

PUBLIC WORKS

2019

ANNUAL

REPORT



Public Works Director: Bill Pedersen, P.E.
Assistant Public Works Director: Brent Costlow
City Engineer: Adam Ballesteros, P.E.



City of Deer Park
Public Works Department
710 E. San Augustine
Deer Park, TX 77536



Mission Statement

It is the mission of the Public Works Department to build, operate and maintain the public infrastructure for all members of the community while continuing to find innovative ways to improve the delivery of services.

Vision Statement

The Public Works vision is to provide essential services to the citizens of Deer Park in a prompt, courteous, safe, efficient, and cost effective manner. Public Works, through its dedicated employees, strives to plan, design, build, maintain, and operate public infrastructure in a manner that respects the environment and the ability of government to adequately preserve these assets for succeeding generations.



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Message from the
Director of Public Works
W.R. (Bill) Pedersen, P.E.



I am pleased to submit the Public Works Department's first annual report. The department has had another busy year handling over 31,000 in-bound calls to our front desk clerks, working on engineering projects, assisting other departments, and providing building inspections and enforcing code regulations. No matter how busy each division gets, we are always striving to maintain courteous customer service while delivering exemplary municipal services.

Our department worked on over forty engineering projects this year, including those identified in year nine of the ten year Capital Improvement Plan (CIP). Using new innovative technologies the engineering staff has been able to replace miles of water, sewer and storm lines by using the pipe bursting and cured in place (CIPP) trenchless processes, significantly reducing excavation cost and minimizing impact to citizen's property. Our building and engineering inspection personnel has been vital to the success of every project.

The field service divisions continue to work day and night behind the scene to keep our city infrastructure running properly to provide the high quality of life our citizens have come to expect.

Success of our department would not have been possible without the support of City Council, Mayor Mouton, City Manager Jay Stokes and Assistant City Manager Gary Jackson. A special thanks to Kathy Holcomb, Operations Supervisor, for the countless hours she spent gathering data and compiling this report.



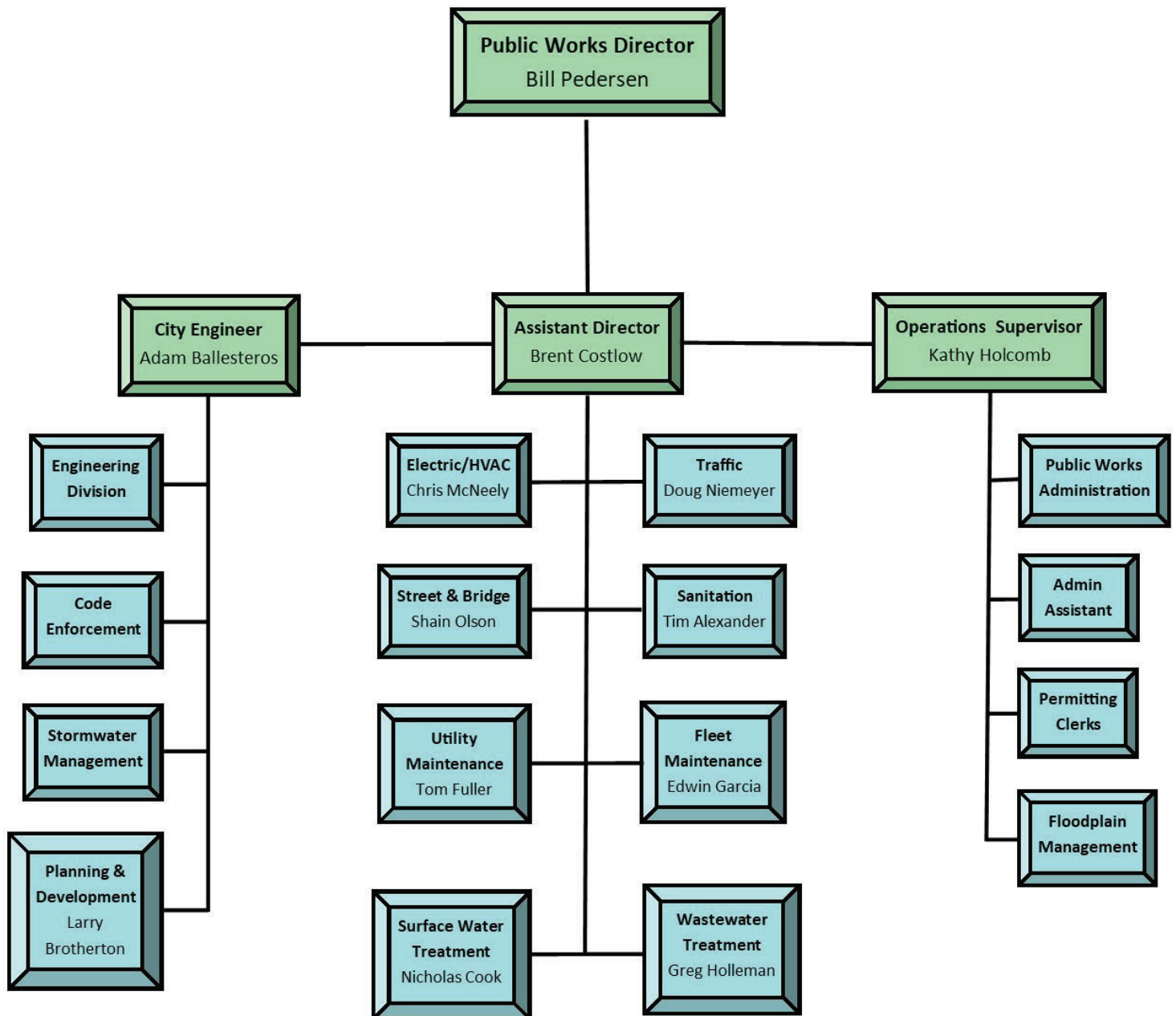
WHAT IS PUBLIC WORKS?

The basic definition for Public Works is the combination of physical assets, management practices, policies, and personnel necessary for government to provide and sustain structures and services essential to the welfare and acceptable quality of life for its citizens.

Simply put, Public Works is the heartbeat of any city, developing and maintaining buildings, roads, water systems, solid waste handling, wastewater treatment and much more. The people working in Public Works are solving some of the toughest problems that occur in our communities, country and world.

There would be no community without the quality of life Public Works provides. There would be no community to police and protect, no public to lead or represent. The Public Works Department is responsible for maintaining the surface water and wastewater treatment plants, water and sewer mains, lift stations, manholes, street and drainage systems, traffic signals and signs, electrical and HVAC equipment at all city facilities. In addition, Public Works performs residential trash collection, fleet maintenance, building inspections, permitting, code enforcement, storm water and floodplain management enforcement and engineering services.

PUBLIC WORKS - ORGANIZATIONAL CHART



OUR LEADERSHIP



Mayor: Jerry Mouton, Jr.



Council Position 1
Sherry Garrison



Council Position 4
Bill Patterson



Council Position 2
T.J. Haight



Council Position 5
Ron Martin



Council Position 3
Tommy Ginn



Council Position 6
Rae A. Sinor



City Manager
Jay Stokes



Assistant City Manager
Gary Jackson

PUBLIC WORKS GOALS & OBJECTIVES



GOAL 1

Provide Superior Capital Project Delivery:
Expedite all aspects of waterline replacement, sewer system improvements, road and drainage construction projects, utility relocation, plan preparation, bidding construction administration, and inspection; and ensure that all new infrastructure is of the highest quality.

OBJECTIVES

1. Complete all projects on time.
2. Bid all Public Works Projects within six months of funding delivery.
3. Stay on budget.
4. Maintain good working relationship with contractors and developers.
5. Thorough inspection of all work performed to ensure long-term use of the asset.
6. Maintain compliance with the Texas Commission on Environmental Quality rules & regulations.

GOAL 2

Invest in People:
Show great care for our people, building team spirit, encouraging continuous improvement for the individual, and fostering a sense of personal worth for each employee.

OBJECTIVES

1. Ensure that every employee has the appropriate personal protective equipment.
2. Eliminate all preventable personal injuries and vehicular accidents.
3. Continue to cross-train within the department.
4. Develop advancement and succession plan.
5. Ensure that required continuing education is provided for licensed employees.

