

NORTH OF THE RIVER SANITARY DISTRICT #1

The Pipeline to Denitrification

SUMMARY:

The evidence of a well-planned community, whether a city, county or a special district, requires good governance. Often overlooked are the financial and special arrangements which must be in place to handle future public works endeavors - specifically the conveyance, treatment and disposal of sewage locally. Across the world, we have witnessed large scale and rapid population growth and urbanization. We have come a long way from the communal drains of Lothal's Acropolis C, 2350 BCE to today's modern systems like North of the River Sanitary District #1 (NORS D). Centralized wastewater treatment systems have been developed to meet this increasing need. One of these processes, which is necessary but costly, is denitrification (the microbial process of converting nitrogen compounds into gaseous forms).



Lothal's Acropolis C, 2350 BCE Drainage System
Picture courtesy of www.zmescience.com



NORS D wastewater treatment plant
Picture courtesy NORSD website

Sewer systems are highly regulated and are expensive to develop and maintain. Every year costs across the board are increasing. In addition, water management systems are facing the challenges of accelerated water insecurity and contamination of water resources. This begs the question, are these costs and fee increases necessary and justified?

NORS D serves a wide portion of North Kern County. It is part of a Joint Powers Agreement (JPA) with the City of Shafter, and the County of Kern. NORSD also entered into a Boundary Agreement with the City of Bakersfield. How is this JPA serving all constituents? Does the JPA need to comply with the Ralph M. Brown Act?

These are considerations before this Grand Jury.

PURPOSE OF INQUIRY:

California Penal Code §933.5 authorizes Grand Juries to conduct investigations into public agencies. NORSD was last investigated by the 2013-2014 Kern County Grand Jury. The 2024-2025 Kern County Grand Jury (Grand Jury) conducted an investigation to determine if the cost of improvements meets anticipated wastewater processing needs, development, and growth. The Grand Jury also investigated connection and capacity fees to determine if they are justified.

METHODOLOGY:

The Grand Jury conducted interviews with NORSD management and staff. The Grand Jury analyzed Board Agendas, Meeting Minutes, Financial Statements and other documents available on the NORSD website. Interviews were also conducted with official representatives from the City of Shafter, the County of Kern and the City of Bakersfield. In addition, the Grand Jury conducted cross-agency research regarding costs and connection fees. Internet research was also conducted regarding JPA law, evolving sanitation regulations, sewer sanitary technology and requirements. The Grand Jury also attended a NORSD Board Meeting and toured the District's business office complex, including its maintenance and storage facility, and the current wastewater treatment facility.

DISCUSSION OF FACTS:

Sanitation primarily refers to public health conditions related to treatment and disposal of human excreta and sewage. In 1940, the year NORSD was created, nearly half of American houses lacked hot piped water, a bathtub or shower. According to a James D. Lutz Lawrence Berkely National study, over a third of houses did not have a flush toilet. As late as 1960, over 25% of the houses in 16 states did not have complete plumbing facilities. The rapid growth and urbanization nationwide, as well as in Kern County, has made it necessary to upgrade current wastewater treatment and disposal facilities. NORSD was created in response to these growing needs.

