

City of  
**Fitchburg**



Department of  
**Public Works**

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

**DPW Weekly Update November 11 - November 18, 2019**

Dear Mayor, Councilors, and Colleagues:

As you are aware, the City of Fitchburg discharges stormwater collected from our roadways into the North Nashua River, Fallulah Brook, and various other tributaries, ponds, wetlands and brooks. These stormwater discharges are regulated by the terms and condition of the MS4 general permit issued by the EPA and MassDEP in order to protect water quality.

One activity heavily regulated under the MS4 permit is winter road maintenance because both salt and sand are considered pollutants. Salt (NaCl) causes chloride build up in fresh water bodies which is detrimental to aquatic life. Sand is also a pollutant since it does not dissolve in water and clogs up catch basins, fills manholes and pipes, and is ultimately deposited in receiving water bodies. Nutrients like phosphorus and nitrogen also bind to sand particles and are carried along with the sand into these water bodies, further contributing to water quality impairments.

In order to meet the MS4 requirements while still maintaining safe driving conditions, DPW has formulated a plan to transition winter maintenance operations to using less sand. This winter, main roads and the flatter areas of the city will be treated with salt only (see attached map). [Studies have shown](#) that salt-only applications actually reduce overall costs of winter maintenance while increasing the level of driving safety. Additional cost-savings are realized in the spring time due to the reduced amount of street sweeping and catch basin cleaning required.

The key to switching to salt-only winter maintenance is in the correct timing and application rates of salt. DPW mechanics are currently calibrating the salt spreaders to apply the optimum amount of salt during pre-treatment and plowing operations. DPW is also reinstating the use of liquid calcium-chloride for pretreatment of roadways. Overall, the shift from sand to salt operations are anticipated to have positive environmental effects while decreasing costs and maintaining public safety levels.

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 28 new requests and closed 87 requests. The total outstanding requests backlog is now 257, a decrease 59 from the previous reporting period. A majority of outstanding requests are for potholes, storm drains, and tree/brush trimming.

<u>Reporting Period</u> 11/04/19 - 11/17/19		<u>Previous Period</u>	<u>Change</u>
<b>Previous Request Backlog</b>	<b>316</b>		
New Requests	28	38	-10
Completed Requests	87	79	8
<b>Total Request Backlog</b>	<b>257</b>	316	<b>-59</b>
Potholes	52	70	<b>-18</b>
Storm Drains	57	80	<b>-23</b>
Tree & Brush Pruning	46	55	<b>-9</b>
Traffic, Signals, Signs	12	12	0
Berm Repairs	12	14	-2
All other categories	78	85	-7
<b>New Requests</b>	<b>28</b>	38	-10
Acknowledged	11	29	-18
Completed & Closed	8	4	4
Open	20	43	-23

Commenced work on redesign of DPW webpages for the upcoming city-wide webpage update. Nate LaRose is leading this effort for DPW. Webpages are being redesigned to provide ease of use and depth of information for the public. Emphasis is being placed on SeeClickFix as the primary method to communicate requests to DPW divisions. Weekly reports will also be uploaded to the website for dissemination.

## ROADWAYS

### Potholes

Pothole patching efforts continued this week with approximately 560 potholes<sup>1</sup> filled at various locations, including the following:

- Market Street,
- Melrose Street,
- Martel Street,
- Legros Street,
- Roper Road,
- Rockland Street,
- John Fitch Highway,
- North Street,
- Shadow Drive,
- Monroe Street,
- Boutelle Street,
- Warner Ave, and
- Central Ave Ext.

<sup>1</sup> 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)

## Traffic



*Figure 1 - Franklin Road Signage*

Installed curve ahead with 25 MPH advisory speed plaques and chevrons on Franklin Road. The signs are retro-reflective to meet the latest visibility guidelines. Work also commenced on the intersection of Oak Hill Road and Franklin Road intersection to install sidewalks, ADA ramps, flashing stop signs and pedestrian signage.

DPW and the School Department applied for and received a \$6,000 grant to paint crosswalks and install signage along Franklin Road from Oak Hill Road to Reingold Elementary School. The signs & stripes grant will be used in

conjunction with the current DPW project at the intersection of Oak Hill Road to start improving safe routes to school and pedestrian safety along Franklin Road.

