

City of
Fitchburg



Department of
Public Works

**301 Broad Street
Fitchburg, MA 01420
Phone: 978-829-1900**

DPW Weekly Update November 4 – November 10, 2019

Dear Mayor, Councilors, and Colleagues:

DPW's biggest asset is our workforce consisting of nearly 100 employees. In order to continue providing the highest level of service to the City, it is important to have the best trained employees. Training increases productivity, safety, efficiency and overall staff morale. Training is also necessary to obtain and maintain licenses and certificates that are necessary to run construction equipment, design improvements, and operate the water treatment and waste water treatment plants. To this end we are investing in our workforce by sending them to BayState Roads workshops, providing webinars from Lorman, and other training opportunities offered by member organizations for stormwater, waste water, and water treatment operators.

Baystate Roads is the Local Technical Assistance Program (LTAP) provider. BayState Roads, run through the University of Massachusetts Transportation Center (UMTC) is funded by MassDOT through federal transportation funds. Last week I attended the quarterly Advisory Committee meeting to discuss training needs for DPWs. A sample of training courses we are sending our DPW employees to include:

- Pavement Preservation – Right Road, Right Treatment, Right Time.
- Salt Spreader Calibration – Calibrating spreaders to optimize costs of application.
- Snow & Ice Operations – Proper use of salt, pre-treatment, policies, and cost benefits.
- Complete Streets 201 – Benefits and designs of multi-modal transportation improvements.

As always, please feel free to contact us with any comments or questions.

Sincerely,

Nicolas H. Bosonetto, PE
Commissioner of Public Works/City Engineer

CONSTITUENT SERVICES

DPW continued to respond to service requests in a timely manner through the [SeeClickFix](#) program. In the past two weeks DPW received 38 new requests and completed 29 requests. The total outstanding requests backlog is now 316, an increase of 9 from the previous reporting period. A majority of outstanding requests are for potholes, storm drains, and tree/brush trimming.

<u>Reporting Period</u> 10/28/19 - 11/10/19		<u>Previous Period</u>	<u>Change</u>
Previous Request Backlog	307		
New Requests	38	53	-15
Completed Requests	29	79	-50
Total Request Backlog	316	307	+9
Potholes	70	61	9
Storm Drains	80	80	0
Tree & Brush Pruning	55	55	0
Traffic, Signals, Signs	12	14	-2
Berm Repairs	14	14	0
All other categories	85	83	2
New Requests	38	53	-15
Acknowledged	7	29	-22
Completed & Closed	4	7	-3
Open	34	43	-9

ROADWAYS

Traffic

Made and installed street name signs for Shattuck Street and Putnam Street. Changed Stop sign on Webster Street. Reset Right Lane Must Turn Right on Laurel Street.

Replaced traffic signal lights at Moran Square with LED lights. Replaced video detection camera for Day Street approach at intersection with Main/Water Streets.

Potholes

Pothole patching efforts continued this week with approximately 400 potholes¹ filled at various locations, including the following:

- Williams Road;
- Ashby West Road;
- Foster Street;
- Leighton Street;
- Scott Road.

¹ Based on average pothole size of 3.5 inches depth and 1.5 foot wide by 1.5 foot long (volume of 0.66 cubic feet or 0.02 cubic yards)

Snow & Ice

Hauled sand from the Airport Pit to DPW yard and mixed it with salt.

Prepared trucks by installing the sand/salt spreaders. Safety items including lights also checked and replaced as necessary.

PARKS & RECREATION

DPW Crews started cleaning up and removing fences encroaching on the rail-trail project. These encroachments must be removed prior to December 1st.

Commissioner attended meeting of the Twin Cities Rail Trail Association (TCRTA) on November 6th for the purpose of discussing maintenance of the trail once it is completed. The association is expecting DPW to maintain the approximately 2-mile trail through regular mowing, weedwacking, plowing of snow, trash removal, removal of graffiti, removal of dumping, removal of invasive species, repair of the pavement surface, fences, benches, drainage etc. The trail will have approximately 485,000 square feet (11.1 acres) of grass and 285,000 square feet of asphalt. The Commissioner explained that the DPW Parks Division only has three or four staff that must maintain more than 60 properties including large parks, neighborhood playgrounds, and common areas around the city. Due to limitations in resources, the Trail Association was encouraged to organize volunteers to help maintain the trail and to have realistic expectations on the level of maintenance that DPW can provide.



