Marisa Weber

From: PUBCOMMENT-OCC
Sent: Monday, August 10, 2015 4:39 PM
To: PUBCOMMENT-WQ; PUBCOMMENT-ELD; PUBCOMMENT-OCC2; PUBCOMMENT-OPIC
Subject: FW: Public comment on Permit Number WQ0015293001
Attachments: DMS Real Tree LLC - TPDES Permit No WQ0015293001.PDF

H

MWD 9/4/08

From: jcullom@sanmarcostx.gov [mailto:jcullom@sanmarcostx.gov]
Sent: Monday, August 10, 2015 4:37 PM
To: DoNot Reply
Subject: Public comment on Permit Number WQ0015293001

REGULATED ENTY NAME DMS REAL TREE WWTP

RN NUMBER: RN107695504

PERMIT NUMBER: WQ0015293001

DOCKET NUMBER:

COUNTY: HAYS

PRINCIPAL NAME: DMS REAL TREE LLC

CN NUMBER: CN604663484

FROM

NAME: Jacqueline Cullom

E-MAIL: jcullom@sanmarcostx.gov

COMPANY: CIty of San Marcos

ADDRESS: 630 E HOPKINS ST
SAN MARCOS TX 78666-6314

PHONE: 5123938157

FAX: 5123938157

COMMENTS: On behalf of the City of San Marcos, Texas, I request a contested case hearing in the above referenced matter. Please see attached. Jacqueline Cullom Assistant City Attorney (512) 393-8157

MW

LEGAL DEPARTMENT

August 10, 2015

Ms. Bridget C. Bohac, Chief Clerk
Texas Commission on Environmental Quality
P. O. Box 13087
Austin, Texas 78711-3087

RE: DMS Real Tree, LLC
TPDES Permit No. WQ0015293001

Dear Ms. Bohac:

The purpose of this letter is to request a contested case hearing on behalf of the City of San Marcos ('City") in the above-referenced matter ("application"). The City is filing this request for a contested case hearing pursuant to Texas Water Code § 13.002(1) and 30 TAC 55.21(b)(4) and 30 TAC § 55.29 (b) as an affected person.

The person listed below, along with all necessary contact information, will be responsible for receiving all communications for the City in regards to this request for a contested case hearing:

Mr. Tom Taggart, Executive Director
City of San Marcos Public Services Department
630 E. Hopkins
San Marcos, Texas 78666
855-759-2839 (facsimile)
(512) 393-8303 (telephone)
ttaggart@sanmarcostx.gov

The City is an "affected person" as defined by Texas Water Code § 13.002(1) and 30 TAC 55.29 (b). The City has statutory authority over and interest in the issues relevant to the application as required by 30 TAC 55.29(c)(6) by virtue of its authority as a home rule municipality to operate a utility system inside or outside its corporate limits. Tex. Local Gov't Code 402.001(b). The City owns and operates a regional wastewater utility providing wastewater service to over 55,000 customers (WQ0010273002).

In anticipation of continued growth within the City's wastewater service area, the City's governing body adopted a Wastewater Master Plan ("Master Plan") on February 3, 2015. (The Master Plan was provided to the Commission as an attachment to the City's public comments.) The location of the proposed plant in the application is located within an area projected to be

served by the City as reflected in the Master Plan. Attached and incorporated for all purposes as Exhibit A is a map depicting the proximity of the proposed plant to the City's wastewater system.

The City filed public comments opposing and protesting the granting of a new TPDES permit to the applicant in this case and incorporates those comments for all purposes in this request for a contested case hearing. In response to the City's public comments, the Executive Director issued three responses. The City disagrees with and disputes the Executive Director's Response Nos. 1, 2 and 3.

Response No. 2 is disputed by the City; the applicant's property was formerly part of the LaSalle MUD that was planned to be served by the City of Kyle. It is the City's understanding that the City of Kyle has continued to agree to provide wastewater service to the property. The City also disputes Response No. 3 due to a lack of evidence to demonstrate reliability. While it may be true that the applicant can submit design criteria at a later time, it is not known whether the current professionals will be involved creating uncertainty.

Regarding Response No. 1, as acknowledged by the Executive Director and in accordance with the State's policy related to regionalization, an applicant for a wastewater permit must demonstrate one of the following in order to be exempt from a plan that is consistent with regionalization:

(1) Show that there are no other systems that are reasonably close to the new planned system;
(2) The applicant has requested service from a neighboring system and the request was denied; or
(3) The applicant must successfully demonstrate that an exception based on costs, affordable rates, and financial, managerial, and technical capabilities of the existing system should be granted.

