ST.CLOUD GREATER STORMWATER UTILITY

SAUK RIVER WATERSHED DISTRICT AURORA PARK RAIN GARDEN

Aurora Park Rain Garden 1536 31st Ave N

PROJECT BACKGROUND

The City partnered with the Sauk River Watershed District to construct a rainwater garden in Aurora Park using a MN Pollution Control Agency Clean Water Partnership grant; grant match was provided by City staff time. The rainwater garden provides water quality treatment for a three acre residential drainage area that previously discharged directly to the Sauk River without treatment. The Aurora Park Neighborhood Group and City Park Board approved the project.

PROJECT SUMMARY

- Constructed fall 2012
- Construction cost: $11,350
- Grant Funded Portion: $9,150
- Project coordination with the Sauk River Watershed District, Park Department and Aurora Park Neighborhood Group.

PROJECT LAYOUT

PROJECT SCHEDULE

DECEMBER 2011	SPRING 2012	JULY 2012	FALL 2012
St. Cloud/SRWD Stormwater BMP Plan Adopted	Planning & Design Phase	Park Board Approval	Construction Complete

SUSTAINABILITY BENEFITS – Project added 125 native plants and reduces water volume and pollutant loading to the Sauk River.

Estimated Annual Pollution Reduction

1.90 pounds of phosphorus	550 pounds of sediment	540,000 gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

ST. CLOUD RAIN GARDEN RETROFIT
CALVARY HILL RAIN GARDEN

Calvary Hill Rain Garden 1800 17th St S

PROJECT BACKGROUND

The City installed parking lot and site access improvements to the north Calvary Hill Park Parking lot in 2011. The project replaced an eroding gravel parking lot with a paved lot and installed four rainwater gardens to treat stormwater runoff from the parking lot. The project added native flowers and grasses within the rain gardens. This was a partnership project with the Parks, Public Works and Stormwater Departments utilizing a MN Pollution Control Agency Environmental Assistance Grant to help fund the project.

PROJECT SUMMARY

- Constructed October 2011.
- Construction cost: $76,000
- Grant Funded Cost Portion: $12,000

PROJECT LAYOUT

PROJECT SCHEDULE

2009	2010	2011	OCTOBER 2011
Identified parking lot as priority for improvements	Applied for Environmental Assistance Grant	Received Environmental Assistance Grant	Construction complete

SUSTAINABILITY BENEFITS – This project added 250 native plants and will reduce the volume of water and pollutant loading to the Mississippi River.

Estimated Annual Pollution Reduction

1.0 pounds of phosphorus	500 pounds of sediment	275,000 gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

SAUK RIVER WATERSHED DISTRICT CENTRAL PARK RAIN GARDEN

Central Park Rain Garden 2807 4th St N

PROJECT BACKGROUND

The City partnered with the Sauk River Watershed District to construct a rainwater garden in Central Park using a MN Pollution Control Agency Clean Water Partnership grant; grant match was provided by City staff time. The rainwater garden provides water quality treatment for a half acre residential drainage area that previously discharged directly to the Sauk River without treatment. The City Park Board approved the project.

PROJECT SUMMARY

- Constructed Fall 2012.
- Construction cost: $3,400
- Grant Funded Portion: $3,400
- Project coordination with the Sauk River Watershed District and Park Department.

PROJECT LAYOUT

PROJECT SCHEDULE

DECEMBER 2011	SPRING 2012	JULY 2012	FALL 2012
St. Cloud/SRWD Stormwater BMP Plan Adopted	Planning & Design Phase	Park Board Approval	Construction Complete

SUSTAINABILITY BENEFITS – This project added seven new trees, 150 native plants and will reduce the volume of water and pollutants entering the Sauk River.

