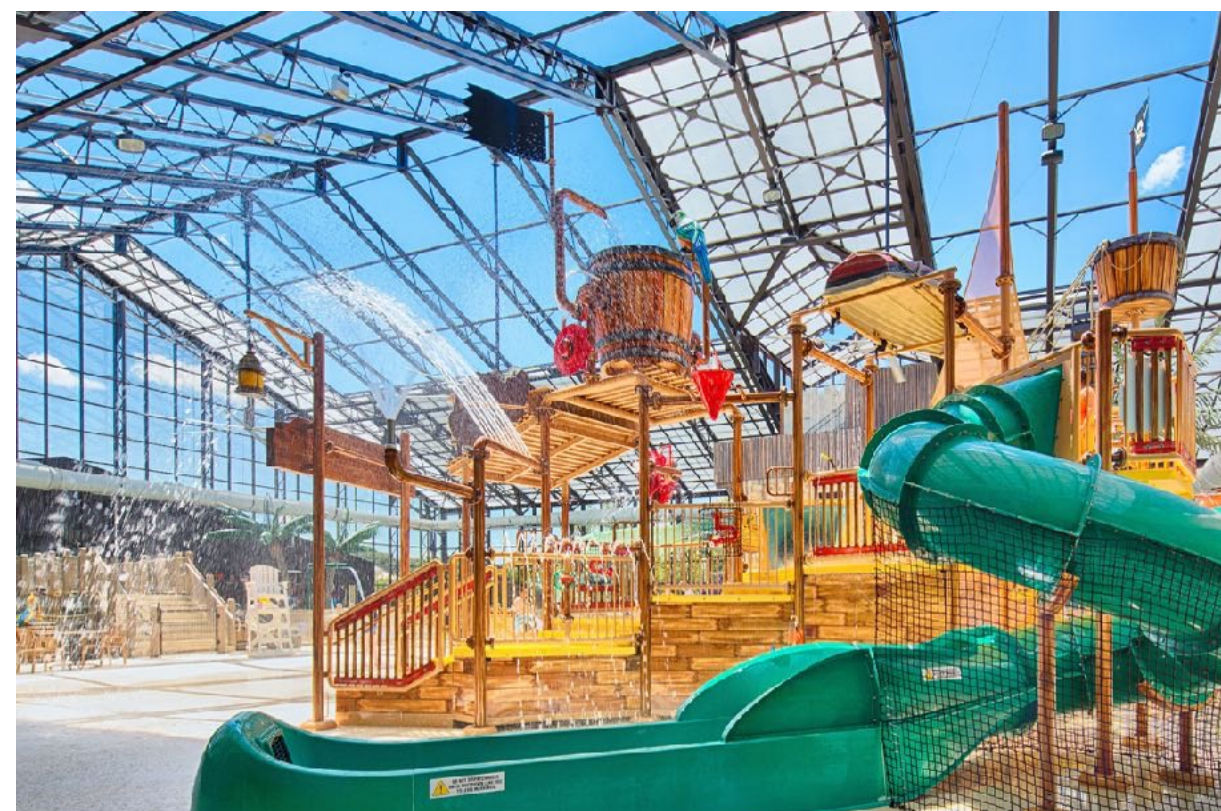
Hotel: 332 rooms

Pirates Cay Waterpark at Fox River Resort, Holiday Inn Club
Sheridan, Illinois



Hotel: 332 rooms

Pirates Cay Waterpark at Fox River Resort, Holiday Inn Club
Sheridan, Illinois



Pirates Cay Waterpark at Fox River Resort
Sheridan, Illinois



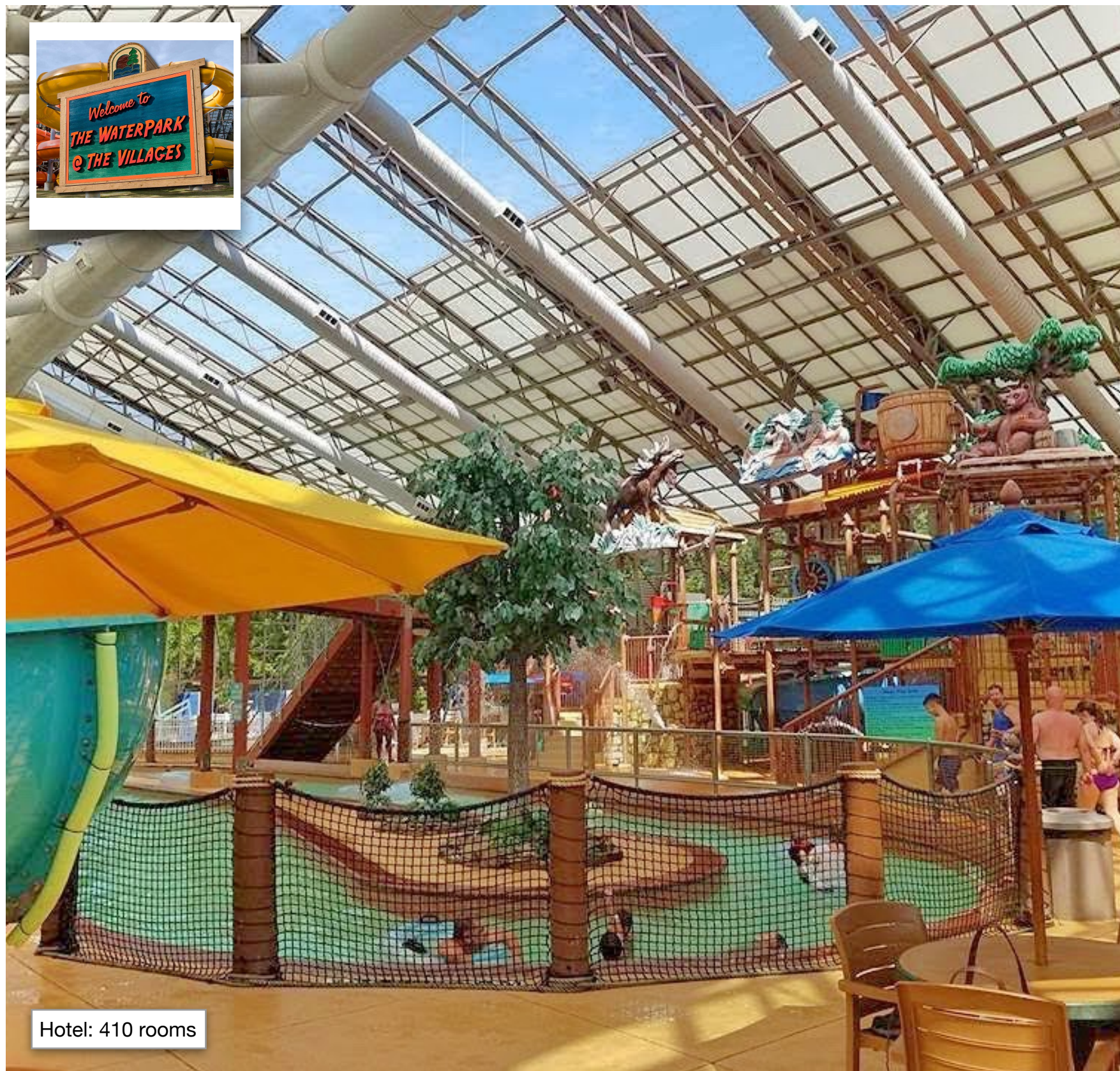
*Holiday Inn
Club
Vacations®*



19,000 sf
WATERPARK PART OF HOLIDAY INN VACATION CLUB PROPERTY



The Waterpark at the Villages, Silverleaf Resort Holiday Inn Vacation Club
Flint, Texas, USA



The Waterpark at the Villages, Silverleaf Resort Holiday Inn Vacation Club
Flint, Texas, USA



Hotel: 410 rooms

The Waterpark at the Villages, Silverleaf Resort Holiday Inn Vacation Club
Flint, Texas, USA



The Waterpark at the Villages, Silverleaf Resort Holiday Inn Vacation Club
Flint, Texas, USA



