

Texas Pollutant Discharge Elimination System.  
Small Municipal Separate Storm Sewer System (MS4) Stormwater Management Program

TPDES PHASE II MS4 GENERAL PERMIT (TXR040000)

The Meadows at Chandler Creek Municipal Utility District Williamson County, Texas

JUNE 2019

## TABLE OF CONTENTS

|        |   |   |
|--------|---|---|
| I.     | Introduction.....   | 1 |
| II.    | Minimum Control Measures (MCMs).....  | 2 |
| 1.     | Public Education, Outreach and Involvement on Stormwater Impacts .....  | 2 |
| 1.A.   | Best Management Practices and Measurable Goals for Public Education, Outreach and Involvement on Stormwater Impacts .....   | 2 |
| 1.A.1. | Stormwater Committee: Formation of a committee on SWMP program development and implementation .....   | 2 |
| 1.A.2. | Distribute educational materials and information .....  | 3 |
| 1.A.3. | Website.....  | 3 |
| 1.A.4. | Public Education and Outreach .....   | 3 |
| 1.A.5. | Forming Partnerships .....  | 3 |
| 1.A.6. | Community Clean-up Program .....  | 3 |
| 1.A.7. | Storm Drain Labeling.....   | 3 |
| 1.B.   | Implementation Schedule - Public Education, Outreach and Involvement.....   | 4 |
| 2.     | Illicit Discharge Detection and Elimination .....   | 4 |
| 2.A.   | Best Management Practices and Measurable Goals for Illicit Discharge Detection and Elimination Program .....  | 5 |
| 2.A.1. | Program to detect and eliminate illicit discharges .....  | 5 |
| 2.A.2. | Non-stormwater discharges and illegal dumping detection plan.....   | 5 |
| 2.A.3. | Storm Sewer System Map.....   | 6 |
| 2.A.4. | Education and Training.....   | 6 |
| 2.A.5. | Illicit Discharge Documentation.....  | 6 |
| 2.A.6. | Reporting .....   | 6 |
| 2.A.7. | Inspections .....   | 7 |
| 2.B.   | Implementation Schedule - Illicit Discharge Detection and Elimination.....  | 7 |
| 3.     | Construction Site Storm Water Runoff Control MCM.....   | 8 |
| 3.A.   | Develop and implement a site plan review process and educational materials to encourage the reduction of local construction site runoff for construction activities disturbing one or more acres or sites or less than one acre if part of a larger common plan of development or sale that would disturb one acre or more..... | 9 |
| 3.B.   | Erosion and Sedimentation Control .....   | 9 |
| 3.C.   | Best Management Practices and Measurable Goals for Construction Site Storm Water  |   |

|    |   |    |
|----|---|----|
|    | Runoff Control MCM.....   | 10 |
|    | 3.C.1. Construction Storm Water Program BMPs .....  | 10 |
|    | 3.C.2. Site Plan Review BMP .....   | 10 |
|    | 3.C.3. Consideration of Public Input BMP .....  | 10 |
|    | 3.C.4. Site Inspection BMP.....   | 10 |
|    | 3.D. Implementation Schedule - Construction Site Storm Water Runoff Control MCM.....  | 10 |
| 4. | Post Construction Storm Water Management in New Development and Redevelopment .....   | 11 |
|    | 4.A. Current Programs .....   | 12 |
|    | 4.B. Best Management Practices and Measurable Goals for Post Construction Storm Water<br>Management in New Development and Redevelopment MCM..... | 12 |
|    | 4.B.1. Program to address stormwater runoff from new development and redevelopment<br>projects, which discharge to the District’s MS4. ....       | 12 |
|    | 4.B.2. Strategies which include a combination of structural and non-structural BMPs.....  | 12 |
|    | 4.B.3. Mechanism to address post-construction runoff.....   | 13 |
|    | 4.B.4. Long-term operation and maintenance of BMPs .....  | 13 |
| 5. | Pollution Prevention/Good Housekeeping MCM.....   | 14 |
|    | 5.A. Current Program .....  | 14 |
|    | 5.B. Board member training.....   | 14 |
|    | 5.C. Best Management Practices and Measurable Goals for Pollution Prevention I Good<br>Housekeeping .....   | 14 |
|    | 5.C.1. Controls to reduce or eliminate discharge of pollutants from operations .....  | 15 |
|    | 5.C.2. Training .....   | 15 |
|    | 5.C.3. Structural Control Maintenance .....   | 15 |
|    | 5.C.4. Disposal of waste.....   | 15 |
|    | 5.D. Implementation Schedule -Pollution Prevention I Good Housekeeping .....  | 16 |

