Phase II (Small) MS4 Annual Report Form

TPDES General Permit Number TXR040000

A. General Information

Authorization Number: TXR040469

Reporting Year: 5

Annual Reporting Year Option Selected by MS4: Fiscal Year

Last day of fiscal year: September 30th

Reporting period beginning date: October 1st, 2018

Reporting period end date: September 30th, 2019

MS4 Operator Level: Level 3 Name of MS4: City of New Braunfels

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A copy of the annual report was submitted to the TCEQ Region: Yes

Region the annual report was submitted to: TCEQ Region 13

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		
Permittee is currently in compliance with recordkeeping and reporting requirements.	X		

Permittee meets the eligibility requirements of the permit (e.g., TMDL requirements, Edwards Aquifer limitations, compliance history, etc.).	X		
Permittee conducted an annual review of its SWMP in conjunction with preparation of the annual report	X		

2. Provide a general assessment of the appropriateness of the selected BMPs. You may use the table below to meet this requirement (**see Example 1 in instructions**):

MCM(s)	BMP	BMP is appropriate for reducing the discharge of pollutants in stormwater (Answer Yes or No and explain)
1: Public Education, Outreach and Involvement	Stormwater Educational Materials and Strategies	Yes, stormwater educational materials aid in developing local awareness of pollution prevention and water quality protection efforts. The City's MS4 Stormwater webpage provides a readily accessible outlet for residents to access stormwater educational materials and information.
1: Public Education, Outreach and Involvement	Initiate Public Participation and Involvement Program	Yes, involving the public in watershed planning and stormwater pollution prevention promotes and encourages public awareness and participation and allows citizens to take ownership of stormwater pollution prevention and watershed management.
1: Public Education, Outreach and Involvement	Partnerships with Other Institutions and Organizations	Yes, collaboration with other organizations helps to increase the public awareness of stormwater pollution prevention and potential water quality issues. Partner organizations aid in educating the public on watershed management initiatives while promoting regional participation in protecting water quality.
1: Public Education, Outreach and Involvement	Presentation to Local Elementary Schools	Yes, it is important that students are informed of water quality issues and stormwater pollution prevention. Increased awareness of stormwater pollution issues and water resource protection will help to improve and protect water quality.

1: Public Education, Outreach and Involvement	Volunteer Programs	Yes, volunteer stream clean-up events and programs promote the importance of maintaining water quality and litter-free riparian areas. Clean-up events also offer volunteers an opportunity to assist with keeping our waterways clean and allows the for the opportunity for volunteers to ask questions and learn more about pollution prevention and watershed protection efforts.
1: Public Education, Outreach and Involvement	Community Arbor Day Program	Yes, the City of New Braunfels' Arbor Day event aids in educating residents on the importance of trees and their importance in protecting water quality. Attendees are also provided with free trees that are planted throughout local watersheds.
2: Illicit Discharge Detection and Elimination	Storm Sewer Mapping	Yes, the storm drain system map identifies the location of stormwater drainage infrastructure such as drainage inlets, channels, retention basins, and stormwater outfalls. The storm drain system map aids in the implementation of IDDE inspections as well as tracking and identification of potential illicit discharges.
2: Illicit Discharge Detection and Elimination	Detection and Elimination Program	Yes, the City's IDDE program, including dry weather screening, aids in identifying and eliminating illicit discharges. The IDDE program allows for identification and tracking of potential illicit discharges, furthering pollution prevention efforts.
2: Illicit Discharge Detection and Elimination	Field Staff Training	Yes, increasing field staff awareness increases the likelihood of staff to readily detect, eliminate, and respond to illicit discharges.
2: Illicit Discharge Detection and Elimination	Public Reporting of Illicit Discharges and Spills	Yes, the ability to receive water quality concerns the public increases the probability of discovering illicit discharges and speeds up the elimination the discharge.
2: Illicit Discharge Detection and Elimination	Illicit Discharge Ordinance	Yes, the City's illicit discharge ordinance provides the City with the legal authority to prohibit and eliminate illicit discharges and connections, reducing the amount of pollutants entering stormwater.

2: Illicit Discharge Detection and Elimination	River Clean-up	Yes, regularly scheduled litter collection sessions result in the removal trash and other pollutants from watershed areas, reducing the amount of litter and debris reaching waterways.
3: Construction Site Stormwater Runoff Control	Construction Site Inspection Program	Yes, inspection of active construction sites helps identify construction-related pollutant and runoff issues and aids in ensuring that SWPPPs are being implemented and that adequate erosion, sediment and pollution prevention control are in place and functioning, thereby reducing the potential for sediment and pollutant discharges from active construction sites.
3: Construction Site Stormwater Runoff Control	Construction Site Inventory	Yes, an inventory of active construction sites aids in guiding, scheduling and prioritizing routine stormwater construction management inspections aimed at reducing the discharge of pollutants from construction sites.
3: Construction Site Stormwater Runoff Control	Construction Site Waste Control Ordinance	Yes, the City's construction site waste control ordinance allows the City to effectively prohibit the discharge of pollution by holding construction contractors and operators accountable for proper disposal of construction waste materials.
3: Construction Site Stormwater Runoff Control	Construction Site Runoff Control Ordinance	Yes, the City's construction stormwater management ordinance gives the City legal authority to require inspections, SWPPP implementation, and adequate erosion and sediment control measures at active construction sites.
4: Post-Construction Stormwater Mgmt in New Development	Staff Training on Post-Construction Stormwater Mgmt Structures	Yes, training increases City staff's knowledge of proper functionality and maintenance of structural stormwater quality controls, increasing the potential for identification of undermaintained or non-functioning permanent stormwater control structures.

