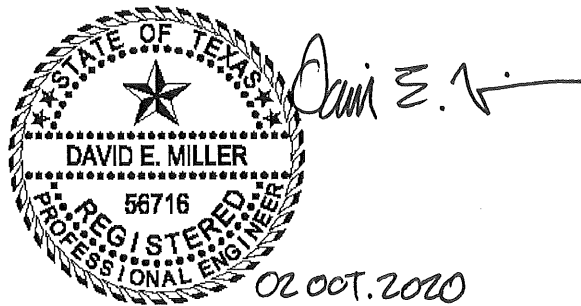


**STORM WATER MANAGEMENT PLAN**  
**FOR**  
**KINGSBRIDGE MUNICIPAL UTILTIY DISTRICT**  
**Fort Bend County, Texas**



Prepared by:

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July, 2019  
rev. 10/02/2020

**STORM WATER MANAGEMENT PLAN**  
**KINGSBRIDGE MUNICIPAL UTILITY DISTRICT**  
**Fort Bend County, Texas**

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## **APPENDIX A - DOCUMENTATION**

Maintenance Schedule

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General Permit issued 01/24/2019

**STORM WATER MANAGEMENT PLAN**  
**KINGSBRIDGE MUNICIPAL UTILITY DISTRICT**  
**Fort Bend County, Texas**

**Project Information:**

Kingsbridge Municipal Utility District  
Northeastern Fort Bend County, Texas

**Permittee Information:**

Kingsbridge Municipal Utility District  
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**1. Site Description**

A. Site Location

Kingsbridge Municipal Utility District (the District) currently encompasses approximately 1,027.48 acres and is located approximately 20 miles west of downtown Houston and is situated in northeastern Fort Bend County. Access to the general area is by means of State Highway 6 which traverses through the District and U.S. Highways 90 and 59 on the south, as shown on Exhibit 1. The District is adjacent to Fort Bend County M.U.D. No. 2 and Renn Road M.U.D. to the east, Fort Bend County M.U.D. No. 119 to the south, North Mission Glen M.U.D. to the west and the northwest, and Mission Bend M.U.D. No. 1 to the north. The entire District lies within the Houston Extraterritorial Jurisdiction. A vicinity map is included as Exhibit 1.

The District coordinates are 29° 40' 25" N. Latitude and 95° 38' 38" W. Longitude which approximate the physical center of its area. All of the area (approximately 978.50 acres) addressed by this Storm Water Management Plan is located in Fort Bend County. Approximately 43.07 acres of the existing District lies within Harris County, and it is covered under the storm water management plan of Harris County.

B. New Development or Redevelopment Description

New development within the existing District boundary will include approximately 28.5 acres of commercial and retail and 16.5 acres of townhome and apartment tracts with internal street pavements and underground storm sewers. Redevelopment of existing commercial tracts could include stand-alone pad sites for restaurant, bank and retail development which would tie into existing pavements and internal storm sewers.

C. Activities Within the MS4 Area:

The following activities are currently encountered within the developed area of the MS4. Remaining development and construction will be of the same nature, and will consist of:

- District Facilities - Lift Stations
- Bulk materials storage
- Landscaping activities
- Fertilizer use
- Chemical storage and/or use - Plus Cleaners
- Loading and unloading of materials - Home Depot
- Vehicle / equipment / machinery repair and/or maintenance
- Water Production Plants
- Wood / lumber storage and/or product fabrication
- Building and structural maintenance
- Parking lots
- Vehicle / equipment / machinery - car lots
- Vehicle / equipment washing - car wash

D. NPDES or TPDES Permit for Storm Water Discharges from Construction Activities

Each new construction site or redevelopment site of one acre or larger will file the necessary TPDES Notice of Intent for its construction activity. Each Development will file an NOI on the currently amended form for construction activity discharges.

The required SW3P measures during construction addresses runoff from construction sites of one acre and greater including sites that a part of a larger common plan of development.

E. Total Site Area and Affected Area

The total MS4 area within Fort Bend County and under the auspices of this SWMP is 978.50 acres. Approximately 55 currently vacant acres will be developed into commercial sites, improved park land and District facilities sites.

F. Maps and Associated Information

1) Vicinity Map

The MS4 location is shown on the Vicinity Map, Exhibit 1. It is the portion of the District located within Fort Bend County.

