CHRISTIAN COUNTY STORMWATER MANAGEMENT PROGRAM

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March 2008

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CHRISTIAN COUNTY, MISSOURI

APPLICATION FOR STORMWATER PERMITS FOR SMALL MUNICIPAL SEPARATE SEWER SYSTEMS (MS4)

Purpose and Scope

The application for the general permit requires the development of a stormwater management program (SWMP) in accordance with the terms of the general permit. The primary purpose of this stormwater management program is the development and implementation of programs throughout Christian County that effectively minimize stormwater pollutant runoff in the various watersheds located within the County. (See Appendix A to view a copy of the Watershed Map for the County).

General Information about the Covered Area

Christian County covers approximately 564 square miles in Southwest Missouri and is bordered by Greene, Lawrence, Stone, Taney, Douglas and Webster Counties. Christian County's northern boundary is situated immediately south of Springfield, the major metropolitan center in Southwest Missouri.

Christian County has experienced continuous and rapid growth since the 1970s, far outpacing the rate of growth for the State of Missouri and the United States. Christian County is on the list of the 100 fastest growing counties in the United States. The County's rate of growth has been explosive since 1990, with the population increasing from 32,644 in 1990 to 54,285 in 2000, a 66.3 percent rate of growth. In migration overwhelmingly accounts for the County's rapid increase in population. Although Christian County is one of the fastest growing counties in the State of Missouri and is considered part of the Springfield Metropolitan Statistical Area (Greene and Christian Counties), the southern part of the

County is predominantly rural, with a large land area being a part of the Mark Twain National Forest.

The vast majority of the County is Unincorporated. Incorporated cities in Christian County include: Billings, Clever, Fremont Hills, Nixa, Ozark, Saddlebrooke and Sparta. Of these cities, Nixa and Ozark are the largest with 2000 populations of 12,124 and 9,665 respectively. Both cities have grown significantly since the 2000 Census with a recent survey suggesting that Nixa has a current population closer to 15,000 people.

Primary access to Christian County is provided by U.S. Highway 65, U.S. Highway 160, U.S. Highway 60 and MO Highway 14. Both Highways 160 and 65 serve as the major north-south routes connecting Nixa and Ozark to Springfield and the ever growing tourism/recreation centers in the Branson and Table Rock Lake areas to the south. MO. Highway 14 provides the major east-west access route across the northern third of Christian County, linking the County's various cities and villages.

Christian County has a varied natural environment, ranging from relatively flat lowland areas to rugged hills and valleys. The County is characterized by karst topography. The geologic features of karst, such as sinkholes, lineaments, caves and losing streams, place limitations on development due to the potential for surface contaminants to enter the groundwater supply.

The Christian County Comprehensive Plan recognizes that, "Maintenance of groundwater quality is a critical environmental concern as development proceeds in the County. This concern is reflected in the need for appropriate disposal of sewage and solid waste materials."

INTRODUCTION

As stated earlier, the application for the general permit requires the development of a stormwater management program (SWMP) in accordance with the terms of the general permit. The requirements for the SWMP are set forth in the general permit.

Christian County has a number of programs and ordinances in place that will be a firm building block in fulfilling the Phase II Stormwater Regulation. It is our intention to comply with the policies required by this permit.

Despite the fact that we are the fastest growing County in the State, Christian County has put a number of steps in place to preserve the natural resources that make our county such a desirable place to live. This has been accomplished through the conglomerations of the Planning and Zoning Department, the County Health Department, and the overview by a very dedicated County Commission.

Currently we are in the process of adopting a Stormwater and Erosion Control Plan as a section of the County's Unified Development Codes. (See Appendix E)

GENERAL PERMIT REQUIREMENTS FOR SWMP

Application Requirements for Small MS4's

3 Special Conditions

3.1 Discharges to Water Quality Impaired Waters

Some of the water discharge from the regulated areas of Christian County does enter water bodies that are on the MoDNR 303(d) list of impaired waters. These water bodies that are on the list include the James River and Wilson's Creek. At the present time only the James River has a Total Maximum Daily Load (TMDL) that has been approved by the EPA. Phosphorus is the primary nutrient of concern with approximately 64% of the phosphorus loading coming from municipal wastewater treatment facilities which are independently permitted and regulated. The remaining load is attributed to agricultural and urban runoff and sediment loading. The County will be working with the other small MS4s in these watersheds to coordinate efforts to monitor several sites for water quality monitoring over the next five year permit period. This cooperative monitoring effort is one of the recommendations of the Data Gap Analysis, conducted to identify areas of needed research on water quality in the area. (See Appendix C for a description of the Southwest Missouri Water Quality Improvement Project (WQIP) – Data Gap Analysis).

The pollutants that have been identified by the EPA as approved TMDLs for the James River of most concern are phosphorus and sediment. Christian County has a number of measures currently in place which we feel effectively control runoff from construction sites. Post-construction runoff control will be more thoroughly addressed in 2008 as a part of the proposed Stormwater and Erosion Control Chapter of the Unified Development Codes, as addressed in greater detail in later sections. These measures should effectively reduce the non point loading of phosphorus from our small MS4.

Christian County will continue to work closely with the MoDNR to establish an acceptable monitoring plan for this permit requirement.

3.1.1 Discharges to Water Quality Impaired Waters

Some discharges from Christian County are upstream of MoDNR 303(d) listed waters.

3.1.1.1 Monitoring Program for Stormwater Discharges to MoDNR 303 (d) Listed Waters

Christian County is currently working with both the MoDNR and other area MS4s on a cooperative monitoring program to determine if significant contributions of measurable pollutants exist.

3.1.1.2 EPA Approved TMDLs

The James River has TMDLs that have been developed by the MoDNR and approved by the EPA. A small area within Christian County's regulated MS4 is upstream of both of these water bodies.

3.1.2 Water Quality Controls for Discharges to Impaired Watersheds

As Christian County begins a cooperative monitoring program it will allow the County to determine if discharges from this small MS4 are contributing significantly to the measurable pollutants of concern. (Phosphorus is the primary nutrient of concern.) In 2008, with the adoption of the new Stormwater and Erosion Control Chapter of the Unified Development Codes by the County Commission, quality BMPs will be required in all watersheds within Christian County.

3.1.3 Consistency with TMDL Allocations. *If a TMDL has been finalized for any water body into which Christian County discharges, the County must:*

3.1.3.1 Determine Whether the Approved TMDL is Likely in Stormwater Discharge

The TMDLs are for phosphorus, which is likely to be found in stormwater discharges.

3.1.3.2 Determine a Wasteload Allocation

The TMDL does include a load allocation (LA) for non-point pollution sources, but not specifically for stormwater discharges.

3.1.3.3 Determine if TMDL Addresses a Flow Regime
The TMDL does address a flow regime for stormwater flows.

3.1.3.4 Additional Control Measures
Monitoring will need to be conducted to determine if Las are being met.

3.1.3.5 Current and Planned Control Measures
Christian County has and will continue to adopt a number of regulations and policies which are very effective non-structural BMP's with regard to water quality protection. These current and proposed regulations include:

- Proposed 2008 Stormwater and Erosion Control (Appendix E)
- Proposed 2008 Urban Services Area Policy (Appendix F)
- Unified Development Codes (Appendix D)
- Comprehensive Plan (Appendix G)
- Floodplain Management Regulations (Appendix H)

3.1.3.6 Cooperative Monitoring Program
Christian County is currently cooperating with both the MoDNR and other area MS4s in order to establish a regional monitoring program.