**The Meadows at Chandler Creek Municipal Utility District  
Small Municipal Separate Storm Sewer System  
Stormwater Management Program**

**I. Introduction**

**MS4 NAME** – The Meadows at Chandler Creek Municipal Utility (the “**District**”)  
**ENTITY TYPE** – Municipal Utility District  
**EXECUTIVE OFFICER**- President, Board of Directors  
**DESIGNATED SIGNER** – President, Board of Directors  
**MAILING ADDRESS** – c/o McGinnis Lochridge  
600 Congress Ave., Suite 2100  
Austin, Texas 78701  
(512)-495-6139  
**POPULATION** – Approximately 5,457 persons  
**OPERATOR LEVEL** – Level 2, Phase II Operator

**LOCATION** - The Meadows at Chandler Creek Municipal Utility District No. 1 encompasses approximately 531 acres of land and is located in south central Williamson County and lies approximately 25 miles north of the City of Austin’s central business district and approximately 3 miles northeast of the City of Round Rock’s central business district. .

**ORGANIZATION** - A Board of Directors governs the District. Elected officials include a Board President, Vice-President, Secretary, Assistant Secretary, and Treasurer. The Board hires outside consultants to handle general management, engineering, legal, bookkeeping, and tax assessment services.

**ORDINANCES AND GUIDANCE** – The District lies entirely within the extraterritorial jurisdiction of City of Round Rock (the “City”). Therefore, all development in the District must comply with the City’s rules and regulations.

**LEGAL AUTHORITY** – The District has the legal authority to enforce compliance with the Storm Water Management Program through the District’s Order Establishing General Policies and Rules and Regulations with Respect to the District’s Drainage Systems (“**Rules and Regulations**”). The District is responsible for water, storm sewer, sanitary sewer, within its boundaries. Other than the Board of Directors, the District does not employ any staff. The District contracts for services including general management, engineering services, landscaping services, bookkeeping services, security services, and maintenance services.

**PROGRAM FUNDING** – The District will fund this program through its operating fund.

**LIMITATIONS ON PERMIT COVERAGE** – The District discharges storm water into Brushy Creek classified segment 1244.

## **II. Minimum Control Measures (MCMs)**

### **1. Public Education, Outreach and Involvement on Stormwater Impacts**

The Public Education and Outreach minimum measure consists of Best Management Practices (BMPs) that focus on the development of educational materials designed to inform the public about the impacts that storm water discharges have on local water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The BMPs describe how individuals and households will be informed about the steps they can take to reduce storm water pollution; how individuals and groups will be informed on how to become involved in the storm water program; and the mechanisms that will be used to reach target audiences. The target audiences for the education program are specified in education-related BMPs described in the other minimum control measures. The target audiences were selected based on regulation requirements and based on the goal of educating the community about the impacts that storm water discharges have on local water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The Public Education and Outreach program and BMPs, in combination, are expected to reach all of the constituents within the MS4's permitted boundary. The target pollutant sources are construction site runoff, impacts from new and re-development, illicit discharges and other pollutant sources identified to be of local concern, i.e. approved Total Maximum Daily Load (TMDL) parameters. Evaluation of the success of this minimum measure will be through careful analysis of the measurable goals for each BMP included in this minimum measure. Measurable goals for each BMP were selected by formulating attainable goals for the various BMP implementation steps or tasks. The responsibility for implementation of this minimum measure is described with each BMP procedure.

#### **1.A. Best Management Practices and Measurable Goals for Public Education, Outreach and Involvement on Stormwater Impacts**

The Meadows at Chandler Creek MUD (the “**District**”) has formed a Stormwater Committee, which plans to conduct regular meetings to evaluate the BMPs and MCMs included within its Stormwater Management Plan (“**SWMP**”).

The District plans to display and distribute educational materials to the community via the district's website, [www.chandlercreekmud.org](http://www.chandlercreekmud.org),

The District retains no staff and is managed by a publicly elected Board of Directors. Contractors perform all required operation and maintenance activities. The contractors are responsible for the training of their employees.

