



## OUR MISSION

At StormWise Solutions, we're not just reimagining stormwater management – we're revolutionizing it. Our innovative approach combines an advanced modular tank and filter system with a commitment to sustainability.

Our solution is about making real impacts in communities. By cutting maintenance costs, we ease the taxpayer burden and enhance environmental stewardship, paving the way for greener urban landscapes. Join us to transform stormwater management into a catalyst for positive change, building resilient communities while reducing our environmental footprint.

## ABOUT US

We are a diverse team driven by a shared passion for leveraging our varied backgrounds and expertise to pioneer transformative solutions in stormwater management. With experience in chemical engineering, mechanical engineering, civil engineering, and environmental studies, we collaborate seamlessly to deliver innovative, cost-effective solutions that benefit society and propel us towards a greener, more sustainable future.

Excited by new technological innovations, we're dedicated to pushing the boundaries of what's possible in stormwater management, driven by our collective commitment to creating positive impacts for communities worldwide.

**Geoffrey Nielsen**



Project Manager  
Chemical Engineering

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Support Role  
Mechanical Engineering

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Technical Lead  
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## WHO WE'RE HELPING

Everyone wants what's best for their community!

Our solution reduces strain on municipalities and property owners by reducing the costs associated with stormwater pond management through the simplification of maintenance procedures. Thereby freeing up additional tax dollars to be used for other endeavors.



Overall, StormWise Solutions is supporting the betterment of our communities starting from the ground up.

# STORMWATER POND MAINTENANCE SIMPLIFIED

**YOUR TAX DOLLARS FUND MILLIONS OF DOLLARS OF STORMWATER POND MAINTENANCE EVERY YEAR.<sup>[1]</sup>**

## Problems With Existing Solutions

- Municipalities in Canada reported maintenance costs typically range from \$200,000 to \$500,000 but can often exceed \$1,000,000.<sup>[2]</sup>
- Maintenance typically takes around a month.
- Older ponds frequently require costly refurbishment by the time municipalities perform maintenance on them.<sup>[2]</sup>

