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# **CITY OF SAN ANTONIO**

## **OFFICE OF THE CITY AUDITOR**



Audit of Transportation & Capital Improvements Department

Storm Water Utility Fees

Project No. AU16-028

September 8, 2017

Kevin W. Barthold, CPA, CIA, CISA  
City Auditor

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## Executive Summary

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As part of our annual Audit Plan approved by City Council, we conducted an audit of the Transportation & Capital Improvements Department (TCI), specifically the storm water utility fees charged on San Antonio Water System (SAWS) bills. The audit objectives, conclusions, and recommendations follow:

**Determine if assessed storm water utility fees are accurately calculated in accordance with current ordinances and revenues are accurately reported.**

Revenues are accurately reported and storm water utility fees are generally calculated in accordance with current ordinances for Joint Base San Antonio (JBSA) and school district properties that were temporarily exempted from the rate change by the Municipal Code. TCI also processes appeals and credits in accordance with the current ordinances.

When the audit began, TCI had just recently converted to the new impervious cover-based rate structure. TCI personnel began seeing various issues shortly after the conversion and were aware some storm water accounts needed further evaluation. TCI was already reviewing a number of account types prior to the start of this audit, such as: duplexes, triplexes and quadplexes; parcels intersecting the City limits; parcels with the fees split between multiple tenant accounts; exempt accounts; those with an old storm water code that did not convert; those that converted to an incorrect rate category; and other accounts resulting from customer-initiated appeals and inquiries. As part of this audit we identified additional areas for TCI to review and correct with regards to residential, non-residential, and exempt or zero-billed properties:

- Accounts with incorrect parcel identifiers resulting in incorrect storm water utility fees
- Accounts assigned the incorrect rate category (residential vs. non-residential)
- Accounts associated with multi-tenant properties (such as duplexes, condominium complexes, etc.) for which owners were not being charged the appropriate percent of the Storm Water Fee
- Primary accounts having multiple sub-accounts (such as shopping centers, restaurants, etc.) of which some sub-accounts were not being charged

We recommend that TCI continue its efforts to ensure that all accounts are billed properly.

TCI Management agreed with the audit findings and has developed positive action plans to address them. Management's verbatim response is in Appendix B on page 8.

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## Background

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The San Antonio Storm Water Utility is responsible for drainage services as well as the installation, operation, and maintenance of drainage infrastructure throughout San Antonio. The Storm Water Utility was created by the City Council pursuant to the Municipal Drainage Utility Systems Act, found in Chapter 552 of the Texas Local Government Code. The Storm Water Utility is separate from the San Antonio Water System (SAWS) sanitary sewer system, and is operated by the City's Transportation & Capital Improvements Department (TCI).

The Storm Water Utility plays a critical role in protecting public health and safety of the community. The Storm Water Utility Fee is intended to cover capital and maintenance expenses associated with local drainage projects and fund operational services related to the Municipal Separate Storm Sewer System (MS4) Permit, which is required by Environmental Protection Agency (EPA) regulations and authorized by the Texas Commission on Environmental Quality (TCEQ).

The fee is assessed on residential and commercial benefited properties and collected on a monthly basis through SAWS bills where it appears as the "Federal Storm Water Fee." Since 1993, SAWS has served as the City's billing agent and has supported MS4 operations through a contractual agreement.

TCI recently completed a project to migrate the Storm Water Utility Fee from one based on lot size and land use to one based on impervious area and density, and land use. The Fiscal Year (FY) 2014 Budget funded this project, which included the following tasks:

- Determine impervious cover area per land parcel within the city limits.
- Develop a fee schedule, to include recommended low impact development (LID) incentives and/or credits, based upon impervious cover.
- Work with San Antonio Water System (SAWS) to reconfigure its billing system to bill based upon this new methodology.
- Review existing services to determine the revenues needed to be recovered by the Storm Water Utility Fee over the next five years.

