



December 20, 2022

Texas Commission on Environmental Quality
Stormwater & Pretreatment Team Leader (MC -148)
P. O. Box 13087
Austin, Texas 78711- 3087

Texas Commission on Environmental Quality
Water Section Manager
2309 Gravel Drive
Fort Worth, Texas 76118-6951

Re: Phase II MS4 Annual Report Transmittal for the City of Grapevine
TPDES Permit Authorization: TXR040114

Dear Team Leader:

This letter serves to transmit the required annual report for the Texas Pollutant Discharge Elimination System Small Municipal Separate Storm Sewer System General Permit, Authorization Number TXR040114 for the City of Grapevine.

The annual report is for Year 4. The reporting period's beginning October 1, 2021 and ending September 30, 2022.

A separate Notice of Change has not been submitted based on the fact that changes have not been proposed for the next permit year.

As required by the general permit, a copy of the report has also been mailed to the TCEQ's regional office, Region 4, in Fort Worth, Texas.

Sincerely,

Gregory Moss, Environmental Specialist II
City of Grapevine
501 Shady Brook Dr.
Grapevine TX 76051
817-410-3334
gmoss@grapevinetexas.gov

cc: Bryan Beck, Director of Public Works, City of Grapevine
Keith Miertschin, Assistant Director of Operations, Public Works, City of Grapevine
Dewey Stoffels, Environmental Manager, City of Grapevine

Enclosure: Phase II (Small) MS4 Annual Report for TPDES Permit Number TXR040114



PUBLIC WORKS DEPARTMENT

CITY OF GRAPEVINE • 501 Shady Brook Drive • Grapevine, Texas • 76051 • Phone 817-410-3330

Phase II (Small) MS4 Annual Report Form

TPDES General Permit Number **TXR040000**

A. General Information

Authorization Number: **TXR040114**

Reporting Year (year will be either 1, 2, 3, 4, or 5): **4**

Annual Reporting Year Option Selected by MS4:

Calendar Year: _____

Permit Year: _____

Fiscal Year: Last day of fiscal year: (**September 30th**)

Reporting period beginning date: (month/date/year) **October 1st, 2021**

Reporting period end date: (month/date/year) **September 30th, 2022**

MS4 Operator Level: **3** Name of MS4: **City of Grapevine**

Contact Name: **Gregory Moss, Environmental Specialist II**

Telephone Number: **817-410-3334**

Mailing Address: **City of Grapevine, 501 Shady Brook Drive, Grapevine TX 76051**

E-mail Address: **gmoss@grapevinetexas.gov**

A copy of the annual report was submitted to the TCEQ Region: YES NO _____

Region the annual report was submitted to: TCEQ Region **4**

B. Status of Compliance with the MS4 GP and SWMP

1. Provide information on the status of complying with permit conditions:
(TXR040000 Part IV.B.2)

	Yes	No	Explain
Permittee is currently in compliance with the SWMP as submitted to and approved by the TCEQ.	X		The City of Grapevine is currently in Compliance with its SWMP as submitted to the TCEQ
Permittee is currently in compliance with recordkeeping and reporting requirements.	X		The City of Grapevine is currently in compliance with all record keeping and reporting requirements.
Permittee meets the eligibility requirements of the permit (e.g., TMDL requirements, Edwards Aquifer limitations, compliance history, etc.).	X		The City of Grapevine meets all of its eligibility requirements.
Permittee conducted an annual review of its SWMP in conjunction with preparation of the annual report	X		The City of Grapevine SWMP was reviewed prior to and in conjunction with this Year 4 annual report.

2. Provide a general assessment of the appropriateness of the selected BMPs. You may use the table below to meet this requirement:

MCM	BMP	BMP is appropriate for reducing the discharge of pollutants in stormwater (yes or no). Explain.
1: Public Education, Outreach and Involvement	Stormwater Management Plan and Annual Report Availability	Yes. Posting of the City's Stormwater Management Plan and Annual Reports on the City's website provides residents and other interested parties with access to the City's means and methods of preventing stormwater pollution. It may also open dialogue between parties to improve the program.
1: Public Education, Outreach and Involvement	Stormwater Website/ Newsletters/ Social Media	Yes. Updating the City newsletter, social media, stormwater website is way to provide students and the local community with a basic understanding of environmental rules and initiatives as it relates to stormwater management, as well as providing general information about stormwater.
1: Public Education, Outreach and Involvement	Participate in Stormwater Public Education Task Force	Yes. Participation in the Public Education Task Force is way for the City of Grapevine to provide its residents with a basic understanding of environmental rules and initiatives as it relates to the stormwater in the community through new and innovative techniques that have been developed in and around the North Texas area. These types of programs are an effective way to keep Grapevine moving forward in its promotion of educating the public on stormwater related issues.
1: Public Education, Outreach and Involvement	Community Volunteers	Yes. Community volunteer involvement provides the community with a sense of ownership in the City's stormwater program.
1: Public Education, Outreach and Involvement	Roadside Watershed Signs	Yes. Roadside signs are a source of information for residents and visitors to know what watershed they are in and where potential pollutants may drain to.
1: Public Education, Outreach and Involvement	Storm Drain Marking	Yes. Storm drain markers are an effective way to educate the public on where stormwater enters and exits the storm drainage system and what areas may be affected by stormwater pollution. They are a visible reminder to both residents and visitors of stormwater conveyances around the City. Storm drain markers are also an effective way to provide the public with information on how to report illicit discharges.
1: Public Education, Outreach and Involvement	Stormwater Education Presentation	Yes. Presentations are an effective way to provide the public with stormwater information. By conducting stormwater presentations, the City is able to provide stormwater information in an effective manner to residents and students alike.
1: Public Education, Outreach and Involvement	Stream and Shoreline Cleanup	Yes. Removal of trash and debris keeps this material from polluting the storm drain system through public involvement.
1: Public Education, Outreach and Involvement	Environmental Audits	Yes. Conducting environmental audits provides audited businesses with educational material that includes stormwater related materials. These industrial audits also focus on reducing issues with FOG and maintenance of grease/ grit traps.

2: Illicit Discharge Detection and Elimination	Maintain Up-to-Date MS4 Map	Yes. Maintaining up-to-date Ms4 maps gives the City a proper inventory of storm drain structures and provides a resource for tracking IDDE events.
2: Illicit Discharge Detection and Elimination	City Field Staff IDDE Training	Yes. Providing annual training to Municipal field staff regarding identifying and responding to illicit discharges reduces response times to these events.
2: Illicit Discharge Detection and Elimination	Participate in the Illicit Discharge Detection and Elimination Task Force	Yes. Allows the City to stay up-to-date and maintain contacts within the stormwater industry, particularly with IDDE.
2: Illicit Discharge Detection and Elimination	Public Reporting of IDDE	Yes. Maintain a record of and track the number of and responses to IDDE events within the MS4.
2: Illicit Discharge Detection and Elimination	Environmental Audits	Yes. Conducting environmental audits provides audited businesses with educational material that includes stormwater related materials.
2: Illicit Discharge Detection and Elimination	Household Hazardous Waste Program	Yes. Provides residents with an appropriate place to dispose of household hazardous waste. Keeps potential pollutants out of the storm drain system.
3: Construction Site Stormwater Runoff Control	Staff Construction Site Stormwater Training	Yes. Provides necessary stormwater construction training to municipal staff involved in inspecting construction sites in the MS4.
3: Construction Site Stormwater Runoff Control	CSN and NOI Tracking	Yes. The tracking of active construction sites within the MS4 provides potential pollutant source information.
3: Construction Site Stormwater Runoff Control	Construction Site Erosion and Sediment Control Audits	Yes. Ensures construction site compliance with the Construction General Permit and to reduce the amount of sediment received from construction site activities.
3: Construction Site Stormwater Runoff Control	Active Construction Site Inventory	Yes. Maintaining an active construction site inventory allows the City to track sites that may contribute potential pollutants to stormwater.
3: Construction Site Stormwater Runoff Control	Review of Erosion and Sediment Control Plans	Yes. Review of plans allows the City determine if builders have adequate protection to prevent stormwater pollution prior to construction.
3: Construction Site Stormwater Runoff Control	Pre-Construction Meetings	Yes. Holding pre-construction meetings allows the City to present potential stormwater related issues to builders prior to start of work.
4: Post-Construction Stormwater Management in New Development and Redevelopment	Post-Construction BMP Maintenance	Yes. Maintenance of Post-Construction BMPs ensures that the BMPs continue to function as intended, providing pollution prevention measures.
4: Post-Construction Stormwater Management in New Development and Redevelopment	Post-Construction BMP Inventory	Yes. Maintaining a Post-Construction BMP Inventory allows the City to know where pollution prevention measures are located and allows tracking of maintenance.
4: Post-Construction Stormwater Management in New Development and Redevelopment	Smartscape	Yes. Xeriscaping and the planting of native plants provides the City with landscaping that utilizes little to no water and therefore has little to no runoff that may carry pollutants.