The Executive Director's Response to the City's Public Comments notes that the Applicant indicated the City has a wastewater facilities within three miles of the proposed plant with the capacity to accept the additional volume of wastewater proposed in the application. The application represented that it would not be economically feasible to connect to the City's facility, ***but failed to provide any proof or even analysis of this conclusory statement.*** The City contends the applicant should be required to provide some evidence that the costs to connect to the City's system would outweigh the benefits of regionalization particularly in light of the City's Master Plan and expressed intention to service the area covered by the application in the near future. The City disputes the Executive Director's Response No. 3 due to the total lack of evidence to support it.

As expressed in the introduction to TCEQ Policy Statement RG-357 titled The Feasibility of Regionalizing Water and Wastewater Utilities: A TCEQ Policy Statement, "This document states the TCEQ's policy for evaluating applications for new systems to determine whether regionalization – the consolidation of the operations, physical systems, or both of two or more existing or proposed water or domestic wastewater systems – is a viable option for the proposed new system." Attached to the policy statement is a list of all statutory and regulatory authority supporting the regionalization policy which is incorporated herein for all purposes as Exhibit B.

The Commission is authorized to refer an issue to the State Office of Administrative Hearing if: (1) it involves a disputed question of fact; (2) was raised during the public comment period; and (3) is relevant and material to the decision on the application. Tex. Water Code § 5.556. The disputed question of fact in this case is whether the costs for the applicant to connect to the City's wastewater system are cost prohibitive. The applicant did not provide any information related to the cost to connect to the City's wastewater system. The issue was raised during the public comment period by the City and the issue is relevant and material to the decision on the application.

Based on the reasons stated above, the City respectfully asks the Commission to find that the City is an affected person that has met the requirements to be eligible for a contested case hearing. The City respectfully requests that the Chief Clerk be directed to refer the application to the State Office of Administrative Hearings for the scheduling of a contested case hearing.