ЛУЖНИКИ

45,000 SF
WATERPARK @ FORMER LUZHNICKI OLYMPIC COMPLEX



Water Sports Palace Luzhniki at Luzhniki Aqua Complex
Moscow, Russia



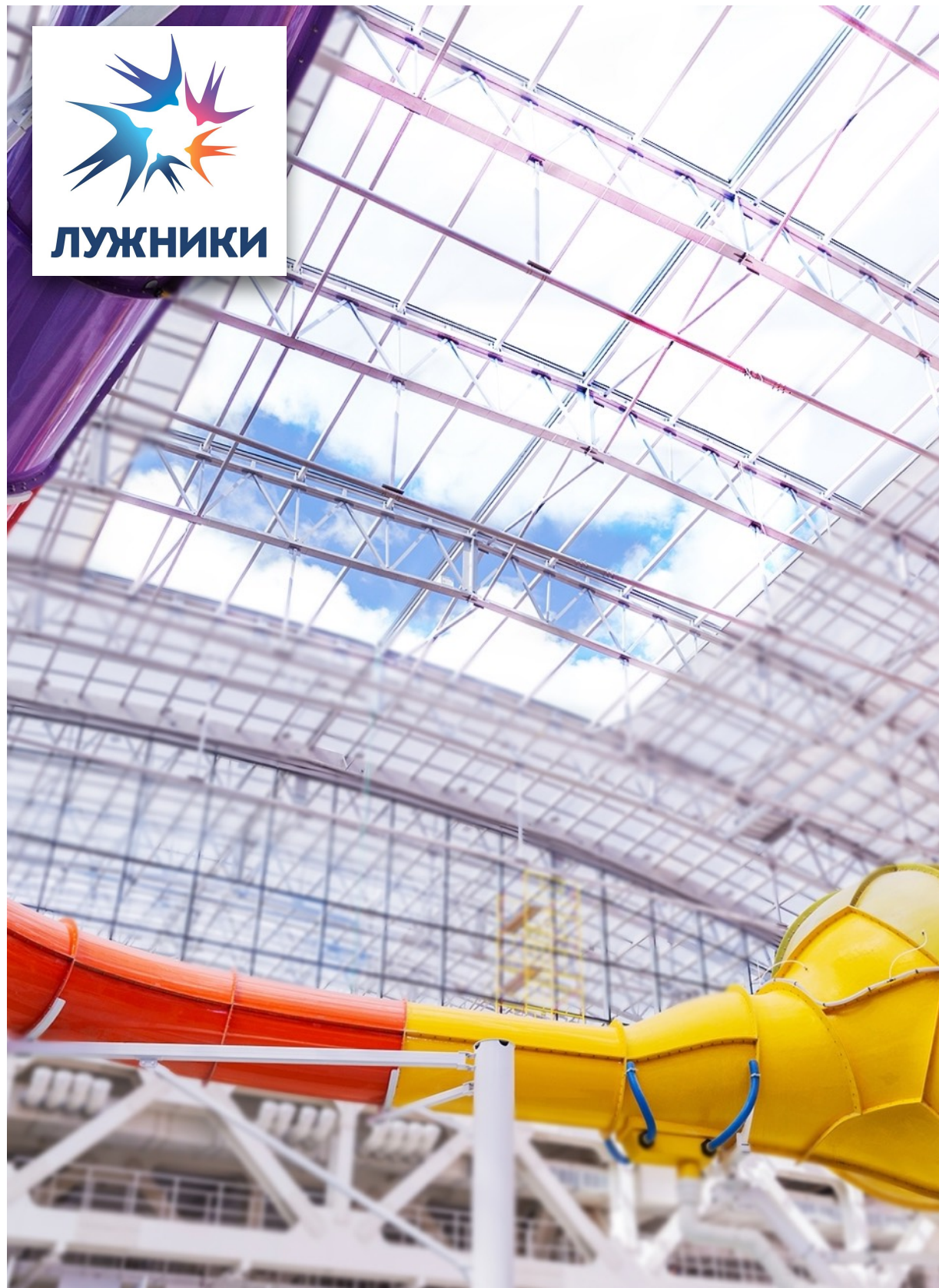
Water Sports Palace Luzhniki at Luzhniki Aqua Complex
Moscow, Russia