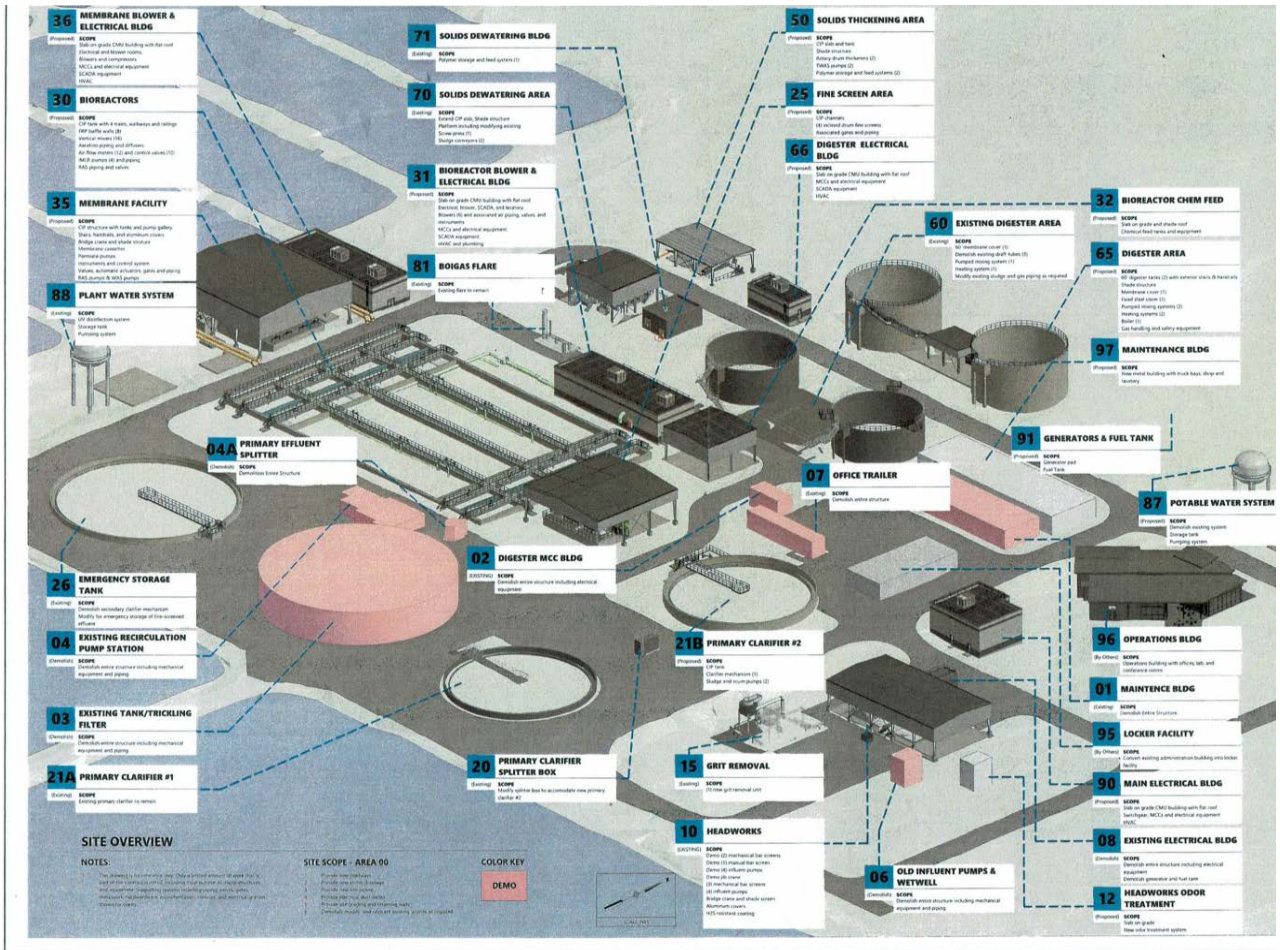
The Grand Jury noted the following facts:

- A. The public is generally unaware of the complexities of wastewater management as a multifaceted field, involving technical, environmental, and social challenges.
- B. In 1940, NORSD was formed as an independent Special District of the State of California to convey, treat and recycle wastewater from residential, commercial and industrial customer connections in the Oildale section of Kern County.
- C. May 16, 2000, NORSD adopted Ordinance 2000-1, Rules and Regulations, regulating the domestic, commercial and industrial use of sanitary sewers.
- D. NORSD Monthly Board Meetings and their actions are in line with Proposition 218 and the Ralph M. Brown Act. The NORSD Monthly Board Meetings are organized,

and the agenda is itemized to discuss all aspects of district business. The NORSD Monthly Board Meetings are held at the NORSD office in a small conference room.

E. NORSD is governed by a five-member Board of Directors elected by the constituents of the District. There are sixteen employees which include management, engineering staff, office staff and field maintenance. NORSD is actively recruiting an additional engineer.