4: Post-Construction Stormwater Management in New Development and Redevelopment	Construction Site Plan Review	Yes. Reviewing of Construction Plans for post-construction BMPs allows the City to maintain an accurate BMP inventory, as well as ensuring that plats include maintenance responsibilities.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	City Facility Pollution Prevention Audits	Yes. Auditing City facilities for pollution prevention ensures that these locations do not contribute to storm water pollution.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Pollution Prevention Training	Yes. Training employees in pollution prevention places responsibility on the individual to prevent pollution through their actions and at their facility.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Municipal Operations and Maintenance Assessment	Yes. Ensures municipal operations and activities do not contribute to stormwater pollution within the MS4.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Stormwater Controls for High Priority Facilities	Yes. Determines which, if any, "High Priority" facilities require stormwater controls above and beyond those currently installed in order to prevent stormwater pollution from municipal activities.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Storm Sewer System Operation and Maintenance	Yes. Ensures maintenance of storm sewer structures and infrastructure in optimal functionality.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Pollutant Reduction from Road Maintenance and Operations	Yes. Ensures removal of potential pollutants of concern from roadways and prevent them from entering the MS4.
TMDL	Participation in TCEQ SSOi Program	Yes. Continues participation in the SSOi program to meet the goals of the of the Bacteria Impairment TMDL the Big Bear Creek Watershed, specifically related Sanitary Sewer Systems.
TMDL	On-Site Sewage Facilities	Yes. Addresses the potential contribution of OSSF to the bacterial impairment of the watershed through identifying and addressing failing systems and addressing inadequate maintenance of OSSFs.
TMDL	Liquid Waste Hauling	Yes. Provides information on potential sources of pollution.
TMDL	Pet/ Animal Waste Management	Yes. Informs the public of the issues associated with animal waste and how to properly dispose of it.
pH	Water Quality Impairment	Yes. Will determine whether the City of Grapevine, as an MS4, is contributing to the pH impairment of Grapevine Lake (Segment 0826) and take any required corrective action, as necessary, should it be determined.

3. Describe progress towards achieving the goal of reducing the discharge of pollutants to the MEP. If no progress was made or the BMP did not result in a reduction in pollutants, provide an explanation. Use the table below to meet this requirement:

MCM	BMP	Information Used	Quantity	Units	Does the BMP Demonstrate a Direct Reduction in Pollutants? (Answer Yes or No and explain)
	pH-1	pH	24 samples (6 per quarter)	su	Yes. All pH monitoring data was within the normal range. Demonstrates that Grapevine has not contributed to the pH impairment of Grapevine Lake during this monitoring period.

Summary: The attached list (Attachment 1) of water quality sampling events during the Permit Year 4 time period (October 1, 2021 through September 30, 2022) show that the tested creeks within the City of Grapevine showed no impairment for the tested parameters during the sampling period. The City of Grapevine will continue administering the current Stormwater Monitoring Plan as is, due to the positive nature of the water quality within the City limits.

4. Provide the measurable goals for each of the MCMs, and an evaluation of the success of the implementation of the measurable goals:

MCM(s)	Measurable Goal(s)	Explain progress toward goal or how goal was achieved.
1: Public Education, Outreach and Involvement	Post Year 3 Annual Report to City Website.	Met Goal: Developed a website for posting Annual Report. https://www.grapevinetexas.gov/531/Stormwater-Watershed-Quality-Management
1: Public Education, Outreach and Involvement	Perform a website, newsletter, and/or social media updates at least six times/year	Exceeded Goal: Website, newsletter, and/or social media updated 42 times (Annual Goal: 6).
1: Public Education, Outreach and Involvement	Participate in 25% of PETF meetings/year	Exceeded Goal: Attended 75% (3 of 4) meetings.
1: Public Education, Outreach and Involvement	Track event type and number of volunteers/volunteer hours annually	Met Goal: 801 volunteers used during PY22.
1: Public Education, Outreach and Involvement	Inspect 20% of installed signs, repair/ replace (as needed).	Met Goal: Inspected 20% (8 of 42) of installed signs.
1: Public Education, Outreach and Involvement	Inspect 20% of installed storm drain markers	Exceeded Goal: Inspected 20.3%.
1: Public Education, Outreach and Involvement	Provide at least 2 stormwater education presentations/ year	Exceeded Goal: Made 28 stormwater education presentations.

1: Public Education, Outreach and Involvement	Conduct at least 1 cleanup event/year	Exceeded Goal: Grapevine held 18 cleanup events.
1: Public Education, Outreach and Involvement	Conduct at least 25 environmental audits/ year	Exceeded Goal: Conducted 62 environmental audits.
2: Illicit Discharge Detection and Elimination	Update MS4 map with 100% of New Construction during the year	Met Goal.
2: Illicit Discharge Detection and Elimination	Conduct 1 IDDE training event per division with field crew/ year	Met Goal.
2: Illicit Discharge Detection and Elimination	Attend 25% of Task Force meetings	Exceeded Goal: Attended 66.7% (2 of 3) meetings.
2: Illicit Discharge Detection and Elimination	Provide list of IDDEs reported in annual report	Met Goal. See Attachment 2.
2: Illicit Discharge Detection and Elimination	Conduct at least 25 environmental audits/ year	Exceeded Goal: 62 environmental audits.
2: Illicit Discharge Detection and Elimination	Conduct at least 1 household hazardous waste event/ year	Met Goal.
3: Construction Site Stormwater Runoff Control	Perform 1 stormwater construction training event per year. Record any associated training attended.	Met Goal.
3: Construction Site Stormwater Runoff Control	Provide number of CSN and NOI provided to the City annually	Met Goal. See attachment 3.
3: Construction Site Stormwater Runoff Control	Conduct at least 12 construction site audits per year	Exceeded Goal: 13 sites were audited
3: Construction Site Stormwater Runoff Control	Provide active construction site list with the annual report.	Met Goal. See attachment 4.
3: Construction Site Stormwater Runoff Control	Review 100% of plans each year and provide a list with the annual report.	Met Goal. See Attachment 5.
3: Construction Site Stormwater Runoff Control	Hold pre-construction meetings for 100% of projects. Provide a list with the annual report.	Met Goal. See Attachment 6.
4: Post-Construction Stormwater Management In New Development and Redevelopment	Conduct maintenance for 100% of city-owned BMPs, if required	Met Goal.
4: Post-Construction Stormwater Management In New	Maintain an inventory of 100% of all newly	Met Goal.

Development and Redevelopment	constructed detention facilities	
4: Post-Construction Stormwater Management In New Development and Redevelopment	Maintain a map of Smartscape locations throughout the City	Met Goal.
4: Post-Construction Stormwater Management In New Development and Redevelopment	List of type and location of post-construction BMPs.	Met Goal.
4: Post-Construction Stormwater Management In New Development and Redevelopment	Provide map of all known constructed detention facilities with annual report.	Met Goal. See Attachment 7.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Conduct one audit of each "High Priority" facility per year	Met Goal. See Attachment 8.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Conduct 1 P2 training event per division with operations staff/ year	Met Goal.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Audit 100% of pollution prevention measures annually.	Met Goal.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Provide a list of potential controls.	Met Goal. See Attachment 9.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Conduct at least 400 storm sewer maintenance activities per year	Exceeded Goal: 465 Structures maintained.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Provide number of lane miles swept per year	Met Goal: Swept 13,220 lane miles.
TMDL	Provide SSOi annual report to the TCEQ	Met goal. See attachment 10.
TMDL	Provide a list OSSF issues within the City on an annual basis.	Met goal. See attachment 11.
TMDL	Provide number of waste haulers and number of manifests received annually.	Met goal. See attachment 12.
TMDL	Distribute outreach material to at least 33% of known animal livestock areas	Met goal.

pH	Provide resulting pH data to TCEQ	Met goal. See attachment 13.
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C. Stormwater Data Summary

Provide a summary of all information used, including any lab results (if sampling was conducted) to assess the success of the SWMP at reducing the discharge of pollutants to the MEP. For example, did the MS4 conduct visual inspections, clean the inlets, look for illicit discharge, clean streets, look for flow during dry weather, etc.?

See Attachment 1 for monitoring data collected during Permit Year 3.

Summary: The attached list (Attachment 1) of water quality sampling events during the Permit Year 3 time period (October 1, 2021 through September 30, 2022) show that the tested creeks within the City of Grapevine showed no impairment for the tested parameters during the sampling period. The City of Grapevine will continue administering the current Stormwater Monitoring Plan as is, due to the positive nature of the water quality within the City limits.

D. Impaired Waterbodies

1. Identify whether an impaired water within the permitted area was added to the latest EPA-approved 303(d) list or the Texas Integrated Report of Surface Water Quality for CWA Sections 305(b) and 303(d). List any newly-identified impaired waters below by including the name of the water body and the cause of impairment.

There are no newly listed impairments within the City of Grapevine's permitted area after review of the 2022 EPA approved 303(d) list or the 2022 Texas Integrated Report of Surface Water Quality for CWA Sections 305(b) and 303(d)

2. If applicable, explain below any activities taken to address the discharge to impaired waterbodies, including any sampling results and a summary of the small MS4's BMPs used to address the pollutant of concern.

The City of Grapevine has developed the following activities in order to address potential discharges to the following impaired waterbodies:

Bacteria TMDL – 0841_01 and 0841B – Lower West Fork Trinity River and Bear Creek

BMP 1.7: Provide Stormwater Education Presentations in order to educate the Public on bacteria source reduction.

BMP 1.9: Conduct Environmental Audits in order to educate businesses/ industries/ contractors on bacteria source reduction.

BMP 2.4: Public reporting of IDDEs allows the MS4 to respond to potential illicit bacteria discharges.

BMP 2.6: Provide a HHW Program to provide the public with a venue for proper disposal of FOG (Fats, Oil, and Grease).

BMP TMDL-1: Participate in the SSOi program developed by the TCEQ in order to reduce the potential amount of bacteria contributed to these waterbodies from human activity (SSOs, in this case).

BMP TMDL-2: Review any complaints of OSSFs from information received from TCPH on an annual basis to reduce the potential number of bacteria contributed to these waterbodies from human activity (OSSFs, in this case).

BMP TMDL-3: Track liquid waste haulers and businesses that require grease trap maintenance in order to reduce the number of SSOs contributed by these devices when left unmaintained.

