

# Stormwater and Surface Water Management Plan

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# **STORMWATER AND SURFACE WATER MANAGEMENT PLAN**

## ***1. Executive Summary***

This Local Surface Water Management Plan (LSWMP) will help to guide the protection and management of surface waters and related natural resources in the City of Newport. The plan has been developed as a part of the City's 2030 Comprehensive Plan Update, to meet the requirements of the Metropolitan Council and State Statutes.

The City is included within the South Washington Watershed District (SWWD). The District's Watershed Management Plan's inventory, goals, policies and standards was referenced extensively to develop several sections of this plan and assure consistency with the Watershed Plan.

The plan includes an inventory of surface waters and natural resources within the City. Most of the core of Newport is fully-developed or in the process of redevelopment. Significant natural resources include the Mississippi River, which borders the City on the west, and the bluffs that form the eastern border of Newport and extend to the north and south. The LSWMP, Comprehensive Plan and Mississippi River Critical Area Plan include goals, policies and strategies to protect Newport's significant land and water resources as development and redevelopment occur within the City during the next 20 years.

The plan includes a discussion of existing water quantity and quality concerns within the City, identified by the City and the Watershed District. It describes the actions the City will take to address these concerns.

The goals and policies and implementation plan note that the City continues to have the primary role in permitting for surface water management and the Wetland Conservation Act (WCA). The City will also work cooperatively with the Watershed District, Washington County, and other agencies on water management issues of a regional, statewide, and national concern. The City's approved MS4 Permit and current Storm Water Pollution Prevention Plan (SWPPP) are included in this document, and this LSWMPP is consistent with the approved permit and SWPPP.

## 2. *Introduction*

### a. Purpose of the Plan:

The Purpose of this plan is to provide the City of Newport with the guidance on conserving, protecting and managing the water and related land resources of the City. This plan is intended to meet or exceed the requirements of Minnesota Statute 103B.235, Minnesota Rules 8410, and Metropolitan Council's Water Resources Management Policy Plan, and be consistent with the Council's 2005 Regional Development Framework. The plan also conforms to the requirements of the South Washington Watershed District Watershed Management Plan, 2007, as approved under Minnesota Statute 103B.231.

### b. Water Resource Management Related Agreements:

The City of Newport is the LGU and responsible for permits and administering the Minnesota Wetland Conservation Act (WCA). The City contracts annually with the Washington Conservation District for assistance in implementation of the Wetland Conservation Act (MN Rule 8420).

### c. Land and Water Resources Inventory:

The sections that follow summarize the land and water resources inventory for the City of Newport. Much of this information was derived from the South Washington Watershed District Watershed Management Plan (2007). For more detailed resource inventory information, please refer to the SWWD Watershed Management Plan 2007, Chapter 8.

#### i. Topography and Drainage

The topography of Newport varies from the bluffs east of Highway 61 to relatively flat topography west of Highway 61 and along the Mississippi River. The bluffs contain steep slope areas and are heavily vegetated.

The City of Newport is largely fully-developed. Much of the drainage occurs within the City's storm sewer system. The existing system is shown on Figure A-2. Overland drainage flows generally from the bluff areas toward the Mississippi River.

#### ii. Soils and Geology

Soils within Newport are generally of moderate to high permeability (soils groups A and B) in bluff areas, and low permeability (soil group D) in the lower areas west of Highway 61. Detailed soil maps are included in the Watershed Management Plan.

The bedrock geology of Newport is characterized by sedimentary rock formations established during the paleozoic era, over 250 million years ago. Glacial processes modified the sedimentary rock formations to create the current subsurface geology of the area. Bedrock is close to the surface many areas of Newport's Old Town area, west of Highway 61, and presents a challenge for infrastructure, surface water management and construction.

The Washington County Geologic Atlas Plate 2 includes detailed schematics of the bedrock layers in Newport and the surrounding area.

### iii. Surface Waters

The major surface water resource in Newport is the Mississippi River. The Mississippi River is of national significance. It has been identified by the MPCA as an Impaired Water. In the area near Newport, the river is impaired for Aquatic consumption and Aquatic life. Key pollutants associated with the impairment include mercury and turbidity.

Scattered wetlands are located in the bluff areas and along Highway 61. Larger wetland areas are associated with the Mississippi River floodplain areas and islands shown on Figure A-1.

### iv. Groundwater

The Prairie du Chien-Jordan aquifer is the source of municipal water supply in Newport.

Portions of Newport generally west of Highway 61 are ranked High in sensitivity to groundwater contamination. Areas west of Highway 61 are ranked Very High in sensitivity. Detailed maps of groundwater sensitivity are included in the Watershed Management Plan.

### v. Summary of Significant Natural Resources in Newport

Much of Newport's land area is fully-developed. The City has been shaped by its natural features, and continues to value and protect these resources. Figure 6-7 identifies the remaining significant land and water resources in the community. The Comprehensive Plan, City Ordinances and this Local Surface Water Management Plan include a variety of goals, policies and strategies to protect these resources:

- *Mississippi River.* The City of Newport contains roughly 2.5 miles of Mississippi River front. The river forms the western border of the community and is valued for its scenic and recreational qualities, as well as limited industrial use. Low-lying areas of Newport are occasionally inundated by floodwaters

from the Mississippi River and are designated as flood plain areas. The City has recently developed three overlooks along the river, to improve public access to this significant natural resource. For detailed planning on the river see the Critical Area Plan Chapter 11.

- *The Bluffs.* This area forms the eastern border of the community as the top of the bluff abuts Cottage Grove and Woodbury. The bluff contains extremely steep slope areas and is heavily vegetated. It generally spans the entire City and into St. Paul following the Mississippi River. The Minnesota County Biological Survey identified some woodland communities of high quality on the bluffs. The bluff area is currently protected by the City's Environmental Protection Overlay Ordinance. The City is proposing to develop a "cluster" or open space ordinance to provide permanent protection to bluffs, steep slopes and woodland areas in the Conservation Zones identified in the Land Use Plan.
- *Wetlands.* A limited number of wetlands remain in Newport, within floodplain areas along the Mississippi River and in the bluffs area. Federal, state, and local wetland rules protect these resources. The City is responsible for permitting under the Minnesota Wetland Conservation Act.
- *Tree canopy.* The Old Town and floodplain areas of the community contain a significant tree canopy that includes large bur oaks and other native tree species. The canopy provides temporary habitat for migrating birds and a variety of other benefits.

