

City of
Fitchburg



Department of
Public Works

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

DPW Weekly Update November 9 - November 15, 2020

Dear Mayor, Councilors, and Colleagues;

The water meter replacement project is 63% complete with 7,250 meters replaced out of a total 11,458 meters in the city. The Water Division is replacing 200 to 240 meters a week using both in-house and contractor services. The project has faced some delays due to COVID-19 restrictions that have limited the ability of water personnel from entering homes and businesses but should be completed by March 2021. Customers will receive notification in the mail with instructions on how to schedule their meter replacement. (see [Sentinel and Enterprise article](#))

The new Neptune water meters have a meter interface unit (MIU) that wirelessly connects to the Water Division's billing systems through nine antenna gateways strategically located around the city. This system allows both DPW administrative staff and the customer to access real-time and historic water usage data through the [WaterSmart portal](#). Customers can also register to receive text or email alerts of potential leaks, high-usage notifications and bill forecasting, and notices of planned service outages.

The WaterSmart customer service portal is free to use and available to customers that have had the new Neptune meters installed. A brochure with more information on the portal will be included with the November bills. To learn more about WaterSmart software and its benefits please click on the icon below:



Sincerely,

John M. Deline, Jr.
Deputy Commissioner of Water Supply

STREETS DIVISION
Gary Withington - Superintendent

In the past two weeks DPW received 41 new requests and closed 41 requests. The total outstanding requests backlog is now 386, the same as the previous reporting period. Most outstanding requests are for potholes and storm drains.

<u>Reporting Period</u> <u>11/02/20 - 11/15/20</u>		<u>Previous</u> <u>Period</u>	<u>Change</u>
Previous Request Backlog		386	
New Requests	41	31	10
Completed Requests	41	30	11
Total Request Backlog	386	386	0
Potholes	136	139	-3
Storm Drains	44	41	3
Tree & Brush Pruning	70	67	3
Traffic, Signals, Signs	8	11	-3
Berm Repairs	21	20	1
All other categories	107	108	-1
New Requests		41	31
Acknowledged	25	18	7
Completed & Closed	16	7	9
Open	25	24	1

The weather last week continued to be unseasonably warm and dry with temperatures in the 70°F. Temperatures started to cool off towards the end of the week.

	Saturday 11/7	Sunday 11/8	Monday 11/9	Tuesday 11/10	Wednesday 11/11	Thursday 11/12	Friday 11/13
Rain (in)	0.00	0.00	0.00	0.00	0.00	0.00	0.09
Snow (in)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hi/Lo Temp (F)	57/72	54/73	54/73	54/72	57/68	43/63	39/43

Sources:

<https://www.cocorahs.org/ViewData/ListDailyPrecipReports.aspx> (STA MA-WR-22)
<https://www.timeanddate.com/weather/@4936825/historic>

Snow Operations

No snow storms or events this week. Salt shed is currently at about 65% full (1445 tons).

Signals, Signs & Stripes Crew

- Installed no parking signs on Green Street next to Blossom Street.
- Installed new banners on Main Street.

Paving Crew

- Finished grinding driveway aprons on Crawford Street;
- Filled potholes on:
 - Lunenburg Street;
 - Hannigan Court;
 - Madison Street;
 - Franklin Road;
 - Townsend Street;
 - Rollstone Street;
 - Cottage Street.
- Assisted Water Division by cutting and paving trenches.

Stormwater Crew

- No work this week.

Sidewalk Crew

- Continued working on Allen Place sidewalk along fence and Gougin Park wall.

Trash & Streetsweeping & Brush

- Helped Board of Health by picking up illegal dumping;
- Spot streetsweeping around the city;
- Picked up trash on Main Street, Caldwell Street, Alpine Road, Roper Road;

Mechanic Shop

- Continued repairing and preparing spreaders on large trucks for the winter season.
- Continued getting trucks new inspection stickers.

PARKS DIVISION AND RECREATION DEPARTMENT

Nate LaRose – Recreation Director

- Parks Division crew is down to two men due to injuries and vacancies.
- Park Crew continued to winterize the parks by blowing out irrigation and water systems;
- Continued to pick up leaves in the parks;
- Attended Conference Calls with CivicPlus to look at potential new software on 11/12 and 11/13 to host registration and form submission for Recreation Department programs and event. Software would also be capable of hosting mini web apps for special events like the Annual Winterfest, DPW Day, and Civic Days.
- Assisted IT with the replacement of 4 Water PCs and 1 Wastewater PC. Also updated 3 machines at water to Window's 10.
- The Recreation Department was closed on November 11th in celebration of Veteran's Day.
- Continued work on Asset Management excel database for Parks.