GOAL 3

Improve the Effectiveness of Our Services:

Make the best use of taxpayer money by doing the right things, by focusing our resources on those services that have the greatest positive impact on quality of life. We challenge ourselves by asking the question: Is this particular service necessary and meaningful to the public? Is there something else we should be doing?" When we find out services need to be changed, we make it happen.

OBJECTIVES

1. Develop the Water & Sewer Replacement Work Plan.
2. Continue Annual Street Maintenance Work Plan.
3. Continue the Annual Lane Striping Plan.
4. Maintain adequate utility rates to support the Water & Sewer Fund.
5. Establish vehicle replacement program.
6. Develop a written policy and procedure manual for each department.



Quality
is job one! - Henry Ford



GOAL 4

Improve external communication. Utilize multiple pathways to transfer information between the citizens of Deer Park and the Public Works Staff.

OBJECTIVES

1. Update and maintain the Public Works Department webpage.
2. Ensure useful information is included in each Messenger Newsletter.
3. Update, in a timely manner, social media with important information that affects citizens.

GOAL 5

Continue Improving Core Services
The Public Works Department strives to be a best-in-class organization by providing the following core services:

OBJECTIVES

1. Maintain "superior" rated, safe drinking water system.
2. Provide highly qualified building inspectors.
3. Ensure integrity of our storm water drainage systems to minimize loss of public and private property.

OBJECTIVES Cont'd

5. Maintain all traffic signals and signs for a high quality transportation system.
6. Provide quick and quality responses to citizen work requests.
7. Continue to provide road and sidewalk repairs to maintain the infrastructure.
8. Provide highly trained mechanics to maintain the City's fleet.
9. Update Building, Plumbing, Electrical and HVAC Codes and standards to maintain ISO Building Effectiveness Grading Schedule.



Far and away, the best prize that life has to offer is the chance to work hard at work worth doing.

Theodore Roosevelt



Wastewater Treatment Plant Expansion , Phase 2
Started: August 2017
Anticipated Completion: Summer 2020
Funding Source: Certificates of Obligation

This project is identified in the 10-year Water & Sewer Capital Improvement Plan. Phase 1 of the project was awarded to CSA Construction and was completed in February 2017 at a cost of \$4,998,554. In June, 2017, Phase 2 of the project was awarded to LEM Construction in the amount of \$13,636,685.

PUBLIC WORKS - CONSTRUCTION PROJECTS

Rehabilitation of the P Street Ground Storage Tank
Completed: December 2019
Funding Source: Certificates of Obligation

The project involved rehabilitation of both the interior and exterior of the 1-million gallon water ground storage tank. Dunham Engineering was hired to perform the engineering and inspection services at a cost of \$65,000. The project was awarded to M.K. Painting in the amount of \$339,000.



Sanitary Sewer Manhole Rehab - Phase 4
Anticipated Completion: January 2020
Funding Source: Certificates of Obligation

This project consist of lining 56 sanitary sewer manholes with an epoxy liner. This annual project helps to combat failures and overflows throughout the City. The services of Fuquay, Inc. were purchased through the Buy Board at a cost of \$249,983.88 for this rehab project. To date a total of 156 manholes have been rehabilitated and 20,870 sq. ft. of epoxy liner has been installed.



18-Inch Sanitary Sewer Force Main Rehab

Started: April 2019

Anticipated Completion: Spring 2020

Funding Source: Certificates of Obligation

This project consist of pipe-bursting 3,300 linear feet of 18-inch sanitary sewer force main that runs from the south plant lift station to the wastewater treatment plant. This project is part of the Sanitary Sewer Overflow (SSO) initiative. The services of this project were purchased through the TIPS Cooperative Purchasing Program using Vaught Services at a cost of \$1,398,595.80.

Sanitary Sewer Rehab - Park Meadows Subdivision, Sections 1 - 4

Anticipated Completion: 1st quarter of 2020

Funding Source: Certificates of Obligation

This project consists of pipe-bursting 23,680 linear feet of sanitary sewer pipe and manhole rehabilitation in the Park Meadows Subdivisions. This project is part of the Sanitary Sewer Overflow (SSO) initiative. The services for this project were purchased through the TIPS Cooperative Purchasing Program using Vaught Services at a cost of \$1,957,242.05.



PUBLIC WORKS - CONSTRUCTION PROJECTS



Street Improvement Project

Anticipated Completion: 1st quarter of 2020

Funding Source: Certificates of Obligation & Capital Improvement Fund

This project involves full street reconstruction of all streets within Ridgeway Subdivisions, West 9th and 11th Streets and Amherst and Brown Lanes. The reconstruction includes water, storm and sewer utility replacement under the pavement. The project was awarded to D&W Contractors based on their low bid of \$5,111,954.

Police Firearms Training Facility
Started: Fall 2019
Anticipated Completion: Spring 2020
Funding: Through a partnership with FEMA



This project is for the restoration of the Police Firing Range. Construction of the firing range and classroom were completed in 2016, but there was significant damage to the berms during Hurricane Harvey that required total restoration. The berm restoration project was awarded to Jerdon Enterprises at a cost of \$788,789 and is funded through a partnership with the Federal Emergency Management Agency (FEMA).

Surface Water Treatment Plant (SWTP)
Sludge Removal Project
Started: Fall 2019
Completed: February 2020
Funding Source: Water / Sewer Fund



This project is for the removal and disposal of sludge, a treated drinking water byproduct. It will allow for additional sludge storage capacity for continued water treatment processes. The project was awarded to Person's Services for \$565,397 plus disposal fees. (Additional information on this project is on page 30 of this report.)



New Animal Shelter & Adoption Center
Started: June 2017
Completed: May 2019
Funding Source: Certificates of Obligation
Architect: Quorum Architects
Contractor: Construction LTD

In April of 2017, this project was awarded to Construction LTD in the amount of \$2,240,668. The groundbreaking ceremony was held in June 13, 2017, with construction starting shortly thereafter. The final construction cost was \$2,383,230.

The new facility has a total of 7,171 square feet, which is much larger than the previous shelter, which 4,394 square feet.

The primary duty of the Animal Control Dept. is to assist the public with lost or found pets and investigate animal abuse cases. However, their highest priority is pet adoption. Hundreds of pets have found permanent, caring homes through our adoption center. Having a larger facility makes it possible to house more lost or abandoned pets in hopes of having them adopted and saving the life of the animal.



DRAINAGE IMPROVEMENT PROJECTS

Corrugated Metal Pipe (CMP) Rehabilitation Project - Phases 1 - 4

Started: June 2016

Anticipated Completion: Summer 2020

Funding Source: Drainage Bonds and Capital Improvement Fund

The services of Fuquay, Inc. were purchased through the Buy Board to perform CMP Rehabilitation throughout the City. An inspection was conducted by Fuquay identifying CMP Pipe that was damaged throughout the City's storm outfall system that needed to be repaired and rehabilitated using a UV Cured Liner System and/or Epoxy Liner. This system lines the interior of existing CMP pipe and prevents future damage and strengthens the existing pipe, preventing failure and prolongs the life of the system.



The assessment phase began in June 2016 at a cost of \$235,126.

Phase 1 - consisted of rehabilitation of 4,100 linear feet of CMP, at a cost of \$282,841.36, and was completed August 2018.

Phase 2 - consisted of 1,000 linear feet of CMP Rehab along with debris removal from Hurricane Harvey. This phase was completed in February 2019 at a cost of \$352,356.

Phase 3 - consists of rehabilitation of 2,300 linear feet at a cost of \$656,722 and is currently under construction.

Phase 4 - is expected to take place during the summer of 2020.

Hurricane Harvey, Storm Drainage Projects

Started: June 2018

Anticipated Completion: Undetermined

Funding Source:

Engineering Services Cost: \$504,290

Cobb Fendley was hired to perform engineering services to develop ways to alleviate flooding associated with the 2017 Hurricane Harvey rain event. In June 2018, the initial agreement focused on engineering design services on Heritage Addition and Deer Meadows Subdivisions. Deer Park Manor and Delo-Elaine Subdivisions were added in February 2019. In June 2019, the agreement was amended to include an analysis of historical, repetitive, flooded areas in the City.