**Figure A - 1:  
Land and Water Resources Inventory (MLCCS)**

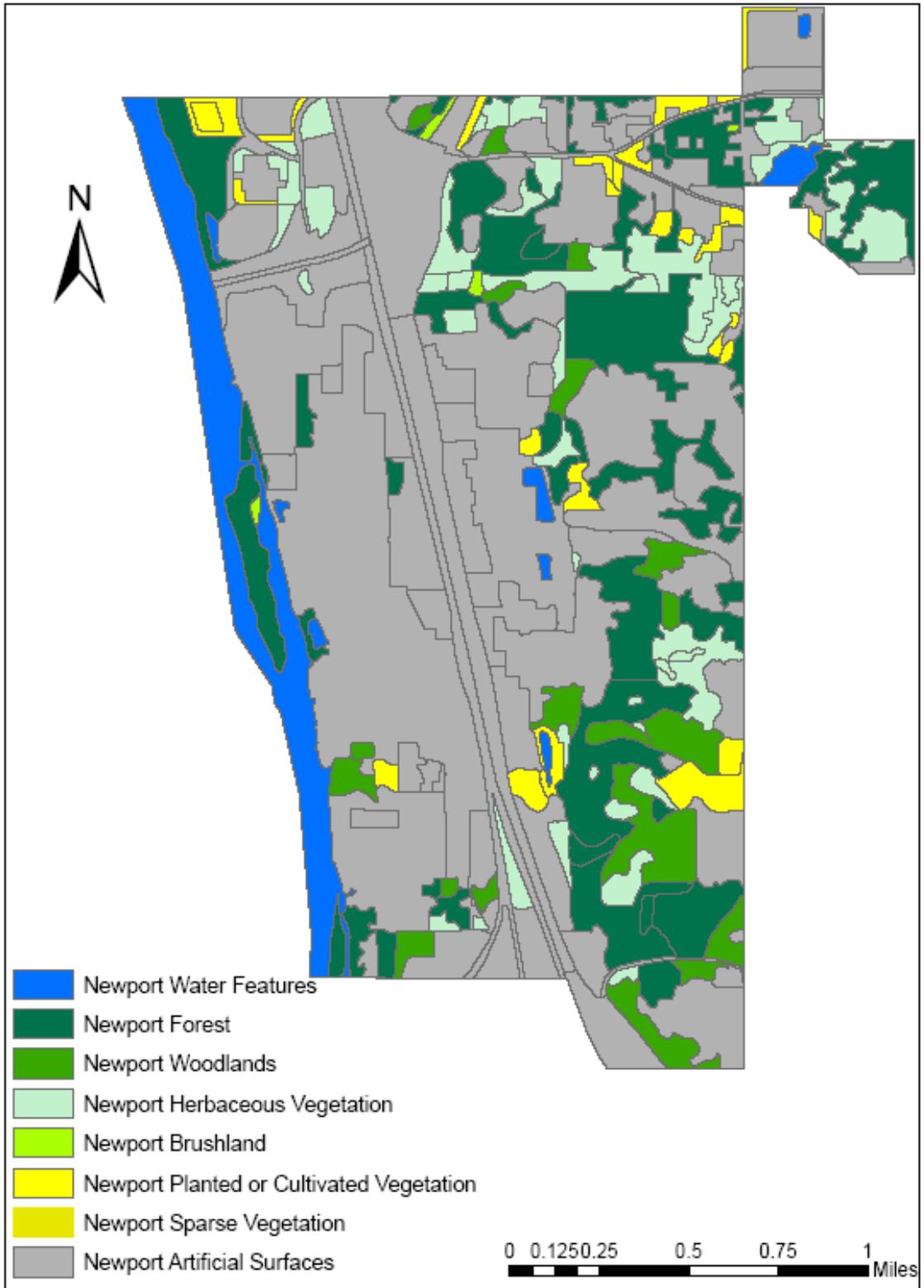
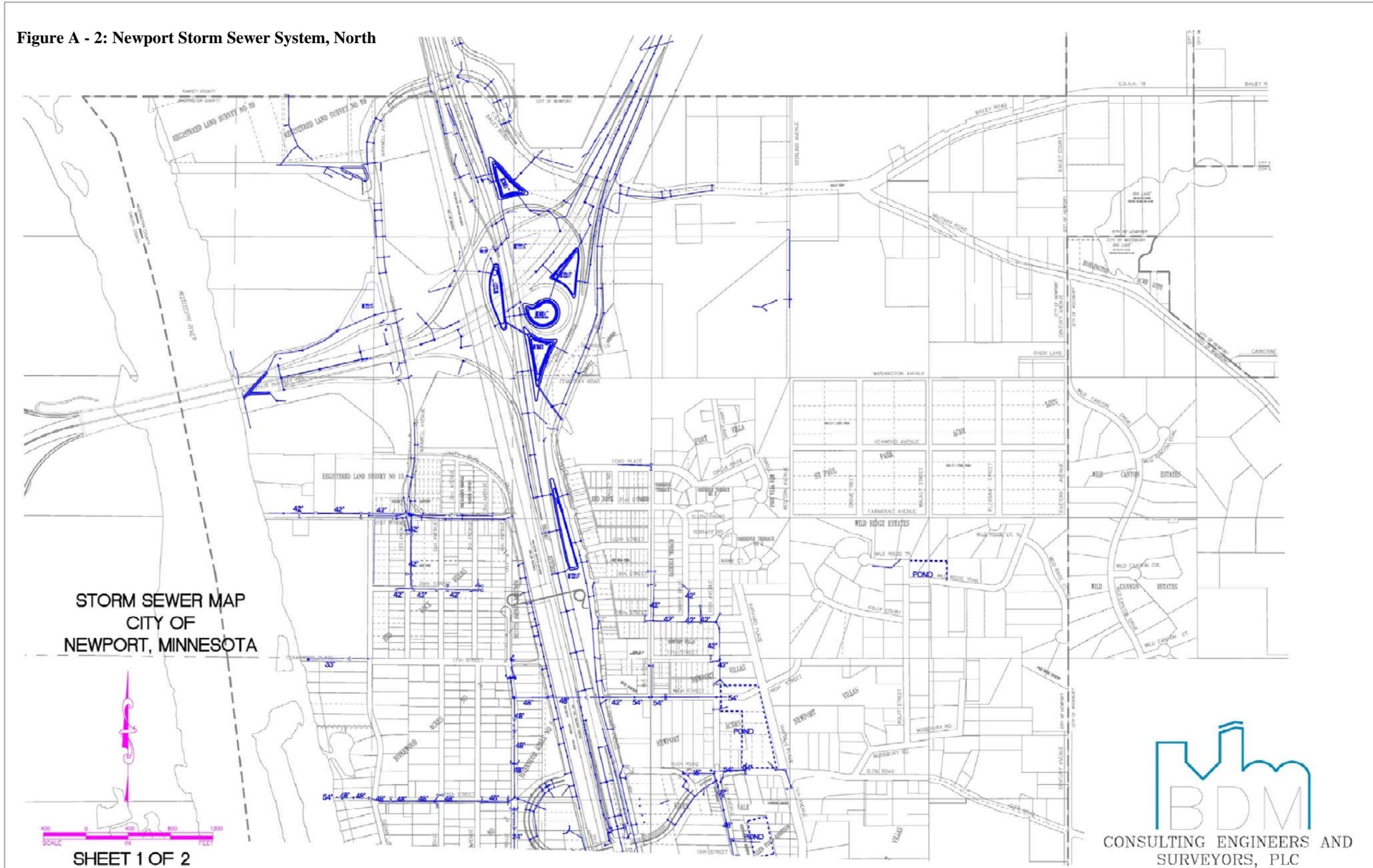
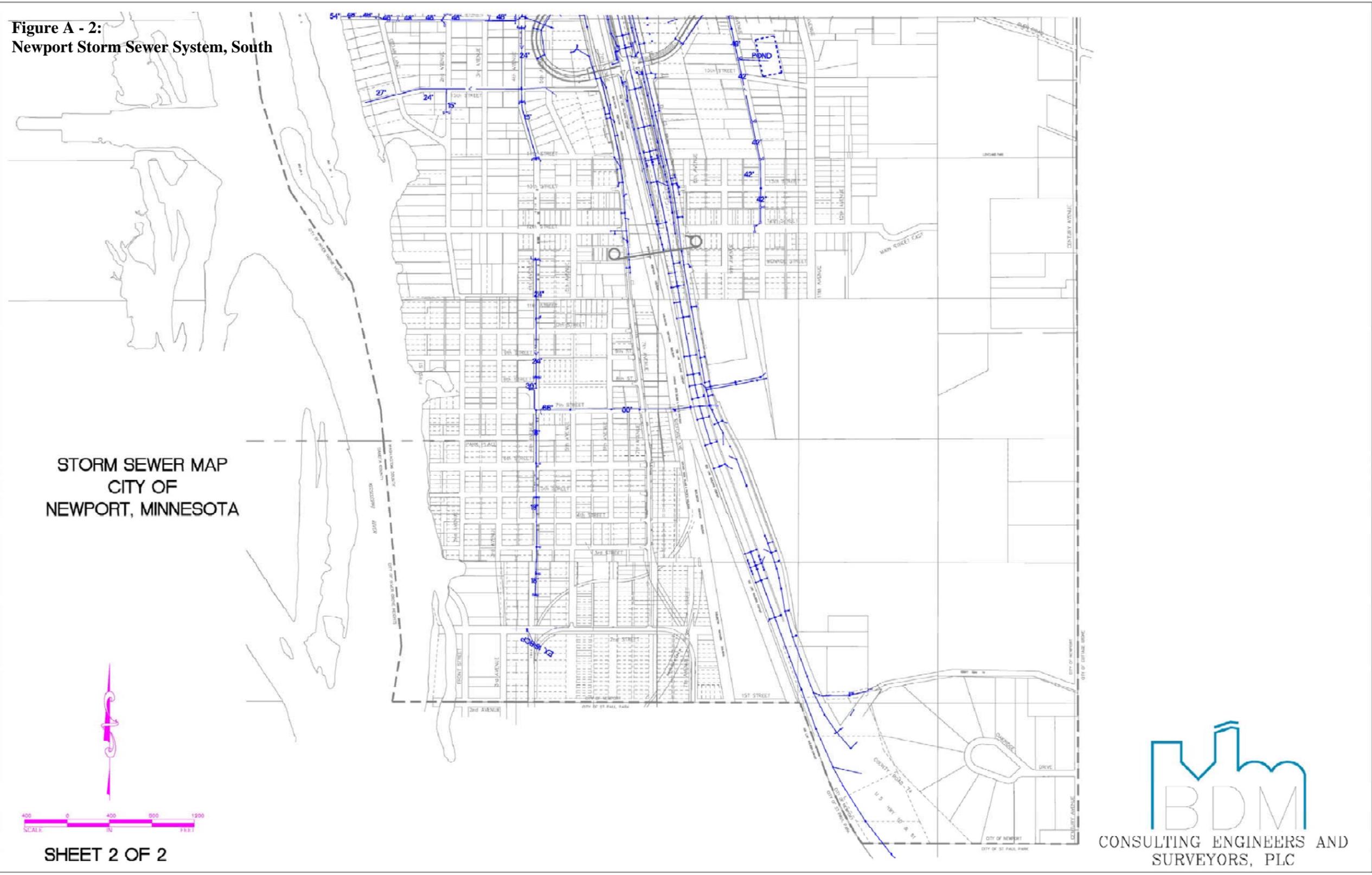


