

Pennoyer Infiltration Basin



CITY OF KENOSHA

An invasive species removal and native planting project.

September 2022

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Pennoyer Infiltration Basin Planting with Harborside Academy

The Pennoyer Infiltration Basin is located in Pennoyer Park, Kenosha, Wisconsin.

Pennoyer Park has fantastic recreational activities such as concerts, bike trails, and swimming. There is a fish rearing pond, a boat launch, the Pike River, and, of course, an important stormwater treatment facility – The Pennoyer Infiltration Basin

Project Goals

Completed:

- ✓ Remove an invasive species called Phragmites, from 18,000 square feet in the bottom of the basin.
- ✓ Install new engineered media (soil mixture) to restore infiltration rate and create a good environment for new plants.

Upcoming:

- Plant approximately 4,000 native plants to replace the Phragmites.

This Pamphlet

This pamphlet is a summary of:

- Where stormwater goes.
- What an infiltration basin is.
- Why infiltration basins are important.
- What Pennoyer looked like before the basin.
- What plants Harborside will be planting.

Where does stormwater in Kenosha Go?



Image 1 Stormwater Sewer in Jamestown Park. 2019

Stormwater that drains off of private properties and roadways enters the storm sewer and eventually enters Lake Michigan, the Pike River, Pike Creek, the Kilbourne Ditch, or Jerome Creek. The Stormwater Utility is in charge of treating as much of this water as possible before it enters these waterways used for drinking water and recreational activities, like swimming.



Image 2 A storm sewer pipe clogged with trash. Kenosha 2019

The treatment of stormwater is very different from the treatment of sewage. Rather than using a traditional treatment plant with settling tanks to treat the water, ponds, swales, and vegetated areas are used to remove pollutants such as trash, e. Coli, copper, or other chemicals from urban or commercial activity.

What is an Infiltration Basin?

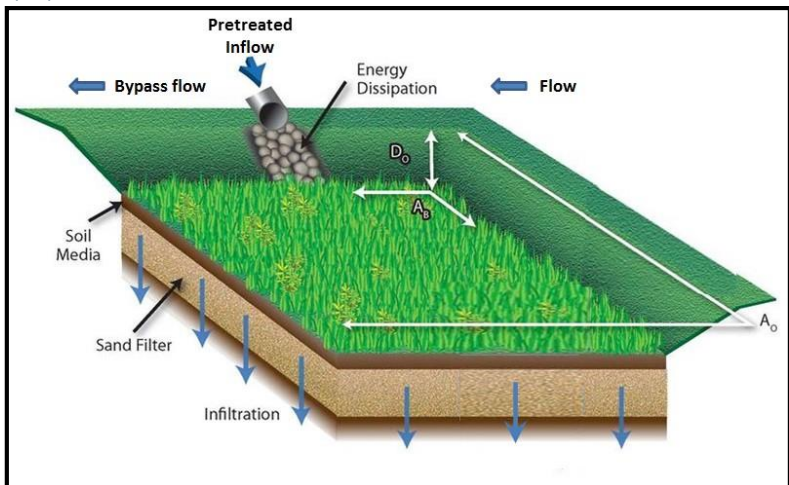
An infiltration basin is a stormwater treatment facility that uses geographically low areas to filter and infiltrate water from storms. See image 3, below. Native plants catch garbage, remove heavy metal pollutants, and provide important native habitats for wildlife.

When stormwater enters the sewer it can carry lots of pollutants that can contaminate our drinking water in Lake Michigan. Treatment facilities, like an infiltration basin, can remove:

- Trash
- TSS (Total suspended solids)
 - Suspended solids refers to sand, silts, and clays that make water appear murky or dirty.
- Copper, cadmium & other metals
 - These metals commonly comes from brake pads grinding as we use them.
- Bacteria like e.Coli
 - e.Coli is a bacterium that is present when feces from pets or geese are abundant.

Less pollutant in the lake means better water to drink, swim in, fish in, boat on, and live next to.

Image 3 Example of Infiltration Basin. From Minnesota Stormwater Manual, accessed 8/25/22



Why does Pennoyer Park have an Infiltration Basin?

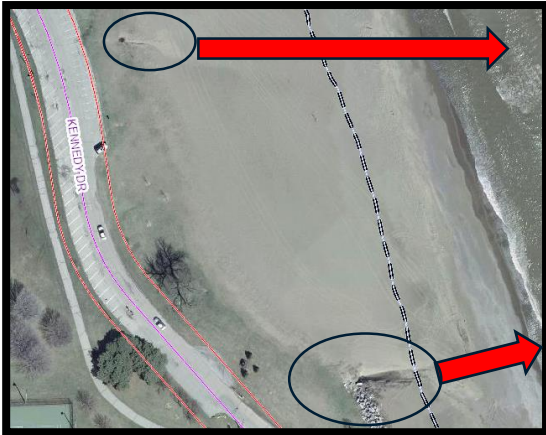


Image 4 Pennoyer Stormwater Runoff 2010. Kenosha County Aerial accessed 8/24/22

All of the City's stormwater eventually drains to the lake. However, the stormwater from the Pennoyer Park area used to drain directly across the beach, See image 4, left.

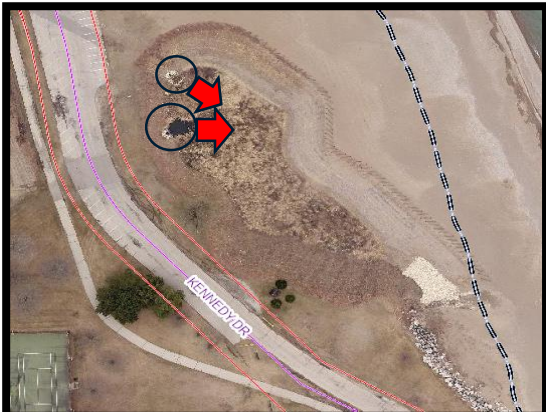


Image 5 Pennoyer Basin 2015. Kenosha County Aerial accessed 8/24/22.

In 2012, the Engineering Division of the City of Kenosha saw an opportunity to improve Pennoyer Park for beach-goers while improving the water quality of Lake Michigan.

Now, stormwater runoff is diverted to an infiltration basin

that provides water quality improvement, native habitat, and some beautiful flowers throughout the summer. See the image 5, above.

Some of the Plants Harborside Will Plant:

- Bicknell's Sedge
- Big Blue Stem
- Blue Flag Iris
- Bottlebrush Sedge
- Brown-Eyed Susan
- Butterfly Weed
- Golden Sedge
- Great Blue Lobelia
- Lead Plant
- Marsh Aster
- Upright Cone Flower
- Virginia Iris
- Western Sunflower
- Wild Bergamont
- Swamp Soulmate Milk Weed
- Spider Wort



Image 6 Western Sunflower



Image 7 Swamp Soulmate Milkweed



Image 8 New England Aster



Image 9 Wild Bergamont, also called Bee Balm (Image taken in Pennoyer basin 07/20/2022)

- Marsh Blazing Star
- Meadow Blazing Star
- Michigan Lilly
- New England Aster
- Pale Purple Cone Flower
- Prairie Blazing Star
- Prairie Dock
- Prairie Sunflower
- Purple Cone Flower
- Purple Love Grass
- Rough Blazing Star
- Sand Coreopsis
- Sand Phlox
- Sand Reed Grass
- Scarlet Bee Balm
- Sky Blue Aster



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