



WELCOME TO THE  
2019 FRPA  
CONFERENCE!

# LEARNING OBJECTIVES



- Apply a sustainable framework to Splashpad design, maintenance and lifecycle
- Leverage unique design approaches to support childhood development and active play—which, in turn, promotes a healthy community!
- Analyze through different case studies ROI-boosting methodologies, long-term usability and programming needs that maximize your Splashpad's life cycle.
- Apply a project development methodology to sustainable Splashpad design





# SUSTAINABILITY BY DESIGN

**RETHINKING** THE COMMUNITY SPLASHPAD

# PRESENTATION OVERVIEW

1



THE NEW SUSTAINABILITY MINDSET

2



PLAYBOOK FOR SUSTAINABLE SPLASHPAD DESIGN

3



BENEFITS OF SUSTAINABLE SPLASHPAD DESIGN:  
CASE STUDIES

4



RETHINKING THE COMMUNITY SPLASHPAD:  
TRENDS & INNOVATIONS

5



KEY TAKEAWAYS



1

# THE NEW SUSTAINABILITY MINDSET



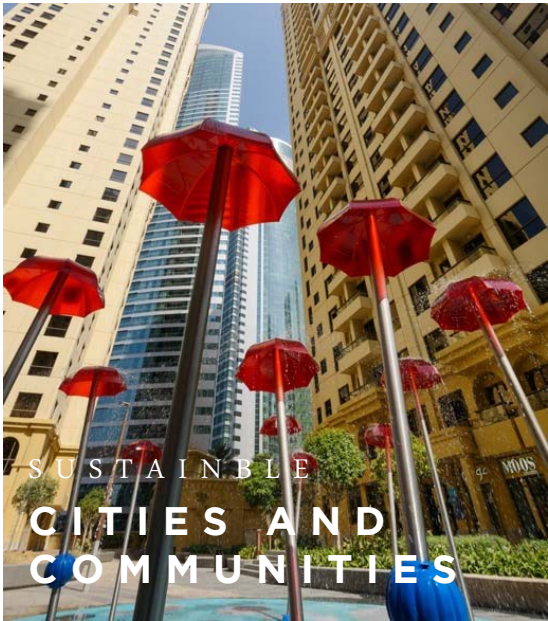




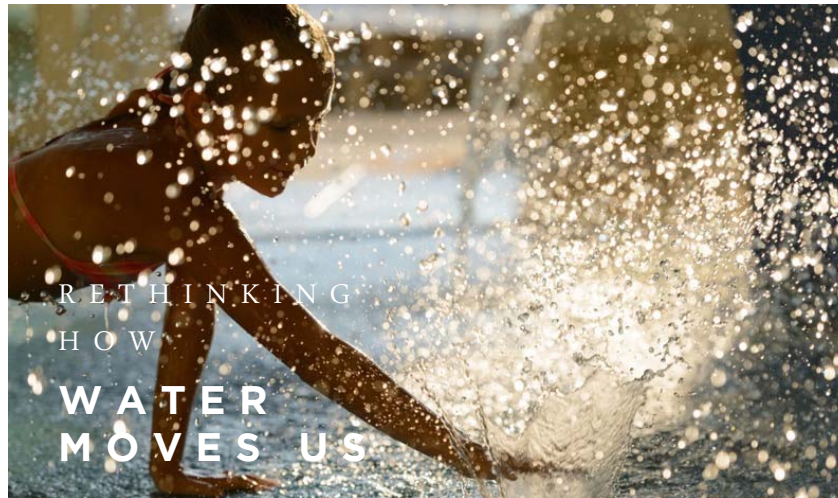
MINDFUL CITIZENS



SUSTAINABLE  
TECHNOLOGIES



SUSTAINABLE  
CITIES AND  
COMMUNITIES

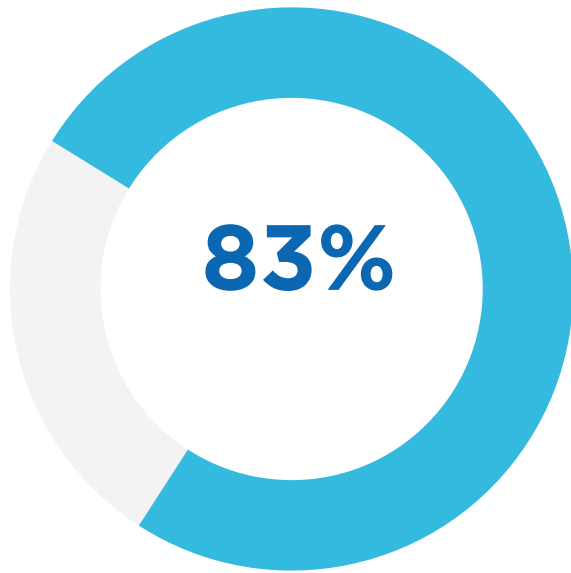


RETHINKING  
HOW  
WATER  
MOVES US



RETHINKING  
PRODUCT  
LIFECYCLE





# MINDFUL CITIZENS

## SAY IT'S IMPORTANT THAT LOCAL GOVERNMENT AGENCIES PRIORITIZE ENVIRONMENTAL INITIATIVES

This figure includes the majority of millennials who agree that it's either "extremely important" or "very important"





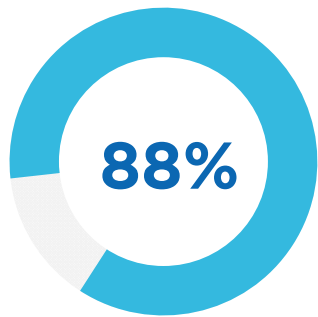
# MILLENNIALS EXPECTED TO OVERTAKE BOOMERS IN 2019

- 53% of millennials already have children
- 82% of US births in 2016 were by millennial mothers (1.2 million millennial women gave birth for the first time in 2016)
- It's no surprise, then, that cities are starting to pay attention to what this generation wants out of a community

-Source : Pew Research Center



# CHILDREN WITH MILLENNIAL PARENTS PLAY OUTDOOR THE MOST



**OF MILLENNIAL PARENTS AGREE THAT THEIR CHILDREN ENJOY PLAYING OUTDOORS SIGNIFICANTLY MORE THAN THEY ENJOY PLAYING INDOORS**