3.1.3.7 Additional or Modified Controls
If additional or modified controls are necessary the type and scope of controls will be determined by the results of the water quality monitoring program.

3.2 Duty to Comply
3.2.1 *Christian County 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.*

Appendix A includes information about the watersheds found in Christian County and general TMDL information about the James River and Wilsons Creek.

4.2 Six Minimum Control Measures:

4.2.1 Public Education and Outreach

4.2.1.1 Permit Requirement: ***Christian County shall implement a public education program to distribute education materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharge on water bodies and the steps the public can take to reduce pollution in stormwater runoff.***

4.2.1.2 Decision Process

The decision process is documented in the ensuing paragraphs.

4.2.1.2.1 Plans to Inform Individuals & Households of Steps to Reduce Stormwater Pollution

Christian County has provided its citizens and business and property owners with stormwater education and outreach, through cooperative efforts between the Christian County Planning and Zoning Department, the Greene County Resource Management Department, the city of Nixa, the city of Ozark, the James River Basin Partnership (JRBP), the Watershed Committee of the Ozarks, the Christian County Soil and Water Conservation District (SWCD), the Natural Resources Conservation Service (NRCS) and the Ozarks Environmental and Water Resources Institute (OEWRI). All entities expect continued success as additional target audiences are identified and modifications to the current program are phased in.

The focus of these education efforts, both past and in the future, will be to educate the public concerning stormwater discharges and their relative impacts on storm water quality, as well as informing the public of measures they can take to reduce pollutants in storm water runoff. As stated earlier, the Christian County Planning and Zoning Department, has and will continue to work with the Greene County Resource Management Department, the city of Nixa, the city of Ozark, the James River Basin Partnership (JRBP), the Watershed Committee of the Ozarks, the Christian County Soil and Water Conservation District (SWCD), the Natural Resources Conservation Service (NRCS) and the Ozarks Environmental and Water Resources Institute (OEWRI) to provide a public education and outreach program to its citizens, businesses and property owners.

The Greene County Resource Management Department has provided workshops and training seminars to the employees of the Christian County Planning and Zoning Department.

Much of Christian County is considered a sensitive karst region. The north central and northwestern parts of the county have been classified by the MoDNR as a sensitive area for well construction due to the karst topography. This is also the area that falls directly under this regulated small municipal storm sewer system program. Due to these factors, water quality protection has historically been of the utmost importance. In the early 1980's the Watershed Committee of the Ozarks was born out of the recommendation of a Springfield/Greene County Watershed Task Force. The Watershed Committee of the Ozarks is funded in part by Greene County and therefore the majority of its efforts take place in the County immediately to our north. But the Watershed Committee of the Ozarks has provided the Christian County Planning and Zoning staff with information and educational materials which are distributed to the public by the County staff and are used to educate and inform these members of the public about water quality issues.

As concerns over water quality in Table Rock Lake grew in the 1990's Christian County joined other counties and cities within the James River Watershed in the formation of the James River Basin Partnership. The James River Basin Partnership's mission is to implement programs that positively impact water quality and to increase citizen awareness and participation in water quality issues. These goals are accomplished through a variety of programs, grant projects and other initiatives. Some of the recent and current programs of the James River Basin Partnership include the following:

1. **County Wide Watershed Festivals:** The Christian County Planning and Zoning Department will work in conjunction with the James River Basin Partnership, the University of Missouri Extension, the Missouri Department of Conservation, the local NRCS Office and a number of other agencies and volunteers to offer a County Wide Watershed Festival to 5th grade students in school districts throughout Christian County. Last year the watershed festivals reached over 1200 students, teachers and volunteer chaperons. Students participating in this half-day event have the opportunity to visit five interactive stations, each dealing with an aspect of water quality,

watersheds, conservation, groundwater, and point/non-point pollution. Following the tour of the educational stations, the students are tested on the information presented. Post surveys completed by teachers indicated that 75% of the students gained new information.

2. **Septic Pump-Out Program:** This is a cost share program where participants are offered a $50.00 incentive for participation in the pump-out program. The primary goal of this program is to prevent septic tank failures and impending water pollution. Through this program each homeowner is also visited by a representative from the JRBP or the Table Rock Lake Inc. and given a packet of educational information.
3. **Rain Gardens Implementation:** The James River Basin Partnership has established a number of demonstration rain gardens throughout Greene and Christian Counties which will encourage homeowners to install rain gardens as a means of reducing stormwater runoff and pollution, while also encouraging water conservation. The JRBP has recently implemented a demonstration rain garden at the 4-H building in Ozark and plans to implement a series of 16 rain gardens in a Nixa subdivision. This Nixa subdivision project will involve the monitoring of the reduction of stormwater with automatic samplers.
4. **Annual River Rescue:** Volunteers are organized for this annual James River clean-up and benefit concert. Information on water quality issues is also distributed at the benefit concert that follows the river clean-up.
5. **Urban lawn-testing Program:** A JRBP representative collects a soil sample from the lawn participants. The soil sample is analyzed by a state soil testing laboratory. The JRBP staff along with the NRCS prepares an urban fertilizer plan for their yard based on a soil test. All residents of the James River Basin are eligible for this program.

The Christian County Soil and Water Conservation District (SWCD) has been involved in a number of stormwater education and outreach efforts throughout the County. The Christian County Soil and Water Conservation District (SWCD) is a board of vested stakeholders who provide leadership for environmentally sound stewardship of natural resources in the county with the goals of promoting voluntary participation of landowners and citizens in District programs by informing, educating and motivating them to use land and water in ways that will insure supplies of these resources for the future. Last year Christian County contributed $10,000 toward the operating budget of the

SWCD. The Soil and Water Conservation District's recent educational programs and water quality improvement projects include the following:

1. **Ground Water Demonstrations:** The Information-Education Specialist with the Christian County Soil and Water Conservation District has used a Ground Water Flow Model purchased from Iowa State University to complete a number of stormwater demonstrations in elementary and middle school classrooms throughout the County. This model can be used to demonstrate a number of environmental concerns and concepts. Throughout the year a significant number of demonstrations were done for school age children, with plans to also reach a number of adult landowners in 2008. (The Instruction Manual for the Model from Iowa State University can be found in Appendix B)
2. **Bi-Annual High School Field Trips:** The staff of the Christian County SWCD, coordinate two environmental education field trips each year with administrators from local high schools within Christian County. Last year the two trips consisted of tours of Breakdown Cave, a privately owned cave near the James River. The students were taught about caves, karst topography and general impacts on water quality and a number of other environmental and conservation issues.
3. **Finley River 319 Nontraditional Agriculture Implementation Project:** The Christian County SWCD received 319 Grant funds for this non-point source water quality project. This project is designed to provide technical and financial assistance to land owners with tracts of land ranging from 3 acres to 40 contiguous acres. Through information and education focused on reductions of sediment and nutrients within the watershed and by increasing riparian corridors along its streams it is the hope that this grant will provide the citizens of the watershed with an improved environmental outlook and a clean water resource. This grant project will include the following educational opportunities:
    - Soil Testing Awareness Education
    - Informational Mailings
    - Field Days
    - Workshop
    - News Releases
    - Community Stream Clean-Up Days

- County Fair Booth
- Equine Event Outreach
- Project Web Site
- Public Service Announcements

The Environmental Division of the Christian County Health Department conducts training seminars every two months for on-site wastewater installers, for whom certification is required to do work in the County.