## Snow & Ice

Tuesday afternoon DPW crews tackled the first winter maintenance of the year. Fortunately it only consisted of lightly salting the roads to address moisture before the temperatures dropped. This warm up allowed us to run the trucks and find/address issues such as hydraulic hoses before the big storms arrive.

Street Superintendent and Mechanic attended workshop on spreader calibration in Templeton. The workshop was conducted by Baystate Roads and included both classroom and on-hands training on calibrating the equipment that spreads out salt on the roadways. The mechanics are now working to calibrate the spreaders which will assure the correct amount of salt is spread out on the roadways - which will benefit the city by lowering costs, protecting the environment, and maximizing safety for the road users.

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. Continued to repair equipment and plows including welding plates, lights, and flight chains.

DPW facilities were winterized. Low points on sprinkler systems were drained.

## PARKS & RECREATION

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

Continued to winterize parks by blowing out irrigation systems on Parkhill and Gus Johnson fields. Raked up leaves in the parks and cut back brush. Water lines to the dog park fountain at Coolidge have been winterized.

The Recreation Department partnered with Dawn Barry, Coach Zack McCall and Sizer School to host a Girls Basketball Clinic for girls in grades 6-10 at Sizer School on November 17, 2019. The Event was well attended with over 25 participants from FHS, Sizer and surrounding communities. Special Thank you to Dawn Barry for coordinating and to Workers Credit Union, Buffalo Wild Wings and Orange Theory Fitness for sponsoring the event.



*Figure 2 - Girls Basketball Clinick*

Biddy League registration has been extended through Nov 21, 2019. Hosted Biddy League Registration night on Nov 12 and Nov 15, 2019. See: [www.fitchburgma.gov/activities](http://www.fitchburgma.gov/activities)

Conducted phone conference with DCR Trails Office to discuss details on amending grant budget and scope descriptions for the \$50,000 MassTrails Grant the City was awarded to design an accessible trail at Cogshall Park.

The Fitchburg Recreation Department is pleased to announce the 2019-2020 Walking and Jogging Club registration is now available. The Walking and Jogging Club is a partnership between the City of Fitchburg and Fitchburg State University which allows local residents to escape the cold and wet winter months and walk inside at the Fitchburg State University Recreation Center's jogging track.

Fitchburg State welcomes Fitchburg residents of all ages to walk or jog on the 1/11th of a mile track, which is suspended above the gymnasium on the second floor. Minors must be accompanied by an adult. Starting on October 1, 2019, the program is open Mondays through Fridays from 6:00 AM to 12:00 PM, Saturdays from 10:00 AM to 3:00 PM and Sundays from 3:00 PM to 10:00 PM. The walking club ends on April 1, 2020. Registration is required and is now available in the City of Fitchburg Recreation Department.

**CEMETERIES**

Cemeteries crews continued to prepare the grounds for the winter. Flowers and veteran flags are being picked up and the leaves are being collected. The lawnmowers are being put away and winterized and the snow removal equipment is being prepared for the inevitable snow.

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

Interments .....	1
Up righted monuments.....	0
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.....	3
Family Genealogy .....	2

**STORM WATER**

Rainfall Amounts

Mon 11	Tues 12	Wed 13	Thur 14	Fri 15	Sat 16	Sun 17
0.00"	0.03"	0.00"	0.00"	0.00"	0.00"	0.00"

Courtesy: [https://www.cocorahs.org\\_station MA-WR-22](https://www.cocorahs.org_station_MA-WR-22)

DPW Engineering performed a site visit to a property along Boulder Drive to investigate reports of a sinkhole forming in the parking lot across from the former Sovereign Bank building. After locating the sink hole, DPW Engineering opened up the various manhole covers along Boulder Drive to help determine the cause of the sink hole. It was discovered that the drain manholes and drain lines along this portion of Boulder Drive were almost completely clogged with sediment and debris. DPW Engineering worked with the DPW Streets to clean the manhole and drain lines. The cause of the sink hole is still undetermined, but may simply be due to settling of the subgrade as there are several old building foundations buried in this area.

DPW Engineering attended the City Council Finance Committee meeting to discuss the DPW’s request for a \$300,000 supplemental budget appropriation from free cash. This additional funding is necessary to perform stormwater system maintenance and improvements throughout the city, and to retain a consultant to assist with Year 2 requirements of the City’s Municipal Separate Storm Sewer System (MS4) permit from the US EPA. The Finance Committee voted to approve the appropriation.