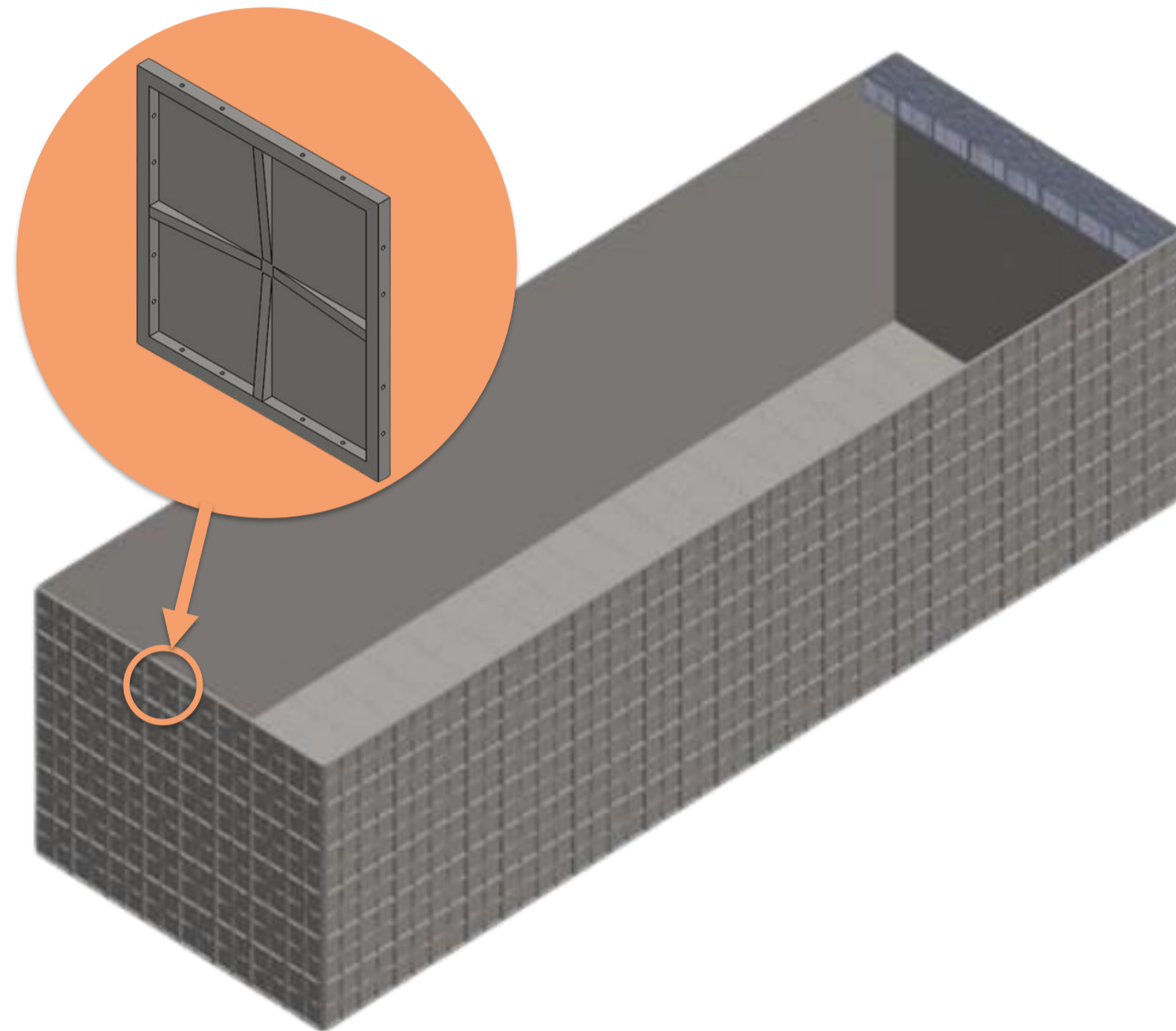
Complicated

Time-Consuming

Expensive



# Introducing the ModuPond



### Modular

- A scalable system that can be adapted to suit a variety of installations
- Comprised of a filter and panel system

### Cost-Effective

- Competitive compared to significant refurbishments and new installations

### Simplifies Maintenance

- Reduces maintenance time
- Increases allowable maintenance window

## CUSTOMER VALIDATION

From interviewing industry experts in our target markets, we've learnt the following:

### Private Industries



- They require overall better water treatment
- Face similar challenges to traditional stormwater ponds

### Municipalities



- The industry is stagnant and seeking innovation
- They lack the standardization of maintenance procedures

The ModuPond can be integrated seamlessly into the ponds of any community



"A key interest of the city is how can we make sediment removal as cost effective, simple and easy as possible for the operational staff"