4: Post-Construction Stormwater Mgmt in New Development	Post-Construction Development Review Procedures	Yes, the City's Drainage and Erosion Control Design Manual includes requirements for the installation of stormwater/ water quality controls in areas of new development and re-development. The permanent water quality controls result in improved quality of stormwater runoff in areas of new development and redevelopment where new impervious cover is added and there is an increase in the potential of pollutant discharges.
4: Post-Construction Stormwater Mgmt in New Development	Long-Term Operation and Maintenance	Yes, inspections of water quality controls ensure proper operation and functionality of the controls. The formal inspection program assists in identifying problems associated with the systems and ensures effectiveness of the BMPs.
4: Post-Construction Stormwater Mgmt in New Development	Post-Construction Stormwater Management Ordinance	Yes, adoption of an ordinance and the City's Drainage and Erosion Control Design Manual effectively requires stormwater controls in areas of new development and re-development. The ordinance ensures proper monitoring and maintenance of the controls to ensure operability and effective pollution prevention. The ordinance also provides the ability for the City to hold owners of stormwater controls responsible for upkeep of the controls.
4: Post-Construction Stormwater Mgmt in New Development	Encouragement of Low-Impact Development (LID) Design	Yes, the City's Low Impact Development Manual includes guidelines for design engineers to use in the development and design of projects. Implementation of LID projects will help in cleaning stormwater runoff and will ultimately benefit water quality.
4: Post-Construction Stormwater Mgmt in New Development	Establishment of Riparian Zones	Yes, healthy riparian zones help to stabilize streambanks, minimize erosion and filter/ remove potential pollutants from stormwater runoff.
5: Pollution Prevention and Good Housekeeping for Municipal Operations	Street Sweeping	Yes, the City's street sweeping program results in the direct removal of sediment, debris, and vehicle-related heavy metals that otherwise have the potential to be mobilized and transported in stormwater runoff. The prioritization of street sweeping locations allows for efficiency in removing potential pollutants.

5: Pollution Prevention & Good Housekeeping for Municipal Operations	Mapping of Facilities and Inventory Control	Yes, a map of city-owned facilities aids in identifying the location of these facilities and their proximity to surface waters and stormwater conveyances, allowing city staff to prioritize inspections and identify those having increased potential to discharge pollutants to surface waters.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Municipal Operations and Facility Survey	Yes, facility surveys provide accurate information regarding operations conducted, materials stored, and the potential for pollutant discharges at each City facility. Surveys allow the City to evaluate and implement stormwater BMPs as appropriate.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Facility Inspection Program	Yes, routine inspections of City-owned facilities allow City staff to identify stormwater control measures that may be required to prevent pollutant discharges. All facilities identified as "high priority" areas store chemicals or are immediately adjacent to waterways. This distinction allows for efficiency in minimizing pollutant discharge.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Outdoor Storage	Yes, identification and assessment of outdoor storage facilities ensures that materials are stored in a manner that prevents pollutant releases. A complete inventory allows the City to asses storage adequacy and develop protection measures.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Fleet and Equipment Maintenance	Yes, routine inspection of the fleet maintenance facility ensures that good housekeeping, spill prevention, and protection measures are being implemented.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Vehicle and Equipment Washing	Yes, routine assessment of vehicle and equipment washing operations ensures that good housekeeping, spill prevention, and protection measures are being implemented.

5: Pollution Prevention & Good Housekeeping for Municipal Operations	Landscaping	Yes, good landscaping practices minimize the potential for pesticides, herbicides, fertilizer, and lawn trimmings to enter the City's storm drain system and/ or surface waters. The proper use and storage of landscaping materials also minimizes the potential for pesticides, herbicides and fertilizers to be entrained in stormwater runoff.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Structural Control Maintenance	Yes, the updated inventory and on-going inspections of City-owned structural stormwater controls aids in the identification of controls requiring maintenance and allows for effectively minimizing pollutants in our stormwater.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Spill Prevention and Response	Yes, readily available spill kits and trained staff ensure that spills are quickly cleaned thus minimizing the potential for discharges to surface waters and the storm drain system.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Employee Training Program	Yes, the increased awareness of water quality issues and pollution prevention by City employees ensures that stormwater quality programs are properly implemented and BMPs are maintained.
5: Pollution Prevention & Good Housekeeping for Municipal Operations	Green Waste Management	Yes, the green waste recycling program provides an avenue for residents to properly dispose of lawn clipping and other green waste and helps to keep these materials from entering the storm drain system and surface waters.

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 (**see Example 2 in instructions**):

MCM	BMP	Information Used	Quantity	Units	Does the BMP Demonstrate a Direct Reduction in Pollutants? (Answer Yes or No and explain)
1	Volunteer Litter Clean-Ups Events and Programs (PE-5)	Volume of litter collected by volunteers through Dos Rios Watershed Clean-Up and Adopt-A-Spot Programs	3,073.5	Pounds	Yes, a total of 3,073.5 lbs of litter were removed from in and adjacent to local creeks and river directly reducing the amount of litter pollution.
2	Dry Weather Screening-Illicit Discharge Detection and Elimination Program (ID-2)	Screening of stormwater outfalls	562	# of inspections	Yes, by routinely screening stormwater outfalls, illicit discharges can be readily identified and action taken to eliminate the pollutant discharge to the City's MS4 and surface waters.
2	River Litter Clean-Up (ID-6)	Litter collection from banks of Guadalupe and Comal Rivers and underwater SCUBA litter removal in Comal River utilizing contractor	92,005 (includes 17,046 lbs of litter collected along banks and 74,959.20 lbs collected from trash receptables)	Pounds	Yes, the City utilizes a contractor to remove litter from the banks of the Comal and Guadalupe Rivers, remove litter from the Comal River using SCUBA and provide and empty trash receptacles at key locations along the river. Results in keeping significant volumes of liter from waterways.