Estimated Annual Pollution Reduction

0.45 pounds of phosphorus	250 pounds of sediment	105,000 gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

SAUK RIVER WATERSHED DISTRICT
DIOCESE WATER QUALITY IMPROVEMENT

Diocese Park Rain Garden 3701 Maine Prairie Road

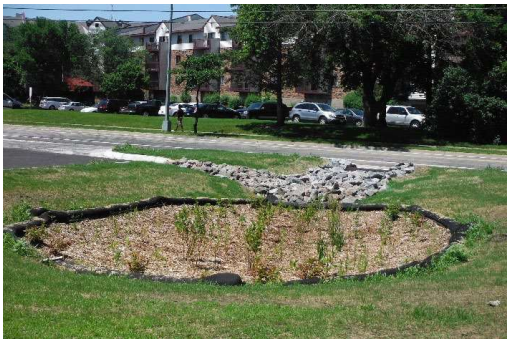
PROJECT BACKGROUND

The City partnered with the Sauk River Watershed District to construct two rainwater gardens as part of the parking lot improvement project at Diocese Park. A Board of Water and Soil Resources Clean Water Fund grant and a MN Pollution Control Agency Clean Water Partnership grant was used to fund construction of the rainwater gardens. The project replaced an eroding gravel parking lot with a paved lot. The rainwater gardens treat stormwater runoff from the new parking lot and the adjacent street. The project created a usable parking area for park and community garden users while adding water quality treatment and native plants to the area.

PROJECT SUMMARY

- Constructed June 2016.
- Construction cost: $78,000
- Grant Funded Portion: $35,500
- Project coordination with the Sauk River Watershed District and Park Department.

PROJECT LAYOUT



PROJECT SCHEDULE

DECEMBER 2011
St. Cloud/SRWD Stormwater BMP Plan Adopted

FALL 2014
Planning & Design Phase

FEBRUARY 2016
Cost-Share funding & Park Board Approval

JUNE 2016
Construction Complete

SUSTAINABILITY BENEFITS – This project added 375 native plants and will reduce the volume of water and pollutant loading to the Sauk River.

Estimated Annual Pollution Reduction

1.0 pounds of phosphorus	300 pounds of sediment	300,000 gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

SAUK RIVER WATERSHED DISTRICT MADISON PARK RAIN GARDEN

Madison Park Rain Garden 3050 14th St N

PROJECT BACKGROUND

The City partnered with the Sauk River Watershed District to construct a rainwater garden in Madison Park using a MN Pollution Control Agency Clean Water Partnership grant; grant match was provided by City staff time. The rainwater garden provides water quality treatment for a half acre residential drainage area that previously discharged directly to the Sauk River without treatment. The City Park Board approved the project.

PROJECT SUMMARY

- Constructed Fall 2012.
- Construction cost: $2,950
- Grant Funded Portion: $2,950
- Project coordination with the Sauk River Watershed District and Park Department.

PROJECT LAYOUT

PROJECT SCHEDULE

DECEMBER 2011	SPRING 2012	JULY 2012	FALL 2012
St. Cloud/SRWD Stormwater BMP Plan Adopted	Planning & Design Phase	Park Board Approval	Construction Complete

SUSTAINABILITY BENEFITS – This project added seven new trees, 85 native plants and will reduce the volume of water and pollutant loading to the Sauk River.

Estimated Annual Pollution Reduction

0.4 pounds of phosphorus	160 pounds of sediment	90,000 gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

SHERBURNE RAIN GARDEN RETROFIT
RAIN GARDEN RETROFIT PHASE 1

Rain Garden Retrofit Phase 1

PROJECT BACKGROUND

The City partnered with Sherburne Soil and Water Conservation District (SWCD) to retrofit 20 rain gardens into an existing residential neighborhood in southeast St. Cloud. The City used cost-share funding from the Sherburne SWCD through a Clean Water Legacy grant through the Board of Water and Soil Resources to help complete the project. The City fist completed a stormwater retrofit assessment of the subwatershed to help prioritize the best locations for rain garden retrofit projects. Property owners agreed to have these rain gardens installed in the right-of-way along their property and committed to assist with long-term maintenance. The rain gardens treat 7.2 acres of stormwater runoff that previously discharged to the Mississippi River without treatment.