CEMETERIES DIVISION
Jaquelyn Poirier - Superintendent

The Cemetery crews continued to clean, mow, and maintain the cemetery grounds. Also maintained the walking trails around Forest Hill Cemetery.

An Eagle Scout is doing Community Service project consisting of installing pathway marking signs at the Forest Hill Cemetery.

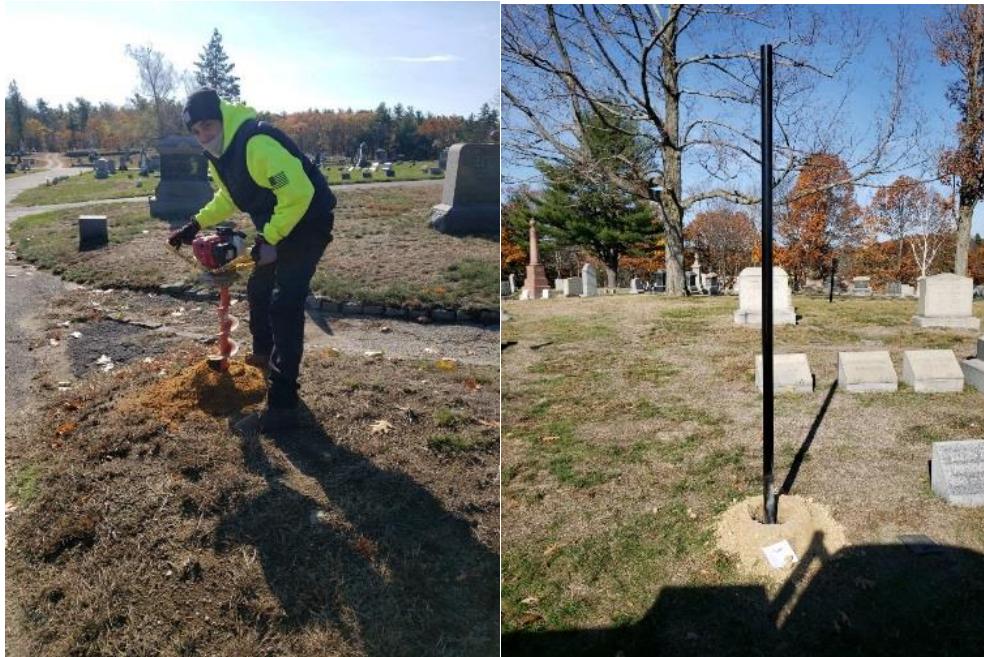


Figure 1 - Installation of pathway marking signs

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

Full Interments	0
Inurnments.....	0
Up righted monuments.....	0
Uncovered/cleaned flat monuments	0
Foundation marking for monuments.....	2
Catch basin repair	0
Filled Sink Holes	0
Trimmed Trees	0
Trimmed shrubs.....	0
Meeting with Families.....	7
Payments - invoiced/processed.....	0
Family Genealogy	4

ENGINEERING DIVISION

Nicholas Erickson, P.E. – Assistant City Engineer

Administrative/Engineering

- Attended webinar hosted by MEMA that explained FEMA's Benefit Cost Analysis (BCA) tool, which is a required component of the application process for FEMA's Building Resilient Infrastructure and Communities (BRIC) grant program. The BCA tool is used by FEMA to evaluate the net impact of a proposed project by weighing the measurable mitigation improvements of a project (benefits) against the drawbacks (represented by the cost).
- Attended the Planning Board's November meeting, which was held virtually.
- Performed an evaluation of the drainage system on Victoria Lane per request from the City Solicitor to determine its overall function and conformance with the approved design plans. Included in the evaluation was a records search, desktop analysis, and two field visits. Prepared summary memorandum for review, incorporated one round of review comments, finalized, and sent to the City Solicitor.
- Held conference call with Arcadis to review the status of their work to assist the City with work related to the City's Municipal Separate Storm Sewer System (MS4) permit from the Environmental Protection Agency (EPA).
- Five (5) Plan Reviews of recently received ANR plans to be edited in GIS for digital taxmap compliance.
- Performed one Utility Site plan review/ teleconference with bonded contractor who will be installing new sewer and water services for a proposed home to be constructed on Flicker Drive.
- Provided Street Layouts and Utility plans for Laurel St as requested by Weston & Sampson engineer.
- Provided information about bonding requirements to a prospective contractor.
- Reviewed draft Sidewalk Contract to be bid out for the 2021 construction seasons.

