Splash Park Design

This session, hosted by Bill Hachmeister of Water Odyssey, detailed the reasons for designing a splash park and the best ways to do so. He explained that splash parks are budget friendly, safe, and designed for all ages. An important part of splash park design is meeting the needs of the community by knowing whether or not you should build your splash park next to a playground or leave it as a stand-alone area. Departments looking into building a splash park must go through a detailed planning session that discusses design issues (e.g., parking, shade, signage, showers, trash, etc). It was explained that security and safety are two major issues that must be considered when building a splash park in your community. The most important factor in splash park design is the budget. There are many features that are varied depending on the cost that can be put into design. As an example, the decision between potable versus recirculating systems is not only important for the budget but also for the daily maintenance of the area. A splash park area can be advantageous to the community as well as your department.
Welcome to Aquatic Play Design

- Basic overview
  - What is aquatic play
  - Terminology
  - What is an aquatic play feature
  - Why install an aquatic playground

Aquatic Playground:
A recreational area designed for interactive water play.

It does not have an open basin of standing water like a wading pool or swimming pool.

Terminology
- Aquatic Playground (ASLA, ASTM)
- Wet Deck (ASTM)
- Spray Deck (ASTM)
- Spray Pool
- Splash Park
- Spray Ground
- Splash Pad
- Spray Zone
- Splash Zone

What is an Aquatic Play Feature?

It is a climb-resistant play feature designed for use in water play environments that....
Why Install an Aquatic Playground?

- Recreational Attraction
- Alternative to a new swimming pool:
  - Safe Play vs wading and swimming pools - no standing water
- More cost-effective Installation
- More cost-effective Operation
Overview of Topics

- Site Selection and Planning
- Budgeting
- Area Requirements
- Planning for Play and Safety
- Recirculation versus Potable Systems
- Reusing Potable Water for Irrigation
- Q&A
Site Selection for Aquatic Playground

- Community Needs
- Demographics
- Next to existing playground
- Stand alone

Planning Considerations

- “Footprint”
- Environment
- Parking
- Visitor Seating and Shade
- Drinking Fountains
- Restroom Availability
- Foot and Body Showers
- Signage
- Trash Receptacles
- Security

“Footprint”

<table>
<thead>
<tr>
<th>Approximate Number of Children</th>
<th>Square Footage</th>
<th>Shape</th>
<th>Est. Number of Play Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>500</td>
<td>Circle</td>
<td>3-5</td>
</tr>
<tr>
<td>40-80</td>
<td>1,500</td>
<td>Circle</td>
<td>10-12</td>
</tr>
<tr>
<td>70-100</td>
<td>2,500</td>
<td>Circle or Square</td>
<td>12-15</td>
</tr>
<tr>
<td>150-200</td>
<td>5,000</td>
<td>Circle or Square</td>
<td>20-30</td>
</tr>
</tbody>
</table>

1 child every 20 square foot

Environment

Parking

Shade & Seating
Drinking Fountain
Potable Water

Rest Rooms

Signage

Showers

Trash Receptacles

Security
- Child Security
  - Supervision
- Security from Vandalism
  - Lights
  - Fence
Budgeting

- Budgeting for Equipment Cost
- Budgeting for Installation Cost
- Budgeting for Maintenance Cost

Budgeting for Equipment Cost

- Operating system, i.e., Potable or Recirculation?
- Play Feature Type: In-Ground, Above Grade or a combination?

Budgeting for Installation Cost

- Operating system, i.e., Potable or Recirculation?
- Size of the play area
- Availability of services
- Hardscape
  - Size (square footage)
  - Surfacing

Budgeting for Installation Cost “Hardscape”

- 6” Reinforced concrete slab
- Allow 10%-20% additional paved area to capture over-spray

Stakeholder Labor

- Neighborhood Associations
- Homeowners Associations
- Local Schools
- Simple work performed
  - Cleanup

Additional Stakeholders

- Hire a professional construction manager.
Budgeting for Installation Cost
“Surfacing”

- Broom finished concrete
- Poured in place rubber
- Coating systems for color and or skid resistance
- Colored Concrete

Budgeting for Maintenance Cost

- Potable
- Recirculation
- Water Quality is Critical to Health Safety

Area Requirements

**Potable Systems**
- Water - minimum 2” line at 50 psi
- Power - minimum 120 Volts AC, 20 Amps
- Drain to waste - Waste water connection - minimum 4” line to sanitary or ??? Check local codes
- Water Meter?

Area Requirements

- Recirculation systems
  - Water - minimum 3/4” line at 50 psi
  - Power - as required by recirculation equipment (pumps) - single phase vs 3 phase
  - Equipment Space
  - Reservoir Space
  - Drain to waste + Filter Backwash - Waste water connection - minimum 4” line to sanitary or ??? Check local codes.
  - Water Meter?

Planning for Play and Safety

- Plan to Maximize the Play Value (Fun!).
- Plan to Maximize Play Safety.
- Plan for Water Safety.

Planning your Aquatic Playground to Maximize the Play Value (Fun!).

Play Scenario™ - the grouping of all the EVENTS make-up the operation of an aquatic playground. Basically how the aquatic playground operates.
A play scenario should be designed to stimulate children’s *imaginations* as well as their senses of *sight*, *hearing*, and *touch*.

An aquatic play area should be designed to *tease* by creating *anticipation* and *surprise*.

Make sure YOU can change play times & scenarios

Specify “fast acting” solenoids.

Planning your Aquatic Playground to Maximize Play Safety
Age Appropriateness

2-5 Years

5-12 Years

Early Teens

All Ages

Planning for Water Safety

Planning Your Water Management System

Water Treatment

- Filtration
  - Sand
  - Cartridge
  - UV

- Chemicals
  - Acid to balance pH
  - Chlorine to sanitize
  - Sea Klear

Showers and signs

Cryptosporidium Parvum

What is Crypto?

“Cryptosporidium parvum is a parasite that is excreted in the feces of infected humans, cattle, and other mammals.”
Monitoring of water quality and maintenance of water treatment equipment is essential.

What To Do/What To Look For

- Maintain water level.
- Regularly check water clarity.
- Regularly monitor chlorine and pH levels - a minimum of three times a day.
- Maintain a log book.
- Regularly inspect for slime or visible bacteria.
- Regularly clean filter.

What To Do/What To Look For

- Regularly clean pump strainer baskets.
- Periodically shock the system.
- Regularly dump reservoir.

If there’s a doubt, dump it out!
Typical Potable System

City Water (Potable) System
Rule of Thumb Budget

Recirculation System

Budget Variables for Recirculation Systems
- Equipment Room vs Vault
- Water Treatment System
- Distance from Equipment to Play Area
- Proximity of Services - Water, Power, Sewer

Recirculation System
Budget Planning
“Borrowing” Potable Irrigation Water

Play & Save™ System
Budget Planning

- Holding Tank
- Irrigation System
- Play Equipment and Accessories
- Installation of Play Equipment and Accessories

Summary
- Site Selection and Planning
- Budgeting
- Area Requirements
- Planning for Play and Safety
- Recirculation versus Potable Systems
- Borrowing Potable Irrigation Water for Play

Q & A

Thank you!