PROJECT SUMMARY

- Constructed June 2011.
- Construction cost: $55,000
- Grant Funded Cost Portion: $50,000
- Coordinated project with Sherburne SWCD and the City's Public Works and Engineering Departments.

PROJECT LAYOUT

PROJECT SCHEDULE

DECEMBER 2010 Stormwater Retrofit Analysis completed

DECEMBER 2010 Sherburne SWCD approves cost-share

JAN-APR 2011 Design phase

JUNE 2011 Construction complete

SUSTAINABILITY BENEFITS – This project added twenty new rain gardens and over 1,200 native plants to the area. The project will reduce the volume of water and pollutant loading to the Mississippi River.

Estimated Annual Pollution Reduction

- 7.8 pounds of phosphorus
- 5,000 pounds of sediment
- 2.2 million gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

NORTHEAST ST CLOUD PROJECT(S)
EAST GERMAIN PARKING LOT

East Germain Parking Lot 223 East St. Germain Street

PROJECT BACKGROUND

The City installed parking lot improvements at the intersection of East St. Germain St. and 3rd Avenue NE. The project used a Clean Water Partnership Grant from the MPCA to replace an eroding gravel parking lot with a paved lot and installed a rainwater garden and underground infiltration system to treat stormwater runoff from the parking lot, adjacent buildings and the street. The project added more greenspace to the area and native flowers and grasses within the rain garden. This project also meets the City's future land redevelopment standards.

PROJECT SUMMARY

- Construction cost $121,000.
- Grant Funded Cost Portion: $40,000.
- Coordinated project with Economic Development, Planning and Public Works Departments.

PROJECT LAYOUT

PROJECT SCHEDULE

MARCH 2013	MAY 2015	JAN 2016	JUNE 2016
Northeast plan approved	MPCA CWP grant recieved	Design phase	Construction complete

Minnesota Pollution Control Agency

SEH

SUSTAINABILITY BENEFITS – The project added seven new trees, 650 native plants and will reduce runoff water volume and pollutant loading to the Mississippi River.

Estimated Annual Pollution Reduction

0.4 pounds of phosphorus	600 pounds of sediment	125,000 gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

SHERBURNE RAIN GARDEN RETROFIT
RAIN GARDEN RETROFIT PHASE 2

Rain Garden Retrofit Phase 2

PROJECT BACKGROUND

Due to high property owner interest and success of phase 1, the City partnered with Sherburne SWCD to retrofit 15 rain gardens into an existing residential neighborhood in southeast St. Cloud. The City used cost-share funding from the Sherburne SWCD through a Clean Water Legacy grant through the Board of Water and Soil Resources to help complete the project. The City fist completed a stormwater retrofit assessment of the subwatershed to help prioritize the best locations for rain garden retrofits. Property owners agreed to have rain gardens installed in the right-of-way along their property and committed to assist with long-term maintenance. The rain gardens treat 5 acres of stormwater runoff that previously discharged to the Mississippi River without treatment.

PROJECT SUMMARY

- Constructed June/July 2014
- Construction cost: $61,000
- Grant Funded Cost Portion: $60,000
- Coordinated project with Sherburne SWCD and the City's Public Works and Engineering Departments.

PROJECT LAYOUT

PROJECT SCHEDULE

DECEMBER 2010	JUNE 2011	JAN-APR 2014	JULY 2014
Stormwater Retrofit Analysis completed	Phase 1 of the project completed	Design phase	Construction complete

SUSTAINABILITY BENEFITS – This project added fifteen new rain gardens and over 1,000 native plants to the area. The project will reduce the volume of water and pollutant loading to the Mississippi River.

