City of Branson

MS4 Permit Application/ Stormwater Management Plan

Prepared by City of Branson Engineering and Public Works Department

May 2013

ACKNOWLEDGMENTS

The City of Branson wishes to acknowledge the valuable contributions of our citizens, community leaders, staff and administration in the creation of this Stormwater Management Plan. Their collective experience and commitment to water quality has made this plan a guiding document which will benefit our lakes and rivers in the years to come.

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Introduction

Introduction

City of Branson

The City of Branson currently operates as a 4th class city under Missouri law. As a non-charter governmental entity, Branson is subject to state statute and has only that authority specifically delegated to it by state statute.

Branson's population nearly doubled between 1990 and 2000 from approximately 3,700 residents to 6,000 and grew by 75 percent between 2000 and 2010, to a population of 10,520. The city's proactive approach for providing sufficient infrastructure and services allowed us to protect water quality during that time of expansion.

During the years of rapid growth in the 90's, the City of Branson committed to efforts to preserve water quality in Lake Taneycomo by becoming the first city in Missouri to install phosphorus removal equipment at its Compton Wastewater Treatment Plant. In 1997, Branson also installed phosphorous removal equipment with the construction of the City's new Cooper Creek Wastewater Treatment Plant.

The City has subsequently invested millions of dollars in its wastewater collection and treatment systems to prevent water pollution, using state-of-the-art processes at its two wastewater treatment plants and treating the wastewater to a high-quality level that consistently meets or exceeds appropriate standards.

With exception of some of the oldest areas of town the City's wastewater collection system is modern and up-to-date. The system lines are adequately sized to handle flows generated by current sewer customers and a program is now being implemented to upgrade sewers and address line issues in the older areas. The city has reasonable inflow and infiltration issues and has recently spent $3.1 million dollars to upgrade a main sewer pump station which also includes construction of a 1.0 million gallon surge tank which is utilized to manage increased flows and prevent potential manhole overflows during heavier and extended rain events.

In addition, Branson is now partnering with neighboring communities to implement a Regional Class A biosolids facility that will be utilized to eliminate the current practice of spreading Class B processed wastewater sludge on area farm fields. The project is highly significant to area waterways because of the multi-jurisdictional effort which includes treatment plants in the surrounding communities. These initiatives will have a positive impact on water quality for years to come.

In 2012-2013 Branson will partner to install two stormwater demonstration areas and, over the next decade will contract for new stormwater design features in its Historic Downtown area street renovations and along the famous Highway 76/Country Boulevard. In addition, the City has a long history of supporting water quality efforts through public outreach and education, including twenty years of watershed festivals (since 1992) reaching a total of over 10,000 students in Taney County. Our most recent initiative includes placement of nearly 600 metal decals on storm drains (Appendix A-4), accompanied by explanatory door hangers (Appendix A-2).

When 2010 U.S. Census data documented a population over 10,000, Branson became a regulated Missouri Separate Storm Sewer System (MS4) community and must therefore obtain a National Pollutant Discharge Elimination System (NPDES) stormwater permit and develop a stormwater management plan.

This Stormwater Management Plan is intended to cover the land area within the city limits of Branson, covering 13,387.64 acres (20.85 sq. miles). Of the total 55.21 square miles for all watersheds draining through the city limits, only 34% or 20.85 square miles of the watershed lie within the City of Branson. Branson is the only MS4 city in the Taneycomo watershed, and the watershed land area under the city's jurisdiction represents 6.2% of the total Taneycomo watershed, which is 215,038 acres.

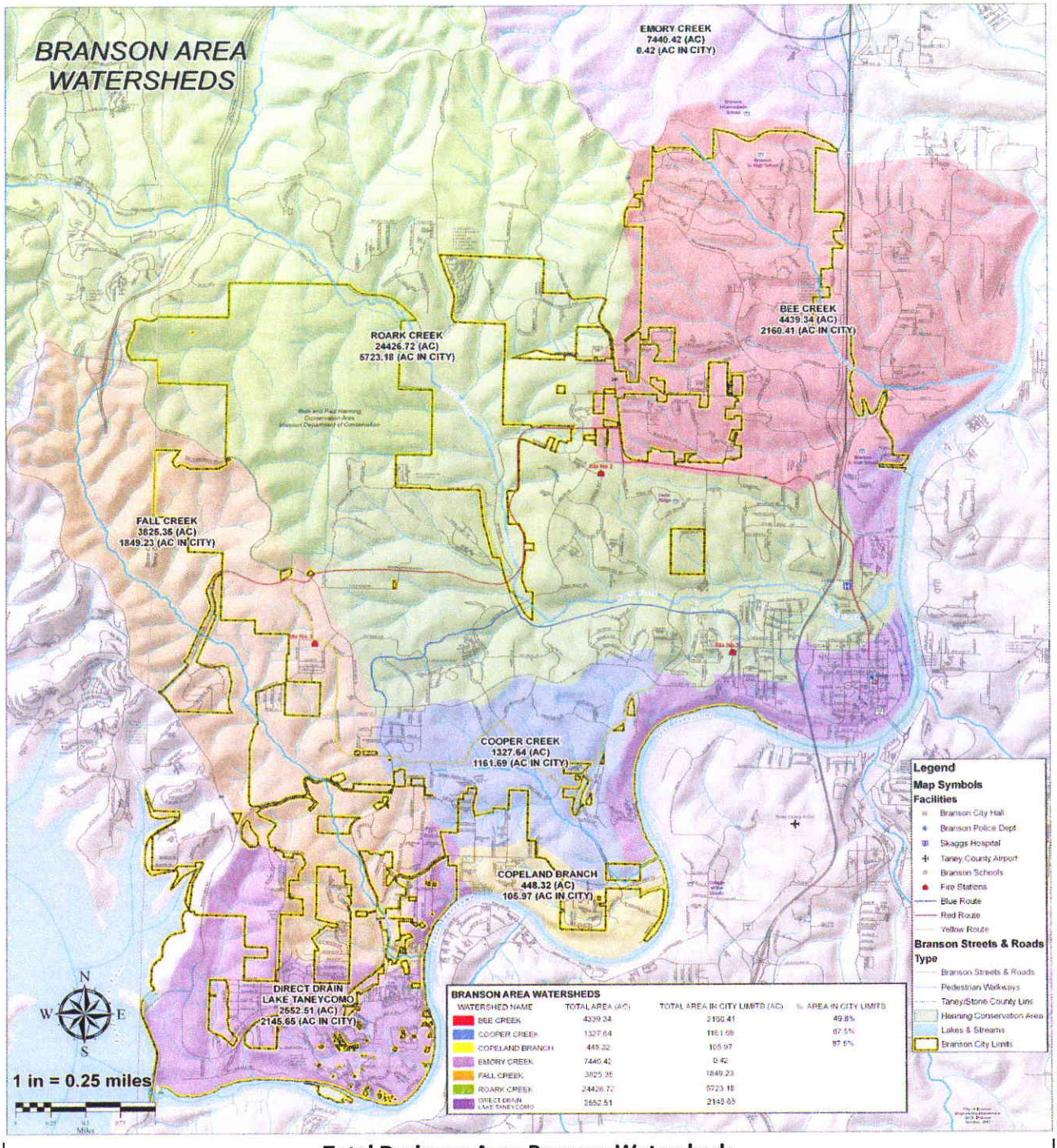
Watersheds within the City of Branson

99.3% of all surface drainage from Branson flows east into Lake Taneycomo. There is a small area (7/10th of 1% of 13,387.64 acres or 104.87 acres) which drains to Table Rock Lake; that area is 52% forested and mostly undeveloped. Three "Baysaver" units were installed on Taneycomo outfalls in 2007 to treat the stormwater coming off 240 acres of intensively developed downtown Branson and the Branson Landing before entering Lake Taneycomo. Signage is posted at the pedestrian-intensive Branson Landing explaining the purpose of the Baysavers to residents and the millions of tourists who vacation here.

The City of Branson has a unique topography which includes a 632 ft. change in elevation in three miles from the west to east city limits. The resulting steep slopes, thin soils and low infiltration will prove challenging when designing and selecting BMPs for stormwater management during both construction and post-construction.

The city has eleven outfalls discharging into waters of the state at Lake Taneycomo: Bee Creek, Fall Creek, Cooper Creek, Roark Creek, Copeland Branch, Canal Branch, Hatchery Branch, Compton Branch and the three Baysaver units at Branson Landing (see page ix). Figure 1.1 (Map) illustrates City of Branson city limits and watershed boundaries.

Figure 1.1 Map of City of Branson city limits and watershed boundaries. (Source: City of Branson GIS Department)



Total Drainage Area Branson Watersheds

Roark Creek Total drainage area at discharge into White River	37.9 sq. mi.
Bee Creek Total drainage area at discharge into White River	6.85 sq. mi.
Fall Creek Total drainage area at discharge into White River	5.95 sq. mi.
Cooper Creek Total drainage area at discharge into White River	2.11 sq. mi.
Copeland Branch Total drainage area at discharge into White River	0.71 sq. mi.
Direct drain into Lake Taneycomo overland/minor ditches and channels	1.69 sq. mi.
The total of these watersheds and direct tributary areas	55.21 sq. mi.

The City of Branson is part of the larger White River watershed (Figure 1.2), which encompasses most of northwest and northeast Arkansas as well as portions of southwest Missouri.

The city itself is located in the Lake Taneycomo watershed. (Figure 1.3 Lake Taneycomo/White River at Branson, Missouri)

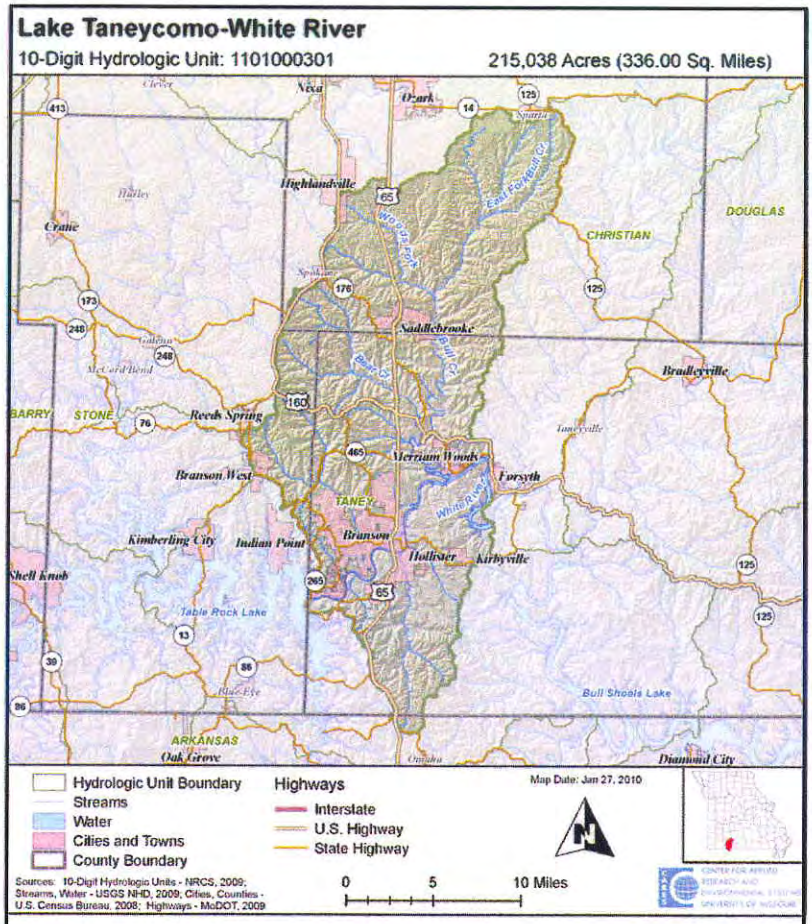


Figure 1.3: Lake Taneycomo/White River at Branson, Missouri (Source: Center for Applied Research and Environmental Systems University of Missouri)

Figure 1.2:
White River Watershed.

After flowing out of northwestern Arkansas the White River becomes Table Rock Lake, which in turn becomes Lake Taneycomo. Lake Taneycomo is impounded at each end by Table Rock Dam and Powersite Dam, respectively and then flows directly into Bull Shoals Lake, thus the "Tri-Lakes" region references. Bull Shoals Lake flows back into Arkansas, and then heads generally southeast to its mouth at the Mississippi River.

Geology and Karst Features

Branson is located in the Ozark Highlands/White River Hills Ecoregion, known for steep slopes, springs, dissected topography and thin, rocky soils (EPA Ecoregions Map, 2000). This ecoregion includes the three impoundments of the White River into Table Rock Lake, Lake Taneycomo and Bull Shoals Lake (Tri-Lakes).

This area of the Ozarks consists of extreme hills and valleys. Less than one-third (31%) of Branson could be considered somewhat level with slopes of less than 5%. However, another third (34%) of Branson has slopes that range from 5% to 10% which would be considered "steep" in most communities. Branson consists of 35% extremely steep slopes of well over 10% with 13 of every 100 acres exceeding 15% grades. The city also encompasses 276 acres of land that exceeds a 30% slope which is approximately 2% of the Branson land area. Placing traditional BMPs in the 69% of topography exceeding 5% to 15% (extremely steep) slopes presents an engineering and site planning challenge.

Karst topography is prevalent in the Branson/Tri-Lakes region, and has an impact on how water moves in, through and under the topography. Two springs are documented inside city limits (Figure 1.4 Map of Known Springs) although numerous wet weather springs are possibly also present.

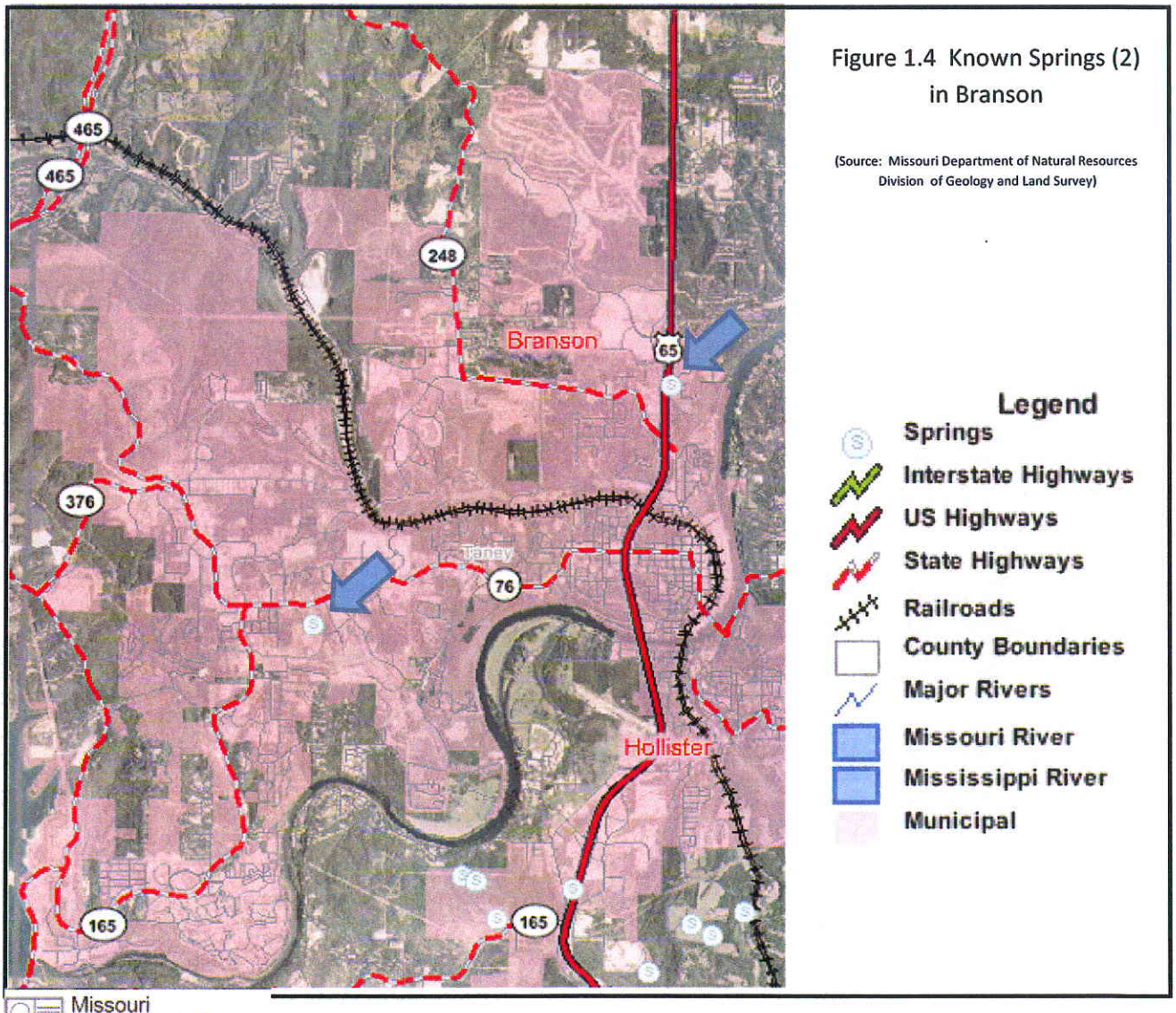


Figure 1.4 Known Springs (2) in Branson

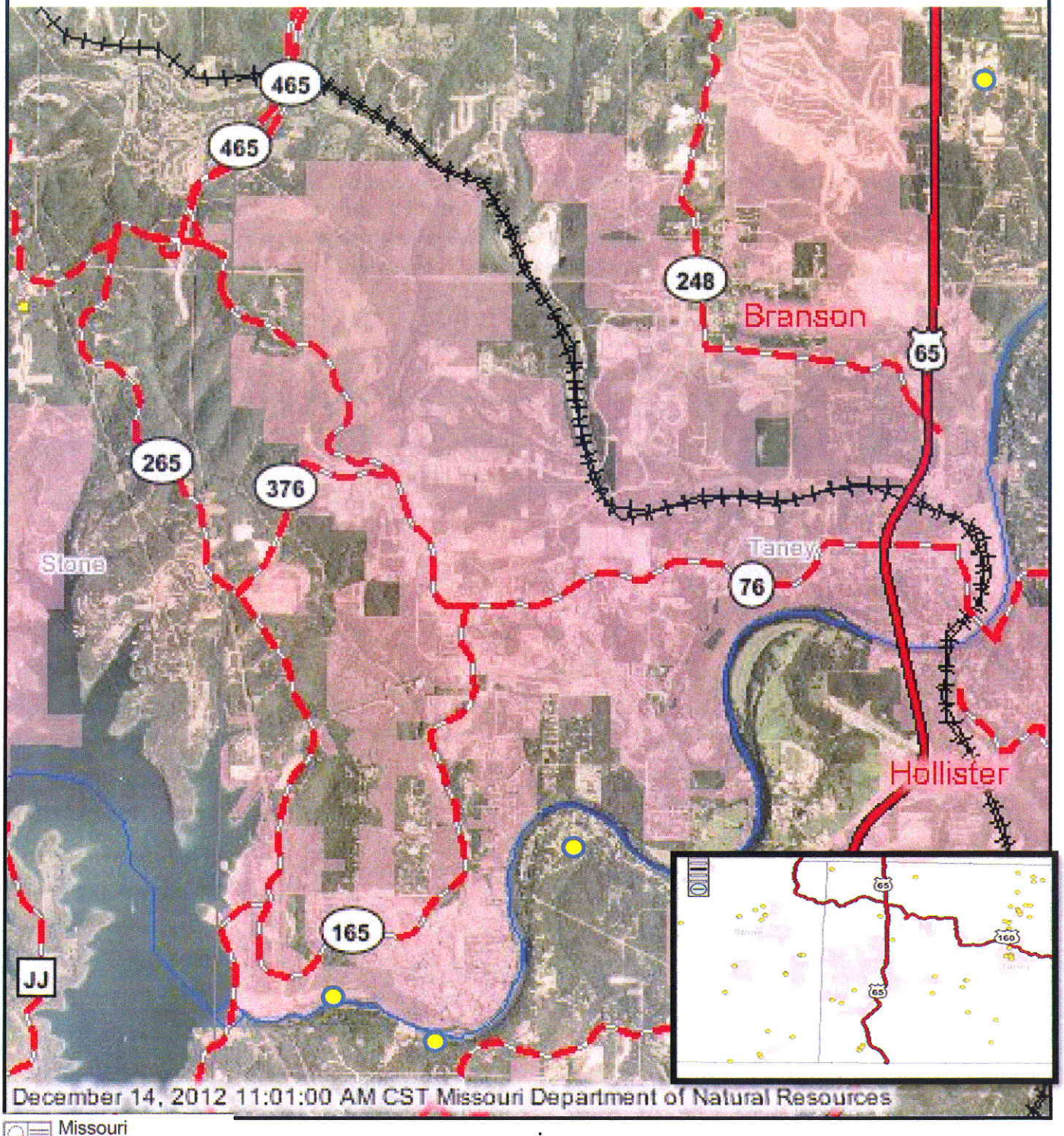
(Source: Missouri Department of Natural Resources Division of Geology and Land Survey)

