

HIGHWAY CORRIDOR NON-POINT SOURCE POLLUTION MITIGATION STUDY, CITY OF GRIFFIN STORMWATER UTILITY DEPT., GRIFFIN, GA

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Abstract. The City of Griffin identified a project area along Georgia Highway 16 (Taylor Street) for TEA-21 funding. The project falls under the category of Transportation Aesthetics Project, specifically, Mitigation of Water Pollution Due to Highway Runoff. The purpose of the project is to provide quantitative data regarding the effectiveness of various water quality improvement Best Management Practices (BMPs) for stormwater runoff that originates along highly developed and urbanized highway corridors. Based on empirical evidence collected and analyzed using both traditional and high-tech methods and procedures, the City of Griffin will endeavor to show the effectiveness of the proposed BMPs. Successful implementation of stormwater BMPs should result in improved water quality, reduction in pollutant loadings in downstream receiving waters, improved wildlife habitat, and other associated environmental benefits.

INTRODUCTION

The TEA-21 project is a stormwater quality improvement study to assess stormwater quality in an urban highway corridor, engineer and emplace stormwater quality improvement technologies (best management practices), and re-assess stormwater quality after those technologies have been implemented into the study area. The project is jointly funded through the City of Griffin Stormwater Utility, and a Georgia State Department of Transportation (DOT) TEA-21 grant. The study area spans from Hill Street to the City of Griffin Library, along the Highway 16 corridor (Taylor Street). The results of this study will allow the DOT to provide the evaluated technologies as alternatives for reducing stormwater pollution in future highway development projects in the State of Georgia.

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Mitigation of Water Pollution Due to Highway Runoff. The Project will provide quantitative data regarding the effectiveness of various water quality improvement Best Management Practices (BMPs) for stormwater runoff that originates along highly developed and urbanized highway corridors. Based on empirical evidence collected and analyzed using both traditional and improved methods and procedures, the Project will endeavor to show the effectiveness of the proposed BMPs. Successful implementation of stormwater BMPs should result in improved water quality, reduction in pollutant loadings in downstream receiving waters, improved wildlife habitat, and other associated environmental benefits.

PROJECT PHASES

The project is comprised of three phases of work. Phases 1 and 2 have been completed. Phase 1 of the project involved the collection and laboratory analysis of stormwater samples originating along Georgia Highway 16, within the Potato Creek headwaters. The Project area lies within the headwaters area of the watershed along the urbanized highway corridor.

Phase 2 of the project involved design and construction of selected BMPs in an attempt to improve the stormwater runoff quality originating within the roadway corridor. As part of this effort, the City of Griffin conducted meetings with industry representatives to determine the appropriate BMPs for implementation. Four BMPs were selected for design. Construction of those BMPs is complete and the Project is now ready for the final phase.

Phase 3 is currently underway and involves the evaluation of the effectiveness of the BMPs implemented to establish the potential for future Statewide application. Water quality samples entering the BMPs and leaving the BMPs will be collected throughout 2003. A comparative analysis will be

performed and compiled into a report to document the effectiveness of the various BMPs implemented.

WATERSHED ASSESSMENT INCORPORATION

The City incorporated this effort into the Potato Creek Watershed Assessment. The significant amount of the TEA-21 project data was utilized in the watershed assessment effort resulting in a more cost effective assessment program. More importantly, the BMP strategies implemented as part of the TEA-21 project have been incorporated into the Potato Creek Watershed Management Plan for the headwaters area of the Watershed. The City is using this work to address a TMDL for the Watershed and other pressing community concerns over water quality.

NSF PARTICIPATION

The National Sanitation Foundation (NSF) Environmental Testing Verification (ETV) Protocol Program contacted the City of Griffin regarding the unique nature of this project. NSF participated to expand the TEA-21 testing program to include protocols established by the United States Environmental Protection Agency (USEPA) regarding BMP pollutant removal efficiency. A comprehensive test plan was formulated that outlined the rigorous testing protocols that would be followed under the NSF participation. The testing program is currently underway in conjunction with the TEA-21 Phase 3 effort and will likely continue for a one- to two-year period beyond the TEA-21 time-frame. Ultimately, the data compiled will be incorporated into the US EPA's national database regarding pollutant removal efficiencies for stormwater BMPs.