Each of the organizations mentioned above plays an active and effective role in public education and outreach, providing a strong framework of existing initiatives for this required minimum control measure.

Besides being directly involved with many of the efforts listed above the Christian County Planning and Zoning staff have been active in public education and outreach activities. It is our intent to continue to form a working relationship with our local school districts in order to provide educational handouts and classroom activities to promote stormwater and environmental impact education. Some of the recent, on-going and planned programs of the Christian County Planning and Zoning Department include the following:

1. **Ground Water Demonstrations:** Using a Ground Water Flow Model which was borrowed from the SWCD, the Planning and Zoning Staff completed a number of stormwater demonstrations in the science classes of elementary and middle school students at both the Chadwick and Billings School districts. As stated earlier, this model can be used to demonstrate a number of environmental concerns and concepts. (The Instruction Manual for the Model from Iowa State University can be found in Appendix B)
2. **Informational Guides:** BMP informational guides developed by the MoDNR, the EPA, the Watershed Committee of the Ozarks, the James River Basin Partnership, the Christian County Soil and Water Conservation District, the NRCS, and other entities are provided to developers, builders, and the general public throughout the subdivision and building process.
3. **Stormwater and Erosion Control Seminars:** Beginning in 2008, The Christian County Planning and Zoning Staff in conjunction with the County Engineer (Great River Engineering) and the local Natural Resources Conservation Service office will offer a series of

stormwater design and erosion control seminars to professionals who submit stormwater and soil and erosion control plans to the County.

The County plans to continue and expand upon all of these efforts to both meet the requirements of the permit and improve the quality of the area's water resources.

4.2.1.2.2 Plans to Inform Individuals & Groups on Becoming Involved in the Stormwater Program

The programs mentioned above such as the JRBP's annual River Rescue and the Christian County SWCD's ground water demonstrations will help to fulfill this permit requirement.

4.2.1.2.3 Target Audiences

The target audience for our stormwater education program is very diverse. In 2008, the County will conduct professional education seminars which will be directed toward engineers, architects and other design professionals who have an immediate impact on the design of stormwater systems in new developments. We are also trying to reach developers since they are the driving force behind the final product designed by the engineers. The Planning and Zoning Department will also continue to train contractors and builders on soil and erosion control regulation and installation. The Planning and Zoning Staff will work directly in conjunction with the James River Basin Partnership, the University of Missouri Extension, the City of Branson, the Missouri Department of Conservation, the NRCS and a number of other agencies to put on a County-Wide Watershed Festival for 5th grade students throughout the County. Through this Watershed Festival school age children are taught about the need to protect water quality, since they will be managing stormwater in the future. By providing education to children, homeowners, developers, engineers, and contractors we hope to improve the quality of not just stormwater but all of our water resources.

4.2.1.2.4 Target Pollutant Sources

All of the above organizations and programs are aimed at reducing sediment and nutrients in surface and groundwater.

4.2.1.2.5 Outreach Stategy

These programs utilize brochures, pamphlets, educational workshops, speaking presentations, and media advertisements to get the message out to the public. The JRBP's County-Wide Watershed Festivals reach thousands of students, teachers and volunteer chaperons. The County Health Department has also reached nearly every septic installer in the county.

4.2.1.2.6 Responsible Parties

The Christian County Planning and Zoning Department is responsible for the management and implementation of the stormwater program. Although the Planning and Zoning Department is ultimately responsible for the management and implementation of this program, we must work in cooperation with several of other entities in order to effectively implement a number of the activities and programs. The Planning and Zoning department will continue to work with Greene County, the City of Nixa, the City of Ozark, the James River Basin Partnership, the Watershed Committee of the Ozarks, the Christian County Soil and Water Conservation District, the local NRCS Office, the Ozarks Environmental and Water Resources Institute (OEWRI) and others in order to attain the best management program possible.

4.2.1.2.7 Evaluation

The best measurable goal for the Public Outreach and Education Control Measure is to document the number of people reached by the education program.

The Watershed Committee of the Ozarks has begun keeping track of the number of attendees at each educational program (see Appendix A).

The Christian County Health Department currently keeps an up-to-date list of state and county certified on-site wastewater installers. The Health Department also documents the number of installers trained per year.

The JRBP has a specific goal of 1,000,000 gallons of septic effluent pumped out of septic tanks as part of their "Get Pumped" program. In addition, their "Get Tested" program has written urban nutrient management plans for over 300 lawns.

The JRBP also hosts the County Wide Watershed Festival. The JRBP documents the number of students, teachers, and volunteer chaperones this festival includes. Last year, the number it reached was over 1,200 participants.

Appendix B includes information on the Watershed Committee of the Ozarks, the James River Basin Partnership, The Christian County Soil and Water Conservation District, the South Missouri Water Quality Project of the NRCS including quarterly newsletters and brochures which have been developed.

Appendix C includes information about the Ozark Environmental and Water Resources Institute (through Missouri State University) including a copy of the Finley Creek Baseline Water Quality Monitoring Project.

4.2.2 Public Involvement/Participation

4.2.2.1 Permit requirement: ***Christian County shall implement a public involvement/participation program that complies with State and local public notice requirements.***

4.2.2.2 Decision Process
The decision process is documented in the ensuing paragraphs.

4.2.2.2.1 Public Involvement in the Development of the Stormwater Program
All development which takes place within the unincorporated areas within Christian County must meet the required regulations of the Unified Development Codes (UDC). The UDC combines the functions of both zoning regulations and subdivision regulations into one document. Christian County is currently in the process of adopting a Stormwater and Erosion Control Section to the Unified Development Codes through a series of advertised, public hearings before the Planning and Zoning Commission. Prior to any public meetings public notice is given through the requirements of both the UDC and Missouri State Statutes. This stormwater section will deal in great detail with issues concerning both stormwater quantity and quality. The Planning and Zoning Commission has forwarded a recommendation to the County Commission asking for the adoption of this Section as Chapter 19 of the Unified Development Codes. The County Commission will vote to adopt the Stormwater and Erosion Control Section through an additional series of advertised, public hearings. These new regulations will have an effective date beginning in early 2008. A draft copy of the Stormwater and Erosion Control Section is included in Appendix E.

Christian County has a Performance-based system of Zoning, in which every vacant tract of land is considered to be zoned as agricultural until an applicant either applies for a Division I (building permit) for a home or comes through a series of public hearings before the Planning and Zoning Commission in order to ask for a specific land use. Any subdivision of land into more than three lots or any subdivision of land which would be best served by internal improvements (a.k.a. a road built to County specifications) will also require the applicant to come before the Planning and Zoning Commission through a series of public hearings.