Respectfully submitted,

Jacqueline Cullom
Assistant City Attorney

c: Mr. Tom Taggart

EXHIBIT A

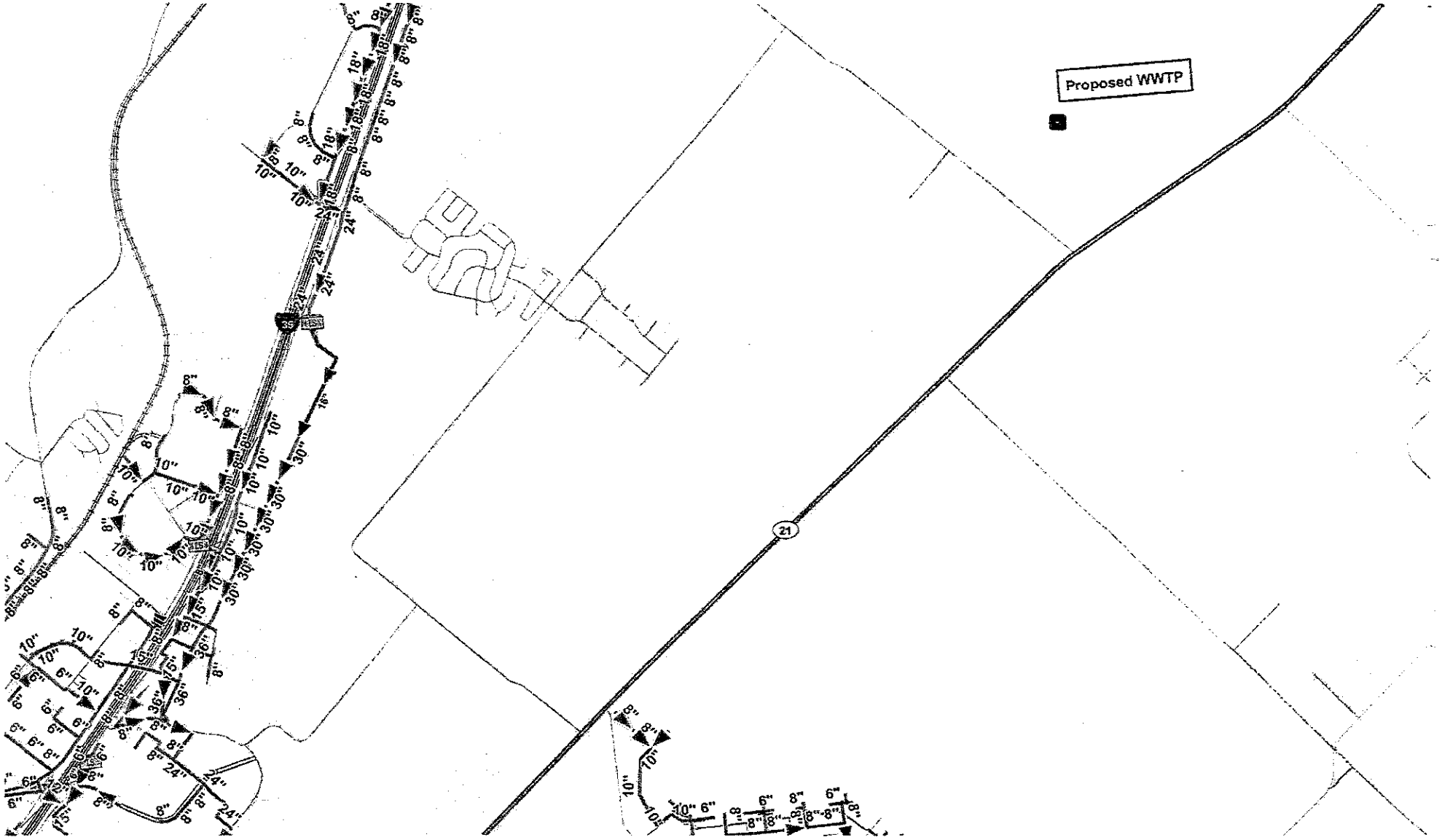

Proposed WWTP
21
35

EXHIBIT B

Appendix B

Statutory and Regulatory Authority

This policy implements portions of Senate Bill 1 (1997) and is intended to assist our Utilities and Districts program staff and the regulated community with the implementation of the regionalization requirements in Title 30 Texas Administrative Code (30 TAC) Chapters 290 and 291. Regionalization was one of the key goals of Senate Bill 1 (1997) in order to optimize the use of existing financial, managerial, and technical resources. In addition, this policy is based on the following statutory provisions.

General Statutory Authority

The Texas Health and Safety Code, Chapter 341, Subchapter C, requires that public drinking water be free from deleterious matter and comply with the standards established by the TCEQ or the United States Environmental Protection Agency. The TCEQ may adopt and enforce rules to implement the federal Safe Drinking Water Act (42 U.S.C. Section 300f et seq.).

The Texas Water Code Chapter 13 establishes a comprehensive regulatory system that is adequate to the task of regulating retail public utilities to ensure that rates, operations, and services are just and reasonable to the consumers and to the retail public utilities.

Specific Authority

Public Water Systems

Section 341.0315(a)–(d) of the Texas Health and Safety Code, relating to public drinking water supply system requirements, requires that:

(a) To preserve the public health, safety, and welfare, the commission shall ensure that public drinking water supply systems:
  (1) supply safe drinking water in adequate quantities;
  (2) are financially stable; and
  (3) are technically sound.

(b) The commission shall encourage and promote the development and use of regional and areawide drinking water supply systems.

(c) Each public drinking water supply system shall provide an adequate and safe drinking water supply. The supply must meet the requirements of Section 341.031 and commission rules.

(d) The commission shall consider compliance history in determining issuance of new permits, renewal permits, and permit amendments for a public drinking water system.

Texas Health and Safety Code § 341.035 requires that before constructing a new system a person submit plans and specifications and, with certain exceptions, a business plan that demonstrates that the owner or operator of the proposed system has available the financial, managerial, and technical capability to ensure future operation of the system in accordance with applicable laws and rules. The TCEQ may order the prospective owner or operator of the system to provide adequate financial assurance of ability to operate the system in accordance with applicable laws and rules, in the form of a bond or as specified by the commission, unless the executive director finds that the business plan demonstrates adequate financial capability.

Title 30 TAC § 290.39 ensures that regionalization and area-wide options are fully considered; ensures the inclusion of all data essential for comprehensive consideration of the contemplated project, or improvements, additions, alterations or changes; establishes minimum standardized public health design criteria in compliance with existing state statutes and in accordance with good public health engineering practices; and requires that minimum acceptable financial, managerial, technical and operating practices are specified to ensure that systems are properly operated to produce and distribute safe, potable water.

