Innovations in Stormwater Management: Towerside District Stormwater System

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MISSISSIPPI RIVER WATERSHED

Towerside District Stormwater System
WHAT IS THE MWMO?

• Special-purpose unit of local government
• One of three dozen watershed organizations in the Twin Cities metro area
• Protects and improves water quality and habitat in the Mississippi River
WHAT WE DO

- Research
- Planning
- Monitoring
- Grants
- Projects
- Education
• Innovation
• Water Quality Improvement
• Creation of Habitat
• Public Benefit
Towerside
Innovation District

- ~370 acres
- District stormwater ~8 acres
- Green Line Light Rail Transit
- Crossing property lines to manage water more effectively
- Water budget
- Historic Bridal Veil Creek
**Pillars of Prospect Park**
Senior Housing, Independent Living, Assisted Living, Memory Care, + Childcare Center
283 units
~$85 million
Opens Spring 2020

**The Link**
Market Rate + Luxury Housing
Ground level Grocery
336 units
~$71.3 million
Opened Spring 2018

**Green on 4th**
Affordable + Market Rate Housing
243 units
~$54.7 million
Opens Summer 2019

**The Louis**
Affordable + Market Rate Housing
70 units
~$XX million
Opens Fall 2019

**Future Development in Contract phase, potential to tie into District Stormwater System**
- 4 developments
- ~$250M in development
- 932 units of affordable, senior, and market rate housing
- Grocery store
- All online by 2020
**LANDOWNERS**

- Pay 100% for water quality treatment
- Long-term O+M

**WATERSHED**

- Pay 100% for stormwater reuse
- Provide grants for reuse
- First 5-year O+M

**Savings**

Stormwater as a Resource
1. Conveyance
2. Treatment to City standard (2 filtration basins)
3. Underground Storage (1.1 inches off impervious surfaces)
4. Reuse System

C: Private parcels
D: Public storm sewer
E: Untreated storm sewer
F: Treated stormwater
Conveyance

1,600 lineal feet of pipe conveys stormwater from four parcels to district stormwater system.

Treatment: Biofiltration

Two basins capture and treat runoff from 8 acres, cleaning to city standard.

Creation of a stormwater park.
Underground Storage

StormTrap system holds 207,000 gallons of filtered water for use by future development.

Reuse System

Reuse system delivers stormwater back to parcels for irrigation and possible industrial use.
Design Challenges

- Unknown existing grade (brownfields cleanup)
- Unknown final tie-in (future development)
- Utilities!
• Unexpected utility conflicts
• Brownfield site
• Contractor’s survey error
• Coordination with multiple contractors and projects
• Tank leaks
~$300,000 treatment
~$360,000 storage + reuse
~$200,000 conveyance
$860,000 total construction

- 15% reduced costs for stormwater management
- 90% TSS and 60% TP reduction, 4.5M gal of reuse
- Creation of habitat
- Incentivize redevelopment
- Park-like amenity
20-acre expansion

Potential for parkway with integrated green infrastructure
Thanks!

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