2) Areas of Remaining Development and Areas Not to be Developed

The remaining areas for development are shown on Exhibit 2. Most of the area is commercial in nature, with two possible townhome and apartment tracts (16.5 acres total).

Areas not to be developed include a 1.9-acre county park and approximately 73 acres contained in electrical transmission, pipeline and open drainage rights-of-way.

3) Drainage Areas and Storm Water Discharge Locations

Residential subdivision lots are graded to drain into the street gutters, which discharge into various storm sewer inlets. The storm sewers north of Old Richmond Road directly discharge into Keegans Bayou (an improved drainage way), Segment 1007C, which flows east to Brays Bayou (HCFCD Channel D100-00), which is a tributary of Buffalo Bayou Tidal in Segment No. 1007 of the San Jacinto River Basin. A site drainage map of the MS4 area is depicted on Exhibit 3. The storm sewers south of Old Richmond Road directly discharge into the Sugar Grove detention pond and into Ditch "A", then through a system of conveyance ditches, ultimately discharging into Upper Oyster Creek, Segment 1245\_03, located in the Brazos River Basin.

Storm Water Discharge Locations are also shown on Exhibit 3. Storm water discharges into various storm sewer inlets in the residential area of the MS4 area. The storm sewers outfall through various sized discharge pipes into Keegans Bayou, into the Sugar Grove detention pond and into Ditch "A", or into Ditch "B" in the Woodbridge development. The MS4 operator is Kingsbridge Municipal Utility District for the areas served by storm sewers in its MS4 area. All storm sewer inlets and outfalls are identified on Exhibit 3, and they are based on record drawings on file with the District.

The MS4 operator of the drainage channel (Keegans Bayou) is West Keegans Bayou Improvement District and the MS4 operator of Ditch "B"

and Ditch “A” (into which Sugar Grove detention pond discharges) is Fort Bend County Municipal Utility District No. 119.

4) Endangered Species

This MS4’s discharges do not adversely affect a listed endangered or threatened species or its critical habitat.

List of Endangered Species:

- |                              |                      |
|------------------------------|----------------------|
| 1. Coffin Cave Mold Beetle   | (Batrisodes texanus) |
| 2. Tooth Cave Ground Beetle  | (Rhadine persephone) |
| 3. Bee Creek Cave Harvestman | (Texella reddelli)   |
| 4. Bone Cave Harvestman      | (Texella reyesi)     |
| 5. Navasota Ladies Tresses   | (Spiranthes parksii) |

2. **Minimum Control Measures**

A. Public Education and Outreach on Storm Water Impacts

Public education of the District’s residents will be carried out by utilizing the District website, [www.kingsbridgemud.com](http://www.kingsbridgemud.com), four subdivision websites and two subdivision semi-annual publications to post a 1-page article of the MS4’s Storm Water Management Plan. The monthly water bill (paper and electronic) will also be utilized to post a storm water impact concept to approximately 2,615 residential and 73 commercial customers in the MS4 area.

Visitors to the District will be informed of water quality impacts from stenciled marks on storm inlets and/or manholes. Three signs have already been posted: at the County park, at the Sugar Grove detention pond green space, and at the Providence Open Parkspace to remind visitors and users of these areas of where the storm water ultimately flows to from these open spaces.

Public service employees, currently limited to County inspection personnel and U.S. Postal carriers, who frequent the District during the course of their work will be afforded the same awareness from the stenciled markings on inlet structures, and from the signage posted at three green areas and parks.

Businesses located in the District will be informed through a flyer delivered annually describing storm water impacts resulting from discharges into the storm sewers, parking lot sediments and rubbish collecting and washing into inlets from their own products packaging.

Commercial and industrial facilities will be informed through a flyer delivered annually describing their responsibilities to properly store product, implement and inspect their water/oil and water/sand separators, and to prevent sediment and discharges from their operations from entering the storm sewer system.

Construction site personnel will be given instruction to carry out the storm water pollution prevention plan that accompanies the construction drawings for the site.

A spreadsheet which documents the activities and materials distributed during the course of the year will be developed which considers each group highlighted in the foregoing.

B. Public Involvement / Participation

The Public Notice of the re-implementation of this SWMP as required by the State will afford the review of the plan by the public. The review materials, the place and review period will be posted to the Kingsbridge MUD website to inform the public.

After the plan is adopted, any revisions or additional requirements made to the plan each year can be placed on a District public meeting agenda for discussion and public input.