BMP TMDL-4: Track large concentrations of animals in the City in order to educate owners on the potential bacteria contributions their animals may cause if left unattended.

pH Impairment – 0826 – Grapevine Lake

BMP pH-1: Monitor the pH levels of the 6 feeder streams to Grapevine Lake found within the City of Grapevine borders on a quarterly basis to ensure that the City is not contributing to the impairment.

3. Describe the implementation of targeted controls if the small MS4 discharges to an impaired water body with an approved TMDL.

The City of Grapevine is NOT a direct discharger to an impaired waterbody with an approved TMDL.

4. Report the benchmark identified by the MS4 and assessment activities:

Since the City of Grapevine does not directly discharge to the Big Bear Creek/ Lower West Fork Trinity River TMDL, no benchmark for bacteria has been set by the MS4.

The benchmark for pH in the streams discharging to Grapevine Lake is between 5-9 su. See Attachment 13 for collected pH values for Permit Year 3.

5. Provide an analysis of how the selected BMPs will be effective in contributing to achieving the benchmark:

The analysis of pH values from collected water quality data will allow the City to determine potential pollutant of concern sources should the benchmark value be exceeded during a given monitoring period.

Pollutant to Address	Description of Focused BMP	Comments/ Discussion
pH	Collect water quality data, specifically pH, on a quarterly bases from 6 feeder streams within the City.	The analysis of pH values from collected water quality data will allow the City to determine a potential pollutant of concern sources should the benchmark value be exceeded during a given monitoring period.

6. If applicable, report on focused BMPs to address impairment for bacteria:

Not applicable. The City of Grapevine is NOT a direct discharger to an impaired waterbody with an approved bacteria TMDL.

7. Assess the progress to determine BMP's effectiveness in achieving the benchmark.

Benchmark Indicator	Description/Comments
pH	PY 2022 pH testing of Creeks directly discharging to the impaired waterbody (Lake Grapevine) show no indication that they contribute to the pH impairment of that waterbody.

E. Stormwater Activities

Describe activities planned for the next reporting year:

MCM(s)	BMP	Stormwater Activity	Description/Comments
1: Public Education, Outreach and Involvement	Stormwater Management Plan and Annual Report Availability	Post Year 3 Annual Report to City Website	The City of Grapevine current Stormwater Management Plan (SWMP) and associated Annual Reports will be made available for viewing via the City's Website (www.grapevinetexas.gov). The SWMP will be posted upon acceptance by the TCEQ and each annual report shall be posted upon acceptance by the TCEQ.
1: Public Education, Outreach and Involvement	Stormwater Website/ Newsletters/ Social Media	Update City website, newsletters and social media with stormwater material	The City of Grapevine will continue to update its website, newsletters, and social media with information pertaining to the prevention of stormwater pollution. Updates will consist of city specific and general stormwater education, as well as detailing outreach events that can affect stormwater issues.
1: Public Education, Outreach and Involvement	Participate in Stormwater Public Education Task Force	Attend Public Education Task Force Meetings.	The City of Grapevine will continue to participate in Public Education Task Force Meetings conducted by the North Central Texas Council of Governments. These meetings act as a round table for local participating governments to share ideas on stormwater education. Additionally, educational materials are distributed at events promoting environmental awareness messages.
1: Public Education, Outreach and Involvement	Community Volunteers	Utilize community volunteers in various events to reduce stormwater pollution.	The City of Grapevine will utilize community volunteers in various events that target stormwater pollution either directly or indirectly.
1: Public Education, Outreach and Involvement	Roadside Watershed Signs	Inspect installed signs for repair/ replacement.	The City of Grapevine will evaluate the current status of roadside watershed signs installed during previous permit terms. Signs will be inspected for damage and wear and will be repaired and/or replaced as necessary. Additionally, the storm drain system will be reviewed and new watershed signs will be placed in high visibility areas, as need.

1: Public Education, Outreach and Involvement	Storm Drain Marking	Inspect installed storm drain markers for damage. Replace as necessary.	The City of Grapevine will evaluate the current status of Storm Drain Markers installed during the previous permit term. Markers will be inspected for damage and wear and will be repaired and/or replaced as necessary. Markers will be placed on new inlets, as necessary.
1: Public Education, Outreach and Involvement	Stormwater Education Presentations	Stormwater related public education presentation.	The City of Grapevine will provide a presentation of stormwater related educational material to the public. This will include, at minimum, a display board incorporating stormwater information, handouts/ flyers, and someone familiar with stormwater to answer any questions. Bacteria TMDL Notes: These presentations will also focus on outreach and education for residents and businesses that may contribute animal source bacteria to stormwater, as well as addressing sources of Fats, Oils and Grease (FOG).
1: Public Education, Outreach and Involvement	Stream and Shoreline Cleanup	Stream and shoreline cleanup	The City of Grapevine will conduct stream and shoreline cleanups throughout the year in order to remove trash, litter, debris, etc. from local waterways using volunteers. Shoreline cleanups involve the public in cleaning and maintaining local waterways and removing potential pollutants from the stormwater system.
1: Public Education, Outreach and Involvement	Environmental Audits	Stormwater outreach material included with each environmental audit.	The City of Grapevine will conduct environmental audits of industrial locations, hotels, automotive locations, restaurant locations, construction sites and commercial properties. These audits will focus on pretreatment and stormwater aspects of the facility on which they are conducted. Bacteria TMDL Note: These industrial audits provide information on reducing issues with FOG and maintenance of grease/ grit traps for associated IDDEs.
2: Illicit Discharge Detection and Elimination	Maintain Up-to-Date MS4 Map	Update MS4 Map	The City of Grapevine will continue to update the MS4's map in GIS to include new and previously unrecognized storm drain infrastructure.
2: Illicit Discharge Detection and Elimination	City Field Staff IDDE Training	Train field staff in IDDE	The City of Grapevine will train its field staff in illicit discharge detection and elimination. Training will be conducted by qualified staff and will be provided on an annual basis. Sign-in sheets will be maintained as a record of each training event.
2: Illicit Discharge Detection and Elimination	Participate in the Illicit Discharge Detection and Elimination Task Force	Participate in the NCTCOG IDDE Task Force	To stay up-to-date and maintain contacts within the stormwater industry, particularly with IDDE.
2: Illicit Discharge Detection and Elimination	Public Reporting of IDDE	Track public reporting of IDDE	The City of Grapevine will continue to track all IDDE events reported to the municipality via its Cartegraph database system (or any future data management system). Reports from city staff, residents, visitors and

			businesses will be tracked and responded to accordingly. Bacteria TMDL Note: Reporting of SSOs will be included in the IDDE reporting for improved reporting purposes.
2: Illicit Discharge Detection and Elimination	Environmental Audits	Stormwater outreach material included with each environmental audit.	The City of Grapevine will conduct environmental audits of industrial locations, hotels, automotive locations, restaurant locations, and commercial properties. These audits will focus on pretreatment and stormwater aspects of the facility on which they are conducted. These audits also review grease/ grit trap condition and maintenance.
2: Illicit Discharge Detection and Elimination	Household Hazardous Waste Program	Provide an event allowing proper disposal of household hazardous waste for residents.	The City of Grapevine will host an annual Household Hazardous Waste collection event to allow the residents of Grapevine to safely and effectively manage the disposal of hazardous waste that may otherwise be improperly disposed of, creating the potential to pollute to stormwater.
3: Construction Site Stormwater Runoff Control	Staff Construction Site Stormwater Training	Train applicable staff in stormwater construction requirements	Conduct training for municipal staff involved in inspecting any type of construction activity within the MS4. Training will be conducted by qualified personnel. Training will focus on the on stormwater issues as they relate to construction sites.
3: Construction Site Stormwater Runoff Control	CSN and NOI Tracking	Maintain all CSN and NOI delivered to the City on file.	The development and maintenance of a construction site inventory through the tracking of CSN and NOI received by the municipality. Inspection records and visual observations will also be used to maintain a current inventory of construction activity in the MS4.
3: Construction Site Stormwater Runoff Control	Construction Site Erosion and Sediment Control Audits	Construction site erosion and sediment control audits.	The City's Environmental Services Division will conduct erosion and sediment control audits of random construction sites within the MS4. Audits will verify the site's compliance with the Construction General Permit and focus on the site's compliance with erosion and sediment control standards. These audits will be in addition to standard construction site inspection conducted by the City's Engineering Division.
3: Construction Site Stormwater Runoff Control	Active Construction Site Inventory	Maintain an electronic construction site inventory.	Maintaining an active inventory of all active construction sites in the MS4. This inventory will include all construction sites in any phase of construction from grading to the issuance of the Certificate of Occupancy.
3: Construction Site Stormwater Runoff Control	Review of Erosion and Sediment Control Plans	Maintain an electronic construction site sediment control plan list.	Review of all erosion and sediment control plans by qualified personnel as part of pre-construction requirements, including determination of potential water quality impacts.
3: Construction Site Stormwater Runoff Control	Pre-Construction Meetings	Develop and maintain an electronic pre-construction meeting list.	Host Pre-Construction meetings with contractors/ property owners and present erosion and sediment control requirements and expectations.