F. NORSD, anticipating population growth and increasing regulations, has embarked on a process to upgrade and expand its existing infrastructure to be able to manage and treat the projected increased wastewater inflow to its sewer system. This required the development of a three-phase Master Plan.



Artist rendering of completed wastewater treatment plant courtesy NORSD

G. There is an ad hoc committee, made up of two Board Members, that analyzes Phases 1, 2 and 3 of the Master Plan and report their findings at the regularly scheduled Board Meetings.

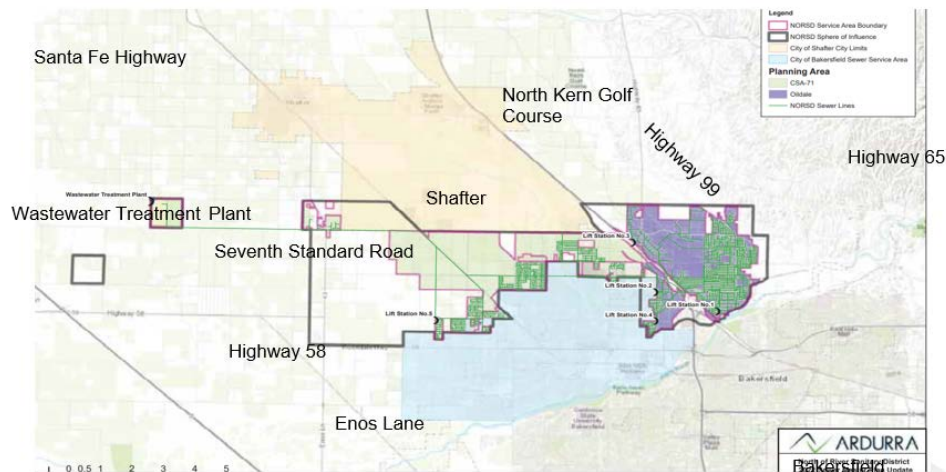
H. The independent financial report dated June 30, 2023, reflects a financially sound District with no anomalies. The NORSD financial statement highlights:

- *The largest portion of the district’s assets is its investment in capital assets. The district uses these assets to provide service and consequently, these assets are not available to liquidate liabilities or other spending.*
- *Current assets as of June 30, 2023, include approximately \$67.3 million in cash, maintained principally in the County of Kern Treasurer accounts.*
- *Operating revenues for the year ended June 30, 2023, consist principally of sewer service charges and capacity/connection fees. Operating revenues increased 12% primarily due to an increase in capacity/connection fees related to an increase in development in the area.*

(For detailed financial information see Appendix C of the Auditor’s Statements of Net Position June 30, 2022 – 2023.) The complete financial report is available at the NORSD office.

I. NORSD uses various avenues for supplemental funding. This includes loans and grant awards. As of August 29, 2024, NORSD’s debt exposure was in line with future estimated revenues and expenditures. NORSD currently does not have any grant awards.

J. NORSD is the only independent Sanitary District in Kern County. The boundaries are outlined in the following illustration:



Bartle Wells Associates, November 2022 Financial Plan

K. The NORSD wastewater plant is approaching 80% of its maximum capacity and has developed a 3-phase plan for expansion.

- L. NORSD is responsible for 170 miles of sewer lines within its service area. These lines are cleaned approximately once every three years. The sewer lines are video reviewed, through the manholes, which are located approximately every 400 feet, for potential problems. This is accomplished by a technician on the sewer pipeline flushing truck, who controls the video camera, monitors the feed and inspects the lines.
- M. NORSD recognized a need to maximize resources, minimize duplication as well as to provide sewer services to customers in its area of influence, which includes homeowners and businesses in Shafter, portions of Kern County and annexed boundaries of Bakersfield.
- N. On February 6, 1990, a Joint Powers Agreement (JPA) was entered between NORSD, the City of Shafter, and the County of Kern to, “provide for the collection, treatment and disposal of wastewater produced within its boundaries and the construction and maintenance of facilities...” (Final NORSD Sewer Master Plan’s, Appendix A, dated April 2019 Agreements between City of Shafter, County of Kern, and NORSD, pages 13-50).
- O. On January 12, 2000, NORSD entered into a Sewer Service Boundary Agreement with the City of Bakersfield. (Final NORSD Sewer Service Master Plan, April 2019 Appendix A, pages 51-62)
- P. According to California Government Code §6502, there are two types of JPAs:
- The first JPA (Type 1) combines two or more independent agencies to create a new agency or enterprise to provide a service. This JPA must appoint a Board of Directors and hold public agendized meetings resulting in minutes, as prescribed in the Ralph M. Brown Act.
 - The second JPA (Type 2) is formed but does not create a new agency or enterprise, but instead is controlled by a single member agency to serve the other participating entities. This JPA is not required to form boards, hold public meetings or comply with the Ralph M. Brown Act.
 - The JPA between NORSD, Shafter, and Kern County is a Type 2 JPA with NORSD as the lead agency.
 - The partnership between NORSD and Bakersfield is governed by the 2000 Sewer Service Boundary Agreement.
- Q. The 1990 JPA document, page 9 Section 5, specified that a Technical Advisory Committee (TAC) be formed:

To facilitate planning and design, and for later administration, there shall be formed, upon execution of this Agreement, a Technical Advisory Committee (TAC)

consisting of at least one member from each Party to this Agreement. The NORSD representative will assume the chairmanship of the TAC and the SHAFTER representative will serve as secretary. The primary purpose of the TAC is to review, discuss and evaluate the ongoing impact of the Joint Powers Agreement on the respective parties and make recommendations to NORSD, and to the parties' respective governing bodies. Secondly, the TAC shall assist NORSD in formulating and implementing such matters as sewer use ordinances, rate structures and future expansion of facilities. The chairman shall keep members informed of important project events and shall convene meetings when so requested by any of the Parties to this Agreement. The secretary shall keep minutes of the major discussion items for the TAC meetings and distribute those minutes to the Parties.

- R. The JPA TAC generally meets quarterly; usually an agenda is provided. NORSD is the lead agency, and Shafter serves as the Secretary. Since COVID-19 (March 2020 to present), the meetings have been a combination of in-person and remote.
- S. Growth and increasing wastewater treatment regulations have made it necessary and mandatory for NORSD to modernize and increase the size of the existing treatment facility. The three-phase Master Plan includes the expansion of the capacity of the treatment plant, with a projected cost of \$194,000,000.
- T. NORSD approved an independent engineering study specifically detailing proposed increases in sewer capacity fees. The March 2018 Sewer Fee Capacity Study (SFCS), recommended changes to the existing sewer capacity fees for new connections and monthly sewer rates, to ensure adequate funding for improvements and expansion needed to meet projected growth. The cost increases included projections regarding the impact of inflation, regulatory requirements, technology, development patterns and the rate of increase in sewage flow.



Taken at the NORSD waste-water treatment plant
Photos courtesy of the Grand Jury

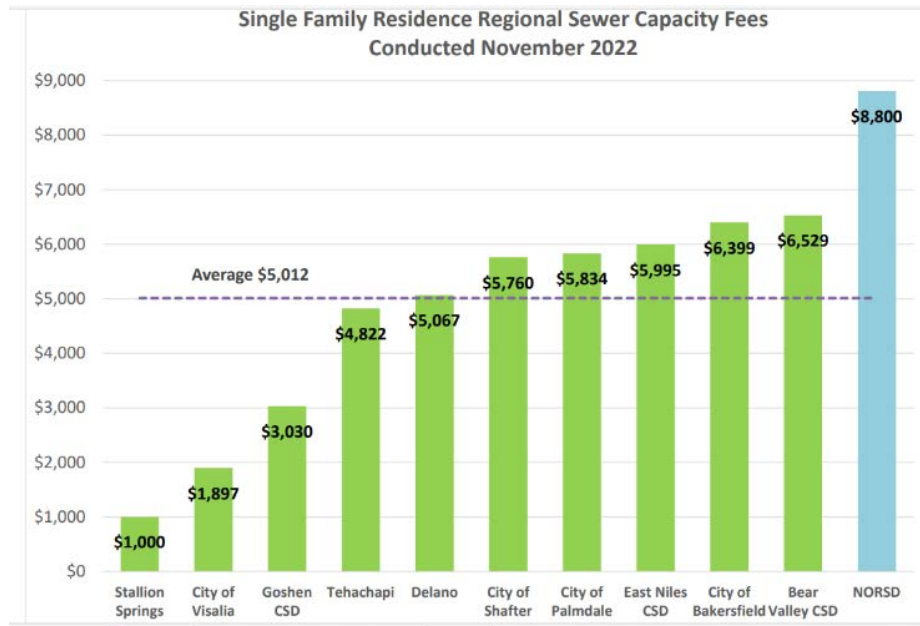
- U. This study was completed by an independent public finance consulting firm to update fees and charges based on NORSD's March 2022 Master Plan. The NORSD

