

Omemee Splash Pad

Feasibility Study

Tuesday March 19, 2024
Omemee Community Centre



Agenda

- Introduction
- Purpose of Study
- Water Source
- Water Features/Options
- Costing – Capital
- Costing- Operating
- Risks and Permitting
- Conclusion/Next Steps
- Questions

Purpose of Study

- Assess the viability of implementing a splash pad within the community.
- Consideration needs to be given to sustainable water utilization.
- Provide insight and recommendations to Council related to future budget consideration.
- It is understood that splash pads provide an opportunity for community engagement, social interaction and inclusive recreation.

Potential Location

- Centralized location: Beach Park being located in the center of Omemee ensures access for the immediate community and adjacent rural residents.
- Existing Recreational Infrastructure: Omemee Beach Park already has existing amenities such as the beach, washroom facilities, playground equipment, which maximizes the recreational potential for residents and visitors

Subject Property



Subject Property



Water Source

Considerations:

- Water Usage
- Water Source
 - Water wells – existing or new
 - Pigeon River
 - Municipal System
- Recirculation System
- Direct to Waste System

Sustainable water usage plays a crucial role in the development of a splash pad.

Water Source

- Well Water – existing or new
- Pigeon River – potential raw water source
- Municipal Water System – currently unavailable

Water Source Technical Assessment

Well Water Source Overview

- Typical flow rate for water wells in Omemee is 8 gpm (36 liters per min.)
- Water taking permit required for over 50,000 liters per day
- Current well to service park washrooms is shared with Fire Hall
- Water source would require treatment to utilize for Splash Pad (water must be drinking quality)

Water Source Technical Assessment

Well Water Source Overview continued

- Potentially would require new drilled well(s)
- Additional wells drawing from the existing aquifer could potentially impact surrounding wells
- Well water typical to the area is high in mineral content that may require additional treatment
- Holding tank(s) are required to meet capacity so that water can be stored prior to usage