4: Post-Construction Stormwater Management In New Development and Redevelopment	Post-Construction BMP Maintenance	Maintenance of City-owned BMPs.	Maintenance of a comprehensive post-construction BMP inventory and maintenance schedule for those BMPs that are City-owned and/ or operated. Conduct maintenance on and maintain records for City owned BMPs.
4: Post-Construction Stormwater Management In New Development and Redevelopment	Post-Construction BMP Inventory	Add notes to plat requiring private owners to provide annual inspection/ maintenance of privately-owned detention facilities.	The maintenance of a comprehensive post-construction BMP inventory and maintenance schedule for those BMPs that are part of new construction and privately owned and/ or operated. Tracking of any violations or enforcement actions electronically.
4: Post-Construction Stormwater Management In New Development and Redevelopment	Smartscape	Identify existing and new Smartscape locations throughout the City.	To encourage the use of Texas native plants in City development projects.
4: Post-Construction Stormwater Management In New Development and Redevelopment	Construction Site Plan Review	List of all plans reviewed and note of type and location of post-construction BMPs.	Review of construction site plans for locations of new post-construction BMPs, making sure the City is aware of the type and location of post-construction BMPs located within its MS4.
4: Post-Construction Stormwater Management In New Development and Redevelopment	Post-Construction BMP Map	Maintain a map of all known constructed detention facilities.	The development and maintenance of a comprehensive post-construction BMP map of all know publically and privately owned BMPs.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	City Facility Pollution Prevention Audits	Inspect "High Priority" facilities.	Maintain an inventory and map of all City-owned and operated facilities. Determine those facilities are "High Priority" with respect to potential stormwater issues. Audit those "High Priority" facilities for P2 compliance. Assess facilities on a regular basis to determine potential additions to the "High Priority" list. Develop facility specific stormwater Pollution Prevention BMPs for each "High Priority" facility
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Pollution Prevention Training	Train operations staff in P2.	To provide staff involved in daily operations with adequate P2 training to prevent stormwater related issues at the City's various facilities and properties. Training will be specific to the department/ division. Training will be conducted by a member of the Environmental Services Division and records of attendance will be kept on file.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Municipal Operations and Maintenance Assessment	Monitor pollution prevention measures enacted.	To audit and assess current municipal operations for potential stormwater pollution issues. Review current Tier II reports and departmental MSDS for potential pollutants of concern. Develop and implement pollution prevention measures for municipal

			activities. Audit activities for compliance with pollution prevention measures. Dispose of waste properly and safely, as necessary.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Stormwater Controls for High Priority Facilities	Determine if new controls are required. Install stormwater controls, as necessary.	Maintain a list of stormwater controls at each of the listed facilities. Determine whether new controls are required for each facility. If new controls are deemed necessary, install those controls. Refer to BMP 5.1 for the determination of "High Priority" facilities.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Storm Sewer System Operation and Maintenance	Perform storm sewer maintenance activities.	To inspect, document and maintain storm sewer structures and infrastructures to prevent and/or address issues with stormwater transport within the MS4. Identify problem areas or areas with recurring issues. Maintain stormwater BMPs for proper function.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Pollutant Reduction from Road Maintenance and Operations	Street Sweeping of all City streets.	Provide street sweeping for all accessible streets and parking lots in the MS4 in order to remove potential pollutants, including trash and litter from the swept area. An SOP describing focus and frequency will be developed and kept on file by the City
TMDL	Participation in TCEQ SSOi Program	Continued participation in the SSOi program.	To continue the City's participation in TCEQ's SSOi program, which includes details about the City's improvements to sanitary lines to reduce overflows, addressing of lift station inadequacies and strengthening of sanitary use requirements.
TMDL	On-Site Sewage Facilities	Contact TCPH for a list of OSSF issues within the City.	Utilize Tarrant County Public Health (the OSSF Authority for this MS4) as a resource for identifying and addressing failing septic systems and addressing inadequate maintenance of OSSFs. Contact TCPH annually for a list of OSSFs and issue status of those OSSFs, as applicable.
TMDL	Liquid Waste Hauling	Electronically record all liquid waste hauler manifests received by the City.	The MS4 will maintain electronic records of all liquid waste hauling manifests received by the City.
TMDL	Pet/ Animal Waste Management	Distribute outreach material to at least 33% of known animal livestock areas	In order to reduce the contribution of potential bacteria impairment within the MS4, the MS4 will locate and educate locations with high densities of pets or stock animals about ways to reduce animal waste from becoming an issue.
pH	Water Quality Impairment	Continue quarterly pH monitoring of 6 creeks discharging to segment 0826.	To monitor pH levels in the 6 larger creeks within the MS4 (Jones Branch, Dove Branch, Morehead Branch, Farris Branch, Cable Branch, and Silver Lake Branch) feeding in to Grapevine Lake (Segment 0826) on a quarterly basis to determine if the MS4 is contributing to this waterbodies impairment. Develop BMPs and measurable goals should this be determined.

F. SWMP Modifications

1. The SWMP and MCM implementation procedures are reviewed each year.

Yes ___ No

2. Changes have been made or are proposed to the SWMP since the NOI or the last annual report, including changes in response to TCEQ's review.

___ Yes No

If "Yes," report on changes made to measurable goals and BMPs:

MCM(s)	Measurable Goal(s) or BMP(s)	Implemented or Proposed Changes (Submit NOC as needed)
N/A		

Note: If changes include additions or substitutions of BMPs, include a written analysis explaining why the original BMP is ineffective or not feasible, and why the replacement BMP is expected to achieve the goals of the original BMP.

3. Explain additional changes or proposed changes not previously mentioned (i.e. dates, contacts, procedures, annexation of land, etc.).

N/A

G. Additional BMPs for TMDLs and I-Plans

Provide a description and schedule for implementation of additional BMPs that may be necessary, based on monitoring results, to ensure compliance with applicable TMDLs and implementation plans.

BMP	Description	Implementation Schedule (start date, etc.)	Status/Completion Date (completed, in progress, not started)
N/A			

H. Additional Information

1. Is the permittee relying on another entity to satisfy any permit obligations?

Yes No

If "Yes," provide the name(s) of other entities and an explanation of their responsibilities (add more spaces or pages if needed).

Name and Explanation:

North Central Texas Council of Governments (NCTCOG). According to its SWMP, Grapevine must attend at least 25% of both the Public Education Task Force Meetings (BMP 1.1) and the Illicit Discharge Detection and Elimination Task Force Meetings (BMP 2.3) held by NCTCOG during the fiscal year.

Name and Explanation:

Tarrant County Public Health (TCPH). According to its SWMP, Grapevine must utilize TCPH (the OSSF Authority for this MS4) as a resource for identifying and addressing failing septic systems and addressing inadequate maintenance of OSSFs (BMP TMDL-2) by contacting TCPH annually for a list of OSSFs and issue status of those OSSFs as applicable.

2.a. Is the permittee part of a group sharing a SWMP with other entities?

Yes No

2.b. If "yes," is this a system-wide annual report including information for all permittees?

Yes No

If "Yes," list all associated authorization numbers, permittee names, and SWMP responsibilities of each member (add additional spaces or pages if needed):

Authorization Number: _____ Permittee: _____

I. Construction Activities

1. The number of construction activities that occurred in the jurisdictional area of the MS4 (Large and Small Site Notices submitted by construction site operators):

2 Large/ 1 Small CSNs submitted to the MS4 in PY 4.

2a. Does the permittee utilize the optional seventh MCM related to construction?

Yes No

2b. If "yes," then provide the following information for this permit year:

The number of municipal construction activities authorized under this general permit	
The total number of acres disturbed for municipal construction projects	N/A

Note: *Though the seventh MCM is optional, implementation must be requested on the NOI or on a NOC and approved by the TCEQ.*

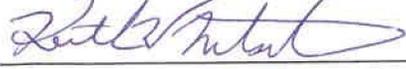
A. Certification

If this is this a system-wide annual report including information for all permittees, each permittee shall sign and certify the annual report in accordance with 30 TAC §305.128 (relating to Signatories to Reports).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (printed): Keith Miertschin

Title: Director of Public Works - Operations

Signature: 

Date: 12-15-2022

Name of MS4 City of Grapevine

If you have questions on how to fill out this form or about the Stormwater Permitting program, please contact us at 512-239-4671.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

