



Environment

ENVIRONMENT

Responsibilities and Definitions

The functional area of Environment incorporates the following types of capital projects:

Solid Waste

Wastewater Collection and Treatment

- Engineering and Administrative Costs
- Wastewater and Biosolids Processing
- Grit Removal Facilities
- Lift Stations
- Interceptor System
- Sanitary Sewer Construction

Sewers and Drainage

- Engineering and Administrative Costs
- Sewer Rehabilitation
- Sewer Separations
- Sewer Reconstructions
- Local Neighborhood Storm Sewer Improvements
- Storm Sewers in Conjunction with Neighborhood Paving Districts
- Storm Sewers and Related Improvements

Conservation of Natural Resources

Energy

- Conservation
- Alternative Sources

Ultimate responsibility for the city's environmental systems resides with the Public Works Department. Specifically, the Environmental Services Division oversees the storm sewer system, the wastewater collection system and pumping facilities, the wastewater treatment facilities, the solid waste collection and disposal facilities, and the maintenance and operation of the Missouri River floodwall and levee system.

To meet the challenge of improving Omaha's environmental service, the following definition of capital improvement has been formalized for environment projects:

Capital Improvements refer to new or expanded physical facilities for the community that are of relatively large size, expense, and perma-

nence. Items considered as capital improvements are:

1. *Any acquisition of land for a public purpose.*
2. *Any construction of a significant facility, such as a wastewater treatment plant, sewer system, or maintenance facility.*
3. *Any non-mobile equipment with an expected life of 15 years or greater.*
4. *Any specific planning study or design work relating to an individual capital project.*
5. *The rehabilitation or major reconstruction of all or part of a facility not considered recurring maintenance.*

Program Formulation

The City's Sanitary Interceptor Sewer Master Plan for the Papillion Creek Watershed was updated in 2009. The plan is based on an evaluation of land use trends for residential, commercial, and industrial land consumption on the sewer system. Interceptor sewer improvement projects, programming and financing involving the Papillion Creek Watershed are evaluated in both inner-suburban and developing suburban areas based on the current fifty year population projections. The plan includes a schedule for construction of interceptor extensions and purchase of existing interceptor lines owned by Sanitary and Improvements Districts (SIDs). The updated Sewer Plan includes a new growth boundary and identification of sewer needs to serve new development.

In 1999, the Public Works Department revised and accelerated the sewer separation plan. To date, over 100 projects worth more than \$100 million have been completed or are under construction as part of the city's in-house sewer separation program (RNC). Additional sewer separation projects are being done under the City's LTCP (CSO program) as discussed later. The city continues to focus on required sewer separations, replacement or rehabilitation of inadequate sewers and other improvement projects to encourage infill and redevelopment and eliminate sewer backups in the older sections of the city. Recently completed sewer separation projects include the 30th and Laurel

Street Area and the 20th and Poppleton Area. The goals of the sewer separation program are to eliminate the back-up of waste water and storm water into basements, street flooding, and any adverse health effects caused by exposure to combined flows.

In 2008, the second phase of the Combined Sewer Separation Program began and will continue the separation in areas impacted by combined sewers. This project will be funded at the rate of \$14-\$16 million per year beginning in 2011 and will complete any remaining projects from the previous program, as well as the newly identified projects. Projects may involve replacement or rehabilitation of sewers and other improvement projects, with the ultimate goal to eliminate or minimize combined sewer overflows. Upcoming sewer separation projects anticipated to start construction in 2012 include the Country Club Phase II and 39th and Fontenelle area sewer separations.

Federal laws have played a major role in the development of the City's environmental capital program. To meet federal and state wastewater treatment and water quality standards, the region's two major treatment plants, the Papillion Creek Wastewater Treatment Plant (WWTP) and Missouri River WWTP, are continuously upgraded to meet evolving permit requirements. Projects have been completed at both of the wastewater treatment plants to upgrade the facilities to meet new plant effluent requirements. Potential projects at the Papillion Creek WWTP include digester mixing rehabilitation, clarifier improvements, plant capacity evaluation, and solids handling improvements. Upgrades at the Missouri River WWTP will include odor control improvements, pumping improvements, solids handling improvements, solids handling improvements, and influent pipe replacements.

A federally mandated program to manage storm water run-off was initiated to comply with the provisions of a new permit issued by the state in 2003. The Storm Water Management Program provides a funding mechanism to meet the goals of the program. The new requirements affect eleven streams and lakes in the metropolitan area, four of which are polluted enough to be designated impaired. The new standards require the city to better control household hazardous waste disposal, analyze stormwater runoff and water quality in streams and lakes, issue permits to businesses and industries, and identify illegal discharges.

