

White Oak Bayou BMP Demonstration Project –
Cottage Grove Subdivision
Communication Plan

City of Houston,
Department of Public Works and Engineering
Houston, Texas 77251-1562

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Questions concerning this quality assurance project plan should be directed to:

Cheryl Harris
Senior Project Manager
Public Works & Engineering
City of Houston
611 Walker, Houston, TX 77002
(832) 395-2284
Cheryl.harris@houstontx.gov

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Definitions

Best Management Practices (BMPs) are control measures taken to lessen changes to both quantity and quality of urban runoff caused through changes to land use. Generally BMPs focus on water quality problems related to increased impervious surfaces from land development. BMPs are designed to reduce stormwater volume, peak flows, and/or nonpoint source pollution through evapotranspiration, infiltration, detention, and filtration or biological and chemical actions.

Evapotranspiration is a term used to describe the sum of evaporation and plant transpiration from the Earth's surface to the atmosphere. Evaporation is the movement of water to the air from sources such as the soil, water drops on plant leaves, and water bodies. Transpiration is the movement of water within a plant from its roots in the ground to the loss of water as vapor through its leaves.

Impervious Surfaces are mainly artificial structures, such as buildings and pavements (roads, sidewalks, driveways and parking lots) that are covered by impenetrable materials such as asphalt, concrete, and rooftops.

Low Impact Development (LID) is a term used to describe a land planning and engineering design approach to managing stormwater runoff. LID emphasizes conservation and use of on-site natural features to protect water quality. This approach uses engineered small-scale hydrologic controls to replicate the pre-development hydrologic regime of watersheds through infiltrating, filtering, evaporating, and detaining runoff close to its source.

Non-point Source (NPS) pollution is water pollution affecting a water body from diffuse sources, such as polluted runoff from agricultural areas draining into a river, urban runoff from a roadway to a storm sewer, or wind-borne debris blowing out to sea. Nonpoint source pollution can be contrasted with point source pollution, where discharges occur to a body of water at a single location, such as discharges from a chemical factory or a waste water treatment plant through a pipe.

Permeable paving is a range of materials and techniques for paving parking lots, roads, driveways, bike-paths, and sidewalks that allow the movement of water and air around the paving material. Although some porous paving materials appear nearly indistinguishable from nonporous materials, their environmental effects are qualitatively different. Whether pervious concrete, porous asphalt, paving stones or bricks, all these pervious materials allow stormwater to percolate through areas that would traditionally be impervious through to the soil below.

Introduction

White Oak Bayou was identified as impaired for bacteria by TCEQ in the 2008 Texas Water Quality Inventory. The major causes of the bacteria impairment are urban runoff through storm sewers and sanitary sewer overflows. There is limited information describing the performance of Low Impact Development (LID) Best Management Practices (BMPs) in the Texas Gulf Coast and there is a need for more data on the performance of BMPs for bacteria removal from runoff, particularly in an urban redevelopment context. The White Oak Bayou BMP Demonstration Project (the Project) will construct BMPs in a redeveloping sub-area of the City of Houston's (City) urban watershed.

The Project will accomplish load reduction of Non-point Source (NPS) pollution discharge to White Oak Bayou while also evaluating BMP effectiveness in reducing pollutant loadings (bacteria and other water quality parameters), evaluating long term viability to construct and maintain BMPs, assessing construction cost and long term maintenance costs, assessing effectiveness of maintenance practices to preserve BMP objectives, and documenting findings in a final report. The project also develops partnerships and relationships to facilitate collective, cooperative approaches to manage NPS pollution and increase overall public awareness of NPS issues and prevention activities.

The project is located in an urban area of the City described as Cottage Grove subdivision. The neighborhood is redeveloping from the original single family residential area (density of 2 - 6 dwelling units per acre) to high density townhomes (density of approximately 24 dwelling units per acre). The impervious surface cover ranges approximately 50 percent per lot (original single family lots) to 90 percent per lot (new high density development). The expansion of impervious surface increases storm water runoff and NPS discharges to the White Oak Bayou. The nonpoint pollutant sources that will be addressed by this project are described as runoff from urban and developing areas. Urban runoff may include significant loadings of nutrients, oxygen-demanding substances, pathogens, and toxic materials.