The District conducts monthly meetings in the evening at a location in the MS4 area which will afford the Public access to providing input on the SWMP during the Public Comments portion of the agenda each month.

C. Illicit Discharge Detection and Elimination

Detection of illicit discharges into the MS4 will be accomplished through the Public Education and Outreach and the Public Involvement components of this SWMP as a self-policing and a neighborhood watch program by the District's residents and business owners. Concurrently, the District will be physically inspecting two of its outfall discharge points monthly for evidence of surface films, residues adhering to structure walls, and visible signs of illicit dumping into inlets and manholes upstream of the noted discharge point.

The District already requires the use of oil/water and sand/water separators by auto repair, sales and auto car wash businesses in the MS4 service area. Inspection of the separator structures on a monthly basis by the District's MUD Operator will continue under this SWMP to ensure proper operation, or to require additional treatment methods be implemented by the business.

The District will contact the MUD Operator concerning illicit connections or discharges, who is responsible for performing most functions associated with the elimination of illicit discharges. The MUD Operator has established procedures to

contain, identify, cleanup and legally dispose of illicit discharges. The District Board has authority to prosecute illegal discharges and impose fines.

Elimination of illicit discharges into the MS4 will be accomplished by the following procedures, which follow those of the MUD Operator:

- Receive a complaint or notification of an illicit discharge.
- Provide containment and identity of the discharged material.
- Identify the point of entry into the MS4.
- Establish the source of the illicit materials and try to identify the perpetrator(s).
- Clean and remove the illicit materials from the MS4 for legal and proper disposal.
- Exert legal means at the District's disposal against perpetrators for fines and cleanup costs.
- If illicit discharges or connections are observed related to another operator's MS4, the District's MUD Operator will notify the other MS4 operator.
- MS4 responses to notification of an illicit connection or illicit discharge will be listed and reported by the MUD Operator as it occurs within their monthly report to the District.
- Perform procedures for tracing the source of an illicit discharge.
- Perform procedures for removing the source of the illicit discharge.
- Facilitate public reporting of illicit discharges of water quality impacts associated with discharges into or from the MS4; provide a central point to receive reports.
- Perform procedures for responding to illicit discharges and spills.
- Perform inspections in response to complaints.
- Establish procedures to prevent and correct leaking on-site sewage disposal systems. (This issue is N/A. On-site sewage disposal systems do not exist and are not allowed within the MS4.)

This MS4's District website is a central point of contact for reporting from the Public and is monitored daily. Also, the District's Operator website serves as a point of contact to report incidents.

The District's Operator and Engineer staff will be the persons who may come in contact with or observe an illicit discharge or connection. Training of District's Engineer staff occurs annually and concurrently with the review and preparation of the SWMP and annual reports. The District's Operator is responsible for training of their staff.

The Kingsbridge MUD Board approved and adopted the initial SWMP by District Order at its February 28, 2008 Board Meeting. This updated SWMP was adopted by the Kingsbridge MUD Board at its July 11, 2019 Board Meeting. Its requirements continue to be implemented into new development and redevelopment projects coming under review by the District. Kingsbridge MUD, as a utility district, is subject to all local, State and Federal regulations regarding prohibition and elimination of illicit discharges onto the ground and into stream flows reaching waters of the U.S.

D. Construction Site Storm Water Runoff Control

As part of a new or redevelopment construction project affecting any part of a site of one-acre or more within the MS4 area, construction site storm water sediment controls must be a part of the Districts construction drawing review and approval process. This is already a requirement of the Development Project Procedure adopted by the District Board of Directors. Through this review procedure, the proper Notice of Intent will be filed for Storm Water Discharges Associated with Construction Activity under the Texas Pollution Discharge Elimination System (TPDES) General Permit (TXR150000) for each project in the MS4 area.

The Storm Water Pollution Prevention Plan (SW3P) included in the construction drawings will address the implementation of an appropriate erosion and sediment control Best Management Practices, and how construction water, concrete washout and wastes will be contained and eliminated from discharge into the MS4.

As a part of the usual Construction Observation and inspection role of the District, the implemented SW3P BMPs will be monitored periodically during the project's construction and the field self-reporting documentation of rainfall and maintenance activities of the contractor will be reviewed on-site. The public has access to the District website to voice concerns they observe within the District. As part of the Public Education and outreach of this SWMP, instances in which the public can be helpful in monitoring construction activities pertaining to sediment control and construction site discharges can be listed and described, along with the appropriate contact instructions.