Water and Sewer CCNs

Texas Water Code § 13.241 requires that an applicant for a CCN demonstrate that it possesses the financial, managerial, and technical capability to provide continuous and adequate service and also requires that an applicant for a new CCN for a physically separate water or sewer system demonstrate that regionalization or consolidation with another retail public utility is not economically feasible.

Texas Water Code § 13.246 specifies the factors to be considered by the commission concerning CCN notice and hearing and CCN issuance or refusal.

Texas Water Code § 13.253 requires that a CCN holder located in an affected county that has not been able to provide continuous and adequate service obtain service from another consenting utility service provider. Title 30 TAC §291.102(a) provides that the TCEQ must ensure that an applicant possesses financial, managerial, and technical capability to provide continuous and adequate service.

Title 30 TAC § 291.102(b) requires that where a new CCN is being issued for an area which would require construction of a physically separate water or sewer system, the applicant must demonstrate that regionalization or consolidation with another retail public utility is not economically feasible.

Title 30 TAC § 291.102(c) requires that the TCEQ consider the following in considering whether to grant a CCN:

(1) the adequacy of service currently provided to the requested area;
(2) the need for additional service in the requested area;
(3) the effect of the granting of a certificate on the recipient of the certificate and on any retail public utility of the same kind already serving the proximate area;
(4) the ability of the applicant to provide adequate service;
(5) the feasibility of obtaining service from an adjacent retail public utility;
(6) the financial stability of the applicant, including, if applicable, the adequacy of the applicant's debt-equity ratio;
(7) environmental integrity; and
(8) the probable improvement in service or lowering of cost to consumers in that area.

Marisa Weber

From: PUBCOMMENT-OCC
Sent: Wednesday, May 27, 2015 2:36 PM
To: PUBCOMMENT-OCC2
Subject: FW: Public comment on Permit Number WQ0015293001
Attachments: Res 2015-012_Wastewater Master Plan.pdf

MWD 94081

From: jcullom@sanmarcostx.gov [mailto:jcullom@sanmarcostx.gov]
Sent: Wednesday, May 27, 2015 2:12 PM
To: DoNot Reply
Subject: Public comment on Permit Number WQ0015293001

REGULATED ENTY NAME DMS REAL TREE WWTP

RN NUMBER: RN107695504

PERMIT NUMBER: WQ0015293001

DOCKET NUMBER:

COUNTY: HAYS

PRINCIPAL NAME: DMS REAL TREE LLC

CN NUMBER: CN604663484

FROM

NAME: Jacqueline Cullom

E-MAIL: jcullom@sanmarcostx.gov

COMPANY: CIty of San Marcos

ADDRESS: 630 E HOPKINS ST
SAN MARCOS TX 78666-6314

PHONE: 5123938157

FAX:

COMMENTS: The City of San Marcos ("City") is a home-rule municipality located in a rapidly growing area of Central Texas in Hays County. The City currently operates a regional wastewater utility providing wastewater service to over 55,000 customers. In anticipation of continued growth within the City's wastewater service area, the City's governing body adopted a Wastewater Master Plan ("Master Plan) on February 3, 2015.

MW

The Master Plan is attached hereto and incorporated for all purposes. The City offers these comments to oppose and protest the granting of a new Texas Pollutant Discharge Elimination System (TPDES) Permit (No. WQ0015293001) to Applicant DMS Real Tree, LLC. 30 TEX. ADMIN. CODE section 55.25 (2015). The application seeks a wastewater permit to serve a 200 acre tract, located at the intersection of Highway 21 and Yarrington Road in Hays County, is an area projected to be served by the City's wastewater utility in the future as reflected in the recently adopted Master Plan. The City has proven experience providing wastewater service to its customers and is committed to serving this area in the future. Also, the City owns property over which the discharge is projected to occur providing evidence that the City may be adversely affected by the proposed facility in a way not common to the general public. The City-owned property this is affected by the proposed Permit is the San Marcos Airport, a critical part of the City's infrastructure. 30 TEX. ADMIN. CODE section 55.29 (2015). Furthermore, the City has codified a policy disfavoring sewer package treatment plants. In a 2011 ordinance setting out a policy for the consent to the creation of municipal utility districts in the City's extraterritorial jurisdiction, the City enacted legislation discouraging the use of sewer package treatment plants. See San Marcos City Code section 70.052(a)(10). Should a TPDES Permit be granted over the City's objection, the City is additionally concerned that the design, construction, operation and maintenance of the wastewater treatment facility be provided by a reputable, professional wastewater treatment operations company licensed in the State of Texas. The City also has no defined assurance of the Applicant's financial, technical or managerial ability to own and operate the facility. The City has offered to enter into a Wastewater Services Agreement with the Applicant in order to ensure appropriate professional design, construction, operation and maintenance of a temporary sewer facility until such time as the proposed development may be connected to the City's regional sewer utility facilities. Until such time as an agreement between the City and the Applicant is reached, the City opposes the granting of a new TPDES Permit to the Applicant. Please contact Tom Taggart, Executive Director of Public Services at (512) 393-8303 or Jacqueline Cullom, Assistant City Attorney at (512) 393-8157 with any questions related to these comments. Respectfully submitted.