- 74% of GenX parents agree
- 73% of Boomer parents agree

**2.23  
HOURS**

**AVERAGE NUMBER OF HOURS THAT CHILDREN OF MILLENNIAL PARENTS SPEND PLAYING OUTDOORS EACH DAY**

- Gen X parents: 1.85 hours
- Boomer parents: 1.94 hours

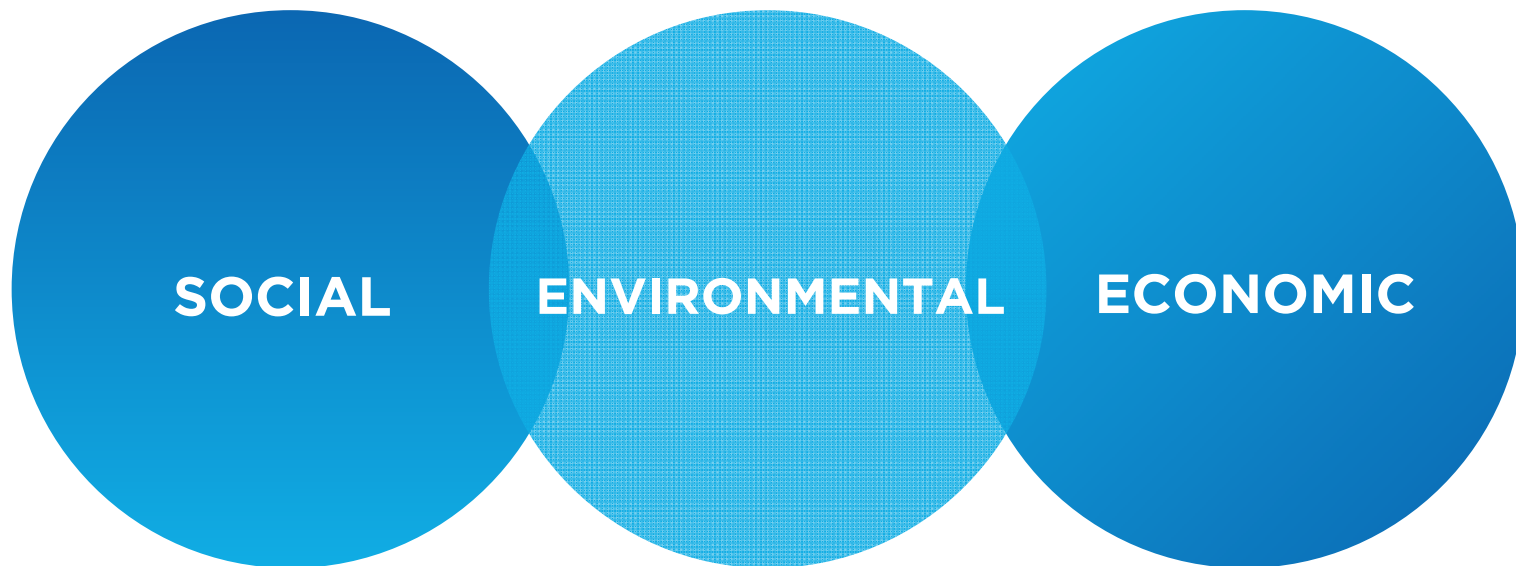
“

**Splashpad areas continue to hold onto the No. 1 spot on the list of most commonly planned features for park facilities.**

—Rec Management, 2018 Trends in Parks & Recreation



# SUSTAINABILITY: THREE PILLARS



Maintaining long-term wellbeing for  
people and communities

Living with the means of the planet's  
natural resources

Delivering a ROI, but not at the  
expense of the other two pillars

# SUSTAINABLE SPLASHPAD DESIGN PLAYBOOK



# SUSTAINABLE SPLASHPAD DESIGN **PLAYBOOK** :



**SOCIAL  
PLAY  
VALUE  
PLANNING**



**ENVIRONMENTAL  
FLOW &  
WATER  
MANAGEMENT**



**ECONOMIC  
BREAKING  
DOWN  
COST**



**SUSTAINABILITY  
PLANNING  
FOR THE  
FUTURE**





SOCIAL SUSTAINABILITY

# PLAY VALUE PLANNING

# PLAY VALUE PLANNING: A **LAYERED** APPROACH

THE SPECTRUM OF PLAY EXPERIENCES

CAPACITY & PLAY PRODUCT MIX

BAY DESIGN & PLAY EVENTS

# PLAY VALUE PLANNING

## THE SPECTRUM OF PLAY EXPERIENCES



Contemplative

Immersive



Refreshing   Visually stimulating   Tactile   Discovery   Exploration   Imagination   Anticipation   Team play   Competitive   Thrilling



# PLAY VALUE PLANNING

## THE SPECTRUM OF PLAY EXPERIENCES



Contemplative

Immersive

← Refreshing Visually stimulating Tactile Discovery Exploration Imagination Anticipation Team play Competitive Thrilling →