An inter-local agreement was established in 2004 and amended in 2009 to continue the Papillion Creek Watershed Partnership (PCWP) and pro-

vide uniform and cost effective watershed master planning and storm water management. The PCWP is made up of the cities of Omaha, Bellevue, Bennington, Boystown, Elkhorn, Gretna, LaVista, Papillion, Ralston, Sarpy County, and the Papio-Missouri River Natural Resources District. The Partnership recently completed a Stormwater Management Policy development process to identify policies to meet regulatory requirements and other water quality initiatives. The City of Omaha adopted a Regional Stormwater Design Manual in 2006 to provide guidance to more effectively manage stormwater quantity and quality within Omaha's jurisdiction. In 2009, the city adopted a Post Construction Storm Water Management ordinance that requires all new development and significant redevelopment to provide for the treatment of the first half inch of runoff from all rainfall events.

Environment Milestones

Like many other cities in the United States, Omaha has a combined sewer system that was originally designed to carry both storm water and sewage into the Missouri River and Papillion Creek. The combined sewers are generally located between the Missouri River and 72nd Street, from Harrison Street on the south to the I-680 area on the north (51 square miles). When it rains a tenth of an inch or more (about 50 times a year), the system overflows sending untreated sewage into the waterways, compromising water quality and aquatic life. Additionally, these heavy rains can cause street flooding, as well as sewer backups and odors in homes and businesses. The federal government has mandated that Omaha control the release of this untreated sewage flowing into those waterways by 2024.

In 2006, the City of Omaha along with a consultant, conducted a series of meetings with citizens and community organizations to brainstorm ways of meeting the new federal regulations. The result of this process, the Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) considers a variety of alternatives. Key components of the plan include a combination of separating combined sewers, constructing new high-rate stormwater treatment facilities, and constructing a 5.4 mile tunnel along the Missouri River, and holding tanks to carry stormwater to one of the treatment plants. It also includes a new 1.5-mile storm sewer pipeline that will carry storm water from northeast Omaha sewers to the Missouri River.

In October 2007, the city presented its preliminary plan to update the combined sewer system to the Nebraska Department of Environmental Quality (NDEQ) and the EPA. The final version of the Long Term Control Plan was approved by NDEQ in February of 2010. The city will have 15 years to implement the CSO controls.

CSO projects that were completed in 2012 include: 24th and Ogden/Himebaugh Street Sewer Separation, 42nd and "X" Street Sewer Separation, South Omaha Industrial Area Sewer Separation, Spring Street Sewer Separation, and Webster St. Sewer Separation Phase 2. Upcoming sewer separation projects anticipated to start construction in the 2012/2013 timeframe include: 20th and Poppleton Street Sewer Separation, the Aksarben Village Neighborhood Sewer Separation, Country Club Phase 2 Sewer Separation, Leavenworth Lift Station Replacement, Martha Street Sewer Separation Phase 1, Missouri River Wastewater Treatment Plant Improvements, Nicholas Street Phase I (10th Street to 16th Street), South Omaha Industrial Area Force Main and Gravity Sewer, and South Omaha Industrial Area Lift Station.

The city also has plans to use some parks as part of the solution to cut sewage overflows. Wetlands, ponds and water-filtering landscapes will be used to help collect urban storm water, while at the same time provide additional recreational amenities such as fishing and picnicking. Storm water will be rerouted into a nearby creek via a scenic gully on the edge of Elmwood Park. Expansion of the lagoon at Fontenelle Park and a proposed fishing pond at Spring Lake Park will help collect additional stormwater and reduce runoff going into the sewers. A final list of which parks will be affected has not yet been determined. The city is evaluating how each park might fit into individual neighborhood projects over the next 15 year period.

A portion of the Lauritzen Botanical Gardens, located along the Missouri River at 2nd and Martha Streets, was constructed over an old balefill disposal site. The subsurface sewer failed and it was discovered that water was getting into the fill. The Former Balefill Improvements project will re-grade and install a new, separate storm sewer system. The CSO project will route all sanitary flow around the balefill and will fund that work. Construction began in 2012 and is expected to be completed in 2013.