1. Heritage Addition - plans complete; UV liner of CMP currently underway. (\$4 million)
 2. Deer Park Manor and Delo-Elaine Subdivisions - Design phase: survey, plan sheets, surfaces in development. (\$1.8 million)
 3. College Park - Study phase: existing, proposed, and mitigation scenario models complete. Investigation on alternative drainage routes.
 4. Deer Meadows and Parkview West - Study phase: existing, proposed, and mitigation scenario models complete. Discussion on mitigation feasibility. (pending Boggy Bayou study)
 5. Intersection of P Street and Center Street - Study phase: existing, proposed, and mitigation scenario models complete. Discussion on size of inlets near the intersection.
 6. Deer Park Gardens - Design phase: existing scenario models complete. Proposed improvement alternative models in development.
- Additional areas of the city are being evaluated for possible flooding solutions.

DRAINAGE IMPROVEMENT PROJECTS - continued

Heritage Addition - Jefferson Avenue Drainage Project & New Detention Pond: The Heritage Addition Drainage Project focuses on two areas: For the Jefferson Ave. Drainage Project: Authorization to purchase, through the Buy Board, the services of Fuquay, Inc. was approved by City Council in the amount of \$656,722. The project consists of lining 2,300 linear feet of Corrugated Metal Pipe (CMP) that runs down the center of Jefferson Avenue. This project is part of a program to enhance drainage of this area and help mitigate flooding risk. Funding for this project is out of the Capital Improvement Fund. The detention pond portion of the project was approved by City Council at their meeting held in May 2019. Council approved purchasing a 6.19-acre tract of land from the Deer Park ISD. This property is near Dabbs Elementary School, on the north side of Lambuth Lane. The City purchased the property to construct a detention pond, which will help alleviate flooding in the Heritage Addition Subdivision. The appraised value of the property was \$675,000. Funding for this purchase was out of the Capital Improvement Fund.

Storm Sewer Rehabilitation on New Orleans Street: Authorization to purchase, through the TIPS Cooperative Purchasing Program, the services of Vaught Services for the storm sewer rehabilitation. The project consists of slip-lining 250 linear feet of storm sewer outfall pipe on New Orleans Street. The existing storm pipe is in poor condition and needs to be upsized to allow better flow and capacity. In addition to the outfall being rehabilitated, the inlets will be replaced with larger inlets and the paving, that has been damaged due to drainage pipe failure, will be replaced. The total cost of the project is \$269,662 which is being funded out of the Capital Improvement Fund.

Bayou Bend Regional Detention Facility and Drainage Improvements: In 2018 the City of Deer Park was allocated to receive \$2,920,500 in Community Development Block Grant - Disaster Recovery (CDBG_DR) fund for infrastructure damaged or failed to function by Hurricane Harvey through the Harris County Method of Distribution (MOD). This funding is from the U.S. Department of Housing and Urban Development (HUD) and administered through the Texas General Land Office (GLO).

On October 16, 2018, City Council authorized submission of a grant application to Harris County under the Community Development Block Grant - Disaster Recovery (CDBG-DR) Round 1 funds for Hurricane Harvey. As flood control and drainage repair and improvements (including the construction or rehabilitation of storm water management systems are eligible under the grant) the grant application was for Bayou Bend Regional Detention Facility and Drainage Improvements to construct a new detention pond and the installation of approximately 3,600 linear feet of storm sewer with concrete pipes, grade ditches, storm sewer inlets, culverts, associated appurtenances

Harris County has notified the City that the project has been approved for a conditional award in the amount of \$2,920,500. This award is contingent upon:

1. Approval from the Harris County Commissioners Court, and
2. Approval from HUD and GLO regarding the project's Environmental Review Record

Further information will be available at a later date.

OTHER PUBLIC WORKS PROJECTS FOR 2019 INCLUDED:

13th St. and Underwood Road Pavement Improvement Project - This project was for the repair of the paving joints and sections along East 13th Street and Underwood Road. City Council awarded the project to D&W Contractors based on their low bid of \$170,050. Construction began in January 2019 and was completed May 2019. Funding for the project came from the City's General Fund.

Lane Striping Project - The lane striping project was awarded to Semper Striping, LLC in the amount of \$147,487 and included portions of Georgia Ave., San Augustine, Center St., Luella Ave., 13th Street and East Blvd. The intersections and crosswalks on these streets, as well as the major intersections along Center Street and Luella Ave., were part of the project. The project will be completed in spring 2020 and was funded out of the City's General Fund.

Holton Avenue Waterline Rehabilitation - City Council approved the purchase of services of SKE Construction, through the Buy Board, for the pipe bursting of the 8-inch waterline on Holton Avenue. The project was needed due to multiple line breaks. The total cost of the project was \$74,067.

East Blvd. Traffic Signal Coordination: Midtown Engineers were hired to provide engineering services for the traffic signal coordination of East Blvd. The project consisted of traffic counts, signal coordination, and implementing timing plans for East Blvd. Total cost was \$113,000. The project was funded out of the General Fund.



Regency Park Sanitary Sewer Rehabilitation Project - City Council approved the purchase of services of IPR Construciton & Rehab, LLC., to perform the rehab project, through the HGAC Cooperative Purchasing Program. The project consisted of pipe-bursting 4,700 linear feet of sanitary sewer pipe throughout the entire subdivision. Total cost for the project was \$345,276 which was funded out of the Water / Sewer Funds.

Waterline Rehabilitation - Georgia Ave. and P Street and Installation of 12 inch Valves on Center Street - City Council approved the purchase of services, through the Buy Board, of SKE Construction to perform this project. The waterline rehabilitation was needed due to multiple line breaks on the existing pipe on Georgia and P Street and installation of new 12" valves to help isolate the water main so that less businesses are effected during waterline shutoffs on Center Street. The total cost was \$390,100 funded out of Water/Sewer Funds.

Water & Wastewater Maintenance Building - Phase II Concrete Paving - City Council approved the purchase of services, through the Buy Board, of SKE Construction to perform the concrete work at a cost of \$98,621. A change order was issued to add an additional concrete pad to the Traffic Maintenance Shop, bringing total cost to \$123,101. This project was funded out the Water / Sewer Fund and the Capital Improvement Fund.

Waterline Rehabilitation on 2nd Street- City Council approved the purchase of services, through the Buy Board, of SKE Construction to perform the rehabilitation project. The project consisted of replacing 210 linear feet of 2-inch waterline with 8-inch which was located on 2nd Street between Ivy and the west end of 2nd Street, near the Wastewater Treatment Plant. The line was upsized to help with fire safety and water pressure. The total cost was \$142,768 and was funded out of Water & Sewer Certificates of Obligation.

OTHER PUBLIC WORKS PROJECTS FOR 2019 INCLUDED:

Alternative Disinfection Methods at the Surface Water Treatment Plant - The City entered into an Agreement with Ardurra Group, LLC for engineering services at a cost of \$74,862.

This study by the Ardurra Group, LLC. will look at the chlorine and ammonia disinfection systems currently employed and compare it to other systems from a fiscal and safety standpoint. Disinfection is a key process in the treatment of water. On the chlorine side, three forms will be compared, gas chlorine with the addition of a ChlorTainer and scrubber system, bulk hypochlorite, and on-site hypochlorite generation using the MicroClor system. This study will also look more closely at the energy requirements of the water treatment plant and recommendations will be made if improvements are needed. Anticipated cost: \$3,450.00

Solids Water Handling Project at the Surface Water Treatment Plant - The City entered into an agreement with Ardurra Group, LLC for engineering services, for this project.

Storage of the sludge generated at the water treatment plant is an ongoing capacity problem. Previous attempts of cleaning out one or more lagoons has resulted in gaining a couple of years of life as the sludge has not been removed from the premises.

Through a previous agreement with Ardurra (mentioned above), a comparison of three methods of sludge handling that would remove the sludge from the water plant were considered. All three options had similar costs over a 20 year cycle but the alternative for the dewatering roll off containers showed to be the least expensive in capital requirements.

This agreement with Ardurra Group is to begin the engineering services related to the design and construction of the Roll off Container Alternative of Solids Handling. The Engineering Services Agreement is broken down into four (4) basic services with a cost of \$457,362.00 and two (2) additional services with a cost of \$38,028.00 for a total of \$495,390.00.

Residual Control Systems (RCS) at the P Street and Avon Street Water Storage Facilities

The City entered into an Agreement with Ardurra Group, LLC for engineering services for this project.

