Zorinsky Lake Aquatic Center Demonstration Project

3808 South 156th Street, Omaha, NE

City of Omaha Stormwater Program

SITE AND PROJECT SUMMARY

The Zorinsky Lake Family Aquatic Center is a 6,000 ft^2 facility that houses an interactive water play structure, water slides, and lap lanes. Opened in 2010, the facility incorporated numerous green infrastructure practices into the surrounding landscape to effectively capture and treat stormwater runoff. Green infrastructure practices included the use of bioswales, bioretention systems, and permeable pavement.

The bioswales are located on the west side and in the middle of the parking lot area. These structures collect stormwater runoff from the parking lot and direct it to the east towards two bioretention systems. Both the bioswales and bioretention systems are used to slow runoff velocities, filter pollutants, and allow water to slowly infiltrate into the surrounding soils. During heavy rain events, the bioretention systems are designed to drain excess water to another bioswale that wraps around the south end of the facility, providing additional filtration, water storage, and infiltration area.

This project incorporated several well-adapted plants species within the vegetated swales and bioretention systems, as well as the surrounding landscape. Plant species include Prairie Cordgrass, Northern Sweet Grass, Little Bluestem, Indian grass, Horsetail, and Great Spike Rush. These species have adapted and are suited for the hot, humid Nebraska climate and require little maintenance when established.

The parking lot on 161st Street incorporated several pervious concrete parking stalls and three rain gardens. The permeable pavers are designed to treat the water by storing and filtering through it the rock sub-base, releasing the water at a slow rate, allowing for greater infiltration rates into the surrounding soil.

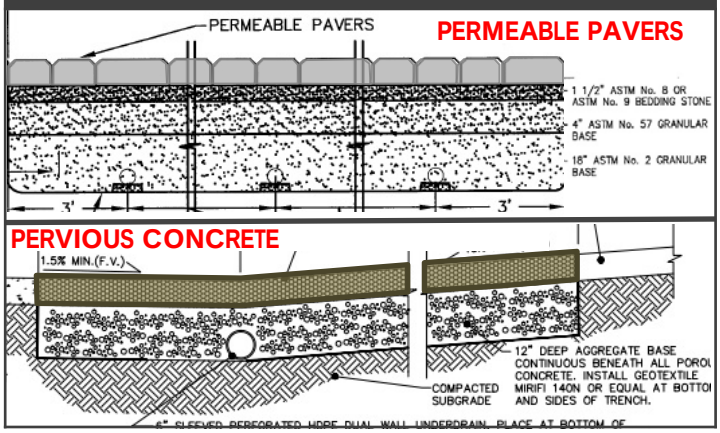
PROJECT DETAILS

	BIORETENTION SYSTEMS	RAIN GARDENS	PERMEABLE PAVEMENT	PERVIOUS CONCRETE
Project Footprint	4,810 ft^2	930 ft^2	5,890 ft^2	3,000 ft^2
Underdrain	6” Perforated HDPE Pipe	None	6” Perforated HDPE Pipe	6” Perforated HDPE Pipe
Pre-Treatment System	Vegetated Swales	Vegetated Swales	None	None
Outlet Control	None			
Contributing Area	4.5 Acres			
Percent Impervious (%)	50 %			
Predominant Land Use	Public - Recreation			
Predominant Soil Types	Silty clay loam			

DESIGNED BY	CONSTRUCTED BY	MAINENTANCE BY
Olsson and Associates	Heimes Corp.	City of Omaha Parks, Recreation, & Public Property Department

SITE LOCATION - 3808 South 156th St

PERMEABLE PAVERS / PERVIOUS CONCRETE



PHOTOS

PROJECT LAYOUT