Attachment 1

Water Quality Data Collected
10/01/2020 through 9/30/2021

Creek Name	Major Drain Season	Year	Date Sampled	Time	Air Temp	Weather Conditions	Stream Flow	Water Color	Water Temp (C)	pH (su)	Turbidity (NTU)	DO (mg/L)	Cond (us)	Salinity (ppm)	TDS (mg/L)	CDZ (mg/L)	Ca (mg/L)	Detergent (mg/L)	Phenol (mg/L)	Ammonia (mg/L)
Creek 23	BBC	2022	11/16/2021	12:40		22 Partly Cloudy	Low	Clear	20.8	7.9	1	7.7	589	0.32	439	ND	ND	ND	ND	ND
Creek 21	BBC	2022	11/16/2021	14:53		22 Partly Cloudy	Low	Clear	20.7	8.0	0	8.0	526	0.36	316	ND	ND	ND	ND	ND
Creek 17	BBC	2022	11/15/2021	13:25		22 Partly Cloudy	Low	Clear	21.0	8.0	0	8.0	526	0.51	316	ND	ND	ND	ND	ND
Creek 18	BBC	2022	11/15/2021	14:25		22 Partly Cloudy	Low	Clear	21.0	8.0	0	8.0	526	0.51	316	ND	ND	ND	ND	ND
Creek 19	BBC	2022	11/15/2021	14:20		22 Partly Cloudy	Low	Clear	21.3	8.2	0	8.5	1166	0.61	701	ND	ND	ND	ND	ND
Creek 20	BBC	2022	11/15/2021	13:20		22 Partly Cloudy	Low	Clear	20.5	8.3	0	8.2	893	0.32	536	ND	ND	ND	ND	ND
Big Bear Creek	BBC	2022	11/15/2021	13:15		22 Partly Cloudy	Low	Clear	20.5	8.4	0	9.2	850	0.46	609	ND	ND	ND	ND	ND
Unmanned Tributary Little Bear Creek	BBC	2022	11/15/2021	13:45		22 Partly Cloudy	Low	Clear	20.5	8.5	0	8.9	1250	0.81	801	ND	ND	ND	ND	ND
Coltonwood Branch	BBC	2022	11/15/2021	14:50		22 Partly Cloudy	Low	Clear	20.3	8.4	0	8.1	716	0.41	430	ND	ND	ND	ND	ND
Hilton Creek	DEC	2022	11/16/2021	14:50		23 Partly Cloudy	Low	Clear	15.9	8.1	4.9	9.1	972	0.55	583	ND	ND	ND	ND	ND
Silver Lake Branch	DEC	2022	11/16/2021	14:20		23 Partly Cloudy	Low	Clear	15.0	7.7	0	7.1	635	0.83	381	ND	ND	ND	ND	ND
Cable Branch	GPVL	2022	11/16/2021	15:20		23 Partly Cloudy	Dry	Clear	19.6	8.1	0.9	7.9	1868	1.11	1181	ND	ND	ND	ND	ND
Farris Branch	GPVL	2022	11/16/2021	12:45		22 Partly Cloudy	Normal	Green	15.7	8.1	0	8.3	330	0.82	210	ND	ND	ND	ND	ND
Morhead Branch	GPVL	2022	11/16/2021	13:20		22 Partly Cloudy	Normal	Green	15.7	8.1	0	8.3	379	0.6	227	ND	ND	ND	ND	ND
Doves Branch	GPVL	2022	11/16/2021	10:55		21 Partly Cloudy	Low	Green	15.6	8.2	0	8.4	397	0.25	220	ND	ND	ND	ND	ND
Jonas Branch	GPVL	2022	11/16/2021	11:15		21 Partly Cloudy	Low	Green	16.0	8.2	0	8.4	319	0.25	220	ND	ND	ND	ND	ND
Creek 23	BBC	2022	2/21/2022	10:45		18 Partly Cloudy	Low	Clear	17.9	8.0	0	8.0	392	0.47	525	ND	ND	ND	ND	ND
Creek 21	BBC	2022	2/21/2022	19:35		18 Partly Cloudy	Low	Clear	17.6	7.9	0	8.0	871	0.42	523	ND	ND	ND	ND	ND
Creek 17	BBC	2022	2/21/2022	11:05		18 Partly Cloudy	Low	Clear	17.8	8.0	0	8.1	871	0.42	523	ND	ND	ND	ND	ND
Creek 18	BBC	2022	2/21/2022	10:15		21 Partly Cloudy	Low	Clear	17.8	7.8	0	7.8	853	0.4	512	ND	ND	ND	ND	ND
Creek 19	BBC	2022	2/21/2022	8:30		17 Partly Cloudy	Dry	Clear	17.5	8.2	0	8.0	1206	0.6	723	ND	ND	ND	ND	ND
Creek 20	BBC	2022	2/21/2022	14:15		24 Partly Cloudy	Low	Clear	17.7	7.8	0	8.0	849	0.4	509	ND	ND	ND	ND	ND
Big Bear Creek	BBC	2022	2/21/2022	14:45		24 Partly Cloudy	Normal	Clear	17.9	6.5	0	7.9	865	0.41	518	ND	ND	ND	ND	ND
Unmanned Tributary Little Bear Creek	BBC	2022	2/21/2022	15:05		26 Partly Cloudy	Normal	Green	17.6	6.7	0	8.4	885	0.43	531	ND	ND	ND	ND	ND
Coltonwood Branch	BBC	2022	2/21/2022	10:00		17 Partly Cloudy	Low	Clear	17.5	7.6	0	9.8	664	0.41	518	ND	ND	ND	ND	ND
Denton Creek	DEC	2022	2/22/2022	10:30		3 Partly Cloudy	Low	Clear	18.9	7.5	0	8.5	774	0.35	464	ND	ND	ND	ND	ND
Hilton Branch	DEC	2022	2/22/2022	11:00		3 Partly Cloudy	Normal	Brown	16.7	8.1	0	8.8	761	0.34	457	ND	ND	ND	ND	ND
Silver Lake Branch	GPVL	2022	2/22/2022	11:25		6 Partly Cloudy	Dry	Clear	16.9	8.3	0	8.9	801	0.38	481	ND	ND	ND	ND	ND
Cable Branch	GPVL	2022	2/22/2022	13:30		6 Partly Cloudy	Normal	Clear	17.8	8.2	0	8.3	1898	0.97	1138	ND	ND	ND	ND	ND
Farris Branch	GPVL	2022	2/22/2022	14:30		8 Partly Cloudy	Low	Clear	16.3	8.0	0	9.5	774	0.35	463	ND	ND	ND	ND	ND
Morhead Branch	GPVL	2022	2/22/2022	13:30		6 Partly Cloudy	Normal	Brown	18.6	7.8	0	8.2	504	0.36	482	ND	ND	ND	ND	ND
Doves Branch	GPVL	2022	2/22/2022	14:30		6 Partly Cloudy	Low	Brown	18.9	8.0	0	8.6	615	0.35	482	ND	ND	ND	ND	ND
Jonas Branch	BBC	2022	2/22/2022	14:30		33 Partly Cloudy	Normal	Clear	18.4	8.2	1.5	8.6	615	0.26	389	ND	ND	ND	ND	ND
Creek 21	BBC	2022	8/17/2022	14:10		33 Partly Cloudy	Normal	Clear	28.0	7.6	2.1	6.8	555	0.26	333	ND	ND	ND	ND	ND
Creek 17	BBC	2022	8/17/2022	14:30		33 Partly Cloudy	Normal	Clear	28.0	7.5	4.5	6.8	575	0.27	350	ND	ND	ND	ND	ND
Creek 18	BBC	2022	8/17/2022	15:00		33 Partly Cloudy	Normal	Clear	27.0	7.6	4.5	6.5	575	0.26	345	ND	ND	ND	ND	ND
Creek 19	BBC	2022	8/17/2022	10:55		27 Partly Cloudy	Dry	Clear	28.0	7.1	6.1	6.5	600	0.27	360	ND	ND	ND	ND	ND
Creek 20	BBC	2022	8/17/2022	10:30		27 Partly Cloudy	Normal	Clear	29.0	7.2	0	6.4	521	0.25	312	ND	ND	ND	ND	ND
Big Bear Creek	BBC	2022	8/17/2022	8:50		26 Partly Cloudy	Normal	Clear	28.0	7.2	4.1	6.4	548	0.26	329	ND	ND	ND	ND	ND
Unmanned Tributary Little Bear Creek	BBC	2022	8/17/2022	9:20		26 Partly Cloudy	Normal	Clear	26.0	7.1	9.7	6.3	1320	0.66	792	ND	ND	ND	ND	ND
Coltonwood Branch	BBC	2022	8/17/2022	13:30		33 Partly Cloudy	Normal	Clear	26.0	7.3	6.0	6.5	550	0.27	330	ND	ND	ND	ND	ND
Denton Creek	DEC	2022	8/16/2022	7:45		36 Partly Cloudy	Normal	Green	27.0	7.1	2.4	7.4	575	0.26	345	ND	ND	ND	ND	ND
Hilton Branch	DEC	2022	8/16/2022	15:20		36 Partly Cloudy	Normal	Green	26.0	7	3.1	6	541	0.27	325	ND	ND	ND	ND	ND
Silver Lake Branch	GPVL	2022	8/16/2022	14:50		34 Partly Cloudy	Dry	Clear	26.0	7.1	1.2	8.1	1360	0.67	610	ND	ND	ND	ND	ND
Cable Branch	GPVL	2022	8/16/2022	14:10		34 Partly Cloudy	Normal	Clear	26.0	7.2	1.4	8.1	630	0.25	317	ND	ND	ND	ND	ND
Farris Branch	GPVL	2022	8/16/2022	13:30		34 Partly Cloudy	Normal	Clear	26.0	7.2	1.4	8.3	540	0.26	324	ND	ND	ND	ND	ND
Morhead Branch	GPVL	2022	8/16/2022	13:20		34 Partly Cloudy	Normal	Clear	26.0	7.2	6.7	6.4	543	0.26	326	ND	ND	ND	ND	ND
Doves Branch	GPVL	2022	8/16/2022	13:10		33 Partly Cloudy	Normal	Clear	25.0	7.4	3.1	6.4	615	0.27	369	ND	ND	ND	ND	ND
Creek 23	BBC	2022	8/16/2022	9:05		27 Partly Cloudy	Dry	Clear	25.0	7.4	3.1	6	615	0.27	369	ND	ND	ND	ND	ND
Creek 21	BBC	2022	8/16/2022	8:25		27 Partly Cloudy	Low	Clear	26.6	7.7	0	5.8	890	0.41	448	ND	ND	ND	ND	ND
Creek 17	BBC	2022	8/16/2022	9:15		27 Partly Cloudy	Dry	Clear	26.6	7.7	0	5.8	890	0.41	448	ND	ND	ND	ND	ND
Creek 18	BBC	2022	8/16/2022	9:35		27 Partly Cloudy	Dry	Clear	26.6	7.7	0	5.8	890	0.41	448	ND	ND	ND	ND	ND
Creek 19	BBC	2022	8/16/2022	9:55		27 Partly Cloudy	Dry	Clear	26.6	7.7	0	5.8	890	0.41	448	ND	ND	ND	ND	ND
Creek 20	BBC	2022	8/16/2022	10:20		27 Partly Cloudy	Dry	Clear	26.1	8	1.4	4.8	882	0.43	529	ND	ND	ND	ND	ND
Upper Big Bear Creek	BBC	2022	8/16/2022	7:45		32 Partly Cloudy	Dry	Clear	28.1	8	1.4	4.8	882	0.43	529	ND	ND	ND	ND	ND
Lower Big Bear Creek	BBC	2022	8/16/2022	11:15		32 Partly Cloudy	Low	Clear	20.7	8.8	3.5	4.5	557	0.27	334	ND	ND	ND	ND	ND
Unmanned Tributary Little Bear Creek	BBC	2022	8/16/2022	8:05		27 Partly Cloudy	Low	Green	27.0	8	10.3	0	5.8	630	0.41	488	ND	ND	ND	ND
Coltonwood Branch	BBC	2022	8/16/2022	10:35		28 Partly Cloudy	Low	Green	28.0	7.8	0	8.8	590	0.17	215	ND	ND	ND	ND	ND
Denton Creek	DEC	2022	8/15/2022	8:15		28 Clear	Standing	Brown	29.2	8.2	7.1	7.9	646	0.36	576	ND	ND	ND	ND	ND
Hilton Branch	DEC	2022	8/15/2022	8:16		28 Clear	Normal	Green	24.2	7.3	0	6.9	631	0.41	498	ND	ND	ND	ND	ND
Cable Branch	GPVL	2022	8/15/2022	9:45		29 Clear	Normal	Green	23.6	7.2	0	6.8	631	0.41	498	ND	ND	ND	ND	ND
Farris Branch	GPVL	2022	8/15/2022	9:55		31 Clear	Low	Clear	28.3	7.8	0	6.4	1743	0.88	1045	ND	ND	ND	ND	ND
Morhead Branch	GPVL	2022	8/15/2022	11:05		31 Clear	Dry	Clear	30.7	8.4	6.1	6.7	845	0.41	507	ND	ND	ND	ND	ND
Jonas Branch	GPVL	2022	8/15/2022	2:45		31 Clear	Normal	Clear	30.7	8.4	6.1	6.7	845	0.41	507	ND	ND	ND	ND	ND
Morhead Branch	GPVL	2022																		