The District's Engineer staff will be the persons whose primary job duties are related to implementing the construction stormwater program. Training of District's Engineer staff will occur annually and concurrently with the review and preparation of the SWMP and the annual reports.

The required SW3P measures during construction addresses runoff from construction sites of one acre and greater including sites that a part of a larger common plan of development.

The requirements of this SWMP include regulation of storm water runoff from construction activities, and the Kingsbridge MUD Board of Directors has incorporated this SWMP into all development and redevelopment projects within the Kingsbridge MS4. Kingsbridge MUD as a utility district has regulatory authority granted by the State of Texas to enforce its policies through action on its own and / or imposing fines for non-compliance if violations are noted and reported to the Developer / Owner of the violation source(s).

The requirements of this SWMP addresses storm water runoff from new and redevelopment sites of one acre or greater including sites that are part of a larger common plan of development.

E. Post-Construction Storm Water Management in Areas of New Development and Redevelopment

All new and redevelopment construction projects under this SWMP discharging into the MS4 will implement and will continue to maintain the BMPs under which the individual project was reviewed and received approval by the District.

The requirements of this SWMP addresses storm water runoff from new and redevelopment sites of one acre or greater including sites that are part of a larger common plan of development.

The requirements of this SWMP include regulation of storm water runoff from new /redevelopment activities, and the Kingsbridge MUD Board of Directors has incorporated this SWMP into all new development and redevelopment projects within the Kingsbridge MS4. Kingsbridge MUD as a utility district has regulatory authority granted by the State of Texas to enforce its policies through action on its own and/or imposing fines for non-compliance if violations are noted and reported to the Developer/Owner of the violation source(s). Records of enforcement actions are maintained by the District's Engineer.

Under the District's Development Project Procedure, each construction project will be required to identify both non-structural and structural Best Management Practices during the plan review and approval process. Non-structural BMPs will include the following:

- Litter and Solid Waste Disposal, including household hazardous materials.
- Sanitary Waste, domestic and commercial.
- Landscaping, Fertilizer and Pesticide Practices.
- Signage and Stenciling on Storm Water facilities to discourage dumping of waste materials into the storm sewers.

Structural BMPs will include the following:

Best Management Practices - Structural for New Development and Redevelopment

Reference: Minimum Design Criteria for Implementation of Certain Best Management Practices, Storm Water Quality Management Program, Storm Water Management Joint Task Force, September, 2001 and as currently amended. (City of Houston, Harris County, Harris County Flood Control District, Texas Department of Transportation).

BMP HC01.10 Grass Swale

BMP HC01.20 Vegetated Filter Strip

BMP HC01.40 Dry Detention Basin

Additional Structural BMPs:

- Catch Basin Insert - Parking Lot and Street Pavements
- Manhole Floatable Trash Baffle and Screen Insert
- Manhole Sediment Baffle and Trap Insert
- Sand / Water Separator
- Oil / Water Separator with and without Absorption Media
- Storm Water Oil and Sediment Interceptor Manhole

F. Pollution Prevention / Good Housekeeping Measures for Municipal Operations

Good housekeeping measures and Best Management Practices will be implemented as follows:

(1) Park and Open Space Maintenance

- Place and maintain trash receptacles to encourage proper disposal practices and to keep areas free of waste materials.
- Collect and dispose of refuse materials prior to mowing activities.
- Place signage to encourage use of trash receptacles and pet cleanup.
- Have District waste disposal company empty receptacles on a regular basis.

(2) Utility and Storm Water System Maintenance

- Prepare street and/or site of repairs by utilizing construction sediment control devices around area to be disturbed, to include filter fabric fencing, and sandbags in the street gutter prior to inlet openings.
- Prevent tracking of dirt onto street pavements and gutters, and immediately clean up the site after equipment has been parked or hauled away.
- Remove remaining sediments and dirt in streets by sweeping and shoveling rather than by washing down storm sewer inlets.
- Utilize absorption barriers where chlorine compound disinfectant is applied to sewage and waste spills.
- Restore disturbed repair areas as soon as possible; utilize solid sodding rather than seeding to reestablish vegetation.
- Carefully retrieve and remove trash and floatables collected at District outfall manholes for collection and disposal; make note of the probable source of the litter so that follow-up contact can be made.