3	Construction Site Inspection Program (CS-1)	Inspections of active construction sites	1,071	# of inspections	Yes, the routine inspection of active construction sites helps to ensure that adequate sediment, erosion and pollution prevention measures are in place thereby minimizing pollutant discharges to MS4 and surface waters.
4	Post-Construction Stormwater Management (PC-2)	Stormwater/ water quality treatment infrastructure required for new developments adding >5,000 ft^2 of impervious cover	9	# of stormwater/ water quality treatment facilities required to be installed on new developments permitted by the City in Year 5	Yes, the required stormwater/ water quality treatment facilities will help to mitigate the impacts of increased impervious cover.
5	Street Sweeping (GH-1)	Weight of sediment and debris collected from City streets as part of street sweeping program	945	Tons	Yes, sediment, road debris, auto debris and other materials swept from streets and roadways directly reduces the amount of material available to be carried to the City's MS4 and surface waters via stormwater runoff.

4. Provide the measurable goals for each of the MCMs, and an evaluation of the success of the implementation of the measurable goals (**see Example 3 in instructions):**

MCM(s)	Measurable Goal(s)	Explain progress toward goal or how goal was achieved. If goal was not accomplished, please explain.
1	Update City Website, local utility billing mail-outs, and media outlets (PE-1)	Met goal. The City continued to display and maintain an MS4 Stormwater Program webpage on the City's Watershed Management Division website (www.nbtexas.org/watershed). The page includes information on the City's MS4 program, links to the City's Storm Water Management Program (SWMP), links to completed MS4 Annual Reports and a link to the City's Stormwater fact sheet. The webpage also includes information on the City's annual watershed clean-up event, the Dos Rios Watershed Clean-Up (www.nbtexas.org/dosrioscleanup) and the City's Adopt-A-Spot River Clean-Up Program (http://www.nbtexas.org/2156/Adopt-A-Spot-River-Clean-Up). The City writes and publishes a quarterly newsletter titled "Making the Most of Our Resources" which is included as an insert in the local newspaper, the Herald-Zeitung. The Fall 2018, Winter 2018 and Winter 2019 editions include information regarding stormwater pollution prevention, recycling, value of trees in managing stormwater runoff and littering. 10,000 copies of each newsletter edition were included as inserts in the Herald-Zeitung.
1	Develop a stormwater fact sheet (PE-1)	Met goal. A stormwater fact sheet was developed in Year 1. The fact sheet was evaluated and reviewed in Year 5. The fact sheet remains posted on the City's Watershed Management webpage for access by the general public.
1	Develop stormwater brochures (PE-1)	Met goal. A stormwater brochure was developed in Year 1. The stormwater brochure was evaluated and reviewed in Year 5. Stormwater brochures were distributed at City events and at City Parks Dept office.

1	Events and meetings for Public Participation and Involvement (PE-2)	Met goal. The City hosted three (3) Watershed Advisory Committee (WAC) meetings in Year 5. The meetings were held on January 10, 2019, April 11, 2019 and July 11, 2019. The WAC is a formal City committee that advices on stormwater and watershed management-related topics. All meetings were open to the general public, held at City Hall and agendas posted in advance of the meetings.
1	Record and document WQ pollution and illegal dumping incidents reported by citizens (PE-2)	Met goal. Ten (10) water quality concerns were received by citizens in Year 5. Each of these concerns were inspected, documented, and followed up on.
1	Sponsor, co-sponsor, or participate in annual stream clean-up events (PE-2)	Met goal. The City co-sponsored the 7th Annual Geronimo and Alligator Creek Clean-Up event held on April 6th, 2019. City staff advertised for and attended the event. City staff worked a booth at the New Braunfels Airport location to orient volunteers for clean-up of Alligator Creek near the New Braunfels Airport. The City also provided roll-off trash dumpsters at the NB Airport location for the event. The City coordinated a volunteer litter clean-up and riparian zone planting event for Boy Scout Troop 413 on November 10th, 2018. 10 volunteers attended. The City hosted the 3rd Annual Dos Rios Watershed Clean-Up event on September 21, 2019. 244 volunteers collected litter at 10 locations along rivers and creeks in New Braunfels. 2,320 lbs. of litter were collected by volunteers as part of the event.

1	Collaborate with watershed-based organizations (PE-3)	Met goal. The City continued to work with watershed-based organizations throughout Year 5. The City collaborated with the Alligator Geronimo Creek Watershed Partnership, participated in the Aquifer Habitat Conservation Plan program and continued to work closely with the Guadalupe Blanco River Authority. The City regularly met with MS4 Stormwater management staff from the City of Kyle, City of San Marcos, and Texas State University (known as the Central Texas Stormwater Coalition). Meetings were held every other week to discuss MS4 program efforts, share experiences and provide support to improve each entity's MS4 program. The collaboration group planned and held the 2nd Annual Texas Regional Stormwater Conference in January 2019 to provide training opportunities for City staff and other stormwater management professionals. Planning for the 3rd Annual Texas Regional Stormwater Conference, set for January 15th, 2020, took place in Year 5.
1	Perform watershed and stormwater educational presentations to local schools. Record number of presentations and participants (PE-4)	Met goal. City staff presented stormwater pollution prevention and watershed education to 6, 7th grade science class periods at New Braunfels Middle School on April 15th, 2019. A total of 440 middle school were in attendance.