Figure 1 - DPW Cleaning and Removing Fences from Rail-Trail

CEMETERIES

Due to its geography and historic nature, Laurel Hill cemetery is difficult to maintain and access with heavy equipment. As a result, when the many granite slabs that form the terraces, walkways and steps start to tip and topple over they have to be repaired using hand tools and a lot of man-power. Last week the Cemetery Division crews along with the Shirley MCI inmates took on the task of repairing Laurel Hill Cemetery. Eight large granite walls and over 100 monuments including headstones and obelisks were righted with much care and respect.

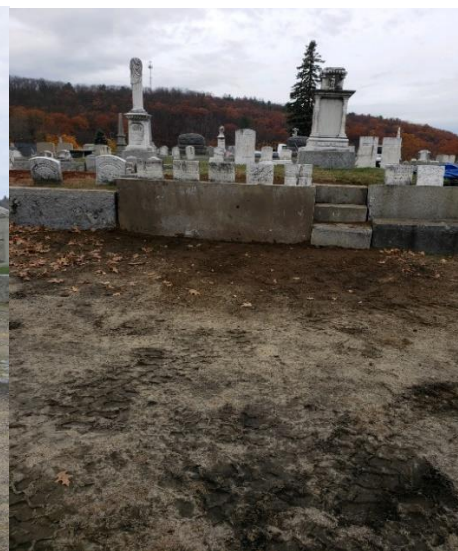
In addition to routine maintenance and administration tasks, the following were completed:

Interments	1
Up righted monuments.....	100+
Uncovered/cleaned flat monuments	0
Foundation marking for monuments.....	0
Catch basin repair	0
Trimmed Trees	0
Trimmed shrubs.....	0
Meeting with Families.....	5
Payments - invoiced/processed.....	8
Family Genealogy	6

Before



After

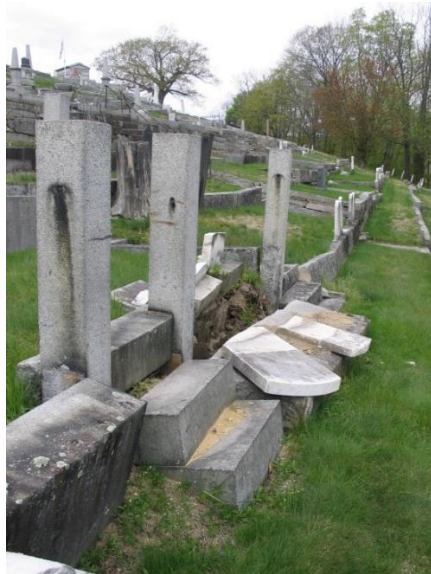
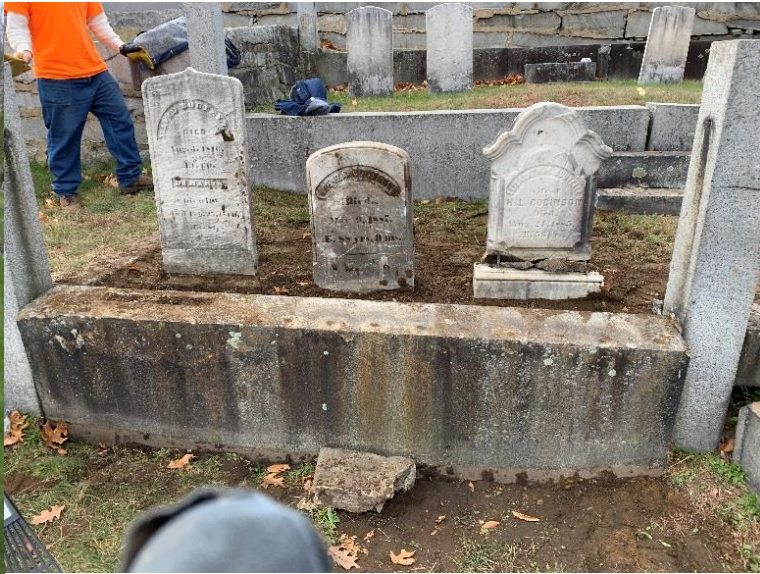