The Rockbrook Creek Channel is lined with deteriorating concrete panel, causing erosion and channel degradation. The existing concrete channel

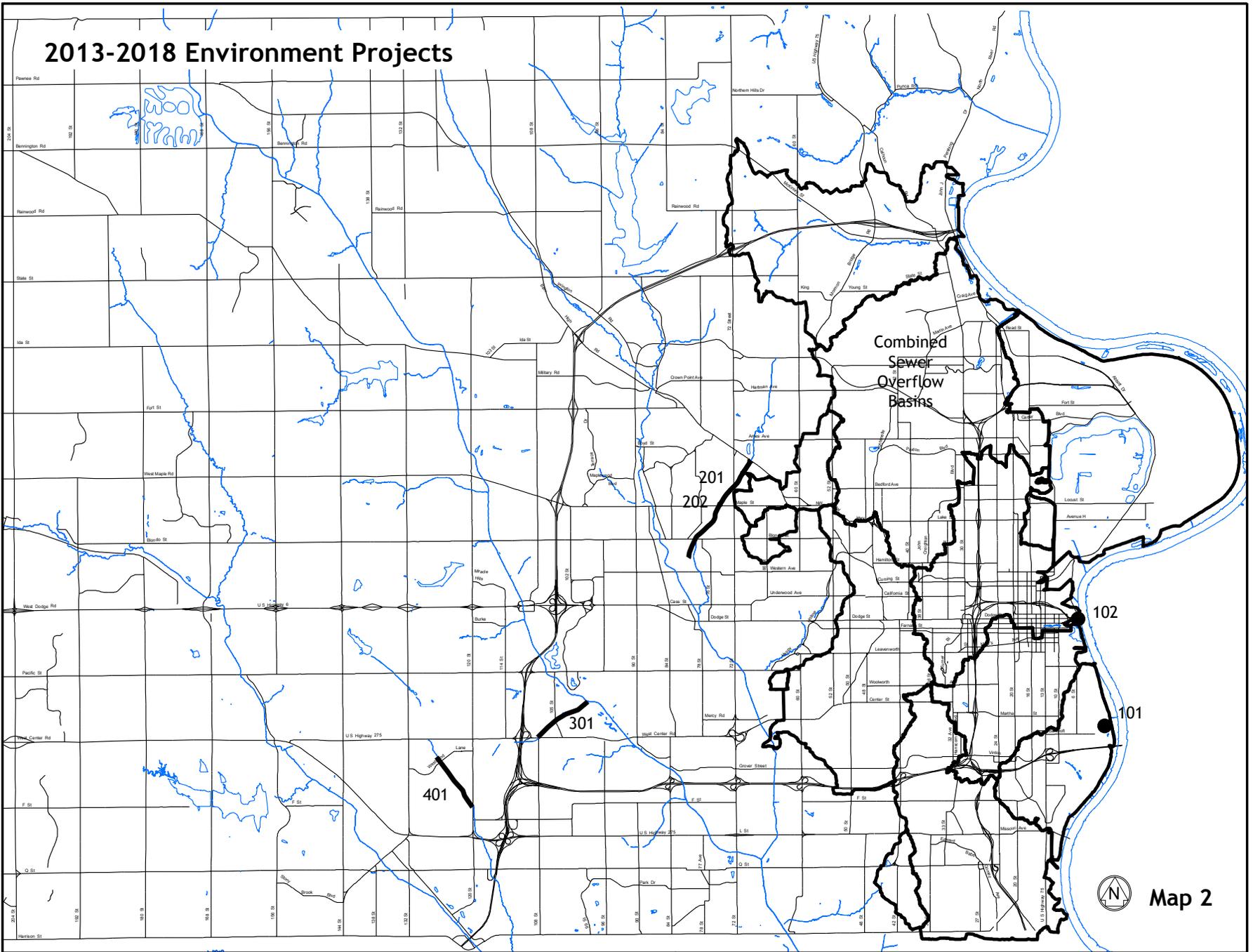
lining was replaced with native vegetation and low profile, rock graded control structures. Construction is anticipated to begin in 2012.

Source of Funds Key

The following key has been provided to help explain the abbreviations used in the Source of Funds column contained on the following pages.