1	Coordinate the activities for a volunteer clean-up events (PE-5)	Met goal. The City coordinated and held the 3rd Annual Dos Rios Watershed Clean-Up event that took place on September 21, 2019. The event included clean-up at City parks. 244 volunteers collected litter at 10 locations along rivers and creeks in New Braunfels. 2,320 lbs. of litter were collected by volunteers and disposed of. The City assisted in the coordination of and advertisement for the Alligator/Geronimo Creek Watershed Clean-up on April 6th, 2019. City staff led the NB Airport clean-up location as part of the event. A portion of the Alligator/Geronimo Creek watershed lies within the New Braunfels city limits. The City continued its Adopt-a-Spot program that allows residents, civic groups and local businesses to get involved with quarterly clean-ups in City parks, along creeks/ rivers and in other greenspaces throughout the City. Eight groups have adopted a location and performed at least one clean-up event. Volunteers collected 753 lbs. of litter as part of the program in Year 5.
1	Annually sponsor an Arbor Day/ reforestation event. (PE-6)	Met goal. The City's annual Arbor Day event was scheduled for October 20, 2018 to occur at Landa Park. Unfortunately, the primary Arbor Day events were cancelled due to inclement weather. The City still held the Arbor Day Tree Give Away on Oct 20th and provided 678 free trees to residents. A smaller Arbor Day ceremony event was held at Fischer Park the following week.
2	Develop MS4 Outfall Map (ID-1)	Met goal. A comprehensive MS4 system map was completed in Year 2 and was continuously updated with new stormwater infrastructure throughout Years 3,4, and 5. The map includes stormwater outfalls, drainage channels, retention ponds, and drainage inlets within City limits. All collected field data is updated to the City's GIS server and is included in an ArcGIS map. The map is used to guide IDDE Dry Weather Screening program inspections/ investigations as well as post-construction BMP inspections.

2	Perform dry weather screening to detect potential illicit discharges (ID-2)	Met goal. The dry weather screening program was implemented in Year 5. 562 storm drain outfalls were screened during dry weather conditions during Year 5. The outfalls screened included significant outfalls that discharge directly to surface waters as well as small outfalls that discharge to drainage channels. City staff has an established SOP that guides the dry weather screening program.
2	Provide illicit discharge detection training to City staff. Report names of and number of attendees. Document training materials (ID-3)	Met goal. An illicit discharge detection and elimination training was given to City of New Braunfels staff (19 employees) from the Streets and Drainage, Parks and Recreation, and Engineering Departments as part of the 2019 Texas Regional Stormwater Conference that was held on January 23, 2019. Sign-in sheet and training materials have been retained.
2	Develop public reporting method for illicit discharges, spills, and water quality complaints. (ID-4)	Met goal. An on-line water quality and spill reporting form has been developed and is included on the City's Watershed Management website (www.nbtexas.org/watershed). An SOP has also been developed for handling water quality concerns that are called into the City, including documentation of any report and corrective action.
2	Develop and implement illicit discharge ordinance (ID-5)	Met goal. An illicit discharge ordinance has been enacted and adopted into the City's Code of Ordinances (Section 143-6). The ordinance remains effective and it posted on the City's Code of Ordinance website. The illicit discharge ordinance was implemented in Year 5. Five (5) Notice of Violations were issued in Year 5 and discharges addressed by responsible party. Other identified illicit discharges were eliminated by responsible parties upon initial notification by the City and prior to the need for further enforcement.

2	Record and report on trash collection operations and river clean-ups (ID-6)	Met goal. The City continues to uphold two contracts for litter clean-up activities within the City. The first contract includes litter clean-up activities at four City parks located along the Guadalupe and Comal rivers (Landa Park, Hinman Island Park, River Acres Park, and Prince Solms Park) between February and September of each year. The second contract involves weekly litter and trash clean-up within and along the banks the Comal and Guadalupe Rivers within City limits between March and October. 17,046 lbs of litter and 74,959 lbs of trash were collected as part of the contracted work.
3	Develop construction site inspection procedures and forms (CS-1)	Met goal. The City has an established SOP that guides construction stormwater management inspections. A standardized field inspection report is utilized to record inspection findings. All inspection records are retained in a software program.
3	Perform construction stormwater management inspections at active construction site (CS-1)	Met goal. City staff conducted routine stormwater management inspections at active construction sites >1 acre throughout Year 5. 1,071 construction stormwater inspections were conducted between Oct 1st, 2018 and Sept 30th, 2019.

3	Provide annual training to applicable City employees (CS-1)	Met goal. Watershed Management staff (3) attended the 2018 TCEQ Autumn Conference on October 10-11, 2018 which featured training sessions and presentations regarding stormwater management and state and nationwide regulations. City of New Braunfels staff (19 employees) in the Streets and Drainage, Parks and Recreation, and Engineering Inspection Departments attended construction stormwater training sessions that were part of the 2019 Texas Regional Stormwater Conference that was held on January 23, 2019. Sign-in sheet and training materials have been retained. Two City staff attended a TPDES Stormwater Compliance Workshop that was held by San Antonio Water Systems (SAWS) on December 12th, 2018. The workshop included construction stormwater management presentations by SAWS, TCEQ and Bexar County.
3	Compile, document, and report construction site inventory. Report number of construction stormwater permits and NOIs (CS-2)	Met goal. City staff continues to document and track all construction sites <1 acre. Permit records from the City's Engineering and Building Departments are used, along with submitted NOIs & CSNs, to identify and document active construction projects. Active sites are also identified and documented during routine field visits. All active construction sites >1 acre are tracked in software that maintains a construction site inventory and is used to guide and schedule routine inspections.
3	Develop and document procedures for tracking and documenting construction site inventory (CS-2)	Met goal. Procedures for receiving, documenting, and tracking active construction projects have been developed. This includes documenting all construction sites on a master spreadsheet where City Staff records permit number, permit holder, contact information and other pertinent site information.