##### **1.A.1. Stormwater Committee: Formation of a committee on SWMP program development and implementation**

- Develop a list of BMPs included in SWMP to determine if any additional topics would benefit by committee review of the following types of items: Public education materials; local illicit discharge elimination regulations and investigation procedures; local construction storm water regulations, guidance materials, permitting and inspection procedures; post-construction guidance and permitting information; and feedback on good housekeeping measures

- Conduct regular Stormwater Committee meetings
- Annually report on the number of meetings and subjects discussed

#### **1.A.2. Distribute educational materials and information**

The District will distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies.

The District will make available to the community educational stormwater brochures and other materials.

The District will supply brochures to each Board Director and all consultants.

The District will post the SWMP and all annual reports on the District's website [www.ranchatcc.org](http://www.ranchatcc.org), as required.

#### **1.A.3. Website**

The District will update the existing District website to include a separate page on stormwater items and will review the webpage periodically to determine if additional information regarding pollution prevention should be included.

#### **1.A.4. Public Education and Outreach**

The District will involve the public by inviting members of the public to participate in the labeling of the District's stormwater inlets.

#### **1.A.5. Forming Partnerships**

The District will identify existing programs or attempt to develop new ones, which involve cooperation and partnership with other agencies.

#### **1.A.6. Community Clean-up Program**

The District will promote participation in annual or semi-annual City of Round Rock events to collect household hazardous waste (HHW). The City of Round Rock holds regular collection events, which the District will help publicize.

#### **1.A.7. Storm Drain Labeling**

The District will identify target areas or streets to be included in the storm drain labeling program.

The District will identify groups that may be willing to participate in the storm drain labeling program, including consideration of the following groups: Local Boy or Girl

Scout organizations; local school groups; local fund raising groups; and other civic organizations.

**1.B. Implementation Schedule - Public Education, Outreach and Involvement**

| BMP                         | Activity/Measureable Goal   | Date Due   |
|-----------------------------|---|--|
| Stormwater Committee        | <ul style="list-style-type: none"> <li>• Form Stormwater Committee</li> <li>• Meet annually</li> </ul>  | December 2019<br>December, years 1-5   |
| Public Education & Outreach | <ul style="list-style-type: none"> <li>• Develop and implement brochure with subjects related to stormwater pollution Prevention</li> <li>• Brochures to be supplied to each Board member and all consultants</li> <li>• Organize presentation to Board members, consultants, general public, residents, and other interested groups on the requirements of the program</li> </ul>  | December 2019<br><br>December 2020<br><br>Annually by December, years 1-5          |
| Website                     | <ul style="list-style-type: none"> <li>• Develop page on the District’s website to educate the public on stormwater issues, including illicit discharges</li> <li>• Post additional subjects related to SWMP implementation activities and opportunities for public participation on the District website</li> <li>• Continue website distribution of information</li> </ul>  | December 2019<br><br>December, years 2-4<br><br>December, years 2-4                |
| Community Cleanup           | <ul style="list-style-type: none"> <li>• Publicize collection events on the District’s website</li> </ul>   | December, years 1-5  |
| Storm Drain Labeling        | <ul style="list-style-type: none"> <li>• Identify target areas or streets to be included in the storm labeling program</li> <li>• Identify groups that may be willing to participate in the storm drain labeling program</li> <li>• Maintain adequate records of stormwater labeling and volunteer participation</li> <li>• Annually report on number of storm drains labeled, as well as the repair or replacement of any existing storm drain labels</li> </ul> | December 2019<br><br>December 2019<br><br>December 2019<br><br>December, years 1-5 |