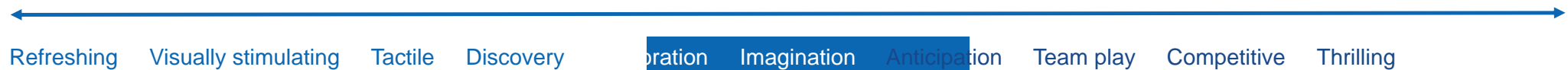
# PLAY VALUE PLANNING

## THE SPECTRUM OF PLAY EXPERIENCES



Contemplative

Immersive





# PLAY VALUE PLANNING

## THE SPECTRUM OF PLAY EXPERIENCES



Contemplative

Immersive







# CALCULATING CAPACITY : DESIGNING THE RIGHT SIZE FOR YOUR COMMUNITY'S NEEDS



**1 PERSON PER  
50 SQ.FT.**

**Example: 1,000 sq.ft. Splashpad®**  
 $1,000 / 50 = 20 \text{ USERS}$



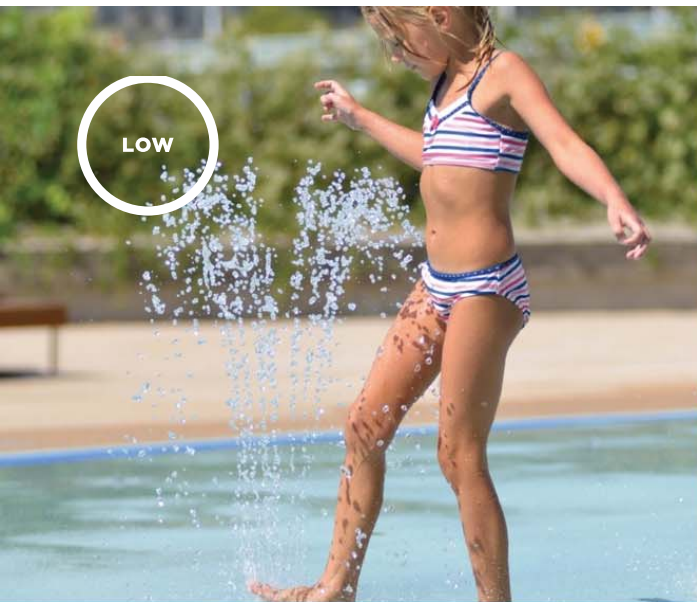
**1 PERSON PER  
25 SQ.FT.**

**Example: 1,000 sq.ft. Splashpad®**  
 $1,000 / 25 = 40 \text{ USERS}$



**1 PERSON PER  
15 SQ.FT.**

**Example: 1,000 sq.ft. Splashpad®**  
 $1,000 / 15 = 67 \text{ USERS}$



## SINGLE USER

Single user features require more space per user and tend to lower overall capacity and reduce user flow and user interaction.



## MULTI USER

Multi-user features attract tight groups, adding a new dynamic to the fun and increasing overall capacity.

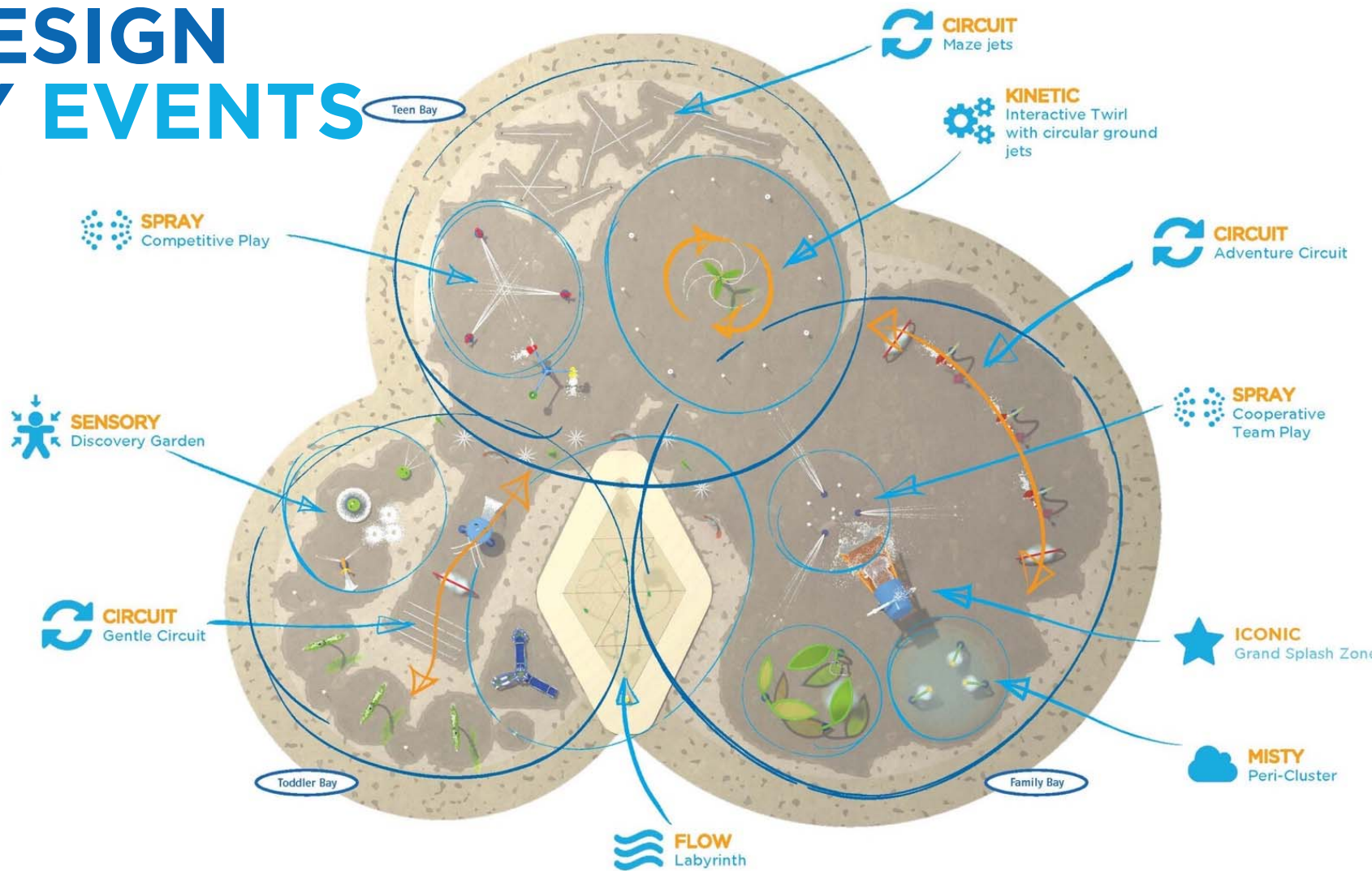


## INTERACTIVES

Interactive features fall somewhere in between as they promote team work and collaboration

PLAY VALUE PLANNING

# BAY DESIGN & PLAY EVENTS





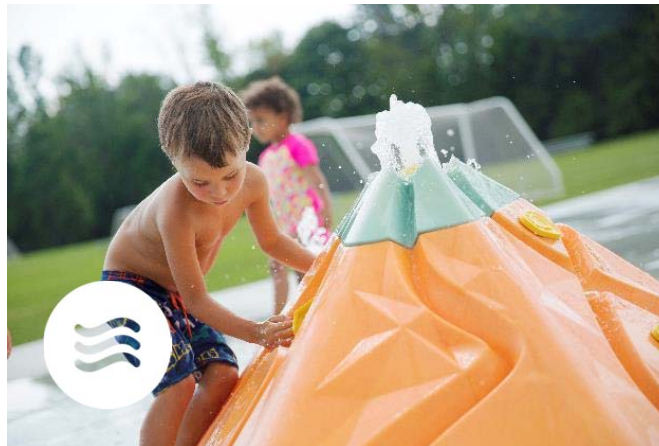
## PLAY VALUE PLANNING

# TYPES OF PLAY EVENTS



## SENSORY

Rich in touch, sound and sight. These events are discovery-based and appeal to younger explorers who learn through sensation



## FLOW

Water is deviated by the user through a series of gates and sliding barriers. It promotes decision making skills.