3	Develop and adopt construction site waste control ordinance. (CS-3)	Met goal. A construction waste ordinance was developed in Year 2. The ordinance (No. 2016-74) was approved by City Council on December 12th, 2016 and adopted to the City's Code of Ordinances (Section 143-7). The ordinance remained in effect and unchanged in Year 5.
3	Develop and adopt construction site runoff control ordinance. (CS-4)	Met goal. A construction site runoff control ordinance was developed in Year 2, approved by City Council in Year 3 (on December 12th, 2016) and adopted to the City's Code of Ordinances (Section 143-7). The construction site runoff control ordinance remained in effect and unchanged in Year 5. No Notice of Violation citations were issued in Year 5. All identified construction stormwater management issues were corrected by responsible parties upon notification by the City and prior to the need for further enforcement.
4	Staff Training on Post-Construction Stormwater Controls (PC-1)	Met goal. A training presentation focused on post-construction stormwater BMPs was given to City of New Braunfels staff (19 employees) in the Streets and Drainage, Parks and Recreation, and Engineering Departments as part of the 2019 Texas Regional Stormwater Conference that was held on January 23, 2019. Sign-in sheet and training materials have been retained. Watershed Management staff (2) attended a LID/ Green Stormwater Infrastructure workshop on August 13, 2019 titled "From Gutter to Stream: Managing Our Stormwater". This workshop was hosted by the Texas A&M AgriLife Extension and the City of Austin Watershed Protection Dept. The program included presentations on permanent green stormwater management controls.

4	Review and revise water quality protection measures as part of the City's Drainage Criteria Manual (DCM). Implement revised DCM (PC-2)	Met goal. The City's Drainage and Erosion Control Design Manual (DCM) was finalized and adopted in Year 2. The new DCM became effective on July 1, 2016. The DCM includes water quality control requirements for areas of new development. The water quality control requirements took effect on January 1, 2017, requiring that any new Type 3 development (adding >5,000 sq. ft of new impervious cover) platted after the effective date implement permanent water quality controls to treat the first ½" of runoff. The DCM and water quality requirements remained in effect in Permit Year 5.
4	Develop and implement program to inspect post-construction control measures/ BMPs (PC-3)	Met goal. Inspections of post-construction controls continued to occur throughout Year 5. As of January 1, 2017, new Type 3 development and redevelopment adding 5,000 sq. ft. of new impervious cover requires installation of permanent water quality controls. Standard Operating Procedures were developed for post-construction BMP inspections. A master list of permanent stormwater controls, a corresponding GIS map and a field report have been developed to guide inspections. 252 post-construction BMP inspections were performed in Year 5. Notification was sent to owners of stormwater controls that are found to be undermaintained and/ or deficient.
4	Develop Post-Construction Stormwater Management Ordinance. Adopt, post, and implement ordinance (PC-4)	Met goal. A post-construction stormwater management ordinance was developed in Year 2, approved by City Council in Year 3 (on December 12th, 2016) and adopted to the City's Code of Ordinances (Section 143-8). The ordinance remained in effect and unchanged in Year 5. The adopted ordinance requires inspection and maintenance of permanent stormwater controls which allows City Staff to hold owners accountable for maintenance of post-construction controls.
4	Review and revise existing Low Impact Development (LID) stormwater design guidelines. Include LID guidelines as part of the City's Drainage Criteria Manual (DCM) (PC-5)	Met goal. A LID Manual was completed as a supplement to the DCM. The LID Manual provides guidelines and LID features that developers may incorporate into their projects. The LID Manual was adopted on April 11, 2016. The City developed a Water Quality Protection Plan (WQPP) in 2017 as part of the Edwards Aquifer Habitat Conservation Plan (EAHCP). The WQPP includes an analysis of potential LID projects

		that can be implemented in the Comal River watershed in future years as part of the EAHCP. Funding was secured in 2017 through the EAHCP to implement LID projects in 2018. Planning for additional City LID projects has also been completed and are funded to be constructed. The City finished construction on one LID project during Year 5, a bio-retention basin at North Houston Ave, the City also began construction in Year 5 on a series of bio-retention beds along Ohio Street adjacent to Panther Canyon Creek and the New Braunfels High School. Additional LID/ green stormwater infrastructure projects were planned for FY19-20.
4	Evaluate need for establishment of additional riparian zone establishment in flood zones. Implement policies for establishing riparian zones (PC-6)	Met goal. The City maintains riparian buffers (no mow-zones) along specific portions of the Comal River, Dry Comal Creek, and Guadalupe River on City-owned properties (i.e. City parks and flood properties). New riparian buffer areas were established in 2019 within Landa Park along Landa Lake. Existing no-mow zones were continued to be maintained as buffer areas in Year 5.
5	Implement street sweeper waste disposal program (GH-1)	Met goal. The City's street sweeping program consists of the following: -The City owns and operates three regenerative-air street sweeping units. Two sweeper units are run 5 hours/ day, 5 days/ week. Priority street sweeping areas have been delineated. The priority streets are those that are located immediately adjacent to surface waters, areas where stormwater runoff drains rapidly to surface waters, or in areas where sediment and debris are known to rapidly accumulate. A map of the priority sweeping areas is retained on-file. In Year 5, a total of 945 tons of sediment and debris was swept from City streets as part of the street sweeping program. The City has a contract with Waste Management to haul and dispose of street sweeper waste material.
5	Develop a map identifying CONB-owned and operated facilities and stormwater controls (GH-2)	Met goal. A GIS map has been developed to document the locations of all City properties and facilities. A stormwater control map was initially completed in Year 3 to show City-owned controls. The map was reviewed in Year 5 and no updates to the map were required.
5	Perform surveys of municipal facilities and operations. (GH-3)	Met goal. Surveys were conducted at all City facilities including Fire facilities, Police Dept facilities, Parks Dept facilities, Streets & Drainage facilities, and Solid Waste facilities. The surveys, including updates and changes to inventories, have been documented and are retained on-file.

