

### SITE AND PROJECT SUMMARY

The Elmwood Park Diversion was part of the Aksarben Village Sewer Separation Project. The diversion was identified during the screening process for green infrastructure within the combined sewer system service area. It receives stormwater runoff from 29 acres in the upper reaches of the project area, allowing it to flow into its “natural” watershed and not piped to the south adjacent watershed. The diversion allowed for the construction of smaller pipes at the bottom of the Aksarben Village watershed. The diversion is estimated to have saved \$550,000 on the project overall, which includes the costs associated with building the diversion.

The diverted stormwater runoff passes through a trash screening structure to minimize debris from entering the diversion. Access hatches and a driveway to the structure were also constructed to allow for easy removal of the built-up debris. From the screening structure, runoff then flows to a splitter structure. The structure directs a certain amount of flow, up to approximately 23 ft<sup>3</sup>/s, through 465 linear feet of surface bioswales and three bioretention systems, beginning at the top of the park ravine. Flows exceeding the capacity of the pipe are diverted into a 42” concrete bypass pipe that extends to the bottom of the ravine and drains into Elmwood Creek.

Seven slotted-weir structures were constructed within the ravine to reduce stormwater velocity and lower erosion potential. The weir structures have vertical drops that vary from one to three feet. Three bioretention systems are located just above three separate weir structures. Runoff is directed within a native grassed channel separated from the bioretention systems with a berm. After runoff reaches the weir structure, it back flows into the bioretention system. The design is intended to create off-line bioretention structures and decrease shear stress on the garden soils and plantings.

At the base of the ravine, a dry detention basin collects flows into an outlet structure that connects with the bypass pipe and directs flows into Elmwood Creek.

### PROJECT DETAILS

|                        | BIORETENTION SYSTEMS                 |
|------------------------|--------------------------------------|
| System Footprint       | 1,500 ft <sup>2</sup>                |
| Underdrain             | 4” perforated under-drain with valve |
| Pre-Treatment System   | Screening structure                  |
| Outlet Control         | Bypass pipe; area inlet              |
| Contributing Area      | 29 acres                             |
| Predominant Land Use   | Residential                          |
| Percent Impervious (%) | 45%                                  |
| Predominant Soil Types | Contrary-Marshall silty clay loam    |

### FIRST BIORETENTION LOOKING NORTH



| DESIGNED BY                         | CONSTRUCTED BY      | MAINTENANCE BY                                       |
|-------------------------------------|---------------------|--|
| Veenstra & Kimm, Big Muddy Workshop | Graham Construction | City of Omaha Stormwater Program & Sewer Maintenance |

## SITE LOCATION – 60<sup>th</sup> & Leavenworth St



## STOP LOG MODIFICATION



## PHOTOS



## PROJECT LAYOUT