The new rates were effective January 1, 2016. The FY 2016 fees for residential accounts fall into one of three tiers:

Residential Rate Category	Impervious Area in Square Feet	Monthly Fee
Tier 1	≤ 2,750	\$3.22
Tier 2	> 2,750 – 4,220	\$4.25
Tier 3	> 4,220	\$8.98

Non-residential accounts incur a monthly base fee of \$55.77 plus a variable amount based on the percent of impervious cover:

Non-Residential Rate Category	Percent Impervious Area	Monthly Fee per 1,000 Square Feet
Tier 1	≤ 20%	\$0.25
Tier 2	> 20% – 40%	\$0.37
Tier 3	> 40% – 65%	\$0.50
Tier 4	> 65%	\$0.62

TCI intends to increase the rates for both residential and non-residential accounts each year through FY 2020.

When rolling out the new utility fee structure, TCI hired a consultant (Kimley-Horn) to combine the pertinent BCAD parcel data, impervious cover data, and SAWS billing data. The resulting deliverable was a master billing file that was used to develop the new rate structure. The master billing file was transmitted to SAWS to begin billing the new utility fees. TCI successfully produced the impervious cover data and incorporated the new billing system in time for January 2016 billings.

TCI uses data from three main sources to produce change files intended to update SAWS billing data for the purposes of the storm water utility fee:

- Bexar County Appraisal District (BCAD) provides an updated county-wide set of parcels on a weekly basis. CoSA ITSD formats and filters the parcel data into files useful to TCI.
- TCI updates impervious cover data based on gathering building permit data and performing desktop reviews of existing developments.
- SAWS adds storm water utility fee accounts when SAWS water services are created or activated. SAWS also maintains the billing data once impervious cover changes are sent from TCI.

## Audit Scope and Methodology

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The audit scope was from January 1, 2016 through May 31, 2016 and included all assessed storm water fees and related calculation data, as well as the appeal process related to those fees. It also included storm water fee revenue received from SAWS and any deductions from that revenue taken by SAWS. We expanded testing to include storm water billings and remittances for the months of December 2016, January 2017, and February 2017.

The audit did not include analyses of the accuracy of BCAD parcel data, underlying SAWS billing data used to develop the original master billing file, or updates of SAWS billing data not produced by TCI (account activation/inactivation, billing portion for multiple tenants, etc.).

We interviewed staff of TCI and SAWS. We reviewed the pertinent municipal code as well as spreadsheets related to SAWS payments, customer billings, and calculations related to the billings. In May 2016, there were 384,252 accounts with storm water billings. We tested calculations of impervious cover, storm water rates, and billings for judgmentally selected samples of 26 residential and 26 non-residential accounts. We tested whether a judgmentally selected sample of 38 exempt accounts should have been exempt. We tested whether the population of 660 Joint Base San Antonio (JBSA) and school district accounts were being billed using the rates in effect in December 2015 as required by the municipal code. We tested whether the Finance Department was recording storm water revenues and expenses correctly for the fees billed from January 2016 through May 2016, and tested whether SAWS remitted all revenues due the City for the months of May 2016 and December 2016 through February 2017.

We utilized computer-processed billing data provided by SAWS to test whether those billings were accurately calculated. Our reliance was based on performing direct tests on the data rather than evaluating the system's general and application controls. Our direct tests of this billing data involved utilizing ArcMap (a Geographic Information System software package) populated with Bexar County parcel information and aerial imagery to verify TCI's calculations of impervious cover and lot square footage. Additionally, we used Bexar County property data available through its website to validate lot square footage. We do not believe that the absence of testing general and application controls had an effect on the results of our audit.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Audit Results and Recommendations

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We found that TCI was addressing appeals of storm water fees in accordance with the municipal code and that overall, TCI was correctly billing school district properties and properties belonging to the Joint Base San Antonio (JBSA).

One of the provisions of the municipal code enacting the new storm water fee stipulated that the properties forming JBSA would be exempt from the new fee structure through December 31, 2017 or until the federal government appropriates funds for the payment of Drainage Utility Charges. Additionally, school district properties were exempted from the new rate structure through December 31, 2020. We found that TCI had correctly identified and exempted these properties from the new rate structure.

When the audit began, TCI had just recently converted to the new rate structure (as of January 1, 2016). Just prior to conversion, TCI formed a new team called the Storm Water Assessment Team (SWAT) to maintain the impervious cover data required for billing under the new rate structure, as well as process appeal and credit requests. Shortly after the conversion, SWAT began seeing various billing issues, mostly unrelated to impervious cover, and were aware that some storm water accounts needed further evaluation.