2006 Sewer Bonds	SEB-06
2010 Sewer Bonds	SEB-10
Future Environment Bonds	FEB
Community Development Block Grant	CDBG
Interceptor Sewer Connection Fee	ISCF
Other Local Assistance	OL
Sewer Revenue Improvement	SRI
Special Obligation Bonds	SPOB

2013-2018 Environment Projects



Map 2

ENVIRONMENT

Project Number	Project	Total Project Cost	Operating Budget Impact	2011 Expenditure and Encumbrance	Suspended	2012 Appropriated	Source of Funds	2013-2018 Capital Budget	(All monetary references in thousands)					
									2013	2014	2015	2016	2017	2018
Missouri River Watershed														
101	Former Balefill Improvements	4,000				2,000 2,000	Total SEB-10	2,000 2,000	2,000 2,000					
102	Missouri River Flood Levee Maintenance and Repairs	Ongoing		220 220		500 250 250	Total SEB-06 SEB-10 FEB OL	3,750 1,000 2,000 750	750 500 250	750 500 250	750 500 250	500 500 500	500 500 500	
Little Papillion Creek Watershed														
201	Cole Creek Channel Improvements-69th & Military to 77th & Cass St.	3,000					Total FEB OL	1,400 700 700				1,400 700 700		
202	Cole Creek Flood Mitigation	Ongoing				530 265 265	Total SEB-06 FEB OL	1,000 500 500			500 250 250		500 250 250	
Big Papillion Creek Watershed														
301	Rockbrook Creek Channel Restoration	1,030				1,030 515 515	Total SEB-10 OL							

*Project does not appear on map
Completed projects in italics

MISSOURI RIVER WATERSHED

101 Former Balefill Improvements

Description/Scope: The City formerly operated a solid waste balefill operation on what is now part of the Lauritzen Gardens. This project will provide funding for drainage improvements and new storm sewer for the Lauritzen Gardens Property near 2nd and Martha Streets.

Companion Project(s):

Status/Change from previous CIP:

102 Missouri River Flood Levee Maintenance and Repairs

Description/Scope: The levee system along the Missouri River provides flood protection for downtown Omaha. The maintenance of the levee system is the responsibility of the City of Omaha. This project will provide funding for on-going maintenance and repairs to the Missouri River Levee System and related Flood Control Structures.

(OL: P-MRNRD)

Companion Project(s):

Status/Change from previous CIP:

LITTLE PAPIILLION CREEK WATERSHED

201 Cole Creek Channel Improvements - 69th & Military to 77th & Cass Street

Description/Scope: This project funds the culvert and bridge replacements that were identified in the Flood Mitigation Study that was completed in 2001. The culverts at Western Avenue and Seward Street were replaced in 2005 and 2008, respectively. The culvert at Hillside Drive will be replaced in 2016. This project is a joint effort with the Papio-Missouri River Natural Resource District. (OL: P-MRNRD)

Companion Project(s): Environment project 202 - Cole Creek Flood Mitigation

Status/Change from previous CIP:

202 Cole Creek Flood Mitigation

Description/Scope: This project involves the purchase of select homes and/or business properties along the Cole Creek Channel. This is a mixed use area of commercial and residential properties that receive periodic damage during heavy storms. The buyout will be a joint effort with the Papio-Missouri River Natural Resource District. (OL: P-MRNRD)

Companion Project(s): Environment project 201 - Cole Creek Channel Improvements

Status/Change from previous CIP: Revised funding.

BIG PAPIILLION CREEK WATERSHED

301 Rockbrook Creek Channel Restoration

Description/Scope: The existing channel is lined with concrete panels that are failing, leading to increased erosion and channel degradation. The intent of this project is to remove the concrete channel lining and replace it with native vegetation and low profile, rock graded control structures.

Companion Project(s):

Status/Change from previous CIP:

ENVIRONMENT

Project Number	Project	Total Project Cost	Operating Budget Impact	2011 Expenditure and Encumbrance	Suspended	2012 Appropriated	Source of Funds	2013-2018 Capital Budget	(All monetary references in thousands)					
									2013	2014	2015	2016	2017	2018
West Papillion Creek Watershed														
401	Hell Creek Channel Restoration	3,250		<u>153</u> 153			Total SEB-06 SEB-10 FEB OL	<u>3,000</u> 250 1,250 1,500	<u>500</u> 250 250			<u>2,500</u> 1,250 1,250		
City-Wide Projects														
501*	Capital Asset Replacement Program	Ongoing				<u>46,133</u> 46,133	Total SRI	<u>69,193</u> 69,193	<u>13,151</u> 13,151	<u>31,637</u> 31,637	<u>5,825</u> 5,825	<u>6,005</u> 6,005	<u>6,192</u> 6,192	<u>6,383</u> 6,383
502*	Channel Rehabilitation Program	Ongoing		<u>112</u> 112			Total SEB-06 SEB-10 FEB	<u>1,014</u> 210 804	<u>169</u> 169	<u>169</u> 41 128	<u>169</u> 169	<u>169</u> 169	<u>169</u> 169	<u>169</u> 169
503*	Combined Sewer Overflow Control Implementation	Ongoing				<u>117,989</u> 117,989	Total SRI	<u>929,349</u> 929,349	<u>167,675</u> 167,675	<u>159,314</u> 159,314	<u>137,460</u> 137,460	<u>136,917</u> 136,917	<u>168,403</u> 168,403	<u>159,580</u> 159,580
504*	Combined Sewer Separation Program Phase II	Ongoing				<u>13,818</u> 13,818	Total SRI	<u>92,386</u> 92,386	<u>14,247</u> 14,247	<u>14,689</u> 14,689	<u>15,144</u> 15,144	<u>15,613</u> 15,613	<u>16,097</u> 16,097	<u>16,596</u> 16,596