**2. Illicit Discharge Detection and Elimination**

The Illicit Discharge Detection and Elimination minimum control measure consists of Best Management Practices (BMPs) that focus on the detection and elimination of illicit discharges into the MS4. A storm sewer system map showing the location of all outfalls and the names and

location of all receiving waters has been developed from existing mapping information, e.g. MS4 CAD or GIS map bases or the US Census Bureau Tiger/Line 2000 maps. The BMPs describe procedures to develop and update a storm sewer system map showing the location of all outfalls and the names and location of all receiving waters; the legal authority mechanism (to the extent allowable by law) which will be used to effectively prohibit illicit discharges; public education regarding identifying, reporting and eliminating illicit discharges; the dry weather screening program and procedures for tracing and locating the source of an illicit discharge; procedures for locating priority areas; and procedures for removing the source of the illicit discharge. BMPs also focus on education and training of employees and the general public with regard to the hazards associated with illegal discharges and improper disposal of waste. Evaluation of the success of this minimum control measure will be through careful analysis of the measurable goals for each BMP included in this minimum control measure. Measurable goals for each BMP were selected by formulating attainable goals for the various BMP implementation steps or tasks. The responsibility for implementation of this minimum control measure is described with each BMP procedure.

## **2.A Best Management Practices and Measurable Goals for Illicit Discharge Detection and Elimination Program**

### **2.A.1. Program to detect and eliminate illicit discharges**

**Required:** A program to detect and eliminate illicit discharges to the MS4, including an ordinance or mechanism to effectively prohibit illicit discharges.

The District will satisfy the requirements of this section by implementing:

A program to detect and eliminate illicit discharges, including the development of Rules and Regulations to address illicit discharges to the MS4. The Rules and Regulations will prohibit illicit discharges and connections, all non-storm water discharges that significantly contribute pollutants to the MS4, and illegal dumping. It will include appropriate enforcement procedures and actions and will establish legal authority to carry out inspection surveillance and monitoring procedures necessary to ensure compliance with the Rules and Regulations. The Rules and Regulations will also identify a list of occasional incidental non-storm water discharges, if any, that will not be addressed as illicit discharges. Illicit discharges not covered by the Rules and Regulations (i.e., discharger is a non-resident of the District) will be enforced by referring the violator to the local enforcement authority with jurisdiction or to the TCEQ. The District shall include in the Rules and Regulations the following:

- Written procedures describing the basis for conducting inspections in response to complaints and conducting follow-up inspections
- On-site procedures for responding to illicit discharges and spills.

### **2.A.2. Non-stormwater discharges and illegal dumping detection plan**



**Required:** A plan to detect and address non-stormwater discharges and illegal dumping to the MS4.

The District will actively patrol and inspect non-stormwater discharges, including illegal dumping into its MS4.

### **2.A.3. Storm Sewer System Map**

**Required:** A map of the storm sewer system which includes the location of conveyances, location of all major outfalls and the names and locations of all waters of the U.S. that receive discharges from the outfalls.

The District will develop a stormwater management system (SWMS), which includes storm sewer mapping, and a district wide management system for stormwater permit compliance purposes. The SWMS will include maps of locations of all major outfalls and the names and location of all waters of the State, which receive discharges from the outfalls.

### **2.A.4. Education and Training**

**Required:** Implementation of a method for informing or training Board members or Consultants that may come in contact and otherwise observe an illicit discharge or illicit connection to the to the MS4.

The District will develop a training program, which describes the implementation of illicit discharge practices and procedures, regarding the observation of an illicit discharge or illicit connection to the MS4. This educational training program will be offered to all Board members on an annual basis.

### **2.A.5. Illicit Discharge Documentation**

A record will be made of each possible illicit discharge in which follow-up actions were required. The record will consist of a geographical point of reference, date, description of flow, and summary of follow up actions.

The District will develop detailed records of negative findings of dry weather inspections.

### **2.A.6. Reporting**

**Required:** When an illicit discharge has been determined, the MS4 shall notify immediately the responsible party of the problem and shall require the responsible party to perform all necessary corrective actions.

If a possible illicit discharge is identified, the District will trace the flow upstream to the extent of District property. The District will report flows originating off district to the

appropriate city, county, or other entity with jurisdiction for further action. In the event the flow appears to create a hazard or contain toxic or noxious substances, the District will report the flow to the TCEQ.

- Board members will be trained to report all possible illicit and non-stormwater discharges.
- Consultants, including the District’s landscapers will be informed about identifying and reporting illicit discharges
- District to develop on-site procedures for responding to illicit discharges and spills.