DPW Engineering attended the Central MA Regional Stormwater Coalition’s annual meeting at the Blackstone Heritage Corridor Visitor Center in Worcester. The Central MA Regional Stormwater Coalition (CMRSWC) is a group of 30+ communities in central MA that share resources in order to meet the requirements of the MS4 Permit in an efficient and cost-effective manner. Also attended the November Steering Committee meeting immediately following the annual meeting.

## Catch Basins

Rebuilt catch basins on Martel Street, Canton Street and Billotta Way.

## Dams

DPW Engineering performed a site walk of McTaggart's Pond Dam with Tighe & Bond, the consultant who recently performed the Alternatives Analysis to help determine the various options the City has moving forward for McTaggart's Pond Dam. Among the items discussed during the site walk were various options for repair and removal.

DPW Engineering performed a site visit to Lovell Dam to investigate reports of a sinkhole forming at the toe of the dam, nearby the outlet piping through the dam. Upon inspection, DPW Engineering determined that the sinkhole was likely the result of a collapsed animal burrow. DPW Engineering worked with the Water Division to conduct an exploratory test pit in the area of the sink hole and found no evidence of seepage or instability. The excavation was backfilled, loamed, and seeded. DPW Engineering will continue to monitor the sink hole location closely over the next several months.

DPW Engineering conducted a Phase I inspection of the Waste Water Treatment Plant Dam in West Fitchburg with Tighe & Bond. Overall, the dam appeared in decent shape. Some minor erosion issues on the upstream embankment need to be addressed, along with some tree and brush clearing.



*Figure 3 - Waste Water Treatment Dam*

## WATER SUPPLY

The Water Supply Division produced 27.4 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. Wyman Pond gate is open and the reservoir has been lowered 2 feet for the seasonal draw-down.

### Water Treatment

Reservoir Levels as of 11/14/19			
Northern Reservoirs	Elevation below spillway		Southern Reservoirs
Fitchburg/Ashby	-1.97 feet	-0.92 feet	Meetinghouse
Scott	-2.62 feet	-1.56 feet	Mare Meadow
Lovell	-0.36 feet	-1.82 feet	Bickford
Water Filtration Plant Flows/Production from 11/8/19 through 11/14/19			
	Falulah Plant	Regional Plant	Totals
Raw Water Inlet (Gal)	7,288,000	23,693,000	30,981,000
Backwash to waste (Gal)	776,000	2,836,000	3,612,000
Finish Water - Treated & Distributed (Gal)	6,512,000	20,857,000	27,369,000
Capacity	(6 MGD) 17%	(12 MGD) 28%	(18 MGD) 25%
Efficiency	89%	88%	88%

### Fire Hydrants

Total Hydrants	Out of Operation	Hydrants Replaced	Hydrants Repaired	Painted	Flushed	Winterized
1,632	1	0	2	0	0	133

- FWD personnel completed winterizing hydrants on the Scott and Low systems. Personnel started winterizing hydrants on the High System. Three personnel working each day this week.
- On Thursday, FWD personnel dismantled hydrant on Water Street at Third Street (Low System), nut was stuck in bottom of hydrant while winterizing. Re-assembled hydrant.
- Fixed hydrant marker at 82 Parker Street.

### Water Distribution

- On Tuesday, FWD personnel shut off service to 441 Water Street for contractor (Alleva) to renew owner's side of service due to low water pressure (old, iron pipe service).
- On Wednesday, FWD personnel investigated why the water was still on at 652 Water Street (Janet's Hotdog Stand) after it was turned off last week. The curb stop was found to be faulty and will need to be excavated and replaced.

- On Wednesday FWD personnel installed a curb stop box extension at 166 Hurd Street to bring it up to grade.
- On Thursday FWD personnel excavated and installed a new stop and waste curb stop at 652 Water Street, trench was backfilled, compacted, and paved.
- Cold patched around gate box for hydrant on Highland Avenue at Congress Street
- Brought W-50 (new utility truck) to Rivers Brothers for inspection sticker.
- Shut off water to Amriott Field.
- Reviewed View Permit for new house at 414 Ashburnham Street - on hold till the Water Division receives a new service application and connection fees. Still have not received anything.
- Tuesday and Thursday contractor (Alleva) replaced an old iron pipe service at 441 Water Street. This is complete and pressure/flow has been restored to building.
- Repaired a pinhole leak on the pressure sensing water line at LaCava Pump Station, removed and replaced a 3/4-inch 90 degree elbow and ball valve with shark bite fittings.
- Responded to 652 Water Street with water shut off issue, curb stop is faulty and need to be replaced.