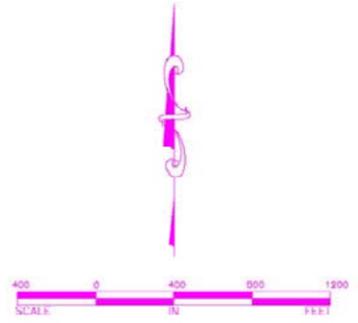
Figure A - 2: Newport Storm Sewer System, North



**Figure A - 2:  
Newport Storm Sewer System, South**



STORM SEWER MAP  
CITY OF  
NEWPORT, MINNESOTA



SHEET 2 OF 2



### 3. *Goals, Policies, and Programs*

#### a. Major Programs Affecting the City

This overview provides a summary of major programs and regulatory efforts which affect surface water management in the City of Newport or activities within its jurisdiction. It is not intended to be a comprehensive or exhaustive presentation, but rather a snapshot of programs that are relevant to and thus impact City of Newport. Internet hyperlinks and references to more detailed information are provided.

#### i. Impaired Waters Program

##### 1) Overview

Section 303(d) of the federal Clean Water Act requires states to identify waters that do not meet applicable water quality standards or do not fully support their designated uses. Waters failing to attain their designated use are defined as impaired. Each state determines the cause for impairment. Impaired waters are placed on a list and subject to completion of a Total Maximum Daily Load (TMDL) analysis. A TMDL analysis consists of many steps, but the process is intended to identify ways to restore impaired waters to their full beneficial uses. The implementation of load reduction efforts identified in a TMDL analysis may have future bearing on other activities of City of Newport.

A reach of the Mississippi River is on the 2008 303(d) impaired waters list. Table A.1 lists the section of the Mississippi River and the impairments. This is the only Impaired Water within Newport and its drainage area.

##### 2) Roles and Responsibilities

**MPCA:** Required to submit a prioritized list of impaired waters, known as the 303(d) list, to the U.S. Environmental Protection Agency for review and approval. The most recent list was approved in 2008 and new lists are available biannually. TMDL plans must be approved by the MPCA before the USEPA can provide final approval of the plan. The MPCA also provides financial assistance through Clean Water Partnership (CWP) and Clean Water Act Section 319 programs. These programs address non-point source pollution issues and are often used for TMDL projects.

**SWWD:** For impaired waters within the District boundary, the SWWD may choose to lead a TMDL analysis. The SWWD

believes that performing load assessments, studies, or similar analyses is a key role of the District. Load allocations for lakes are included in this WMP and are intended to be refined by the SWWD through lake management plans. However, participation at any level in a TMDL analysis is at the District’s discretion. For waters with an approved TMDL plan to which the District drains, the District will likely have some expectations to assist with BMP implementation to reduce pollutant loads although implementation is primarily believed to be a role of member cities.

**Table A - 1:  
Impaired waters within the SWWD  
based on MPCA 303(d) list.**

<i>Impaired Water</i>	<i>Year Listed</i>	<i>Assessment Unit ID</i>	<i>Affected use</i>	<i>Pollutant or stressor</i>	<i>TMDL Target start// completion</i>
Mississippi River; Rock Island RR Bridge to Lock & Dam #2 (RM 830 to 815.2)	1998	07010206-502	Aquatic consumption; Aquatic life	Mercury Water Column; Mercury FCA; PCB FCA; Turbidity	1999//2011

*\*Impaired waters listed in 2006 are considered draft listings at the time of this WMP publication, until approved by US EPA.*

**City:** The City of Newport may choose to participate in a TMDL analysis for water bodies with drainage areas solely or largely within their municipality. It is preferable that local government units and the SWWD coordinate so as not to perform duplicate TMDL analyses for the same receiving water. The City and other local governments will be required to comply with load reductions and other elements of the TMDL implementation plan through the enforcement of various point source and non-point source permits.