Street Lights

- Coordinated various streetlight repairs with Dagle Electric, the City's streetlight service contractor. Closed corresponding work request tickets in See-Click-Fix.
- Researched costs associated with the purchasing of streetlights and LED conversion for a request received from a neighboring community.

Road Construction

- ***Allen Place Sidewalk/Wall Repair*** - This is a project by DPW crews to repair the sidewalk, retaining wall, and fencing along Allen Place at the intersection with Daniels Street. DPW Engineering conducted field visits and provided construction administration and oversight as needed.
- ***Beech Street Reconstruction Project*** - This is a project by the City's paving contractor, PJ Albert (PJA), to reconstruct Beech Street from Pratt Street to Kimball Street. PJA has completed the majority of the road and sidewalk reconstruction thus far with the exception of various punch list items. DPW Engineering conducted field visits and provided construction administration and oversight as needed.

- **Crawford Street Paving Project** - This is a unique project involving collaboration between the DPW and two of the City's contractors to resurface Crawford Street from the Nashua River to the Leominster city line. Indus, the City's pavement preservation contractor, used an innovative technology called Cold-In-Place Recycling to mill and pave a 4-inch binder course of pavement. PJA, the City's paving contractor, used traditional hot mix asphalt to pave the top 1.5-inch wearing course. DPW crews are now working on milling and paving the driveway aprons, also using traditional hot mix asphalt. After this week they are approximately 85% complete. DPW Engineering conducted field visits and provided construction administration and oversight as needed.
- **Valley Street Extension Project** - This is a project to extend Valley Street by a few hundred feet in order to create several new buildable lots. The project includes water, sewer, and drainage work along with new pavement. Over the summer the developer completed the majority of the underground utility work and paved the binder course of pavement. This past week the developer raised castings, installed berm along the extents of the new roadway, and milled keyways and water trench extents to receive the final top course of pavement. DPW Engineering completed the following:
 - Met on site with MP Crowley (subcontractor doing the road construction) and PJ Albert (subcontractor doing the paving work) to discuss outstanding items and timeline for completion.
 - Performed two site visits/inspections.

Dig Safe

- Performed dig safe mark out on Granite and Washington Streets for Unitil pole sets.
- Performed dig safe mark out on Lovisa Street for Unitil pole sets.

Permitting, Inspections & Site Visits

- Conducted site visit with the Superintendent of Streets to Authority Drive to review issues with beavers blocking a culvert underneath the roadway.
- Conducted site visit to 175 Kimball Street to meet with the property manager and the railroad company (Pan-Am) to review drainage issues that are on the railroad's property but cause flooding issues on the subject property.
- Conducted a site visit to Victoria Lane to evaluate the drainage system for overall function and conformance to the approved design plans.
- Performed an inventory of PVC pipe stockpiled behind a storage shed at the DPW facility on Broad Street.
- Performed site visit/inspection at 54 Mayland St. Wastewater Collections crew raised a sewer manhole and paved the binder courses at this location.
- Performed site visit/inspection at 91 Ashburnham St. DPW crew paved the binder courses of a water department trench at this location.
- Performed site visit to 510 Crawford Street to inspect dig safe marked utility location that impact signpost base placement of the speed limit waning sign.
- Performed inspection/site visit to 1-5 Lunenburg St for a water line renewal performed by Glenn E. Hines Co.

Engineering Services			
	Type	Number	Fees
PERMITS	Street Occupation Permits (No Fee)	4	n/a
	Trench Permits (\$75)	0	\$0
	Excavation/Road Opening Permits (\$250/\$350)	4	\$750 ¹
	Driveway/Curb Cut Permits (No Fee)	0	n/a
	Sign Permits (No Fee)	0	n/a
	Sewer Permits (See Ch. 149 for Fees)	0	\$0
	Application Reviews	3	n/a
	Engineering Plan Reviews	4	n/a
INSPECTIONS	Driveway Inspections	0	n/a
	Trench Inspections	3	n/a
	Site Visits/Inspections	21	n/a
	Dig-Safe requests	2	n/a
	Sewer/Drain Inspections	3	n/a
	Street Light Inspection	0	n/a
Totals		44	\$750

¹ Includes 1 permit for DPW Wastewater at \$0 (fees waived) and 3 permits for public utilities at \$250 each (inspection fees waived).

WATER SUPPLY DIVISION

John Deline – Deputy Commissioner of Water

The Water Supply Division produced 27.7 million gallons of drinking water this past week. No water is being transferred between any reservoirs at this time. Although reservoirs remain slightly low due to the ongoing drought conditions, demand has dropped off resulting in a stabilization of reservoir levels. Reservoirs continued to be inspected and patrolled on a daily basis.