While Taney County has multiple known sinkholes, only one is located within the city limits of Branson, and that sinkhole is on Department of Conservation land. (Figure 1.5 Map of Known Sinkholes). Six losing stream segments are present (Figure 1.6 Map of Losing Streams)

Figure 1.5 Known Sinkholes in Branson

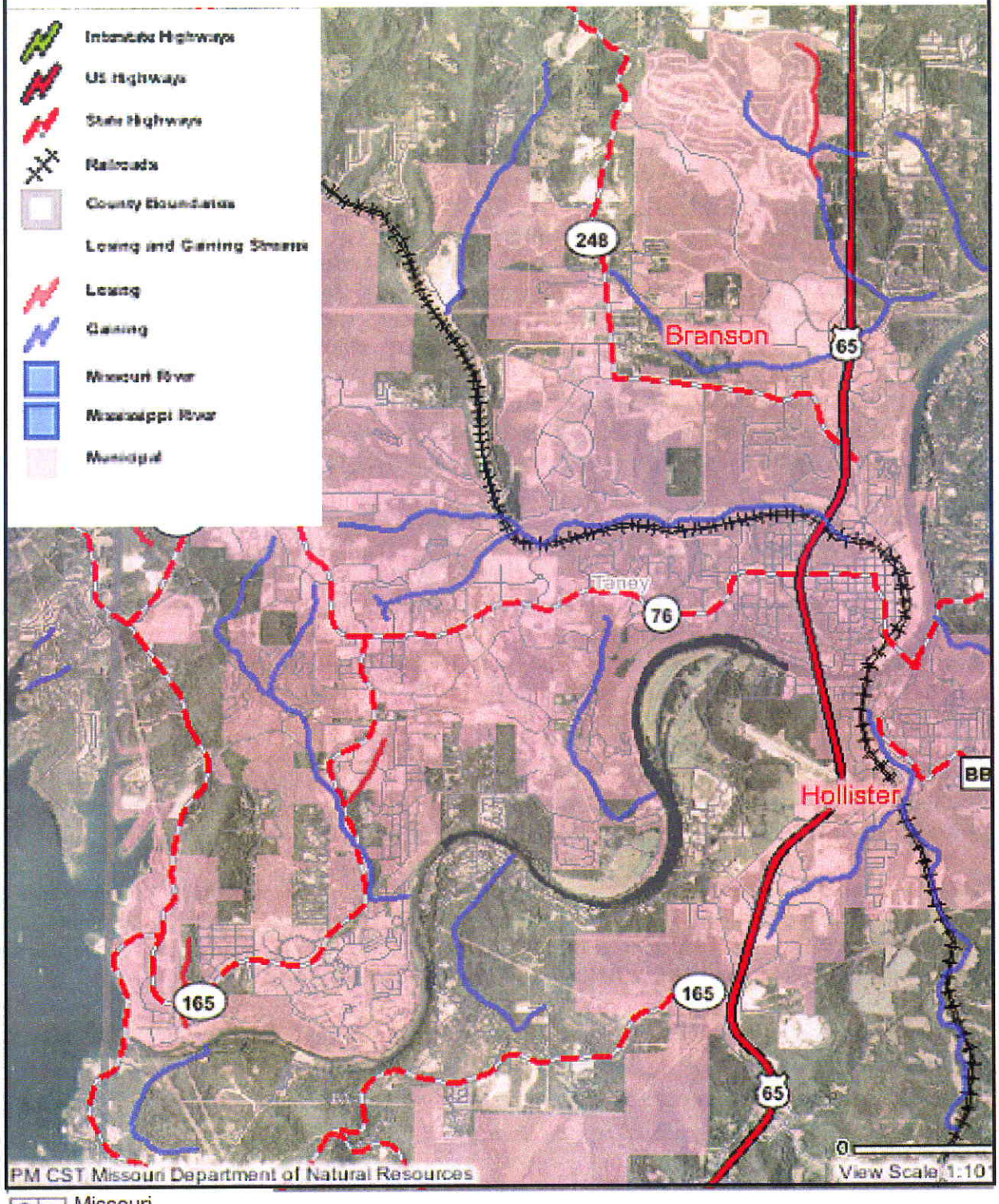
(Source: Missouri Department of Natural Resources Division of Geology and Land Survey)

(Inset: Known Sinkholes in Taney County)



Missouri Department of Natural Resources

Figure 1.6 Known Losing Stream segments in Branson and surrounding cities.
(Source: Missouri Department of Natural Resources Division of Geology and Land Survey.)



Missouri Department of Natural Resources

Discharges to Water Quality Impaired Waters:

Approximately eight miles upstream and southwest of the City of Branson, the U.S. Army Corps of Engineers (USACE) manages Table Rock Dam which regulates lake water levels for flood control and hydroelectric power generation, and, to a lesser extent, water supply. The construction of the dam resulted in Lake Taneycomo becoming the dam's "tailwater" and, as a result, the depth, temperature and flow in Lake Taneycomo are dependent on the dam's operation.

The dam is under the jurisdiction of the Little Rock District and maintains a local office at the Dewey Short Visitors Center.

While Lake Taneycomo was previously on the 303(d) list of impaired waters for Dissolved Oxygen and a Total Maximum Daily Load, or TMDL, was established in 2010, the TMDL states, "in this particular case Table Rock Dam has been identified as the source of the low dissolved oxygen impairment." (p. 8, Lake Taneycomo (WBID 7314), Missouri TMDL) (Appendix A-6). And, "Oxygen demand from point and nonpoint sources does not seem to be the cause of the DO impairments in the tailwaters." (p. 17, Lake Taneycomo (WBID 7314), Missouri TMDL) (Appendix A-7). Also, "Dissolved oxygen modeling (Appendix C) confirmed that hypolimnetic waters low in dissolved oxygen, and not nutrients from the Table Rock Lake and Lake Taneycomo watersheds, are the source of the Missouri 303(d) listed low DO impairment." (p. 47, Lake Taneycomo (WBID 7314), Missouri TMDL). And finally, "Due to the physical and/or chemical nature of their discharges, none of the general or stormwater-permitted facilities in the Lake Taneycomo watershed are considered to be causing or contributing to the low dissolved oxygen impairment." (p. 14, Lake Taneycomo (WBID 7314), Missouri TMDL) (Appendix A-8)

DO levels are monitored by U.S. Geological Survey. The city is not mentioned in the TMDL since we cannot affect an upstream site regulated by the Corps of Engineers. The TMDL Appendix A shows the total percent of samples failing to meet standards from 2002-2008 at Branson sites is 4.76%, or 2 out of 40 samples for the year 2002. No samples failed to meet the DO standards at Branson from 2003-2008 (the data on which the TMDL is based). The TMDL concluded "At Branson, on the lower portion of Lake Taneycomo, the exceedence rate is only about five percent (gathered through bimonthly sampling). Therefore, the *upper portion of Lake Taneycomo is judged to be impaired by low dissolved oxygen."* (p. 59, Lake Taneycomo (WBID 7314), TMDL Missouri TMDL) (Appendix A-9).

Further clarification was included in the 2012 DNR Publication, "Water Quality and Antidegradation Review for the Protection of Water Quality and Determination of Effluent Limits for Discharge to Lake Taneycomo by Branson Cooper Creek Wastewater Treatment Facility" (p.3):

"Lake Taneycomo was identified on Missouri's 1994-2008 303(d) lists for low dissolved oxygen (DO). A low DO Total Maximum Daily Load (TMDL) was approved for Lake Taneycomo by USEPA on December 30, 2010. The TMDL identified Table Rock Dam as the sole source of low DO and that domestic discharges are not significantly contributing to the low DO impairment below Table Rock Dam."

For this reason, the City wishes to clarify that stormwater discharges exiting the City of Branson are not identified as contributing to the impairment addressed in the TMDL and that DO levels at Branson are at/or below normal limits, as is documented on p. 59 of the TMDL (Appendix A-9); therefore Section 3.1 of the general permit would not apply according to Section 3.1.1.1.

Branson Stormwater Outfalls

Outfall #1
SW1/4, NE1/4, Section 22, T22N, R21W – Hatchery Branch
11 01 0003 01 Lake Taneycomo, X-Coord 4050147/Y-Coord 473001
36° 35' 47.16"N/93° 18' 6.68"W

Outfall #2
NW1/4, NW1/4, Section 13, T22N, R22W – Fall Creek
11 01 0003 01 Lake Taneycomo, X-Coord 4051766/Y-Coord 475367
36° 36' 39.91"N/93° 16' 31.62"W

Outfall #3
NW1/4, SE1/4, Section 7, T22N, R21W - Copeland Branch
11 01 0003 01 Lake Taneycomo, X-Coord 4052567/Y-Coord 478166
36° 37' 6.17"N/93° 14' 39.05"W

Outfall #4
SW1/4, NE1/4, Section 7, T22N, R21W - Cooper Creek
11 01 0003 01 Lake Taneycomo, X-Coord 4052925/Y-Coord 478059
36° 37' 17.77"N/93° 14' 43.4"W

Outfall #5
NE1/4, SE1/4,Section 5, T22N, R21W - Canal Branch
11 01 0003 01 Lake Taneycomo, X-Coord 4054316/Y-Coord 480079
36° 38' 3.08"N/93° 13' 22.19"W

Outfall #6
NW1/4, NE1/4, Section 4, T22N, R21W - Baysaver 3 Branson Landing
11 01 0003 01 Lake Taneycomo, X-Coord 4054978/Y-Coord 480989
36° 38' 24.63"N/93° 12' 45.59"W

Outfall #7
SW1/4, SW1/4, Section 33, T23N, R21W - Baysaver 2 Branson Landing
11 01 0003 01 Lake Taneycomo, X-Coord 4055374/Y-Coord 480975
36° 38' 37.46"N/93° 12' 46.18"W

Outfall #8
NE1/4, SW1/4, Section 33, T23N, R21W - Baysaver 1 Branson Landing
11 01 0003 01 Lake Taneycomo, X-Coord 4055890/Y-Coord 480855
36° 38' 54.22"N/93° 12' 51.07"W

Outfall #9
SE1/4, NW1/4, Section 33, T23N, R21W - Roark Creek
11 01 0003 01 Lake Taneycomo, X-Coord 4058069/Y-Coord 480784
36° 39' 4.92"N/93° 12' 54.14"W

Outfall #10
NW1/4, SW1/4, Section 28, T23N, R21W - Compton Branch
11 01 0003 01 Lake Taneycomo, X-Coord 4057440/Y-Coord 480859
36° 39' 44.52"N/93° 12' 51.06"W

Outfall #11
SW1/4, SW1/4, Section 22, T23N, R21W - Bee Creek
11 01 0003 01 Lake Taneycomo, X-Coord 4058786/Y-Coord 482059
36° 40'28.28"N/93° 12' 2.81"W

Chapter One
Minimum Control Measure #1
Public Education & Outreach

CHAPTER ONE
Public Education and Outreach
Minimum Control Measure #1

Section 4.2.1.1 The permittee shall implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The Public education and outreach program shall include the following information at a minimum:

4.2.1.1.1 The target pollutant sources the public education is designed to address;

4.2.1.1.2 Identification of target audiences for the education program who are likely to have significant storm water impacts (including commercial, industrial and institutional entities);

4.2.1.1.3 A plan to inform individuals and households about steps they can take to reduce storm water pollution;

4.2.1.1.4 A plan to inform individuals and groups on how to become involved in the SWMP (with activities such as local stream and lake restoration activities);

4.2.1.1.5 The outreach strategy, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) to reach target audiences, and how many people expected to be reached over the permit term; and

4.2.1.1.6 A plan to evaluate the success of this minimum control measure.

BACKGROUND

4.2.1.1.1 Target Pollutants

The City of Branson's public education program is designed to address general stormwater pollutant sources, including construction site runoff, litter, lawn chemicals, automotive fluids, household chemicals, and pet waste.

4.2.1.1.2 Target Audiences

The target audiences for Minimum Control Measure #1 will be the general public, businesses, landscapers and building contractors.

4.2.1.1.3 Planning and Strategy

The plan will inform individuals, households, and businesses about steps they can take to reduce storm water pollution using the following mechanisms to reach target audiences:

4.2.1.1.3.1 Strategies for Construction Site Runoff and Litter Reduction

- An appropriate construction site runoff brochure will be selected and distributed during city's Administrative Review Team (ART) review of projects.
- Educational materials related to erosion control and litter reduction will be included on the City's website and other social media. Material will be included highlighting the effects of erosion on storm water discharges.

- Materials will be distributed and posted on City website regarding the need to change behaviors that contribute to litter and debris entering the stormwater conveyance system (Appendix A-2). Educational materials include tips and alternative actions to assist citizens in making informed choices about pollution prevention.
- The City's existing "Adopt-A-Street" program will be promoted through the website and social media.

4.2.1.1.3.2 Strategies for Lawn Chemicals, Automotive Fluids, and Household Chemicals

- Educational materials related to non-point source pollutants (vehicle leaks, used motor oil, and the influence of nutrients such as nitrogen and phosphorus) will be posted on the City's website and distributed via social media.
- The City will promote the safe disposal of household chemicals using the "Household Chemical Collections: The Water Connection" brochure and the Household Collection Facility (Appendix A-1).
- All new storm drain covers are required to have the "Drains to Stream" message. See Appendix A-3.

4.2.1.1.3.3 Education and Outreach Strategies for Pet Waste

The City will post information related to pet waste management on their website. Current signage and ordinances are already in place. Ten pet waste stations located at Branson Landing and in all City parks will be maintained throughout the term of the permit.

4.2.1.1.4 A Plan to inform individuals and groups on how to become involved in the SWMP (with activities such as local stream and lake restoration activities)

The City of Branson has provided public water quality education for more than two decades, first with the funding of a full-time environmental specialist in 1992, followed by twenty years of watershed education for all 5th grade students (a total of over 10,000 students). The City, together with Ozarks Water Watch, posted signage for the millions who visit the Landing, explaining the Bay Savers and asking "Won't you help keep our water clean?" The City has also provided training and supplies to citizens and groups for installation of over 200 permanent storm drain markers and distribution of more than 500 flyers at homes and businesses detailing how stormwater affects water quality (Appendix A-1).

In 2012 the City of Branson modified its specifications to include storm drain lids which state "Dump No Waste...Drains to Waterway" or similar on all new construction projects within the city.

Two citizen groups, "Table Rock Lake Water Quality Inc.," (TRLWQ, Inc.) and "Ozarks Water Watch" (OWW) were formed in 1998 and 2001 respectively, and have provided numerous opportunities for citizens to participate in and promote water quality activities such as shoreline cleanups and policy guidance for over a decade. Table Rock Lake Water Quality Inc. (TRLWQ) is a strong force in the Tri-Lakes area and Branson, and the City will continue to support and partner with their efforts and programs. Ozarks Water Watch is a very strong regional presence, influencing and promoting water quality in the entire northwest Arkansas and southwest Missouri region. Representatives from both of these organizations were included as members of a "Clean Water Task Force" which reviewed the MS4 stormwater management plan during development.

Three stormwater demonstration areas may be used to educate the public and contractors: a stormwater treatment demonstration area at Shepherd of the Hills Fish Hatchery is visible to over 200,000 visitors/year, and a 2013 project to create a stormwater treatment demonstration area in Branson's newest park will enhance Branson's existing stormwater education efforts. A rain garden/parking lot at the Branson Chamber of Commerce is being constructed in 2013 and can serve as a stormwater education area for citizens, visitors and community leaders.

In addition, the City has begun co-sponsoring Table Rock Lake Water Quality, Inc. to host an annual Taneycomo Cleanup. The City also began its efforts to inventory the storm drain system and train volunteers to place storm drain decals in 2012, using a DNR 319 water quality grant. Several hundred storm drains were marked by volunteers even before the stormwater permit goes into effect. A Household Chemical Collections facility brochure titled "Household Chemicals: The Water Connection" was created and marketed to the entire city and county in 2011. This brochure has a very strong water quality/stormwater message (Appendix A-2). Over 2000 copies were distributed in 2012.

In 2012 the Lake Taneycomo Watershed Plan was initiated by TRLWQ, Inc., a non-profit watershed organization and has served as a public forum for citizen input. The city provided partial funding for this plan. As the plan develops, citizens will be invited to participate via news releases and links to TRLWQ through the city website.

Plans to continue these efforts will reinforce the stormwater education and outreach message. As new opportunities become available the existing outreach will continue to grow.

Existing partnerships and potential new ones with civic organizations, non-profits, educational institutions and businesses can benefit water quality. Potential partners may include:

- Table Rock Lake Water Quality, Inc
- Ozarks Water Watch
- Downtown Branson Business Association
- Watershed Committee of the Ozarks
- James River Basin Partnership
- Branson Lakes Area Chamber of Commerce
- Missouri Department of Conservation
- Ozark Rivers Heritage Foundation
- Table Rock Lake Area Chamber of Commerce

4.2.1.1.5 Measurable Goals

Table 1-3 Public Education and Outreach Measurable Goals			
Permit Year	BMP Goal Selected	Measurement Method	Responsibility
All	Existing educational materials will be identified and appropriate subjects selected for distribution. The City's existing social media pages will be enhanced to engage the public.	Materials assembled	Engineering
	Storm water web page will be updated as an educational tool. Related and supportive websites will be linked.	# Links to related websites	Engineering
	Promote and Co-sponsor an annual Ozarks Water Watch Week with other organizational partners. Water Watch Week is a series of programs designed to engage citizens in water oriented activities that highlight the importance of water quality.	# of events during Water Watch Week	Engineering
	Promote safe disposal of household chemicals at the Household Collection Facility using the "Household Chemical Collections: The Water Connection" brochure at the Household Collection Facility	# brochures distributed, # tons collected	Engineering
1	Watershed map will be developed and placed on the City's website to allow residents to determine the watershed in which they live. The watershed map will also be available for purchase.	Map developed & posted to website	GIS
1	Develop stormwater web page. The website will provide information on watersheds, BMPs, disposal of household chemicals, non-point source pollution, proper used motor oil disposal, proper pet waste disposal, and the use of pesticides and herbicides on lawns.	Webpage developed	Engineering
1	Partner to install a rain garden/parking lot at the Branson Chamber of Commerce for use as a stormwater demonstration area for citizens, visitors, contractors, and community leaders.	Construction completed	Engineering
1	Citizens and groups provided with supplies	# storm drains marked	Engineering

	for placement of metal storm drain decals		
1	Citizens and groups provided with supplies to distribute door hangers to explain sources of stormwater pollution.	# distributed	Engineering
1	All new storm drain inlets required to have "Drains to Stream" lids with water-related design.	Requirement added to city specifications	Engineering
2	The biennial Business and Community Survey will be updated to include questions regarding stormwater issues.	Survey distributed and # of responses	Human Resources
3	Post "Healthy Lawns, Healthy Waters" (MARC) video to social media and website	Link(s) posted	Engineering
4	Promote the Missouri Stream Team Program and The Lakes of Missouri Volunteer Program through water quality webpage and social media.	# of webpage hits	Engineering
4	Select appropriate erosion control materials to distribute to contractors and/or developers during Administrative Review Team (ART) process for developments.	Materials selected	Engineering
4	The biennial Business and Community Survey will be updated again in year 4, to include questions regarding stormwater issues.	Survey distributed and # of responses	Human Resources
5	Evaluate public education and outreach program.	# hits on web pages, amount of volunteers participating in programs, # of storm drains marked and doorhangers distributed	Engineering

Chapter Two
Minimum Control Measure #2
Public Involvement & Participation

CHAPTER TWO
Public Involvement and Participation
Minimum Control Measure #2

Section 4.2.2 The permittee shall implement a public involvement/participation program that complies with State and local public notice requirements, and involve the public in the development and oversight of the SWMP, policies and procedures. As part of the SWMP document, the public involvement/participation program shall include the following information, at a minimum:

4.2.2.1.1 How the permittee has involved the public in the development and submittal of the application and SWMP document;

4.2.2.1.2 Identification of the target audiences, including the types of ethnic and economic groups engaged;

4.2.2.1.3 Identification of the types of public involvement activities to be included. Where appropriate, the following must be considered:

- *4.2.2.1.3.1 Citizen representatives on a storm water management panel*
- *4.2.2.1.3.2 Public hearings*
- *4.2.2.1.3.3 Working with citizen volunteers willing to educate others about the program*
- *4.2.2.1.3.4 Volunteer monitoring or stream/beach cleanup activities*

4.2.2.1.4 The permittee's plan to actively involve the public in the development and implementation of their program, and;

4.2.2.1.5 The method for evaluating success of this minimum control measure.

BACKGROUND

4.2.2.1.1 Public Involvement in Storm Water Plan Development

A Clean Water Task Force of local citizens was created to help draft and review the initial stormwater management plan. The Taneycomo Watershed Plan process was initiated in 2012 and the City and County have partnered with Table Rock Lake Water Quality Inc. through funding for the plans' development. This plan is a guidance document created with input from citizens during public meetings. As the plan develops, multiple opportunities to participate in the plan will be available through the use of public media. The proposed watershed plan is an excellent tool for public involvement and participation.