**Other entities:** Other groups such as counties or lake associations can take their own initiative to complete a TMDL analysis, undertake implementation of TMDL load reduction practices, or participate in the TMDL process as stakeholders.

3) More Information

<http://www.pca.state.mn.us/water/tmdl/index.html>

ii. National Pollutant Discharge Elimination System Program

1) Overview

This program (abbreviated NPDES) is a nation-wide federal regulatory program stemming from the Clean Water Act. In Minnesota, this program is implemented by the MPCA. The NPDES program addresses point source discharges including stormwater and related pollution from various sources. The first phase of stormwater NPDES program (Phase I) focused on controlling pollution from industrial activities, and included construction activities disturbing more than 5 acres, and municipal separate storm sewer systems (MS4s) with populations greater than 100,000.

The second phase (Phase II) of this program, preliminarily initiated by the MPCA in 2003, has been formalized in 2006. It builds on Phase I by lowering the threshold for requiring stormwater permits for construction and municipal activities. The program requires permittees to complete a Storm Water Pollution Prevention Program (SWPPP). In all cases, Best Management Practices (BMPs) are to be identified and implemented in order to minimize stormwater runoff impacts to receiving waters.

## 2) Roles and Responsibilities

The City is a regulated MS4 permittee even though they did not own or operate a separate storm sewer system at the time of permit implementation.

In 2003, the Minnesota Pollution Control Agency required the City to submit an NPDES Permit Application to minimize the discharge of stormwater runoff pollutants and authorize stormwater discharge for the City Municipal Separate Storm Sewer System (MS4).

The MPCA also required the City to prepare and submit a Stormwater Pollution Prevention Program (SWPPP). The SWPPP identifies a combination of stormwater Best Management Practices (BMP's), including education, maintenance, control techniques, system design and engineering methods and such other practices, both existing and planned, determined appropriate to meet NPDES Permit requirements.

The City of Newport SWPPP includes 34 BMPs in the following categories or Minimum Control Measures:

- a) Public Education and Outreach
- b) Public Participation and Involvement
- c) Illicit Discharge Detection and Elimination
- d) Construction Site Runoff Control

- e) Post-Construction Runoff Control
- f) Pollution Prevention/Good Housekeeping

The City must hold an Annual Public Meeting and submit an Annual Report to the MPCA which summarizes:

- a) The status of compliance with Permit conditions;
- b) Assessment of appropriateness of BMPs;
- c) Progress towards achieving the measurable goals for each of the minimum control measures;
- d) Stormwater activities planned for the next reporting cycle;
- e) A change in any BMP or measurable goals for any of the minimum control measures; and
- f) A notice that the City is relying on another entity to satisfy some of the Permit obligations (if applicable).

A copy of the approved City of Newport SWPPP can be found on the City web site at [www.newport.govoffice.com](http://www.newport.govoffice.com) and is included at the end of this Plan.

**MPCA:** Administers all three components of NPDES Phase II.

**SWWD:** Must comply with the MS4 program because the District is identified under the auspices of the permit requirements. The District may also choose to support cities and other local government units in their MS4 compliance efforts by providing educational materials (considered a BMP) or otherwise partnering, such as with construction site erosion control inspections or establishing design guidance for stormwater management.

**City:** Cities and townships wholly or partially in the urbanized area which own or operate a municipal separate storm sewer system (MS4) are all mandatory permittees. This includes the City of Newport.

**Washington County:** Will be obligated to meet the same general SWPPP requirements (excluding nondegradation).

**Minnesota Department of Transportation:** Will be obligated to meet the same general SWPPP requirements (excluding nondegradation).

- 3) More Information

<http://www.pca.state.mn.us/water/stormwater/index.html>

<http://www.pca.state.mn.us/publications/wq-strm1-02.pdf>  
(fact sheet)

## Wetland Conservation Act

### 1) Overview

Minnesota's Wetland Conservation Act (WCA) was enacted in 1991. The overall goal of the WCA is no net loss of wetlands. Generally under WCA, activities such as draining, excavating, or filling of wetlands is regulated by law. WCA does not apply to public waters wetlands, which are regulated by the Minnesota Department of Natural Resources. The local government unit (LGU) has the primary responsibility for administering WCA and for making key determinations.

### 2) Roles and Responsibilities

**BWSR:** Administers the WCA through promulgation of rules and guiding the implementation.

**SWWD:** The District chooses not to adopt LGU authority for wetlands within the watershed. However, the SWWD plans to finalize and adopt the draft Comprehensive Wetland Management Plan, which establishes wetland classifications and management standards.

**City:** The City of Newport is the Local Governmental Unit (LGU) for implementation of the Wetland Conservation Act. The City relies on assistance from the Washington Conservation District for administration of the WCA. The City's standards conform to the wetland standards set forth by the SWWD (based on the draft Comprehensive Wetland Management Plan).

**County:** The Washington Conservation District provides technical assistance to the City on wetland issues and permitting, based on an agreement between the District and City of Newport.

**MPCA:** NPDES permits for discharges to wetlands must be submitted to MPCA. This agency is responsible for administering Minnesota Rule Chapter 7050 (water quality standards) which include wetlands as specified in Minnesota Rule 7050.0210, subpart 13a.

**Army Corps of Engineers:** Section 404 of the Clean Water Act gives USACE jurisdiction over regulating impacts to wetlands and navigable waters. The USACE issues federal permits for all proposed wetland disturbances.

**Minnesota Department of Transportation:** The Department of Transportation is the WCA LGU on its projects.

There are various agencies involved in the permitting process for wetland disturbances. In Minnesota, a joint application process has been established to streamline the agency review and permitting process. Proposed activities which affect a wetland cannot begin until all agencies authorize a project. Often, Technical Evaluation Panels (TEP) are convened as a mechanism to resolve permitting issues relating to wetland impacts.

3) More Information

<http://www.bwsr.state.mn.us/wetlands/wca/>

<http://www.bwsr.state.mn.us/wetlands/wca/WCAfactsheet1.html>  
(fact sheet)

<http://www.mnwcd.org/sitebuildercontent/sitebuilderfiles/wetlnd02.pdf> (fact sheet)

iv. Surface Water Management Planning

1) Overview

The Metropolitan Surface Water Management (MSWM) Act was enacted in 1982 to require planning for surface water management throughout the seven-county metropolitan area. The MSWM Act is enforced by Minnesota Statutes 103B.201 to 103B.251 and later, Minnesota Rule 8410. Further, watershed districts are established and given authority under the Minnesota Watershed Act (Minnesota Statute 103D) and therefore must conform with the requirements therein. These rules provide the framework for governing surface water management (including wetlands) at the local and regional level.

2) Roles and Responsibilities

**SWWD:** The role, or focus, of each district in surface water management varies depending on the specific water issues. The SWWD is responsible for periodically updating their plan and complying with the regulations referenced above. This Watershed Management Plan, and its contents, is in compliance with the requirements. The SWWD is responsible for review and approval of the Local Water Management Plans prepared by the Cities and Township.

**BWSR:** Responsible for reviewing and approving the watershed plan based on Minnesota Rule 8410.

**Metropolitan Council:** The Council reviews and comments on the Local Water Management Plan with respect to its consistency with the regional blue print and state laws and rules relating to water and related land resources.