Residual Control Systems have been added to the Coy Drive and Pasadena Blvd. water storage sites which have improved the water quality at both location and in the distribution system around the tanks. The P Street and Avon sites are the next sites scheduled to get these improvements. The water is continuously monitored and both chlorine and ammonia are added when needed.

This agreement is for the engineering services associated with the project. It includes a review of the records drawings and related design documents of the pump stations, coordination with City and RCS manufacturer to develop basis of design, construction plans, and specifications for installation, submit all needed documents to TCEQ and confirm performance of the system after it has been commissioned

The total cost for this agreement is \$53,760 which is funded out of the Water/Sewer Fund.

CITY PROJECTS REQUIRING PUBLIC WORK ASSISTANCE

New Emergency Medical Services (EMS) Facility - The Public Works Engineering Department provided the civil design for the project (\$20,000 in services). The Building Department staff performed architectural plan review. Both civil and architectural inspections on the new facility were performed by Public Works staff.

Golf Course - Hole 17 Water Feature (pump house) - Public Works assisted with the installation of the new irrigation pump as well as electrical and concrete work for this project. The Public Works Engineering Department provided the pump system design.

New Soccer Field Complex - The Public Works Department performed civil and building inspection for this project.

Girls Softball Field Renovations - Phase 1 - Public Works performed civil and building inspections for this project.

Spencerview Park Pedestrian Bridge - The Public Works Department performed the boundary survey, and worked as a liaison with Harris County Flood Control District and Cobb-Fendley, who was hired to perform engineering services on this project.



UPCOMING PROJECTS

Proposed New Emergency Operations Center (EOC) Facility

Municipal Courts & Theater Building Arch Investigation and demolition

Rehabilitation of the Pasadena Blvd. 1-Million Gallon Water Ground Storage Tank

Rehabilitation of the Coy Street 1-Million Gallon Elevated Water Tank

Continuation of Annual Lane Striping Program

Continuation of Waterline Improvements

Continuation of Manhole Rehabilitation Program

Continuation of Street Maintenance / Replacement Program

Continuation of Drainage Improvements

And much, much more!



PUBLIC WORKS ADMINISTRATION DIVISION

The Public Works Administration Division oversees the daily operations of the 12 divisions that make up the Public Works Department. In total, we employ 92 full time employees. The administration division consists of the Public Works Director Bill Pedersen as well as Assistant Public Works Director Brent Costlow, City Engineer Adam Ballesteros, Operations Supervisor Kathy Holcomb and Administrative Assistant Tiffany Stasney.

Administration is responsible for the management of Water & Sewer Funds, Capital Improvement Funds, Certificates of Obligation Bond Funds, General Obligation Bond Funds and General Funds that are budgeted to the Public Works Department. Our 2018-2019 fiscal year operating budget was \$19,705,372.

The Director is responsible for planning, organizing, directing and coordinating activities of engineering, City planning, building inspections, transportation, property maintenance, solid waste, drainage systems and water & wastewater utilities systems.

Some of the many items administration manages include:

Contract management for City projects & coordination with developers and consultants;

Perform accounts payable and payroll actions for the 12 Public Works divisions;

Preparation and administration of the annual budget;

Prepares a variety of studies, reports, and related information for decision-making purposes; conducts research analysis, and prepares recommendations regarding proposals for programs, grants, services, budget, equipment, etc.;

Assist in the development of notices, flyers, brochures, newsletters, media releases, news articles, and other information about programs and services;

Maintain employee evaluations and personnel folders for all employees;

Post current bid openings;

Create exhibits for City Council meetings;

Serves as responders of the City's Emergency Operation Center (EOC); and

Maintains the Public Works vital information including, but not limited to, essential / non-essential personnel, crew list, call out numbers, vendors, facility addresses and other resources that may be needed during emergency situations such as hurricane events.

10-YEAR CAPITAL IMPROVEMENT PLAN (CIP)

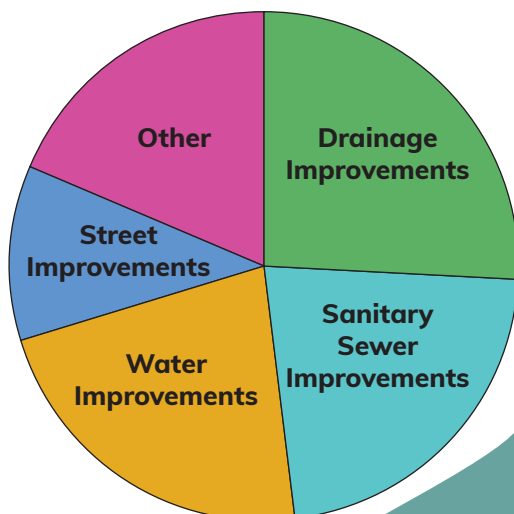
In 2011 the City prepared a 10-year Water & Sewer Capital Improvements Plan for projected water and sewer capital improvements. We also contracted for a Utility Cost of Service and Rate Design Study to develop a utility rate strategy to fund these improvements as well as projected operating cost over the 10-year period. It was determined that the City's plan would be to sell debt each year to fund the cost of the debt issuance. Each year, for the 10-year period, the City issues Certificates of Obligation to fund these CIP Projects.

These CIP Projects include the expansion of the Wastewater Treatment Plant, rehabilitation of elevated and ground water storage tanks, rehabilitation of sanitary sewer lines and waterlines, upgrades to sanitary lift stations and force mains as well as various other water and sewer related projects.

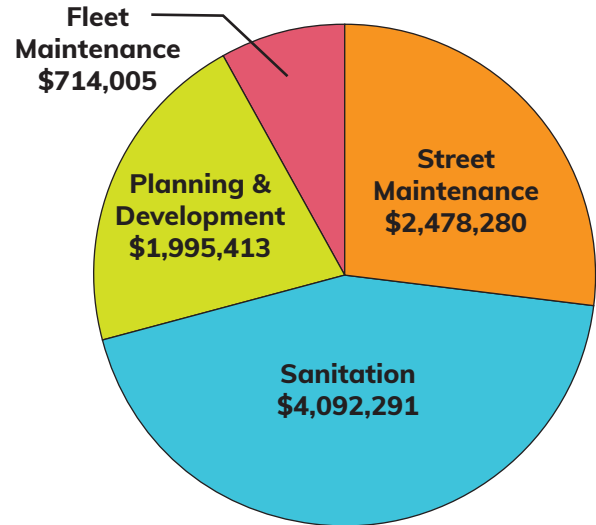
The 10-Year CIP funding is shown below:

2011-2012 FY	\$3,544,974
2012-2013 FY	\$4,888,679
2013-2014 FY	\$6,979,114
2014-2015 FY	\$6,862,692
2015-2016 FY	\$7,286,067
2016-2017 FY	\$7,390,400
2017-2018 FY	\$5,325,630
2018-2019 FY	\$6,434,295
2019-2020 FY	\$4,605,000
2020-2021 FY	TBD

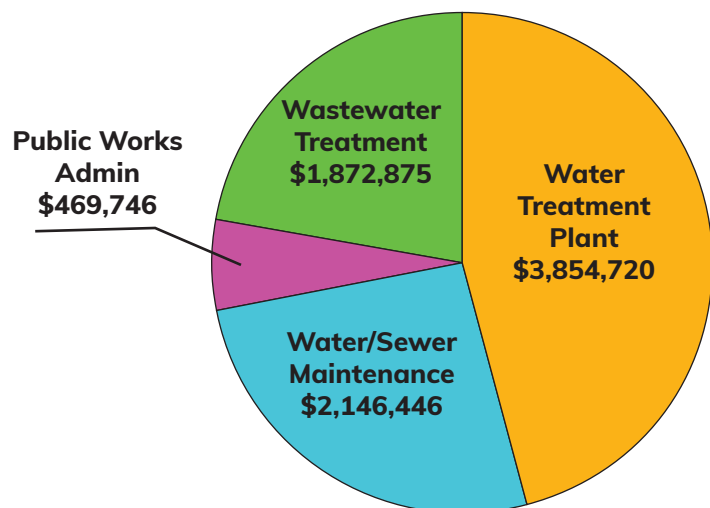
Total funding to date: \$53,316,851



BUDGETED GENERAL FUNDS FOR 2019



BUDGETED WATER & SEWER FUNDS FOR 2019



Improving the Quality of Life



PLANNING & DEVELOPMENT DEPARTMENT

City Engineer: Adam Ballesteros, P.E.
Building Official: Larry Brotherton
Deputy Building Official: Greg Melching

The Planning & Development Department is broken into three divisions: Engineering, Building, and Code Enforcement. All three play a vital role within the City. The Engineering and

Building Divisions help ensure code and ordinance compliance within the community, as well as ensuring work within the City is performed in a safe, efficient, attractive manner. They strive to achieve quality developments, enhancing the quality of life for our citizens. Both divisions also administer the review of proposed development projects to ensure compliance with the City's regulations. They coordinate pre-submittal meetings, administer zoning regulations and the platting process. They prepare and present site data and recommendations to the Planning & Zoning Commission and City Council regarding zoning considerations, plats and request for variances to the development standards.