RESOLUTION NO. 2015-12R

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN MARCOS, TEXAS APPROVING A WASTEWATER MASTER PLAN TO GUIDE THE FUTURE MAINTENANCE AND EXTENSION OF THE CITY'S WASTEWATER INFRASTRUCTURE; AND DECLARING AN EFFECTIVE DATE.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SAN MARCOS, TEXAS:

PART 1. The attached Wastewater Master Plan dated December 2014 is hereby approved.

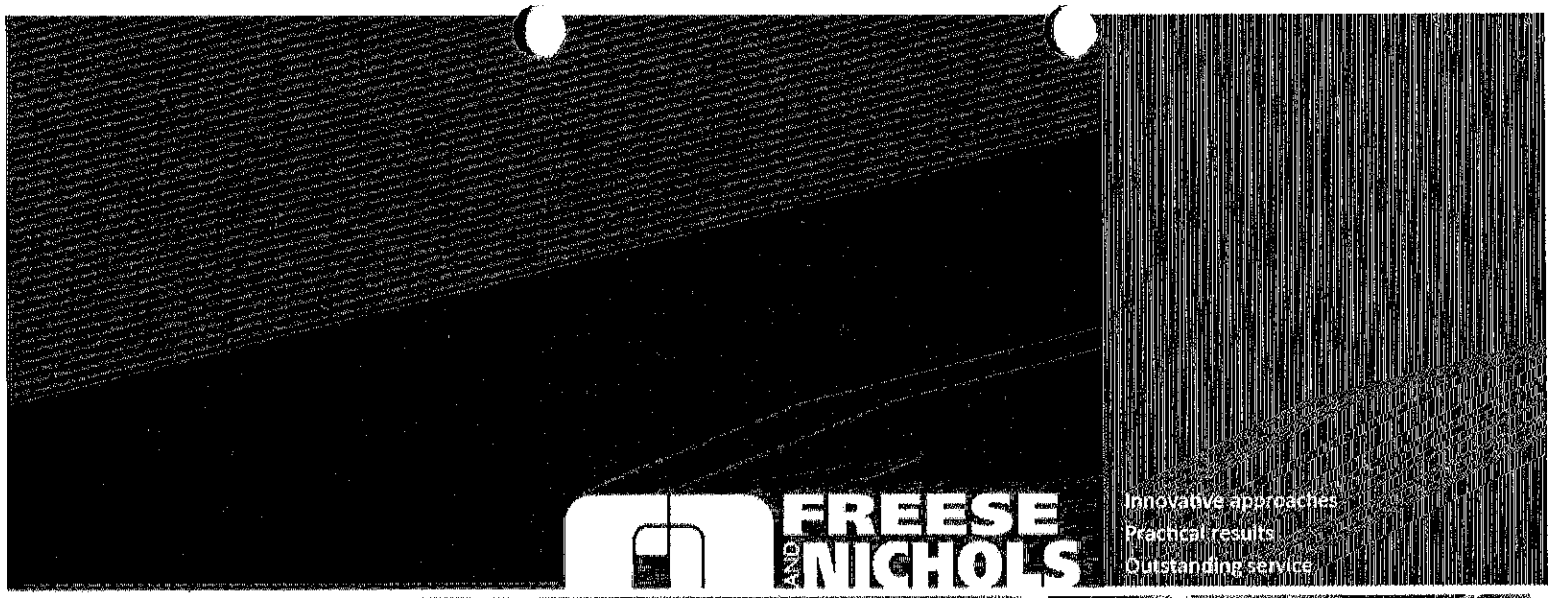
PART 2. This Resolution shall be in full force and effect immediately from and after its passage.