The annual budget has and will continue to include a line item for Phase II Stormwater Management implementation. The budget is considered and adopted by the Christian County Commission. The budget is reviewed in public hearings which are open for public comment and review. A copy of the budget can be obtained from the Christian County Commission Office, 100 West Church Street, Ozark, Missouri 65721. (A copy of the 2007 Christian County Planning and Zoning Department Budget can be found in Appendix I. The 2008 budget is under consideration by the Christian County Commission at this time.)

On August 7, 2007, the voters of Christian County approved County Wide Building Codes. The County is in the process of adopting the 2006 International Building Codes. The County Commission has appointed a Building Commission. This Building Commission is in the process of holding a series of advertised, public hearings in order to write Building Codes which deal with various aspects of commercial and residential construction. County-wide Building Codes will go into effect sometime in 2008, in which all new construction will be inspected after a specific effective date. A new Building Regulations Department will be formed in 2008 and will work jointly with the Planning and Zoning Department to ensure that specific requirements relating to stormwater are met including both pre and post-construction stormwater management.

4.2.2.2.2 Plan for Continued Public Involvement in the Development and Implementation of the Program

As Christian County continuously works to improve its Stormwater Management Program the Unified Development Codes will require modifications. These future revisions will be held to the same high standards of public notice and input. Any revisions to the UDC, the Building Codes or any other County regulations will be submitted to the general public, the local engineering community and the local development and building community. In early 2008 the Planning and Zoning Staff in conjunction with the County's Engineer (Great River Engineering) and the South Missouri Water Quality Project of the NRCS plan to conduct a training session with members of the local engineering, development, and building communities, in order to familiarize them with the County's new Stormwater requirements.

4.2.2.2.3 Target Audiences

Christian County has attempted to identify and target as many stakeholder groups as possible, for involvement in the overall stormwater management program and any modifications that are made to it. The primary target audiences involved in the program are:

- *Citizens*
- *Engineers*
- *Builders/Developers*
- *Students*
- *Business Leaders*
- *Watershed Partnership Groups*
- *Local Government Officials*
- *Missouri State University (OEWRI)*
- *Environmental and Conservation Groups*
- *Mass Media*

4.2.2.2.4 Types of Public Involvement Activities

A number of different types of activities have been used to involve the target audiences listed above.

The James River Basin Partnership (JRBP) has conducted a series of stakeholder meetings with citizens residing within each of the James River's six sub-watersheds. These stakeholder meetings are designed to collect citizens input concerning the development of a watershed management plan for each of the six sub-watersheds. These six management plans have been combined in order to create a basin wide watershed management plan. A draft plan has been submitted to the Missouri DNR. The action plans of many of the sub-basin plans have focused on stormwater related issues.

The JRBP also conducts an annual James River clean-up and benefit concert.

The JRBP is also responsible for promoting the use of rain barrels, septic tank pumping initiatives, urban lawn testing and other demonstration projects which help to involve the citizens directly in the protection of our ground and surface water resources.

The Christian County Soil and Water Conservation District has also conducted a series of stakeholder meetings with citizens residing within the Finley River Watershed. These stakeholder meetings were designed to collect citizens input concerning the development of a watershed management plan. As with the JRBP, the action plans have focused on a number of stormwater related issues.

4.2.2.2.5 Parties Responsible

The Christian County Planning and Zoning Department is responsible for the management and implementation of the stormwater program. Although the Planning and Zoning Department is ultimately responsible for the management and implementation of this program, we must work in consultation with several of other entities in order to effectively implement a number of the activities and programs. The Planning and Zoning department will continue to work with Greene County, the City of Nixa, the City of Ozark, the James River Basin Partnership, the Watershed Committee of the Ozarks, the Christian County Soil and Water Conservation District, the South Missouri Water Quality Project of the NRCS, the Ozarks Environmental and Water Resources Institute (OEWRI) and others in order to attain the best management program possible.

4.2.2.2.6 Evaluation

Through the combined efforts of Christian County, the James River Basin Partnership, the Christian County Soil and Water Conservation District and a number of other groups this program complies with state and local public notice requirements. The Christian County Planning and Zoning Department will strive to involve all of the identified target groups in the various aspects of this Stormwater Management Plan.

4.2.3 Illicit Discharge Detection and Elimination

4.2.3.1 Permit Requirement: ***Christian County shall develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into Christian County's regulated small MS4;***

4.2.3.1.1 Illicit Discharge Program

At this time Christian County does not have a specific ordinance in place that deals with illicit discharge. An ordinance will need to be developed for inclusion into the Christian County Unified Development Codes which will prohibit discharges that are contributing significant pollution to the County's MS4.

4.2.3.1.2 Storm Sewer System Map

Christian County has no storm water system per se. The County has developed a map showing the location of outlets of storm systems from the City of Nixa and the City of Ozark which are located within the regulated MS4 as well as the major outfalls for streams and tributaries in the unregulated parts of the county. This map also contains the locations and names of all waters of the State that receive discharges from these outlets. This map has been incorporated into Christian County's GIS system and can be found in the front pocket of the MS4 Stormwater Plan.

4.2.3.1.3 Regulatory Mechanisms Prohibiting Illicit Discharge

Christian County Building Codes (2006 International Building Codes) will address this issue as they become effective at a later date in 2008. Christian County is in the process of adopting the 2006 International Building Codes, including plumbing codes. These regulations will include requirements for discharges and connections which are permitted and prohibited to the storm drainage system or to surface waters, as well as enforcement and penalty provisions for violations. The Christian County Health Department has adopted regulations for on-site septic systems.

4.2.3.1.4 Illicit Discharge Detection

At this time, Christian County has no regular inspections for illicit discharge of stormwater drainage. Reported actions are inspected by the Code Enforcement/Environmental Officer and remedies are sought by compliance or other actions. Illegal dumping complaints are investigated by the Christian County Sheriff's Department, the Christian County Health

Department or the MoDNR. The County Emergency Management Office is involved with hazardous or suspicious materials.

4.2.3.1.5 Informing the Public

Septic system installers must obtain a biennial certification from the Christian County Health Department. A written examination is required for certification. The Health Department provides certification training classes for on-site wastewater system installers.

4.2.3.1.6 Non-significant Contributors

None of the following discharges are known to be a significant contributor of pollutants to Christian County's MS4:

- *Landscape irrigation or rising groundwater*
- *Uncontaminated groundwater infiltration (as defined in 10 CSR 20-6.200)*
- *Uncontaminated pumped groundwater*
- *Discharges from potable water sources including waterline flushing and fire hydrant testing, foundation drains and air conditioning condensation*
- *Springs*
- *Water from crawl space pumps*
- *Footing drains*
- *Lawn watering*
- *Flows from riparian habitats and wetlands*
- *Street wash water*

4.2.3.1.7 Other Non-significant Contributors

At this time Christian County has not yet addressed any occasional incidental non-stormwater discharges.

4.2.3.2 Decision Process

The decision process is documented in the both the previous and ensuing paragraphs.

4.2.3.2.1 Development of a Storm Sewer Map

Christian County has no storm sewer systems per se but the Planning and Zoning Staff have completed a map showing outfalls coming into the County from the cities of Nixa and Ozark along with the major stream

outfalls leaving the County's boundary. (A copy of the map has been provided in the front pocket of this MS4 Stormwater Permit.)