commissioned the Financial Plan Sewer Services Charge and Capacity Fee Study on March 28, 2023.

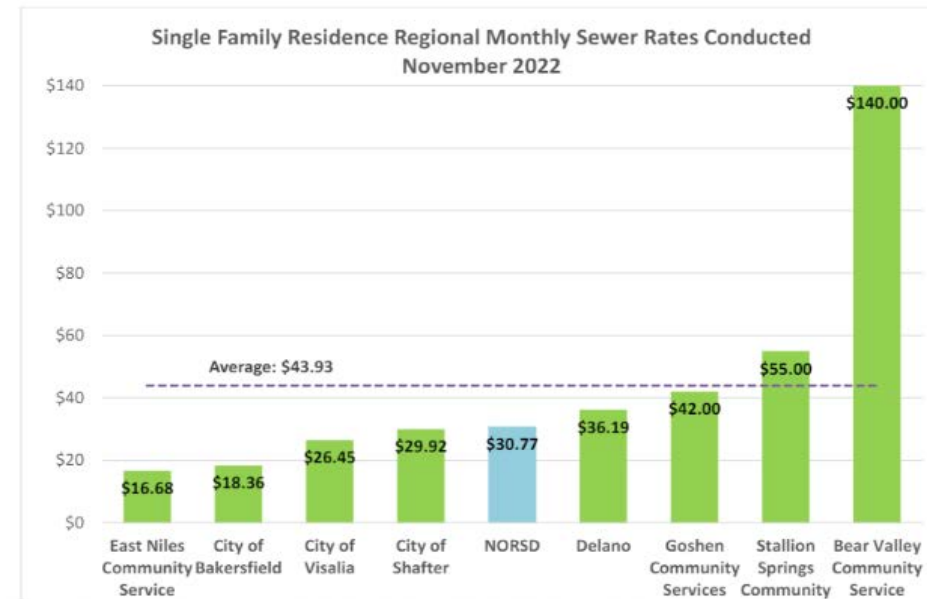
- V. The June 30, 2023, Resolution No. 23-07, approved by the Board of Directors, updated rate schedules of District Ordinance No. 2000-01, as recommended by the March 28, 2023 Study.
- W. The Grand Jury reviewed a connection charge of \$37,000 for an energy efficient laundry start-up business. An in-depth investigation determined that NORSD's charges were higher than neighboring sanitation districts. These charges were recommended by independent financial and engineering firms, based on the increasing population and commercial development, mandating wastewater treatment plant expansion and updating of the existing infrastructure.
- X. Wastewater agencies and districts calculate charges by implementing the industry wide use of the Single-Family Residential Equivalence (SFRE). The typical SFRE is 220 gallons per day (GPD). In addition to the SFRE value, there are user classifications determined by the anticipated daily GPD. For example:
 - A single-family unit (SFRE) is rated 1.0
 - A general office user is .01 per employee
 - A bowling alley is .1 per alley
 - A restaurant is .17 per seat
 - A laundromat is .83 per machine

The hook-up fee is then determined by the connection cost (capacity fee) multiplied by the assigned SFRE usage of the applicant.