**2.A.7. Inspections**

**Required:** The District shall conduct inspections in response to complaints, and shall conduct follow-up inspections to ensure that corrective measures have been implemented by the responsible party. **Written procedures shall be developed describing the basis for conduction inspection in response to complaints and conducting follow-up requirements.**

- The District will publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from the small MS4.
- **The District will develop written procedures on the conducting of inspections in response to complaints, including follow-up inspections.**

**2.B. Implementation Schedule - Illicit Discharge Detection and Elimination**

*The implementation schedule must reflect the best management practices and activities to be implemented by the District for their Stormwater Management Program; the implementation schedule will become part of the District's MS4 Phase II general permit requirements.*

| Program  | Measurable Goals   | Date of Compliance   |
|--|--|--|
| Illicit Discharge Regulations/Order                | <ul style="list-style-type: none"> <li>• Develop Rules and Regulations</li> <li>• Adopt and implement Rules and Regulations</li> </ul>   | <p>December 2020</p> <p>December 2020</p>                                  |
| Program to detect and eliminate illicit discharges | <ul style="list-style-type: none"> <li>• Develop program to detect and eliminate illicit discharges</li> <li>• <b>Publicize and facilitate public reporting of illicit discharges or water quality impacts associated into or from the MS4 via the District’s website</b></li> </ul> | <p>December 2020</p> <p>December 2021</p> <p>Within 90 days, years 1-5</p> |

|  |  |   |
|--|--|---|
|  | <ul style="list-style-type: none"> <li>• Respond to complaints received in Permit Years 1 through 5.</li> <li>• Implement routine inspection program</li> </ul>  | December 2020   |
| Plan to detect non-stormwater discharges and illegal dumping | <ul style="list-style-type: none"> <li>• Develop plan to detect and address non-stormwater discharges and illegal dumping</li> <li>• Implement plan</li> <li>• Annual review of the plan to consider possible updates</li> </ul>   | December 2020<br>December 2021<br>December, years 3-5 |
| Storm Sewer Map  | <ul style="list-style-type: none"> <li>• Review and assess the map of the MS4 system to ensure the inclusion and location of the following: MS4 receiving streams; stormwater outfalls; and permit coverage area</li> <li>• Annual review and update of map</li> </ul>                                       | December 2019<br>December, years 2-5                  |
| Education and Training                                       | <ul style="list-style-type: none"> <li>• Develop a training program which describes the implementation of illicit discharge practices and procedures, regarding the observation of an illicit discharge or illicit connection to the MS4</li> <li>• Conduct annual trainings of all Board members</li> </ul> | December 2019<br>December, years 2-5                  |

### 3. Construction Site Storm Water Runoff Control MCM

The Construction Site Runoff minimum control measure consists of Best Management Practices (BMPs) that focus on the reduction of pollutants in any Stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre (or from construction activity disturbing less than one acre but part of a larger common plan of development or sale that would disturb one acre or more). The BMPs describe measures to educate community residents and businesses regarding the prevention of construction site runoff; actions to educate regarding compliance; educational materials encouraging construction site operators to implement appropriate erosion and sediment control BMPs; educational materials encouraging construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site; educational materials encouraging procedures to incorporate the consideration of potential water quality impacts; and procedures for receipt and consideration of information submitted by the public. Evaluation of the success of this minimum control measure will be through careful analysis of the measurable goals for each BMP included in this minimum control measure. Where applicable, the District shall also reference and incorporate compliance with any Water Pollution Abatement Plan (“WPAP”) required by, and in compliance with, the Edwards Aquifer Rule (30 TAC Chapter 213). Measurable goals for each BMP were selected by formulating attainable

goals for the various BMP implementation steps or tasks. The responsibility for implementation of this minimum control measure is described with each BMP procedure.

**3.A. Develop and implement a site plan review process and educational materials to encourage the reduction of local construction site runoff for construction activities disturbing one or more acres or sites or less than one acre if part of a larger common plan of development or sale that would disturb one acre or more.**

The District plans to implement various strategies to address stormwater runoff from construction sites and to develop and implement a site plan review process. The District employs a District Engineer to review site plans, as needed. The TPDES permit program controls water pollution from construction activities by requiring a Stormwater Pollution Prevention Plan (SWPPP) at all construction sites, which disturb one acre or more of soil. Any construction activity within the District's boundary will be regulated under City of Round Rock rules and regulations regarding stormwater pollution protection program.