ADOPTED on February 3, 2015.

Daniel Guerrero
Mayor

Attest:

Jamie Lee Pettijohn
City Clerk



Wastewater Master Plan

Prepared for:

City of San Marcos

Prepared by:

FREESE AND NICHOLS, INC.
10431 Morado Circle Suite 300
Austin, Texas 78759
512-617-3100

K FRIESE & ASSOCIATES
1120 S. Capital of Texas Highway, Cityview 2,
Suite 100
Austin, Texas 78746
512-338-1700

December 2014

FREESE AND NICHOLS

Innovative approaches
Practical results
Outstanding service

Wastewater Master Plan

Prepared for:

City of San Marcos

STATE OF TEXAS
THOMAS W. HASTER
79736
LICENSED
PROFESSIONAL ENGINEER

12/4/2014

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

STEPHANIE NEISES

STATE OF TEXAS
STEPHANIE NEISES
106195
LICENSED
PROFESSIONAL ENGINEER

12/4/2014

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

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EXECUTIVE SUMMARY

1.0 INTRODUCTION

The City of San Marcos is a rapidly growing community located in central Texas, within Hay County. The City currently provides wastewater service to over 46,000 people. The population within the wastewater service area is projected to grow by almost 32,000 people in the next 22 years. Accommodating this growth, by adding capacity where needed within the existing service area and extending infrastructure to new service areas in accordance with the City's Comprehensive Plan, in an efficient and cost effective manner is the focus of this Wastewater Master Plan. This report has been prepared to provide the City of San Marcos a planning tool that will serve as a guide for short-term and long-term improvements to the infrastructure within the wastewater system.

2.0 POPULATION AND WASTEWATER FLOWS

The performance of the San Marcos wastewater collection system is dependent on the amount of flow being conveyed through the system currently and in the future. To determine locations where future wastewater system improvements are necessary, existing and future wastewater load projections must be developed.

In 2012, the City developed a new comprehensive plan entitled Vision San Marcos: A River Runs Through Us, which included population projections through 2035. These projections were utilized to determine the overall population in the wastewater service area for each planning year by adding the growth identified in the comprehensive plan to the existing 2013 population. It was assumed that the number of employees would grow at the same rate as the population. The population and employment projections are shown in **Table ES-1**.

Table ES-1: Population Projections

Year	Residential Population	Population Growth	Employment Population	Employment Growth	Average Annual Growth Rate
2013	46,651	-	35,482	-	-
2020	58,860	12,209	44,768	9,286	2.95
2025	65,702	6,842	49,972	5,204	2.22
2035	77,967	12,265	59,300	9,329	1.73

3.0 DESCIPTION OF THE EXISTING WASTEWATER SYSTEM

The City of San Marcos's wastewater collection system consists of a network of 219 miles of collector mains, interceptors and force mains, 40 lift stations, and a wastewater treatment plant along the San Marcos River. The plant has a current permitted capacity of 9.0 MGD average annual daily flow (AADF) and 31.0 MGD peak 2-hour flow (P2HF). Lift stations are necessary when wastewater needs to be pumped to a higher elevation where the flow can resume flowing by gravity to the outfall of the system. Due to the varying topography, San Marcos operates 40 lift stations and 27 miles of force main throughout the service area.

4.0 LIFT STATION RISK BASED ASSESSMENT

A risk based assessment was performed on all of the City's 40 lift stations to develop a prioritized list of maintenance and improvement projects. A risk based assessment consists of a condition assessment and a criticality assessment. The condition assessment included a visual inspection of each lift station. The criticality, or consequence of failure, assessment included an analysis of the proximity of each lift station to critical areas, as well as the residential population served. Each lift station was assigned a condition and criticality score based on the results on the assessments. The condition and criticality scores were used to assign a risk category (high, medium, or low) to each asset. Lift station rehabilitation projects were developed based on the results of the risk based assessment and included in the wastewater capital improvement plan. The risk rating of each lift station is shown in **Table ES-2.**