**City:** Within two years of plan adoption by the District, local government units are required to adopt local plans which address the regulations and performance standards set forth in this plan. Local plans must be consistent with the District WMP covering the same area. (Local plans should address the expanded list of requirements under Minnesota Rule 8410 as set by the Metropolitan Council’s “2030 Regional Development Framework.”). This document is the Local Surface Water Management Plan for the City of Newport, and will be adopted as part of the City’s 2030 Comprehensive Plan.

**Watershed Districts:** District policies and programs are to be consistent with the adjacent Watershed Districts of Valley Branch, Ramsey-Washington Vermillion River, and Lower St. Croix Watershed Districts and Water Management Organizations.

**County, SWCD:** Review and comment on the plan. The County has a Comprehensive Water Plan. By statute a copy of the Watershed District and Local Water Management plans must be submitted to the County. The county plan must be consistent with the Watershed District plan covering the same area.

**State review agencies:** Review and comment on plan. Involved state agencies include DNR, PCA, Department of Health, Department of Agriculture, and Department of Transportation.

3) More Information

<http://www.bwsr.state.mn.us/watermgmt/overview.html>

<http://www.metrocouncil.org/environment/Water/planning/index.htm>

v. Groundwater Planning

1) Overview

The U.S. Environmental Protection Agency (EPA) is responsible for federal activities relating to the quality of groundwater. EPA’s

groundwater protection activities are authorized by a number of federal laws which focus on controlling potential sources of groundwater impacts. Where federal laws have provided for general groundwater protection activities, the actual implementation of these programs is by the states in cooperation with local governments. In Minnesota, several state agencies are involved in administering programs which regulate water supply wells and monitoring of groundwater resources in order to maintain the quality of groundwater supplies for the benefit of the public and the environment. Groundwater planning done as part of water supply plans and wellhead protection plans is reviewed and approved by Minnesota regulatory agencies. States are also charged with preventing pollution of groundwater by establishing appropriate rules and issuing permits for waste treatment, storage, and disposal activities, as well as performing compliance reviews.

## 2) Roles and Responsibilities

**SWWD:** Actively supports groundwater management and protection efforts by partnering with other agencies. The SWWD recognizes the important relationship between surface water and groundwater resources. The District can collaborate with the other units of government and may choose to help fund groundwater projects which have a connection to surface water issues. The SWWD is responsible for conforming with groundwater plans developed by Washington County.

**Washington County:** As directed by Minnesota Statute 103B.255, prepared the *2003 – 2013 Washington County Groundwater Plan*, which provides a county-wide framework for the protection and conservation of groundwater resources. The County also prepares an annual groundwater work plan.

**Minnesota Department of Health (MDH):** Primary role is maintaining a safe drinking water supply. The MDH issues permits for all new wells to be installed and oversees water quality monitoring for all public water supply systems. MDH administers the state wellhead protection program according to [Minnesota Rules \(Chapter 4720.5100 - 4720.5590\)](#), which sets standards for wellhead protection planning.

**Minnesota Pollution Control Agency (MPCA):** Responsible for establishing groundwater quality standards, usually based on health risk limits set by the MDH. Also responsible for working with the MDH and MDA to establish an ambient groundwater quality monitoring network in Minnesota.

**Minnesota Department of Natural Resources (DNR):** Issues water use permits for all water users in Minnesota withdrawing more than 10,000 gallons of water per day, from surface or groundwater, or 1 million gallons per year (Minnesota. Statute 103G.271).

**Minnesota Department of Agriculture (MDA):** is charged by law with regulating pesticides, including monitoring for them in the environment and preventing pesticides from getting into water.

**City:** Installs and manages water supply systems and are required to comply with the rules and regulations established by state agencies and county governments regarding groundwater protection and uses in compliance with the Safe Drinking Water Act. The City is also responsible for a developing wellhead protection plan pursuant to MDH rules. The City manages land use and zoning, and considers groundwater protection as part of its land use plan.

3) More Information

[http://www.co.washington.mn.us/info\\_for\\_residents/environment/groundwater/](http://www.co.washington.mn.us/info_for_residents/environment/groundwater/)

<http://www.health.state.mn.us/divs/eh/wells/>

<http://www.pca.state.mn.us/water/groundwater/faq.html>

**4. City Goals and Policies for Management of Surface Waters and Related Resources**

i. Consistency with SWWD Guiding Principles

The City's Goals and Policies for management of surface waters and related resources are consistent with the goals and policies of the SWWD. The SWWD principles included in the Watershed Management Plan are intended to articulate the overarching viewpoints of how the District chooses to interface with the constituents and government units within the District. The principles are defined as the fundamental beliefs guiding District actions. The principles below express District current positions for managing activities, efforts and programs in the District. These positions may be changed at the discretion of the Board of Managers in response to local watershed needs.

The City of Newport concurs with these principles:

1) Permitting

The SWWD believes that the permitting process is best performed by cities. The District, through the promulgation of rules, will provide guidance to cities in managing growth.

2) Regional Water Planning

The SWWD believes in proactively coordinating with its constituents for long-term surface water planning and implementation of regional water capital improvement projects. Studies and associated surface water modeling activities are best initiated at the watershed level.

3) Land Use Management

The SWWD recognizes that the primary control and determination of appropriate land uses is the responsibility of the municipalities, except on parcels acquired and owned by the District to benefit water and related resources.

4) Balanced Approach

The SWWD believes in taking a balanced approach to managing resources, resolving issues, and implementing solutions. The District seeks the best outcome in the context of the entire watershed resources and constituents.

ii. The City's Goals and Policies

The City goals, policies, and action items presented here address the requirements set forth in Minnesota Rule 8410.0160. They are intended to address the specific issues and problems outlined in Section 2.a.

The City will work at the completion of this planning effort to update the stormwater management ordinance, along with the update of other ordinances to implement the comprehensive plan. The ordinance will include stormwater management standards, erosion and sediment control standards and wetland management standards. The City will rely on the SWWD Standards Manual to provide detailed design standards and parameters when evaluating projects. The coordination between the City ordinance and the SWWD standards manual will adequately address stormwater regulation within the City. Updating City official controls is a requirement and condition of local water plan approval.

The goals are organized broadly by management area. Management areas are numbered for clarity only, not to indicate any order of importance. However, the City recognizes that often one issue can affect several management areas (e.g., stormwater infiltration practices). **In the context of this plan, goals, policies and actions are defined as follows:**

**Goal:** Statement of what the City wants to accomplish for the planning period. Goals are strategic in that they reflect City-wide initiatives. Goals must be clear and achievable.

**Policy:** Describes how the City intends to carry out its goal. Policies set focused objectives for the City and form the basis for specific actions to be implemented by the City.

**Actions:** Specific, tactical steps needed to implement City policies, and ultimately the identified goal.

1) Floodplain Management

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*Goal: Manage Floodplains to provide protection for public and private property.*

---

**Policy:** Maintain ordinance requirements established (adopted) for floodplain management, (including floodplain alterations, development within floodplains, minimum building elevations).