*Project does not appear on map
Completed projects in italics

WEST PAPIILLION CREEK WATERSHED

401 Hell Creek Channel Restoration

Description/Scope: The existing creek channel is lined with concrete panels that are failing, leading to increased erosion and channel degradation. The intent of this project is to remove the concrete channel lining and replace it with native vegetation and low profile, rock, grade control structures. (OL: P-MRNRD)

Companion Project(s):

Status/Change from previous CIP:

CITY-WIDE PROJECTS

501 Capital Asset Replacement Program

Description/Scope: Long-term capital replacements/upgrades/improvements to maintain existing wastewater treatment/collection system facilities and to meet evolving permit requirements will be done under this ongoing project. Potential projects include digester mixing rehabilitation, clarifier improvements, plant capacity evaluation, and solids handling improvements at the Papillion Creek WWTP; odor control improvements, pumping improvements, solids handling improvements, solids handling improvements, and influent pipe replacements at the Missouri River WWTP; lift station upgrades, grit removal and odor control improvements at the interceptor facilities. Estimated costs reflect improvements to the treatment process as a result of current major upgrades undertaken due to new regulations and the need to continue with the annual rehabilitation of existing assets.

Companion Project(s):

Status/Change from previous CIP:

502 Channel Rehabilitation Program

Description/Scope: This program was developed to fund channel restoration/rehabilitation projects identified as necessary to maintain the City's storm drainage infrastructure.

Companion Project(s):

Status/Change from previous CIP:

503 Combined Sewer Overflow Control Implementations

Description/Scope: This project will include the engineering design and construction of controls for the City's Combined Sewer System. This work is anticipated to be required under the terms of a 2007 state-issued permit and necessary to comply with the federal mandates of the Clean Water Act. Projected costs may be higher or lower than listed, subject to the results of a Long Term Control Planning effort and the requirements of the new permit.

Companion Project(s):

Status/Change from previous CIP:

504 Combined Sewer Separation Program Phase II

Description/Scope: This program continues separation of sanitary and storm sewers in areas impacted by combined sewers. This program may involve replacement or rehabilitation of old or inadequate sewers and other improvement projects that will encourage infill and redevelopment and ultimately eliminate or minimize combined sewer overflows.

Companion Project(s):

Status/Change from previous CIP:

ENVIRONMENT

Project Number	Project	Total Project Cost	Operating Budget Impact	2011 Expenditure and Encumbrance	Suspended	2012 Appropriated	Source of Funds	2013-2018 Capital Budget	(All monetary references in thousands)					
									2013	2014	2015	2016	2017	2018
505*	Local Neighborhood Storm Sewer Improvements	Ongoing		<u>367</u> 367		<u>100</u> 100	Total SEB-06 SEB-10 FEB	<u>1,450</u> 950 500	<u>950</u> 950	<u>100</u> 100	<u>100</u> 100	<u>100</u> 100	<u>100</u> 100	<u>100</u> 100
506*	Papillion Creek Interceptor Sewer	Ongoing				<u>1,700</u> 1,700	Total ISCF	<u>5,900</u> 5,900	<u>900</u> 900	<u>1,000</u> 1,000	<u>1,000</u> 1,000	<u>1,000</u> 1,000	<u>1,000</u> 1,000	<u>1,000</u> 1,000
507*	Sanitary Sewer Construction	Ongoing				<u>115</u> 115	Total SPA	<u>700</u> 700	<u>115</u> 115	<u>115</u> 115	<u>115</u> 115	<u>115</u> 115	<u>120</u> 120	<u>120</u> 120
508*	Sewer Reconstruction/ Rehabilitation	Ongoing				<u>2,126</u> 2,126	Total SRI	<u>21,321</u> 21,321	<u>3,288</u> 3,288	<u>3,390</u> 3,390	<u>3,495</u> 3,495	<u>3,603</u> 3,603	<u>3,715</u> 3,715	<u>3,830</u> 3,830
509*	Storm Sewer Improvements in Conjunction with Neighborhood Paving Districts	Ongoing		<u>178</u> 178		<u>100</u> 100	Total SEB-06 SEB-10 FEB	<u>600</u> 100 500	<u>100</u> 100	<u>100</u> 100	<u>100</u> 100	<u>100</u> 100	<u>100</u> 100	<u>100</u> 100
510*	Storm Water Management Utility Program	Ongoing		<u>288</u> 288		<u>250</u> 250	Total SEB-06 SEB-10 FEB OL	<u>3,156</u> 250 2,156 750	<u>500</u> 250 250	<u>500</u> 250 250	<u>500</u> 250 250	<u>535</u> 535	<u>552</u> 552	<u>569</u> 569