## KINETIC

Interactive events that rotate, spin and open/close. It encourages physical movement and often times, team play.

## PLAY VALUE PLANNING

# TYPES OF PLAY EVENTS



### ICONIC

A visually-stimulating centerpiece feature that serves as a gathering place for all ages



### CIRCUIT

An event made up of varying water effects that encourage movement from one feature to the next



### SPRAY

An experience based on human-to-human interaction, where direct streams of water are controlled by the users



# PLAY VALUE PLANNING

## BENEFITS OF MULTIGENERATIONAL PLAY



Children who play with adults demonstrate greater creativity and higher levels of language and problem-solving skills. And research also shows that adults who engage in play with children experience dramatic psychological and health benefits such as reduced stress, improved mood, greater cognitive skills and enhanced relationships





ENVIRONMENTAL SUSTAINABILITY

# FLOW & WATER MANAGEMENT

## SUSTAINABLE WATER MANAGEMENT TECHNOLOGIES

# WATER SEQUENCING

Water sequencing is about flow orchestration based on multiple sequences and timing that reduce overall water usage, streamlines crowd control and optimizes play value









**SUSTAINABLE WATER MANAGEMENT  
TECHNOLOGIES: WATER SEQUENCING**



**1,500 SQ.FT.  
TOTAL GPM : 270 GPM**

**WITH WATER SEQUENCING : 189 GPM  
30% WATER CONSUMPTION REDUCTION**

# SUSTAINABLE WATER MANAGEMENT TECHNOLOGIES ON DEMAND ACTIVATION



## WATER MANAGEMENT

# TYPES OF WATER MANAGEMENT



### RECIRCULATION

Recycles and disinfects water.



### REPURPOSE

Reuses water for  
irrigation.



### FLOW- THROUGH

Uses potable water running through the  
play area.



# TYPES OF WATER MANAGEMENT: RECIRCULATION

1

## ON-DEMAND ACTIVATION

A user touches the activator sending a signal to the Command Center.

3

## PLAYSAFE™ DRAIN

Water passes through the drain for primary debris filtration.

4

## DEBRIS TRAP AND RAINWATER CONTROL

Secondary filtration captures debris and rainwater control maintains water balance and prevents chemical waste for reduced maintenance costs.

2

## WGMS COMMAND CENTER (A)

The Command Center orchestrates water to the play products based on preset sequences and timing.

6

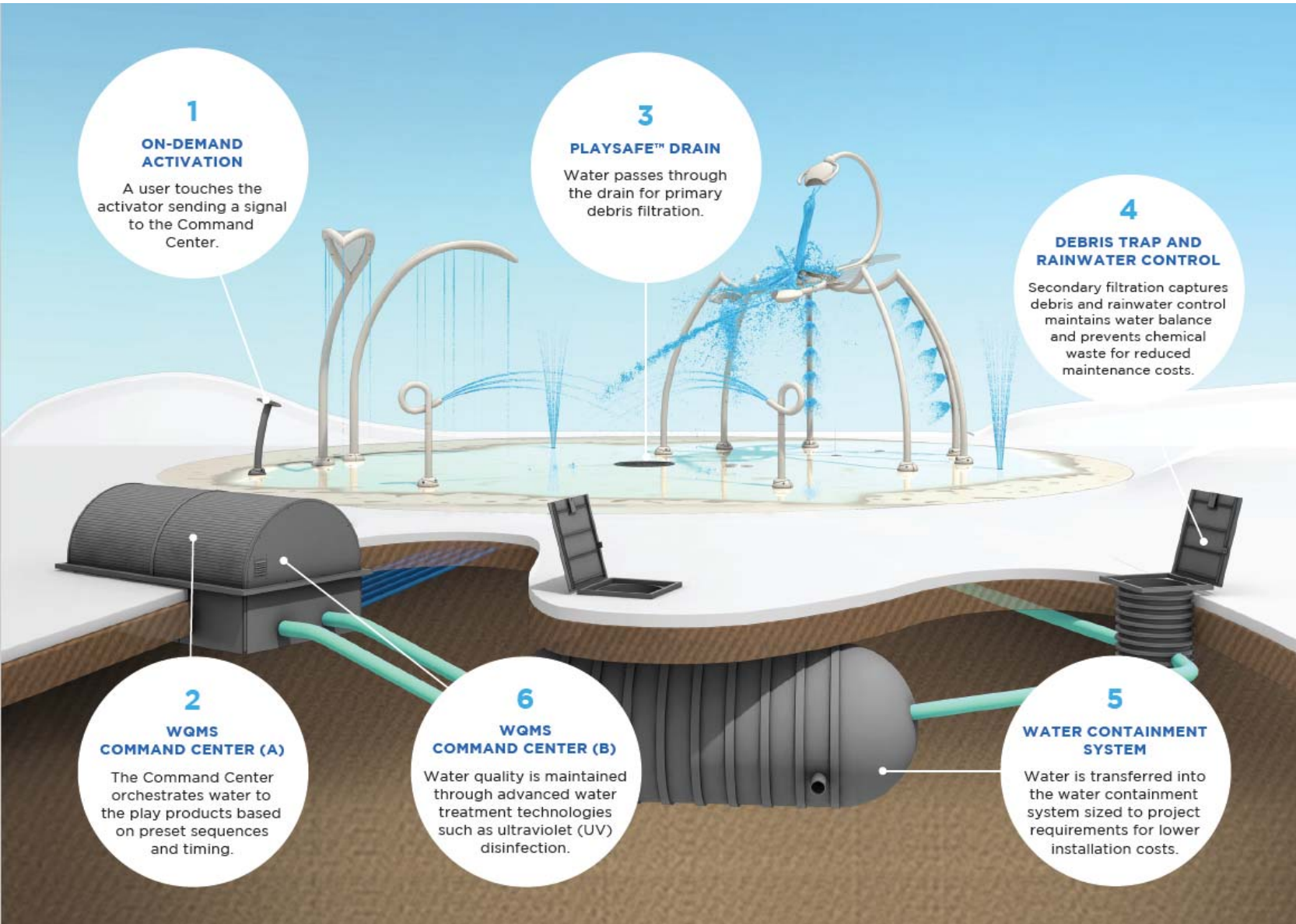
## WGMS COMMAND CENTER (B)