4.2.2.1.2 Target Audiences

The target audiences will be those identified in Chapter One – Public Education and Outreach (MCM #1) and plan partners such as local civic groups, and the Branson Chamber of Commerce. Efforts will be made to engage all economic and ethnic groups in program implementation.

4.2.2.1.3 Identification of Types of Activities

The City plans to utilize several existing citizen Committees and Boards to help facilitate public involvement in the plan development, including

- A Citizen Task Force
- Capital Improvement Committee
- Tree Board
- Planning & Zoning Commission
- Human Resources Committee

In addition, citizens will be given opportunities to participate in group activities designed to reduce pollutants. The City will provide citizen volunteers with information designed to help them understand the relationship between urban areas and storm water pollution. This information will allow group members to educate other citizens as they implement an action through:

- Organizing and/or participating in stream/lake clean-ups
- Organizing and encouraging participation in the adopt-a-street program
- Organizing and/or participating in storm drain marking
- Promotion of Lakes of Missouri Volunteers Program (LMVP)
- Promotion of Missouri Stream Teams
- Promotion of household chemical collections & recycling at the City's recycling center

4.2.2.1.4 Public Participation Activity Plan

Generally speaking, unless citizens are directly influenced by storm water issues or are environmentally conscientious, they are probably not interested in giving up time away from their families or hours out of school, church and family routines to participate in activities designed to reduce and prevent storm water pollution. For this reason engaging public participation presents a monumental challenge to city staff.

Hopefully, once the public gains an understanding of storm water pollution issues and how those issues are related to the economy and health and safety of the community, the task of gaining public support becomes more assured. The City of Branson is providing ten BMPs (Table 2-1) in which citizens can be involved and actively participate.

Citizens will be encouraged to locate their watershed by visiting the City's watershed map that will be placed on the City's website.

In addition, ten specific goals and measurement methods for each year of the permit are as follows:

Table 2-1 Public Involvement and Participation Measureable Goals			
Permit Year	BMP Goal Selected	Measurement Method	Responsibility
All	Citizens will be encouraged to use the City's recycling center to dispose of household chemicals & recyclable materials.	# vehicles accessing recycle center, # tons of chemicals disposed	Public Works
	A community-wide lake cleanup will be organized by a partnering organization and co-sponsored by the City of Branson	# participants & waste volume	Engineering
	Groups will be organized to participate in an annual storm drain marking event	# of participants; # of storm drains marked;	Engineering
	Groups will be encouraged to participate in the adopt-a-street program through the City website and social media.	# participants	Public Works
	Community groups will be provided with supplies and maps for distribution of 100 "Dump No Waste, Drains to Stream" door hangers at businesses and communities.	# distributed	Engineering
	Ten pet waste stations will be maintained in city parks and at the Branson Landing.	Total # pet waste stations maintained	Parks & Rec.
1	The Lake Taneycomo Watershed Plan being written by Table Rock Lake Water Quality, Inc., a non-profit watershed organization, will be posted to the City website. The public will be invited and encouraged to participate in the watershed plan's development and implementation.	Link created to Table Rock Lake, Inc.'s Watershed Management Plan by TRLWQ	Engineering
2	The biennial Business and Community Survey will be updated to include questions regarding stormwater issues.	Survey distributed and # responses	Human Resources
4	The biennial Business and Community Survey will be updated to include questions regarding stormwater issues.	Survey distributed and # of responses	Human Resources
5	Publish a report of stormwater activities, including outcomes .	Report completed & posted to website	All Depts.

Chapter Three
Minimum Control Measure #3
Illicit Discharge & Elimination

CHAPTER THREE
Illicit Discharge Detection and Elimination
Minimum Control Measure #3

Section 4.2.3.1 The permittee shall develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into the permittee's small regulated MS4.

10 CSR 20-6.200 defines an illicit discharge as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to a state operating permit, other than storm water discharge permits and discharges from fire fighting activities."

As part of the SWMP document, the permittee's illicit discharge detection and elimination program shall include the development and implementation of, at a minimum:

4.2.3.1.1 A storm sewer map showing the location of all outfalls and the names and location of all receiving waters of the state that receive discharges from those outfalls. The permittee shall describe the sources of information used for the maps and how the permittee plans to verify the outfall locations with field surveys. If already completed, the permittee shall describe how the map was developed and how the map will be regularly updated. The permittee shall make the map information available to the department upon request.

4.2.3.1.2 To the extent allowable under State, or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into the permittee's storm sewer system and implement appropriate enforcement procedures and actions.
The permittee shall identify the mechanisms (ordinance or other regulatory mechanism) the permittee will use to effectively prohibit illicit discharges into the MS4. If the permittee needs to develop this mechanism, describe the permittee's plan and implementation schedule. If the permittee's ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with the permittee's program.

4.2.3.1.3 A plan and implementation schedule to detect and address non-storm water discharges, including discharges from illegal dumping and spills, to the permittee's system. The permittee's plan shall include dry weather field screening for non-storm water flows and field tests of selected chemical parameters as indicators of discharge sources. The plan shall also address on-site sewage disposal systems that flow into the permittee's storm drainage system. The permittee's description shall address the following, at a minimum:

4.2.3.1.3.1 Procedures for locating priority areas which include areas with higher likelihood of illicit connections (e.g. areas with older sanitary sewer lines) or ambient sampling to locate impacted areas.

4.2.3.1.3.2 Procedures for tracing the source(s) of an illicit discharge, including the specific techniques the permittee will use to detect the location of the source(s).

4.2.3.1.3.3 Procedures for removing the source(s) of the illicit discharge.

4.2.3.1.3.4 A plan to ensure through appropriate enforcement procedures, including fines, and actions that the permittee's illicit discharge ordinance (or other regulatory mechanism) is implemented.

4.2.3.1.3.5 A plan to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

4.2.3.1.3.6 Procedures for program evaluation and assessment of this MCM.

4.2.3.1.4 Address the following categories of non-storm water discharges or flows (i.e. illicit discharges) only if the permittee identifies them as significant contributors of pollutants to the permittee's regulated small MS4: landscape irrigation, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, springs, water from crawl space pumps, footing drains, lawn watering, flows from riparian habitats and wetlands, and street wash water. Discharges or flows from emergency firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are significant sources of pollutants to waters of the state.

4.2.3.1.5 The permittee may also develop a list of occasional incidental non-storm water discharges that will not be addressed as illicit discharges (such as charity car washes, etc). These non-storm water discharges shall not be reasonably expected to be significant sources of pollutants to the MS4, because of either the nature of the discharges or conditions the permittee has established for allowing these discharges to the permittee's MS4 (e.g., a charity car wash). The permittee shall document in their SWMP any local controls or conditions placed on the discharges. The permittee shall include a provision prohibiting any individual non-storm water discharge that is determined to be contributing significant amounts of pollutants to the permittee's MS4.

4.2.3.1.6 The permittee should inventory, inspect and have enforcement authority for industries and commercial enterprises within their boundary that may contribute pollutants via storm water to the MS4.

BACKGROUND

In general, monitoring and detection procedures will be implemented to identify outfalls which contribute to non-storm water discharges. Through time these outfalls will then be studied to further target/detect, enforce/regulate, and ultimately eliminate the source(s) of the illicit discharge.

Five primary watersheds have been identified within the City of Branson's jurisdiction, all of which have their confluence with Lake Taneycomo. The five watersheds, from north to south are:

- Bee Creek
- Roark Creek
- Cooper Creek
- Fall Creek
- Copeland Branch
- Direct drain into Lake Taneycomo overland/minor ditches and channels (1.69 sq. mi.)

4.2.3.1.1 Storm Sewer Map

GIS/GPS equipment and software was acquired in 2011 to begin creation of a stormwater data base, and City of Branson began mapping its storm sewer system that year. It is estimated that the mapping is currently 35% complete. Mapping is being accomplished through hiring of GIS summer interns. Approximately 20% of the entire system is being mapped annually.

This data is being collected and managed through the use of Trimble GPS hardware and ArcGIS software. This system will allow interactive use of data for ongoing mapping, zoning, and updating of data for illicit discharge detection and elimination. Many GIS data sets are already in place: property, city limits, zoning, transportation networks, topography, and stream networks are complete. No combined sewer overflows are present. Outfall classification data should include the size, depth, and material of construction.

4.2.3.1.2 Illicit Discharge Regulatory and Enforcement Mechanism

The city of Branson does not currently have an ordinance which addresses illicit discharges. An ordinance will be developed in year two, for consideration by the Branson Board of Aldermen prohibiting illicit discharges.

4.2.3.1.3 Illicit Discharge Detection & Elimination

Development of the primary outfall map will provide the foundation for the establishment of illicit discharge detection and elimination procedures which include:

- Outfall Monitoring
- Water Quality Screening/Testing
- Non-Stormwater Discharge Tracing
- Illicit Discharge Source Identification
- Illicit Discharge Source Elimination (through the use of the regulatory mechanism)

Dry weather discharge screening procedures will be developed. General parameters typically will include visual assessment and basic water quality testing for ph, turbidity, and chlorine.

For the monitoring and screening protocol of this MCM, the City has identified all major outfalls. Major outfalls are defined as the point at which major stormwater conveyances discharge from municipal boundaries. Those major outfalls would be:

- Bee Creek
- Cooper Creek
- Fall Creek
- Roark Creek
- Copeland Branch
- Direct drain into Lake Taneycomo overland/minor ditches and channels (1.69 sq. mi.)
- Bay Saver Unit One
- Bay Saver Unit Two
- Bay Saver Unit Three

An Outfall Monitoring and Screening Plan will be used for ongoing identification of priority outfalls/areas. Critical outfalls as well as monitoring and screening schedules will be identified and developed as part of the Outfall Monitoring and Dry Weather Screening Program (Year 3). Similar tracing techniques can then be used to work upstream from these outfalls to eliminate non-contributing sources and identify illicit discharge sources. Finally, these sources will be eliminated through the use of the established regulatory mechanism.

City of Branson will begin training public employees about illicit discharges. Businesses and the general public will continue to be trained through the "Household Chemicals: The Water Connection" brochure and outreach in MCM #1 & 2. Branson is in the process of labeling 600 storm drains with a metal "Dump No Waste, Drains to Stream" decal and an accompanying extensive outreach campaign. A copy of the decal is included in Appendix A-4.

4.2.3.1.4 The categories listed in the permit are not significant contributors of pollutants.

4.2.3.1.5 The city exercises its option not to develop a list of occasional incidental non-stormwater discharges that will not be addressed as illicit discharges, such as charity car washes.

4.2.3.1.6 As of 2013 the only "industrial" facilities subject to NPDES storm water permits are City wastewater treatment facilities. The permit numbers for those two facilities are: Compton Drive Wastewater MO-0025241; Cooper Creek Wastewater MO-0116599. There are no other known industries and commercial enterprises within our boundaries that may contribute pollutants via storm water to the MS4 as defined in the 10 CSR 20-6.

Table 3-1 - Measurable Goals for Illicit Discharge Detection and Elimination

TABLE 3-1 ILLICIT DISCHARGE DETECTION AND ELIMINATION MEASURABLE GOALS			
Permit Year	BMP Goal Selected	Measurement Method	Responsibility
1	Review of model ordinances and development of City ordinance defining acceptable stormwater discharges and prohibiting non-stormwater	Review completed	Public Works
1	Complete mapping of remaining 10% of Bee Creek outfalls	Mapping completed	GIS, Public Works
1	Complete an additional 15% mapping of storm sewer system	# Elements mapped	GIS, Public Works
1	Provide stormwater education/training to 20% of employees in Engineering, Public Works, Fire, Police, Planning, Parks and Utilities	# Employees trained	Public Works
2	Complete additional 20% of mapping of total storm sewer system	# Elements mapped	GIS, Public Works
2	City ordinance prohibiting non-stormwater discharges into storm sewer system presented to Council for consideration.	Ordinance enacted	Board of Aldermen
2	Provide stormwater education/training to 20% of employees in Engineering, Public Works, Fire, Police. Planning, Parks & Utilities	# Employees trained	Public Works

3	Establish website-based reporting tool for illegal discharges/stormwater reporting and develop a response and reporting system to track complaints.	System developed	Engineering/ Public Works
3	Develop an Outfall Monitoring and Dry Weather Screening Plan	Plan developed	Public Works
3	Outfall mapping of Roark Creek proper/tertiary channels (i.e. identify stormwater outfalls vs. tributaries)	Length of stream mapped	GIS, Public Works
3	Complete final 20% mapping of storm sewer system	Mapping completed	GIS, Public Works
3	Provide stormwater education/training to 20% of employees in Engineering, Public Works, Fire, Police, Planning, Parks and Utilities	# Employees trained	Public Works
4	Implement Outfall Monitoring and Screening Plan & Dry Weather Screening Plan	# outfalls monitored, # dry weather screening performed	Public Works, Engineering
4	Outfall mapping of Cooper Creek and Fall Creek proper/tertiary channels (i.e. identify stormwater outfalls vs. tributaries)	Mapping completed	GIS, Public Works
4	Continued updates to GIS outfall base map	# of elements added	GIS, Public Works
4	Provide stormwater education/training to 20% of employees in Engineering, Public Works, Fire, Police, Planning, Parks and Utilities	# Employees trained	Public Works
5	Continued use of the outfall monitoring and screening plan	Outfalls monitored and screened	Public Works
5	Outfall mapping of secondary tributaries to the four city creeks/watersheds (i.e. identification of stormwater outfalls vs. primary tributaries)	Outfalls mapped	GIS, Public Works
5	Identification of Priority Areas and/or watersheds	Areas identified	Public Works
5	Provide stormwater education/training to final 20% of city employees in Engineering, Public Works, Parks, Police, Fire, Planning & Utilities	# Employees trained	Public Works
5	Development of initial illicit discharge detection and elimination goals for subsequent permit period	Goals developed	All Depts.

Chapter Four
Minimum Control Measure #4
Construction Site Stormwater Runoff Control

CHAPTER FOUR
Construction Site Stormwater Runoff Control
Minimum Control Measure #4

Section 4.2.4.1 Permit requirement: The permittee shall develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to their regulated MS4 from construction activities that result in a land disturbance greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre shall be included in the program if such construction is part of a larger common plan of development or sale that would disturb one acre or more. As part of the SWMP, the permittee's construction site stormwater runoff control program shall include the development and implementation of, at a minimum:

4.2.4.1 An ordinance or other regulatory mechanism:

4.2.4.1.1.1 To require operators to implement erosion and sediment control Best Management Practices (BMPs) at construction sites;

4.2.4.1.1.2 To include sanctions to ensure compliance, to the extent allowable under State or local law, and

4.2.4.1.1.3 If the permittee needs to develop this mechanism, the permittee shall describe the plan and scheduled implementation. If the permittee's ordinance or regulatory mechanism is already developed, the permittee shall include a copy of the relevant sections with the permittee's SWMP.

4.2.4.1.2 Requirements for construction site operators to control construction-site waste that may cause adverse impacts to water quality, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.

4.2.4.1.3 Procedures for the permittee to consider and review all pre-construction site plans for potential water quality impacts.

4.2.4.1.4 Procedures for the permittee to receive and consider information submitted by the public, including coordination with the permittee's public education program.

4.2.4.1.5 Procedures for the permittee to inspect sites and enforce control measures, including prioritization of site inspections.

4.2.4.1.6 A plan to ensure compliance with the permittee's erosion and sediment control regulatory mechanism, including the sanctions and enforcement mechanisms the permittee will use to ensure compliance and procedures for when certain sanctions will be used. Possible sanctions include non-monetary penalties (such as stop work orders), fines, bonding requirements, and/or permit denials for non-compliance

4.2.4.1.7 A description of how the permittee will evaluate the success of the minimum control measure.

Background

For the last 20 years, the City of Branson has required sediment and erosion control measures on all construction sites in the city limits. Unannounced site inspections are undertaken to ensure that the measures are in place and being properly maintained.

The city currently has a 10% interior green space requirement on all parking lots, and a 20% tree preservation requirement on new construction (with alternatives, see below).

Since 1994, a tree ordinance has been in effect to encourage vegetative cover. Under the tree ordinance there are 3 ways to remove trees for properties under construction:

1. Preservation: Preserve 20% of the total project as natural forest.
2. Tree Survey: Conduct a tree survey of the property and pay a $50 deposit per tree.
3. Buy-out: Based on the acreage or portion thereof, the deposit is $2,000 per acre.

The deposit may be returned to the developer once vegetation has been established in the development. If the vegetation is not reestablished then funds from the forfeited tree deposits are used to plant additional trees on city properties, parks and right-of-way.

In 2012, the city began requiring "Drains to Stream" storm sewer lids on all new construction projects. (Appendix A-3)

4.2.4.1 An ordinance or other regulatory mechanism:

Currently a "landscape permit" details site development improvements as well as sediment and erosion control measures for commercial developments, multi-family residential developments and residential subdivisions. This permit will be renamed more accurately a "Land Disturbance Permit."

The Administrative Review Team (ART) is responsible for reviewing and approving construction plans and inspecting construction activities. This team consists of a representative from most city departments. Each Department enforces the applicable subdivision regulations ordinance, water and sewer connection inspections, flood plain management, subdivision platting, and subdivision plan reviews.

The city does not currently address the construction inspection of the stormwater pollution prevention plan (SWPPP), a formal checklist for the plan review, inspection forms for compliance with the SWPPP, and monetary and non-monetary penalties for non-compliance. These items will be developed and put into the form as an ordinance as part of our stormwater plan.

The city intends to create a new stormwater ordinance which may include the following requirements:

4.2.4.1.1.1 Listing of plan submittal requirements for erosion and sediment control.
Reference guidelines for acceptable erosion and sediment control BMPs.
Formal storm water pollution prevention plan (SWPPP) review requirements and refinement of process in order to issue a Land Disturbance Permit.

4.2.4.1.1.2 Procedures for site inspection and enforcement of control measures include forms of monetary and non-monetary penalties. Fees related to administering the new plan review and inspection requirements may be established in the existing Municipal Code with other similar fees. The City may have to establish the criteria for charging various amounts for the services rendered. The issuance of a land disturbance permit by the City could be the method of approving plans and for the stoppage of work by revoking the permit.

Non-monetary and monetary penalties are the best method for upholding the ordinance. The ordinance would have to identify such penalties for violations and timelines for compliance. The administration of penalties would have to be established whereby the Public Works/Engineering/Planning Department inspects the

land disturbance site and determines if there is a violation. If there are violations, the Planning & Development Department by ordinance will issue penalties, sanctions and/or fines.

4.2.4.1.1.3 Review model ordinances in year two, draft ordinance in year three, provide public input opportunities in year four and present ordinance to the Board of Alderman for their consideration in year five.

4.2.4.1.2 City will require construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.

4.2.4.1.3 Procedures currently exist for reviewing all pre-construction site plans for water quality impacts but this review procedure will be refined.

4.2.4.1.4 Information on erosion and sediment control will be posted to the city website on a stormwater page being developed under MCM#1 & 2. A stormwater reporting form will be developed and posted to the website.