The District implements the following construction contractor oversight activities:

The Board of Directors currently coordinates with the District Engineer regarding District construction and planning activities, develops and administers District-funded projects, and observes the construction of public improvements. District construction projects comply with the TPDES Construction General Permit No. TXR150000, as applicable.

In order for construction operators to gain permission to discharge runoff to the District, they must be in compliance with the TPDES Construction General Permit No. TXR150000. For the District, operators will be required to submit a copy of their NOI and Storm Water Pollution Prevention Plan (SWPPP) to the District Engineer.

The District plans to adopt Rules and Regulations for its stormwater system that will include regulatory mechanisms as well as sanctions to ensure compliance to the extent allowable under state, federal, and local law, to require erosion and sediment control.

**3.B. Erosion and Sedimentation Control**

Temporary and permanent BMPs designed to reduce and control erosion and sedimentation and minimize impacts created by stormwater runoff are used during construction.

Erosion control at District construction sites is accomplished by:

- Design steps to minimize bare soil exposure.
- Stabilize the soil with vegetation or other materials to hold it in place.
- Minimize the erosive velocities of stormwater runoff.

Sediment control is generally accomplished with BMPs such as silt fences and rock filter dams placed to capture moving sediments.

### 3.C. Best Management Practices and Measurable Goals for Construction Site Storm Water Runoff Control MCM

#### 3.C.1. Construction Storm Water Program BMPs

**Required:** A program to reduce pollutants in stormwater runoff to the MS4 from construction activities and sanctions to ensure compliance to the extent allowable under State and local law.

a. District construction

The District requires that all its construction projects meet TCEQ TPDES Construction General Permit requirements and further requires that all projects with any amount of soil disturbance implement a stormwater pollution prevention plan.

#### 3.C.2. Site Plan Review BMP

**Required:** Develop procedures for site plan review that incorporates consideration of potential water quality impacts.

The District will perform site plan review of its construction projects only. Pre-construction site plan reviews are conducted on all District projects. Written procedures will be included in the District's Stormwater System Rules and Regulations

#### 3.C.3. Consideration of Public Input BMP

**Required:** Develop procedures for receipt and consideration of information submitted by the public.

Procedures will be developed. The District's written procedures will be included in the District's Stormwater System Rules and Regulations.

#### 3.C.4. Site Inspection BMP

**Required:** Develop procedures for site inspection and enforcement of control measures.

The District requires that all construction projects meet TCEQ TPDES Construction General Permit requirements including site inspection requirements.

### 3.D. Implementation Schedule - Construction Site Storm Water Runoff Control MCM

| Program                                    | Activity (BMP)                              | Date Due      |
|--|---|---------------|
| Construction Site Runoff Regulations/Order | • Develop Rules and Regulations             | December 2020 |
|  | • Adopt and implement Rules and Regulations | December 2020 |

|                                  |  |  |
|----------------------------------|--|--|
| Public Information               | <ul style="list-style-type: none"> <li>• Review and assess topics in educational materials to determine construction information needed for inclusion on stormwater webpage and in brochures.</li> <li>• Develop stormwater brochure specifically addressing stormwater impacts from construction sites. The brochure will outline methods by which contractors and developers can reduce stormwater impacts. The brochure will also inform operators of their duty to control waste and implement erosion and sediment controls</li> <li>• Develop procedures by which to receive and consider information from the public and include information in any construction educational materials and on the District's website</li> </ul> | <p>December 2019</p> <p>December 2020</p> <p>December 2020</p> |
| Construction Site Runoff Control | <ul style="list-style-type: none"> <li>• Review requirements for contractors annually and rewrite, if necessary</li> </ul>   | December, years 1-5  |

#### 4. Post Construction Storm Water Management in New Development and Redevelopment

The Post-Construction Stormwater Management minimum control measure consists of Best Management Practices (BMPs) that focus of the prevention or minimization of water quality impacts from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that discharge into the small MS4. The BMPs describe structural and/or non-structural practices; measures to educate community residents and businesses regarding the prevention of construction site runoff, which will be used to address post-construction runoff from new development and redevelopment projects; and educational material dissemination to ensure long term operation and maintenance of BMPs. Also included are BMPs focusing on education programs for developers and the general public with regard to project designs that minimize negative water quality impacts. Evaluation of the success of this minimum control measure will be through careful analysis of the measurable goals for each BMP included in this minimum control measure. Measurable goals for each BMP were selected by formulating attainable goals for the various BMP implementation steps or tasks. The responsibility for implementation of this minimum control measure is described with each BMP procedure.