4.2.3.2.2 Regulatory Mechanism

At this time, Christian County has no stand alone illicit discharge ordinance. An ordinance will need to be developed for inclusion into the Unified Development Codes which specifically prohibits non-stormwater discharges that are contributing significant pollution to Christian County's MS4. The development of this ordinance will require the consideration and approval of both the Planning and Zoning Commission and the County Commission. Public notice will be given and public hearings held as required by State Statute.

4.2.3.2.3 Implementation of Illicit Discharge Regulatory Mechanism

Currently, reported actions are inspected by our Zoning Code Enforcement Officer and remedies are sought by compliance or other actions. Illegal dumping complaints are investigated by our Christian County Sheriff's Department, the Health Department or the DNR. The Christian County Emergency Management Office oversees hazardous or suspicious materials. The penalties for violation will be specified in the ordinance.

4.2.3.2.4 Plan to Detect and Address Illicit Discharges

At present, Christian County does not have sufficient staff to perform dry weather screening of major outfalls.

4.2.3.2.5 Public Information

This requirement is addressed by several JRBP and WCO programs that include discussions of no-point sources of stormwater pollution. We will develop programs to inform County employees of the hazards associated with illegal discharges and improper waste disposal.

4.2.3.2.6 Parties Responsible

The Christian County Planning and Zoning Department is responsible for the management and implementation of the stormwater program. Although the Planning and Zoning Department is ultimately responsible for the management and implementation of this program, we must work in consultation with several of other entities in order to effectively implement a number of the activities and programs.

4.2.3.2.7 Evaluation

One of the best current measures of success are the numbers of sanitary sewer permits issued and the on-site wastewater system inspections conducted by the Environmental Division of the Christian County Health Department. Other measures of success include the number of wastewater and solid waste complaints that are successfully resolved and the number of filing septic systems that are successfully repaired annually.

4.2.4 Construction Site Stormwater Runoff Control

4.2.4.1 Permit Requirement: ***Christian County 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 would disturb one acre or more. The County's program shall include the development and implementation of, at a minimum:***

4.2.4.1.1 Regulatory Mechanism – Erosion and Sediment Controls
On April 29, 1996, Christian County adopted a Sediment and Erosion Control Section to the Unified Development Codes (Chapter 19). These regulations apply to all non-agricultural land disturbance of over one acre. At this time, there are no regulations for a development disturbing a land area of under one acre (43, 560 Sq. feet) unless it is deemed necessary due to topographic considerations. Christian County is in the process of revising the Unified Development Codes and disturbance under one acre may require a Soil and Erosion Control permit on an effective date in 2008. In order to obtain a Soil and Erosion Control Permit through the County, the applicant must provide an engineer's plan that meets the requirements specified within Chapter 19 of the UDC. If the applicant is applying for a land use change or is developing a major subdivision then the Soil and Erosion Control Permit is seen as part of that Division II or Division III application that must be approved by the Planning and Zoning Commission through a series of public hearings. Sites disturbing 5 or more acres also require a Division III permit application.

A copy of the current Soil and Erosion Control regulations (Chapter 19 of the UDC) and the proposed Stormwater and Soil and Erosion Control (Proposed new Chapter 19 of the UDC) are included in Appendices D and E respectively.

Christian County has a locally approved program for construction site runoff control under a general permit from the Missouri Department of Natural Resources. Any land disturbance activity disturbing more than one acre requires a land disturbance permit from the Missouri DNR as well a Christian County Soil and Erosion Control permit. Construction site

stormwater runoff control is administered and enforced by the Christian County Planning and Zoning Department. This department consists of five employees: The administrator, one senior planner, one administrative clerk, one secretary, and two code enforcement/stormwater inspectors. (A copy of the 2007 Christian County Planning and Zoning Department Budget can be found in Appendix I. The 2008 budget is under consideration by the Christian County Commission at this time.)

4.2.4.1.2 Requirements - Implementation of Best Management Practices
Prior to issuance of a County soil and erosion control permit the applicant/developer must first submit an engineering plan which is reviewed by both county personnel and Great River Engineering (The County's contract engineer).

4.2.4.1.3 Requirements for Other Construction Site Wastes
Construction site operators are required to follow the SWPPP regulations to control other wastes. Wastes required to be controlled include discarded building materials, concrete truck washouts, chemicals, litter and sanitary waste.

4.2.4.1.4 Site Plan Review
All site plans are reviewed for approval by the Planning and Zoning Administrator and/or the Senior Planner. The soil and erosion control plan is reviewed by the Planning and Zoning Administrator and/or the Senior Planner in direct consultation with the County Engineer (Great River Engineering). See the Stormwater and Erosion Control Draft in Appendix E for submittal and review procedures.

4.2.4.1.5 Receipt and Consideration of Public Information
All new commercial land use requests or major subdivisions (subdividing a tract of land into over 3 lots) must be presented through a series of public hearings before the Christian County Planning and Zoning Commission. All neighboring property owners within 1000 feet of the proposed development are contacted first by a regular mailing, prior to the Pre-application Conference and later by a certified mailing prior to the first Public Hearing before the Planning and Zoning Commission. These Public Hearings are also advertised in the local paper and are posted on-site 15 days prior to the public hearing. All of these notice requirements are per Missouri State Statutes governing public hearings. These hearings are a forum for the

public to provide any relevant information for any and all proposed developments. Please find the notice requirements in Chapter 4 of the UDC, Appendix D.

4.2.4.1.6 Procedures for Site Inspection and Enforcement

All land disturbance sites are inspected on a regular basis by the two Code Enforcement/ Environmental Inspectors as a part of their required job duties.

4.2.4.2 Decision Process

As stated earlier, on April 29, 1996, Christian County adopted a Soil and Erosion Control Section to the Unified Development Codes (Chapter 19). The County is currently in the process of adopting a new Stormwater and Erosion Control Section to the Unified Development Codes through a series of advertised, public hearings before the Planning and Zoning Commission. (Chapter 19 of the Unified Development Codes). These Sections can be found in Appendices D and E respectively.

4.2.4.2.1 Regulatory Mechanism Requiring Erosion and Sediment Controls

Chapter 19 of the Christian County Unified Development Codes requires sediment and erosion controls as applicable at construction sites. The current Soil and Erosion Control Chapter of the UDC can be found in Appendix D.

4.2.4.2.2 Plan to Ensure Compliance Including Enforcement

Inspection requirements and penalties for violation are found in Chapter 19 of the Unified Development Codes.

4.2.4.2.3 Requirements for Construction Site Operators

Construction site operators must follow the requirements of the SWPPP as mandated by the United States Environmental Protection Agency.

4.2.4.2.4 Consideration of Potential Water Quality Impacts During Site Plan Review

As previously stated, all site plans are reviewed for approval by the Planning and Zoning Administrator and/or the Senior Planner. The soil and erosion control plan is reviewed by the Planning and Zoning Administrator and/or the Senior Planner in direct consultation with the County Engineer (Great River Engineering). See Appendix D for current submittal and review

procedures and Appendix E for the 2008 proposed submittal and review procedures.

4.2.4.2.5 Procedures for Receipt and Consideration of Public Information

As required by Chapter 64 of the Missouri Revised Statutes, the Christian County Planning and Zoning Commission is required to hold public hearings when considering commercial land use requests or major subdivisions (subdividing a tract of land into over 3 lots). See the procedure described above in Section 4.2.4.1.5.