The Engineering Division

The Engineering Division provides comprehensive engineering services for capital improvement projects as well as inspection services in order to manage the City's infrastructure, protect the environment, and ensure the public health and safety.

The division utilizes both in-house staff as well as outside professional consultants for design, construction management and contract management on all major capital improvement Projects. The division includes: Assistant Public Works Director Brent Costlow, City Engineer Adam Ballesteros, registered surveyors, plan review coordinator, engineering aid, two construction inspectors and two engineering interns.

The Engineering Division is responsible for all public infrastructure improvements, such as: municipal buildings, street, drainage, sanitary sewer and waterline improvements, traffic control systems, water plant and wastewater plant improvements, commercial plan reviews, subdivision development reviews and more.

Engineering 2019 Stats

40	Construction Projects
11	Re-plats or Subdivisions
3	Pipeline Reviews
29	Civil Plan Reviews
6	Studies or Agreements

THE BUILDING DIVISION

The Building Division is a very important division in Deer Park. Building Permits help ensure code compliance, public safety, maintain uniformity and protect property values. A home or business is an investment. If construction does not comply with the building codes, the value of the investment could be reduced.

Insurers may not cover work or damages caused by work performed without proper permits or inspections. Permitting allows the building official and inspectors to reduce the potential hazards of unsafe construction and provide for public safety, health and welfare.

The division inspects all commercial and residential construction within the City, which includes: remodels, additions, new construction, storage sheds, pools, etc. In 2019 there were over 3,000 inspections performed.

CODE ENFORCEMENT DIVISION

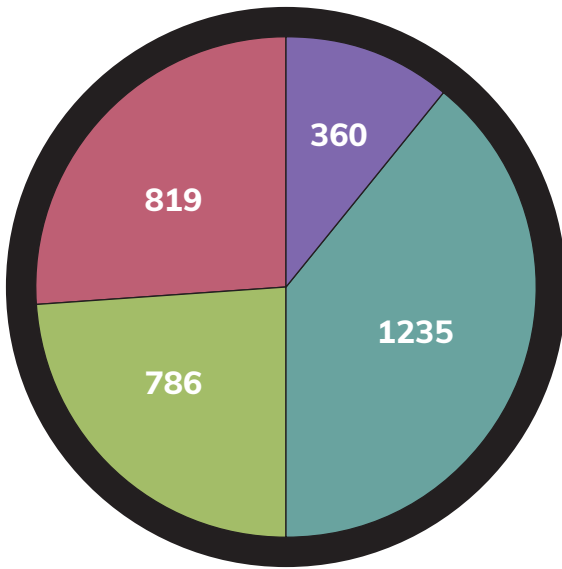
Deer Park is a wonderful, clean city to live in and one of the reasons is because Code Enforcement Officers take great pride in the work they do. The Code Enforcement Officers use the ordinances designed to assist them in gaining compliance with code violations that affect the quality of life and appearance of the city.

The Code is not enforced solely for aesthetic reasons, it is also enforced for health reasons. Junk and debris on property harbors rodents, snakes and can also create a breeding ground for mosquitoes.

Common code issues include: overgrown yards, junk vehicles, dirty swimming pools, falling fences, and low hanging trees that block traffic or pedestrians. Most violations can be taken care of with a notice or simple warning; however, some cases will result in a citation being issued, in order to obtain compliance. Code Enforcement had close to 1,000 cases in 2019.

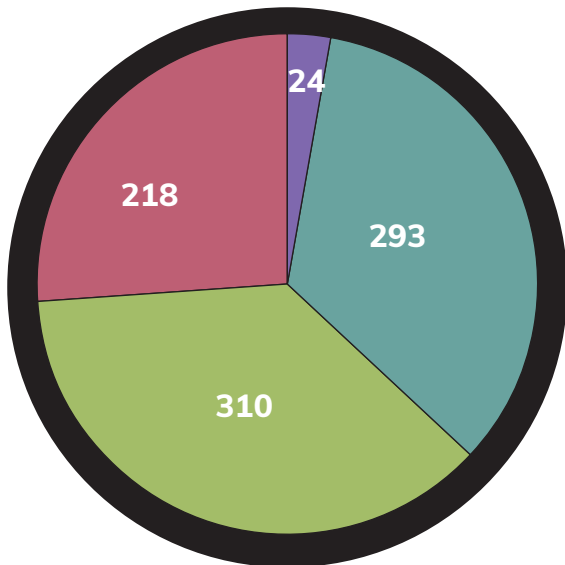


2019 Data



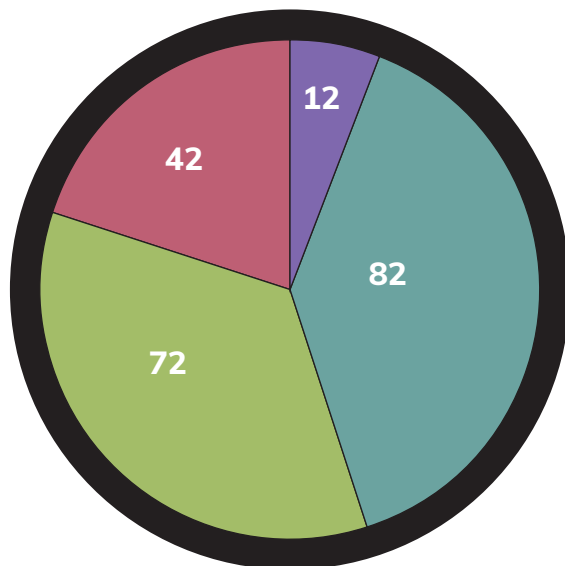
INSPECTIONS PERFORMED

- Building Inspections - 1,235
- Electrical Inspections - 786
- Plumbing Inspections - 819
- HVAC Inspections - 360



RESIDENTIAL TRADE PERMITS

- Residential Plumbing Permits - 310
- Residential Electrical Permits - 293
- Residential HVAC Permits - 218
- Residential Irrigation Permits - 24

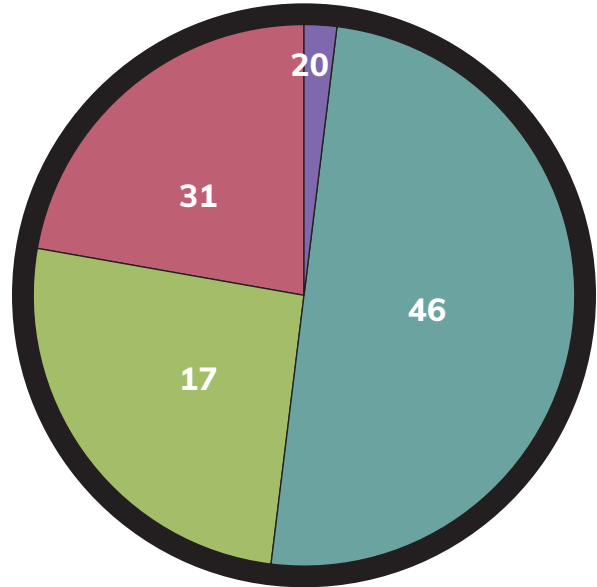


COMMERCIAL TRADE PERMITS

- Commercial Electrical Permits - 82
- Commercial Plumbing Permits - 72
- Commercial HVAC Permits - 42
- Commercial Irrigation Permits - 12

COMMERCIAL BUILDING PERMITS

- Misc. Building Permits - 46
- Remodel Permit - 31
- Addition Permit - 20
- New Construction Permit - 17