(3) New Construction and Land Disturbances

Contractors hired by the MS4 are required to:

- Implement the same construction activity sediment control practices described in this SWMP for installations of new District Facilities in which the land surface is disturbed, and excavations are necessary.
- Inspect controls daily and maintain until the site is stabilized and vegetated.

Training of Engineer staff and MUD Operator personnel to maintain and operate the SWMP will consist of an initial introduction to the plan, Best Management Practices, and procedures and checklists that will help in establishing a routine directed at reducing and preventing storm water pollution from municipal operations.

Most materials will be utilized from the Clear Water Clear Choice website and will be presented with a videoconferencing format. Digital pictures of activities in the MS4 area will also be used as examples for training purposes.

Structural Control BMP Maintenance will be carried out by the District at its various storm water outfall locations. The maintenance activities, maintenance schedules and long-term inspection procedures for controls used to reduce floatables and other pollutants are featured in the Maintenance Schedule in Appendix A and the Inspection Form in Appendix B.

Disposal of waste materials removed from the MS4 as a result of maintenance of the structural BMPs will proceed as follows:

- Dredge spoil - Sediments removed from the District's detention pond will be immediately placed in a roll-off container or truck to be disposed at a licensed landfill.
- Accumulated sediments - sediments found in manhole sediment trap devices will be removed and transported for disposal at a licensed landfill.
- Floatables - floating trash and litter will be removed from trash racks and placed in plastic bags and removed by the District and/or the District's collection service for disposal at a licensed landfill.

Municipal Operations would consist of the following District Operations and Maintenance activities:

- Water main, sanitary sewer line, storm sewer line repairs to District facilities.
- Repairs to streets, driveways and or sidewalks as a result of utilities and storm sewer repairs.
- Repairs to lift station pumps, wet wells, valve pits and sites.
- Mowing and maintaining park sites, District facilities sites and drainage rights-of-way.

The activities listed above are subject to operation, maintenance and training developed under this SWMP.

3. **General Requirements**

A. The Public and Private entities assisting with the development of this SWMP are as follows:

- City of Houston / Harris County / Flood Control District / Texas Department of Transportation Storm Water Management Joint Task Force.
- Clear Water Clear Choice

Concepts and Best Management Practices developed by these entities were utilized in the formulation of this SWMP.

B. The Following Table 1.1 lists the Best Management Practices, both Non-Structural and Structural for this SWMP, their measurable goals, implementation schedule and how each will be evaluated as to effectiveness.

Table 1.1								
Kingsbridge Municipal Utility District								
SWMP Proposed Best Management Practices								
MCM ITEM NO.	BMPs	ACTIVITY	MEASURABLE GOALS	PERMIT YEAR				
				1	2	3	4	5
1.1	Website - District	Post notification of SWMP on Kingsbridge MUD website.	Receive TCEQ authorization to proceed with SWMP.	•				
			Review and update post to website December annually*.		•	•	•	•
1.2	Websites - Community Associations	Post notification of SWMP on Community Association websites within the District.	Receive TCEQ authorization to proceed with SWMP.	•				
			Review and update posts to websites December annually*.		•	•	•	•
1.3	Water Bill Posting	Post a SWMP impact concept on water bills each year.	Receive TCEQ authorization to proceed with SWMP.	•				
			Review and provide messages for water bills monthly.		•	•	•	•
1.4	Development Procedures	Issue District requirements to Developers and property owners for implementing pre- and post-construction BMPS for development and re-development of property.	Receive TCEQ authorization to proceed with SWMP.	•				
			Review District requirements; document activity December annually*.		•	•	•	•

Permit Years 1-5 are defined as follows:      Year 1: Jan. 24, 2019 – Jan. 23, 2020      Year 2: Jan. 24, 2020 – Jan. 23, 2021  
Year 3: Jan. 24, 2021 – Jan. 23, 2022      Year 4: Jan. 24, 2022 – Jan. 23, 2023      Year 5: Jan. 24, 2023 – Jan. 23, 2024