Before



After



Before**After**

STORM WATER

Rainfall Amounts

Mon 4	Tues 5	Wed 6	Thur 7	Fri 8	Sat 9	Sun 10
0.00"	0.00"	0.00"	0.39"	0.00"	0.00"	0.00"

Courtesy: https://www.cocorahs.org_station_MA-WR-22

DPW's stormwater consultant Arcadis began problem area catchment investigations for the City's stormwater system on Thursday and Friday. These are areas that were flagged during the dry weather outfall inspection over the summer as having some sort of dry weather inflow. Per the City's MS4 permit from the EPA, outfalls found to have dry weather flow must be investigated to determine the source. This involves looking in upstream catch basins and manholes until the source is found. Oftentimes this source is either a cross-connection to the sanitary sewer system, or an area with groundwater inflow around collapsed or leaking infrastructure.

Culverts and catch basins grates were checked and cleaned. Rebuilt catch basin on Daniel Street and started working on catch basins on Canton and Martel Streets. Installed berms on Westminster Street and Airport Road.

Dams

DPW Engineering provided review comments to Tighe & Bond on the draft Alternatives Analysis for McTaggart's Pond Dam. This report will help the City make an informed decision on how to proceed with the dam, which is currently in an unsafe condition due to excessive seepage at the toe of the dam near the right abutment. Next steps are to finalize the report, and work with Tighe & Bond to present their findings to City stakeholders.

Coordinated Phase I inspection of the Waste Water Treatment Plant Dam in West Fitchburg with Tighe & Bond. They will be on site Friday 11/15 at 10 am to proceed with field work.

WATER SUPPLY

The Water Supply Division produced 28.2 million gallons of drinking water this past week. The Bickford pump station is transferring 4 million gallons per day (MGD) from Bickford Reservoir to Mare Meadow. Reservoirs continued to be inspected and patrolled.

Water Treatment

Reservoir Levels as of 10/31/19			
Northern Reservoirs	Elevation below spillway		Southern Reservoirs
Fitchburg/ Ashby	- feet	- feet	Meetinghouse
Scott	- feet	- feet	Mare Meadow
Lovell	- feet	- feet	Bickford
Water Filtration Plant Flows/Production from 10/31/19 through 11/07/19			
	Falulah Plant	Regional Plant	Totals
Raw Water Inlet (Gal)	7,529,000	24,493,000	32,022,000
Backwash to waste (Gal)	754,000	3,108,000	3,862,000
Finish Water - Treated & Distributed (Gal)	6,775,000	21,385,000	28,160,000
Capacity	(6 MGD) 18%	(12 MGD) 29%	(18 MGD) 25%
Efficiency	90%	87%	88%

Fire Hydrants

Total Hydrants	Out of Operation	Hydrants Replaced	Hydrants Repaired	Painted	Flushed	Winterized
1,632	2	0	1	0	0	185

- FWD personnel continued winterizing hydrants on the Scott and Low Systems.
- On Monday, FWD personnel installed a new break-away kit on a hydrant at 180 Wanoosnoc Road. This hydrant was hit by a car. Notified FFD that hydrant is back in service.
- On Monday, FWD personnel winterized hydrants around Monty Tech, FHS, South Street Elementary, Crocker Elementary, Sizer School, and McKay School.