SWAT was already reviewing a number of account types prior to the start of this audit such as: duplexes, triplexes and quadplexes; parcels intersecting the City limits; parcels with the fees split between multiple tenant accounts; exempt accounts; those with an old storm water code that did not convert; those that converted to an incorrect rate category; and other accounts resulting from customer-initiated appeals and inquiries. SWAT developed a list of account types to review and make associated adjustments to their billing. However, we identified additional account types for TCI to review and correct with regards to residential, non-residential, and exempt or zero-billed properties.

### A. Incorrect Property Billings

We found that 35 of 90 sampled storm water accounts were billed in error.

We tested judgmental samples of exempt and zero-billed properties, residential properties, and non-residential properties. We selected the judgmental sampling method to help identify errors in the data, rather than the random sampling method which provides assurance about the quality of the data as a whole. The judgmental sample for residential properties targeted those that appeared to have unusual billings and were from a range of zip codes and types of properties. For example, we chose residential properties with bills that did not equal one of the three rate tiers (\$3.22, \$4.25, \$8.98). For non-residential properties, we chose a variety of properties from different zip codes in each rate tier, with a

variety of property types (restaurants, retail, gas stations, government buildings, warehouses, home owner associations, etc.).

It should be noted that the storm water utility fee billing requires information from several entities. The Parcel Identifier (PID) and parcel area is obtained from the Bexar County Appraisal District (BCAD). The impervious cover data was generated by Kimley-Horn (K-H), a TCI consultant, in 2015 and is being subsequently updated by SWAT. The impervious area and percent impervious for a parcel is obtained from this dataset. All other account attributes, such as the address key which is the SAWS unique property identifier, the storm water code, and the account's billing portion, were exported from the SAWS billing system which was in use for many years prior. Kimley-Horn joined the SAWS billing data to the impervious cover data created by K-H, using the BCAD parcel ID. The result was the "Master Billing" file that was used to convert from the old rate model to the new rate model in January 2016.

We found that the majority of incorrect billings were due to incorrect BCAD PID's within the billing data. The root cause of this error is still unknown, but missing or old BCAD PID's would have impeded the syncing of the billing data with the impervious cover data during the creation of the Master Billing file. If accounts were unable to sync to impervious cover data, then the billing units value would have been incorrect for those impacted parcels which had multiple SAWS accounts.

Another common theme included parcel owners with multiple adjoining parcels not being billed for all parcels. Additionally, we observed single-owner parcels being billed only a fraction of the total fee due for the parcel. Incorrect billings can result in higher or lower revenues to the City. Generally, property owners will appeal a bill that is too high, but rarely appeal a bill that is too low.

Some billing errors can be attributed to multiple types of errors (e.g., impervious cover assigned to an incorrect BCAD ID), so there may be some crossover in the origin of billing errors. Results of our tests are shown below:

	<b>Exempt / Zero-Billed</b>	<b>Residential</b>	<b>Non- Residential</b>	<b>Total</b>
<b>Sample Size</b>	<b>38</b>	<b>26</b>	<b>26</b>	<b>90</b>
<b>Total Errors Identified</b>	<b>12</b>	<b>19</b>	<b>4</b>	<b>35</b>
<b>Error Type</b>				
Wrong BCAD ID	7	7	2	16
Owner with Multiple Properties	2		1	3
Should be Single Owner		4		4
Incorrect Property Category		3		3
Charged the Old Rate		3		3
Multiple Owners		2		2
Other	3	0	1	4



## **Recommendation**

TCI should continue its efforts to ensure that all accounts are billed properly by ensuring each account is:

- Assigned the most up-to-date BCAD PID
- Updated with the new storm water codes (as applicable)
- Assigned the correct billing portion of the fee due per parcel
- Properly classified as residential or non-residential based on best available data
- Assigned an impervious area and percent impervious based on best available data

## **Appendix A – Staff Acknowledgement**

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Mark Bigler, CPA-Utah, CISA, CFE, Audit Manager  
Susan Van Hoozer, CIA, CISA, Auditor in Charge  
Dan Kuntzelman, Auditor

## Appendix B – Management Response



### CITY OF SAN ANTONIO

P.O. Box 839966  
SAN ANTONIO TEXAS 78283-3966

July 28, 2017

Kevin W. Barthold, CPA, CIA, CISA  
City Auditor  
San Antonio, Texas

RE: Management's Corrective Action Plan for Audit of TCI Storm Water Utility Fees

The Transportation & Capital Improvements Department (TCI) has reviewed the audit report and has developed the Corrective Action Plans below corresponding to report recommendations.