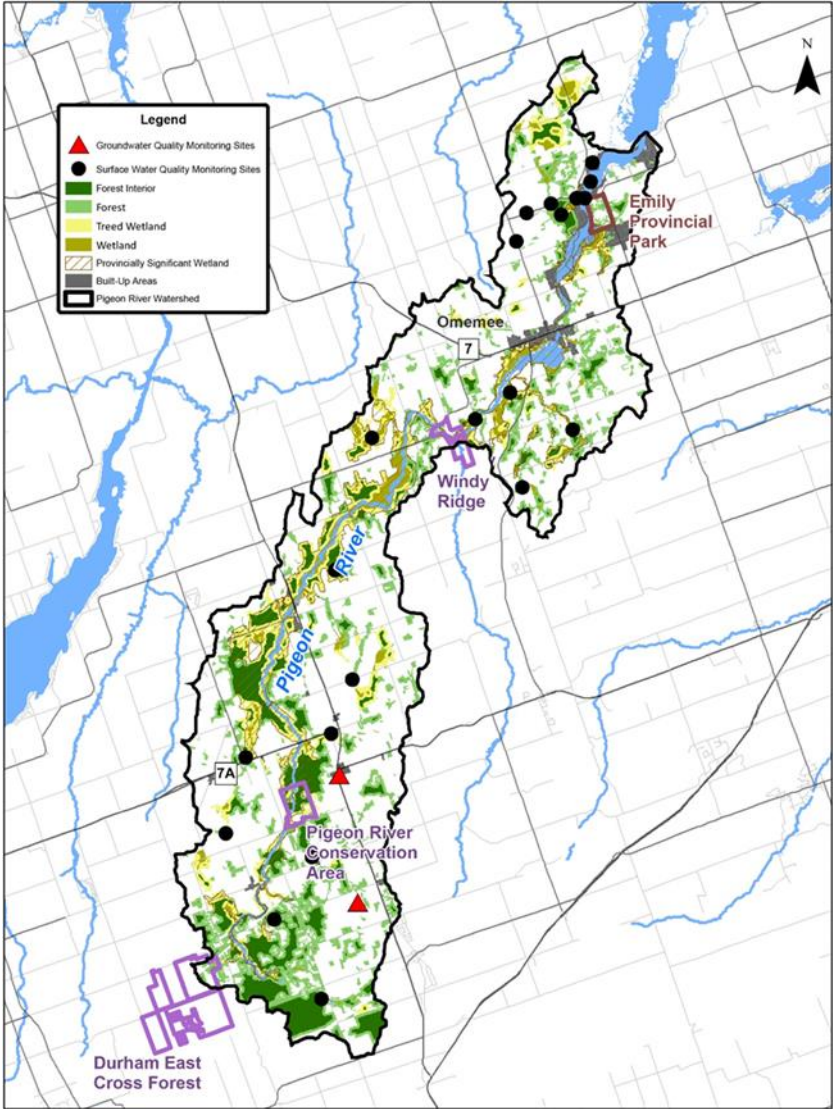
Water Source Technical Assessment

Pigeon River (Non-Potable Water Source)

- Raw water - naturally occurring water extracted from the Pigeon River
- Water would have to undergo treatment process to remove impurities, contaminants, sediment, micro organisms and pollutants
- E-coli levels are typically lower as distance from shore increases
- Raw water has to be treated to drinking water quality to be utilized for a splash pad

Pigeon River is considered provincially significant wetland.

Pigeon River



Water Source Technical Assessment

Municipal Water System Overview

- Community wells and/or sourced from an existing treatment facility (Lindsay)
- Municipally treated and distributed water is currently not available in Omemee