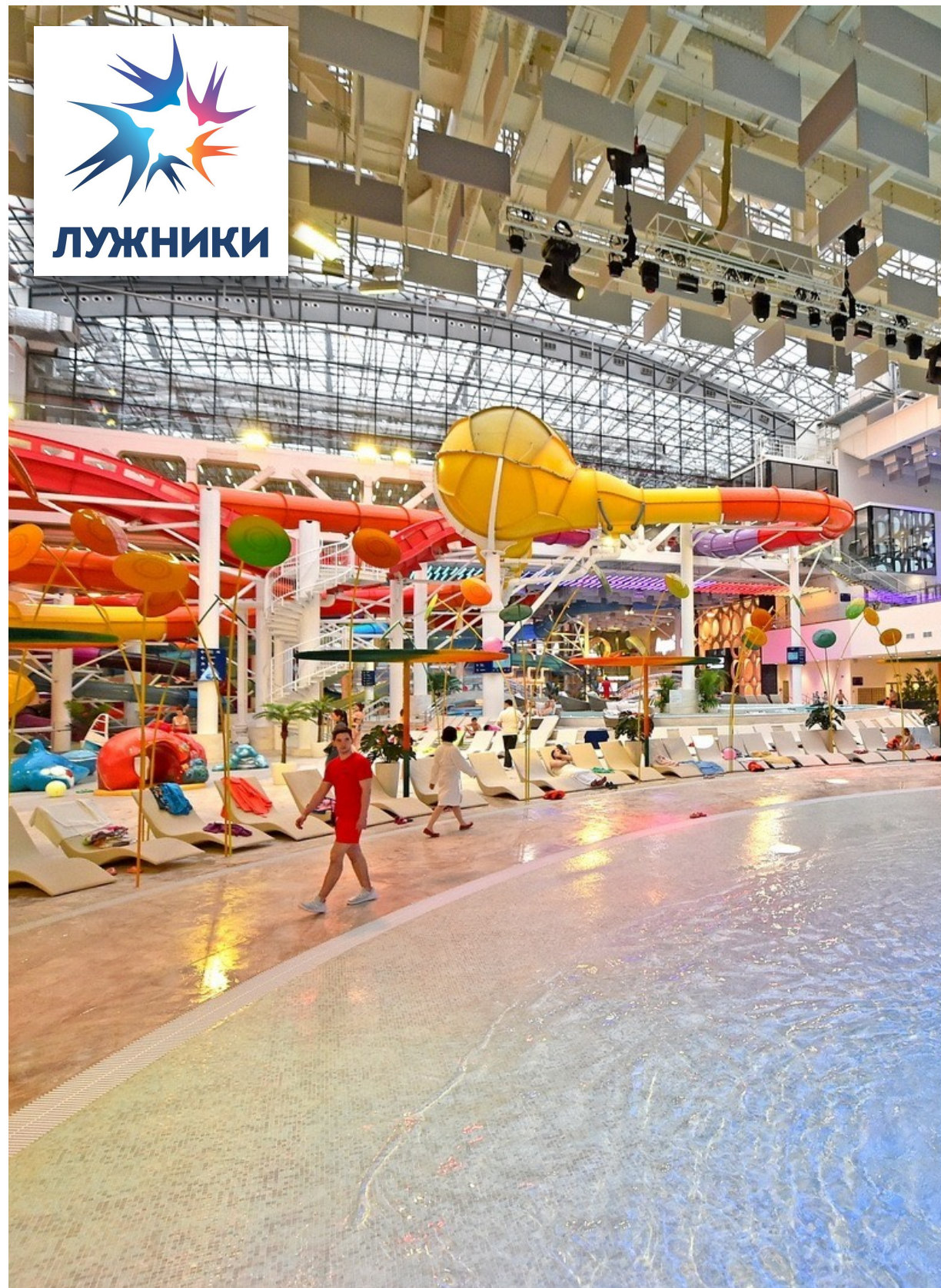
Water Sports Palace Luzhniki at Luzhniki Aqua Complex
Moscow, Russia