5	Implement facility inspection program. (GH-4)	Met goal. Quarterly inspections were performed throughout Year 5 at high-risk City facilities. The inspections were conducted at fire stations (6 facilities), police station, solid waste vehicle storage area, Parks Dept equipment and storage facility, and fleet maintenance shop. Any identified issues are followed up on in order minimize the potential for pollutant discharges. A total of 36 facility inspections were conducted in Year 5. All inspection reports are retained on file.
5	Compile inventory of outdoor storage locations and materials stored. Perform routine inspections of storage facilities (GH-5)	Met goal. Outdoor storage facilities have been assessed and are inspected on a regular basis as part of the facility inspection program.
5	Compile and report vehicle maintenance locations. Perform and document routine inspections (GH-6)	Met goal. The City's fleet maintenance facilities (2) are inspected on a quarterly basis as part of the facility inspection program. Inspection reports are retained on-file.
5	Implement policies and procedures associated with vehicle washing operations to protect WQ (GH-7)	Vehicle wash SOPs have been developed for locations where City vehicles are washed. A majority of City vehicles are washed at privately-owned commercial car washes negating the need to wash on City property.
5	Landscaping Management (GH-8)	Met goal. The City continues to employ Texas Department of Agriculture (TDA) licensed chemical applicators who are responsible for conducting and/ or overseeing all pesticide, herbicide, and fertilizer applications. A total of 6 staff members hold TDA chemical applicator licenses. These employees attend regular trainings to maintain credits for their licenses. All chemical applications are done by licensed applicators or under the supervision of licensed applicators as permissible under TDA regulations. All chemical applications and inventories are conducted according to guidelines and regulations set forth by the TDA.

5	Inventory, inspection, and maintenance of City-owned structural controls (GH-9)	Met Goal. The City currently owns one water quality treatment basins and stormwater filtration units. City Staff inspected and maintained structural water quality control in Year 5.
5	Spill Prevention and Response (GH-10)	Met Goal. Two hydraulic fluid leaks from City equipment were responded to and reported in Year 5. The leaked hydraulic fluid was promptly and properly cleaned up to prevent discharge into drainage system.
5	Spill response procedures and clean-up training to applicable City employees (GH-10)	Met goal. A spill clean-up training was given to City of New Braunfels staff (19 employees) in the Streets and Drainage, Parks and Recreation, and Engineering Inspection Departments as part of a Good Housekeeping presentation at the 2019 Texas Regional Stormwater Conference held on January 23rd, 2019. Sign-in sheet and training materials have been retained.
5	Provide spill response kits at applicable City facilities (GH-10)	Met goal. Spill response kits have been supplied to various departments and to applicable staff. Applicable departments have retained spill clean-up kits and kept available for use in permit Year 5. A check for spill kits is conducted during the routine quarterly inspections at high-risk City facilities.
5	Provide and document MS4-related training to City staff (GH-11)	Met Goal. City staff and management is continuing to be educated and informed on stormwater management and water quality initiatives. City staff from various departments attended the Central Texas Stormwater Conference on January 23, 2019. The conference included a wide variety of pollution prevention topics.
5	Record and report the amount of green waste recycled (GH-12)	Met goal. The City continued to implement a green waste recycling program. There was 4,579 tons of green waste collected as part of the City's Green Waste program in permit Year 5. Green waste collected by the City was diverted from the landfill and sent to Comal County Recycling Center to be mulched. Green waste from City operations is taken to the Comal County Recycling Center for mulching.

5	Develop methods to promote green waste recycling and mgmt (GH-12)	Met goal. Green waste recycling is promoted via the City's website and in the "Making the Most of Our Resources" (MMOR) guide which is distributed quarterly as an insert in the local Herald-Zeitung newspaper. The Summer and Fall 2019 editions of the MMoR guide include information on composting, recycling and green waste management. The City's green waste webpage (http://www.nbtexas.org/872/Green-Waste) includes information on the residential green waste recycling program such as collection requirements, acceptable and prohibited items, and composting information. The webpage also includes digital copies of the MMoR (http://www.nbtexas.org/1769/Stay-Informed).

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.?

No stormwater sampling was conducted in Year 5 with the intent of evaluating the effectiveness of the SWMP in reducing the discharge of pollutants.

In Year 5, stormwater outfalls were visually inspected and assessed as part of the City's IDDE and Dry Weather Screening program. If flow was observed discharging from stormwater outfalls during dry weather conditions, the flow was screened for signs of pollutants. No illicit discharges were observed in Year 5 as part of the Dry Weather Screening program.

The City continued its street sweeping program in Year 5. A summary of the FY 18-19 street sweeping program is included in Section B.4 of the MS4 Annual Report (on Page 19, GH-1). The existing sweeping program reduces the amount of sediment and pollutants on City streets to the maximum extent practicable, thereby reducing the discharge of pollutants to surface waters. The vacuum sweepers utilized for the street sweeping program were visually observed removing sediment and pollutants from the roadways. A total of 945 tons of sediment and material was swept and removed from City streets in Year 5.