The project will use LID BMPs to reduce NPS pollution on approximately two blocks that are planned for reconstruction for the Cottage Grove Subdivision. The existing street section provides two narrow travel lanes with parallel open ditch drainage. The existing 50 foot (ft) right of way is not wide enough to accommodate on-street parallel parking or pedestrian sidewalks. The street section will be revised from the existing narrow travel lanes without parking to two one-way travel lanes with several BMPs creating a central infiltration island with on-street parking and parallel sidewalks. The project is designed to determine the effectiveness, the cost of installation, and the ongoing cost of maintenance of several LID technologies (e.g., pervious paving for parking and sidewalks, infiltration islands, alternative pavers, green parking, and bioretention filtration systems). If the proposed BMPs are effective for the soil types in Houston/Harris County, the list of existing BMPs in the City of Houston's Design Standards will be expanded to include the studied BMPs which will become available for application to new construction and redevelopment. If these LID technologies are shown to be effective (low maintenance, durable, and competitive construction cost), developers may implement use of these pervious surfaces as a method to offset the increase in impervious area.

The Project scope includes collection of storm water quality data for the existing condition (pre-construction), collection of storm water quality data after construction of BMPs (post-construction), development of maintenance activities, preparation of a scheduled maintenance program for each BMP, monitoring of storm water quality and maintenance activities for a period following construction, evaluation of construction cost and annual operation/maintenance costs, and documentation of project findings and conclusions in a final report. The project will achieve reductions in urban NPS pollutants and improve water quality in the White Oak Bayou watershed. Measures of success (other than pollutant load reductions) that will be considered include evaluation of maintenance feasibility, evaluation of first cost and long term maintenance costs, assessment of neighborhood impacts and public acceptance, and assessment of potential city wide application of BMP technologies for public construction and private development. Innovative features of the project include assessment of maintenance practices to achieve long term BMP effectiveness and evaluations of long term cost feasibility.

Goals

To develop an information and communication process that informs the public. The process will be used to enhance partnerships with Stakeholders, foster public understanding of the project goals and objectives and encourage participation in maintaining appropriate BMPs. The process will also help the public achieve a better understanding of land use activities and their impact on water quality. To accomplish this goal the City will engage Stakeholder participation by facilitating Public Outreach Meetings, posting updates and pertinent status information on the City's website. The City's Process identifies groups: Stakeholders Group (Public/Private entities in the community) and Focus Group (Public/Private Partnerships for the project)

Subtask 2.2: Stakeholder/Focus Group Participation – The City will engage the Stakeholder participation in one design phase meeting, one preconstruction meeting, one meeting during construction, one post construction meeting hosted by the project's Focus Group. City will conduct quarterly conference calls involving the Focus Groups and selected Stakeholder representative. These meetings/conference calls will provide an opportunity to transmit study goals, activities, and results to the Stakeholders in the Planning Area.

Subtask 2.3: Public Outreach – The City will manage its own communication and engage additional activities to disseminate information via the City's website (<http://www.greenhoustontx.gov/>). The City will update the website and notify TCEQ for inclusion on the TCEQ web site. The City may provide newspaper articles when required.

Subtask 2.4: Public Coordination – The City will coordinate and solicit input, participate via public meetings, and provide information and input on project development. Public meeting notices will be posted on the City's website and provided to the Stakeholders. The meetings will be planned by the City.

Subtask 2.5: Program Coordination – The City will coordinate with ongoing outreach programs as required (e.g., Texas Watershed Steward Program and Texas Stream Team) to inform and educate the public and solicit their input on BMP development.

Subtask 2.6: Web Site Updates – The City will initiate and update City web site to include project information.

Measure of Success: Success will be measured by public participation as indicated by the attendance rosters at meetings, and various public awareness activities.