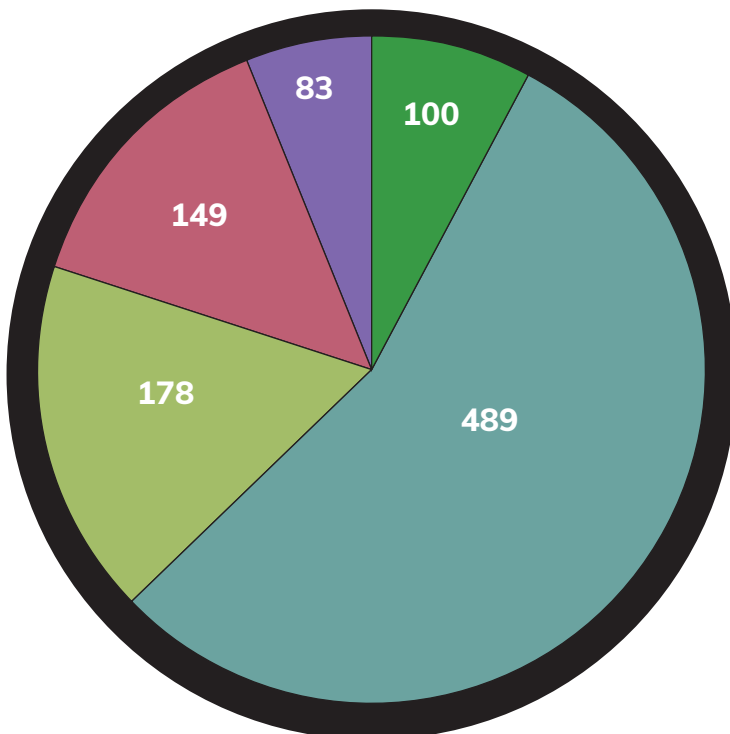


95% of Residential Permits are for fences, roof & window replacements and interior remodels

Total Operating Budget for the 2018 / 2019 Fiscal Year: \$1,995,413

OTHER DATA

12 New Residential Homes
23 New Pool Permits
85 New Sign Permit
2 Rezoning Permits
3 Specific Use Permits
15 Variance Permits
99 Certificates of Occupancy



CODE VIOLATIONS

- High Grass - 489
- Junk Vehicles - 178
- Stagnant Pools - 149
- Obstruction of view - 83
- Other - 100



THE SANITATION DIVISION

Everyone wants to live in a clean neighborhood. Most would agree that Deer Park's Sanitation Division does an excellent job at helping the City look nice. Whether it is picking up household debris, heavy trash or post-disaster cleanup, our crew works in a timely, professional manner and typically goes above and beyond what is expected of them.

Most cities either offer monthly or quarterly heavy trash collection, but Deer Park picks up heavy trash weekly. This is a huge service that the City provides for its citizens.

Deer Park has dedicated employees to take care of collections which is a great benefit to residents. We all know that occasionally an animal can rip open a trash bag and cause a mess, or sometimes the wind can blow debris out of a loose bag and scatter it around. Our crews take the time to clean up this debris to help keep the city, and your neighborhood, look nice.

There are also a lot of hazards that many people don't realize. Police officers and firefighters face job related dangers every day, but it is not as widely known that sanitation staff do as well. Sometimes we forget how harsh the environment they work in can be. Not only do they have to work on the back of a truck whether it is 100 degrees, 20 degrees or raining, they also have to deal with broken glass, ants, sharp metal objects, and medical waste such as sharp needles that are disposed of illegally. In fact, it ranks third on the list of riskiest jobs in the US, according to a study conducted by the University of Miami. The injury rate is staggering, according to the study. Collectors, on average are injured five to seven times more than the average worker. Most of those are back injuries and lacerations.

We are very proud of our Sanitation Division and a lot of that is due to the leadership they receive from their supervisor, Tim Alexander, and assistant supervisor, Paul Pena. Together their years of experience help them operate an excellent department. Our Sanitation Division consists of a supervisor, assistant supervisor, crew leaders, equipment operators and laborers. Teamwork is high and turn-over is low with several of our employees being with the Sanitation Department for over 15 years.





Clean Communities = healthy citizens

BUDGET INFORMATION:

The total operating budget for Sanitation, during the 2018 / 2019 fiscal year was \$4,092,291.

Major expenses funded by the budget includes:

- \$991,000 - Commercial Garbage Collection
- \$600,000 - Landfill Disposal Fees
- \$221,000 - Vehicle & Equipment Maintenance
- \$232,000 - Equipment Leasing Fees
- \$160,000 - Garbage Bag Program
- \$ 95,000 - Diesel

Other expenses include: salaries, tools, cleaning supplies, operational supplies, building maintenance, etc.





STREET & BRIDGE MAINTENANCE DIVISION

Most people are not aware of the different responsibilities that fall under the Street & Bridge Division. The division is responsible for street and sidewalk maintenance, drainage maintenance, street and ditch right-of-way mowing as well as mosquito spraying.

The division is under the supervision of Supervisor, Shain Olson and Assistant Supervisor, Richard Bermea. The crew consist of six equipment operators and five full-time laborers as well as six part-time summer laborers to assist with mowing.

STREET & SIDEWALK MAINTENANCE

The crew is responsible for maintaining over 110 miles of roadway as well as all sidewalks within the City limits. (This includes street sweeping of most) By maintaining this infrastructure, the crew helps save the City millions of dollars in costly repairs and street replacement. They fill in potholes, repair broken curbs and seal cracks in the pavement to prevent the weather from undermining street integrity. They also repair broken or damaged sidewalks, and install new sidewalk and ramps.

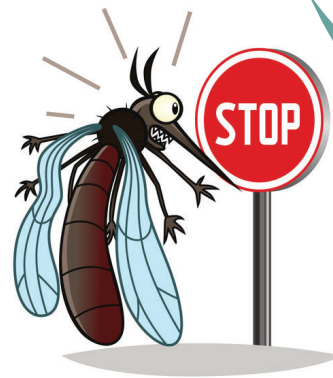
DRAINAGE MAINTENANCE

The crew maintains all City owned ditches, both large and small, paved and unpaved. Drainage is such an important issue because it conveys stormwater runoff and keeps homes from flooding during heavy rain events. They mow the ditch right-of-ways, remove debris and regrade ditch bottoms to ensure proper drainage and flow. Drainage inlets are maintained and routinely cleared of debris.



MOSQUITO CONTROL

Another important responsibility of the division is mosquito control. Not only are they a nuisance, they also pose a health risk to the community. Due to mosquito borne illnesses, such as the West Nile Virus and Zika Virus, the City takes mosquito control very seriously. We have four employees that are certified in vector control. The City is divided into four sections and each section gets sprayed weekly during the mosquito season.



MOWING

Mowing is the dreaded side effect of summer time and the City is not any different. The Street Crew is responsible for mowing and weed eating miles of street & ditch right-of-ways. The City employs summer laborers to assist with mowing in order for our full-time crew members to continue focusing on concrete repairs and drainage issues. Mowing and mosquito spraying makes summer a busy time of year for the crew.

EMERGENCY RESPONSE

The crew is considered “first responders” during emergencies. Before, during and after emergency events, they are responsible for placing barricades to assist with traffic control for flooded streets, shelters-in-place, etc. They are also expected to shelter-in-place at a City facility during hurricane events so they will be available immediately following the storm to clear debris from streets.

OUR NUMBERS

110 miles of roadway maintained

70 miles of storm pipe maintained

15 miles of street right-of-ways are maintained

13 miles of ditch right-of-ways are maintained

380+ work orders completed

BUDGET INFORMATION:

The total operating budget during the 2018 / 2019 fiscal year was \$2,478,280

Major expenses funded by the budget includes:

- \$400,000 - Street Replacement Project
- \$350,000 - Contracted Street Maintenance
- \$300,000 - CIP Funded Sidewalk Improvements
- \$200,000 - Internal Street Maintenance Program
- \$150,000 - Annual Lane Striping Program
- \$108,000 - Replaced 2 trucks & 1 mower
- \$ 50,000 - Pavement Crack & Seal Program
- \$ 40,000 - Sidewalk Maintenance Program

Other expenses include: salaries, fuel, vehicle & equipment maintenance, tools, cleaning supplies, operational supplies, building maintenance, etc.