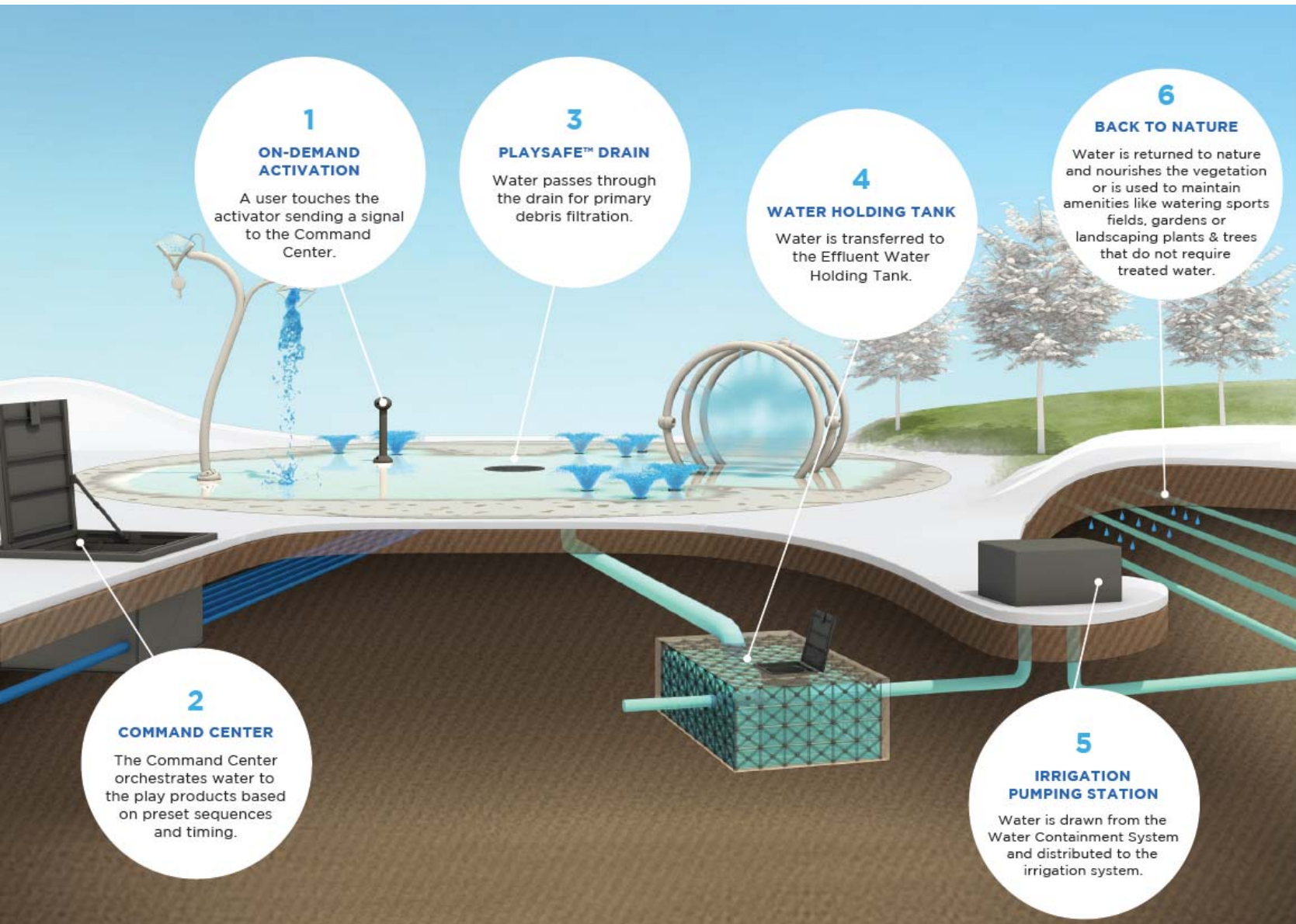
Water quality is maintained through advanced water treatment technologies such as ultraviolet (UV) disinfection.

5

## WATER CONTAINMENT SYSTEM

Water is transferred into the water containment system sized to project requirements for lower installation costs.