- Y. The current connection cost, effective July 2024 is \$9,624.47, reflecting the recommended increases, as NORSD continues implementing Phase 1 of the Master Plan. NORSD's current connection cost is the highest in Kern County but is necessary because of the growth in the area served by NORSD, and the goal of completing these changes in a responsible manner to the benefit of the customer without incurring unmanageable secured debt.



Appendix A – Regional Sewer Rate Survey



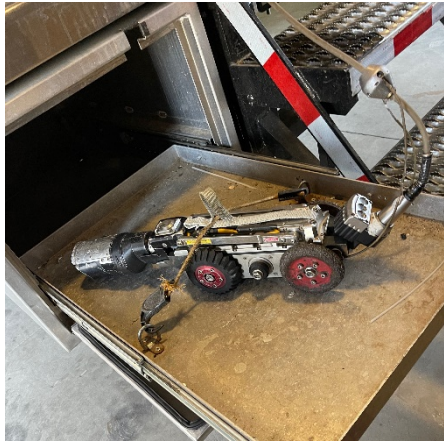
Bartle Wells Associates. November 2022 Financial Plan

- Z. The NORSD website contains complete information regarding their services, board meetings, governance, documentation and contact information.

FINDINGS:

The Kern County Grand Jury finds that:

- F1. Sewage flows approximately 13 miles to the Wastewater Treatment Plant on 7th Standard Road by gravity flow and supplemented by several lift stations (pumps). An unintended consequence of conservation and the use of more water efficient appliances is the slowing of the transfer of raw sewage.



Sewer pipeline flushing truck (right)

Photos courtesy of the Grand Jury

Camera and vehicle used to photograph sewer lines for potential issues (left)



- F2. The current wastewater treatment process of using a trickling filter will be converted to an “activated sludge system with denitrifications” (microbial process of converting nitrogen compounds into gaseous forms). Using this biological process will more effectively process sewage and wastewater.
- F3. The June 30, 2020 and June 30, 2023 Financial Reports are on file substantiating financial solvency.
- F4. Updating rate schedules of District Ordinance No. 2000-01, which would confirm the cost and fee revisions, is still pending. The rate payers would be better informed and served if this Ordinance was current.
- F5. The Grand Jury attended a Board of Director’s meeting. Each Board member had a supplemental binder with technical subject matter to review. The Board meeting was efficient and well organized.
- F6. NORSD’s Board meetings are held in a small conference room that is not conducive to public participation, especially during discussions involving rate increases or infrastructure changes affecting district operations.
- F7. Access to the NORSD agendas, minutes, and various documents posted on the website, or if available only in hard copy, were provided promptly. This illustrates a high level of transparency that the public can have confidence in.

- F8. On February 6, 1990, a Joint Powers Agreement (JPA) was executed. The Grand Jury found that the JPA correctly follows the requirements of California Government Code §6502. To date, this document has not been reviewed to align with the growth and changing needs of its members.
- F9. The JPA TAC Team meets quarterly by a hybrid means of in-person or remote (ZOOM or TEAMS). An agenda is usually provided prior to the meeting and minutes are not distributed regularly. This creates a potential void in dissemination of information.
- F10. There is concern about the increasing costs of the plant expansion and the mandated changes in wastewater management, which has now exceeded \$190 million, primarily due to inflation. The increased hook-up fees can potentially create a hardship for new customers; however, these fees are justified based on residential and commercial growth and demands on the wastewater system.
- F11. The lack of staff with grant writing capabilities hinders NORSD in obtaining potential grant funding to help offset the cost of its expansion and long-term Capital Improvement Plan.
- F12. Because there is a shortage of available engineers, NORSD is struggling to recruit an engineer to assist and train in the implementation process.
- F13. NORSD has a transparent due process fee review. This includes an agendized notice, an opportunity to be heard, and to present a request or protest. The Board retains the discretion to deny rate adjustments, but at the very least, the rate payer is afforded an opportunity to be heard as a valued sewer customer.
- F14. The NORSD website is welcoming and user friendly. The Grand Jury had no difficulty navigating the various links. This greatly simplifies communication between the district and users and provides important information on the NORSD governance, future plans and contact information.
- F15. The budget does not support a dedicated Public Relations staff. Therefore, NORSD public relations is limited to their webpage and signage on their service vehicles.