Water Source Technical Assessment

Conclusion

- Current options available to supply water to the splash pad include:
 - Well Water
 - Raw Water (Pigeon River)

Water Source Technical Assessment

Design and Operational Considerations

- Flow Through System – Direct to Drain
- Flow Through System - Repurpose
- Recirculating System

Water Source Technical Assessment

Flow Through System

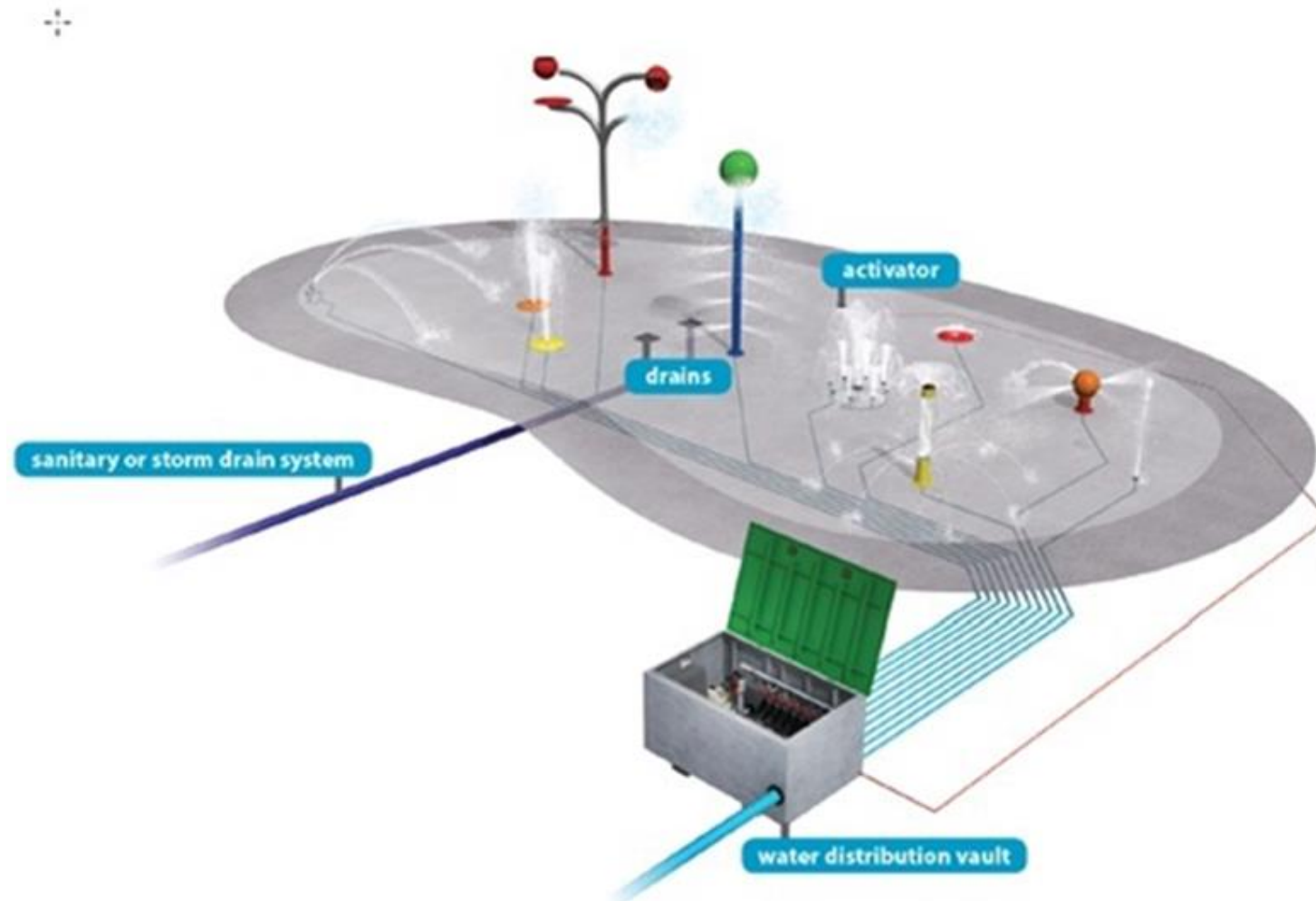
- Once the water has been utilized in the splash pad features, it drains away from the play area. Drain options can be storm sewer, sanitary sewer, treated and discharged into the environment or repurposed to irrigate parkland. Flow through systems require a constant supply of fresh water.