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
1	<b>Incorrect Property Billings</b> TCI should continue its efforts to ensure that all accounts are billed properly by ensuring each account is: <ul style="list-style-type: none"> <li>Assigned the most up-to-date Bexar County Appraisal District (BCAD) Parcel ID (PID)</li> <li>Updated with the new storm water codes (as applicable) to ensure accounts are billed</li> <li>Assigned the correct billing portion of the utility fee when parcels have multiple accounts</li> <li>Properly classified as residential or non-residential based on best available data</li> <li>Assigned an impervious area and percent impervious based on best available data</li> </ul>	6	Accept	Jacob Powell, PE, CFM Storm Water Engineering Manager	09/30/19

## Appendix B – Management Response (cont.)

### **Action plan:**

TCI's Storm Water Assessment Team (SWAT) is responsible for coordinating and monitoring data impacting the Utility Fee billing. The SWAT work procedures have continually evolved from the inception of the rate structure on January 1, 2016 through the time of the Audit, and have continued to evolve and improve. SWAT increased the use of spatial analysis via geographic information system (GIS) technology and worked to receive consistent, whole monthly billing reports from SAWS. These factors have increased our efficiency and consistency.

TCI performed a random sample analysis to complement this Audit. The analysis supported that there are multiple sources of potential error in the billing data. Some of the potential error was found in data that was maintained by parties other than TCI, but TCI is committed to working with the other parties to correct these potential errors.

There are approximately 53,000 accounts to be reviewed to ensure the common errors found in the Audit and in the random sample are addressed. TCI is obtaining additional GIS analysis support by means of staff augmentation. The proposed staff augmentation contract will have a term of 1-3 years to complete the data review and enhance the SWAT review process. In addition to the staff augmentation, TCI is working with ITSD to develop a Decision Support System (DSS) software that will automate data compilation, have built-in logic to enhance review quality and efficiency, and deliver accurate billing change files to SAWS. The DSS software is still in the conceptual stages, so there is not yet a timeline for implementation. However, we expect to establish this timeline and progress with planning and design during FY 2018.

Below is a summary of how TCI will address each of the items related to incorrect billings.

### **Assigned the most up-to-date BCAD Parcel ID**

#### **Issue:**

- Parcel data such as parcel ID, property use and acreage originates from the Bexar County Appraisal District (BCAD). Also, parcel IDs are reflected in the SAWS billing data. On some occasions, the parcel IDs indicated in the SAWS data do not match the BCAD data.
- There are times where multiple, adjacent parcels have a single owner with one account. The impervious cover for adjacent parcels with the same ownership must be attributed to a single account for billing.

## Appendix B – Management Response (cont.)

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### **Action plan continued:**

#### **Action:**

- TCI will continue to work to identify the correct and current parcel IDs by using weekly parcel updates originating from BCAD and comparing them to complete billing reports received from SAWS. TCI currently receives monthly SAWS billing reports, but anticipates increasing to weekly or daily reports during FY 2018.
- TCI will continue using spatial analysis via GIS technology to find parcel ID discrepancies.
- The DSS software developed by ITSD will have automated logic to identify and address parcel related discrepancies.

### **Updated with the new storm water codes (as applicable)**

#### **Issue:**

- Storm water codes for each account have historically been incorporated into the billing system by SAWS staff using BCAD property use (Texas state code) data as a reference. Such codes indicate different types of land use such as single-family residential, multi-family residential, commercial, etc.
- Prior to January 1, 2016, storm water codes included R1-R2 (residential), M1-M4 (multi-family), P1-4 (public facilities), C1-5 (commercial and industrial), and multiple exempt codes. The pre-2016 storm water codes were extracted from previous SAWS data and translated into new (post-2016) storm water codes as part of the master billing data used to implement the new system. There were outdated storm water codes present in the data which resulted in accounts not being billed.