FLEET MAINTENANCE DIVISION

The Fleet Maintenance Division operates in the background of the City. Since they do not interact with residents, they really don't get noticed. However, the job they perform is vital to the City. For example, if you had an emergency at your home and called 911 expecting a police officer to be at your home immediately you would not be too happy if you heard "sorry, my police car broke down" or "I had flat tire on my way". Fleet maintenance is responsible for ensuring that emergency vehicles stay in great operational conditions so they are able to respond to citizens when needed. Another example is experiencing a sewer backup and needing our sewer maintenance crew to come and assist as soon as possible. You expect that the proper equipment is operational and is able to perform the necessary work. That is the responsibility of the Fleet Maintenance Department. The division consists of Supervisor Edwin Garcia, along with one welder, five mechanics and one laborer.

Our Fleet Maintenance Division is responsible for maintaining all City vehicles and equipment, including: garbage trucks, 18-wheel tractor trailers, dump trucks, back hoes, track hoes, large mowers, etc. along with a very large fleet of City vehicles. Maintaining our Fleet of City vehicles and equipment in good operational order, allows us to be responsible with taxpayer's money because keeping equipment and vehicles in good operating condition means they will have a much longer life span, and will not need to be replaced as often.

Fleet Maintenance Facts:

Fleet's Operational Budget for 2018-2019 fiscal year was \$714,005

Vehicles & Equipment Maintained:

- >175+ Equipment, both large and small, (large mowers, pumps, etc.)
- > 75 City vehicles
- > 35+ Heavy equipment (garbage trucks, semi-trucks, fire trucks, buses, and ambulance)
- >1,105 work orders completed in 2019





TRAFFIC DIVISION

Our Traffic Division maintains 45 traffic signals, and numerous traffic / street signs throughout the city. In addition, this small division also performs electrical and HVAC maintenance for all city facilities, this includes maintenance of generators, electrical pumps and other equipment.

The Traffic Division is overseen by Supervisor Chris McNeely who has worked for the City for 35-years. He is a master electrician and also holds his Residential & Commercial Electrical Inspector Certification. Doug Niemeyer is our traffic supervisor, and is a licensed journeyman electrician, who holds a residential electrical inspector certification and has received certifications from the International Municipal Signal Association. The division also consists of Chris Rains, who holds a journeymen electrical license and HVAC license and our maintenance electrician, Roger Kirkpatrick.

Traffic Division Information

Traffic previously fell under the umbrella of Planning & Development and recently became its own division. Anticipated operating budget is \$576,617.

- > Services Electrical and HVAC on 27 City Buildings
- > Services lighting at all ballparks & concessions
- > Assist with electrical inspections, as needed
- > Services lighting of all City parking lots
- > Maintains 45 traffic light signals
- > Maintains traffic signal timing
- > Banner placement over Center Street
- > Generator maintenance
- > Repairs & Replacement of numerous traffic signs
- > Electrical repairs to pumps & equipment at the Surface Water Treatment Plant, Wastewater Treatment Plant, Lift Stations, Golf Course, light decorating connections and all electrical facilities.





Water & Wastewater Maintenance Division

The Water & Wastewater Maintenance Division's responsibilities are pretty self-explanatory, they maintain our water and wastewater lines, but there is quite a bit more to it than meets the eye. Each employee receives training from the Texas Commission of Environmental Quality (TCEQ) and maintain water distribution and wastewater collection licenses. The employees also receive continuing education courses to keep their licenses current. The division consists of Supervisor Tom Fuller, Assistant Supervisor Armando Diaz, one crew leader, 3 equipment operators, 3 maintenance technicians and 3 laborers.

Dangers

Underground utility work can be very dangerous. There is the constant danger of hitting gas and other utility lines when performing underground work, as well as the risk of cave-ins when working in deep holes to make repairs. However, there is an added danger for the crew when working around human waste and biological hazards. When sewer lines bust, manholes overflow, or lift stations need repairs, the crew is exposed to sewer waste. Although every precaution is made, they still run the risk of exposure to harmful gases, infections and other health-related issues, with the greatest risk being Hepatitis. The crew prides themselves in performing their work as safely and efficiently as possible.

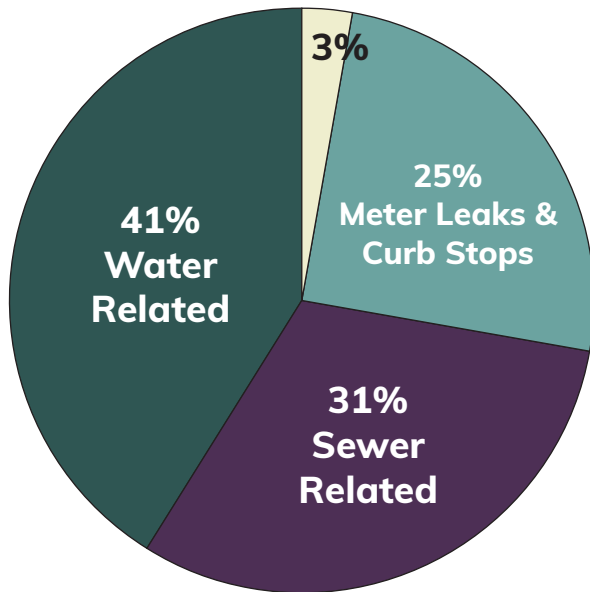
Maintenance Duties

The duties of the division includes:

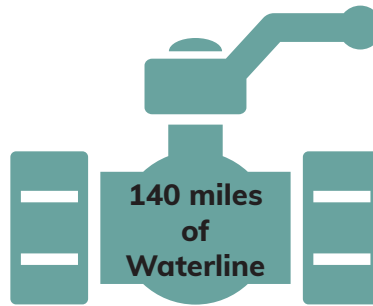
- > Checking all sanitary lift stations daily
- > Lift Station pump repairs & replacements
- > Fire hydrant painting
- > Flushing fire hydrants
- > Clearing clogged/backed up sewer lines
- > Repairing broken water mains
- > Repairs of busted sewer lines
- > Replacing meter curb stops
- > Repairing meter leaks
- > Generator maintenance
- > Completed 1,235 work order requests
- > On call 24/7



Water & Wastewater Maintenance Division Information



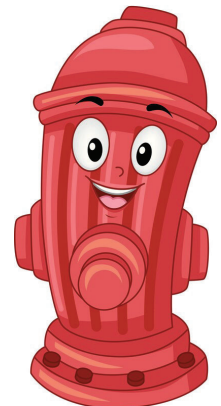
41% Water Related Work Orders
31% Sewer Related Work Orders
25% Meter Leaks & Curb Stops
3% Water Main Breaks



145 miles of sewer line



1,010 Fire Hydrants



620 Work Orders Completed in 2019

BUDGET INFORMATION

Total operating budget th 2018-2019 fiscal year was \$2,146,446

Major expenses funded out of the budget include:

\$400,000	Water/Sewer maintenance contract
\$150,000	Contingency funds for emergency repairs
\$145,000	Lift Station and Sanitary Sewer Maintenance
\$ 93,000	Additional concrete pavement at shop
\$ 34,075	Water Main & Fire Hydrant Maintenance
\$ 42,000	Water Meters & Meter Boxes
\$ 42,000	Replaced truck, Unit 603
\$ 35,000	Purchased a new 6-inch pump
\$ 20,000	On-going hydrant replacement program

Other expenses go toward salaries, gasoline, diesel, operational supplies, training, license renewals, equipment rental, tools and minor equipment, etc.





Wastewater Treatment Plant

There is no doubt that as children we wondered, when we flushed the toilet, where did it go and what happened to it. Some of us may still not fully understand the process. We just know that when we flush, its gone! The truth is there is a great deal involved in wastewater treatment.

Wastewater

Wastewater includes household waste liquids from toilets, baths, showers, and sinks which drain into sewers. Sewage also includes liquid waste from commercial businesses. The wastewater must be treated before it can be released back into the environment. That is the purpose of the plant. We are meeting our current permit requirements and are prepared to meet the more stringent limits that will go into effect in 2023.

The Crew

Our wastewater plant is overseen by Supervisor Greg Holleman, who has worked at the wastewater plant for over 30 years. His staff consists of a crew leader/"B" Operator, "C" Operator, lab technician, maintenance technician and laborer. Together they help keep the plant operating smoothly to keep our environment safe and healthy and to maintain compliance with the Texas Commission on Environmental Quality (TCEQ) requirements.