- Patrolled areas around Scott Water Storage Tank, Marshall Station, Oak Hill Water Storage Tank as well as the City's watershed properties on Frog Hollow Road and Knower Road in Westminster.
- Cleared screens/debris from the spillway at Wachusett Reservoir and checked Lanes Road property for beaver activity.
- The Reservoir Caretaker accompanied Weston & Sampson personnel on dam inspections at Lovell Dam/Dike and Falulah dam. Also inspected Overlook Dam/Dike and Bickford Dam.
- Patrolled the perimeter of Bickford Reservoir and lower Falulah Brook on foot to inspect areas for beaver activity.

Water Treatment

Reservoir Levels as of 11/12/20			
Northern Reservoirs	Elevation below spillway	Southern Reservoirs	
Fitchburg/ Ashby	-3.62 feet	- 0.90 feet	Meetinghouse
Scott	-4.48 feet	-5.90 feet	Mare Meadow
Lovell	-1.60 feet	-3.12 feet	Bickford

Water Filtration Plant Flows/Production from 11/6/20 through 11/12/20			
	Falulah Plant	Regional Plant	Totals
Raw Water Inlet (Gal)	8,222,000	22,686,000	30,908,000
Backwash to waste (Gal)	1,094,000	2,147,000	3,241,000
Finish Water - Treated & Distributed (Gal)	7,128,000	20,539,000	27,667,000
Capacity	(6 MGD) 19.6%	(12 MGD) 27%	(18 MGD) 24.5%
Efficiency	86.7%	90.5%	89.5%

- The fall removal of sludge/settled solids from the backwash residuals settling lagoons at the Regional Plant continued. Lagoon #1 was completed on 10/14 (21 loads total) and the contractor began on Lagoon #2 on 10/15. One load per day is being pumped from the lagoons and disposed of at the West Plant (a total of 15-20 loads needs to be removed from each of the lagoons, which takes 5-8 weeks to complete depending on precipitation/weather).
- Found that for some reason the PAC pump at Regional stopped pumping after personnel left on the 5th. When personnel came in on 11/6, the combined filter turbidity was 0.17mg/l, which is well below permitted 0.30 mg/l (so no alarm went out). Contacted Laviollete Controls and no source of the issue could be found in the SCADA/programming. Since this has not happened before, it will be monitored closely.
- Big Power was able to create a work around for the voltage selector switch on the portable generator. The control switch was altered to permit changing of voltages until parts can be acquired to repair the switch. The generator is fully functional as configured.
- New chlorine regulators were installed at the Regional Plant by a contractor (Bruce Walker), replacements were needed as the existing regulators were getting worn out and could not be rebuilt again.
- Completed prep work throughout the course of the week in preparation for the shutdown of the Narrows Road PRV station.

Water Distribution

- FWD personnel worked several days at the Narrows Road PRV station preparing for a complete shutdown of the transmission main from Westminster. Preparations included setting up of a 6-inch bypass line to supplement flows to the city while the PRV station was offline. The bypass was connected to a fire hydrant just upstream of the PRV station and ran approximately 300 feet downstream to an existing 8-inch blow-off below the station. On Thursday morning at 5:00 a.m., the 6-inch temporary bypass was turned on and personnel,

with assistance of a mechanical gate turner and personnel from Hydra Tech, began closing gates outside the station, which consisted of three 4-inch gates, two 24-inch gates, and one 20-inch gate. Closing all of these gates required a total of 568 turns of the respective operating mechanisms. The shutdown was excellent, which allowed the contractor to complete the work more quickly than if there was some water getting by any of the gates. The work that the contractor (Waterline Industries) completed during this shutdown included the removal of the obsolete 30-inch PRV and two other PRVs and the installation of two new PRVs. Several gate valves were also replaced and the piping was reconfigured as well. This work is in preparation for the installation of a hydroturbine (scheduled for next week, another shutdown will not be required) which will generate electricity as water flows through this station to Fitchburg. At approximately 3:00 p.m., personnel began slowly opening the gates and bleeding the air out of the new piping in the station. All gates were fully opened and the temporary bypass was closed at 5:50 p.m., placing the PRV station back into normal operation. This was a time consuming project in that required significant planning and preparation ahead of time as it was the first time this transmission main has been shut down in several decades. All Water Division personnel as well as those of the contractor, Waterline Industries, did a great job and everything went as well as could be expected given the complexity of the shut-down and the work that needed to be completed within one day.