4.2.4.1.5 (site inspections) The city intends to identify:

- Required Inspection times and reporting times for the Contractor responsible for installing and maintaining the BMPs, and for the City to make an inspection.
- Forms or checklists will be needed throughout the administrative and inspection processes. The following checklists and forms will be created:

    1. Plan Review Checklist developed in Year 1
    2. Land Disturbance Permit Application Form and Land Disturbance Permit Developed in Year 1
    3. Construction Inspection Forms for contractor and city inspector developed in Year 4
        - Procedures for correcting problems found during Inspections.
        - Timelines for contractor compliance after a violation has been determined
    4. Post Construction Inspection Checklist developed in Year 4

4.2.4.1.5.1 The City of Branson intends to implement the following for its stormwater management plan:

- Institution of a Land Disturbance Permit for purposes of controlling land disturbance activities. The permitting process allows for plan review, inspection and revocation of the permit.
- Authorizing plan review and inspection of land disturbances activities under the Planning & Development Department.
- Authorizing enforcement under the Planning & Development Department with ability to impose penalties, sanctions and/or fines.

4.2.4.1.6 The city does not currently address the following: 1) construction inspection of the SWPPP, 2) a checklist for SWPPP plan review, 3) inspection forms for compliance with the SWPPP, or 4) monetary and non-monetary penalties for non-compliance. The above items will be developed as part of our stormwater plan and ordinances and are included in the BMP table below.

4.2.4.1.7 The measurable goals for evaluating success of MCM#4 are included in the BMP table below:

Table 4.1 Construction Site Stormwater Runoff Control Measurable Goals

Permit Year	BMP Goal Selected	Measurement Method	Responsibility
1	Create and adopt plan review checklist for reviewing/approving plans for Land Disturbance permit	Checklist Created	Public Works Engineering, Planning
1	Landscape plan renamed and revised as municipal land disturbance permit	Permit revised	Public Works, Planning
2	Review of model construction site runoff control ordinances	Review completed	Public Works, Planning
3	Draft ordinance authorizing stormwater runoff plan review, inspection, enforcement and ability to impose fees or penalties.	Ordinance drafted and distributed	Public Works, Planning
4	Public Input Opportunities for stormwater ordinance	Comments compiled and analyzed	Public Works, Planning
4	Create construction inspection forms for contractor and city inspector for compliance with SWPPP	Forms created	Public Works Engineering, Planning
4	Create Post Construction Inspection Checklist	Form created	Public Works Engineering, Planning
5	Present final construction site runoff control ordinance to Board of Alderman for consideration	Ordinance adopted	Public Works
5	Implement sanctions, penalties and/or fines for failure to comply with erosion and sediment control measures.	Sanctions adopted under ordinance	Public Works, Planning
5	Develop goals for the subsequent MS4 permit period	Evaluation completed	Public Works, Planning

Chapter Five

Minimum Control Measure #5

Post-Construction Stormwater Management in New Development & Redevelopment

CHAPTER FIVE
Post-Construction Storm Water Management in New Development and Redevelopment (Minimum Control Measure #5)

4.2.5.1 Permit requirement: The permittee shall develop, implement and enforce a program to address the long-term storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the permittee's small MS4. The program must ensure that controls are in place that have been designed and implemented to prevent or minimize water quality impacts by reasonably mimicking pre-construction runoff conditions on all affected new development projects and by effectively utilizing water quality strategies and technologies on all affected redevelopment projects, to the maximum extent practicable. The permittee shall assess site characteristics at the beginning of the construction design phase to ensure adequate planning for storm water compliance. The purpose for this approach is to arrive at designs and practices that provide for most effective water quality treatment through infiltration, flow rates and similar site-design opportunities. As part of the SWMP document, the post-construction runoff control program shall include the following information, at a minimum:

4.2.5.1.1 A strategy to minimize water quality impacts, by reasonably mimicking pre-construction runoff conditions in affected new development and incorporating water quality protection in affected redevelopment projects to the maximum extent practicable, and include a combination of structural and/or non-structural BMPs appropriate for the permittee's community;

4.2.5.1.2 Ordinance or other regulatory mechanism to address post-construction runoff from new and redevelopment projects to the extent allowable under State or local law. If the permittee needs to develop a mechanism, the permittee shall describe the plan and a schedule for implementation. If the permittee's ordinance or regulatory mechanism is already developed, the permittee shall include a copy of the relevant sections with the SWMP document;

4.2.5.1.3 A plan to ensure adequate long-term operation and maintenance of selected BMPs, including types of agreements between the permittee and other parties such as the post-development landowners or regional authorities;

4.2.5.1.4 Specific priority areas for this program;

4.2.5.1.5 Any non-structural BMPs in the permittee's program, including:

4.2.5.1.5.1 Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation;

4.2.5.1.5.2 Policies or ordinances that encourage infill development in higher density urban areas and areas with existing storm sewer infrastructure, and redevelopment of brownfield sites or grayfields, which may include abandoned malls or similar properties;

4.2.5.1.5.3 Education programs for developers and the public about project designs that minimize water quality impacts; and

4.2.5.1.5.4 Other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, site designs that provide for integration of a variety of infiltration practices and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention.

4.2.5.1.6 Any structural BMPs including, as appropriate:

4.2.5.1.6.1 Practices that provide infiltration, evapotranspiration or re-use such as grass swales, bioretention cells, cisterns and green roofs;

4.2.5.1.6.2 Redevelopment practices such as planter boxes, street retrofits, parking-lot infiltration and green roofs.

4.2.5.1.7 How the permittee will evaluate the success of this minimum control measure.

4.2.5.1.1 and 4.2.5.1.2 Strategy to Minimize Water Quality Impacts/Stormwater Ordinance

The City of Branson has required stormwater detention for new development since 1994. Post-developed peak flows are limited so that downstream peak flows and stages are not increased above pre-development conditions for the 2-year, 10 year and 25-year, 24 hour events. It is our intent to add the 100-year event to the requirements. In addition, we will consider revising the 24-hour storm event to the HUFF 1-hour first quartile event.

In ordinance revision, topics that may be included are permit procedures and requirements, storm water management performance criteria, plan approval requirements and construction inspection and maintenance requirements. Enforcement provisions contained in the ordinance will be intended to promote uniform adherence to post-construction performance requirements. Resource materials to be used for guidance in the development of the ordinance may include the following:

- Missouri Guide for Green Infrastructure, *Missouri Department of Natural Resources*
- Managing Stormwater in Your Community, *Center for Watershed Protection*
- LID, A Design Manual for Urban Areas, *University of Arkansas Community Design Center*
- Planning and Zoning Strategies for Water Quality Protection, *The St. Louis County Phase II Storm Water Planning and Zoning Work Group, March 2006*

The City's "DESIGN CRITERIA FOR PUBLIC IMPROVEMENT PROJECTS" manual will be evaluated for conformity with accepted watershed protection criteria during the first year of the permit and modifications incorporated by the fifth year of the permit. The City's Engineering/Public Works Department will be responsible for the review and modifications. In conjunction with the manual review. By year three of the permit, legal counsel will have evaluated language in the model ordinance and developed an ordinance that will support project design requirements and procedures contained in the modified manuals. It is anticipated the manuals and ordinance requirements will be presented to City Council in year five of the permit.

4.2.5.1.3 Adequate Long-Term Operation and Maintenance

The City will evaluate alternatives to address operation and maintenance and include them in the final stormwater ordinance. The most likely outcome will be the establishment of maintenance agreements with developers requiring them to perform regular maintenance. A database will be started which includes new BMP's approved and installed.

4.2.5.1.4 Specific Priority Areas

The greatest potential for improved water quality may be through rules and regulations promoting infill development. The "Branson Community Plan 2030" lists as one of its policy goals that, "Future growth will focus on infill development and revitalization before growing outward in order to maximize the use of existing infrastructure and efficiently use the land resources." It further states there is adequate infill property to meet future development needs for at least the next 10 years. There are no known water quality "hot spots."

4.2.5.1.5 Non Structural BMPs

4.2.5.1.5.1 Green space protects land, filters stormwater runoff, protects wildlife, provides assistance in flood plain management and can also serve as pedestrian and bicycle pathways in addition to providing visual aesthetics for urban areas. City engineering staff will present a draft stream buffer plan for comments from the community during the second year. During preliminary design stages with developers, as part of the Administrative Review Team (ART) meetings, the City of Branson encourages/requests green space and stream buffers during the design and development stages.

To promote quality of stormwater runoff both in new development and redevelopment projects, the City will evaluate the implementation of a funding mechanism that will pay for storm water services in the City of Branson. A proposed funding mechanism may be developed by a consultant or in-house and could be submitted to the Board of Aldermen by the beginning of the fifth year of the permit and submitted to the public for voter approval at the end of that year. If approved and implemented by the end of the year, sufficient revenue should be generated in subsequent years to adequately fund stormwater management administration, support capital improvement needs and possibly pay for operation and maintenance of BMPs in the city.

4.2.5.1.5.2 Planning and zoning strategies can be developed by municipal governments to encourage growth in areas that can best support the type of growth desired while maintaining overall integrity of the watershed. Some communities across the nation are attempting to reduce the cost of public services by directing new development into previously developed areas (redevelopment) and discouraging low-density development in outlying areas.

The City's "Branson Community Plan 2030," lists as one of its policies the concept of "infill redevelopment." In this planning concept, new development in unused or underutilized land within existing urban areas is encouraged. Such land would be well within the utility envelope and costly extension of such public services would not be needed.

Overlay zoning districts can manage development in or near environmentally sensitive areas, such as groundwater recharge areas (e.g. to ensure water quality and quantity), or floodplains (e.g. prevent flood damage). Common requirements may include many low-impact development methodologies such as green roofs, permeable pavement, and rain gardens. Other desired requirements could include building setbacks, density standards, lot sizes, and vegetation requirements.

4.2.5.1.5.3 An "MS4: Green Tools in your Toolbox" conference will be co-sponsored by the city together with Ozarks Water Watch in year one, specifically targeting engineering firms and developers.

These educational materials will also be disseminated through the Administrative Review Team (ART) by the end of the fourth year of the permit.

4.2.5.1.6 Structural BMPs

For both structural and non-structural BMPs, Branson's topography presents unique challenges in addressing stormwater. Branson is located in an area of the Ozarks consisting of extreme hills and valleys. The City of Branson's topography includes a 632 ft. drop in elevation in the three miles from the west to east city limits. The resulting steep slopes, thin soils and low infiltration will prove challenging when designing and selecting BMPs for stormwater management during both construction and post-construction.

Less than one-third (31%) of Branson could be considered somewhat level with slopes of less than 5%. However, another third (34%) of Branson has slopes that range from 5% to 10% which would be considered "steep" in most communities. Branson consists of 35% extremely steep slopes of well over 10% with 13 of every 100 acres exceeding 15% grades. The city also encompasses 276 acres of land that exceeds a 30% slope which is approximately 2% of the Branson land area. Placing traditional BMPs in the 69% of topography exceeding 5% to 15% (extremely steep) slopes presents an engineering and site planning challenge.

All storm water facilities and controls within city limits must be reviewed and approved by the Department of Engineering/Public Works. Currently, the City requires all such facilities to be provided and designed in accordance with provisions contained in the City's "DESIGN CRITERIA FOR PUBLIC IMPROVEMENT PROJECTS, (June 2009)". To comply with the mandatory requirement under MCM#5, to "develop and implement strategies which include a combination of structural BMPs appropriate for the locale," the City will review, revise and add to its Design Criteria applicable BMPs for stormwater control and watershed protection to be incorporated into the construction project design based on site specific needs.

The modified design criteria will support regulatory provisions contained in an ordinance established to regulate and enforce post-construction strategies in new development and redevelopment projects.

4.2.5.1.7 How the permittee will evaluate the success of Minimum Control Measure #5

The following BMP table will be assessed annually for % completion of each goal by its listed "measurement method." In summary, the 23 BMPs undertaken to comply with MCM #5 requirements will include these four items as our primary focus:

- Co-sponsor an "MS4: Green Tools for Your Toolbox" Conference for engineers and developers
- Begin a database to report the number of BMP's approved/installed, and the number of BMP's inspected to ensure proper operation and maintenance.
- Draft a stream buffer zone plan, review stormwater design regulations to incorporate applicable BMPS for stormwater controls in the City's DESIGN CRITERIA FOR PUBLIC IMPROVEMENT PROJECTS and prepare a model ordinance to regulate and enforce post-construction strategies in new and redevelopment projects.

- Begin a neighborhood newsletter including articles on stormwater and water quality topics. Educational materials will be selected and disseminated to engineering firms and developers during the Administrative Review Team Process.

TABLE 5-1 Post Construction Storm Water Management in New Development and Redevelopment Measurable Goals

Permit Year	BMP Goal Selected	Measurement Method	Responsibility
All Years	Utilize the Administrative Review Team process to encourage stormwater runoff control BMP's	# Plans evaluated by Administrative Review Team	
1	Co-sponsor MS4 "Green Tools" Conference together with Ozarks Water Watch, targeting developers and engineers	# Attendees	Engineering
1	Evaluate potential funding mechanisms that will provide revenue for stormwater services in the City of Branson.	Evaluation performed	Engineering/ Consultant
1	Review city storm water design regulations to incorporate appropriate and applicable BMP's for stormwater controls and watershed protection in the City's "Design Criteria for Public Improvement Projects (June 2009)" for construction	Review completed	Public Works
2	Prepare a model ordinance designed to regulate and enforce post-construction strategies in new and redevelopment projects.	Review completed	Engineering/ Consultant/Legal
2	Evaluate potential non-structural BMP ordinances such as codes, policies, green parking lots, swales, open space requirements, or stream buffers.	Evaluation performed	Engineering, Public Works and Planning
2	Present a draft stream buffer plan for review by other city departments.	Draft completed	Engineering/Public Works and Planning
2	A neighborhood newsletter will include articles on stormwater and water quality topics	Newsletter developed and distributed	Planning
3	Legal counsel will review the recommended non-structural BMP ordinance.	Review completed	Legal Counsel
3	Modify the Design Criteria for Public Improvement Projects to include BMPs for stormwater control.	Design Criteria modified	Engineering

3	Select educational materials on watershed protection to provide to engineering firms and developers. Materials will be selected and disseminated through the Administrative Review Team (ART) by the end of the fourth year of the permit. Materials will also be posted on city website.	Materials disseminated & posted to website	Engineering/Public Works
3	Legal counsel to continue review and make recommendations for ordinance to regulate and enforce post-construction strategies for new and redevelopment projects.	Legal review completed	Legal Counsel
3	Establish a website-based reporting tool for illegal discharges and develop a response and reporting system to track complaints.	Reporting form posted to website	Engineering/ Public Works
3	Review the City's existing zoning ordinance to consider incorporating appropriate amendments to the zoning code to provide more green space and buffer zones. The amendments will address maximum impervious surface requirements.	Review completed	Planning
3	Present report for funding mechanism for review by Board of Alderman	Presentation to Board	Engineering, Administration
3	Legal counsel will review any proposed amendments to the City's zoning ordinance regarding planned development and overlay zones.	Review completed	Legal Counsel
3	Evaluate alternatives to address operation and maintenance for stormwater BMPs and incorporate into stormwater ordinance.	Evaluation completed	Engineering/ Public Works
4	Present to the Board of Alderman proposed changes to the zoning ordinance to include provisions regarding open space, stream buffer zones, maximum impervious surface requirements, and overlay zones.	Ordinance Sent to Board for consideration	Planning
4	Create database including new BMP's approved and installed.	Creation of Document	Engineering
5	The City will move towards adopting a non-structural BMP ordinance.	Sent to Board for Consideration	Public Works and Planning
5	Present for review the modified Design Criteria for Public Improvement Projects that contains BMPs for stormwater control and watershed protection.	Presented for Review	Engineering

5	Present model ordinance to council to regulate and enforce post construction strategies in new and redevelopment projects.	Ordinance presented to Board	Legal/ Administration
5	Complete evaluation of a funding mechanism for stormwater systems operation and maintenance.	Evaluation completed	Engineering, Finance & Administration

Chapter Six
Minimum Control Measure #6
Pollution Prevention/Good Housekeeping for Municipal Operations

CHAPTER SIX
Pollution Prevention/Good Housekeeping for Municipal Operations
Minimum Control Measure #6

Section 4.2.6 Permit requirement: The permittee shall develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. As part of the SWMP, the pollution prevention/good housekeeping program shall include the following information, at a minimum:

4.2.6.1.1 *A list of all municipal operations that are impacted by this operation and maintenance program. The permittee shall also include a list of industrial facilities the permittee owns or operations that are subject to NPDES permits for discharges of storm water associated with industrial activity that ultimately discharge to the permittee' s MS4. The permittee shall include the permit number or a copy of the industrial application form for each facility;*

4.2.6.1.2 Maintenance BMPs, maintenance schedules and long term inspection procedures for controls to reduce floatables and other pollutants to the permittee's MS4;

4.1.6.1.3 Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas and salt/sand storage locations and snow disposal areas the permittee operates;

4.1.6.1.4 Controls described in Sections 4.1.5 through 4.1.8 of this permit;

4.2.6.1.5 Procedures for the proper disposal of waste removed from the permittee's MS4 and area of jurisdiction, including dredged materials, accumulated sediments, floatables and other debris;

4.2.6.1.6 Procedures to ensure that new flood management projects are assessed for incorporation of additional water quality protection devices or practices; and

4.2.6.1.7 A government employee training program to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. The permittee shall describe any existing, available materials the permittee plans to use such as those available from EPA, State or other organizations. The permittee shall describe how this training program will be coordinated with the outreach programs developed for the public information minimum measure and the illicit discharge minimum measure; and

4.2.6.1.8 How the permittee will evaluate the success of this minimum control measure.

4.2.6.1.1 Storm Water Discharges Associated with Industrial Activity

As of 2013 the only "industrial" facilities subject to NPDES stormwater permits are the city's wastewater treatment facilities. The permit numbers for those two facilities are: Compton Drive Wastewater MO-0025241; Cooper Creek Wastewater MO-0116599.

Other municipal operations impacted by a stormwater operation and maintenance program will include parks and recreation, streets, public works, fire stations, recycle center, building maintenance and sewer maintenance.

4.2.6.1.2 Maintenance BMPs, maintenance schedules and long term inspection procedures for controls to reduce floatables and other pollutants to the permittee's MS4

Following employee training in year one, the City of Branson will develop an operation and maintenance program to cover the identified municipal operations in year two of the permit term. The City will adopt an adequate program by the end of the third year of the permit term and will fully implement it by the end of the fourth year.

The program will identify the person(s)/position(s) responsible for overall management and implementation of the applicable program elements in each of nine major activity areas. Those parties will also have responsibility to periodically review the program and ensure that it is updated as necessary. The nine categories below. cover all of the operations/activities engaged in by the City.

4.2.6.1.3

1. GENERAL HOUSEKEEPING AND OPERATION AND MAINTENANCE PRACTICES

   The city intends to evaluate materials management and storage, e.g. salt, recyclables, safe material substitutions, spill plans, establishment of standard O&M procedures, scheduling, record keeping and housekeeping practices in general in year two and fully implemented by year four.

2. VEHICLE/EQUIPMENT REPAIR AND MAINTENANCE OPERATIONS

   In order to prevent hazardous material release/runoff, all vehicle and equipment repairs take place in a covered facility.

3. VEHICLE/EQUIPMENT WASHING

   The city's Public Works and utilities vehicle fleet is only washed in designated wash areas draining to sanitary sewer. Policy regarding washing of fire and police department vehicles will be reviewed and possibly revised to the maximum extent practicable.

4. FACILITY REPAIR, REMODELING AND CONSTRUCTION

   Erosion and sediment control, minimization of impervious areas and the applicable general practices from housekeeping and O&M practices are already in place.

5. CLEANING AND MAINTENANCE OF ROADWAYS, BRIDGES, AND PARKING FACILITIES

   The city has a 6 week rotational schedule for street sweeping all public streets. A concrete apron was added at entrance of salt storage barn to eliminate environmental issues from salt runoff. The city will continue to properly handle the use and storage of deicing materials to prevent erosion and sediment control and capture of pollutants during maintenance work. The city began using beet juice in 2011 to reduce the amount of Na Cl brine solution used.

4.2.6.1.4 Controls described in Sections 4.1.5 through 4.1.8 of this permit:

All city facilities have a solid waste contract for trash disposal, as well as access to the recycle facility. In addition, regular street sweeping is done throughout the city to reduce floatables. The city does not operate a landfill or transfer station.

The city adheres to current federal and state regulations on underground and above ground fuel storage and dispensers and facilities are currently being upgraded. Additional spill prevention training and plan development is scheduled for facility maintenance employees.

The city safety specialist performs routine inspections of all city facilities and verifies that the city is in compliance with RCRA and does not have any CERCLA projects/issues.