Public Service Announcement On the Side of a Service Truck
Photos courtesy of the Grand Jury

COMMENTS:

The Grand Jury extends its appreciation to the NORSD staff and Board of Directors for their enthusiasm, cooperation, and professionalism throughout this investigation. Additionally, the Grand Jury acknowledges the assistance of the Kern County Public Works Department, Bakersfield Waste Management and the Shafter City Manager's Office for providing valuable information and insight regarding the JPA and wastewater management.

The Grand Jury particularly appreciates NORSD's guided site visit to lift stations, and the current wastewater treatment plant located on 7th Standard Road. The Grand Jury completed this investigation with a newfound knowledge and appreciation of the sewer treatment process. A process that ends, for most of us, with the flushing of a toilet.

RECOMMENDATIONS:

The 2024-2025 Kern County Grand Jury recommends that:

- R1. NORSD update the February 6, 1990 Joint Powers Agreement (JPA) with North of the River Sanitary District #1, County of Kern, and City of Shafter by April 30, 2025. (Finding #8)
- R2. NORSD update Ordinance #2000-01 as specified in Resolution 23-07, by April 30, 2025. (Finding #4)
- R3. NORSD research the feasibility of contracting with a grant writer that has expertise in supplemental development grants to help offset the cost of the planned expansion. This review is to be completed by April 30, 2025. (Finding #11)

- R4. The TAC distribute Meeting Minutes, to all parties of the JPA within one month following the meeting, starting with the next TAC meeting. (Finding #9)
- R5. NORSD secure a larger conference room to facilitate public attendance at the monthly Board Meetings by the April 30, 2025 Board Meeting. (Finding #6)
- R6. NORSD expand its informational services to the public about sanitary districts and the important role these services play in our health care. By April 30, 2025 a plan to implement the following should be in place: (Finding #15)
- a. Contact Park and Recreation Districts to display informational banners
 - b. Sponsor youth programs
 - c. Distribute press releases explaining planned updates and expansion of the wastewater treatment plant
 - d. Post expansion updates on the NORSD website
 - e. Develop an outreach program for students, to emphasize the importance of wastewater management.
- R7. NORSD develop a Policies and Procedures Manual to guide staff with understanding agency standards, operations, and governmental mandates by April 30, 2025. (Findings #11 and #12)
- R8. NORSD develop a payment plan for connection fees exceeding a defined amount as determined by the Board, no later than April 30, 2025. (Finding #10)

NOTES:

- The North of The River Sanitary District #1 should post a copy of this report where it will be available for public review.
- Persons wishing to receive an email notification of newly released reports may sign up at: <https://www.kerncounty.com/government/other-agencies/grand-jury>
- Present and past Kern County Grand Jury Final Reports and Responses can be accessed on the Kern County Grand Jury website <https://www.kerncounty.com/government/other-agencies/grand-jury>

RESPONSE DEADLINE:

- **REQUIRED WITHIN 60 DAYS FROM:**
 - Kern County Public Works Department
 - Findings #8 and #9
 - Recommendations #1

- **REQUIRED WITHIN 90 DAYS FROM:**

- North of The River Sanitary District
 - Findings #1-15
 - Recommendations #1-8
- City of Shafter
 - Findings #8 and #9
 - Recommendations #1 and #4
- Kern County Board of Supervisors
 - Findings #8 and #9
 - Recommendations #1 and #4

**RESPONSES ARE REQUIRED PURSUANT TO PENAL CODE §§933(c)
AND 933.05 TO:**

- **PRESIDING JUDGE
SUPERIOR COURT OF CALIFORNIA
COUNTY OF KERN
1415 TRUXTUN AVENUE, SUITE 212
BAKERSFIELD, CA 93301**
- **FOREPERSON
KERN COUNTY GRAND JURY
1415 TRUXTUN AVENUE, SUITE 600
BAKERSFIELD, CA 93301**

Reports issued by the Grand Jury do not identify individuals interviewed. Cal. Penal Code §929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Grand Jury.