Water Sports Palace Luzhniki at Luzhniki Aqua Complex
Moscow, Russia



Water Sports Palace Luzhniki at Luzhniki Aqua Complex
Moscow, Russia



Water Sports Palace Luzhniki at Luzhniki Aqua Complex
Moscow, Russia

CAPE CODDER

RESORT & Spa

30,000 sf
WATERPARK RESORT

CAPE CODDER
RESORT & Spa

Hotel: 261 rooms

Cape Codder Resort and Spa Waterpark
Hyannis, Massachusetts

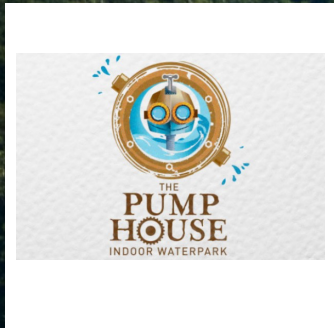


Cape Codder Resort and Spa Waterpark
Hyannis, Massachusetts



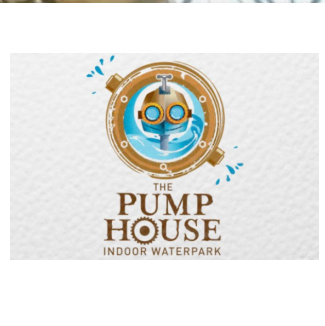
THE
**PUMP
HOUSE**
INDOOR WATERPARK

45,000 sf
WATERPARK @ JAY PEAK SKI RESORT



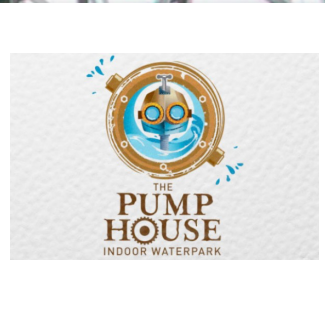
Hotel: 261 rooms

Pump House Indoor Water Park
Jay Peak Resort, Vermont USA



Hotel: 261 rooms

Pump House Indoor Water Park
Jay Peak Resort, Vermont USA



Hotel: 261 rooms

Pump House Indoor Water Park
Jay Peak Resort, Vermont USA



Pump House Indoor Water Park
Jay Peak Resort, Vermont USA



WATIKI

INDOOR WATERPARK RESORT

30,000 sf
WATERPARK RESORT



WaTiki Waterpark,
Rapid City, South Dakota



Hotel: 250 rooms

WaTiki Waterpark,
Rapid City, South Dakota



WaTiki Waterpark, Sliders Bar and Grill
Rapid City, South Dakota



WaTiki Waterpark, Sliders Bar and Grill
Rapid City, South Dakota





Raptor Reef Indoor Waterpark at Triple Play Resort
Coeur d'Alene Idaho USA



Hotel: 95 rooms

Raptor Reef Indoor Waterpark at Triple Play Resort
Coeur d'Alene Idaho USA



Hotel: 95 rooms

Raptor Reef Indoor Waterpark at Triple Play Resort
Coeur d'Alene Idaho USA



STANDALONE SURF PARK



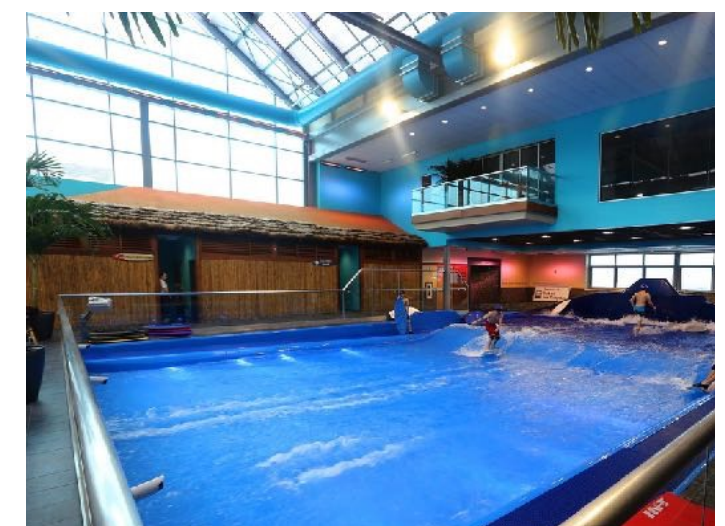
SkyVenture and Surfs Up NH
New Hampshire USA



SkyVenture and Surfs Up NH
New Hampshire USA



SkyVenture and Surfs Up NH
New Hampshire USA



SkyVenture and Surfs Up NH
New Hampshire USA

LARGEST
FREESTANDING
ALL ALUMINUM
DOME IN THE
WORLD



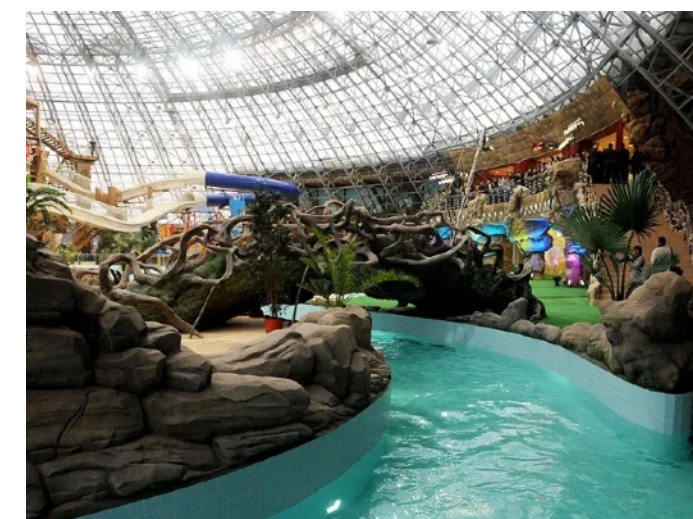
70,000 sf
STANDALONE WATERPARK



Aquapark - Aqua Sfera
Donetsk, Ukraine, World's Largest retractable aluminum dome