4.2.6.1.5

Street sweeping debris and greenwaste from city properties is accumulated at a city site where organic material is allowed to decompose. Non-organic materials are disposed of in an appropriate waste container and taken to the transfer station. Bay Saver units will be inspected bi-annually and cleaned annually.

The city does not operate a public green waste facility. Citizens are directed to privately owned greenwaste facilities nearby.

4.2.6.1.6

The city will review new flood management programs/facilities to minimize impacts on water quality.

4.2.6.1.7 Municipal Employee Training Program

The city has on staff a MoTOC and OSTMA member and a licensed chemical applicator. Two staff members have attended ShowMe Yards training courses. Minimal application of fertilizers and pesticides are used annually on City properties and green spaces based on soil samples and university recommendations. Integrated pest management is used. Fertilizer & pesticide maintenance for athletic fields and golf course is applied per guidelines. Irrigation on athletic fields and golf courses is computer managed and manually controlled by trained staff.

The City will develop a training program and begin implementation the first year of the permit. The city intends to purchase a professional stormwater training video. The training plan will include provisions for record keeping and tracking of training activities to ensure that employees in the parks, public works, engineering, utilities, planning, fire and police departments receive initial training applicable to their job responsibilities within 60 months after program development.

Materials produced for distribution to the public under MCM #1 (Chapter 1) will also be provided to municipal employees engaged in the types of activities to which those materials apply. Municipal employees will be encouraged to actively participate in the public education efforts and public involvement activities discussed under MCM #1 and #2 (Chapters 1 & 2) through the city newsletter.

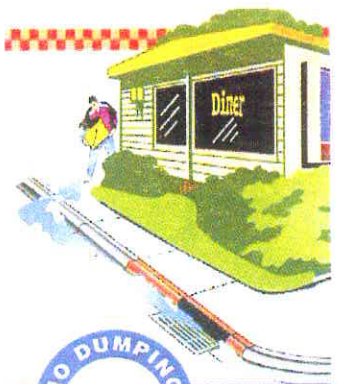
4.2.6.1.8 In summary, the applicable pollution prevention and good housekeeping activities are listed by permit year as follows:

TABLE 6-1 POLLUTION PREVENTION/ GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

Permit Year	BMP Goal Selected	Measurement Method	Responsibility
All	Street sweeping to reduce floatables	# of cleanings per year	Public Works
All	"Adopt-A-Street" program promoted through press release to reduce floatables	# participants	Public Works
All	Annual cleaning of Bay Saver Units	# units cleaned	Public Works
1	Initiate stormwater training program for 20% of city parks, fire, police, utilities, public works, planning and engineering employees	Training program selected	Engineering
1	Preventative fleet maintenance schedule	# Vehicle inspections	Public Work Garage
1	Coal tar sealants are prohibited on municipal parking lots or city streets	Departmental Policy	Public Works
2	Development of an operation and maintenance program will be completed by various City Departments	Program Developed	All Depts.
2	20% of city parks, fire, police, Public Works, Planning, Utilities and engineering employees will be trained in stormwater BMPs	# Employees trained	Engineering
3	Adoption of operation and maintenance program.	O&M program adopted	Public Works
3	20% of city parks, fire, police, utilities, public works, planning and engineering employees will be trained in stormwater BMPs	# Employees trained	Engineering
4	20% of city parks, police, fire, utilities, public works, planning and engineering employees will be trained in stormwater BMPs	# Employees Trained	Engineering
4	Operation and maintenance program fully implemented	O&M procedures implemented	Public Works, Parks, Fire
5	20% of city parks, fire, police, utilities, engineering, planning and public works employees will be trained in stormwater BMPs	# Employees trained	Engineering

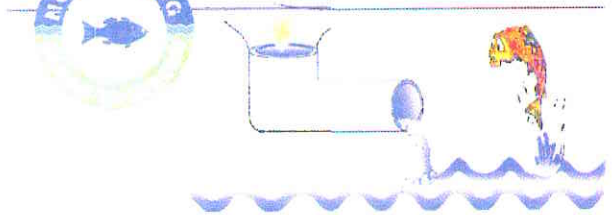
Appendix A

How do household chemicals affect our water?



Did You Know...

When you dispose of paint, cleaners or anything else down a storm drain or street gutter, it goes directly to the stream or lake nearest you.



Soap is for dishes ...Not for fishes

Remember:

Never pour anything down a curb or storm drain that you wouldn't pour in a river.

HCC Collection Facility

601 Compton Dr. Branson, Missouri
Located at the Branson Recycle Center
Open to all Taney County Residents

Monday-Saturday: 7:30-1
Thursday: 7:30-6

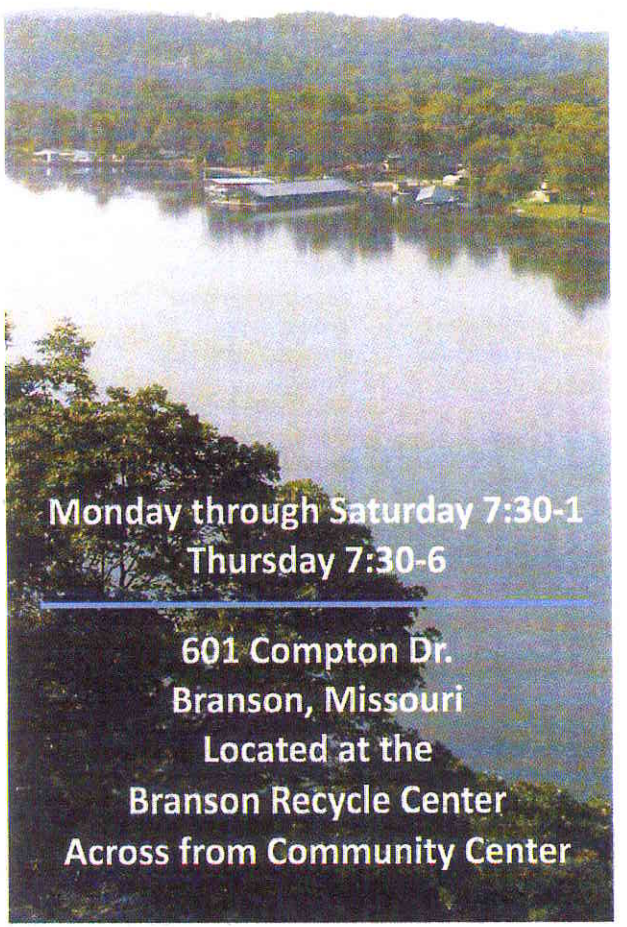
NO DUMPING
DRAINS TO STREAM

417-334-5277
Or
417-337-8559
www.bransonmo.gov

@RecycleBranson

Household Chemical Collections:

The Water Connection



Monday through Saturday 7:30-1
Thursday 7:30-6

601 Compton Dr.
Branson, Missouri
Located at the
Branson Recycle Center
Across from Community Center

A-1

Commonly Accepted Household Chemical Products:

Acid
Adhesives and glues
Aerosol cans
Antifreeze
Art/hobby paints
Asphalt/roofing tar
Bases (chemicals)
Batteries, NiCd and NiMH
Batteries, rechargeable and lead acid
Bleach
Brake fluid
Capacitors
Caulk
Car wax/soaps/cleaners
Disinfectants
Drain opener
Fabric dyes
Fertilizer
Fingernail polish/removers
Flea collars
Fluorescent light bulbs
Fuel oil
Furniture polish/waxes
Gas cylinders (propane)
Gasoline
Insecticides
Insect repellants
Kerosene
Lead
Lighter fluid
Lubricating oils
Medications
Mercury, thermometers
Mothballs
Motor oil
Organic solvents
Oven cleaner
Paint stripper: alkali-based, solvent-based, water-based
Pesticides
Pet sprays/dips
Photographic chemicals
Rodent poison
Septic tank cleaners
Shoe polish/wax
Smoke/Co2 Detectors
Soaps/Cleaning products
Spot removers
Swimming pool/spa care
Toilet bowl cleaner
Transmission fluid
Tub/tile cleaner
Unknown substances
Varnish
Windshield wiper fluid
Wood preservatives
Wood stain

THE ABOVE ITEMS ARE AVAILABLE TO THE PUBLIC FOR REUSE

Household Chemical Collection (HCC) facility is open to all Taney County Residents

How do I dispose of paint?

To reduce possible water contamination, dispose of excess paint properly:

Never pour paint or paint residue in a storm drain. It goes to our waterways.

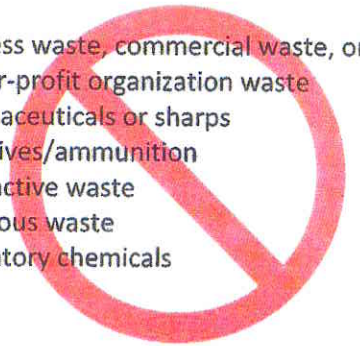
Take oil based paints to Household Chemical Collections (HCC) located inside Branson Recycle Center at 601 Compton Drive.

Latex paint is non-toxic and should be dried to a solid, then disposed of in regular trash. Cat litter or paint thickener (available at hardware stores) may be used to harden large amounts quickly.

Packaging and Transportation

- Keep products in original containers.
- Label materials not in original containers.
- If you are not sure of the product name, provide a description. Clearly label the container with the current date and "UNKNOWN SUBSTANCE " " DANGER " and "DO NOT OPEN"
- If the product is in a rusting or breakable container, place it within a plastic container with a tight fitting lid and label the outside container.
- Never mix products!
- Seal lids tightly!

chemicals **NOT** accepted



- Business waste, commercial waste, or profit/not-for-profit organization waste
- Pharmaceuticals or sharps
- Explosives/ammunition
- Radioactive waste
- Infectious waste
- Laboratory chemicals

Did you know...

Automotive batteries, button batteries, and motor oil can be recycled through various local businesses.

Remember...

- **Only HOUSEHOLD chemicals are accepted.** Small businesses should contact the Missouri Department of Natural Resources Technical Assistance Program (TAP) at 800-361-4827.

Visit us at bransonmo.gov/pw/recycling

@RecycleBranson

"How to Recycle Anything in Branson"

Available on bransonmo.gov

Updated September 2011

CITY OF BRANSON

...HAS APPLIED THIS DECAL TO A NEARBY STORM DRAIN AS A REMINDER:

The storm drain inlets nearest you lead directly to:

Lake Taneycomo

and the storm water is not treated before being discharged to area rivers and streams. Storm water can carry these pollutants down gutters, sidewalks, and streets, into nearby storm drains, then directly into streams and lakes:

- ☐ Paint
- ☐ Pesticides and fertilizers
- ☐ Motor Oil
- ☐ Litter/Cigarette butts
- ☐ Solvent/degreaser
- ☐ Detergent
- ☐ Antifreeze/transmission fluid
- ☐ Pet waste
- ☐ Concrete/mortar
- ☐ Cooking grease
- ☐ Yard waste (leaves, clippings)
- ☐ Other _____

For more information, or to report pollutant discharges, call 417-337-8566.

This notice brought to you by City of Branson.

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For more information, or to report pollutant discharges, call 417-337-8566.

This notice brought to you by City of Branson.

Lake Taneycomo and area streams are impacted when pollutants, yard waste, refuse, and litter enter storm drains.

- Never pour anything down a curb or storm drain that you wouldn't pour in a lake or stream.
- Runoff from yards and gardens can carry pollutants, such as fertilizer, pesticides, pet waste, and sediment from building projects, to freshwater streams and lakes.
- Household Chemical Collections (HCC) can help you dispose of unwanted chemicals. Located at the Branson Recycle Center, 601 Compton Drive. Call 417-334-5277 or visit *bransonmo.gov/environment*.
- If you choose to bag your yard waste, Hansen's Tree Service at Journagan's Quarry Greenwaste Disposal Site can convert it to mulch and compost. Located at 586 Quarry Road in Hollister. Call 417-337-5462 or visit *bransonmo.gov/environment/yard-waste*.

MISSOURI DEPARTMENT OF NATURAL RESOURCES

Branson Missouri

Environmental Protection Agency Region 7 through the Missouri Department of Natural Resources has provided partial funding for this project under Section 319 of the Clean Water Act. MoDNR Subgrant G12-NPS-13.

Lake Taneycomo and area streams are harmed when pollutants, yard waste, refuse, and litter enter storm drains.

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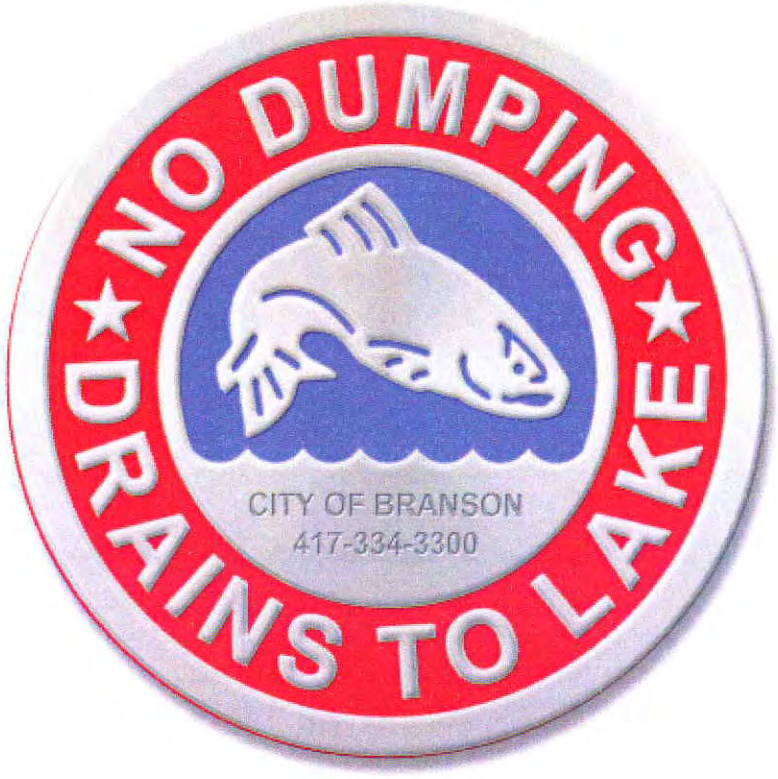
Appendix A-3

Storm Drain Lids in Branson Specifications for New Projects

Appendix A-4

Metal Storm Drain Decals for City of Branson




Mutt Mitt
Better than a Bag!
Dog Waste
Is A Threat To The
Health Of Our
Children,
Degrades Our Town,
& Transmits Disease.
Clean Up After
Your Pet
Ord. #2.5.220

peak load times at a higher rate than they can sell electricity produced during "base load" time periods. Power generation is often identified as "on-peak energy" or "off-peak energy" to reflect this distinction. The reason electricity prices are higher during on-peak time periods is not solely due to supply/demand principles. It is also because electricity providers turn on the most expensive generating units last when all capacity is needed during the peak demand. As a result, more expensive-to-produce energy is being used during peak demand periods as opposed to during base load periods (Fritha Ohlson, SWPA, e-mail communication, Oct. 1, 2009).

Electrical power producers, such as SWPA, have electrical delivery contracts with their customers that include set amounts and costs for both "capacity" and "energy." Capacity is the rate of electricity generated at a specific instant (snap-shot) in time. As discussed previously, the nameplate capacity at Table Rock Dam is 200 MW. In contract context, energy is the amount of electricity provided over a certain length of time. For example, if one turbine ran at its 50 MW capacity for four hours, it would produce 200 megawatt-hours (MWh) of energy. If four units ran at a 45 MW capacity each for 2 hours, they would produce 360 MWh of energy. Capacity denotes an electricity producer's ability to meet peak demand loads, and that producer must have enough generating capacity for the maximum expected peak loads, even if it is only for a few hours of the day. If, for any reason, SWPA is not able to generate the amount of energy called for by their contract at any given moment, they must purchase electricity from an alternate source in order to fulfill the federal contractual obligation. By law, SWPA sells electricity at cost-based rates rather than for profit. The cost-based rate includes added expenses, such as buying power at on-peak rates, which are passed on to the consumers (Fritha Ohlson, SWPA, e-mail communication, Sept. 18, 2009).

3. Water Quality Problems and Source Identification

All classified waters of the state, as per Missouri Water Quality Standards (WQS), must provide suitable conditions for aquatic life, including both the physical habitat and the quality of the water. The water quality condition addressed by this TMDL is low dissolved oxygen, based on the 6 mg/L minimum water quality criterion required to maintain a cold-water fishery in Lake Taneycomo. Although dissolved oxygen content in water will be influenced by pollution from point and nonpoint sources, in this particular case Table Rock Dam has been identified as the source of the low dissolved oxygen impairment.

3.1 Table Rock Dam

3.1.1 Reservoir Stratification and Hypolimnetic Properties

Thermal stratification is the layering of waters with drastically different water temperatures. The normal thermal stratification that develops during the summer in the Table Rock Lake results in cold, dense water in the lower elevations of the lake not mixing with the warmer, less dense surface waters. Sunlight does not reach the deepest layers of the lake and without light, no plants (neither rooted plants nor suspended algae cells (phytoplankton)) can live in the lower levels. Without plants, no dissolved oxygen (DO) is produced through photosynthesis. In addition, dead plant and animal material, as well as associated organic products, continually settle to the bottom of the lake and decompose – a process of biological oxidation that uses available dissolved oxygen. These oxidative processes occur constantly in the hypolimnion (See Figure 5), and their intensity is proportional to the amount of organic matter reaching the hypolimnion from the upper zones of the lake. As a result, the oxygen concentration of the hypolimnion becomes

measure the BOD levels in their effluent at a frequency based on facility class, waste type, and other characteristics that go into developing permit monitoring requirements. As long as a discharging facilities' wastewater does not exceed the BOD limits contained in their operating permit, the addition of wastewater from the facility should not lower DO in the receiving stream.

At the time this TMDL was developed, there were 215 permitted point sources in the Lake Taneycomo watershed alone[14], and many more in the watershed of Table Rock Lake. Details regarding the identity and types of point sources in the Lake Taneycomo watershed may be found in the following sections of this document. A comprehensive list of the 215 currently discharging facilities (Site Specific – Domestic, Site Specific – Non-domestic, General, and Stormwater) in the Lake Taneycomo watershed, as well as their design flows, can be found in Appendix B.

3.2.1.1 General and Stormwater Permits

Of the 215 permits in the Lake Taneycomo watershed at the time of TMDL development, 32 were general permits (MOG) and 139 were stormwater permits (MOR) (Table 1 and Appendix B). General and stormwater permits are issued based on the type of activity occurring and are meant to be flexible enough to allow for ease and speed of issuance, while providing the required protection of water quality. General permits are issued to activities that are similar enough to be covered by a single set of requirements. The different types of general permits each have a unique "template" which is issued for a permit term of five years. Stormwater permits are issued to activities that discharge only in response to precipitation events. Because discharge flow at a given facility can vary based on the precipitation event, no design flow is reported for these permits in Appendix B.

Shepherd of the Hills Hatchery, the sole hatchery listed in Table 1, is a "flow through" fish hatchery and has no specific design flow listed on its operating permit. Discharge monitoring report (DMR) data submitted to the Department of Natural Resources (department) by this facility during the period from March 2004 through March 2009 revealed maximum combined flow from the three facility outfalls to be 15.1 million gallons per day (MGD).

Due to the physical and/or chemical nature of their discharges, none of the general- or stormwater-permitted facilities in the Lake Taneycomo watershed are considered to be causing or contributing to the low dissolved oxygen impairment.

3.2.1.2 Site Specific Permits - Domestic Wastewater

A site specific domestic wastewater permit is one that predominately regulates the treatment and processing of human sewage[15]. Currently, there are 41 domestic wastewater treatment facilities in the Lake Taneycomo watershed (See Appendix B). Although domestic sewage contains nutrients and oxygen-demanding substances, domestic wastewater treatment facilities are not

[14] For the purpose of this TMDL, the Lake Taneycomo watershed consists only of those lands draining into Lake Taneycomo below Table Rock Dam (Section 2.1 and Figure 2).

[15] These permits do not apply to private residences with self-contained, on-site wastewater treatment systems. These systems are considered to be potential nonpoint, rather than point, sources of pollution. The department does not have authority to regulate or permit on-site wastewater treatment systems for individual private homes.

3.2.3 Water Quality Analysis of Point and Nonpoint Source Influence

Continuing urban and suburban development in the Table Rock Lake and Lake Taneycomo watersheds will likely increase point source sewage and stormwater (MS4) loading to area streams and both reservoirs. If best management practices are not voluntarily adopted to control nonpoint sources of pollution, contributions of nutrients and oxygen-demanding substances from stormwater runoff and other sources are also likely to increase. However, the addition of nutrients and oxygen-demanding substances from anthropogenic sources in the watershed may not have appreciable effects on the size of the low dissolved oxygen area of the hypolimnion, the duration of the low DO season in Table Rock Lake, or dissolved oxygen concentrations in Lake Taneycomo.