## TESTING

### 1. Mechanical Design and Testing:

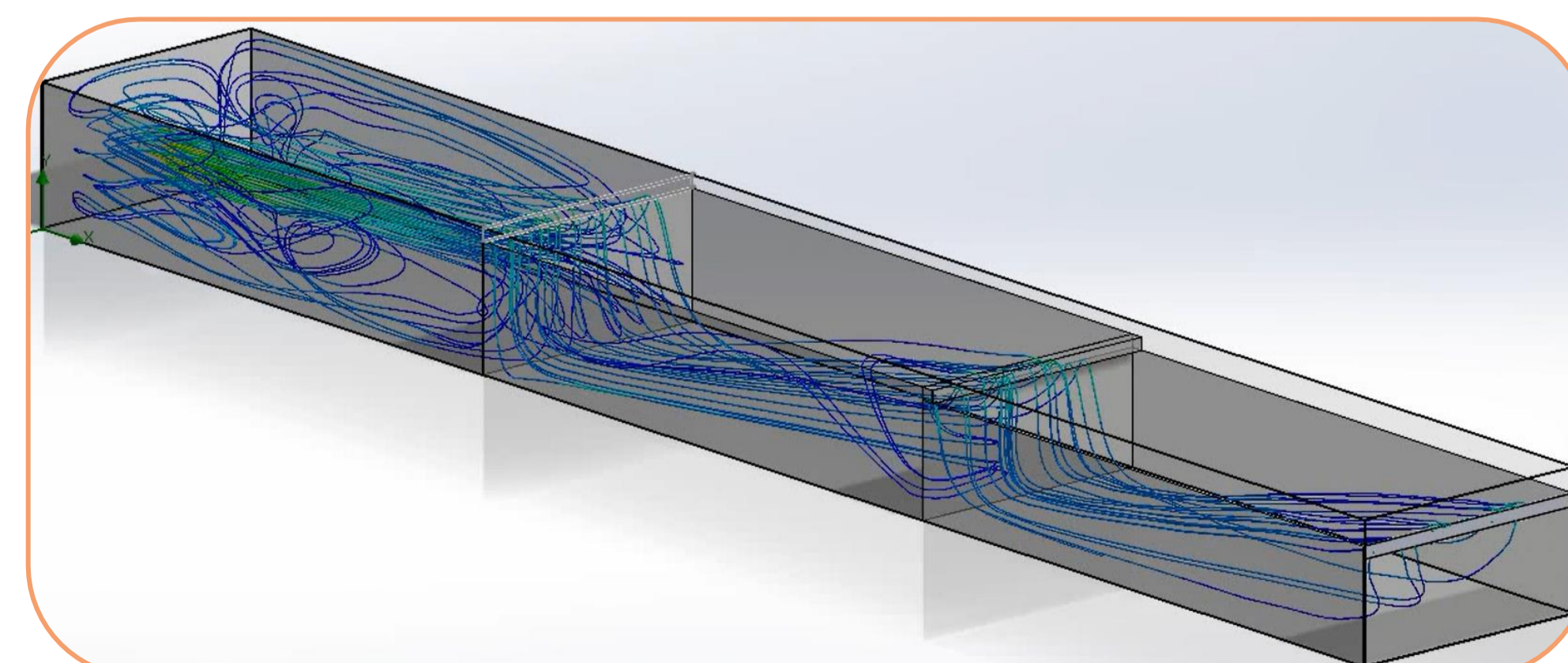
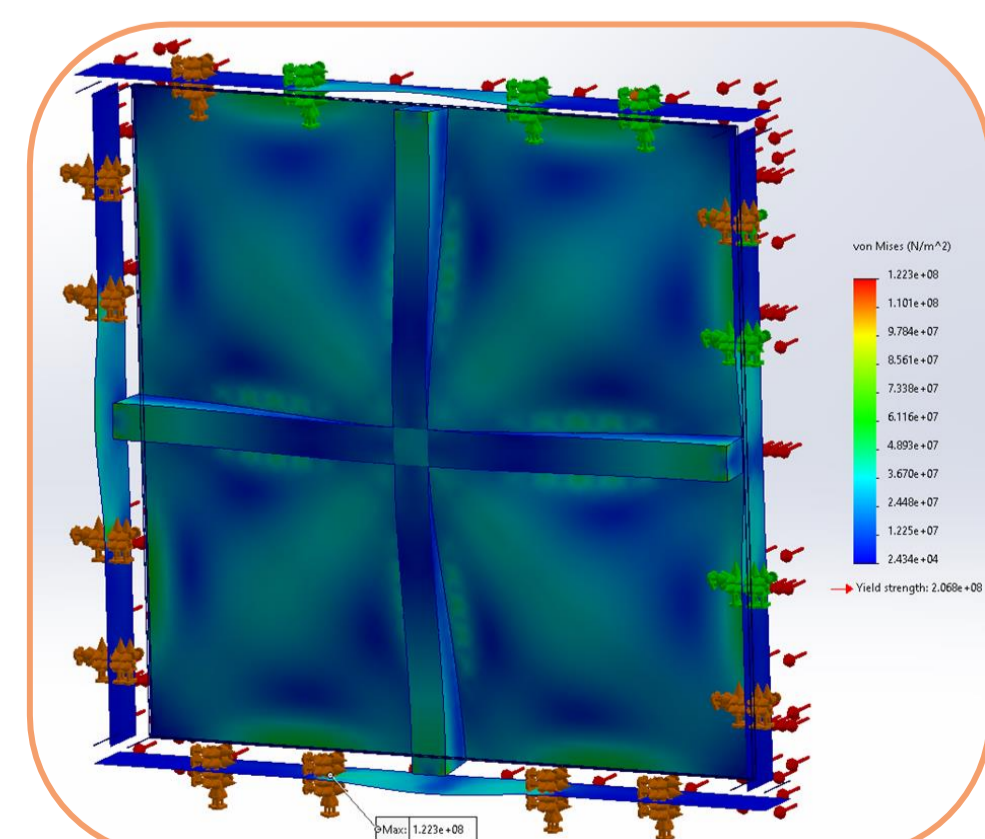
Design created in SolidWorks and iteratively optimized based on FEA case loading based on a 1 in 200 storm event to optimize material.

### 2. Hydraulic Simulation and Testing:

Flow patterns and sedimentation performance were evaluated using SolidWorks flow simulation. Flow patterns verified using scale prototype.

### 3. Chemical Simulation & Testing

Granulated Activated Carbon (GAC) filter performance was simulated for Total Dissolved Solids (TDS) removal, replacement interval identified based on stormwater runoff inlet conditions.



## NEXT STEPS

- 6-month: Develop MVP
- 1-year: Securing Partnerships
- 18-month: First Product Implementation
- 2-year: Market Expansion

## References

1. The City Of Calgary. (n.d.). Stormwater Management plan and budget. Calgary.ca. Retrieved March 21, 2024, from <https://www.calgary.ca/service-lines/2023-2026-city-services/stormwater-management.html?service-line-budget-bar-chart-serviceplanbudget-xview=2026&service-line-budget-bar-chart-serviceplanbudget-view-open=>
2. Drake, J., & Guo, Y. (2008). Maintenance of Wet Stormwater Ponds in Ontario. Canadian Water Resources Journal, 33(4), 351-367. <https://doi.org/10.4296/cwri3304351>.

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