Figure 2 - Installation of PRV



Figure 3 - Narrows Road PRV replacement

- There was one glitch with the Narrows Road PRV Station following its return to service on 11/13/20. The new PRVs open/closed too quickly and the rates could not be changed. This was concerning as it could create water hammer issues. After much time analyzing the equipment and changing settings, it was determined that the pilot valves supplied with the two new PRVs were too "sensitive" and, as a result, reacted too quickly to pressure/flow changes. The pilot valves on the old PRVs were installed on the new PRVs which resulted in the PRVs operating correctly. The manufacturer of the PRVs (Ross Valve) will swap out the pilot valves supplied with the new PRVs for ones that are not as sensitive. These will be received next week and installed.
- Contractor (Glen Hines) renewed the 2-inch water service at 1 Lunenburg Street.
- Contractor (Tandem) renewed an 8-inch fire service to 100 Jackson Avenue.
- FWD personnel performed numerous turn off/on of water services for the water meter replacement project.
- FWD personnel investigated low pressure at 67 Mt. Vernon Street, pressure is good at the water meter. It is believed that the issue is in the internal house plumbing.
- Completed weekly inspections and maintenance/cleaning of Water Division vehicles and equipment.
- FWD personnel cleaned/disinfected steering wheels, shifters door handles and knobs in all Water Division vehicles.

Completed housekeeping/disinfection of common surfaces at 1200 Rindge Road throughout the course of the week.

Fire Hydrants

Total Hydrants	Out of Operation	Hydrants Replaced	Hydrants Repaired	Maintenance Completed	Painted	Flushed
1,632	5	0	0	0	0	0

Administration and Meters/Billing

- Total of 8 real estate closings – final readings completed along with preparation of final bills for attorneys/realtors. Future real estate closing final readings also scheduled.
- 31 invoices totaling \$18,072.37 were processed for FY21 warrant WG21021.
- 12 purchase requisitions and 1 change order were entered into Munis for approval by Purchasing.
- During the course of the week, a total of 159 meters were changed out to Neptune meters, of which 155 were replaced by Baystate WinSupply and 4 by Water Division personnel. 7,418 meters have now been replaced, with 4,040 remaining. Customer accounts in Munis were updated with the new meter/MIU information. Appointments for meter change-outs continue to be made by Water Division personnel through the contractor's website.
- Put together a new/updated instruction sheet for removal/installation of irrigation meters.
- WaterSmart will be released to all water customers with the November water/sewer bills. WaterSmart is a customer portal that will allow customers to track their water usage, see a breakdown of water use, see bill projections, and get notifications via email or text of potential leaks, high usage, etc. A brochure will be included with the November water/sewer bills which will provide details on this customer portal as well as directions on how to access it.

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

Water Permits and Inspections	
Type	Number
Emergency DigSafe Mark-outs	1
DigSafe Mark-outs	8
Inspections of Work on Water System	5
Record Plan Updates	9
Special Permit Applications Reviewed	0
New Water Service Applications	2
View Permits reviewed	0
Curb Stops Turned off/on	12
Located/cleaned gate/curb boxes	20
Final Readings/Real Estate Closings	2
New Meter Installations	4/8
Backflow Preventers Tested	2
Cross Connection Surveys	0
Residential Appointments Made	0
Totals	73

WASTE WATER DIVISION

Jeff Murawski, P.E. – Deputy Commissioner of Wastewater

No report this week due to IT/remote work issues.

DPW ADMINISTRATION
Courtney Lamoureux – Business Manager

- Financial:
 - Reviewed all DPW Department accounts for accuracy and monitored budgets.
 - Researched costs associated with the purchasing of streetlights and LED conversion for a request received from a neighboring community.
 - Began to work on the FY20 fixed assets reporting for the Auditor's office.
- Administrative:
 - Submitted DPW Department absences due to COVID-19 reasons to the Human Resources Department.
 - Reviewed questions for head clerk interviews and provided feedback to Human Resources Department.
 - Reviewed invoices received from the City's paving contractor and provided feedback and calculations for asphalt and diesel escalation to the Assistant City Engineer to review with contractor.
 - All DPW Divisions compiled information for the Local 39 contractual professional safety stipend to be paid on the November 25th payroll.
- Winter operations:
 - Reviewed plow contracts and required paperwork received and corresponded with potential contractors on anything missing or still needed.
 - We currently have 15 approved contractors
 - We have partial information received for 13 contractors

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	77	\$ 106,553	*Note 1	\$ 7,450		
Cemeteries			*Note 3			
Parks						
Recreation						
Water Supply	31	\$ 18,072				
Waste Water	26	\$ 66,610	*Note 2	\$ 39,925		
Total	134	\$ 191,235		\$ 47,375	\$ -	\$ -

DPW Staffing levels for the last week were 61% due to continued vacancies, time off, and lingering COVID issues.