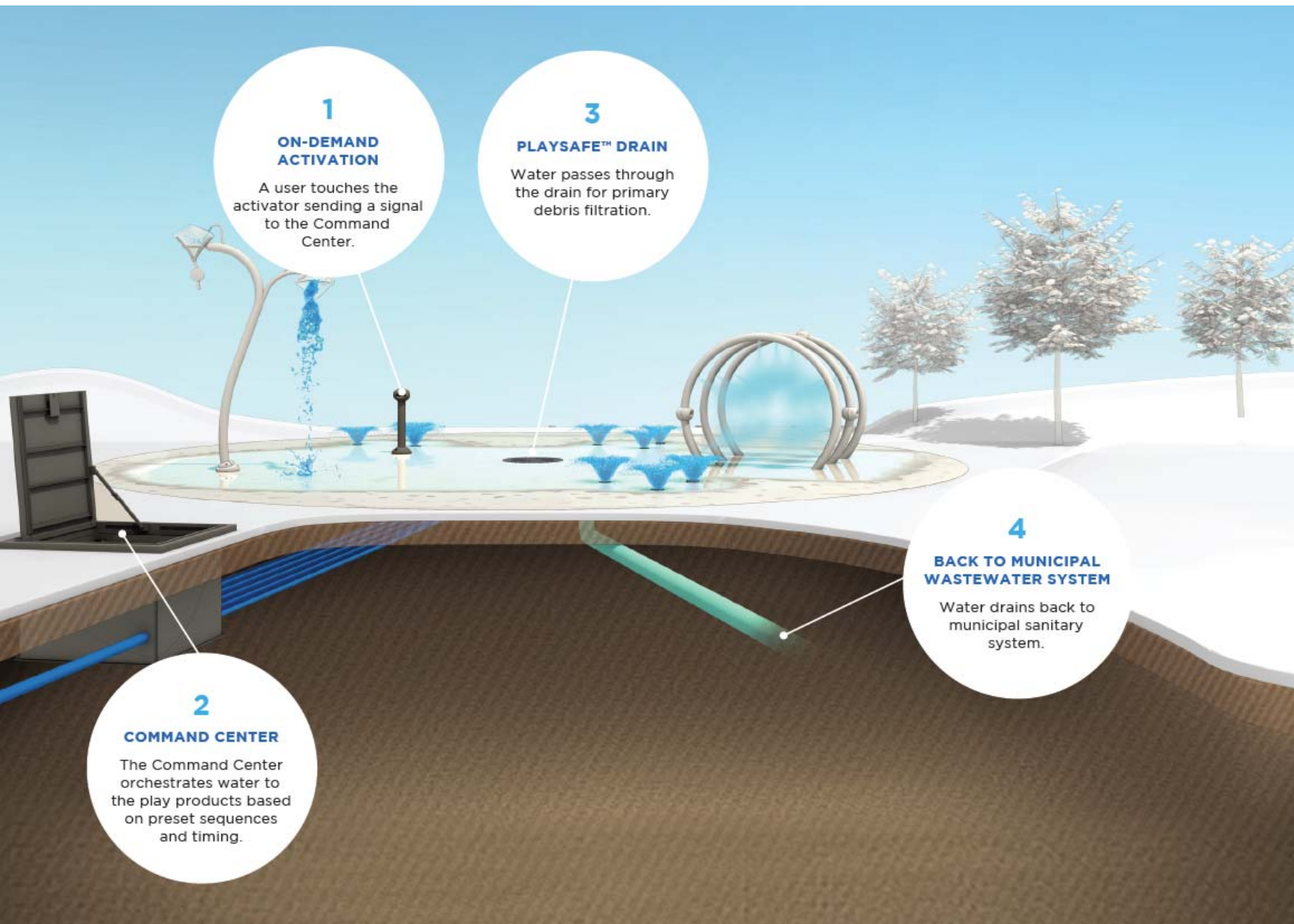




# TYPES OF WATER MANAGEMENT: REPURPOSE



# TYPES OF WATER MANAGEMENT: FLOW-THROUGH







ECONOMIC SUSTAINABILITY

# BREAKING DOWN COST

## BREAKING DOWN COST

Every aquatic play project is made up of a number of different elements and systems in addition to the play equipment itself

PLAY FEATURES

WATER MANAGEMENT

INSTALLATION

CONCRETE

SURFACING

DESIGN SERVICES

INFRASTRUCTURES

OTHER AMENITIES

OPERATIONAL COSTS





SUSTAINABLE SPLASHPAD DESIGN PLAYBOOK

# PLANNING FOR THE FUTURE



# PLANNING FOR THE FUTURE

## EXPAND

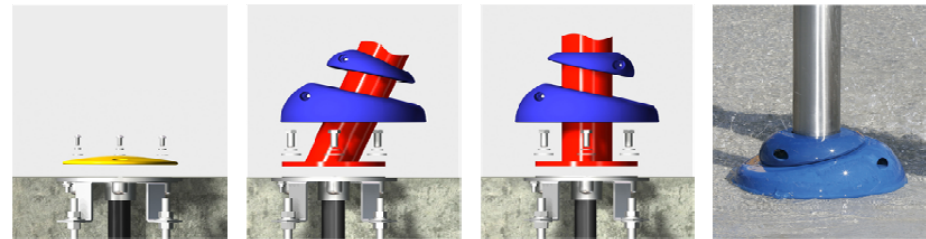
Plan in phases for expansion as capital becomes available. The design and infrastructure planning will take into consideration the future play elements to be added

## INTERCHANGE

For cities with multiple Splashpads, this solution provides the ability to interchange products from one location to the other, creating novelty without additional costs.

## TRANSFORM

Swap out play elements and transform the appearance of the Splashpad without the costs associated with infrastructure modifications.



# PLANNING FOR THE FUTURE

# THEMING & DESIGN





3

**THE BENEFITS OF  
SUSTAINABLE  
DESIGN**





# CASE STUDY

WILMOT PARK  
FREDERICTON, NB, CANADA

## SOCIAL BENEFITS



“The children of the City of Fredericton were instrumental in the design of the Splashpad - it was through their creative imaginations that we’ve been able to provide this interactive aquatic recreational space for kids to enjoy for many years to come”

— Mike O’Brien, Mayor City of Fredericton

# CASE STUDY

PARK KIELY

SAN JOSE, CALIFORNIA, USA

## ENVIRONMENTAL BENEFITS



Using repurposed water from the new Splashpad, the beautiful landscaping at the apartment complex is regularly irrigated with the water from the splashpad that is captured in holding tanks.



# CASE STUDY

PARK KIELY

SAN JOSE, CALIFORNIA, USA

## ENVIRONMENTAL BENEFITS



To start the design process, designers first assessed the water needs of the new plantings and turf, then designed a complete splashpad including play components whose water usage corresponded with the expected landscaping needs of the complex.

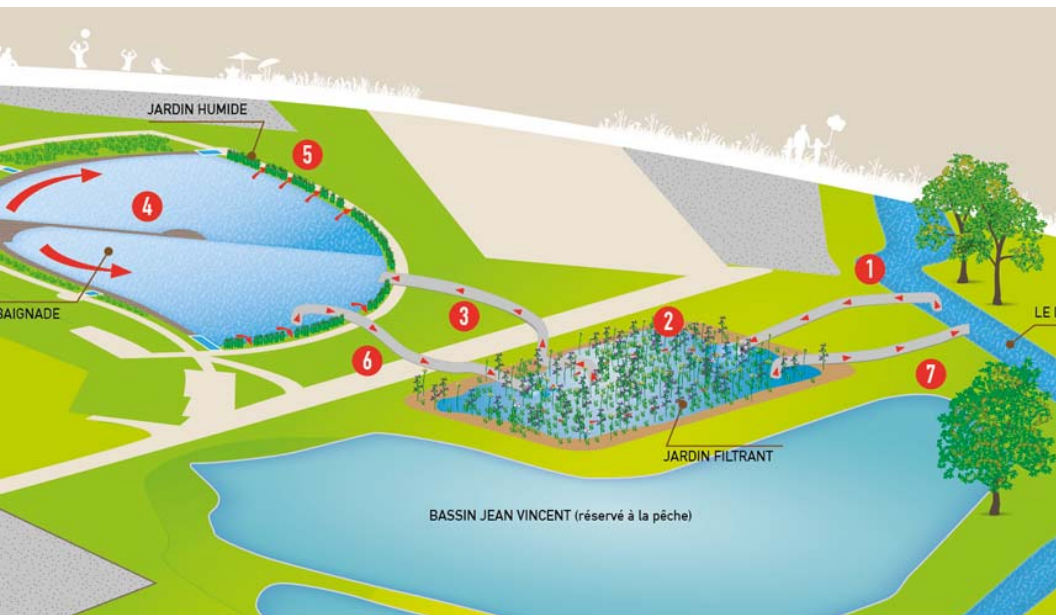


# CASE STUDY

## NATURAL SWIMMING

### LORETTE, FRANCE

## ENVIRONMENTAL BENEFITS



Inaugurated in 2017, the Lorette Park is a natural swimming facility. Often seen in Europe, natural swimming pools and aquatic facilities are also beginning to appear in the United States and Canada.