Water Distribution

- On Monday, FWD personnel excavated the curbstop at 59 Theresa Street, repaired the copper service line and reset curb stop box (it was discovered that the curb box was not over the curbstop)
- On Tuesday, FWD personnel finished installing equipment and parts on W50 (the Water Division's new utility truck)

- On Tuesday, FWD personnel cleaned area around curb box repair and loamed/seeded disturbed area at 59 Theresa Street.
- On Wednesday, FWD personnel tried to locate a BOT (box over tap) at 76 Summer Street. Crews jackhammered two spots in road but did locate tap/box. This is an abandoned water service with no good ties.
- On Wednesday, FWD personnel repair/reset a gate box at 114 Summer Street.
- On Wednesday, FWD personnel raked out area excavated for a water service renewed, loamed and seeded area at 31 Phillips Street
- On Thursday, FWD personnel paved the water service trench at 97 Summer Street.
- On Thursday, FWD personnel turned off seasonal water at the Oak Hill Country Club, Ansin Field, Gus Johnson Field, Nikitas Field Clubhouse, and Park Hill baseball field.
- Cold patch around gate box at 114 Summer Street
- Responded to 655 Westminster Street for report of water in parking lot, found an overflowing manhole, notified Wastewater Division.
- After inquiry, checked to see if curb stop is on at 94 Pacific Street (yes, it is on).
- FWD personnel inspected the water service line in cellar at 51 Hurd Street, the service is old iron pipe and in poor condition. This will need to be addressed before a new water meter can be installed.
- On Monday, the water meter installation contractor broke the water service pipe in the cellar at 31 Phillips Street, which was old iron pipe. On Wednesday, contractor (Tandem) installed a new 1-inch service from curbstop to house, and installed a flared fitting, ball valve, and connected to new water meter.
- Contractor working on City Hall project excavated the corporation and turned off/disconnected old water service to the old bank building.
- Reviewed View Permit for new house at 414 Ashburnham Street – it is on hold until Water Division receives a new service application and connection fees (nothing was received this week).
- Contractor (Tocci) completed a sewer service repair at 21 Longwood Avenue, which is at the corner of Fitch Hill Avenue. It appears the sewer service comes out on Longwood Avenue and is not near the recent water main work (so it is not something caused by the water main work).

Meters and Billing

- Set up appointments for backflow testing. Left door tags on properties as necessary to get property owners to set up appointments for backflow testing.
- Investigated zero/repeat readings and tampers discovered during monthly billing. New Neptune meters/MIUs (meter interface units aka electronic registers) are being installed whenever access is gained to a house/building (for any purpose, not just for investigation of zero usage).
- Removed water meter from the Police Memorial and service truck shut the water off at curbstop.
- Went to 35 Ronald Street to change meter and discovered an unmetered irrigation system. The new owner of property was unaware it existed and does not want irrigation meter. It was explained to owner that her she needs to have plumber

remove/cut out the tee and install an elbow. Water Division personnel will then return to inspect and then change regular meter (otherwise two new meters will need to be installed if owner does not remove irrigation piping).