*Project does not appear on map
Completed projects in italics

505 Local Neighborhood Storm Sewer Improvements

Description/Scope: This project is an ongoing program that provides storm sewer relief throughout the City.

Companion Project(s):

Status/Change from previous CIP:

506 Papillion Creek Interceptor Sewer

Description/Scope: This project is an ongoing program that provides funds for the extension of the City's interceptor sewer system and the acquisition of SID owned interceptor lines. The City's Sanitary Interceptor Plan, updated in 2009, identifies the timing, sequencing, and upgrading of public interceptor sewers in both inner-suburban and developing suburban areas and updates the sewer connection fee schedule. Sewer connection fees are collected from all new suburban residential, commercial and industrial hookups to the City's system.

Companion Project(s): Environment project 510 - Storm Water Management Utility Program

Status/Change from previous CIP:

507 Sanitary Sewer Construction

Description/Scope: This is a recurring annual program for the construction of new sanitary sewer service lines in areas which are currently not served by sanitary sewers.

Companion Project(s):

Status/Change from previous CIP:

508 Sewer Reconstruction/Rehabilitation

Description/Scope: This is a recurring annual program of rehabilitation or reconstruction of existing sewer line breakage. Known problem areas will be rehabilitated to reduce the number of breaks and other problems.

Companion Project(s):

Status/Change from previous CIP:

509 Storm Sewer Improvements in Conjunction with Neighborhood Paving Districts

Description/Scope: This project involves ongoing sewer construction made necessary by the construction of paving improvements in neighborhoods.

Companion Project(s):

Status/Change from previous CIP:

510 Storm Water Management Utility Program

Description/Scope: The first phase of this program will be to perform a study for conception of a storm water needs assessment and funding mechanism. Subsequent phases will expand the studies to evaluate specific projects necessary to meet the goals of the program. Selected projects will be moved through design and construction. The overall program will administer, plan, operate, and maintain the City's storm water system in conjunction with the Storm Water Management Plan mandated by the EPA. Improved water quality is the mandated goal of the EPA program and the City also has flood control responsibilities. Many aspects of operation and capital improvements will be new to the City and are unfunded. (OL: P-MRNRD)

Companion Project(s): Environment project 506 - Papillion Creek Interceptor Sewer

Status/Change from previous CIP:

ENVIRONMENT

2011 Expendi- ture and Encum- brance	Sus- pend- ed	2012 Appro- priated	Source of Funds	2013- 2018 Capital Budget	(All monetary references in thousands)					
					2013	2014	2015	2016	2017	2018
<u>1,318</u>		<u>186,391</u>	<u>TOTAL</u>	<u>1,136,219</u>	<u>204,345</u>	<u>211,764</u>	<u>165,158</u>	<u>168,557</u>	<u>196,948</u>	<u>189,447</u>
1,318		365	2006 Sewer Bonds (4,150)							
		3,115	2010 Sewer Bonds (7,875)	4,760	4,219	541				
			Future Sewer Bonds	8,410		578	1,369	3,354	1,421	1,688
		1,700	Interceptor Sewer Construction Fund	5,900	900	1,000	1,000	1,000	1,000	1,000
		1,030	Other Local Assistance	4,200	750	500	750	1,950		250
		180,066	Sewer Revenue Improvement	1,112,249	198,361	209,030	161,924	162,138	194,407	186,389
		115	Special Assessments	700	115	115	115	115	120	120