Estimated Annual Pollution Reduction

5.0 pounds of phosphorus	3,250 pounds of sediment	1.5 million gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

ST. CLOUD RAIN GARDEN RETROFIT
RAYMOND PARK RAIN GARDEN

Raymond Park Rain Garden 324 Raymond Ave NE

PROJECT BACKGROUND

The City installed parking lot improvements in Raymond Park. The project replaced an eroding gravel parking lot with a paved lot and installed a rainwater garden to treat stormwater runoff from the parking lot. The project created usable parking for park and community garden users while providing water quality improvements to the area. The project was completed in partnership with the City's Park Department without any grant funding.

PROJECT SUMMARY

- Constructed June 2014
- Construction cost: $45,000
- Coordinated project with Park and Engineering Departments.

PROJECT LAYOUT

PROJECT SCHEDULE

MARCH 2013 – Northeast plan approved

DECEMBER 2013 – Identified Raymond Park as priority project

JAN-MAR 2014 – Design phase

JUNE 2014 – Construction complete

SUSTAINABILITY BENEFITS – This project added one new rain garden and over 125 native plants to the area. The project will reduce the volume of water and pollutant loading to the Mississippi River.

Estimated Annual Pollution Reduction

0.5 pounds of phosphorus	250 pounds of sediment	80,000 gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

ST.CLOUD RAIN GARDEN RETROFIT
UNIVERSITY DRIVE RAIN GARDEN(S)

University Drive Rain Gardens 848, 853 16th Ave S and 850 Washington Memorial Dr

PROJECT BACKGROUND

In 2009, the City was approached by the Lake George Neighborhood Association about transforming three small City owned properties along University Drive into rain gardens. The properties have very sandy soils and it was difficult keep grass alive. The project installed one rain garden on each property. The rain gardens are used to treat stormwater runoff from the adjacent street. The project was a partnership project with the City's Parks and Stormwater Departments, and the Neighborhood Association. A MN Pollution Control Agency Environmental Assistance Grant was used to help fund the project.

PROJECT SUMMARY

- Constructed October 2011.
- Construction cost: $43,500
- Grant Funded Cost Portion: $20,000

PROJECT LAYOUT

PROJECT SCHEDULE

SPRING 2009	FALL 2009	JAN 2011	OCTOBER 2011
Neighborhood approached City about prj.	Design Completed	Received Environmental Assistance Grant	Construction complete

SUSTAINABILITY BENEFITS – This project added over 400 native plants and will reduce the volume of water and pollutant loading to the Mississippi River.

Estimated Annual Pollution Reduction

2.5 pounds of phosphorus	500 pounds of sediment	35,000 gallons of water infiltrated

ST.CLOUD GREATER STORMWATER UTILITY

ST.CLOUD RAIN GARDEN RETROFIT
WILSON PARK RAIN GARDEN

Wilson Park Rain Garden 742 Riverside Drive

PROJECT BACKGROUND

In 2009 the City's Parks Department approached Stormwater staff to review drainage and stormwater quality runoff concerns within Wilson Park. The existing drainage system was failing, causing localized flooding and the adjacent roadway to be damaged. City staff designed a drainage improvement project that included a large rain garden to filter stormwater runoff from a portion of the parks roadway and parking area. This was a partnership project with the City' Parks, Public Works, Engineering and Stormwater Departments utilizing a MN Pollution Control Agency Environmental Assistance Grant to help fund the project.

PROJECT SUMMARY

- Constructed May-June 2011.
- Construction cost: $20,000
- Grant Funded Cost Portion: $5,000

PROJECT LAYOUT

PROJECT SCHEDULE

2009	FALL 2010	JAN 2011	JUNE 2011
Identified area for a stormwater improvement prroject	Completed design	Received Environmental Assistance Grant	Construction complete

SUSTAINABILITY BENEFITS – This project added over 200 native plants and will reduce the volume of water and pollutant loading to the Mississippi River.

Estimated Annual Pollution Reduction

1.75 pounds of phosphorus	325 pounds of sediment	25,600 gallons of water infiltrated