**Policy:** Utilize FEMA FIRM maps to manage floodplains in cooperation with Washington County.

**Action:** Make copies of the FEMA FIRM maps and flood insurance information available for City residents.

2) Stormwater Runoff Rate and Volume

---

*Goal: Minimize existing and future potential damages to property, public safety, and water resources due to flood events.*

---

**Policy:** Maintain the post-development 2-year, 10-year and 100-year peak rate of runoff at the pre-development level for the critical duration precipitation event, both on-site and at key regional locations identified by the City.

**Action:** Complete hydrologic and hydraulic modeling when needed to identify flood prone areas and assess potential damages in cooperation with the SWWD.

**Action:** Require hydrologic and hydraulic analysis for developments 1-acre or greater in size. This requirement does not apply to the development of a single residence, however if the development includes two (2) or more lots for future development, this may be required.

**Policy:** Reduce the probability of downstream flood damages through the use of maximum allowable inter-city / inter-jurisdictional peak discharges and runoff volumes.

**Action:** Participate in hydrologic and hydraulic modeling to identify maximum allowable discharges between cities in cooperation with the SWWD.

**Policy:** Protect natural waterways from channel instability induced by additional runoff.

**Action:** Adopt the SWWD design method / standard which can be used to gage the response of natural waterways to the rate of runoff.

**Policy:** Along with SWWD and Washington County, incorporate Emergency Response Planning into the stormwater management program for flood-prone areas.

**Action:** Along with SWWD and Washington County All Hazard Mitigation Plan, incorporate Emergency Response Planning into City planning.

### 3) Water Quality

---

*Goal: Maintain, or where practical improve, the water quality of wetlands and water bodies within the City.*

---

**Policy:** Use design criteria and performance standards to ensure appropriate best management practices (BMP's) for mitigating development impacts to surface and groundwater resources.

**Action:** Use National Urban Runoff Program water quality improvement practices as the minimum requirement.

**Action:** Establish additional measures necessary to protect unique or high quality water resources within the City.

**Action:** Establish collaborative efforts when needed for addressing non-point source pollution with regulated

NPDES Phase II MS4<sup>1</sup> communities, or communities with impaired waters.

**Action:** Evaluate issues associated with the nondegradation of receiving waters from stormwater runoff in cooperation with the SWWD.

**Action:** Develop a BMP selection process and require the use of BMP tools to mitigate stormwater impacts in cooperation with the SWWD.

#### 4) Wetlands

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*Goal: Manage the quantity and quality of wetlands within the City for their best function in a rapidly urbanizing environment.*

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**Policy:** Use a functional assessment approach to define a wetland's best value allowing for multiple or singular use.

**Action:** Inventory the wetland resources within the City using a functions and values assessment, in cooperation with the SWWD. Defer to the SWWD for completion of the wetland assessment and wetland management plan and standards.

**Action:** Require the completion of functions and values assessments of wetlands that have not been assessed by the SWWD as part of development applications. The assessment will be required to use MnRAM version 3.0 or the most current version.

**Policy:** Act as the responsible local governmental unit (LGU) for wetland permitting activities. Participate in wetland permitting activities.

**Action:** Maintain current agreement with the Washington Conservation District for assistance implementing wetland laws.

#### 5) Natural Resources and Recreation

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*Goal: Participate in conservation or creation of key natural areas with respect to habitat, wildlife, or recreation.*

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<sup>1</sup> The Newport MS4 Permit is included in the Appendix of the Comprehensive Plan.

**Policy:** Identify and protect key natural areas with multiple benefits including groundwater recharge.

**Action:** Integrate key natural areas into local plans for land use, recreation or habitat improvement.

6) Groundwater

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*Goal: Pursue a sustainable balance between surface water management, land use activities, and groundwater integrity.*

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**Policy:** Participate in groundwater management activities using a regional and local approach.

**Action:** Coordinate with Washington County in managing groundwater in accordance with the County's 2003-2013 Groundwater Plan, including associated work plans and actions listed for Local Government Units as team members or project partners.

**Action:** Implement the City's Wellhead Protection Plan, included in the Appendices to the Comprehensive Plan.

**Policy GW-3:** Increase awareness of karst features in South Washington County to help guide decisions for surface water management.

**Action:** Assist in studies to understand karst features and dynamics in the watershed in cooperation with the SWWD.

7) Erosion and Sediment Control

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*Goal: Facilitate erosion control and reduce impacts to wetlands and water bodies from sedimentation.*

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**Policy:** Establish consistent methods, procedures and criteria for erosion and sediment control.

**Action:** Update the City's existing erosion and sediment control ordinance to be consistent with NPDES Construction Stormwater permit and MS4 Permit Requirements. The ordinance will be updated in 2009 along with other ordinance updates that will implement the Comprehensive Plan.

**Action:** Obtain technical support from the Washington Conservation District or suitable entity to provide

construction site inspections for erosion and sedimentation control practices.

**Action:** Establish a template for erosion and sediment control plans

8) Education

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*Goal: Heighten the awareness of key constituencies within the City, sufficient to modify behavior to improve the recognition and implementation of District and City policies, programs, and activities.*

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**Policy:** Maximize the use of shared education resources and joint participation in educational activities.

**Action:** Participate in partnerships between public and private entities within the County, to implement educational programs and projects in cooperation with the SWWD.

**5. *Assessment of Problems and Corrective Actions***

The City of Newport participates in the MS4 storm water management and erosion control program. There are 11 sub-watersheds within the corporate limits of the City of Newport. The boundaries of these sub watersheds are governed by a combination of factor including the area's natural topography and the areas served by the City's storm sewer system. The City has only limited 10-foot contour data available to determine the subwatershed boundaries. South Washington Watershed District is in process of refining these boundaries utilizing contours with a two foot differentiation. The sub-watersheds have been identified as shown on Figure A-4. The City has identified the surface water management issues within each subwatershed, and discussed the issues with the SWWD. The issues are described in the sections that follow.

The City's efforts to seek technical and financial assistance from the state to implement a comprehensive erosion and management program are currently limited by the lack of a TMDL study on the upper Mississippi River.

a. Bailey Sub-Watershed

The Bailey sub-watershed consists of an upland area which is managed in residential estates and agricultural land uses. Runoff from this watershed flows out of the city into the City of Woodbury.

There are no significant storm water related issues noted within this watershed. As development of this area occurs the City will ensure

conformance with the requirements of the SWWD Watershed Management Plan, this Surface Water Management Plan, and MN Rule 8410 (Local Water Management).

b. North Ravine Sub Watershed

The North Ravine sub watershed consists of an upland area, a bluff line drop off and river bench along TH 61. The upland area is managed agriculturally with development of significant storage and warehouse facilities, other land uses include city public works facility, park land and residential estate developments. The bluff drop off is severe noting elevation difference of 150 feet. The upland portions of the sub watershed drain down the “North Ravine” to the river bench along TH 61.

Erosion in the ravine has been a problem and attempts have been made to remedy the situation. Large storms in October 2005 caused significant erosion and instability in this ravine. As a result, properties are threatened with damage from sedimentation. Hydrologic and hydraulic analyses have been completed to assess what potential solutions are available, and to determine what acceptable flow levels are to maintain stability within the ravine. A storm water management plan has been completed and submitted to MPCA and the SWWD describing the problems and recommends solutions for this area. The City has secured State and local funding to complete the remediation necessary on the lower reaches of the ravine and on the river bench area. SWWD is in the process of amending its work to include a project in plan year 2010 -2011 to remediate the upper reach of the ravine and mitigate erosion and runoff rates from the upland sites.

c. Red Rock, Rivertown, Mid Town, East Town and South Town Sub Watersheds

These sub watersheds located on the west side of TH 61 share similar topography and management issues. Located on a second tier river bench these sub watersheds share riparian frontage on the Mississippi River. Their topography reflects poorly drained old meanders and shallow bed river channels which interfere with overland drainage.