### Meters and Billing

- Baystate now has 3 installers working 6 days a week completing meter replacements. Missy came up with a system to add the information on the front end for each install before the actual meter information is changed on each account. The system will be tested once the November bills are run next week.
- Sent out a non-compliance backflow letter for 10 Acorn Avenue. Customer has made appointments and then been a no-show.
- Had a meeting/conference call with representatives of Weston & Sampson, Ti-Sales, Fitchburg IT, and Watersmart about the implementation of Watersmart with the new meter upgrade project.
- Set up appointments for backflow testing. Left door tags on properties as necessary to get property owners to set up appointments for backflow testing.
- Worked with Treasurer's office to isolate a bill for Kmart. They filed for bankruptcy protection, but a payment was applied to a bill covered by the bankruptcy.
- 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).
- Inspected/sealed new meter installations by private contractors and installed MIUs (plumbers installed the meters and FWD personnel inspect the installation and install the MIU).
- Received call regarding the water to Parkhill Ball Park - it is not completely off (it is leaking by the 4-inch gate in Beech Street). FWD personnel will work/operate the gate to gain complete shutdown.
- Revised billing accounts with information for water meters and MIUs (meter interface units) that were replaced/installed during the course of the week.

- 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.
- Set up appointments for service calls, water turn ons/off, and backflow testing.
- Mailed out copies of backflow test results to customers requesting copies.
- Missy and Jennifer worked with Meter Room on resolving 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 14 real estate closings – final readings completed along with preparation of final bills for attorneys/realtors. Future real estate closing final readings also scheduled.

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	4
Inspections of Work on Water System	3
Record Plan Updates	4
Curb Stops Turned off/on	14
Located/cleaned gate/curb boxes	18
Final Readings/Real Estate Closings	14
New Meter Installations	9
Backflow Preventers Tested	20
Residential Appointments Made	0
<b>Totals</b>	<b>88</b>

## WASTE WATER

During the first week of November, the WWTF treated 47.9 million gallons of sewage with no bypasses. In total, 52.2 tons of organics and 84.2 tons of solids were removed and prevented from entering the Nashua River.

Participated in roundtable discussion on “Current State of Instrumentation & Controls at WWTFs”, at the Rick Alden Training Center, in Worcester.

Continued work regarding “tonal nuisance noise mitigation” at East WWTF.

Participated in “Future Cities Challenge”, at the Boys & Girls Club of Fitchburg and Leominster. Also participated in tour for the “Future Cities Challenge” students from the Boys & Girls Club of Fitchburg and Leominster.

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

<u>Week of 11/03/2019 - 11/09/2019</u>		
Sewage Flow	47.87	Million Gallons
Rainfall	0.33	inches
Secondary Bypass	0	Million Gallons
BOD <sub>in</sub> (lbs)	106,470	pounds
BOD <sub>out</sub> (lbs)	2,166	pounds
BOD Removal (%)	97.84%	
TSS <sub>in</sub> (lbs)	173,219	pounds
TSS <sub>out</sub> (lbs)	4,255	pounds
TSS Removal (%)	97.12%	

#### Sewer System

New sewer lines are being installed on Pearl Hill Road and Warner Avenue by private contractors as part of private developments. DPW Engineers are permitting and inspecting the work, but the projects are privately funded.