The relationship between source loading of nutrients, oxygen-demanding substances and water quality in Lake Taneycomo was examined through the use of the HEC-RAS hydraulic and water quality model. The HEC-RAS model was developed by the USACE and chosen by EPA to evaluate the downstream effects of the releases from Table Rock Dam on the hydrodynamics and water quality of Lake Taneycomo. The model was used to characterize the temporal and spatial patterns of dissolved oxygen downstream of the dam and to determine conditions that would result in compliance with the minimum DO criterion in Lake Taneycomo. The results of the water quality modeling indicate that during non-generation low flow conditions there are insignificant differences between model simulations that include point sources of nutrients and oxygen-demanding substances and those that do not. The model simulations also substantiate that the low DO in the tailwaters of Table Rock dam are primarily due to the low DO of the hypolimnetic releases from the dam. Oxygen demand from point and nonpoint sources does not seem to be the cause of the DO impairments in the tailwaters. Additional details and information on the HEC-RAS model can be found in Appendix C, "*Hydrodynamic and Water Quality Modeling of Lake Taneycomo.*"

4. Applicable Water Quality Standards and Water Quality Targets

The purpose of developing a TMDL is to identify the pollutant loading that a water body can receive and still achieve water quality standards. Water Quality Standards (WQS) are therefore central to the TMDL development process. Under the federal Clean Water Act, every state must adopt water quality standards to protect, maintain, and improve the quality of the nation's surface waters (U.S. Code Title 33, Chapter 26, Subchapter III (U.S. Code, 2009)). Water quality standards consist of three components: designated beneficial uses, water quality criteria to protect those uses, and antidegradation.

4.1 Designated Beneficial Uses

Lake Taneycomo has the following designated beneficial uses per 10 CSR 20-7.031, Table G (MoDNR 2009):

- Livestock and Wildlife Watering
- Protection of Aquatic Life (Cold-Water Fishery)
- Human Health Protection (Fish Consumption)
- Whole Body Contact Recreation (A)
- Secondary Contact Recreation
- Drinking Water Supply

Appendix A

Dissolved Oxygen Data on Which Lake Taneycomo Was Deemed Impaired

Lake Taneycomo - WBID 7314
Dissolved Oxygen Data by U.S. Geological Survey 2002-2008

Table 1. Percent of D.O. Measurements Failing to Meet Standard, Lake Taneycomo at College of the Ozarks

Year	No. of D.O. Measurements	Number Less Than 6 mg/l Standard	Percent of Measurements Not Meeting Standard	Estimated Annual Percent Not Meeting Standard
2002	540	229	42.41	20.91
2003	594	136	22.90	12.42
2004	575	232	40.35	21.19
2005	591	114	19.29	10.41
2006	600	35	5.83	3.20
2007	594	36	6.06	3.29
2008	321	170	52.96	
2002-2008	3815	952	24.95	

2008 data is from January-September only.

Table 2. Percent of D.O. Measurements Failing to Meet Standard, Lake Taneycomo at Branson

Year	No. of D.O. Measurements	Number Less Than 6 mg/l Standard	Percent of Measurements Not Meeting Standard
2002	6	2	33.33
2003	6	0	0
2004	6	0	0
2005	6	0	0
2006	6	0	0
2007	7	0	0
2008	5	0	0
8-Feb	42	2	4.76

The above data is taken from the USGS Annual Water Resources Report publication for data at College of the Ozarks at Lake Taneycomo. This report publishes a daily minimum, maximum and mean D.O. value for every day the monitor was recording. The state Listing Methodology document now assesses compliance with the dissolved oxygen standard based upon the percent of all DO measurements taken. If more than 30 measurements are made, the waterbody is judged to be impaired if more than 10 percent of samples exceed the standard. The DO standard for Lake Taneycomo is 6 mg/L. Six of the last eight individual years, and the eight year average for the frequency of exceedence are greater than 10 percent. At Branson, on the lower portion of Lake Taneycomo, the exceedence rate is only about five percent (gathered through bimonthly sampling). Therefore, the upper portion of Lake Taneycomo is judged to be impaired by low dissolved oxygen. It is recommended that it be included on Missouri's proposed 2010 Section 303(d) List.

Best Management Practices by Year				
Year	MCM	BMP Goal Selected	Measurement Method	Responsibility
ALL	MCM 1	Existing educational materials will be identified and appropriate subjects selected for distribution. The City's existing social media pages will be enhanced to engage the public.	Materials assembled.	Engineering
	MCM 1	Stormwater web page will be updated as an educational tool. Related and supportive websites will be linked.	# links to related websites	Engineering
	MCM 1	Promote and Co-sponsor an annual Ozarks Water Watch Week with other organizational partners. Water Watch Week is a series of programs designed to engage citizens in water oriented activities that highlight the importance of water quality.	# of events during Water Watch Week	Engineering
	MCM 1	Promote safe disposal of household chemicals at the Household Collection Facility using the "Household Chemical Collections: The Water Connection" brochure at the Household Collection Facility	# brochures distributed, # tons collected	Engineering
	MCM 2	Citizens will be encouraged to use the City's recycling center to dispose of household chemicals & recyclable materials.	# vehicles accessing recycle center, # tons of chemicals disposed	Public Works
	MCM 2	A community-wide lake cleanup will be organized by a partnering organization and co-sponsored by the City of Branson.	# of participants & waste volume	Engineering
	MCM 2	Groups will be organized to participate in an annual storm drain marking event.	# of participants; # storm drains marked;	Engineering
	MCM 2	Groups will be encouraged to participate in the adopt-a-street program through the City website and social media.	# participants	Public Works
	MCM 2	Community groups will be provided with supplies and maps for distribution of 100 "Dump No Waste, Drains to Stream" doorhangers at businesses and communities.	# distributed	Engineering
	MCM 2	Ten pet waste stations will be maintained in city parks and at Branson Landing.	Total # pet waste stations maintained	Parks
	MCM 5	Utilize the Administrative Review Team (ART) process to encourage stormwater runoff control BMP's.	# Plans evaluated by Administrative Review Team	ART
	MCM 6	"Adopt-A-Street" program promoted through press release to reduce floatables.	# participants	Public Works
	MCM6	Annual Cleaning of BaySaver Units.	# units cleaned	Public Works
	MCM 6	Street sweeping to reduce floatables.	# of cleanings per year	Public Works

Best Management Practices by Year				
Year	**MCM**	**BMP Goal Selected**	**Measurement Method**	**Responsibility**
YEAR 1	MCM 1	Watershed map will be developed and placed on the City's website to allow residents to determine the watershed in which they live. The watershed map will also be available for purchase.	Map developed & posted to website	GIS
	MCM 1	Develop stormwater web page. The website will provide information on watersheds, BMPs, disposal of household chemicals, non-point source pollution, proper used motor oil disposal, proper pet waste disposal, and the use of pesticides and herbicides on lawns.	Webpage developed	Engineering
	MCM 1	Partner to install a rain garden/parking lot at the Branson Chamber of Commerce for use as a stormwater demonstration area for citizens, visitors, contractors, and community leaders.	Construction completed	Engineering
	MCM 1	Citizens and groups provided with supplies for placement of metal storm drain decals.	# storm drains marked	Engineering
	MCM 1	All new storm drain inlets required to have "Drains to Stream" lids with water-related design.	Requirement added to city specifications	Engineering
	MCM 1	Citizens and groups provided with supplies to distribute door hangers to explain sources of stormwater pollution.	# distributed	Engineering
	MCM 2	The Lake Taneycomo Watershed Plan being written by Table Rock Lake Water Quality, Inc., a non-profit watershed organization, will be posted to the City website. The public will be invited and encouraged to participate in the watershed plan's development and implementation.	Link created to Table Rock Lake, Inc.'s Watershed Management Plan by TRLWQ	Engineering
	MCM 3	Review of model ordinances and development of City ordinance defining acceptable stormwater discharges and prohibiting non-stormwater.	Review completed	Public Works
	MCM 3	Complete mapping of remaining 10% of Bee Creek outfalls.	Mapping completed	GIS, Public Works
	MCM 3	Complete an additional 15% mapping of storm sewer system.	# Elements mapped	GIS, Public Works
	MCM3	Provide stormwater education/training to 20% of city employees in Engineering, Public Works, Fire, Police, Parks, Utilities & Planning.	# Employees trained	Public Works
	MCM 4	Create and adopt plan review checklist for reviewing/approving plans for Land Disturbance permit.	Checklist Created	Public Works, Engineering, Planning

Best Management Practices by Year				
Year	MCM	BMP Goal Selected	Measurement Method	Responsibility
YEAR 1	MCM4	Landscape plan renamed and revised as municipal land disturbance permit.	Permit revised	Public Works, Planning
	MCM 5	Co-sponsor MS4 "Green Tools" Conference together with Ozarks Water Watch, targeting developers and engineers.	# Attendees	Engineering
	MCM 5	Evaluate potential funding mechanisms that will provide revenue for stormwater services in the City of Branson.	Evaluation performed	Engineering/ Consultant
	MCM 5	Review city stormwater design regulations to incorporate appropriate and applicable BMP's for stormwater controls and watershed protection in the City's "Design Criteria for Public Improvement Projects (June 2009)" for construction.	Review completed	Public Works
	MCM 6	Initiate stormwater training program for 20% of city parks, fire, police, utilities, public works, planning and engineering department employees.	Training program selected	Engineering
	MCM 6	Preventative fleet maintenance schedule.	# Vehicle inspections	Public Works, Garage
	MCM 6	Coal tar sealants are prohibited on municipal parking lots or city streets.	Departmental Policy	Public Works
YEAR 2	MCM 1	The biennial Business and Community Survey will be updated to include questions regarding stormwater issues.	Survey distributed and # of responses	Human Resources
	MCM 2	The biennial Business and Community Survey will be updated to include questions regarding stormwater issues.	Survey distributed and # responses	Human Resources
	MCM 3	Complete additional 20% of mapping of total storm sewer system.	# Elements mapped	GIS, Public Works
	MCM 3	City ordinance prohibiting non-stormwater discharges into storm sewer system presented to Council for consideration.	Ordinance enacted	Board of Aldermen
	MCM 3	Provide stormwater education/training to 20% of employees in Engineering, Public Works, Fire, Police, Parks Utilities & Planning Depts.	# Employees trained	Public Works
	MCM 4	Review of model construction site runoff control ordinances.	Review completed	Public Works, Planning
	MCM 5	Prepare a model ordinance designed to regulate and enforce post-construction strategies in new and redevelopment projects.	Review completed	Engineering/ Consultant/ Legal/$$$

Best Management Practices by Year				
Year	MCM	BMP Goal Selected	Measurement Method	Responsibility
YEAR 2	MCM 5	Evaluate potential non-structural BMP ordinances such as codes, policies, green parking lots, swales, open space requirements, or stream buffers.	Evaluation performed	Engineering, Public Works and Planning
	MCM 5	Present a draft stream buffer plan for review by other city departments.	Draft completed	Engineering/ Public Works and Planning
	MCM 5	A neighborhood newsletter will include articles on stormwater and water quality topics.	Newsletter developed and distributed	Planning
	MCM 6	Development of an operation and maintenance program will be completed by various City Departments.	Program developed	All Depts.
	MCM 6	20% of city parks, fire, police, public works, planning, utilities and engineering employees will be trained in stormwater BMPs.	# Employees trained	Engineering
YEAR 3	MCM 1	Post "Healthy Lawns, Healthy Waters" (MARC) video to social media and website.	Link(s) posted	Engineering
	MCM 3	Establish a website-based reporting tool for illegal discharges/stormwater reporting and develop a response and reporting system to track complaints.	System developed	Public Works
	MCM 3	Develop an Outfall Monitoring and Dry Weather Screening Plan.	Plan developed	Public Works
	MCM 3	Outfall mapping of Roark Creek proper/tertiary channels (i.e. identify stormwater outfalls vs. tributaries).	Length of stream mapped	GIS, Public Works
	MCM 3	Complete final 20% mapping of storm sewer system.	Mapping completed	GIS, Public Works
	MCM 3	Provide stormwater education/training to 20% of city employees in Engineering, Public Works, Fire, Police, Planning, Utlities and Parks Depts.	# Employees trained	Public Works
	MCM 4	Draft ordinance authorizing stormwater runoff plan review, inspection, enforcement and ability to impose fees or penalties.	Ordinance drafted and distributed	Public Works, Planning
	MCM 5	Legal counsel will review the recommended non-structural BMP ordinance.	Review completed	Legal Counsel
	MCM 5	Modify the Design Criteria for Public Improvement Projects to include BMP's for stormwater control.	Design Criteria modified	Engineering

Best Management Practices by Year				
Year	MCM	BMP Goal Selected	Measurement Method	Responsibility
YEAR 3	MCM 5	Select educational materials on watershed protection to provide to engineering firms and developers. Materials will be selected and disseminated through the Administrative Review Team (ART) by the end of the fourth year of the permit. Materials will also be posted on city website.	Materials disseminated & posted to website	Engineering/ Public Works
	MCM 5	Legal counsel to continue review and make recommendations for ordinance to regulate and enforce post-construction strategies for new and redevelopment projects.	Legal review completed	Legal Counsel
	MCM 5	Establish a website-based reporting tool for illegal discharges and develop a response and reporting system to track complaints.	Reporting form posted to website	Engineering/ Public Works
	MCM 5	Review the city's existing zoning ordinance to consider incorporating appropriate amendments to the zoning code to provide more green space and buffer zones. The amendments will address maximum impervious surface requirements.	Review completed	Planning
	MCM 5	Present report for funding mechanisms for review by Board of Alderman.	Presentation to Board	Engineering
	MCM 5	Legal counsel will review any proposed amendments to the City's zoning ordinance regarding planned development and overlay zones.	Review completed	Legal Counsel
	MCM5	Evaluate alternatives to address operation and maintenance for stormwater BMPs and incorporate into stormwater ordinance.	Evaluation completed	Engineering/ Public Works
	MCM6	Adoption of operation & maintenance program.	O&M program adopted	Public Works
	MCM 6	20% of city parks, police, fire, utilities, public works, planning and engineering employees will be trained in stormwater BMPs.	# Employees trained	Public Works
YEAR 4	MCM 1	Select appropriate erosion control materials to distribute to contractors/developers during Administrative Review Team process for developments.	Materials selected	Engineering
	MCM 1	Promote the Missouri Stream Team Program and The Lakes of Missouri Volunteer Program through water quality webpage and social media.	# of webpage hits	Engineering

Best Management Practices by Year				
Year	MCM	BMP Goal Selected	Measurement Method	Responsibility
YEAR 4	MCM 1	The biennial Business and Community Survey will be updated again in year 4, to include questions regarding stormwater issues.	Survey distributed and # of responses	Human Resources
	MCM 2	The biennial Business and Community Survey will be updated to include questions regarding stormwater issues.	Survey distributed and # of responses	Human Resources
	MCM 3	Implement Outfall Monitoring and Screening Plan & Dry Weather Screening Plan.	# outfalls monitored, # dry weather screenings performed	Public Works/ Engineering
	MCM 3	Outfall mapping of Cooper Creek and Fall Creek proper/tertiary channels (i.e. identify stormwater outfalls vs. tributaries).	Mapping completed	GIS, Public Works
	MCM 3	Continued updates to GIS outfall base map.	# of elements added	GIS, Public Works
	MCM 3	Provide stormwater education/training to 20% of city employees in Engineering, Public Works, Fire, Police, Planning, Utlities and Parks Depts.	# Employees trained	Public Works
	MCM 4	Public Input Opportunities for stormwater ordinance.	Comments compiled and analyzed	Public Works, Planning
	MCM 4	Create construction inspection forms for contractor and city inspector for compliance with SWPPP.	Forms created	Public Works/ Engineering/ Planning
	MCM 4	Create Post Construction Inspection Checklist.	Form created	Public Works/ Engineering/ Planning
	MCM 5	Present to the Board of Alderman proposed changes to the zoning ordinance to include provisions regarding open space, stream buffer zones, maximum impervious surface requirements, and overlay zones.	Ordinance sent to Board for Consideration	Planning
	MCM 5	Create database including new BMP's approved and installed.	Creation of Document	Engineering
	MCM 6	20% of city parks, fire, police, utilities, public works, planning and engineering employees will be trained in stormwater BMPs.	# Employees Trained	Engineering
	MCM 6	Operation and maintenance program fully implemented	O&M procedures implemented	Public Works, Parks, Fire
YEAR 5	MCM 1	Evaluate public education and outreach program.	# hits on web pages, amount of volunteers participating in programs, # of storm drains marked and doorhangers distributed	Engineering
	MCM 2	Publish a report of stormwater activities, including outcomes.	Report completed & posted to website	All Depts.

Best Management Practices by Year				
Year	**MCM**	**BMP Goal Selected**	**Measurement Method**	**Responsibility**
YEAR 5	MCM 3	Continued use of the outfall monitoring and screening plan.	Outfalls monitored and screened	Public Works
	MCM 3	Outfall mapping of secondary tributaries to the four city creeks/watersheds (i.e. identification of stormwater outfalls vs. primary tributaries).	Outfalls mapped	GIS, Public Works
	MCM 3	Identification of Priority Areas and/or watersheds.	Areas identified	Public Works
	MCM 3	Provide stormwater education/training to final 20% of city employees in Engineering, Public Works, Parks, Fire, Police, Utilities & Planning.	# Employees trained	Public Works
	MCM 3	Development of initial illicit discharge detection and elimination goals for subsequent permit period.	Goals developed	All Depts.
	MCM 4	Present final construction site runoff control ordinance to Board of Alderman for consideration.	Ordinance adopted	Public Works
	MCM 4	Implement sanctions, penalties and/or fines for failure to comply with erosion and sediment control measures.	Sanctions adopted under ordinance	Public Works, Planning
	MCM4	Develop goals for the subsequent MS4 permit period.	Evaluation completed	Public Works, Planning
	MCM 5	The City will move towards adopting a non-structural BMP ordinance.	Sent to Board for Consideration	Public Works and Planning
	MCM 5	Present for review the modified Design Criteria for Public Improvement Projects that contains BMPs for stormwater control and watershed protection.	Presented for Review	Engineering
	MCM 5	Present model ordinance to Board of Alderman to regulate and enforce post construction strategies in new and redevelopment projects.	Ordinance presented to Board	Legal/ Administration
	MCM 5	Complete evaluation of a funding mechanism for stormwater systems operation and maintenance.	Evaluation completed	Engineering, Finance & Administration
	MCM 6	20% of city parks, fire, police, public works, utlities and engineering employees will be trained in stormwater BMPs.	# Employees trained	Engineering

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

GENERAL PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

MO-R04000

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

All Outfalls

Discharges from Regulated Small Municipal Separate Storm Sewer Systems

SIC 9511/NAICS 924110

This permit authorizes only wastewater, including storm waters, discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

June 13, 2008
Effective Date

Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

June 12, 2013
Expiration Date

Edward Galbraith, Director of Staff, Clean Water Commission

Table of Contents

1. **Coverage Under this Permit**

1.1 Permit Area

This permit covers all areas served by a municipal separate storm sewer system (MS4) for which the applicant is identified as the continuing authority.

1.2 Eligibility

1.2.1 This permit authorizes discharges of storm water from regulated small MS4s, as defined in 10 CSR 20-6.200. The permittee, or co-permittee, is authorized to discharge under the terms and conditions of this general permit if the permittee:

1.2.1.1 Owns or operates a regulated small MS4 as defined in 10 CSR 20-6.200; located fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census or designated for permit authorization by the department pursuant to 10 CSR 20-6.200; and

1.2.1.2 Submits a general permit application in accordance with Section 2 of this permit; and

1.2.1.3 Complies with the terms of this general permit.

1.2.2 The following are types of discharges authorized by this permit:

1.2.2.1 *Storm water discharges.* This permit authorizes storm water discharges to waters of the state from the regulated small MS4s identified in Section 1.2.1, except as excluded in Section 1.3.