Aquapark - Aqua Sfera
 Donetsk, Ukraine, World's Largest retractable aluminum dome



Aquapark - Aqua Sfera
Donetsk, Ukraine, World's Largest retractable aluminum dome



40,000 sf
WATERPARK RESORT



Hotel: 154 rooms

Big Splash Adventure Waterpark
French Lick, IN, USA



Hotel: 154 rooms

Big Splash Adventure Waterpark
French Lick, IN, USA



Big Splash Adventure Waterpark
French Lick, IN, USA



40,000 sf
STANDALONE WATERPARK



Akvapark Terminal
Kiev



Akvapark Terminal
Kiev



20,000 sf
WATERPARK & AQUATIC CENTER



Tropicana Waterpark
Stadthagen, Germany



Tropicana Waterpark
Stadthagen, Germany



Tropicana Waterpark
Stadthagen, Germany



Tropicana Waterpark
Stadthagen, Germany



30,000 sf
WATERPARK RESORT



Hotel: 212 rooms

Water-Zoo Indoor Waterpark
Clinton, Oklahoma



Water-Zoo Indoor Waterpark
Clinton, Oklahoma



Water-Zoo Indoor Waterpark
Clinton, Oklahoma



25,000 sf
WATERPARK RESORT



Hotel: 200 rooms

Waves Indoor Waterpark; Americana Waterpark Resort & Spa
Niagara Falls, Canada



Waves Indoor Waterpark; Americana Waterpark Resort & Spa
Niagara Falls, Canada



Waves Indoor Waterpark; Americana Waterpark Resort & Spa
Niagara Falls, Canada



Hotel: 200 rooms

Waves Indoor Waterpark; Americana Waterpark Resort & Spa
Niagara Falls, Canada





Raptor Reef Indoor Waterpark at Triple Play Resort
Coeur d'Alene Idaho USA



Hotel: 95 rooms

Raptor Reef Indoor Waterpark at Triple Play Resort
Coeur d'Alene Idaho USA



Raptor Reef Indoor Waterpark at Triple Play Resort
Coeur d'Alene Idaho USA



STANDALONE SURF PARK



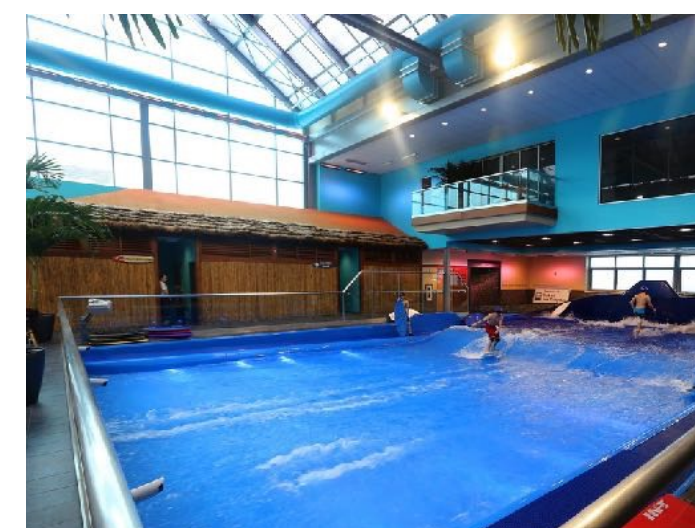
SkyVenture and Surfs Up NH
New Hampshire USA



SkyVenture and Surfs Up NH
New Hampshire USA



SkyVenture and Surfs Up NH
New Hampshire USA



SkyVenture and Surfs Up NH
New Hampshire USA



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Thank you

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End Notes:

1. CDC Workplace Safety and Health; Investigation of Employee Symptoms at an Indoor Waterpark, Lilia Chen MS, Health Hazard Evaluation Report HETA 2007-0163-3062, Great Wolf Lodge, Mason, Ohio, June 2008
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6. *ibid.*
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9. <https://www.aluminum.org/aluminum-advantage/aluminum-101>
10. <https://www.aluminum.org/product-markets/building-construction>
11. *ibid.*