#### **Action:**

- TCI reviewed the backlog of storm water accounts that were assigned outdated storm water codes so those accounts can be billed.
- TCI is working with SAWS to determine the most efficient way to incorporate storm water codes and other pertinent billing data as quickly as feasible once SAWS accounts are created, while adhering to the State exemption which prohibits billing parcels in development that have not received a Certificate of Occupancy.
- TCI is working with the Development Services Department (DSD) to regularly obtain automated reports indicating which properties have been issued a Certificate of Occupancy.

## Appendix B – Management Response (cont.)

### **Action plan continued:**

#### **Assigned the correct billing portion of the fee due per parcel**

##### **Issue:**

- Billing portions for storm water accounts have historically originated from SAWS. During the implementation of the new Utility Fee rate structure, the billing portions were generally transferred directly from previous SAWS data to the master billing data used for the new system. There were some billing portions determined by TCI's consultant.
- Assignment of billing portion is critical when there are multiple storm water accounts within one parcel. Tracking billing portions when accounts are activated or inactivated is cumbersome.

##### **Action:**

- TCI will continue to review all accounts associated with a parcel whenever that parcel or any one of those accounts require review.
- TCI and staff augmentation will continue using spatial analysis to identify parcels with multiple accounts.
- The DSS software developed by ITSD will have automated logic to identify and assign billing portions, and notify TCI when parcels or accounts should be reviewed manually. Eventually, the DSS will automatically monitor activation and inactivation of accounts.
- Having correct billing portions on a consistent basis will result in more consistent billing and more dependable budget projections.

#### **Properly classified as residential or non-residential based on best available data**

##### **Issue:**

- Non-residential properties billing as residential properties result in loss of revenue for the City. Conversely, residential properties billing as non-residential properties result in over-billing of customers. Both errors can lead to inequitable billing and budget projections.

##### **Action:**

- TCI will continue to look for trends resulting in property classifications being incorrectly assigned (residential instead of non-residential or vice versa).
- TCI will utilize multiple data sources to verify property classification, including SAWS account data, DSD building use, City zoning data, BCAD State codes, and manual review.
- The DSS software developed by ITSD will have automated logic to identify and assign property classification.



## Appendix B – Management Response (cont.)

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### **Action plan continued:**

**Assigned an impervious area and percent impervious based on best available data**

#### **Issue:**

- Discrepancies in impervious cover area or density can result in incorrect fees.
- The impervious cover data obtained with the implementation of the rate structure was a "snap-shot" in time, based on November 2013 aerial imagery. As development and annexation occur, impervious cover data must be updated.

#### **Action:**

- TCI will continue with manual delineation of impervious cover on a parcel by parcel or account by account basis to incorporate development, annexations, and customer appeals.
- TCI will incorporate known impervious cover updates from the TCI- Storm Water Management Participation database and the Development Services Department (DSD) regular Certificate of Occupancy report.
- TCI will develop a process for spatially generating impervious cover values within a parcel, which will be helpful for day-to-day reviews, incorporation of annexed areas, and city-wide updates.

#### **Completion Goals:**

1. TCI, with staff augmentation, will fully review the backlog of potential Incorrect Property Billings within the last two (2) years. The target deadline is September 30, 2019.
2. During the next two to three (2-3) years, TCI and staff augmentation with support from ITSD will develop a more automated spatial and logical Decision Support System (DSS) software to maintain data integrity moving forward.
3. TCI may utilize the third year of staff augmentation to provide a complete City update of impervious cover data, which will provide more accurate and equitable storm water billing.

## Appendix B – Management Response (cont.)

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We are committed to addressing the recommendations in the audit report and the plan of actions presented above.

Sincerely,



Mike Frisbie  
Director  
Transportation & Capital Improvements

8-1-17  
Date



Peter Zanon  
Deputy City Manager  
City Manager's Office

8-24-17  
Date