Water Source Technical Assessment

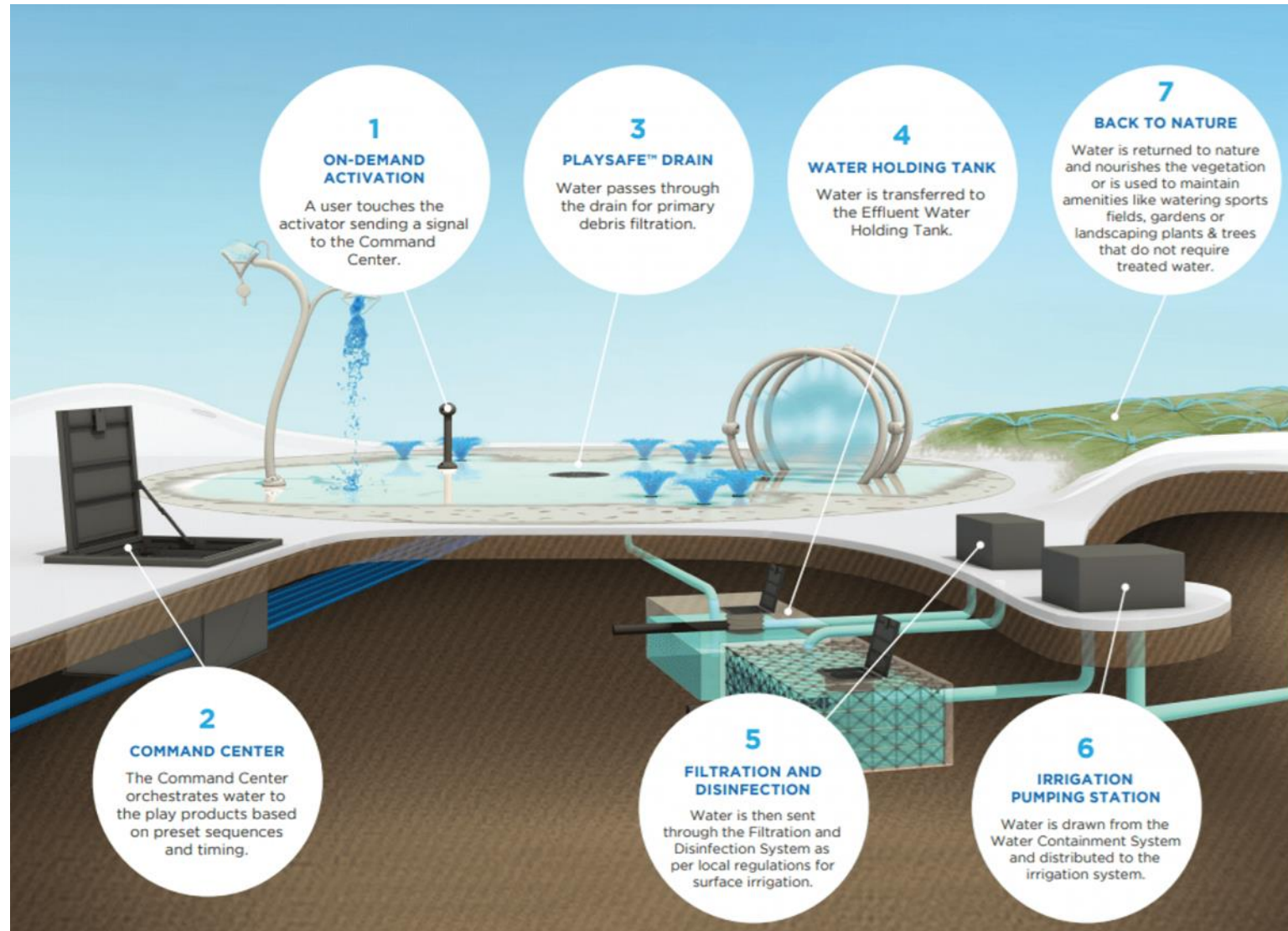
Recirculating System

- Water is initially pumped or delivered from a water source such as municipal supply, well or storage tank to the splash pad features. Instead of being discharged the water is stored, filtered and treated for reuse.