4.2.4.2.6 Procedures & Requirements for Site Inspections

The procedures and requirements for site inspections by the Christian County Staff will be set forth in 2008 as a part of the proposed Stormwater and Erosion Control Chapter of the Unified Development Codes. The Code Enforcement Officer/Environmental Inspector conducts inspections of sediment and erosion control measures. In addition, construction site operators are required under the requirements of the MoDNR issued land disturbance permit to perform weekly and post rainfall self-inspections of erosion control measures.

4.2.4.2.7 Parties Responsible

The Christian County Planning and Zoning Department is responsible for the management and implementation of the stormwater program. Although the Planning and Zoning Department is ultimately responsible for the management and implementation of this program, we must work in consultation with several of other entities in order to effectively implement a number of the activities and programs. The Planning and Zoning department will continue to work with other Federal, State and local jurisdictions.

4.2.4.2.8 Evaluation

The success of this minimum control measure can be evaluated in part by the number of County soil and erosion control permits issued per year and the number of those sites that require a MoDNR land disturbance permits. But success can also be measured by the number of inspections that have been completed by the county staff through the year and the number of soil and erosion control permits that are successfully closed.
The following actions will be needed:

- Develop and formalize reporting procedures.

- Define measurable goals for the BMPs.
- Coordinate requirements with the TMDLs established for the James River.

4.2.5 Post Construction Stormwater Management

4.2.5.1.1 Permit Requirement: ***Christian County shall develop, implement and enforce a program to address stormwater 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 of sale, that discharge into the Christian County's small MS4. The County's program shall ensue that controls are in place that would prevent or minimize water quality impacts;***

4.2.5.1.2 Development and Implementation Strategies
In the past, Christian County's regulations and requirements traditionally focused primarily on temporary stormwater management BMP's for construction sites. With the adoption of the Stormwater and Erosion Control Chapter of the Unified Development Codes in 2008, the County will also be planning for the design, construction, operation and maintenance of permanent stormwater management facilities.

Christian County being in a highly sensitive geological area has been the site of several recent studies on water run off and water quality. The Ozarks Environmental and Water Resources Institute (OEWRI) through Missouri State University and some members of the Watershed Committee of the Ozarks are and have been working in our County and are providing information in these areas.

Christian County will develop and implement strategies, which include a combination of structural and non-structural BMP's. We have adopted the following definitions of non-structural and structural BMP's:

Non-structural BMP's include practices which affect stormwater quality by activities and requirements which do not include construction of stormwater facilities per se. Examples of non-structural BMP's are public education, standards for land use planning and design, etc.

Structural BMPs are those which result in the actual construction of a stormwater management facility. Permanent structural BMPs include extended detention basins, bioswales, vegetative filter strips, sand filters, etc. Structural BMP's may be "hard" (a concrete sand filter chamber, for example or "soft" (bio-swale, vegetative filter strip) depending upon their design and application.

4.2.5.1.3 Mechanism for Addressing Post-Construction Runoff

As of 2008, all new developments in Christian County will be required to provide stormwater detention to limit post-construction peak discharges to the pre-construction rate or lower as a part of the proposed Stormwater and Erosion Control Regulations, Section 19 of the Unified Development Codes. (Appendix E)

4.2.5.1.4 Operation and Maintenance of Best Management Practices

At present the County only provides operation and maintenance for permanent stormwater facilities located on County road right-of-way. Operation and maintenance for permanent stormwater facilities located on private property are the responsibility of the property owner. For commonly owned private facilities, the Unified Development Codes include requirements for the formation of either home owners' or property owners' association and mandatory collection of dues to provide for operation and maintenance of stormwater facilities. Covenants including the formation of the association must be provided to the Planning and Zoning department prior to even being placed on the Planning and Zoning Commission Agenda. All permanent BMP's are required to be located within one single lot where maintenance is the property owner's responsibility, or in dedicated common space where maintenance is the responsibility of the homeowner's association. The Stormwater and Erosion Control Draft which will become Chapter 19 of the Christian County Unified Development Codes will address permanent BMP operation and maintenance (Appendix D).

To more adequately address the long term operation and maintenance of permanent stormwater BMP's Christian County is investigating long term funding options to enable the County to play a greater role in stormwater system maintenance.

4.2.5.2 Decision Process

The decision process is documented in both the previous and ensuing paragraphs.

4.2.5.2.1 Discharge Requirement for Stormwater Detention

As stated above all new developments in Christian County will be required in the new proposed Section 19 of the Unified Development Codes to provide stormwater detention to limit post-construction peak discharges to the pre-construction rate or lower.

4.2.5.2.2 Tailoring the Program

As of 2008, all new developments in Christian County will be required to provide stormwater detention volume for the 100 year storm event with discharge rates of all required frequencies (2, 10, and 100 year) not to exceed the pre-developed conditions.

4.2.5.2.3 Non-Structural Best Management Practices

Christian County has adopted a number of regulations and policies which are very effective non-structural BMP's with regard to water quality protection. These include:

- Comprehensive Plan (Appendix G)
  - Sets the goals of the County including general environmental and water quality policies.
- Unified Development Codes (Appendix D)
  - The current Soil and Erosion Control, Chapter 19 regulates all soil and erosion control for new developments.
- Proposed Urban Services Area Policy (Appendix F)
  - Encourages urban level growth near established infrastructure.
- Floodplain Management Regulations: Unified Development Codes (Appendix H)
  - Regulates all development within a FEMA Floodplain area.
- Proposed Stormwater and Erosion Control Chapter of the UDC (Appendix E)
  - Sets specific standards for stormwater system design and erosion control.
  - Began the public hearing process in February 2007.

4.2.5.2.3.1 Policies and Ordinances that Direct Growth

Currently, high density development is allowed only in areas that can be served by both municipal sewer and water services. In order for an application to even be placed on the Planning and Zoning Commission Agenda a high density development must connect to municipal services. Only lots greater than 3 acres are allowed to have on-site waste water systems. This greatly encourages centralized growth around already urbanized areas where sanitary sewer can be easily extended. Christian County is in the process of enacting an Urban Service Area Policy which would require all developments that are contiguous to the city and within 300 feet of municipal services to begin annexation procedures with the city

in question. All developments within the Urban Service Area of a municipality but outside of the 300 foot service requirement would receive a negative score in the scoring process when seeking approval before the County Planning and Zoning Commission. This plan has already undergone public hearings and a vote by the Planning and Zoning Commission and must now be voted on by the County Commission at a public hearing.

4.2.5.2.3.2 Policies or Ordinances that Encourage Infill Development

See the proposed Urban Service Area Policy and the UDC (Appendix F and D respectively). Both mechanisms help to limit high density growth to areas close to existing infrastructure.

4.2.5.2.3.3 Education Programs Concerning Project Design

The James River Basin Partnership has established a number of demonstration rain gardens throughout Greene and Christian Counties which will encourage homeowners to install rain gardens as a means of reducing stormwater runoff and pollution, while also encouraging water conservation. The JRBP has recently implemented a demonstration rain garden at the 4-H building in Ozark and plans to implement a series of 16 rain gardens in a Nixa subdivision. This Nixa subdivision project will involve the monitoring of the reduction of stormwater with automatic samplers.