- Brought 720 MIU's, 720 5/8-inch meters, and 30 3/4-inch meters (that had been delivered to 1200 Rindge Road) to Baystate's storage trailer at the Falulah tanks.
- Pulled the 3-inch meter apart at Oakhill Country Club and also removed the 1.5-inch and 5/8-inch meters for winter.
- Removed the 2-inch and 5/8-inch meters from Ansin field.
- Informational updates for water system work that could affect pressure and/or water quality (e.g., fire pump tests, hydrant flushing, water main breaks, etc.) were posted on the City's Facebook page as needed.
- Checked the Registry of Deeds records to confirm real estate transfers and changed ownership records as appropriate in Munis. It is common to have a closing fall through and the Water Division is not notified (and we do not want to change all the information in Munis and have the former buyer get bill as many times it is not forwarded).
- Revised billing accounts with information for water meters and MIUs (meter interface units) that were replaced/installed during the course of the week. Completed tracking paperwork for new Neptune meters/MIUs that were taken from stock by employees for installations.
- Revised accounts in the cross connection/backflow testing/tracking software (customer name changes, phone numbers, etc.).
- Revised information in the Tolemi tracking software/database (used by City departments for identifying/tracking problem properties, code violations, etc.).
- Responded to miscellaneous customer inquiries about payments, missing bills, high/low usage, water use restrictions, water main work, and hydrant flushing.
- Resolved all zero usage reports. Called/emailed customers to set up appointments to determine why there is no usage recorded (e.g., vacant, equipment issue, etc.). New Neptune water meters/MIUs are being installed whenever FWD personnel access a respective house/building for identified metering issues.
- Total of 10 real estate closings – final readings completed along with preparation of final bills for attorneys/realtors. Future real estate closing final readings also scheduled.
- Called 10 customers for November backflow test scheduling. Also made follow-up calls to 12 customers that have not scheduled their backflow tests that were due in September/October.
- Sold one meter for 110-112 Ashburnham Street.
- Responded to MA DEP inquiries/information requests regarding interconnections with Leominster and intakes in the gatehouse at Scott Reservoir.
- Attended US EPA training held at MWRA in Chelsea. This training covered the new regulations pertaining to Resiliency and Vulnerability Assessments for public water suppliers as well as new requirements for Emergency Response Plans and associated training for employees/operators.
- Reviewed/signed new service application for a fire service and domestic service upgrade at 110-112 Ashburnham Street.
- Spoke with owner of 441 Water Street, he has an old iron pipe service and is trying to repair/replace it on his own but is having a very difficult time. Owner was advised to

contact a contractor to do the work (he contacted Alleva Excavating who will replace the service line next Tuesday).

- Met with owner at 20 Walnut Street; he is rehabbing a home and had questions about moving the location of the water service entering the building.

In addition to routine maintenance and administrative tasks, the following services were completed:

Water Permits and Inspections	
Type	Number
Emergency DigSafe Mark-outs	2
DigSafe Mark-outs	28
Inspections of Work on Water System	7
Record Plan Updates	8
Curb Stops Turned off/on	13
Located/cleaned gate/curb boxes	15
Final Readings/Real Estate Closings	10
New Meter Installations	12
Backflow Preventers Tested	23
Residential Appointments Made	9
Totals	127

WASTE WATER

During the last week of October, the WWTF treated 59.2 million gallons of sewage with 1.5 million gallons bypassing secondary treatment due to a heavy rainfall event. In total, 44.3 tons of organics and 94.2 tons of solids were removed and prevented from entering the Nashua River.

<u>Week of 10/27/2019 - 11/2/2019</u>		
Sewage Flow	59.16	Million Gallons
Rainfall	2.31	inches
Secondary Bypass	1.523	Million Gallons
BOD _{in} (lbs)	93,745	pounds
BOD _{out} (lbs)	5,182	pounds
BOD Removal (%)	94.33%	
TSS _{in} (lbs)	197,704	pounds
TSS _{out} (lbs)	9,306	pounds
TSS Removal (%)	95.07%	

Our consulting firm, Tech Environmental, completed the acoustical study at the WWTF and made recommendations for improvements that will keep the plant in conformance with the noise limits prescribed by Massachusetts's "Division of Air Quality Control Policy" (DAQC 90-001). The improvements will include adding sound insulation to the air handling system.

Held interviews for vacant “Wastewater Administrations Coordinator” position.

Participated in “Future Cities Challenge”, at the Boys & Girls Club of Fitchburg and Leominster.

Preparing for a public meeting of Significant Industrial Users, to apprise them of the upcoming Local Limits change.