Table ES-2: Lift Station Risk Rating Matrix

		Condition				
		Very Good	Good	Fair	Poor	Very Poor
Criticality	Very Low Impact	LS#23	LS#5, LS#7, LS#15, LS#18, LS#21, LS#32, LS#33, LS#46, LS#50	LS#25, LS#40		
	Low Impact	LS#24	LS#31			
	Moderate Impact	LS#2, LS#8, LS#47		LS#28, LS#36		
	High Impact	LS#29, LS#37, LS#41, LS#48, LS#52	LS#19, LS#27, LS#31, LS#34, LS#38, LS#42	LS#4, LS#12, LS#20	LS#10	
	Very High Impact		LS#1, LS#11, LS#14, LS#16, LS#22			

5.0 WASTEWATER FLOW MONITORING

FNI retained ADS Environmental Services (ADS) to conduct flow monitoring at selected points in the existing wastewater system. Evaluating the results of the temporary flow monitoring allow for the characterization of dry weather and wet weather flows within the wastewater system, the ranking of relative severity of observed infiltration and inflow, and the evaluation of key performance indicators to direct subsequent condition assessment and rehabilitation activities. The flow monitoring data was also used in the hydraulic model calibration.

Based on the data gathered using 20 temporary flow monitors and two temporary rain gauges from April 13 to June 19, 2012, a detailed analysis of dry weather and wet weather periods was performed and is summarized below:

- High dry weather flow depth-to-diameter (d/D) ratios were observed at Sites SM08, SM09, SM16A, and B&N-3 during the study period.
- Two locations were defined as Non-Cleansing sewers resulting in silt buildup which was observed during the flow monitoring period: Sites SM04 and SM16A. Silt was also observed during portions of the monitoring period at Sites SM04, SM09, and SM17. The wastewater mains at these locations should be inspected periodically to determine if sewer cleaning is needed.
- Wet weather peaking factors greater than 10.00 were observed at Sites SM12 and SM13A. Flow increases occur quickly during wet weather events, but also return to normal quickly. This behavior suggest the presence of inflow sources. Wet weather d/D ratios greater than 100% were observed at 14 locations, including Sites SM03, SM04, SM06, SM07, SM08, SM09, SM10, SM11, SM12, SM14, SM16A, B&N-1, B&N-2, and B&N-3. Many of these locations measured only modest amounts of RDII during storm events, suggesting that (1) hydraulic bottlenecks may exist downstream from these areas, and (2) additional RDII may be observed once these bottlenecks are alleviated.
- Three flow monitor basins – SM04, SM06, and SM07 – had normalized net RDII greater than 8 gal/LF for a projected 2.00-inch storm event. Condition assessment activities, including manhole inspections, smoke testing, and CCTV inspection are recommended to identify individual sources of inflow and infiltration. Consideration should also be given to flow monitor basins SM10 and SM14. These areas exhibit extended recoveries following the last two storm events observed

during the study period. This effect could be the result of RDII, Texas State University flows, or a combination of the two. If the extended recovery from Sites SM10 and SM14 is a result of high RDII entering the system after a rainfall event, these flow monitoring basins would have a higher rehabilitation priority. It is recommended that the location of the Texas State University flows be verified to determine if this effect is partially the result of changing student populations between Spring and Summer semesters.

6.0 HYDRAULIC MODEL DEVELOPMENT & CALIBRATION

The City of San Marcos selected Infoworks CS hydraulic modeling software to evaluate the wastewater collection system. The City's geographic information system (GIS) provided the basis for constructing the hydraulic model. This will provide for greater ease in updating the model in the future.

FNI calibrated the hydraulic model to specific dry and wet weather events experienced during the flow monitoring period. A properly calibrated model serves as the foundation for any future modeling scenarios. Dry weather calibration model results for flow, depth, and velocity closely matched the observed data on May 3, 2012 for each flow meter site with the difference between modeled and observed flow within 5%. This indicates that the model is properly matching the residential and non-residential wastewater loads. The wet weather calibration was performed for the rain event that occurred on May 10, 2012. Modeled wet weather flows were generally within 15% of the observed flows, indicating that the model is accurately predicting the wastewater system's response to rain events. The dry and wet weather calibration results correlated well to the recorded data and therefore provides a high level of confidence that the model is accurately reflecting the characteristics of the actual collection system.

7.0 WASTEWATER SYSTEM ANALYSIS & HYDRAULIC MODELING

Hydraulic analyses were conducted to identify deficiencies in the City of San Marcos's existing wastewater collection system and to establish a capital improvements plan to improve the existing system and accommodate projected wastewater flows through 2035. Various combinations of improvements and modifications were investigated to determine the most appropriate approach for conveying projected flows. Parameters used in developing the improvements plan included increasing system reliability, simplifying system operations, conveying peak wet weather flows, maintaining proper velocities, and reducing surcharging and sanitary sewer overflows.