Routine observations of local creeks, rivers and drainage channels were conducted to identify areas with excessive litter accumulations. Volunteer stream clean-up events and City-funded river/ Park clean-ups reduce the volume of trash and litter discharged to

local rivers, creeks and drainageways. A total 95,078 lbs of litter were collected through volunteer clean-ups and City-funded clean-up operations in Year 5.

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.

   -The Comal River, Segment 1811, was included on the 2016 Texas Integrated Report 303(d) list (Category 5c) as impaired for bacteria. The 2016 Texas 303(d) list was adopted by the TCEQ on October 17, 2018 and approved by EPA on August 6, 2019. The Comal River lies entirely within the New Braunfels city limits.

   -The Dry Comal Creek, Segment 1811A, was first listed in 2010 and was included on the 2016 Texas Integrated Report 303(d) list (Category 5c) as impaired for bacteria. Only a portion of the Dry Comal Creek lies within the New Braunfels city limits.

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 performed working with Texas A&M and Guadalupe Blanco River Authority (GBRA) to perform bacterial source tracking in 2013 and 2016 to identify sources of bacteria in both the Comal River and Dry Comal Creek. The results concluded that approximately 60-70% of bacteria were from avian and non-avian wildlife.

   -The City enacted an ordinance prohibiting the feeding of wildlife (Ordinance No. 2018-58, City Code Section 82-24 to 82-28) in order to help disperse overabundant waterfowl and white-tailed deer populations. The ordinance was enacted on September 10th, 2018 and became effective in March 2019. The City also implemented a non-native waterfowl trapping program to capture non-native ducks and geese in Landa Park (location of the headwaters of the Comal River) where overabundant populations exist, and excessive excrement has been observed along the banks of the lake contributing to bacteria loading.

   - The Dry Comal Creek and Comal River Watershed Protection Plan (WPP) has been accepted by the TCEQ and was formally accepted by the EPA on September

21st, 2018. The City applied for and was awarded a 319 grant to implement the WPP. The City has taken the lead on WPP implementation efforts aimed at reducing bacteria loading to the Dry Comal Creek and Comal River. WPP Implementation activities include, but are not limited to, urban wildlife management, pet waste management, and education/ outreach.

- The City works with the GBRA to perform routine, monthly *E.coli* bacteria sampling on both the Dry Comal Creek and Comal River to look for loading trends and to monitor for improvements in bacteria levels in response to bacteria management measures. GBRA/ TCEQs Clean Rivers Program Sampling data can be accessed via https://www.gbra.org/crp/sites/comal.aspx. *E.coli* bacteria data performed by GBRA on behalf of the City is kept on file and can be provided upon request.

-The CONB utilized public education to inform residents of proper pet waste management, on-site sewer facility (OSSF) management, and negative impacts of wildlife feeding. Public education efforts associated with reducing bacteria loading consisted of printed brochures, oral presentations, and newspaper inserts.

-Per an existing Sanitary Sewer Overflow (SSO) agreement between New Braunfels Utilities (NBU) and the TCEQ, NBU addressed bacteria loading by implementing several programs to prevent SSOs. These initiatives include: 1) inspections and preventative maintenance for lift stations; 2) annual inspections of high-risk sewer infrastructure; 3) implementation of a Fat, Oil, and Grease (FOG) program; 4) rehabilitation of any defective sewer pipes; 5) increased sewer line inspections.

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

   Not Applicable

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

Benchmark Parameter ***(Ex: Total Suspended Solids)***	**Benchmark Value**	**Description of additional sampling or other assessment activities**	**Year(s) conducted**
Not Applicable, No TMDL			

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

Benchmark Parameter	**Selected BMP**	**Contribution to achieving Benchmark**
Not Applicable, No TMDL		

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

Description of bacteria-focused BMP	Comments/Discussion
Make improvements to reduce sanitary sewer overflows: Inspect high risk sanitary sewer infrastructure	All high-risk infrastructure including aerial crossings, inverted siphons and air release valves are inspected by New Braunfels Utilities (NBU) annually.
Make improvements to reduce sanitary sewer overflows: Rehabilitation of defective sanitary sewer piping.	NBU rehabilitated 466 feet of pipe and 398 manholes in FY 18-19.
Make improvements to reduce sanitary sewer overflows: Inspection of sanitary sewer collection system	NBU inspected a total of 407,826 feet of sewer piping in FY 2019 using a combination of CCTV and Sewer Line Rapid Assessment Tool.
Address Lift Station Inadequacies	NBU inspected 26 lift stations routinely throughout the year.
Fats, Oil, and Grease (FOG) program	NBU requires that all Food Service Establishments (FSEs) have their grease interceptors pumped and cleaned every 90 days. NBU inspects approximately 99% of all FSEs with grease interceptors (360) annually to ensure proper operation and maintenance of grease interceptors. NBU also implements an education program to inform FSE owners and the general public on ways to reduce FOG inputs to the collection system.
Pet Waste Management Education	CONB distributed information regarding pet waste management utilizing brochures, presentations, and newspaper releases. In addition, pet waste collection stations, which include a message regarding proper pet waste disposal, are installed at City parks.