# CASE STUDY

## NATURAL SWIMMING

### LORETTE, FRANCE

# ENVIRONMENTAL BENEFITS



In 2018 (their second season), a Splashpad was added to the Lorette Park and integrated to the natural water filtration system.



# CASE STUDY

MARK GASTON COMMUNITY CENTER  
DALTON, GEORGIA, USA



## ECONOMIC BENEFITS

- Implemented a \$2 admission fee to cover costs
- Site can be rented for special events such as birthday parties
- Even though revenue generation wasn't an initial goal for the city, this pay-for play model had them quickly turning a profit
- Cut operating costs by 90% compared to their old wading pool



# CASE STUDY

BLUE HERON BAY  
INDEPENDENCE LAKE, MICHIGAN, USA



## ECONOMIC BENEFITS



With over 20,000 square feet and an impressive number of water features to accommodate up to 600 people at once, the complex is the largest in North America and was built in conjunction with Washtenaw County Park Planners.

# CASE STUDY

BLUE HERON BAY  
INDEPENDENCE LAKE, MICHIGAN, USA

## ECONOMIC BENEFITS

The 600-person-capacity play area charges a fee of \$6 for residents and \$10 for non-residents. Within the first year of the play area's opening, the park saw a significant increase in attendance and revenues:



**VISITORS JUMPED 20%**  
FROM 16,000 to 25,000 IN THE FIRST SEASON THE  
SPLASHPAD OPENED



**PARK REVENUE INCREASED BY 36%**  
(EXCLUDING SHELTER RENTALS)