The hydraulic model was used to evaluate the existing collection system to assess the ability of the system to adequately convey wastewater without excessively surcharging or overflowing. The analysis was performed to determine if there are any existing system deficiencies and also to provide a baseline for the current level of service. The results of the analysis are summarized below:

- Lift Station #11 and the upstream and downstream piping do not have sufficient capacity to adequately convey existing peak flows.
- The 8-inch wastewater line along the north side of Spring Lake experiences significant surcharging due to insufficient pipe capacity.
- The 12-inch wastewater lines near the railroad and Gravel Road experience significant surcharging during the existing system analysis. The model indicates that the line is exceeding capacity and is nearly overflowing under design storm conditions at the intersection where the 10-inch and 12-inch wastewater lines convey flow into a single 12-inch line crossing the railroad.
- Several pipe segments in flow monitoring basin SM-12 experience surcharging due to pipe capacity deficiencies. Based on the results of the flow monitoring, this basin experienced an 11.28 wet weather to dry weather peaking factor.
- The 8-inch wastewater line owned by Gary Job Corp south of the City airport experienced surcharging due to insufficient pipe capacity during the existing system analysis. While this wastewater line is not owned by the City, wastewater flows for the City airport are conveyed through the Gary Job Corp wastewater lines.

Once the existing system was evaluated, hydraulic analyses were performed on the collection system under future peak flow conditions. Wastewater system improvements were developed to accommodate residential and non-residential growth through 2035. To serve the growth, the City must rehabilitate, replace, or upsize existing infrastructure and provide additional service to areas of growth. Key observations and recommendation resulting from modeling and evaluation are:

- Ground elevations and recommended improvements revealed a change in the delineation of wastewater basin service areas.
- It is recommended that the City continue to limit and/or reduce the number of lift station where possible due to the cost of operating and maintaining the facilities. Recommended improvements would allow for the decommissioning of six lift stations across the City, including Oakridge Dr. 206

Lift Station, Blanco River Village Lift Station, Elm Hill Lift Station, Hills of Hays Lift Station, Gary Job Corp Lift Station, and City Softball Fields Lift Station.

- New growth and capacity improvement lines were a major focus of the capital improvements program. The City will continue to grow on the periphery which will require new infrastructure including wastewater mains, lift stations and force mains to provide service to new customers.
- The expansion at Main Lift Station is the largest and most critical since the majority of the City's wastewater flow is conveyed to the wastewater treatment plant through this lift station. Therefore, a more detailed analysis of the existing and future capacity was conducted to identify specific improvements needed at this lift station.
- Based on the population and flow projections, additional treatment capacity is needed in the future. Comparing the probable cost of construction between expansion of the existing plant and constructing a new plant, FNI recommends that the City expand the existing treatment plant. This alternative will provide the City with the additional treatment capacity to meet future growth in a cost effective manner.
- FNI reviewed ground elevation and plat data to develop two capital improvement projects that consist of a lift station, force main and gravity wastewater lines that will convert the residents of Willow Creek Estates to the sanitary sewer system.
- Several improvements were evaluated that are intended to serve specific developments. These projects are designated with a "D" and are completely driven by the development that the projects serve.

8.0 WASTEWATER CAPITAL IMPROVEMENTS PLAN

A capital improvements plan was developed for the City of San Marcos to ensure the wastewater collection system will effectively and efficiently continue to convey flow to the wastewater treatment plant. The recommended improvements will provide the required capacity and reliability to meet projected wastewater flows through year 2035. Capital costs were calculated for the major wastewater facilities and do not include individual service connections or subdivision lines. The costs are in 2014 dollars and include an allowance for engineering, surveying, and contingencies. **Table ES-3** summarizes the costs by phase of the wastewater system capital improvements plan.

Table ES-3: Wastewater CIP Project Summary

Phase	Cost
City Project Costs	$33,645,558
Developer Project Costs	$34,952,757
2014-2020 Total	**$76,842,688**
City Project Costs	$36,312,052
Developer Project Costs	$15,123,571
2021-2025 Total	**$55,422,989**
City Project Costs	$38,801,642
Developer Project Costs	$8,834,961
2026-2035 Total	**$47,636,603**
City Grand Total	**$108,759,252**
Developer Grand Total	**$58,911,289**