Attachment 2

List of Reported IDDEs

10/01/2020 through 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP 2.4 Public Reporting of IDDE*

DATE: *October 1, 2021*

(Last update: September 30, 2022)

Project Description: The City of Grapevine will continue to track all IDDE events reported to the municipality via its Cartegraph database system (or any future data management system). Reports from city staff, residents, visitors and businesses will be tracked and responded to accordingly. **Bacteria TMDL Note:** Reporting of SSOs will be included in the IDDE reporting for improved reporting purposes.

Objective: To maintain a record of the number of and responses to IDDE events within the MS4.

Activity to Implement: Track public reporting of IDDE.

Measurable Goal: Provide list of IDDEs reported in annual report.

Number of illicit discharges detected and resolved for PY 2022: 21

Activity	Q1	Q2	Q3	Q4	PY 2022
Illicit Discharge				1	1
Pool Discharge					0
Potable Water Release	3	2	1	1	7
Sanitary Sewer Overflow	3	1	2	2	8
Spills					0
SSR Truck Leaks					0
T/R Truck Leaks		1	1	3	5
Total	6	4	4	7	21

Date	Type	Location
10/1/2021	PWR	301 W SH114
11/11/2021	PWR	2015 Hood Ln
11/20/2021	SSO	1500 Cimarron Trl
12/5/2021	SSO	4301 Windswept Ln
12/14/2021	PWR	701 N Dooley St
12/23/2021	SSO	1500 Cimarron Trl
1/13/2022	T/R Truck Leak	2952 Oak Forest Dr
1/18/2022	PWR	1510 Briarcrest
2/12/2022	PWR	2309 Los Robles
2/25/2022	SSO	1107 Pine St
4/21/2022	T/R Truck Leak	3502 Fieldwood Ct
5/2/2022	SSO	2340 Dove Rd
6/21/2022	PWR	834 E Worth St
6/26/2022	SSO	2709 Springhill Dr
7/11/2022	T/R Truck Leak	1804 Forestdale Dr
7/22/2022	T/R Truck Leak	1804 Forestdale Dr
8/22/2022	SSO	1401 Minters Chapel Rd
8/24/2022	PWR	2823 Camelot Dr
9/8/2021	IDDE	1053 Honeysuckle
9/28/2022	SSO	201 W Texas St
9/29/2022	T/R Truck Leak	2426 Anglers Dr

Attachment 3

Number of CSN and NOI Provided to the City Annually

10/01/2020 through 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP 3.2 CSN and NOI Tracking*

DATE: *October 1, 2020*

(Last update: September 30, 2021)

Project Description: The development and maintenance of a construction site inventory through the tracking of CSN and NOI received by the municipality. Inspection records and visual observations will also be used to maintain a current inventory of construction activity in the MS4.

Objective: Tracking of CSN and NOI received by the MS4.

Activity to Implement: Maintain all CSN and NOI delivered to the City on file.

Measurable Goal: Provide number of CSN and NOI provided to the City annually.

of CSN – Small Site received during permit year: 1

of CSN – Large Site received during permit year: 2

Small site CSN received for:

Tillery Commons – 301 N Dove Rd

Large site CSN received for:

Chicken N Pickle – 2000 Champagne Dr

Rock N Brews & Velvet Taco – 440 W SH114

Attachment 4

Inventory of Active Construction Sites as of 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP 3.4 Active Construction Site Inventory*

DATE: *October 1, 2021*

(Last update: September 30 2022)

Project Description: Maintaining an active inventory of all active construction sites in the MS4. This inventory will include all constructions sites in any phase of construction from grading to the issuance of the Certificate of Occupancy.

Objective: To ensure the MS4 maintains and recognizes the active construction sites in its jurisdiction. This list will provide the MS4 with a list of potential pollutant contributors to its stormwater system.

Activity to Implement: Develop and maintain an electronic construction site inventory.

Measurable Goal: Provide active construction site list with the annual report.

Current (as of 9/30/2022) Number of Active Construction Sites: 14

The DART Silver Line corridor

Glade Road east of SH 360

Atmos behind the Palace and City Hall

TRA Sewer Line Rehab

Atmos Energy is performing gas line replacement project for some of its older lines located mostly in the Grapevine Township District. The current phase of work is being performed along Worth Street, Smith Street, and Austin street.

Intelligent Transportation System (ITS) project – With TxDOT funding, the contractor will be installing fiber optic along Northwest Hwy and SH 26 from SH 114 near Perry's to SH121 and Grapevine Mills Parkway. This will help extend the City's fiber optic network. The potholing of the existing utilities has begun along NW Highway.

Worth Street (by Faith Christian), CDBG – Atmos is working to relocate conflict

gas lines to allow final work on eastern half of project. Contractor is working around Atmos by continuing with grading and subgrade installation where they can. Curb and gutter is set to begin forming next week on the eastern half of project.

Faith Christian Baseball Field (729 Dallas Road)

Rock and Brews/Velvet Taco/Son of a Butcher (440 W. SH 114)

Chicken N Pickle (4600 Merlot Ave)

Sewell Cadillac (1111 E. SH 114)

Eastpointe Terrace (Pool Road & High Meadow Drive)

Scooter's Coffee Store #488 (Ball & Northwest Highway)

Ferguson Place Development (Gravel Circle & Lonesome Dove)

Attachment 5

List of Erosion and Sediment Control Plans Reviewed 10/01/2020 through 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP 3.5 Review of Erosion and Sediment Control Plans*

DATE: *October 1, 2021*

(Last update: Septemebr 30, 2022)

Project Description: Review of all erosion and sediment control plans by qualified personnel as part of pre-construction requirements, including determination of potential water quality impacts.

Objective: To ensure that new construction sites meet minimum erosion control requirements prior to the initiation of construction activities.

Activity to Implement: Develop and maintain an electronic erosion and site sediment control plan list.

Measurable Goal: Provide a list of reviewed plans with the annual report.

Number of ESC plans reviewed during PY 2022: 11

Site

Wright Construction Offices
Tillery Commons
Park Place Mercedes Expansion
Chicken N Pickle
Rock N Brew & Velvet Taco
Park Place Mercedes Parking Structure
Classic Hummer Addition – Warehouse Expansion
Dutch Bros
Ferguson Place Subdivision
Son of a Butcher

Attachment 6

List of Pre-Construction Meetings Held 10/01/2020 through 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP 3.6 Pre-Construction Meetings*

DATE: *October 1, 2021*

(Last update: September 30 2022)

Project Description: Host Pre-Construction meetings with contractors/ property owners and present erosion and sediment control requirements and expectations.

Objective: To ensure that new construction sites meet minimum erosion control requirements prior to the initiation of construction activities. Use meeting as an educational tool to inform builders of requirements and expectations.

Activity to Implement: Develop and maintain an electronic construction site inventory.

Measurable Goal: Provide active construction site list with the annual report.

Number of Pre-Construction Meetings held in PY 2022: 11

Date	Site
10-12-2021	Wright Construction Offices
10-19-2021	Tillery Commons
11-01-2021	Park Place Mercedes Expansion
1-5-2022	Chicken N Pickle
1-25-2022	Rock N Brew & Velvet Taco
2-17-2022	Park Place Mercedes Parking Structure
2-22-2022	Classic Hummer Addition – Warehouse Expansion
3-10-2022	Dutch Bros
8-25-2022	Ferguson Place Subdivision
8-30-2022	Son of a Butcher

Attachment 7

Current Post-Construction BMP Map as of 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP 4.5 Post-construction BMP Map*

DATE: *October 1, 2021*

(Last update: September 30, 2022)

Project Description: The development and maintenance of a comprehensive post-construction BMP map of all known publically and privately owned BMPs.

Objective: To ensure that all publically and privately owned post-construction control BMPs are mapped and the location and discharge points are known.