Sewer System

- CCTV sewer assessed 1,000 feet of sewer line on Benson Street. Pulled out 12 bricks and had to plug line. The crew worked diligently in tough conditions (traffic, high flows, heavy debris) but completed televising the segment. Two buried manholes were also discovered.
- CCTV'd to locate a buried manhole near SS Lobster. We located it and found it covered with a few inches of debris.
- Service Call at #44 Jeanette Street: was found to be a homeowner issue (homeowner had roots in lateral).
- Excavated to look for a buried manhole at #44 Merriam Parkway. Turned out to be a piece of corrugated metal pipe that was abandoned. Filled in hole and plugged pipe ends. CCTV'd sewer on Merriam Parkway to look for buried manhole. Turns out a manhole was turned into a catch basin. Deleted manhole from GIS records. Prepped and paved excavation.
- Built a retaining wall with old granite curbing around a manhole on Simonds Saw Easement off of Intervale Road, as manhole became buried every year.
- Popped 5 manhole covers at the intersection of John Fitch Highway and North Street due to reports of a sewer smell. Everything seemed to be flowing as designed.
- Scrapped old sewer covers from past projects, recovering \$270 back into the enterprise fund.
- Conducted 2 Weekly Pump Station Checks: no issues were observed.
- Met with PJ Albert in Green Acres for combination manhole separation. Will start this week on Valley Street and also in Green Acres in middle of week. 9 Manholes will be separated.
- Performed 3 Planning Board Special Permit Reviews.

ENGINEERING

DPW Engineering reviewed Planning Board Special Permit applications for the following projects/properties and provided comments to Planning:

- 291 Westminster Street – Apical, Inc.
- 291 Westminster Street – Old World Remedies, Inc.
- 44 Princeton Road – Mully's Indoor Golf Lounge

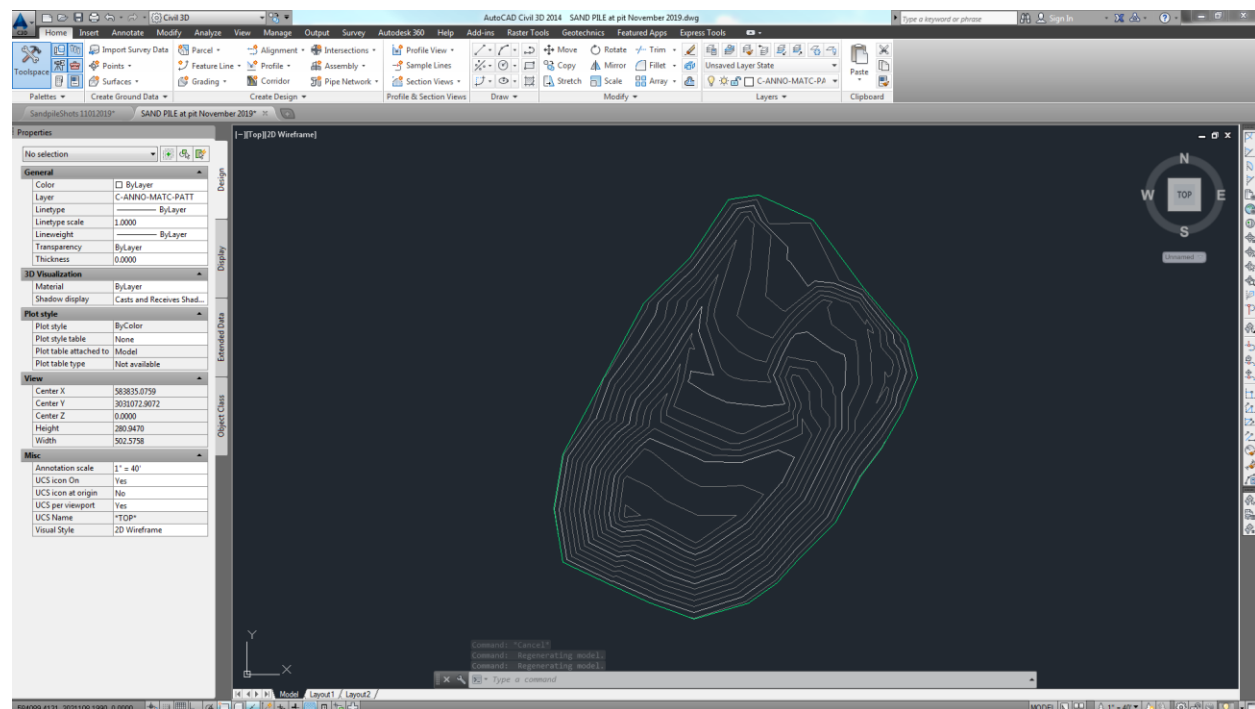
DPW Engineering completed a DCAMM contractor evaluation for Construction Dynamics, Inc., who was the contractor for the City's new salt shed. Completion of these forms is required following completion of Chapter 149 building projects. Also worked with Bayside, the salt shed designer, to obtain the final construction control document.