\*denotes the deadline for years 2 thru 5 of the permit term

MCM				PERMIT YEAR				
ITEM								
NO.	BMPs	ACTIVITY	MEASURABLE GOALS	1	2	3	4	5
1.5	Owner/Developer Meetings	Issue District Structural BMPS guidelines to property owners / developers for implementing into development and re-development of properties.	Receive TCEQ authorization to proceed with SWMP.	•				
			Document hours expended and pages of practical BMPs annually with Owner/developer meetings December annually*.		•	•	•	•
1.6	Monthly Public Meeting	Allow public input and comment on the District's SWMP at a monthly public meeting forum.	Receive TCEQ authorization to proceed with SWMP.	•				
			Document number of meetings and record number of person's offering comments on the District's SWMP December annually*.		•	•	•	•
1.7	Litter and Solid Waste Disposal	Ensure existing solid waste disposal practices are being properly carried out.	Receive TCEQ authorization to proceed with SWMP.	•				
			Document number of occurrences of accumulated trash and blowing debris, and record number of notices issued to commercial and residential owners December annually*.		•	•	•	•
1.8	Sanitary Waste	Ensure elimination of occurrence of sanitary waste dumping.	Receive TCEQ authorization to proceed with SWMP.	•				
			Document number of violations reported December annually*.		•	•	•	•

\*denotes the deadline for years 2 thru 5 of the permit term

MCM ITEM		ACTIVITY	MEASURABLE GOALS	PERMIT YEAR				
NO.	BMPs			1	2	3	4	5
2.1	MS4 Mapping	The District maintains a map of its MS4 area storm sewer system. The map will be updated annually to include new segments and outfalls.	Receive TCEQ authorization to proceed with SWMP.	•				
			Review and update storm sewer map December annually*.		•	•	•	•
2.2	Review of Landscaping, Fertilizer and Pesticide Practices	Annual review of operations and methods contributing to pollution of stormwater, particularly to high bacteria and low dissolved oxygen concentrations in two (2) impaired stream segments downstream of MS4.	Receive TCEQ authorization to proceed with SWMP.	•				
			Document the number of instances of cuttings seen left along and curb, or blown down storm inlets; document instances of lawn fertilizers and pesticides spread and washed into street gutter each year; notify management and /or landscape companies December annually*.		•	•	•	•
2.3	Public Notice Signage and Stenciling	Place signs, stencils or castings in locations to inform the public to be involved in preventing pollutants from entering the District's storm drains.	Receive TCEQ authorization to proceed with SWMP.	•				
			Implement and maintain signs in open spaces; document number and location of new signage and stenciling placed December annually*.		•	•	•	•
2.4	Pet Waste Disposal	Instruct the public on properly removing and disposing of pet wastes by posting on District Website and Community Assoc. Websites.	Receive TCEQ authorization to proceed with SWMP.	•				
			Encourage Community Assocs. to place pet waste disposal station at open park spaces; document number of postings to websites, newsletters and water bills; review waste load allocation established in H-GAC Bacteria Implementation Group's I-Plan December annually*.		•	•	•	•

\*denotes the deadline for years 2 thru 5 of the permit term

MCM		ACTIVITY	MEASURABLE GOALS	PERMIT YEAR				
ITEM	BMPs			1	2	3	4	5
NO.								
3.1	Review and Maintain District's Post - Construction BMP Requirements	Review and evaluate District's BMP requirements and update.	Receive TCEQ authorization to proceed with SWMP.	•				
			Review BMP requirements December annually*.		•	•	•	•
3.2	Evaluate and Update Site Plan Review and Site Inspections Procedures	Review and evaluate District's plan review and site observation of pre-and post-construction requirements annually.	Receive TCEQ authorization to proceed with SWMP.	•				
			Evaluate plan review procedures and update if needed; evaluate site construction observation procedures December annually*.		•	•	•	•
3.3	Implementation of Site Sediment Control Measures	Require contractors to implement site sediment controls approved during District Plan Review.	Receive TCEQ authorization to proceed with SWMP.	•				
			Document number of construction sites and plan sediment control implemented December annually*.		•	•	•	•
4.1	Implementation of BMPS and Individual Project SWMP	Oversight of constructed post-construction storm water quality requirements.	Receive TCEQ authorization to proceed with SWMP.	•				
			Document certifications issued by Developer's engineer for completed individual SWMP December annually*.		•	•	•	•

\*denotes the deadline for years 2 thru 5 of the permit term



C. SWMP Rationale

The development within the Kingsbridge M.U.D. MS4 area can be characterized as a gradual mix of primarily residential, less invasive and impervious development to larger commercial site disturbance. This Storm Water Management Plan when implemented will serve to inform the public and inhabitants, instill awareness of good and responsible activities to prevent pollution of storm water resources, and to promote Best Management Practices into routine activities, including development.