- One CSO Activation due to rain event last week. CSO-32 at Post Office.
- Scheduled Vactor air tank repair and picked up straps for water tank at CN Wood
- Installed (4) Witness Post Stakes on manholes on Easement manholes off of South Street and Haskell Street.
- Camerotta Truck Parts came and diagnosed our Vactor, and determined it needs a new Turbo. We brought the truck to Westborough for repair on Thursday and expect it back Monday.
- Replaced battery and moisture desiccant on the flow meter at CSO-10 at KC's Pub.
- Conducted weekly pump station checks at Cobbler Drive and Sawyer Passway. Everything looks clear.
- Took measurements and ordered a manhole at Sani-Tank for replacement of a structure on Easement at East Prospect Street. Has lots of roots in it and is a problem area.
- Added root killer as a preventative maintenance measure to the following easement lines:
  - Mount Globe Street
  - Mount Vernon Street
  - John Fitch Highway at Pearl Hill Rd
  - John Fitch Highway at Lincoln Street
- During root killer placement, noticed a surcharging manhole on John Fitch Highway at Pearl Hill Road. Rags had become caught on the roots in the bottom of the manhole and were causing surcharging. The blockage was reported to the EPA, cleared, and root killer added. DPW will seek the assistance of PJ Albert to replace this manhole before winter.

- Milled out a settled patch on Shea Street at Alice Street with the trackless machine. Will pave next week.
- Two employees became NASSCO PACP/MACP/LACP Certified, as they went to training for 3 days in Amherst, MA. This certification provides knowledge on how to condition assess manholes, pipes, and sewer laterals using a standardized national format.
- We GPS located 3 manholes, and are now down to 15 buried/unknown manholes out of a total of 3,576 in the system.
- Responded to 2 service calls during the week, which were homeowner issues.
- PJ Albert separated (4) combination manholes in the Green Acres FHA development and on Valley Street.

## ENGINEERING

DPW Engineering team met with MassDOT to coordinate bridge projects in the city. MassDOT is currently in the planning/design stages for the following bridges:

- River Street over Nashua River
- Circle Street over Nashua River
- Water Street over RR/Boulder Drive
- Water Street over Nashua River

DPW Engineering attended the Planning Board meeting on Tuesday to discuss the applications for the project at 291 Westminster Street – Apical, Inc./Old World Remedies, Inc. The hearing was continued until next month pending resubmission of the traffic study and bridge condition report by the applicant.

Reviewed, edited, and commented on scope of work and conceptual designs for the Main Street 2-way conversion project.

DPW Engineering attended webinar on Streetscan software and data collected for the city. The software features many tools and reports that need to be reviewed by our staff.

DPW Engineering met with the Building Dept. to conduct a final inspection of the new salt shed. This inspection was necessary to close out the building permit and secure the certificate of occupancy.

<b>Engineering Services</b>			
	<u>Type</u>	<u>Number</u>	<u>Fees</u>
<b>PERMITS</b>	Dumpster Permits	1	
	Trench Permits	1	\$75.00
	Excavation Permits	1	\$350.00
	Driveway Permits	1	
	Sign Permits		
	Sewer Permits		
<b>INSPECTIONS</b>	Driveway Inspections	1	n/a
	Trench Inspections	12	n/a
	Site Inspections	19	n/a
	Dig-Safe requests	1	n/a
	Sewer/Drain Inspections	11	n/a
	Street Light Inspection	1	n/a
	New Address Assignments	0	n/a
	Parcel Updates	0	n/a
	Planning Reviews	0	n/a
	<b>Totals</b>	<b>49</b>	<b>\$425.00</b>

### ADMINISTRATION

- Winter operations:
  - Reviewed plow contracts received and corresponded with prospective contractors and their insurance agents.
  - We have 25 approved contractors.
  - We have 18 contractors that have submitted partial contract packages but need additional documentation to complete approval.
  - We are still accepting contracts for plow contractors.
- Submitted invoice to Fitchburg State University for labor costs associated with bonfire cleanup.
- 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**

	<b>Invoices</b>		<b>Deposits</b>		<b>Billings</b>	<b>Payroll</b>
<u>Division</u>	<u>Number</u>	<u>Total \$</u>	<u>Number</u>	<u>Total \$</u>		
Streets/Admin/Engineering	47	\$ 97,791	*Note 1			
Cemeteries	11	\$ 806				
Parks	2	\$ 284				
Recreation						
Water Supply	56	\$ 193,946				
Waste Water	67	\$ 113,374	*Note 2	\$ 30,760		
			*Note 3	\$ 239		
<b>Total</b>	<b>183</b>	<b>\$ 406,201</b>		<b>\$ 30,999</b>	<b>\$ -</b>	<b>\$ -</b>
*1 - Engineering Permits & Performance Bonds						
*2 - Septage at East Plant (Gallons)		361,882				
*3 - Scrap castings						