The water retention area at the Common One District contains a vegetative filtering system which was designed by the County Engineer to remove a number of pollutants through the use of cattails and other plants that remove pollutants from the stormwater runoff. The County will have to investigate sources of funding

4.2.5.2.3.4 Other Measures

In 2008, Christian County will adopt restrictions and specific standards for development in sinkhole areas and around karst features as a part of the proposed Stormwater and Erosion Control Chapter of the Unified Development Codes (see Appendix E).

An issue that we feel needs to be addressed is the stability of stream channels in urban and urbanizing areas. We feel that urban stream channel erosion is likely a significant contributor to water quality impairment.

4.2.5.2.4 Structural BMPs

4.2.5.2.4.1 Storage Practices

The soils in Christian County are generally not suited for standard bioretention cells and sand filters. However, in the sediment and erosion control plan review process engineers and designers are required to leave existing grass and vegetation undisturbed wherever possible as a means of erosion and sediment control.

4.2.5.2.4.2 & .3 Filtration and Infiltration Practices

Christian County currently allows Low Impact Development but the County has yet to be directly involved in an LID development.

4.2.5.2.5 Non-Structural BMPs

As mentioned above Christian County already has several ordinances and policies in place to reduce post-construction runoff.

- Comprehensive Plan (Appendix G)
- Unified Development Codes (Appendix D)
- Proposed Urban Services Area Policy (Appendix F)
- Floodplain Management Regulations (Appendix H)
- Proposed Stormwater & Erosion Control Regulations (Appendix E)

4.2.5.2.6 Long-Term Operation and Maintenance of BMPs

At present the County only provides operation and maintenance for permanent stormwater facilities located on County road right-of-way. Operation and maintenance for permanent stormwater facilities located on private property are the responsibility of the property owner. For commonly owned private facilities, the Unified Development Codes include requirements for the formation of either home owners' or property owners' association and mandatory collection of dues to provide for operation and maintenance of stormwater systems. Covenants including the formation of the association must be presented to the Planning and Zoning Department before the application is even allowed to be placed on the Planning and Zoning Commission agenda. (Appendix D) The proposed Stormwater and Erosion Control Chapter of the UDC will address permanent BMP operation and maintenance. (Appendix E)

The County does not presently have sufficient staff to monitor maintenance activities by private property owners. Staffing needs to effectively address this requirement. Minimum maintenance requirements will need to be drafted and adopted. An inventory of privately owned storm drainage facilities will need to be made and a schedule of maintenance developed. The provision of operation and maintenance drainage facilities off of County road right-of-way is permitted by State Statute. However, the County does not currently have the financial or staffing resources to provide this service. This is a significant issue and will require community input and discussion. If this service is provided by the County a source of additional revenue will be needed. Christian County is also investigating long term funding options to enable the County to play a larger role in stormwater system maintenance.

4.2.5.2.7 Parties Responsible

The Christian County Planning and Zoning Department is responsible for the management and implementation of the stormwater program. Although the Planning and Zoning Department is ultimately responsible for the management and implementation of this program, we must work in consultation with several of other entities in order to effectively implement a number of the activities and programs. The Planning and Zoning department will continue to work with other Federal, State and local jurisdictions.

4.2.5.2.8 Evaluation

The success of this minimum control measure can be evaluated in part by ensuring that new development meets the requirements for detention and retention areas as stated in the 2008 Stormwater and Erosion Control Chapter of the UDC. The staff will have to evaluate the success of each structural BMP on its effects on water quantity and quality on an individual basis.

4.2.6 Pollution Prevention/Good Housekeeping for Municipal Operations

4.2.6.1.1 Permit Requirement: ***Christian County 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;***

"Municipal" operations for Christian County include:

The Christian County Road Department is split into two separate road districts, Common District One and Common District Two, along with six special road districts which operate and maintain all public roads, including the storm drainage system contained within the public road right-of-way.

Special Road Districts	Common Road Districts
Ozark Special	Common District One
Sparta Special	Common District Two
Billings Special	
Garrison Special	
Selmore Special	
Stoneshire Special	

Only Common District One, Common District Two and the Ozark Special Road District fall within the Springfield urbanized area as determined by the latest Decennial Census. The remaining special road districts are very small in size, are located in rural areas of the County and have limited equipment and funding. The County Road Department operations are located near Sparta (Common District One), near Nixa (Common District Two) and within the City limits of Ozark (Ozark Special Road District). Each Road District provides for its own routine upkeep and maintenance. The upkeep and maintenance for all other County vehicles is contracted out to a licensed service provider.

Both the Common Road Districts and the Planning and Zoning Department are under the direct control of the Christian County Commission. The Special Road Districts have been given their own authority and tax funding

sources by Missouri State Statutes. Christian County does not own or operate any other facilities or services.

4.2.6.1.2 Training

The staff of the Christian County Planning and Zoning Department holds an annual training session with the employees of the County's two Common Road Districts.

4.2.6.2 Decision Process

The decision process is documented in the previous and ensuing paragraphs.

4.3.6.2.1 Operation & Maintenance Program to Prevent or Reduce Pollutant Runoff from "Municipal" Operations

The County Road Districts presently manage the following programs for operation and maintenance:

Salt Storage

The Christian County Road Department presently utilizes two enclosed salt storage facilities, one located near Sparta (Common District One) and the other near Nixa (Common District Two). The enclosed salt storage facility for the Ozark Special Road District is located within the City of Ozark. Even though they are enclosed, any runoff leaving the area will flow into the detention basins lined with 6 x 10 filter stone and located at each site.

Equipment Washing

Both, trucks and other heavy equipment are washed at each of the Road District complexes. Products such as EC-510 Citrus Solvent are utilized in place of petroleum or chlorinated solvent products. The County is currently in the process of designing a sediment trap and trash baffle system which would treat the wash water before it is released into a detention basin. The Common District One detention area also contains a vegetative treatment system which was designed by the County Engineer.

Shop Activity

Used motor oil is stored in waste oil barrels. These barrels are transported to the Christian County Recycling Center, where a licensed contract vendor transports the used oil barrels to an approved facility for recycling and disposes of used oil filters. A licensed contracted service provider is responsible for changing the anti-freeze in the heavy equipment tires. Anti-

freeze which is used in heavy equipment tires for weight is of the R/V environmental type.

Fuel Storage Facility

The Common District One near Sparta currently operates a fuel storage facility which meets the 1998 EPA FRP Clad Steel Storage UST (underground storage tanks) requirement. This fuel storage facility services only the trucks and large equipment used by the Common District One. All other fuel needs for all other County owned vehicles are provided by commercial establishments, through the use of gas cards.

Herbicide Program

The two Common Road Districts and the Ozark Special Road District each currently have a certified herbicide applicator. The program utilizes GLY-4 as the primary herbicide. This herbicide is stored in small (10 gallon) EPA approved containers. All containers are triple rinsed and disposed of as prescribed by labeling. Chemicals are applied per labeling direction. Chemicals are stored in a secure area located within each Road District Facility.

County Road and Special Projects

Environmental Concerns are dealt with through preliminary plan and monitored through all phases of construction.