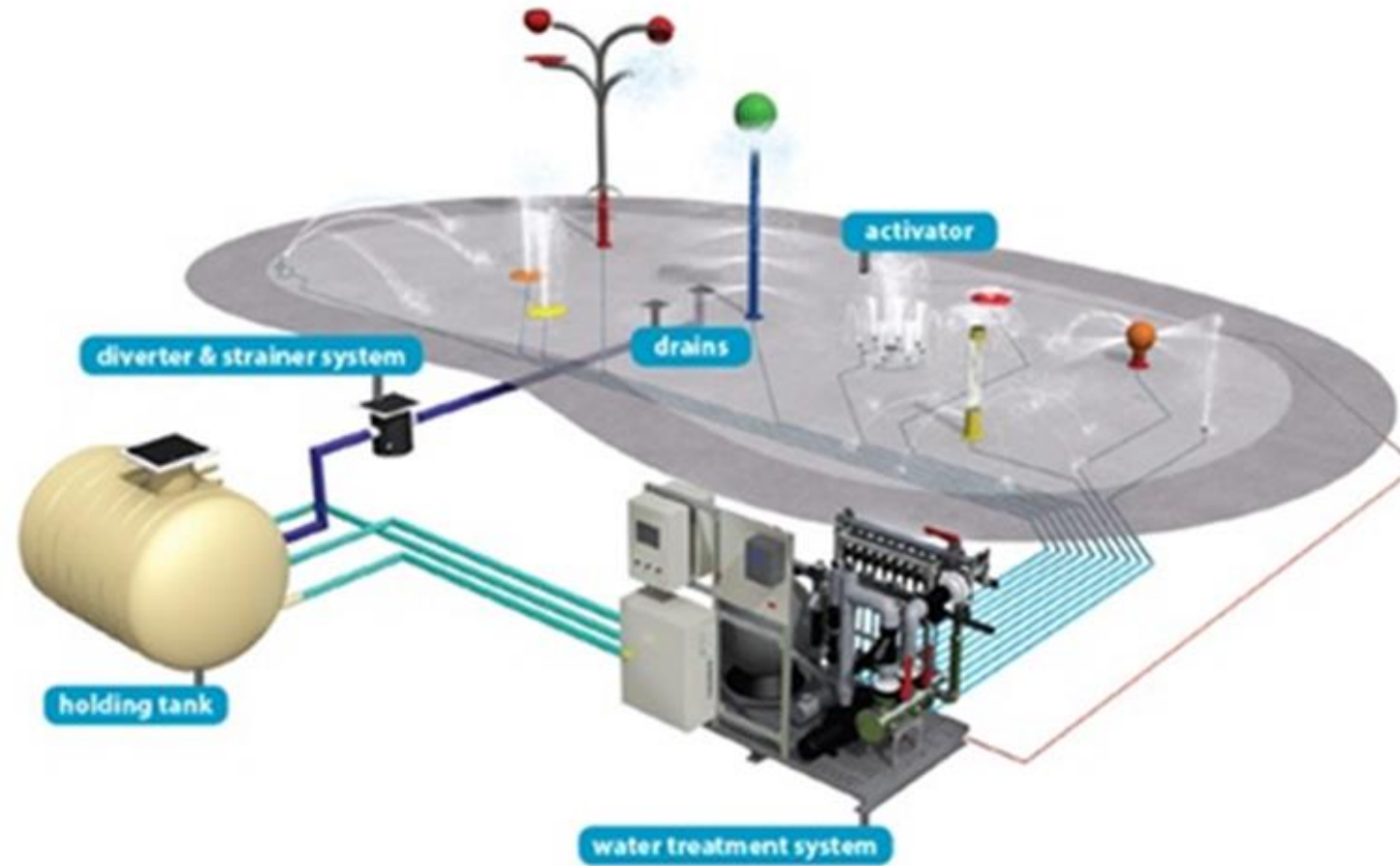
Flow Through System – Direct to Drain



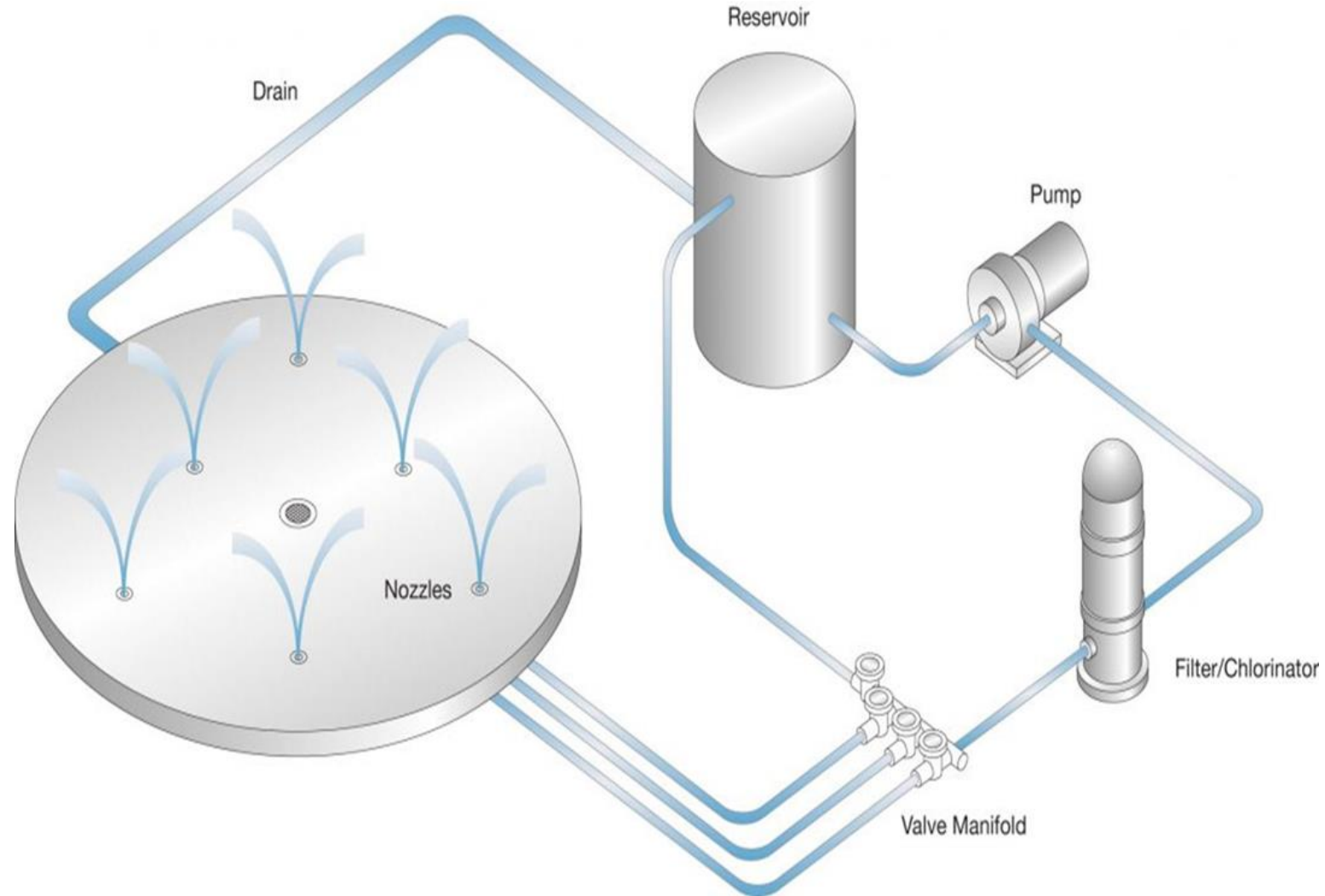
Flow Through System - Repurpose



Recirculation System



Recirculation System



Water Features and Options

Water Usage and Flow Volume

- Low Volume – 50 gpm (18,000 gpd)
- Medium Volume – 75-100 gpm (35,000 gpd)
- High Volume – 130-150 gpm (50,000 gpd)