Flooding within the Mississippi River corridor is a natural occurrence. Washington County is currently performing a restudy of the County’s Flood Insurance Study. Many of the municipal storm sewers in the river corridor have gate structures to prevent backflow from high water. The City of Newport has emergency levees which are in deteriorating condition according to the Department of Natural Resource. Additionally, the banks all along the Mississippi River are steep and generally prone to erosion. The City has applied to the USACE and MnDNR for flood mitigation assistance to acquire flood prone properties and convert flood vulnerable areas to

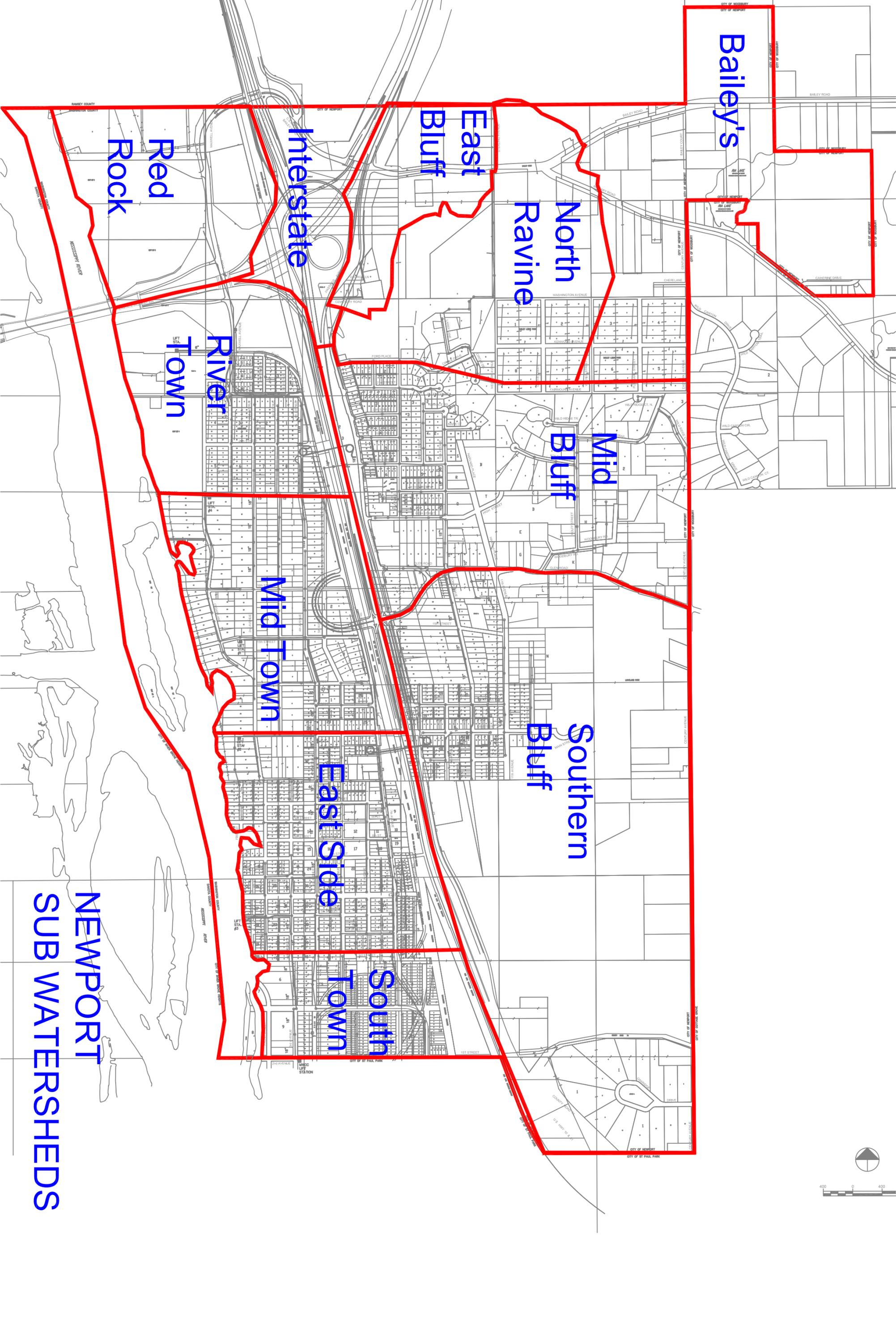
passive and parkland uses which are consistent with re-vegetation or stabilization activities to improve bank integrity and habitat.

d. East Bluff, Mid Bluff and Southern Bluff Sub Watersheds

These sub watersheds located on the east side of TH 61 share the topography, land use issues and similar drainage concerns to those noted in the North Ravine watershed. Erosion and drainage problems have been managed and mitigated in the East Bluff, and Mid Bluff watersheds. There are three ongoing ravine erosions problems located in the Southern Bluff sub watershed. The City will work with South Washington Watershed District to try to find resources to address the issues in this sub-watershed.

e. Interstate Sub Watershed

Land Use in this sub watershed is primarily interstate highway and Trunk highway right of way. Recent reconstruction of I 494 and TH 61 has provided a well coordinated system of highway drainage, detention and treatment facilities. There are no outstanding issues in this subwatershed.



**Bailey's**

**North Ravine**

**East Bluff**

**Mid Bluff**

**Southern Bluff**

**Interstate**

**Red Rock**

**River Town**

**Mid Town**

**East Side**

**South Town**

**NEWPORT  
SUB WATERSHEDS**

## 6. *Implementation Plan*

The City will take the following actions to implement this Surface Water Management Plan:

### a. Requirements for Land Development or Land Disturbance

#### i. Overview

The requirements presented within this Chapter apply to all land alterations which remove cover or disturb a surface area of one acre or more, regardless of impervious coverage. However, some exceptions are noted for volume control requirements.

The City will require the use of standards identified in the Watershed District's Standards Manual, including both standard and low-impact Best Management Practices.

#### ii. Stormwater Peak Runoff Rate

The on-site rate of stormwater runoff for proposed projects must not exceed the existing runoff rates for the 2, 10, and 100-year 24-hour duration rainfall event. Generally, TP40 and Bulletin 71 publications can both be used for modeling but the more conservative of the two (usually TP40) should always supersede. For drainage areas where timing of peak runoff is of particular concern, the SWWD may require a critical duration event analysis. Where a project discharges to a natural channel or engineered swale, the project must also maintain or restrict runoff rates to ensure channel stability. For new development projects, the allowable range of predevelopment Curve Numbers (CN) must not exceed a value of 62.

For new development projects, the allowable range of predevelopment Curve Numbers (CN) should fall within values of 52 – 62 and must not exceed a value of 62. These values are based on calculations from monitoring data collected within un-urbanized landlocked basins (SWWD's 2004 Infiltration Monitoring Program Final Report, 2005). The CN values parallel those used for agricultural and undeveloped in calibrated XP-SWMM modeling (approximately 7% impervious cover).