#### **4.A. Current Programs**

The District will include in the District's educational materials information regarding post-construction control measures and maintenance of post-construction control measures in areas of new and redevelopment to ensure no updates are necessary.

#### **4.B. Best Management Practices and Measurable Goals for Post Construction Storm Water Management in New Development and Redevelopment MCM**

##### **4.B.1. Program to address stormwater runoff from new development and redevelopment projects, which discharge to the District's MS4.**

**Required:** A program to address storm water runoff to the MS4 from new development and redevelopment projects that disturb greater than or equal to one acre.

The District's program will minimize water quality impacts and attempt to maintain pre-development runoff conditions. Primary water quality impacts are those related to changes in stormwater runoff quantity as impervious cover increases and potential water quality impacts due to constituent loadings associated with home construction.

##### **4.B.2. Strategies which include a combination of structural and non-structural BMPs**

**Required:** Develop and implement strategies, which include structural and non-structural BMPs.

##### **Structural BMPs:**

The District's current program includes structural and non-structural BMPs. Permanent post construction stormwater BMPs available to the District include the following:

- Vegetated swales – The District will continue to use grass swales where possible in medians and drainage ditches.
- Vegetative filter strips – The District will continue to use vegetative filter strips on roadway shoulders for overland stormwater flow where possible.
- Establishing and maintaining vegetation – The District will continue its program of establishing and maintaining vegetation at the completion of construction activities.
- Permanent stabilization applied to unpaved areas (sodding, seeding, mulching with seed) – The District will continue its program of establishing permanent stabilization at the completion of construction activities.
- Litter control – The District implement a litter control programs.
- Reduction of direct discharges
- Inlet signage

#### 4.B.3. Mechanism to address post-construction runoff

**Required:** Ordinance or other regulatory mechanism to address post-construction runoff to the extent allowable under State and local law.

The District will include mechanisms to address post-construction runoff in its Rules and Regulations

Permanent stabilization applied to unpaved areas (sodding, seeding, mulching with seed)  
– The District will continue its program of requiring establishment of permanent stabilization at the completion of construction activities.

Establishing and maintaining vegetation – The District will continue its program of requiring establishment of, and maintaining vegetation at the completion of construction activities.

#### 4.B.4. Long-term operation and maintenance of BMPs

**Required:** Ensure adequate long-term operation and maintenance of BMPs.

The District inspects and maintains structural BMPs.

- Operation and maintenance procedures are upgraded as necessary.

#### 4.C. Implementation Schedule - Post Construction Storm Water Management in New Development and Redevelopment MCM

*The implementation schedule must reflect the best management practices and activities to be implemented by the District for their Stormwater Management Program; the implementation schedule will become part of the District's MS4 Phase II Permit requirements.*

| Program   | Activity (BMP)                              | Date Due      |
|---|---|---------------|
| Address post-construction runoff                      | • Develop Rules and Regulations             | December 2020 |
|   | • Adopt and implement Rules and Regulations | December 2020 |
| New Development and Re-development stormwater program | • Evaluate current non-structural BMPs      | December 2019 |
|   | Evaluate current BMP inspection program     | December 2019 |



## 5. **Pollution Prevention/Good Housekeeping MCM**

The Pollution Prevention and Good Housekeeping minimum control measure consists of Best Management Practices (BMPs) that focus on training and on the prevention or reduction of pollutant runoff from municipal operations. The BMPs describe the use of available training materials available from the EPA, the TCEQ and other organizations; specific municipal operations that are impacted by the proposed operation and maintenance BMPs; a list of municipally-owned industrial facilities which require other Stormwater discharge permits; maintenance activities, schedules and long term inspection procedures for controls to reduce floatables and other pollutants; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations fleet or maintenance shops with outdoor storage areas; procedures for the proper disposal of waste removed from the MS4 and municipal operations, including dredge spoil, accumulated sediments, floatables and other debris; and procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. Evaluation of the success of this minimum control measure will be through careful analysis of the measurable goals for each BMP included in this minimum control measure. Measurable goals for each BMP were selected by formulating attainable goals for the various BMP implementation steps or tasks. The responsibility for implementation of this minimum control measure is described with each BMP procedure.