General Communications Protocol

Focus Group (Partners)

- City of Houston, Public Works Engineering and Construction
- City of Houston Council Member Representative District H
- TCEQ
- Rice University - Dept of Civil and Environmental Engineering
- Jones & Carter, Inc.

Stakeholders

- Super Neighborhood #22 - Washington Ave./Memorial
- Cottage Grove Civic Club
- White Oak Bayou Association
- Bayou Preservation Association
- HGAC
- Harris County Flood Control District

Stakeholders/Focus Group Communications

It will be critical that communication protocol between the Stakeholders and Focus Group are in place and followed. The communication may extend to areas that, while not directly relating to the Project, could have an impact. In a good-faith effort to keep Partners and Stakeholders apprised:

- The Focus Group is to notify the Stakeholders and other Partners of all press releases and public notices and inform them of public engagements, and any media communications that may relate to the Project.
- Focus Group and Stakeholder organizations will communicate with the full Focus Group about any challenging situation for the Project. They will communicate in advance of any

public dissemination of information to allow time to address or coordinate a response, if necessary.

Tactics and Tools

Media Relations

Developing and maintaining strong relationships with key media outlets will be critical to meeting the goal of effectively informing and involving the public in the Project area. Every effort should be made to keep regional media apprised of the plan's status and progress.

Proactive Media Outreach/Response

The Project Manager will coordinate with the Public Information Office for proactive media outreach/response when required. All major media responses will be developed in conjunction with the Public Information Office and/or Council Member's Office. In addition, proactive media outreach should be designed to inform the media without expectation of immediate coverage. (The latter might include, development of maps, illustrations, and fact sheets, etc., that are unlikely to be published but would help inform reporters.)

Media outreach via Press Release to announce the Project, its goals and its timelines will require coordination by the Project Manager and the Public Information Office.

The Public Information Office for the Department of Public Works and Engineering (PWE) for the City of Houston will be the single point of contact for all press releases and public media.

Public Involvement/Outreach

Public involvement will be critical to the ultimate success of the Project. To that end, the Stakeholders should actively seek out public input and provide opportunities for public discussion on the program.

Internet

The Project Manager will provide general information and updates on the Project on the City's web site (<http://www.greenhoustontx.gov/>). This will include general project information Best Management Practices used, definitions, maps, illustrations, and fact sheets. The website may also include project press releases and other resources. It may also be linked to Stakeholders and Focus Group web sites, as well as to other appropriate sites if requested.

The web site will be actively maintained and updated by the Project Manager

Written Materials

Consideration will be given to the need for Spanish-language versions of printed materials.

Press Kit

The Project Manager and the Public Information Office may develop a standard press kit that communicates key elements of the program. This press kit will be a flexible document that can be easily adapted to meet the needs and answer specific questions for the media, elected officials and interested public citizens.

In addition to fact sheets, maps, graphics and other information, the press kit will contain applicable news releases designed to communicate information on the program in anticipation of answering as many questions as possible before interview sessions. The press kit will be updated as necessary.

News Releases

News releases will be developed when required by the Public Information Office. The releases is to communicate at key junctures in the plan's implementation, They should be drafted by the Project Manager, and reviewed and approved by the Public Information Office. Events that may require news releases include start and completion of construction, public meetings, and final results of the study. As these are developed and approved, key releases should be added to the press kit as part of that ongoing communication document.

Newsletters

Articles on the Project may be included in newsletter for the Cottage Grove Civic Club, the White Oak Bayou Association, and Bayou Preservation Association upon request.

Presentation Materials

To ensure that all messages are conveyed accurately, the Project Manager and the Public Information Office will assure that all presentations on the Project will be developed within the framework of an existing, approved program presentation standard.

Power Point Presentations

The Project Manager and the Public Information Office will develop a standard presentation format for use on this program. As with the press kit, the document should be developed with an eye toward ease of use and adaptability, depending on audience and topic. Consideration will be given for Spanish-language editions.