On-Site Sewage Facilities and Inspections	CONB investigates all complaints regarding OSSF's, and takes appropriate and timely action on all documented violations and reports such activity to the State on a monthly basis. Appropriate response actions include immediate correction of the identified hazard, in addition to possible criminal or civil enforcement action as necessary.
Animal Sources	The City contracted with Texas A&M Microbiology lab in 2013 and 2016 to conduct a bacteria source tracking analysis on the Comal River and Dry Comal Creek. The analysis showed that 60-70% of bacteria found in these water ways was from bacteria. The City worked with Texas Parks and Wildlife Department and stakeholders to determine methods for addressing overabundant wildlife and bacteria related to wildlife. The City passed an ordinance prohibiting the feeding wildlife within the City limits in Sept 2018 (Ordinance 2018-58). The City enforced the ordinance in Year 5 and continued to do public education regarding the feeding ordinance and overabundant wildlife. The feeding ordinance is expected to decrease the concentration of urban wildlife in contributing watershed areas, also decreasing bacteria loading. The City also performed trapping of non-native ducks and geese in Landa Park in Year 5 to decrease the overabundant populations. A total of 86 non-native waterfowl were trapped and removed from the watershed in Year 5. Additional wildlife management measures are being implemented through the Comal River and Dry Comal Creek Watershed Protection Plan which is aimed at reducing bacteria loading.

Bacteria Management Education	CONB utilized public education to inform residents of proper pet waste management, on-site sewer facility management, and negative impacts of wildlife feeding. Public education efforts associated with reducing bacteria loading consisted of printed brochures, website, and newspaper inserts. Bacteria management education initiatives are included with Public Education and Outreach measures in MCM-1.

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

   For example, the MS4 may use the following benchmark indicators:

   - number of sources identified or eliminated;
   - number of illegal dumpings;
   - increase in illegal dumping reported;
   - number of educational opportunities conducted;
   - reductions in sanitary sewer flows (SSOs); /or
   - increase in illegal discharge detection through dry screening.

Benchmark Indicator	Description/Comments
Not applicable	

E. Stormwater Activities

Describe activities planned for the next reporting year:

MCM(s)	BMP* (*BMP numbers reference sections in the City's revised SWMP submitted to comply with 2019 Small MS4 Permit)	Stormwater Activity	Description/Comments
1	PE-1	Stormwater Education and Information	The City will continue to utilize its Watershed Management and MS4 Stormwater webpage to provide information to the public regarding volunteer clean-up events, information regarding MS4 program activities and pollution prevention tips.
1	PE-2	Public Participation and Involvement	The City will continue to hold regular, quarterly meetings with the City of New Braunfels Watershed Advisory Committee (WAC). The WAC will be presented stormwater, watershed and MS4 program-related topics and will be provided an opportunity to provide recommendations and input.
1	PE-2	Watershed and River Clean-Up Events	The City will coordinate and host the 4th Annual Dos Rios Watershed Clean-Up in the Fall of 2020.

1	PE-3	Partnerships with Other Water-Based Organizations	The City will continue to participate in the Edwards Aquifer Habitat Conservation Plan (EAHCP). The City's 2020 EAHCP workplan includes continued riparian zone restoration/ improvements and design/ construction of green stormwater infrastructure projects. The City will continue to collaborate with the Texas Regional Stormwater Coalition (CTSC) made up of MS4 program managers from the City of New Braunfels, City of Kyle, City of San Marcos and Texas State University. The CTSC will host the 3rd Annual Texas Regional Stormwater Conference in January 2020.
1	PE-5	Adopt-A-Spot Volunteer Program	The City will continue to implement the Adopt-A-Spot River Clean-Up program to allow an opportunity for local businesses and civic organizations to adopt a spot along a creek or river to collect litter on a quarterly basis.
2	ID-2	IDDE- Dry Weather Outfall Screening	The City will continue to perform dry weather outfall screening stormwater outfalls. Any observed illicit discharges will be tracked and eliminated per the established SOPs.
2	ID-6	IDDE- River Clean-Up	The City will continue to contract with a company to collect river recreation-related litter from local parks and the Guadalupe and Comal Rivers.
2	ID-7	IDDE- Waste Collection Events	The City will host household hazardous waste and bulky waste collections events to reduce the potential for improper disposal.
3	CS-1 & CS-2	Construction Site Inspection Program and Site Inventory	The City will continue to document and map active construction sites and perform routine inspections to minimize the potential for construction-related pollutant discharges to the MS4 and surface waters.

4	PC-2 & PC-3	Post-Construction Stormwater Treatment and Maintenance Requirements	The City will review plans for all new development projects to ensure that applicable projects (those adding >5,000 square feet of new impervious cover) are required to implement stormwater/ water quality treatment devices as part of their developments. City will inspect water quality treatment facilities to ensure adequate maintenance is being performed.
4	PC-5	Encouragement of LID	The City is planning to implement additional LID and green infrastructure projects that will serve as pilot projects and examples for local engineers and the development community.
5	GH-1	Street Sweeping Program	The City will continue to implement its street sweeping program that has proved to reduce the amount of sediment, debris and other pollutants from being carried to the MS4 and surface waters by stormwater runoff.
5	GH-4	Facility Inspection Program	The City will continue to perform quarterly inspects of all high-risk City facilities to ensure that City operations and facilities are not contributing pollutants.

F. SWMP Modifications

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

_**X**_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__**X**__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?

_**X**_ 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: New Braunfels Utilities (NBU) is identified in the City's SWMP to perform tasks associated with address bacteria impairments on stream segments within the City limits. NBU is responsible for performing infrastructure inspections, preventative maintenance, and rehabilitation of the sanitary sewer system to prevent overflows and discharges. These activities are conducted as part of the Sanitary Sewer Overflow Initiative agreement between NBU and TCEQ. Specific activities conducted by NBU are included in Section D (*Impaired Waterbodies*) of this report.

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

___ Yes __**X**__ No

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

___ Yes ___ No **N/A**

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

Authorization Number: _____N/A_____ 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):

147

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

_____Yes __X__ 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.*

J. 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): Robert Camareno Title: City Manager

Signature: Robert Camareno Date: 12/19/19