1.2.2.2 *Non-storm water discharges.* The permittee is authorized to discharge the following non-storm water sources provided that the permitting authority has not determined these sources to be substantial contributors of pollutants to the permittee's MS4 that require a separate permit:

- Landscape irrigation
- Rising ground waters
- Uncontaminated ground water infiltration (infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connections and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.)
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Flows from riparian habitats and wetlands
- Street wash water
- Discharges or flows from emergency fire fighting activities
- Individual residential car washing
- Dechlorinated residential swimming pool discharges

1.3 Limitations on Coverage

This permit does not authorize:

1.3.1 Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are:

1.3.1.1 In compliance with a separate NPDES permit; or

1.3.1.2 Determined not to be a substantial contributor of pollutants to waters of the state.

1.3.2 Storm water discharges associated with industrial activities requiring separate NPDES permits as defined in 10 CSR 20-6.200.

1.3.3 Storm water discharges associated with construction activities requiring separate NPDES permits as defined in 10 CSR 20-6.200.

1.3.4 Storm water discharges currently covered under another permit.

1.3.5 Discharges that are likely to jeopardize the continued existence of any species that are listed as endangered or threatened under the Endangered Species Act (ESA) or result in the adverse modification or destruction of habitat that is designated as critical under the ESA.

1.3.6 Discharges that violate the National Historic Preservation Act.

1.3.7 Discharges that cause or contribute to a violation of instream water quality standards. The permittee's storm water management program and plan (SWMP) document must include a description of the best management practices (BMPs) that the permittee will use to ensure that violations will not occur. The department may require corrective action or an application for a site-specific permit or alternative general permit if an MS4 is determined to cause or create a significant potential for causing an instream exceedance of water quality standards.

1.3.8 Discharges of any pollutant into any water for which a Total Maximum Daily Load (TMDL) has been either established or approved by the EPA unless the permittee's discharge is consistent with that TMDL. This eligibility condition applies at the time the permittee submits an application for coverage. If conditions change after the permittee has permit coverage, the permittee may remain covered by the permit provided the permittee complies with the applicable requirements of Section 3. The permittee shall incorporate any limitations, conditions and requirements required by the TMDL, including monitoring frequency and reporting required, into the SWMP document in order to be eligible for permit coverage. For discharges for which the permittee is responsible but are not eligible for coverage under this permit, the permittee shall apply for and receive a site-specific or other applicable general NPDES permit prior to discharging.

1.4 Obtaining Authorization

1.4.1 To be authorized to discharge storm water from regulated small MS4s, the applicant/permittee shall submit an application and a written description of the permittee's SWMP in accordance with the deadlines presented in Section 2 of this permit.

1.4.2 The permittee shall submit the information required in Section 2 on the latest version of the application form (or photocopy thereof). The permittee's application shall be signed and dated by an authorized signatory.

1.4.3 Where the operator changes, or where a new operator is added after submittal of an application under Section 2, a new application shall be submitted in accordance with Section 2 prior to the change or addition.

2. Application Requirements

2.1 Deadlines for Application

If the MS4 is regulated pursuant to 10 CSR 20-6.200 then the operator is required to seek coverage under the Small MS4 General Permit or a site-specific MS4 permit as follows:

2.1.1 Existing small MS4 permittees shall submit renewal applications 180 days prior to permit expiration unless an extended due date has been granted by the department. If the MS4 permittee is submitting a renewal application for a revised general permit, they may submit the updated SWMP document separately from the application up to 90 days following public notice of the revised permit. If the MS4 is applying for a site-specific permit, the SWMP plan must be included with the application; and

2.1.2 MS4 operators that become subject to 10 CSR 20-6.200 following the 2010 census shall submit permit applications within 180 days following census publication.

2.2 Additional designations after the date of permit issuance

If the small MS4 is specially designated by the department after the date of permit issuance, then the small MS4 is required to:

2.2.1 Submit application for a site-specific MS4 permit or a small general MS4 permit (whichever applies) and a written description of the permittee's SWMP to the department within 180 days of notice.

2.3 Submitting a Late application

The permittee is not prohibited from submitting an application after the dates provided in Section 2.1. The department reserves the right to take appropriate enforcement actions for any unpermitted discharges.

3. **Special Conditions**

3.1 Discharges to Water Quality Impaired Waters

3.1.1 If discharges from the MS4 are upstream from a 303(d) listed (impaired) waterbody, the permittee shall, in consultation with the department:

3.1.1.1 Determine whether storm water discharges from any part of the MS4 significantly contribute pollutants directly or indirectly to a 303(d) listed (i.e., impaired) waterbody. If the permittee has discharges meeting this criteria, the permittee shall comply with Section 3.1.2. If the permittee does not, Section 3.1 does not apply to the permittee.

3.1.1.2 Determine whether a Total Maximum Daily Load (TMDL) has been developed and approved by EPA for the listed waterbody. If there is such a TMDL, the permittee shall comply with both Sections 3.1.2 and 3.1.3. If no TMDL has been finalized, Section 3.1.3 will apply when the TMDL is finalized and approved by EPA.

3.1.2 *Water Quality Controls for Discharges to Impaired Waterbodies*. The permittee's SWMP document required under Section 4 shall include a description of how the permittee's program will control the discharge of measurable pollutants of concern and ensure the permittee's discharges will not cause or contribute to instream exceedances of the water quality standards. This discussion shall specifically identify measures and BMPs that will collectively control the discharge of the pollutants of concern.

3.1.3 *Consistency with TMDL Allocations*. If a TMDL has been finalized and approved by EPA for any waterbody into which the permittee discharges, the permittee, shall:

3.1.3.1 Determine whether the approved TMDL is for a pollutant likely to be found in storm water discharges from the permittee's MS4;

3.1.3.2 Determine whether the TMDL includes a pollutant wasteload allocation (WLA) or other performance requirements specifically for storm water discharge from the permittee's MS4;

3.1.3.3 Determine whether the TMDL addresses a flow regime likely to occur during periods of storm water discharge;

3.1.3.4 After the determinations above have been made and if it is found that the permittee's MS4 shall implement specific WLA provisions of the TMDL, assess whether the WLAs are being met through implementation of existing storm water control measures or if additional control measures are necessary;

3.1.3.5 Document all control measures currently being implemented or planned to be implemented. The permittee shall also include a schedule of implementation for all planned controls and shall document the calculations or other evidence that shows that the WLA will be met;

3.1.3.6 Describe a monitoring program to determine whether the storm water controls are adequate to meet the WLA; and

3.1.3.7 If the evaluation shows that additional or modified controls are necessary, describe the measures to be taken and the schedule for their implementation. The permittee shall continue meeting the requirements of 3.1.3.4 through 3.1.3.7 for this permit duration until the department determines WLAs are being met or that water quality standards are being met.

3.2 Duty to Comply

3.2.1 The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Missouri Clean Water Law and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or for denial of a permit renewal.

3.2.2 This permit authorizes only the activities described in this permit. Compliance with this permit may not be considered a shield from compliance with any local ordinance, State Regulation or State Law.

3.3 Continuation of the Expired General Permit

3.3.1 If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 10 CSR 20-6.010 (10)(E) and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:

3.3.1.1 Reissuance or replacement of this permit, at which time the permittee shall comply with the application conditions of the new permit to maintain authorization to discharge; or

3.3.1.2 Notice of Termination; or

3.3.1.3 Issuance of a site-specific permit for your discharges; or

3.3.1.4 A permit decision by the Director not to reissue this general permit, at which time the permittee shall seek coverage under an alternative general permit or a site-specific permit.

3.4 Need to Halt or Reduce Activity Not an Excuse

Actions by the permittee in an enforcement action to halt or reduce the permitted activity does not excuse compliance with this permit or any provision of the Missouri Clean Water Law.

3.5 Permit Transfers

This permit is not transferable to any other legal entity except after notice to the department. The department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary.

3.6 Procedures for Modification or Revocation

3.6.1 If at any time the Missouri Department of Natural Resources determines that the quality of waters of the state may be better protected by requiring the owner/operator of the permitted site to apply for a site-specific permit, the department may require any person to obtain a site-specific operating permit [10 CSR 20-6.010 (13) and 10 CSR 20-6.200(5)].

3.6.2 The department may require the permittee to apply for and obtain a site-specific or different general permit if:

3.6.2.1 The permittee is not in compliance with the conditions of this general permit; or

3.6.2.2. The discharge no longer qualifies for this general permit due to changed site conditions and regulations; or

3.6.2.3 Information becomes available that indicates water quality standards have been or may be violated.

3.6.3 The permittee will be notified in writing of the need to apply for a site-specific permit or an alternative general permit. When a site-specific permit or alternative general permit is issued to the authorized permittee, the applicability of this general permit to the permittee will be terminated upon the effective date of the site-specific or alternative general permit, whichever the case may be. The permittee shall submit the appropriate forms to the department to terminate the permit that has been replaced.

3.7 Requiring a Site-Specific Permit or an Alternative General Permit

3.7.1 *Decision by the department.* The department may require any person authorized by this permit to apply for and/or obtain either a site-specific NPDES permit or an alternative NPDES general permit [10 CSR 20-6.200(6)]. Any interested person may petition the department to require a site-specific permit. Where the department requires the permittee to apply for a site-specific NPDES permit, the department will notify the permittee in writing that a permit application is required. This notification shall include a brief statement of the reasons for this decision, an application form(s), a statement setting a deadline for the permittee to file the application, and a statement that on the effective date of issuance or denial of the site-specific NPDES permit or the alternative general permit, coverage under this general permit shall automatically terminate in accordance with Section 3.6. The department may grant additional time to submit the application upon request of the applicant. If the permittee fails to submit a site-specific NPDES permit application in a timely manner as required by the department under this paragraph, then the applicability of this permit to the permittee is automatically terminated on the day specified by the department for application submittal.

3.7.2 *Request by permittee.* The permittee may apply for a site-specific permit in lieu of coverage under this general permit. In such cases, the permittee shall submit an application for the alternate permit in accordance with the requirements of 10 CSR 20-6.200, with reasons supporting the request. The request may be granted by issuance of any site-specific permit or an alternative general permit.

4. **Storm Water Management Programs and Plans**

4.1 Requirements

The permittee shall develop, implement, and enforce a storm water management program and plan (SWMP) designed to reduce the discharge of pollutants from the permittee's regulated small MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Missouri Clean Water Law. The SWMP should include best management practices; control techniques and system, design, and engineering methods; and such other provisions as the permitting authority determines appropriate for the control of such pollutants. The permittee's SWMP document shall include the following information for each of the six minimum control measures described in Section 4.2 of this permit:

4.1.1 A description of the best management practices (BMPs) that the permittee will implement for each of the storm water minimum control measures;

4.1.2 The measurable goals for each of the BMPs including, as appropriate, the months and years in which the permittee will undertake required actions, including interim milestones and the frequency of the action;

4.1.3 The person primarily responsible for the SWMP, and the person(s) responsible for each minimum control measure if different from the primary responsible person; and

4.1.4 The permittee shall implement a program designed to protect water quality in potentially affected waters and ensure that the permitted activities do not cause a violation of the Water Quality Standards:

4.1.4.1 Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria; and

4.1.4.2 The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

4.1.4.2.1 Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;

4.1.4.2.2 Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;

4.1.4.2.3 Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;

4.1.4.2.4 Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;

4.1.4.2.5 There shall be no significant human health hazard from incidental contact with the water;

4.1.4.2.6 There shall be no acute toxicity to livestock or wildlife watering;

4.1.4.2.7 Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community; and

4.1.4.2.8 Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

4.1.5 For facilities under the control of the permittee good housekeeping practices shall be maintained to keep solid waste from entry into waters of the state to the maximum extent practicable;

4.1.6 All fueling facilities under the control of the permittee shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, including spill prevention, control and counter measures;

4.1.7 Substances regulated by federal law under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that are transported, stored, or used for maintenance, cleaning or repair by the permittee shall be managed according to the provisions of RCRA and CERCLA;

4.1.8 All paint, solvents, petroleum products and petroleum waste products (except fuels) under the control of the permittee shall be stored so that these materials are not exposed to storm water. Sufficient practices of spill prevention, control, and/or management shall be provided to prevent any spills of these pollutants from entering a water of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater;

4.1.9 In addition to the requirements listed above, the permittee shall document the decision process for each minimum control measure and include rationale statements for each BMP and measurable goal defined;-

4.1.10 The permittee shall inspect any structures that function to prevent pollution of storm water or to remove pollutants from storm water and the facility in general to ensure that all BMPs are continually implemented and effective, and a monitoring schedule shall be specified in the SWMP document;

4.1.11 The SWMP document shall include interim milestones, measurable goals, an implementation schedule and measures for success; and

4.1.12 The permittee shall develop and fully implement each minimum control measure within five (5) years of receipt of its first MS4 permit. At each reissuance of this MS4 permit, the permittee shall comply with new or revised standards as soon as practicable, but no later than 5 years from the date of reissuance.

4.2 Minimum Control Measures

The six (6) minimum control measures that shall be included in the permittee's SWMP document are:

4.2.1 **Public Education and Outreach on Storm Water Impacts**

4.2.1.1 *Permit requirement.* The permittee shall implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and steps the public can take to reduce pollutants in storm water runoff. As part of the SWMP, the public education and outreach program shall include the following information, at a minimum:

4.2.1.1.1 The target pollutant sources the permittee's public education program is designed to address;

4.2.1.1.2 Identification of target audiences for the permittee's education program who are likely to have significant storm water impacts (including commercial, industrial and institutional entities);

4.2.1.1.3 A plan to inform individuals and households about steps they can take to reduce storm water pollution;

4.2.1.1.4 A plan to inform individuals and groups on how to become involved in the SWMP (with activities such as local stream and lake restoration activities);

4.2.1.1.5 The permittee's outreach strategy, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) to reach target audiences, and how many people expected to be reached over the permit term; and

4.2.1.1.6 A plan to evaluate the success of this minimum control measure.

4.2.2 **Public Involvement/Participation**

4.2.2.1 *Permit requirement.* The permittee shall implement a public involvement/participation program that complies with State and local public notice requirements, and involve the public in the development and oversight of the SWMP , policies and procedures. As part of the SWMP document, the public involvement/participation program shall include the following information, at a minimum:

4.2.2.1.1 How the permittee has involved the public in the development and submittal of the application and SWMP document;

4.2.2.1.2 The target audiences for the permittee's public involvement program, including a description of the types of ethnic and economic groups engaged. The permittee is encouraged to actively involve all potentially affected stakeholder groups, including commercial and industrial businesses, trade associations, environmental groups, homeowners associations, and educational organizations, among others; and

4.2.2.1.3 The types of public involvement activities included in the permittee's program. Where appropriate, the permittee must consider the following types of public involvement activities:

4.2.2.1.3.1 Citizen representatives on a storm water management panel;

4.2.2.1.3.2 Public hearings;

4.2.2.1.3.3 Working with citizen volunteers willing to educate others about the program; and

4.2.2.1.3.4 Volunteer monitoring or stream/lake clean-up activities.

4.2.2.1.4 The permittee's plan to actively involve the public in the development and implementation of their program; and

4.2.2.1.5 The method for evaluating success of this minimum control measure.

4.2.3 **Illicit Discharge Detection and Elimination**

4.2.3.1 *Permit requirement. The permittee* shall develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into the permittee's regulated small MS4. As part of the SWMP document, the permittee's illicit discharge detection and elimination program shall include the development and implementation of, at a minimum;

4.2.3.1.1 A storm sewer map showing the location of all outfalls and the names and location of all receiving waters of the state that receive discharges from those outfalls. The permittee shall describe the sources of information used for the map(s), and how the permittee plans to verify the outfall locations with field surveys. If already completed, the permittee shall describe how the map was developed and how the map will be regularly updated. The permittee shall make the map information available to the department upon request;

4.2.3.1.2 To the extent allowable under State, or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the permittee's storm sewer system and implement appropriate enforcement procedures and actions. The permittee shall identify the mechanism (ordinance or other regulatory mechanism) the permittee will use to effectively prohibit illicit discharges into the MS4. If the permittee needs to develop this mechanism, describe the permittee's plan and implementation schedule. If the permittee's ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with the permittee's program; and

4.2.3.1.3 A plan and implementation schedule to detect and address non-storm water discharges, including discharges from illegal dumping and spills, to the permittee's system. The permittee's plan shall include dry weather field screening for non-storm water flows and field tests of selected chemical parameters as indicators of discharge sources. The plan shall also address on-site sewage disposal systems that flow into the permittee's storm drainage system. The permittee's description shall address the following, at a minimum:

4.2.3.1.3.1 Procedures for locating priority areas which include areas with higher likelihood of illicit connections (e.g., areas with older sanitary sewer lines, for example) or ambient sampling to locate impacted reaches;

4.4.3.1.3.2 Procedures for tracing the source of an illicit discharge, including the specific techniques the permittee will use to detect the location of the source;

4.2.3.1.3.3 Procedures for removing the source of the illicit discharge;

4.2.3.1.3.4 A plan to ensure through appropriate enforcement procedures, including fines, and actions that the permittee's illicit discharge ordinance (or other regulatory mechanism) is implemented;

4.2.3.1.3.5 A plan to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. The permittee shall describe how this plan will coordinate with their public education minimum measure and the pollution prevention/good housekeeping minimum measure programs; and

4.2.3.1.3.6 Procedures for program evaluation and assessment of this minimum control measure.

4.2.3.1.4 Address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if the permittee identifies them as significant contributors of pollutants to the permittee's regulated small MS4: landscape irrigation, rising ground waters, uncontaminated ground water infiltration (as defined in 10 CSR 20-6.200), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, springs, water from crawl space pumps, footing drains, lawn watering, flows from riparian habitats and wetlands, and street wash water (discharges or flows from emergency fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are significant sources of pollutants to waters of the state).

4.2.3.1.5 The permittee may also develop a list of other similar occasional incidental non-storm water discharges (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-storm water discharges shall not be reasonably expected (based on information available to the permittees) to be significant sources of pollutants to the MS4, because of either the nature of the discharges or conditions the permittee has established for allowing these discharges to the permittee's MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive waterbodies, BMPs on the wash water, etc.). The permittee shall document in their SWMP any local controls or conditions placed on the discharges. The permittee shall include a provision prohibiting any individual non-storm water discharge that is determined to be contributing significant amounts of pollutants to the permittee's MS4.

4.2.3.1.6 The permittee should inventory, inspect and have enforcement authority for industries and commercial enterprises within their boundary that may contribute pollutants via storm water to the MS4.

4.2.4 **Construction Site Storm Water Runoff Control**

4.2.4.1 *Permit requirement.* The permittee shall develop, implement, and enforce a program to reduce pollutants in any storm water runoff to their regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. As part of the SWMP, the permittee's construction site storm water runoff control program shall include the development and implementation of, at a minimum:

4.2.4.1.1 An ordinance or other regulatory mechanism:

4.2.4.1.1.1 To require operators to implement erosion and sediment control BMPs at construction sites;

4.2.4.1.1.2 To include sanctions to ensure compliance, to the extent allowable under State or local law; and

4.2.4.1.1.3 If the permittee needs to develop this mechanism, the permittee shall describe the plan and scheduled implementation. If the permittee's ordinance or regulatory mechanism is already developed, the permittee shall include a copy of the relevant sections with the permittee's SWMP.

4.2.4.1.2 Requirements for construction site operators to control construction-site waste that may cause adverse impacts to water quality, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste;

4.2.4.1.3 Procedures for the permittee to consider and review all pre-construction site plans for potential water quality impacts.