Budget Information

Total operating budget for the 2018-2019 fiscal year was \$1,872,875

Major expenses funded out of the budget include:

\$475,000	Laundry Covers
\$400,000	Electricity
\$100,000	Contingency funds for emergency repairs
\$ 75,000	Mechanical Equipment
\$ 50,400	Disposal Fees
\$ 43,000	Water Analysis
\$ 25,000	Chemicals

Other expenses go toward salaries, operational supplies, lab equipment and lab supplies, small tools and minor equipment, etc.



Wastewater Treatment Plant - Information

Wastewater Treatment Plant Expansion Project:

Phase I & II design began in 2013 with construction on Phase 1 starting in 2015. CSA Construction was awarded the construction of Phase I. This phase of construction was completed in February 2017 at a final cost of \$4,998,554.

Phase II was awarded to LEM Construction in June 2017 at a cost of \$13,636,685 and started construction shortly thereafter. Construction is expected to be completed in summer 2020.

The City entered into an agreement with CDM Smith for the preliminary and final design as well as contract management and inspection of both phases for a total cost of \$4,015,104.



**700 metric tons of dry sludge
is hauled off annually**



**3.2 million gallons of
wastewater treated daily**

Expansion Project



Surface Water Treatment Plant

We all take for granted that each time we turn on a faucet we will receive crystal clean water used to drink, cook and bathe, and lot of work goes into achieving that crystal clean water. The City of Deer Park owns and operates a surface water treatment plant with an in-house laboratory. The City purchases raw, untreated water from the City of Houston. We receive our water from the Trinity River, via the Coastal Water Authority. The “raw” or river water is delivered to the City of Deer Park via large pipelines to the treatment plant. This Department operates the treatment plant, 3 elevated water storage tanks, ground storage tanks, and 3 ground water well sites and pumping stations. The plant treats 1.5 billion gallons of water a year.

The water plant uses a multiple barrier approach to drinking water treatment. This means that the treatment system has been designed to reduce and eliminate contaminants to levels that have been established by the state and federal government. Regular water samples are pulled city-wide and tested in our lab to ensure compliance with TCEQ.



One of the unique features of Deer Park's Water Treatment Plant is the state-certified laboratory operated by the Public Works Department staff. Deer Park is one of the few small cities in Texas to operate such a facility.

The water plant operation is overseen by Supervisor Nicholas Cook, and Assistant Supervisor Matt Noland. The staff includes a lab technician, maintenance tech, and 6 operators. The plant is operated 24/7, including holidays.

Budget Information

Total operating budget the 2018-2019 fiscal year was \$3,854,720.

Major expenses funded out of the budget include:

\$1,065,000	Raw Untreated Water
\$ 500,000	Residual Mitigation
\$ 350,000	Chemicals
\$ 257,000	Electricity
\$ 206,125	PAX Unit & Residual Control - Well Site
\$ 100,000	Contingency for unexpected repairs
\$ 85,000	Replace Filter Media
\$ 75,000	Study for Microchlor System
\$ 57,000	Replace Altitude Valve
\$ 45,000	Nitrification Action Plan
\$ 35,000	Permits

Other expenses go toward salaries, operational supplies, lab equipment and lab supplies, small tools and minor equipment, mechanical repairs, etc.



Surface Water Treatment Plant



IN 2019, THE CITY USED

- > 1,489,459,000 gallons of raw water.
- > 1,414,758,000 gallons of water were distributed throughout our water distribution system.
- > 95% of raw water was produced into drinkable water.
- > Other uses of the water include loss in backwashing, evaporation, sludge removal from the clarifiers.
- > The average water sent out everyday is 3,873,692 gallons.
- > Our highest production month in 2019 was August at 130,356,000 gallons.
- > Our lowest production month in 2019 was in February at 97,957,000 gallons.
- > Staff collected over 360 routine bacteriological samples. We had ZERO samples found to have total coliform or E. coli. Additional samples were collected for special circumstances or for construction samples for new waterline pipe installation.
- > Staff collected, with the help of the Water & Wastewater Maintenance crew, 724 chlorine residuals in the distribution system (people's homes) where we had a range of 0.5 mg/L to 3.94 mg/L.



Our water storage & production system:

- 3 - 1/2-Million Gallon Elevated Water Storage Tanks
- 5 - 1-Million Gallon Ground Storage Tanks
- 3 - Water Well Sites

STORMWATER DIVISION

2018 - 2019 Fiscal Year - Stormwater Revenue

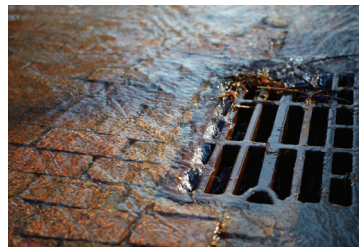
\$ 7,700 Late Fees
\$191,000 Residential Stormwater Fees
\$150,000 Commercial Stormwater Fees

The Stormwater Management Division is responsible for administering the City's Stormwater Management Program (SWMP). The goal of the program is to implement city-wide practices that improve the quality of stormwater runoff before it enters the drainage system and other downstream waterways. The SWMP is state- and federally-mandated under the Clean Water Act, which requires municipalities (such as Deer Park) to obtain a permit through the Texas Commission on Environmental Quality (TCEQ).

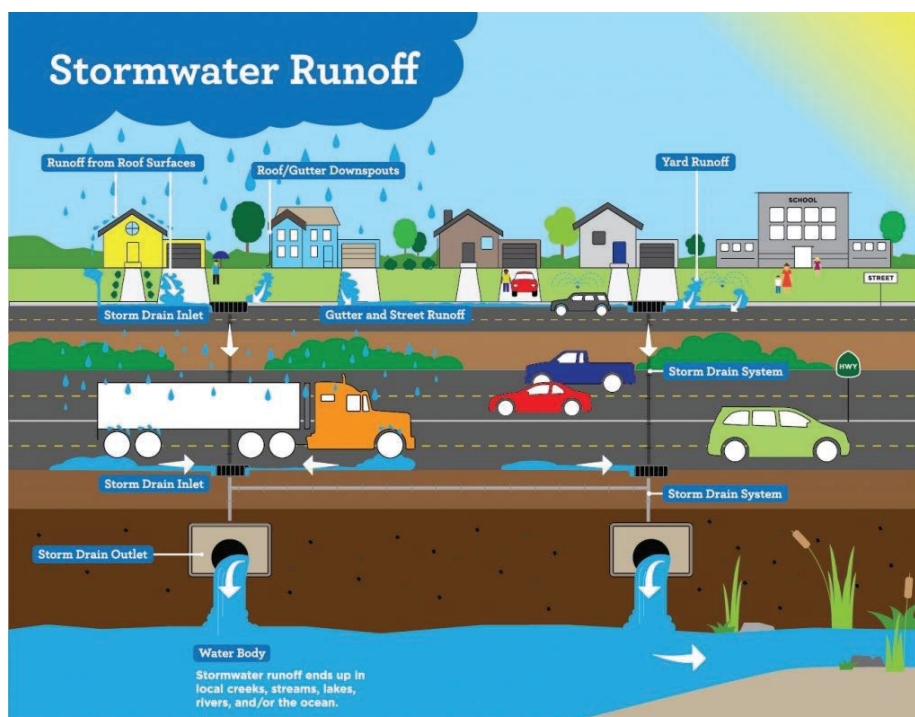
The division also manages the city's Municipal Drainage Utility System, and assists the Engineering Division with in-house construction projects related to the drainage system.

The City of Deer Park currently operates its drainage system as a Municipal Separate Storm Sewer System (MS4) under regulations issued by the TCEQ. These regulations require municipalities to develop and implement a SWMP that includes the following six Minimum Control Measures (MCM):

- > Public Education
- > Public Participation
- > Illicit discharge detection and elimination
- > Construction site stormwater runoff control
- > Post-construction stormwater management
- > Pollution prevention / good housekeeping



In 2012, Ordinances establishing a Municipal Drainage Utility System were adopted, which is a user fee based funding program for municipal drainage management. This is a common funding mechanism throughout Texas, and funds may only be used to cover appropriate cost related to the City's drainage system. The current fee is \$1.60 per Equivalent Residential Unit (ERU).



City of Deer Park - Public Works Department





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