### 5.A. **Current Program**

The District plans to implement strategies and procedures to prevent or reduce pollutant runoff from municipal activities and municipally owned areas. Many Best Management Practices (BMPs) focus on reducing the discharge of pollutants.

### 5.B. **Board member training**

The District will develop a training program, which describes the implementation of pollution prevention, and good housekeeping practices. This educational training program will be offered to all Board members on an annual basis.

### 5.C. **Best Management Practices and Measurable Goals for Pollution Prevention I Good Housekeeping**

**Required:** Operation and maintenance program that identifies methods for conducting maintenance operations in ways that prevent and reduce pollution in stormwater runoff.

Reduce pollution of stormwater from maintenance operations

The District plans to use the following methods, which reduce pollution from operations:

- Identify potential hazardous materials used in operations
- Prioritized litter collection

- Pesticide and Herbicide Application

### 5.C.1. Controls to reduce or eliminate discharge of pollutants from operations

**Required:** Controls must be used to reduce or eliminate the discharge of pollutants from operations.

Evaluate existing controls and where possible introduce new ones, including:

- Cleaning of storm drain inlets and catch basins. The District currently maintains the stormwater collection system. The District will use historical data to determine problem areas and inspect those areas annually.
- Review District rules and policies to control pollutant discharges by any District facilities, contractors, or any other entity over which the District has operational control through inspection and enforcement

### 5.C.2. Training

**Required:** Training of all Board members and Consultants.

The District will develop a program or document existing program for Board members and Consultants, which includes training materials directed at preventing and reducing storm water pollution.

The training program could include:

Training on the impacts of storm water pollution.

### 5.C.3. Structural Control Maintenance

- Structural facilities are inspected and/or maintained on a monthly basis.

### 5.C.4. Disposal of waste

**Required:** Waste removed from the MS4, from structural controls, or collected as a result of operations and maintenance activities must be properly disposed.

Waste removed resulting from O&M activities is disposed of in accordance with state, county and/or rules and regulations.

**Required:** Procedures for disposal of wastes:

- Dredge spoil - is to be stored on site until dry, then properly disposed at a landfill.
- Accumulated sediments - to be properly disposed at a landfill.
- Floatables - to be properly disposed at a landfill.

## 5.D. Implementation Schedule -Pollution Prevention I Good Housekeeping

*The implementation schedule must reflect the best management practices and activities to be implemented by The Meadows at Chandler Creek MUD District for their Stormwater Management Program; the implementation schedule will become part of the District's MS4 Phase // permit requirements.*

| Program                                      | Activity (BMP)  | Date Due   |
|--|---|--|
| Operation and Maintenance Stormwater Program | <ul style="list-style-type: none"> <li>Identify persons responsible for implementation of the program</li> <li>Identify potential hazardous materials, including develop and maintain inventory of stormwater facilities</li> <li>Identify existing and implement methods to reduce stormwater pollution</li> <li>Litter Control measures implemented</li> <li>Research the use of organic Pesticide and Herbicide applications on District property</li> </ul> | <p>December 2019</p> <p>December 2020</p> <p>December 2020</p> <p>December 2020</p> <p>December 2021</p> |
| Structural Control Maintenance               | <ul style="list-style-type: none"> <li>Develop written procedures for inspecting and maintaining structural controls</li> <li>Conduct inspections of pollution prevention measures and maintain inspection log</li> </ul>   | <p>December 2019</p> <p>December, years 2-5</p>  |
| Catch Basin Cleaning                         | <ul style="list-style-type: none"> <li>District owned catch basins will be cleaned on an as needed basis except for the determined problem areas, which will be inspected annually.</li> <li>Record the number of problem areas and document the dates of cleaning, and determine if maintenance should be conducted more regularly.</li> </ul>   | <p>December, years 1-5</p> <p>December, years 2-5</p>  |
| Education and Training                       | <ul style="list-style-type: none"> <li>Develop a training program which describes how to reduce stormwater pollution</li> <li>Conduct annual trainings of all Board members</li> </ul>  | <p>June 2020</p> <p>December, years 2-5</p>  |