**CONCESSION REVENUES JUMPED 76%**

# 4

## RETHINKING THE COMMUNITY SPLASHPAD: TRENDS & INNOVATIONS





# A FULL SPECTRUM OF EXPERIENCES





CATERING TO **SPECIFIC**  
**DEMOGRAPHICS**



INSPIRED  
BY **NATURE'S WAY** TO PLAY







INSPIRED  
BY **NATURE'S WAY** TO PLAY



# PLAYTIME TO SHOWTIME





# PLAYTIME TO SHOWTIME






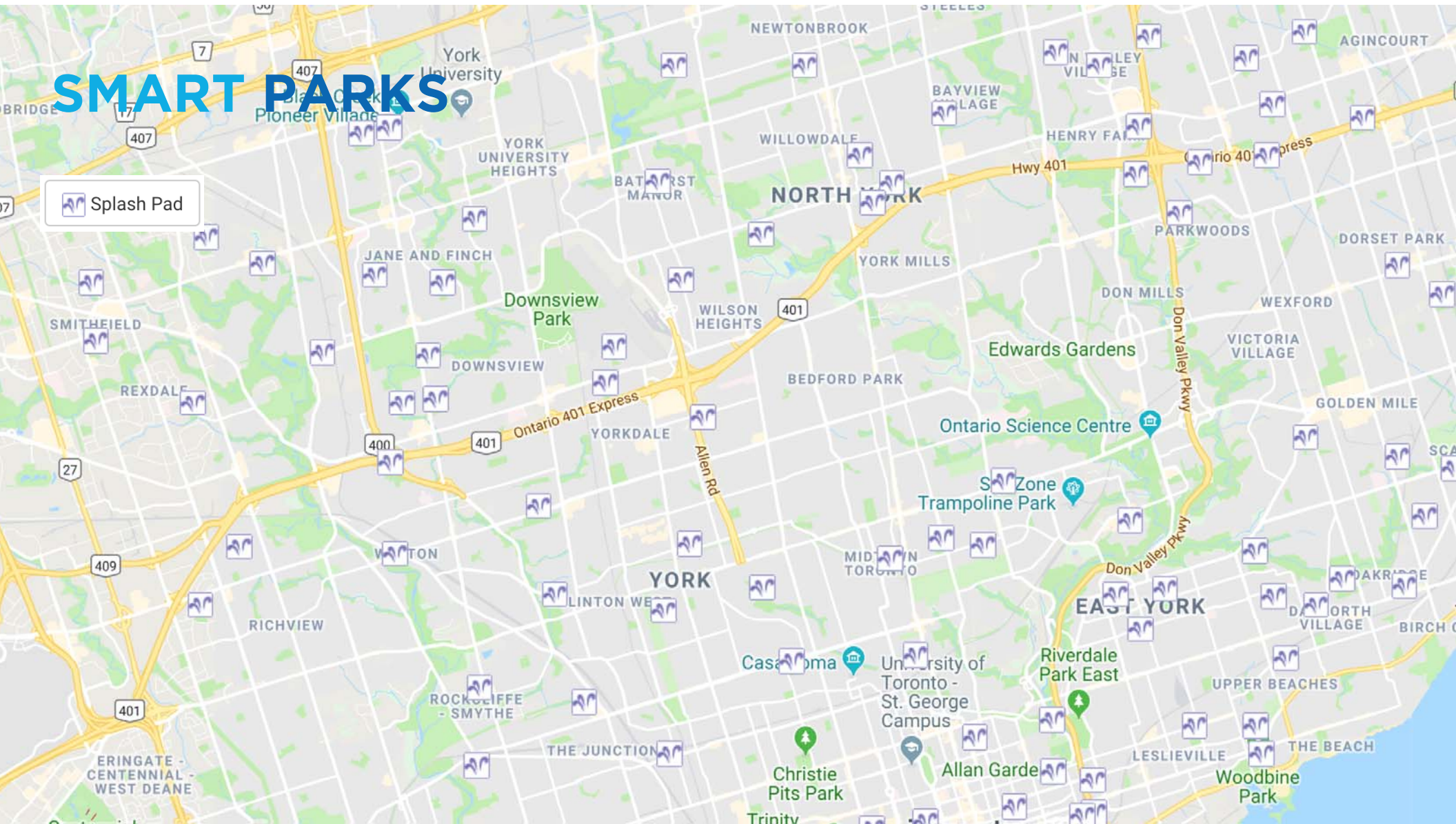


PLAYTIME  
TO SHOWTIME



# SMART PARKS

 Splash Pad







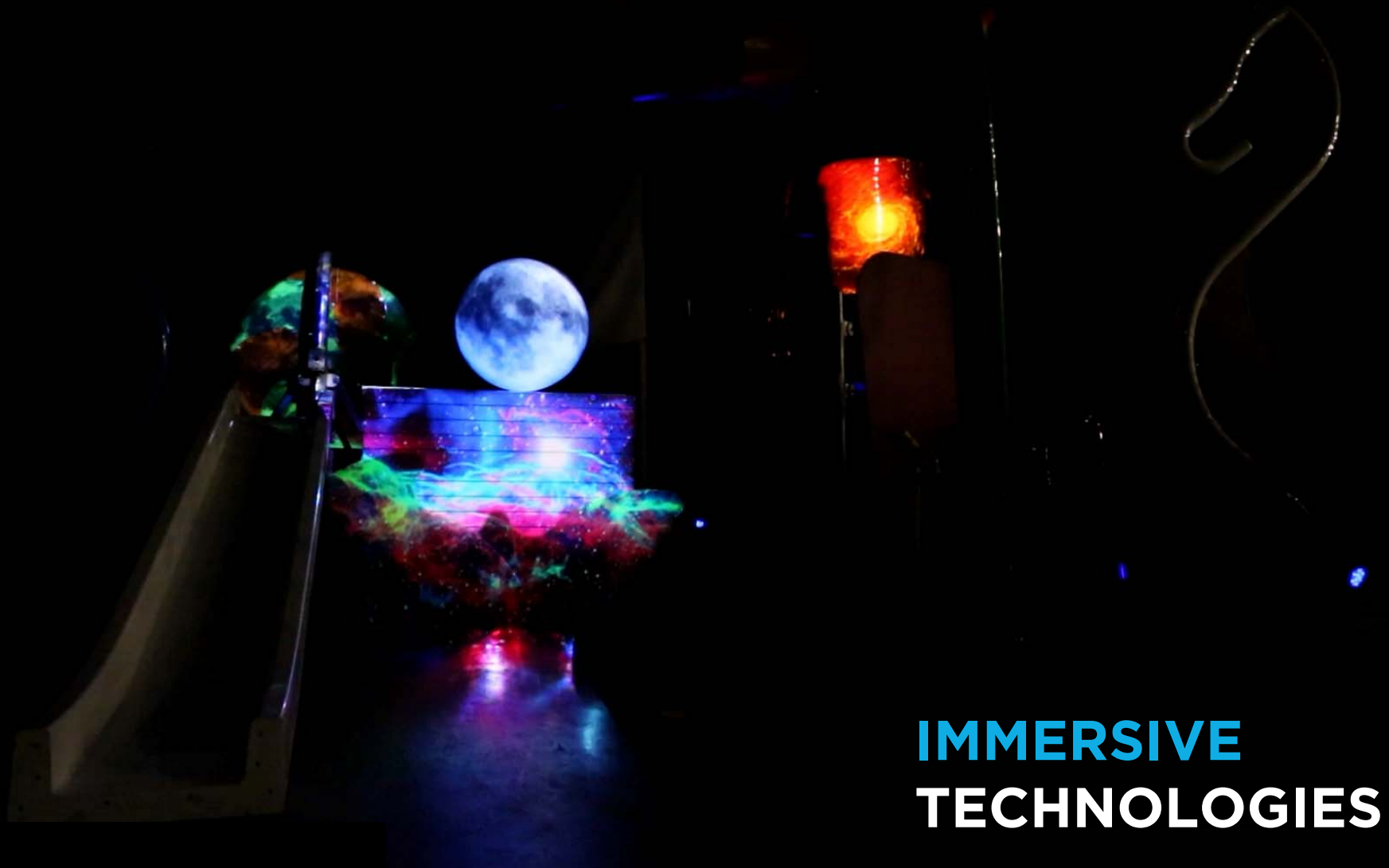
**STAYCATION  
AND AMENITIES**



# TRANSFORMING POOLS INTO ACTIVITY HUBS







**IMMERSIVE  
TECHNOLOGIES**

5

**SUSTAINABILITY BY DESIGN :  
KEY  
TAKEAWAYS**







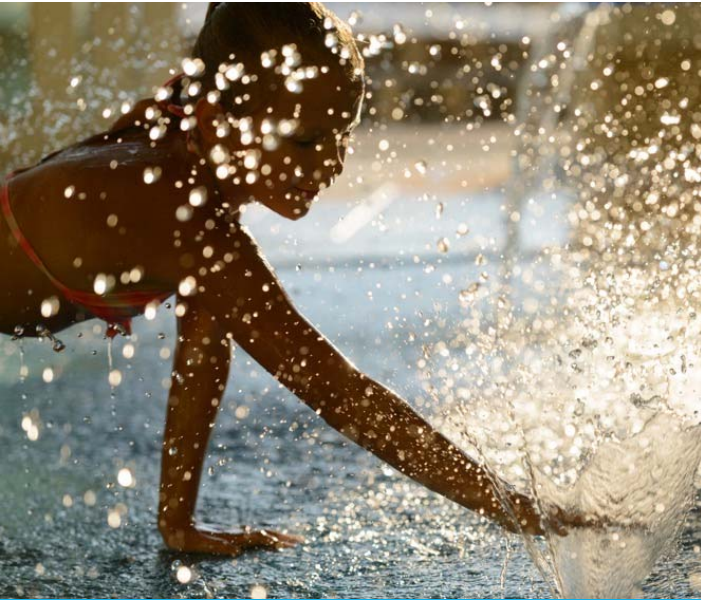
SUSTAINABLE  
DESIGN IS AS MUCH  
ABOUT WATER THAN  
IT IS PLAY



NO LONGER  
JUST A NICE  
TO HAVE: WE ARE  
MINDFUL CITIZENS



CONSIDER THE  
LAYERS OF PLAY  
VALUE PLANNING



THINK OF LIFECYCLE  
BY PLANNING  
FOR THE  
FUTURE



SUSTAINABLE  
TECHS CAN  
DRASTICALLY  
OPTIMIZE  
WATER USAGE



CONSIDER ALL THE  
SYSTEMS AND  
ELEMENTS BEYOND THE  
PLAY PRODUCTS





THANK YOU!

SUSTAINABILITY BY DESIGN

**RETHINKING** THE COMMUNITY SPLASHPAD



Eduardo Cruz

Business Development Manager, Florida, LATAMC

Vortex Aquatic Structures International

Cel: (786) 972.0183

Toll-free: 1.877.5VORTEX <http://www.vortex-intl.com/>







FOR MORE INFORMATION ABOUT THE FLORIDA RECREATION AND PARK ASSOCIATION VISIT [FRPA.ORG](http://FRPA.ORG)