Surface Water

Each of the Common Road District Complexes has its 6x10 stone filter retention areas which were designed by the County Engineer. The water retention area at the Common One District also contains a vegetative filtering system.

4.2.6.2.2 Government Employee Training Program

Currently the Foreman for each Road District is responsible for the training of Road District employees in the safe handling, storage, and disposal of materials such as salt and fuel. As stated earlier, the staff of the Christian County Planning and Zoning Department holds an annual training session with the employees of the County's two Common Road Districts.

4.2.6.2.3.1 Maintenance Activities, Maintenance Schedules & Long-Term Inspection

The County will need to develop procedures for routine maintenance and inspection to prevent floatables and other pollutants.

4.2.6.2.3.2 Controls for Reducing or Eliminating the Discharge of Pollutants

As stated above, all salt and sand storage facilities are enclosed from the weather. Any runoff with entrained pollutants is captured in each of the detention basins located at each facility.

4.2.6.2.3.3 Procedures for Proper Disposal of Waste

All debris, sediment, and floatables are disposed of in accordance with state law. These disposal procedures will be formalized.

4.26.2.3.4 Procedures to Ensure Assessment of Flood Management Projects for Water Quality Impacts

All flood management projects are reviewed by the County stormwater engineer (Great River Engineering) to ensure consideration of water quality impacts.

4.2.6.2.4 Parties Responsible

The Christian County Planning and Zoning Department is responsible for the management and implementation of the stormwater program. Although the Planning and Zoning Department is ultimately responsible for the management and implementation of this program, we must work in consultation with the Common Road Districts, the Special Road Districts and other entities in order to attain the best management program possible. The Planning and Zoning department will also continue to work with other Federal, State and local jurisdictions.

In order to comply with this requirement we need to:

- Inventory stormwater facilities on public road right-of-way.
- Develop a routine maintenance schedule for maintenance activities related to stormwater quality.
- Formalize documentation and schedule for employee training.

4.2.6.2.5 Measurable Goals and Evaluation

The County Road Department has further set the following goals:

- Training annually for employees on environmental awareness issues (re-engineering or in place modifications)

Although the each Road Foreman of each District provides training in the following areas the County needs to incorporate more emphasis on stormwater pollution prevention during training. We need to document and formalize training for County employees, including training in the following specific areas:

- Routine inspection of equipment yards, material storage facilities, and stormwater facilities.
- Procedures for storage, handling, application and disposal of herbicides and pesticides.
- Spill response and clean-up.
- Salt storage and application.
- Used oil recycling.
- Truck and large equipment maintenance procedures (Other County Vehicles are maintained by a contracted service provider).

4.3 Sharing Responsibility

As noted in the foregoing sections, most of the activities included in Public Education and Outreach and Public Involvement and Participation are funded jointly by Christian County, Greene County, the City of Springfield, the City of Nixa, the City of Ozark, and other agencies.

4.4 Reviewing and Updating Stormwater Management Program

The plan will be reviewed and updated annually in conjunction with preparation for the annual report in accordance with the procedures outlined in the Missouri State Operating Permit.

5 Monitoring, Record Keeping and Reporting

5.1 Monitoring Requirement; ***Christian County shall evaluate program compliance, the appropriateness of identified best management practices, and progress toward achieving identified measurable goals. If Christian County discharges to a water for which a TMDL has been approved, Christian County will have additional monitoring requirements under Section 3.1.3.6.***

5.1.2 Monitoring

Christian County is working with the surrounding MS4s to develop a comprehensive regional water monitoring program. The sampling techniques will comply with the requirements of this permit.

5.2 Record Keeping

Records of all permits and inspection reports are kept on file for the requisite time period in the offices of the Christian County Planning and Zoning Department and are available for public inspection upon request during normal business hours.

Copies of the general permit will be kept on file and will be available for inspection by the public as required in the general permit.

5.3 Reporting

Annual reports will be submitted as required.

The annual report will be prepared and submitted to the Director of the Department of Natural Resources by January 31st of each calendar year. In accordance with the requirements of the general permit the annual report will contain the following:

- Status of compliance with permit conditions.
- Assessment of the appropriateness of identified best management Practices.
- Progress toward achieving measurable goals for each of the six minimum control measures.

- Progress toward the statutory goal of reducing the discharge of pollutants to the maximum extent practicable.
- Results of information collected and analyzed including monitoring data, if any.
- A summary of stormwater activities which are plan during the next reporting cycle, including an implementation schedule
- Any changes in identified measurable goals that apply to the program elements.

PROPOSED SCHEDULE FOR IMPLEMENTING PERMIT REQUIREMENTS

In the foregoing sections we have proposed a number of activities to be undertaken in order to comply with the terms of the general permit. These are summarized below along with our best estimate of the timetable for completing these activities. It is our intention to complete all proposed activities during the 5-year term of the permit and to be in full compliance with all terms of the general permit by the conclusion of that period on March 10, 2013.

ACTIVITY	PERMIT CYCLE YEAR
Revise and update stormwater management plan.	Annually
Revise and update BMP's and goals for minimum control measures.	Annually
Prepare and submit annual report.	January 31, each year
Seek public input on preferred means of funding stormwater program.	Year 2
Seek public approval of permanent funding for stormwater program.	Year 2
Develop maintenance schedule for stormwater management facilities operated and maintained by the County.	Year 2
Develop written procedures and policies for pollution prevention and good housekeeping for County operations.	Year 2
Develop and document employee training programs for pollution prevention and good housekeeping for County operations.	Year 2
Adopt program for solid waste detection and elimination.	Year 2
Inventory privately owned and maintained stormwater management facilities.	Year 3
Post permitting information and stormwater management program on County website.	Year 3
Formulate program for illicit discharge and elimination. Evaluate staffing and funding needs.	Year 3
Determine staffing and funding needs for level of service that the community will support.	Year 3
Formalize procedures for disposing of dredged material, accumulated sediments, floatables, and other debris from the MS4.	Year 4
Adopt program for illicit discharge detection and elimination.	Year 4
Develop outreach program to homeowners associations to assist in long term water quality basin maintenance.	Year 5
Seek methods of acquiring permanent funding sources that the community will support.	Ongoing
Develop maintenance procedures and schedule of required maintenance for stormwater management facilities.	Throughout permit cycle
Develop policy for maintenance of stormwater facilities on private property.	Throughout permit cycle
Receive input from citizens and stakeholder groups on County's role in operation and maintenance of stormwater facilities on private property.	Throughout permit cycle
Coordinate with other MS4's to sample water quality; to meet James River TMDL requirements.	Throughout permit cycle
Develop a grading contractor certification program.	By end of permit cycle

APPENDICES

FRONT POCKET: Christian County Outfall Map & Road Districts Map

APPENDIX A: Watershed Map & TMDL Information for the James River

APPENDIX B: Public Education & Outreach Activities

APPENDIX C: Finley Creek Baseline Water Quality Monitoring Project

APPENDIX D: Unified Development Codes

APPENDIX E: Stormwater and Erosion Control Draft (Ch. 19 – UDC)

APPENDIX F: Urban Services Area Draft (Ch. 3 – UDC)

APPENDIX G: Comprehensive Plan

APPENDIX H: Floodplain Management Ordinance

APPENDIX I: 2007 & 2008 Budget