4.2.4.1.4 Procedures for the permittee to receive and consider information submitted by the public, including coordination with the permittee's public education program;

4.2.4.1.5 Procedures for the permittee to inspect sites and enforce control measures, including prioritization of site inspections;

4.2.4.1.6 A plan to ensure compliance with the permittee's erosion and sediment control regulatory mechanism, including the sanctions and enforcement mechanisms the permittee will use to ensure compliance and procedures for when certain sanctions will be used. Possible sanctions include non-monetary penalties (such a stop work orders), fines, bonding requirements, and/or permit denials for non-compliance; and

4.2.4.1.7 A description of how the permittee will evaluate the success of this minimum control measure.

4.2.5 **Post-Construction Storm Water Management in New Development and Redevelopment**

4.2.5.1 *Permit requirement.* The permittee shall develop, implement, and enforce a program to address the quality of long-term storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the permittee's regulated small MS4. The permittee's program shall ensure that controls are in place that have been designed and implemented to prevent or minimize water quality impacts by reasonably mimicking pre-construction runoff conditions on all affected new development projects and by effectively utilizing water quality strategies and technologies on all affected redevelopment projects, to the maximum extent practicable. The permittee shall assess site characteristics at the beginning of the construction design phase to ensure adequate planning for storm water program compliance. The purpose for this approach is to arrive at designs and practices that provide for most effective water quality treatment through infiltration, flow rates and similar site-design opportunities. As part of the SWMP document, the post-construction runoff control program shall include the following information, at a minimum:

4.2.5.1.1 A strategy to minimize water quality impacts, by reasonably mimicking pre-construction runoff conditions in affected new development and incorporating water quality protection in affected redevelopment projects to the maximum extent practicable, and include a combination of structural and/or non-structural BMPs appropriate for the permittee's community;

4.2.5.1.2 An ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, or local law. If the permittee needs to develop a mechanism, the permittee shall describe the plan and a schedule for implementation. If the permittee's ordinance or regulatory mechanism is already developed, the permittee shall include a copy of the relevant sections with the SWMP document;

4.2.5.1.3 A plan to ensure adequate long-term operation and maintenance of selected BMPs, including types of agreements between the permittee and other parties such as the post-development landowners or regional authorities;

4.2.5.1.4 Specific priority areas for this program; and

4.2.5.1.5 Any non-structural BMPs in the permittee's program, including, as appropriate:

4.2.5.1.5.1 Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation;

4.2.5.1.5.2 Policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure, and redevelopment of Brownfield sites or grayfields which may include abandoned malls or similar properties;

4.2.5.1.5.3 Education programs for developers and the public about project designs that minimize water quality impacts; and

4.2.5.1.5.4 Other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, site designs that provide for integration of a variety of infiltration practices and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention.

4.2.5.1.6 Any structural BMPs in the permittee's program, including, as appropriate:

4.2.5.1.6.1 Practices that provide infiltration, evapotranspiration or re-use such as grassed swales, bioretention cells, cisterns and green roofs; and

4.2.5.1.6.2 Redevelopment practices such as planter boxes, street retrofits, parking-lot infiltration and green roofs.

4.2.5.1.7 How the permittee will evaluate the success of this minimum measure.

4.2.6 **Pollution Prevention/Good Housekeeping for Municipal Operations**

4.2.6.1 *Permit requirement.* The permittee shall develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. As part of the SWMP, the pollution prevention/good housekeeping program shall include the following information, at a minimum:

4.2.6.1.1 A list of all municipal operations that are impacted by this operation and maintenance program. The permittee shall also include a list of industrial facilities the permittee owns or operates that are subject to NPDES permits for discharges of storm water associated with industrial activity that ultimately discharge to the permittee's MS4. The permittee shall include the permit number or a copy of the industrial application form for each facility;

4.2.6.1.2 Maintenance BMPs, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the permittee's regulated small MS4;

4.2.6.1.3 Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas the permittee operates;

4.2.6.1.4 Controls described in Sections 4.1.5 through 4.1.8 of this permit;

4.2.6.1.5 Procedures for the proper disposal of waste removed from the permittee's MS4 and area of jurisdiction, including dredged material, accumulated sediments, floatables, and other debris;

4.2.6.1.6 Procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices;

4.2.6.1.7 A government employee training program to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. The permittee shall describe any existing, available materials the permittee plans to use such as those available from EPA, State or other organizations. The permittee shall describe how this training program will be coordinated with the outreach programs developed for the public information minimum measure and the illicit discharge minimum measure; and

4.2.6.1.8 How the permittee will evaluate the success of this minimum control measure.

4.3 Sharing Responsibility

Implementation of one or more of the minimum measures may be shared with another entity, or another entity assume responsibility for the measure if:

4.3.1 The other entity, in fact, implements the control measure;

4.3.2 The particular control measure, or component of that measure, is at least as stringent as the corresponding permit requirement; and

4.3.3 The other entity agrees to implement the control measure on permittee's behalf. Written acceptance of this obligation is required. This obligation shall be maintained as part of the documented description of the permittee's storm water management program. If the other entity agrees to report on the minimum measure, the permittee shall supply the other entity with the reporting requirements contained in Section 5.3 of this permit. If the other entity fails to implement the control measure on the permittee's behalf, then the permittee remains liable for any discharges due to that failure to implement.

4.4 Reviewing and Updating Storm Water Management Programs and Plans

4.4.1 *Storm Water Management Program and Written Plan (SWMP) Review:* The permittee shall do an annual review of the permittee's SWMP in conjunction with preparation of the annual report required under Section 5.3; and

4.4.2 *SWMP Update:* The permittee may change the SWMP during the life of the permit in accordance with the following procedures:

4.4.2.1 Changes adding (but not subtracting or replacing) components, controls, or requirements to the SWMP may be made at any time upon written notification to the department; and

4.4.2.2 Changes replacing an ineffective or unfeasible BMP specifically identified in the SWMP with an alternate BMP may be requested at any time. Unless denied by the department, changes proposed in accordance with the criteria below shall be deemed approved and may be implemented 60 days from submittal of the request. If request is denied, the department will send the permittee a written response giving a reason for the decision. The permittee's modification requests shall include the following:

4.4.2.2.1 An analysis of why the BMP is ineffective or infeasible (including cost prohibitive);

4.4.2.2.2 Expectations on the effectiveness of the replacement BMP; and

4.4.2.2.3 An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

4.4.2.3 Change requests or notifications must be made in writing and signed in accordance with Section 6.

4.4.3 *SWMP Updates Required by the Department*: Changes requested by the department must be made in writing, set forth the time schedule for the permittee to develop the changes, and offer the permittee the opportunity to propose alternative program changes to meet the objective of the requested modification. All changes required by the department will be made in accordance with 10 CSR 20-6.200. The department may require changes to the SWMP as needed to:

4.4.3.1 Address impacts on receiving water quality caused or affected by discharges from the Municipal Separate Storm Sewer System;

4.4.3.2 Include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; or

4.4.3.3 Include such other conditions deemed necessary by the department to comply with the goals and requirements of the Missouri Clean Water Law.

4.4.4 *Transfer of Ownership, Continuing Authority, or Responsibility for SWMP Implementation:* The permittee shall implement the SWMP on all new areas added to the permittee's portion of the municipal separate storm sewer system (or for which the permittee becomes responsible for implementation of storm water quality controls) as expeditiously as practicable, but not later than one year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately.

4.4.4.1 Within 90 days of a transfer of ownership, continuing authority, or responsibility for SWMP implementation, the permittee shall submit a revised plan, if necessary, for implementing the revised SWMP on all affected areas. The plan shall include revised schedules for implementation. Information on all new annexed areas and any resulting updates required to the SWMP shall be included in the annual report.

4.4.4.2 Only those portions of the SWMP specifically required as permit conditions shall be subject to the modification requirements of 10 CSR 20-6.200. Addition of components, controls, or requirements by the permittee(s) and replacement of an ineffective or infeasible BMP implementing a required component of the SWMP with an alternate BMP expected to achieve the goals of the original BMP shall be considered minor changes to the SWMP and not modifications to the permit.

5. Monitoring, Recordkeeping, and Reporting

5.1 Monitoring

5.1.1 The permittee shall evaluate program compliance, the appropriateness of identified best management practices, and progress toward achieving identified measurable goals. If the permittee discharges to a water for which a TMDL has been approved, the permittee will likely have additional monitoring requirements under Section 3.1.3.6.

5.1.2 When the permittee conducts monitoring at the permittee's regulated small MS4, the permittee is required to comply with the following:

5.1.2.1 *Representative monitoring*. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity;

5.1.2.2 *Test Procedures*. Monitoring shall be conducted according to test procedures approved under 10 CSR 20-7.015(9)(A).

5.1.3 Records of monitoring information shall include:

5.1.3.1 The date, exact place, and time of sampling or measurements;

5.1.3.2 The names(s) of the individual(s) who performed the sampling or measurements;

5.1.3.3 The date(s) analyses were performed;

5.1.3.4 The names of the individuals who performed the analyses;

5.1.3.5 The analytical techniques or methods used; and

5.1.3.6 The results of such analyses.

5.1.4 *Discharge Monitoring Report.* TMDL monitoring results shall be reported to the department on a Discharge Monitoring Report form (DMR). Monitoring results collected as part of the routine illicit discharge detection and elimination program shall be documented, retained on site and made available upon request by EPA, DNR and the public.

5.2 Recordkeeping

5.2.1 The permittee shall retain records of all activities requiring recordkeeping by the SWMP and monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES permit, a copy of all ordinances, policies and formal procedures for all six minimum control measures and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer; and

5.2.2 The permittee shall submit the permittee's records to the department only when specifically asked to do so. The permittee shall retain a written description of the SWMP required by this permit (including a copy of the permit language) at a location accessible to the department. The permittee shall make the permittee's records, including the application and the description of the SWMP, available to the public if requested to do so in writing.

5.3 Reporting

The permittee shall submit annual reports, using the annual report form provided by the department, to the Director by July 28 of each year of the permit term. The report shall include:

5.3.1 The status of the permittee's compliance with permit conditions, an assessment of the appropriateness of the identified best management practices, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and the measurable goals for each of the minimum control measures;

5.3.2 Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP;

5.3.3 A summary of the storm water activities the permittee plans to undertake during the next reporting cycle (including an implementation schedule);

5.3.4 Proposed changes to the permittee's SWMP, including changes to any BMPs or any identified measurable goals that apply to the program elements; and

5.3.5 Notice that the permittee is relying on another government entity to satisfy some of the permittee's permit obligations (if applicable).

6. **Standard Permit Conditions**

This permit includes Standard Permit Conditions attached as Part I to this permit.

7. **Definitions**

All definitions contained in 10 CSR 20-6.200 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the event of a conflict, the definition found in the regulation takes precedence.

Control Measure as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States.

Director refers to the Director of Staff, Water Protection Program, Department of Natural Resources.

Discharge when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR 122.2.

Illicit Connection means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge refers to any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from emergency fire fighting activities.

Maximum Extent Practicable refers to the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges that was established by CWA §402(p). A discussion of how it applies to regulated small MS4s is found at 40 CFR 122.34.

MS4 is an acronym for "Municipal Separate Storm Sewer System" and is used to refer to either a Large, Medium, or Small Municipal Separate Storm Sewer System (e.g. "the Springfield MS4").

Permittee, as used in this permit refers to the holder of this general permit.

Site-specific permit, also means individual permit.

Storm Water, means storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm Water Management Program and Plan (SWMP) refers to a comprehensive documented program and plan to manage the quality of storm water discharged from the municipal separate storm sewer system.

Missouri Department of Natural Resources
Fact Sheet – Master General Permit Renewal for Small MS4s

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Permits in Missouri are issued by the Director of the Missouri Department of Natural Resources (department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). NPDES operating permits are issued for a period of five (5) years unless otherwise specified.

A Fact Sheet gives pertinent information regarding the applicable regulations, rational for the development of the NPDES Missouri State Operating Permit (operating permit), and the public participation process for operating permit listed below.

A Fact Sheet is not an enforceable part of an operating permit.

This Fact Sheet is for a Major ☐, Minor ☐, Industrial Facility ☐; Variance ☐;
Master General Permit ☒; and/or permit with widespread public interest ☐.

Part I - Facility Information

The following Facility Information shall appear on the coverage document issued to a General Permit Covered Facility.

NPDES #:
Facility Name:
Facility Address:
Owner's Name:
Owner's Address:

Facility Region:
Facility County:

Facility Type:
Facility SIC Code: 9511
Facility NAICS Code: 924110

Facility Description: Discharges from Regulated Small Municipal Separate Storm Sewer Systems

Comments: _____

Part II - Outfalls

It is adequate to submit a representative subset of outfall information with the application. Specifically, outfalls needed for the application should be representative of discharges nearest the MS4's jurisdictional boundaries or nearest the receiving classified waters running through the MS4's jurisdiction. The more comprehensive outfall information and maps required for the MS4's illicit discharge program shall be retained on site and made available to EPA, DNR and the public upon request.

A full description of the representative outfalls in the application shall appear on the coverage document issued to a General Permit Covered Facility. The following information is required for each outfall.

Outfall #001
Legal Description: ¼, ¼, Section, Township, Range, Direction
Latitude/Longitude: +0000000/-0000000 (Degrees, Minutes, Seconds)
Receiving Stream: Name & Classification
First Classified Stream and ID: Name, Class, Water Body ID – currently provided by the Department
USGS Basin & Sub-watershed No.: (# – #) [14 digit USGS Hydrologic Unit Code (HUC)]

This permit allows regulated MS4s to discharge storm water to the following waters, depending on location of the regulated MS4.

Missouri or Mississippi River, lakes or reservoirs, losing streams, metropolitan no-discharge waters, special streams, subsurface waters and other waters of the state.

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses."

Part III - Rationale and Derivation of Effluent Limitations & Permit Conditions

INTRODUCTION:
This is a municipal storm water discharge permit which authorizes the discharge of storm water from regulated small municipal separate storm sewer systems (MS4s). The permit also authorizes the discharges or flows from emergency fire fighting activities. The permit does not authorize any additional non-storm water discharges, such as: process wastewater, storm water discharges that are mixed with process wastewater, or storm water associated with industrial activity, as defined in 10 CSR 20-6.200 or other discharges identified in Section 1.3 of the permit.

The permit is intended to authorize discharge of storm water even as jurisdictional boundaries change through the life of the permit. This rationale will explain which entities are covered under this permit, how to apply for coverage, and what the basic permit requirements are, including the general requirement of a storm water management program and written plan (SWMP.)

This permit authorizes only the activities described in this permit. Compliance with this permit may not be considered a shield from compliance with any local ordinance, State Regulation or State Law.

TYPES OF ENTITIES COVERED UNDER THIS PERMIT:
This permit is intended to cover new or existing discharges composed entirely of storm water from small MS4s required by State regulation to obtain a permit. This permit is not intended to cover the discharge of storm water from MS4s that have been designated by the department as requiring coverage under an alternative general permit or a site-specific permit.

The criteria for permit coverage are contained in the Missouri Storm Water Regulations 10 CSR 20-6.200. In general, this includes any municipality, and federal or state facility/organization that owns or operates a regulated small MS4 as defined in 10 CSR 20-6.200 (i.e. serving a population of 1,000 or greater and located fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census, or having a population of 10,000 or greater if outside an urbanized area.) MS4s discharging entirely to combined sewer systems are exempt based on their coverage under NPDES wastewater permits.

APPLICATION REQUIREMENTS:
The regulated small MS4 is required to seek coverage under the Small MS4 General Permit or a site-specific permit by submitting completed application forms (Forms M & K if an individual applicant or Forms M & L if applying as a co-permittee), a jurisdictional boundary map showing perimeter outfall locations and a written description of the operator's SWMP. Note: If the small MS4 is seeking renewal of the revised general permit, they may submit the updated SWMP document separately up to 90 days following public notice of the general permit. Note: Form M is currently being revised to include additional information for site-specific small MS4s. (The regulated medium or large MS4 must submit new or renewal applications according to requirements identified in 10 CSR 20-6.200.) MS4 operators that become subject to 10 CSR 20-6.200 following the 2010 census shall submit permit applications within 180 days following census publication. MS4 operators specially designated by the department shall submit permit applications within 180 days following notice by the department.

STORM WATER MANAGEMENT PROGRAM (SWMP):
A docuemented and implementable plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state.

This permit in accordance with 10 CSR 20-6.200 and 40 CFR Parts 9, 122, 123, and 124, requires the permittee to develop and implement a SWMP. The SWMP shall address the six minimum control measures - public education and outreach, public involvement/participation process, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management and pollution prevention/good housekeeping for municipal operations. The SWMP shall include, but not limited to, best management practices, pertinent local regulations, interim milestones, measurable goals, measures of success and responsible persons for each of the measurable goals.

ORDINANCES:
To the extent allowable under State or local law, ordinances (or other regulatory mechanisms) are required to be developed, implemented and enforced within five years of initial permit issuance under the following sections:

1. Illicit discharge detection and elimination – to prohibit non-storm water discharges into the storm sewer system, and implement appropriate enforcement procedures and actions
2. Construction site storm water runoff control – to require erosion and sediment controls at construction sites, as well as sanctions to ensure compliance

3. Post-construction – to address post-construction runoff from new development and redevelopment projects, and sanctions to ensure compliance

SWMP UPDATES REQUIRED BY THE DEPARTMENT:
Changes requested by the department must be made in writing, set forth the time schedule for the permittee to develop the changes, and offer the permittee the opportunity to propose alternative program changes to meet the objective of the requested modification. All changes required by the department will be made in accordance with 10 CSR 20-6.200. The department may require changes to the SWMP as needed to: include components deemed necessary by the department to comply with the goals and requirements of the permit and Missouri Clean Water Law; address impacts on receiving water quality caused or affected by discharges from the MS4; or include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements.

The permittee may also change the SWMP during the life of the permit in accordance with procedures described in Section 4.4 of the permit.

ANNUAL REPORTING:
The permittee is expected to annually review and provide a written report on their SWMP in accordance with Sections 4.4 and 5.3 of the permit. The permittee shall submit the report by July 28 of each year utilizing the department's annual report form MO 78-1846 or latest version.

MONITORING:
Sampling and testing of storm water for specific parameters is not required on a routine basis under this permit. However, the department reserves the right to require sampling and testing, on a case-by-case basis. As per [10 CSR 20-2.010(78)], a wasteload allocation is the amount of pollutants each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Usually wasteload allocations are not calculated. All permittees are subject to the Maximum Extent Practicable per [10 CSR 20-6.200] & [40 CFR 122]. However, if a storm water-based TMDL and WLA have been put into place for any waterbody into which the permittee discharges, monitoring may be required for discharges affecting that waterbed. Regulated MS4s must have procedures in place to investigate findings of illicit discharges further, also potentially resulting in monitoring. In such cases, the permittee shall follow regulations in 10 CSR 20 Chapter 6 and monitoring requirements set forth in the permit.

303(d) LIST, TOTAL MAXIMUM DAILY LOAD (TMDL) AND WASTELOAD ALLOCATIONS
Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

PERMIT REQUIREMENTS:
The permit includes additional requirements that apply if a Total Maximum Daily Load (TMDL) has been approved for any waterbody into which the permittee discharges (Section 3.1. of the permit). In general, these requirements do not, in themselves, dictate additional measures that must be taken by the permittee. Instead, the permit requires the permittee to comply with any requirements included in a TMDL that address storm water discharges covered in the permit. New requirements affecting the permittee's discharges could be in the form of additional narrative requirements for implementation of BMPs, or in the form of a Waste Load Allocation (WLA) that prescribes a specific quantitative limit for pollution from a specific source.

The permittee may maintain coverage under the general permit provided they comply with the applicable requirements outlined above. The Department reserves the right to require site-specific or alternate general permit coverage.

ANTI-BACKSLIDING:
A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); CFR §122.44(l)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

All limits, requirements, and/or conditions in this Fact Sheet are at least as protective as those previously established; therefore, backsliding does not apply.

ANTIDEGRADATION:
Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation plans are adopted by each State to minimize adverse effects on water.

As per [10 CSR 20-7.031(2)(D)], the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B), and (C) of this section shall be implemented according to procedures developed by the department. On April 20, 2007, the Missouri Clean Water Commission approved *Missouri Antidegradation Rule and Implementation Procedure* (Antidegradation Rule), which is applicable to new or upgraded/expanded facilities. The implementation of the Antidegradation Rule will be implemented upon promulgation, which is tentatively scheduled for August 2008.

COMPLIANCE AND ENFORCEMENT:
Action taken by the department to resolve violations of the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

Dischargers of storm water from regulated small MS4s, as defined in the Missouri Storm Water Regulations (10 CSR 20-6.200) who do not obtain coverage under this or other Missouri general permits, or under a site-specific NPDES permit, will be in violation of the Missouri Clean Water Law and its implementing regulations and subject to civil penalties of up to $10,000 per violation per day. For entities covered under a NPDES permit, failure to comply with any NPDES permit requirement also constitutes a violation of the Missouri Clean Water Law and its implementing regulations.

Part IV - Administrative Requirements

PUBLIC NOTICE AND COVERAGE FOR AN INDIVIDUAL ENTITY:
As per the Missouri Clean Water Law, the Missouri Clean Water Commission, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits are directed to do so by a department-approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

The need for an individual public notification process shall be determined and identified in the general permit. [10 CSR 20-6.020(1)(C)5.]

Applicable ☒;
Issuance of coverage to an individual facility under this Master General Permit shall be placed on Public Notice for 30 days in accordance with 10 CSR 20-6.020(1)(B) & (C).

Not Applicable ☐;
Public Notice is not required for issuance of coverage under this Master General Permit to individual facilities for the first time.

The Public Notice period for this operating permit is tentatively schedule to begin on January 11, 2008.

Date of Fact Sheet: March 20, 2008

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