DPW Engineering attended a meeting with the contractor building new houses at the end of Valley Street to discuss roadway and utilities extension.

DPW Engineers laid out locations for traffic advisory signs on Franklin Road curves. Testing was conducted on the Franklin Road curves between Depot Street and Revolution Drive. The testing was conducted per MUTCD Section 2C.08 and AASHTO requirements using a ball bank indicator. The tests results showed that the two curves immediately north of Bilotta Way could only be safely driven at a speed of 25 MPH. The rest of the curves on this segment of road varied in speeds of 30 to 35 MPH. As a result, per the MUTCD requirements, we are recommending posting this segment of roadway with a curves ahead sign (W1-5) and a speed advisory plaque of 25 MPH. The two sharp curves will also require chevrons (W1-8) to safely warn and guide motorists around the curve. DPW has ordered the necessary signs that meet MUTCD retro-reflectivity requirements. These signs should help slow down people and prevent off-road departures as testified to by the abutters during the public meeting.

For the intersection of Oak Hill Road and Franklin – the aluminum posts for the flashing stop signs finally arrived and the design for the intersection were completed by DPW Engineering. We have held our internal kick-off meeting and the DPW Streets crews will be starting construction on the improvements next week.

DPW Engineering surveyed sand pile after mining and sifting operations. Calculations will be made to determine volume of sand processed and total cost associated with sand production at the airport pit.



DPW Engineering attended a meeting with the City's new on-call architects (Gale) and OPM (Daedelus).

	Engineering Services		
	<u>Type</u>	<u>Number</u>	<u>Fees</u>
PERMITS	Dumpster Permits		
	Trench Permits	2	\$150.00
	Excavation Permits	2	\$700.00
	Driveway Permits		
	Sign Permits		
	Sewer Permits	1	\$2,000.00
INSPECTIONS	Driveway Inspections	0	n/a
	Trench Inspections	4	n/a
	Site Inspections	5	n/a
	Dig-Safe requests	3	n/a
	Sewer/Drain Inspections	4	n/a
	Street Light Inspection	4	n/a
	New Address Assignments	0	n/a
	Parcel Updates	0	n/a
	Planning Reviews	2	n/a
	Totals	27	\$2,850.00

ADMINISTRATION

- Winter operations:
 - Reviewed plow contracts received and corresponded with prospective contractors and their insurance agents.
 - We have 19 approved contractors.
 - We have an additional 14 contractors that have submitted partial contract packages but need additional documentation to complete approval.
 - We are still accepting contracts for plow contractors.
- Participated in interview process for the Wastewater Administrations Coordinator position.
- Continued to work on calculating the waste water industrial billings for FY20 Q2.
- Continued to work on the water department financial review.
- Worked on water department fixed assets reporting for Auditor's office.
- Reviewed all DPW Department accounts for accuracy and monitored budgets.

Invoicing, Warrants, and Payrolls						
	Invoices		Deposits		Billings	Payroll
<u>Division</u>	<u>Number</u>	<u>Total \$</u>	<u>Number</u>	<u>Total \$</u>		
Streets/Admin/Engineering	51	\$ 182,845	*Note 1			\$ 74,665
Cemeteries	8	\$ 1,820				\$ 12,442
Parks	3	\$ 723				\$ 9,036
Recreation						\$ 3,599
Water Supply	27	\$ 18,700				\$ 60,312
Waste Water	35	\$1,346,597	*Note 2	\$ 33,350		\$ 78,274
Total	124	\$1,550,685		\$ 33,350	\$ -	\$238,328
*1 - Engineering Permits & Performance Bonds						
*2 - Septage at East Plant (Gallons)		392,353				