Due to the highly residential and commercial nature of development within this MS4, the BMPs and measurable goals selected have much to do with sediment and pollutant removal, and collection and removal of floatable litter that ends up in the outfall ditches and detention pond.

D. Organization and Authority

Kingsbridge MUD was created by an Order of the Texas Department of Water Resources (now the Texas Commission on Environmental Quality) dated December 22, 1978. Pursuant to the provisions of Chapters 49 and 54 of the Texas Water Code (TWC), Kingsbridge MUD shall have the functions, powers, authority, rights, and duties that will permit accomplishment of the purposes for which it was created or the purposes authorized by the constitution, this code, or any other law (TWC §49.211). These provisions empower Kingsbridge MUD to purchase, construct, acquire, own, operate, maintain, repair, improve, or extend inside and outside its boundaries any and all works, improvements, facilities, plants, equipment, and appliances necessary to: accomplish the purposes of the district authorized by the constitution, this code, or other law; supply water for municipal uses, domestic uses, power, and commercial purposes and all other beneficial uses or controls; collect, transport, process, dispose of, and control all domestic, industrial, or communal wastes whether in fluid, solid, or composite state; gather, conduct, divert, and control local stormwater or other local harmful excesses of water in the district; irrigate the land in the district; alter land elevation in the district where it is needed; navigate coastal and inland waters of the district; and provide parks and recreational facilities for the inhabitants of the district, subject to the provisions of Chapter 49 (TWC §54.201).

Kingsbridge MUD is a small Municipal Separate Storm Sewer System (MS4) operator that is located within an urbanized area as defined by the 2010 Decennial Census by the U.S. Census Bureau and is therefore eligible for coverage under Texas Pollutant Discharge Elimination System (TPDES) General Permit No. TXR040000 (General Permit) (see Appendix C).

E. Impaired Water Bodies and Total Maximum Daily Loads (TMDLs)

Kingsbridge MUD discharges into Keegans Bayou and Upper Oyster Creek, both appearing on the Integrated List of Impaired Waters and have EPA approved TMDLs for each impairment. Water bodies with approved TMDLs are subject to further requirements which include targeted BMPs for the specific impairment, benchmarks, and measurable goals.

Keegans Bayou, Segment 1007C, is listed as impaired for bacteria. The EPA approved a TMDL for bacteria in the Brays Bayou watershed on September 27, 2010. The benchmark value for bacteria is the Waste Load Allocation: 200 Billion MPN/day ( $WLA_{\text{stormwater}}$ ).

Upper Oyster Creek, Segment 1245, is listed as impaired for bacteria and dissolved oxygen. The EPA approved a TMDL for bacteria on September 28, 2007. The benchmark value for bacteria is the Waste Load Allocation: 407 Billion cfu/day ( $WLA_{\text{stormwater}}$ ). This benchmark value is specifically for the 1245\_03 assessment unit portion of Upper Oyster Creek, into which the MS4 indirectly discharges.

The pollutant of concern is for bacteria. The following is a list of specific BMPs chosen for bacteria reduction:

- Sanitary Sewer Systems. The indicated BMPs are:
  - Improvements to reduce overflows.
  - Lift station inadequacies.
  - Improve reporting of overflows.
  - Strengthen sanitary sewer use requirements to reduce blockage from fats, oil and grease.
- On-site Sewage facilities (OSSFs). The indicated BMPs are:
  - Identify and address failing systems.
  - Address inadequate maintenance of OSSFs.
  - Other: None are applicable – the MS4 MUD does not allow on-site sewage facilities.

- Illicit Discharges and dumping. The indicated BMPs are:
  - Place additional efforts to reduce waste sources of bacteria.
  
- Animal Sources. The indicated BMPs are:
  - Expand existing management sources to identify and target animal sources such as petting zoos, pet waste, and horse stables.
  
- Residential Education- increase focus to educate residents on:
  - Bacteria discharging from a residential site either during runoff events or directly.
  - Fats, oils and grease clogging sanitary sewer lines and resulting overflows.
  - Decorative ponds (N/A – the MS4 has no decorative ponds)
  - Proper disposal of pet waste.