For projects relying on ponding for rate control, the pond design must incorporate guidance in the Minnesota Stormwater Manual and other applicable design guidance. New ponds must be designed with an identified emergency overflow at 1 foot above the 100-year, 24-hour event (6.3-inches). All drawings must clearly show the direction of overflow and provide for adequate flowage easements. A minimum freeboard of 3 feet above the 100-year high water elevation (resulting

from runoff generated by the 100-year, 24-hour precipitation event) and lowest opening elevation of a dwelling or structure must be provided for new ponds.

iii. Stormwater Runoff Volume

The existing infiltration capacity for a specific area is primarily a function of the type of soils and amount of impervious surface. New developments are required to maintain the annual average predevelopment infiltration capacity of the site. The application of this requirement is to the entire development site, expressed as maintaining the total runoff volume determined from typical climatic conditions. Annual average predevelopment runoff volumes will be calculated based on SWWD WMP Map 6.2, which was derived from continuous runoff modeling based on land use and soil type. This requirement may be met through combining a variety of methods, including reducing / disconnecting impervious surfaces, the use of porous materials, soil decompaction following grading, and engineered infiltration systems. The use of innovative methods, subject to the approval of the SWWD, is encouraged.

Management and reduction of stormwater runoff volume is critical to protecting receiving water condition, preserving groundwater integrity (maintaining natural recharge and quality), and mitigating downstream flooding issues. For projects other than new developments, the City intends for reductions in stormwater runoff volume to be indirectly incorporated into site design through a system of allowable total phosphorus loads to receiving waters.

iv. Allowable Total Phosphorus Loads

The City believes that minimizing and disconnecting impervious surfaces and employing infiltration techniques will be the most cost-effective method for meeting allowable pollutant loads. On-site phosphorus export loads for projects that are within direct subwatersheds of receiving waters noted in the SWWD WMP Sections 6.4 and 6.5 (also see Maps 4.3-4.9) must meet the allowable load requirements set for the applicable water body.

Responsibility for achieving the load reduction necessary to attain the in-lake water quality nutrient goal is equally allocated between urbanized (already developed) and undeveloped portions of the watershed. The standard is to reduce post-project phosphorus levels, evaluated on a unit load basis (pound per acre per year), to meet the allowable load requirement. Redevelopments that drain to an existing stormwater pond must incorporate site practices to further reduce their unit loads in order to meet the allowable load requirement.

For those projects not directly draining to a receiving water (e.g., areas in the Central Draw subwatershed), the water quality treatment requirements set forth in the NPDES Phase II construction site permit shall apply for on-site treatment. A load requirement for the Mississippi River is anticipated in the future.

The current NPDES Phase II General Permit for construction activity will guide on-site requirements for sediment control during land disturbance activity. After construction, it is generally expected that adequate on-site sediment control will be achieved through control of phosphorus loads. Project sites utilizing infiltration for on-site treatment must implement appropriate sediment pretreatment as described in the SWWD WMP Section 6.8. For projects in landlocked basins, predevelopment sediment loads must be maintained or reduced where practical. Implementation of pollutant load reductions specified in a fully approved TMDL or nondegradation plan will take precedence to these allowable pollutant load standards.

b. Best Management Practice Implementation

Best management practices (BMPs) can be non-structural or structural in nature. The City encourages incorporating innovative, low-impact BMPs into site design. However, a proposed project cannot claim load reduction benefits for any municipal non-structural BMPs, such as street sweeping that may be performed in the project area. Topics and information pertaining to better site design, BMPs, and stormwater credits are explored at length in the Minnesota Stormwater Manual (MSM). The City expects to see the use of better site design to reduce impacts from urbanization. Decision flow charts for BMP selection processes are included in the SWWD WMP Appendix M.

For projects relying on ponding for water quality treatment, the City expects pond design to conform to Nationwide Urban Runoff Program (NURP) criteria or MSM guidance. Minnesota Stormwater Manual provides a detailed overview (14 pages plus example calculations) of stormwater pond design. All water quality ponds are required to have a vegetated fringe or aquatic bench, maintenance access, mean depths of 3-4 feet, and a hydraulically efficient shape and configuration. Detailed design and sizing requirements will be provided in a stormwater design manual developed by the SWWD.

The minimum sediment and erosion control requirements of the City are those specified in the current NPDES Phase II General Permit for construction activity, as established by the Minnesota Pollution Control Agency. The City retains the option of establishing additional requirements on a case-by-case basis.

For any proposed structural BMP in the City, a narrative maintenance plan must be developed and submitted. The maintenance plan should be formally included as part of the Developer's Agreement with the appropriate City.

c. Intended Use

The City intends to apply the standard to new development and redevelopment activities during the development review process. The City expects that new developments will incorporate the minimum requirements of the current NPDES Phase II General Permit for construction site activities into their site design.

d. Evaluation

The City of Newport will conduct an annual evaluation of stormwater management activities. Evaluation of three distinct areas of implementation will provide assessment and measures of success for the City. The three points of evaluation are; 1) MS4 implementation; 2) Public education and outreach; 3) Water quality monitoring.

The City prepares an annual report submitted to the MPCA summarizing annual activities, progress and updates to the MS4 SWPPP. This annual report will serve as the primary communication tool for the City documenting annual success. Annual MS4 accomplishments will provide a link to implementation of the Local Surface Water Management Plan.

Each MS4 minimum control measure includes an education component. City education efforts will be reported in the MS4 annual report. In conjunction with the SWWD, additional educational efforts will be provided through the East Metro Water Resources Education Program. The City of Newport will consider future participation in this program.

In cooperation with the SWWD, a watershed water quality monitoring network will annually evaluate improvements resulting from watershed and city programs and projects. The monitoring report is published by the SWWD and is located on the SWWD web site at [www.swwdmn.org](http://www.swwdmn.org).

e. Issues Identified in Subwatershed Areas

The City will work with the SWWD and other agencies identified in the Assessment of Problems and Corrective Actions to implement the corrective actions and projects identified in each subwatershed area.

## 7. *Administration*

### a. Review and Adoption Process

The City will provide draft copies of this Local Surface Water Management Plan to the SWWD for review and comment. The plan will be submitted to the Metropolitan Council as part of the City's Comprehensive Plan, and will be adopted by the City when approved by the Council.

### b. Plan Amendments and Updates

City Comprehensive Plans are updated every ten years. Local Surface Water Management Plans must be updated within 2 years of completion of Watershed Organization Management Plans. The City will update its Local Surface Water Plan along with its Comprehensive Plan (2018), or as needed to comply with state rules related to LSWMP updates to be consistent with the Watershed Plan. The SWWD Plan was last updated in 2007; the next update is expected in 2017.

Substantive revisions to the goals and objectives, the adoption of new or revised standards or rules, and major revisions to the CIP or administrative procedures, will require an amendment to this plan and approved by the City Council.

Annual work plans completed during the beginning of the calendar year by the City Council will serve to guide the immediate activities of the City. The periodic CIP updates will help focus the work plans by identifying projects requiring substantial planning and financial resources for successful completion. Capital storm water improvements may be proposed by other local, state and federal agencies as well. Awareness and understanding capital improvements planned by others is important because of the potential impact to the water resources of the City.