- Typical local well capacity – 8 gpm (11,500 gpd)
- Water storage required
- Based on operating times – 4-6 hours per day

Water Features

Low Volume

- Misters



Water Features

Low Volume

- Sprays and Jets



Water Features – Low Volume Concept



Omemee Park - Low Flow Option



Water Features

Medium Volume

- Water Dome and Jellyfish



Water Features

Medium Volume

- Water Cannons



Water Features – Medium Volume Concept



Omemee Park - Medium Flow Option



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Water Features

High Volume

- Buckets



Water Features – High Volume Concept



Omemee Park - High Flow Option



Water Features and Options

Capital Investment Required (concrete pad and features only)

- Low Volume - \$100,000
- Medium Volume – \$145,000
- High Volume – \$240,000

Water Features and Options

Ongoing Operational Requirements

- Requires regular testing of water
 - Flow Through System – daily testing
 - Recirculating System – full time resource on-site (similar to swimming pool requirements)
- Considerable staff time required
- Full power required for water wells and pumps to features
- Full time treatment of water – both pre and post use
- Maintenance and operational costs for all equipment including energy consumption

Costing - Capital

Concrete splash pad	\$ 100,000-\$240,000
Site works and restoration	\$ 110,000
Electrical Service	\$ 35,000
Utility building	\$ 100,000
Water well and distribution	\$ 25,000
Intake structure (raw water)	\$ 75,000
Treatment (pre and post)	\$ 100,000
Water storage (30,000 gal)	\$ 75,000
Park improvements	\$ 150,000-\$250,000
Engineering, permits	\$ 25,000
Total	\$795,000-\$1,035,000

Costing - Operating

Annual Operational Requirements (approximate)

- Water treatment, power, etc. \$ 30,000
- Staff commitment (900 hours) \$ 45,000

Costing

Funding Sources/Opportunities

- Municipal funding (requires Council approval)
- Community generated funding (grants, partnerships, etc.)

Risks and Permitting

Risks include:

- Insufficient water supply
- Water quality (must be drinking quality)
- High operating costs
- Staff demands
- Environmental impact

Risks and Permitting

Potential Environmental Concerns

- Contaminant in water source
- Disposal of waste/used water
- Pre-treatment for disposed water
- Chemicals in water treatment process
- Raw water intake structure

Risks and Permitting

Regulatory/Health Guidelines

Overview of Haliburton, Kawartha, Pine Ridge District Health Unit (HKPR) requirements governing the use of non-potable and potable water in public recreational facilities:

- HKPR involvement in design and planning highly recommended.
- HKPR inspection required for start-up
- Splash Pad water to be drinking water quality
- Many municipalities with recirculation systems converting to flow through systems
- Many factors affecting water quality, i.e. water temperature, PH of water
- Adenovirus a concern requires specific contact time with chlorine
- Recirculation systems treated similar to swimming pool requirements

Risks and Permitting

Permitting, Permissions and Consultation Process

- Kawartha Region Conservation Authority
- Department of Fisheries and Oceans
- Indigenous Consultation
- Haliburton, Kawartha, Pine Ridge District Health Unit
- City of Kawartha Lakes - Building Department
- Ontario Government - Permit to Take Water
- Ministry of Natural Resources and Forestry

Conclusion and Considerations

- Concerns related to water provision and capacity to operate the splash pad exist.
- Significant financial investment is required to install the splash pad, whether by the community or municipality.
- Staff support, which would be an increase in service level, will be required to operate the splash pad.
- There is positive community support for a splash pad to be built at Omemee Beach Park.

Next Steps

Staff report to Committee of the Whole Meeting, April 9, 2024.

Input and feedback is important, please forward any comments you may have to communitydevelopment@kawarthalakes.ca by Tuesday March 26th, 2024.

Questions?