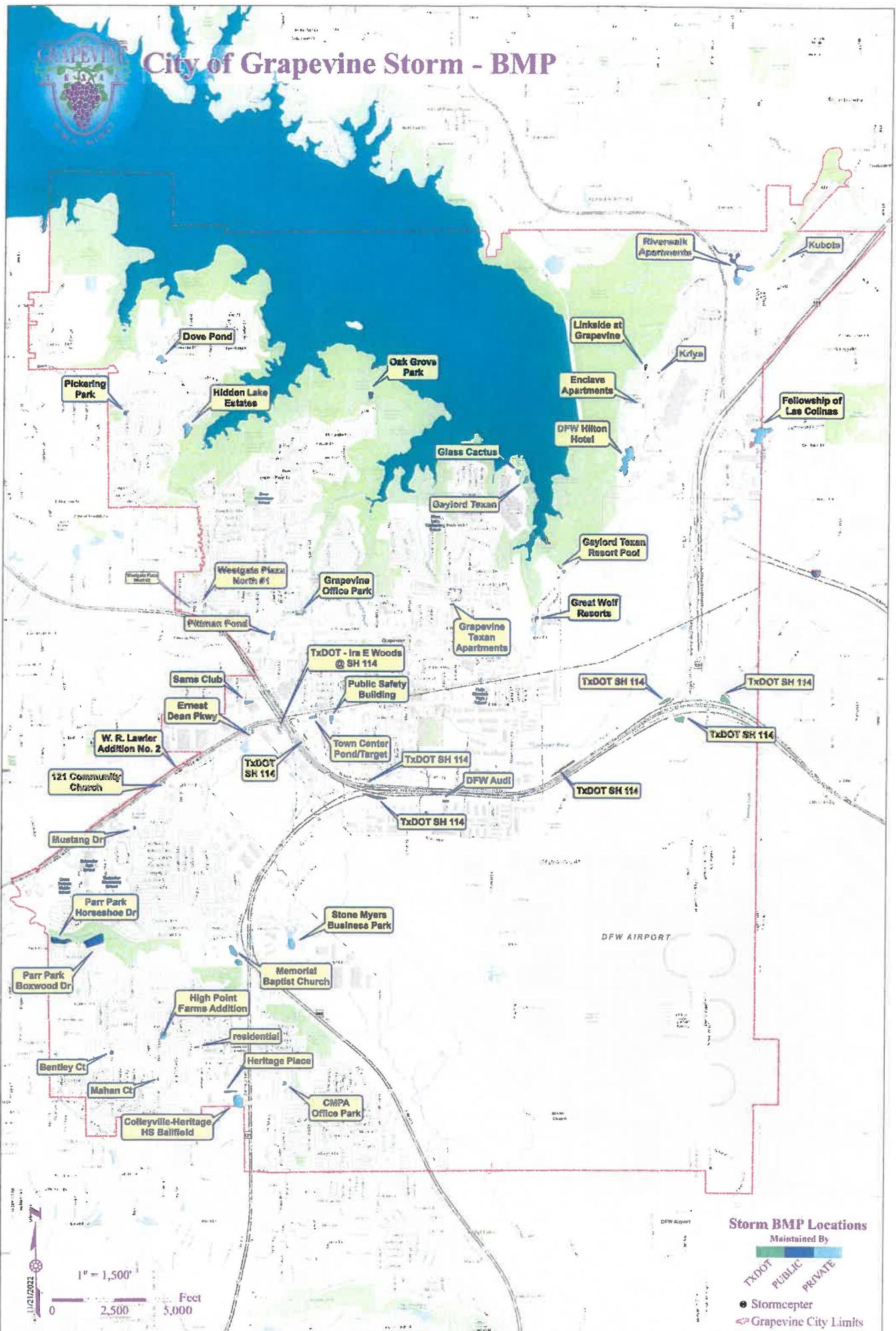
Activity to Implement: Develop a map of all known constructed detention facilities.

Measurable Goal: Provide map of all known constructed detention facilities with annual report.

Attached is the 2022 Updated Grapevine BMP Map.



City of Grapevine Storm - BMP



Storm BMP Locations

Maintained By



● Stormceptor

◁ Grapevine City Limits

Attachment 8

List of Pollution Prevention Audits of Municipal Facilities

10/01/2020 through 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP 5.1 City Facility Pollution Prevention Audits*

DATE: *October 1, 2021*
(Last update: September 30, 2022)

Project Description: Develop an inventory and map of all City-owned and operated facilities. Determine those facilities are "High Priority" with respect to potential stormwater issues. Develop P2 SOPs and audit those facilities for P2 compliance.

Objective: To determine which City facilities fall into the category of "High Priority" and develop adequate pollution plans for those facilities. Audit those locations for compliance with pollution prevention SOPs.

Activity to Implement: Inspect "High Priority" Facilities.

Measurable Goal: Conduct one audit of each "High Priority" facility per year.

Attached is a list of the facility audits conducted (all audit forms are on file).

Facility Name	Facility Address	Facility Primary Department	Facility Contact	Date of Inspection(s)	Facility Disposition	Documentation Required	Notes
Municipal Service Center	501 Shady Brook Dr	Public Works - Operations	Keith Miertschin	11/12/2021, 2/18/2022,5/6/2022, 8/17/2022	Full Inspection (See File)	Municipal Facility Audit	Location has material storage
Waste Water Treatment Plant	602 Shady Brook Dr	Public Works - Utilities	Jeff Hatch	8/17/2022	Full Inspection (See File)	Municipal Facility Audit	
Water Treatment Plant	2600 Fairway Dr	Public Works - Utilities	Karl Moellerling	8/17/2022	Full Inspection (See File)	Municipal Facility Audit	
Golf Maintenance Facility	3800 Fairway Dr	Finance - Golf	Merlin Tielkemeier	8/17/2022	Full Inspection (See File)	Municipal Facility Audit	Location has material storage
Grapevine Vintage Railroad	203 W Dallas Rd	CVB	Charles Cross	11/19/2021	Full Inspection (See File)	Municipal Facility Audit	
Fire Station #1	601 Boyd Dr	DPS	Darrell Brown	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Fire Station #2	3091 Dove Rd	DPS	Darrell Brown	8/16/2022	Zero Discharge	Municipal Facility Checklist	Location has an outdoor pool
Fire Station #3	2627 Briarwood Dr	DPS	Darrell Brown	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Fire Station #4	4500 Merlot Ave	DPS	Darrell Brown	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Fire Station #5	2801 N Grapevine Mills Blvd	DPS	Darrell Brown	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Grapevine Public Safety Building	1007 Ira E Woods Ave	DPS	Todd Dearing	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Grapevine Animal Shelter	500 Shady Brook Dr	DPS	Kristina Valentine	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Grapevine Botanical Gardens	411 Ball Street	Parks and Recreation	Trace Worthy	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Dove Pool Park	2000 Dove Rd	Parks and Recreation	Kurt Hardin	8/16/2022	Zero Discharge	Municipal Facility Checklist	Location has an outdoor pool
Pleasant Glade Pool	1805 Hall Johnson Rd	Parks and Recreation	Kurt Hardin	8/16/2022	Zero Discharge	Municipal Facility Checklist	Location has an outdoor pool
Bear Creek Dog Park	3230 SH360	Parks and Recreation	Tony Steele	8/16/2022	Zero Discharge	Municipal Facility Checklist	Location has dog park with splash pad
Meadowmere Park	3000 Meadowmere Ln	Parks and Recreation	Randy Sell	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Nash Farm	626 Ball St	CVB	Kimberly Prack	8/16/2022	Zero Discharge	Municipal Facility Checklist	
Oak Grove Ball Park	2520 Oak Grove Loop S	Parks and Recreation	Rusty Walker	8/16/2022	Zero Discharge	Municipal Facility Checklist	Location has material storage
Oak Grove Softball Complex	2700 Dove Loop Rd	Parks and Recreation	Rusty Walker	8/16/2022	Zero Discharge	Municipal Facility Checklist	Location has material storage
Parr Park	3010 Parr Ln	Parks and Recreation	Tony Steele	8/16/2022	Zero Discharge	Municipal Facility Checklist	Location has a splash pad
Vineyards Campground	1501 N Dooley	Parks and Recreation	Randy Sell	8/16/2022	Zero Discharge	Municipal Facility Checklist	

Note: A Disposition of Zero Discharge means that any chemical storage or potential pollutants are stored inside, out of the weather and stormwater runoff. Facilities are still inspected on an annual basis.

Attachment 9

List of Stormwater Controls Status as of 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP 5.4 Stormwater Controls for High Priority Facilities*

DATE: *October 1, 2021*

(Last update: September 30 2022)

Project Description: Identify and assess stormwater controls at each of the listed facilities. Determine whether new controls are required for each facility. If new controls are deemed necessary, install those controls. Refer to BMP 5.1 for the determination of “High Priority” facilities.

Objective: To determine which, if any, “High Priority” facilities require stormwater controls above and beyond those currently installed in order to prevent stormwater pollution from municipal activities.

Activity to Implement: Determine if new controls are required.

Measurable Goal: Provide a list of potential controls.

The following are potential Stormwater controls to be considered at “High Priority” facilities:

City Facilities			
NAME	ADDRESS	Department	Potential New Controls
Fire Station #2	2801 Panhandle Dr	Fire	None
Fire Station #1	601 Boyd Dr	Fire	None
Fire Station #3	2627 Briarwood	Fire	None
Fire Station #4	4500 Merlot Ave	Fire	None
Fire Station #5	2801 Grapevine Mills Bl	Fire	None
Department of Public Safety	1007 Ira E. Woods Ave	Public Safety	None
Animal Control	500 Shady Brook Dr	Public Safety	None
Water Treatment Plant	2600 Fairway Dr	Public Works	None
Wastewater Treatment Plant	602 Shady Brook Dr	Public Works	<ul style="list-style-type: none"> - Stabilize North side slope. - Increase Street Sweeping.
Municipal Service Center	501 Shady Brook Dr	Public Works	<ul style="list-style-type: none"> - Cover stockpiles. - Protect drains downhill of stockpiles. - Install device to remove sediment from vehicles exiting Auxiliary Yard.
DOVE CROSSING PARK	1701 Stoneway Dr	Parks	None

NAME	ADDRESS	Department	Potential New Controls
DOVE PARK - POOL	1509 Hood Ln	Parks	None
GRAPEVINE GOLF COURSE	3800 Fairway Dr	Parks	- Cover stockpiles.
HERITAGE PARK/BOTANICAL GARDEN	411 Ball St	Parks	None
MEADOWMERE PARK	3000 Meadowmere Ln	Parks	None
OAK GROVE PARK	Oak Grove Loop N & Soccer Rd	Parks	None
PARR PARK	3010 Parr Ln	Parks	None
PLEASANT GLADE POOL	1805 Hall Johnson Rd	Parks	None
ROCKLEDGE PARK	3851 Fairway Dr	Parks	None
THE VINEYARDS CAMPGROUND	1501 N Dooley St	Parks	None
NASH FARM	626 Ball St	CVB	None
GRAPEVINE VINTAGE RAILROAD	208 W. Dallas Rd.	CVB	None

Attachment 10

SSOi Reporting Information

As of 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP TMDL-1 Participation in TCEQ SSOi Program*

DATE: *October 1, 2021*

(Last update: September 20, 2022)

Project Description: To continue the City's participation in TCEQ's SSOi program, which includes details about the City's improvements to sanitary lines to reduce overflows, addressing of lift station inadequacies and strengthening of sanitary use requirements.

Objective: Continue to participate in the SSOi program to meet the goals of the Bacteria Impairment TMDL in the Big Bear Creek Watershed, specifically related to Sanitary Sewer Systems.

Activity to Implement: Continued participation in the SSOi program.

Measurable Goal: Provide SSOi annual report to the TCEQ.

The current agreement with TCEQ on the SSOi is still in review with the TCEQ. The City filed back in 2019 to renew and our application has been with TCEQ ever since. The TCEQ inspector that was at the plant a couple months ago (July of 2022) was going to check on the status of it, but have not heard back. Because we are currently not in the program, we are not doing the annual report. However, the City still abides by the previous agreement.

Attachment 11

List OSSF Issues Provided by Tarrant County

10/01/2020 through 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: File

FROM: Gregg Moss, Environmental Specialist

SUBJECT: BMP TMDL-2 On-Site Sewage Facilities

DATE: October 1, 2021

(Last update: Sept 30, 2022)

Project Description: Utilize Tarrant County Public Health (the OSSF Authority for this MS4) as a resource for identifying and addressing failing septic systems and addressing inadequate maintenance of OSSFs. Contact TCPH annually for list of OSSFs and issue status of those OSSFs as applicable.

Objective: To address the potential contribution of OSSF to bacterial impairment of the watershed through identifying and addressing failing systems and addressing inadequate maintenance of OSSFs.

Activity to Implement: Contact TCPH for a list of OSSF issues within the City.

Measurable Goal: Provide a list of OSSF issues within the City on an annual basis.

Grapevine had **0** OSSF issues reported and **1** new OSSF installed during Permit Year 2022.

See attached documents.

PropertyID	Address	City	State	ZipCode	County	SystemCode	Block	Lot	Abstract	Survey	MapNo	SystemID	IssueDate	InstallDate	CompPermit	CompPermitIssueDate	CompPermitExp	OPPermitApprovalDate	
64377	3209 WAPNELL RD	GRAPEVINE	TX	76032	Tarrant	SETTLEMENT ADDITION (EHO)	1	5	NULL	NULL	278	114031	2022-08-09	2022-08-09	71776	2022-08-03	5/1/2021	2022-08-20	
Model	Serial	Brand	ServiceContract	ServicePriority	ServicePriorityDescription	ServiceCode	ServiceWorkOrder	ReportStatus	InspectorID	InspectorName	InspectorTitle	ContractID	ContractIssueDate	ContractExpDate	ContractStatus	ContractPriority	ContractPriority	ContractPriority	
FF300	MP300155	Pop/FW	0	31	Monthly	2023-08-26	0	0	0	0	0	0	0	0	0	0	0	0	0
ContractStatus	InstallDate	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	ContractStatus	
204-48-09	1	4	0	72812	202-08-09-0000-00-000	2022-12-09	NULL	Asmbld	Surface Infiltration	VICTOR ASME	VICTOR ASME								
OwnerName	Address	City	State	ZipCode	County	SystemCode	Block	Lot	Abstract	Survey	MapNo	SystemID	IssueDate	InstallDate	CompPermit	CompPermitIssueDate	CompPermitExp	OPPermitApprovalDate	
NSA	811287	5	76204	76114	TARRANT CO	SEWER/STORM	15	75003											
ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	ServiceCode	
TOTAL SEWER	627	462	17	75069	NOTAL FLUSH SEPTIC SYSTEMS	NULL	BACKHONEY	TX	76051										
Agency	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	AgencyAddress	
Tarrant County Dept Environmental Health Sv	1815 S Main	Suite 2200	FORT WORTH	TX	76104	PROVIDE AEROBIC SYSTEMS LP	NULL	NULL	COLUMBIA	TX									

Attachment 12

List of Liquid Waste Haulers and Number of Manifests Received

10/01/2020 through 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP TMDL-3 Liquid Waste Hauling*

DATE: *October 1, 2021*

(Last update: September 30 2022)

Project Description: The MS4 will maintain electronic records of all liquid waste hauling manifests received by the City.

Objective: To track liquid waste hauler use within the City/ MS4. Provides an additional resource when tracking potential sources of bacteria.

Activity to Implement: Electronically record all liquid waste hauler manifests received by the City.

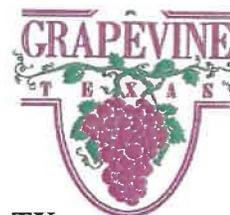
Measurable Goal: Provide number of waste haulers and number of manifests received annually.

A total of 12 waste haulers submitted manifests during PY 2022.

A total of 503 manifests were received during PY 2022.

Attachment 13

Surface Water pH Sampling Results Conducted from 10/01/2020 through 9/30/2021



MEMORANDUM

City of Grapevine, TX

TO: *File*

FROM: *Gregg Moss, Environmental Specialist*

SUBJECT: *BMP PH-1 Water Quality Impairment*

DATE: *October 1, 2021*

(Last update: Sept 30, 2022)

Project Description: To monitor pH levels in the 6 larger creeks within the MS4 (Jones Branch, Dove Branch, Farris Branch, Morehead Branch, Cable Branch and Silver Lake Branch) feeding in to Grapevine Lake (Segment 0826) on a quarterly basis to determine if the MS4 is contributing to this waterbody's impairment. Develop BMPs and measurable goals should this be determined.

Objective: To determine whether the City of Grapevine, as an MS4, is contributing to the pH impairment of Grapevine Lake (Segment 0826) and take any requires corrective action, as necessary, should it be determined.

Activity to Implement: Quarterly pH monitoring of 6 creeks discharging to segment 0826.

Measurable Goal: Provide resulting pH data to TCEQ.

Creek Name	Season	Year	Date Sampled	Time	Air Temp	Stream Flow	pH (su)
Silver Lake Branch	Fall	2022	11/16/2021	15:20		Dry	
Cable Branch	Fall	2022	11/16/2021	15:30	23	Normal	8.1
Farris Branch	Fall	2022	11/16/2021	12:45	22	Normal	8.1
Morehead Branch	Fall	2022	11/16/2021	13:20	22	Standing	8.1
Dove Branch	Fall	2022	11/16/2021	10:55	21	Low	8.2
Jones Branch	Fall	2022	11/16/2021	11:15	21	Low	8.2
Silver Lake Branch	Winter	2022	2/22/2022	11:25		Dry	
Cable Branch	Winter	2022	2/22/2022	13:00	6	Normal	8.2
Farris Branch	Winter	2022	2/22/2022	14:00	6	Low	8.0
Morehead Branch	Winter	2022	2/22/2022	13:30	6	Normal	7.8
Dove Branch	Winter	2022	2/22/2022	15:00	6	Low	8.0
Jones Branch	Winter	2022	2/22/2022	14:30	6	Normal	8.4
Silver Lake Branch	Spring	2022	6/6/2022	14:50		Dry	
Cable Branch	Spring	2022	6/6/2022	14:30	34	Normal	7.1
Farris Branch	Spring	2022	6/6/2022	14:10	34	Normal	7
Morehead Branch	Spring	2022	6/6/2022	13:50	34	Normal	7.2
Dove Branch	Spring	2022	6/6/2022	13:30	33	Normal	7.2
Jones Branch	Spring	2022	6/6/2022	13:10	33	Normal	7.4
Silver Lake Branch	Summer	2022	8/15/2022	9:45		Dry	
Cable Branch	Summer	2022	8/15/2022	9:55	31	Low	7.8
Farris Branch	Summer	2022	8/15/2022	11:05		Dry	
Morehead Branch	Summer	2022	8/15/2022	10:35	31	Normal	8.4
Dove Branch	Summer	2022	8/15/2022	2:45		Dry	
Jones Branch	Summer	2022	8/15/2022	3:15		Dry	
Meadowmere Swim Beach	Summer	2022	8/17/2022	10:50	36	Lake	8.7
Vineyards Swim Beach	Summer	2022	8/17/2022	11:25	36	Lake	9