



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

DPW Weekly Update February 3 - February 10, 2020

Dear Mayor, Councilors, and Colleagues;

As some of you may be aware, MassDOT is currently in the process of converting all exit numbers on freeways to a milepost-based system. Currently all highways in Massachusetts have a sequential numbering system meaning the exits are numbered in consecutive order. However, since 2009 the MUTCD has required that only “the reference location sign exit numbering method” be used – which is the milepost based system.

For Route 2, the mile-post measurement starts at the NY border at zero and terminates in Boston at mile 135. So for example Exit 28 for Route 31 would become Exit 95 and Exit 31B for Route 12 would become Exit 99B. The plan is to renumber the exits but also include a smaller plaque underneath informing motorists of the old exit number as shown below.



MassDOT has set up a project website at: <https://www.newmassexits.com/> where maps, information and FAQs are available. There is also a comment form available to provide feedback. MassDOT is anticipating the signs will begin to be replaced in the summer of 2020. Please start considering how the changes in exit numbers will affect your events, businesses, and overall directions to the city.

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 20 new requests and closed 11 requests. The total outstanding requests backlog is now 157, an increase of 9 from the previous reporting period. We will continue to work on the backlog request in preparation for the spring season.

Reporting Period 1/26/20 - 2/9/20		Previous Period	Change
Previous Request Backlog	148		
New Requests	20	19	1
Completed Requests	11	19	-8
Total Request Backlog	157	148	9
Potholes	26	20	6
Storm Drains	43	40	3
Tree & Brush Pruning	15	14	1
Traffic, Signals, Signs	7	6	1
Berm Repairs	7	7	0
All other categories	59	61	-2
New Requests	20	19	1
Acknowledged	1	1	0
Completed & Closed	5	2	3
Open	15	17	-2

ROADWAYS

Snow Operations

	Saturday 2/1	Sunday 2/2	Monday 2/3	Tuesday 2/4	Wednesday 2/5	Thursday 2/6	Friday 2/7
Rain (in)	0.0	0.0	0.0	0.0	0.4	.2	0.4
Snow (in)	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Hi/Lo Temp (F)	28/34	30/37	28/43	30/45	28/41	25/32	21/39

Sources:

<https://www.cocorahs.org/ViewData/ListDailyPrecipReports.aspx> (STA MA-WR-22)

<https://www.timeanddate.com/weather/@4936825/historic>

- Wednesday night into Friday plowed about 1-inch of snow and treated for ice and sleet. Roads were salted and sanded due to icing.
- Ice was scraped from Fisher Road and Pearl Hill Road.
- Additional salt was ordered and delivered into the salt shed.
- Trucks and plows continued to be maintained and fixed.

Traffic Signs



Figure 1 - Electric Ave Speed Sign

The electronic speed limit sign on Electric Avenue has finally been replaced by the City's insurance company. The original sign was knocked down by a car crash in June of 2019. Muni-Tech is the City's insurance company that completes the work and pursues the insurance claims against the auto policy.

The new radar speed sign has a programmable sign face that can display various messages, including SLOW DOWN, TOO FAST, flashing actual speed, smiley face, or other messages. The sign is operated through a solar panel and battery back up.

The sign also has the optional capability of recording traffic data including speeds and volumes that can be downloaded onto a spreadsheet.

Stormwater

DPW Streets continued cleaning out swales and culverts on Ashburnham Hill road.

Completed repairs to culvert on Steam Line Trail.

Repaired culvert on Ashby West Road and paved.

Potholes

Pothole patching efforts continued during the week using cold-patch and the hot box at various locations, including the following:

- Alpine Road,
- Arn How Farm Road,
- Beech Street,
- Berry Street,
- Billings Road,
- Clinton Street,
- Etonian Parkway,
- Gloria Ave,
- High Rock Road,
- Highland Ave,
- Jane Ave,
- Kinsman Road,
- Kyle Road,
- Winter Street,
- Lunenburg Street,
- Mctire Road,
- Myrtle Street,
- Orange Street,
- Pearl Hill Road,
- Pearl Street,
- Richardson Road,
- Sanborn Street,
- Shea Street,
- Stickney Road,
- Vernon Court,
- Westminster Hill Road.

CEMETERIES



Figure 2 - Cemetery Crews removing stumps at Forest Hill

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

Full Interments	1
Inurnments.....	0
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.....	4
Payments - invoiced/processed.....	4
Family Genealogy	1

ENGINEERING

- DPW Engineering assisted MassIT with E-911 address assignments and address confirmations for the state-wide emergency database.
- DPW Engineering assisted City Clerk with correct address assignment for a 2 family home on Winter Street and confirmed correct address of a 2 family home on Pine Street.

- DPW Engineering used AutoCAD to draft standard details for sidewalk construction and other existing standard details already in use. These cross section details will be made available for use by contractors and others performing work within the City layout.
- Finalized date/location for the MVP Planning Grant Workshop with our consultant, Weston & Sampson. The workshop will be held on March 10th at Fitchburg State University. Email invites will go out this week.
- Met with the proponents of proposed marijuana manufacturing facility at 431 Westminster Street. The proposed project includes the construction of a parking lot across the street, construction of a parking lot at the south end of the building, new sewer connection(s), and interior build out. Provided written comments to the Planning Board.
- Conducted site visit to 600 Pearl Hill Road where a single-family home is being built to investigate complaints from neighbors of heavy erosion at the site resulting in sedimentation in downhill/downstream catch basins, culverts, and ditches. Met a representative of the property owner on site and formulated a plan to rectify the issues.



Figure 3 - Paved roadway covered in sediment from construction site

- Conducted site visit with the Mayor and his Chief of Staff to observe the failures along the MSE retaining walls that support Arbor Way, which is a small dead-end roadway located within the Montachusett Industrial Park that serves two businesses. The DPW plans to submit a free cash appropriation request to fund the engineering design, permitting, and construction of repairs to the walls. Also confirmed that this street was accepted by the City following construction.
- Met with Community Development to discuss various proposed projects in the City, including a recreational marijuana retail outlet at 50 Whalon Street and the 25% Design Submission for Phase 2 of the Twin Cities Rail Trail Project.

- Met with the Water Department to discuss their concerns with the 25% Design Submission for Phase 2 of the Twin Cities Rail Trail Project. There are several water mains in the vicinity of the proposed foot bridge that may conflict with the proposed design.
- Attended meeting with Weston & Sampson to discuss the status of the CSO 039, 048, and Clarendon Street Sewer Separation Project. Some drainage improvements will be required in order to separate the stormwater drainage out of the sewer system.
- Held conference call with ViewPoint Cloud to discuss next steps for implementation of the new permitting software.
- Reviewed contract with Tighe & Bond for the 2-Way Main Street/Boulder Drive Conversion Project and provided comments to Community Development.
- Assisted with preparation of 5-Year Capital Investment Plan and FY21 DPW Budget.
- Conducted site visit with Superintended of Streets to investigate issues with an MSE retaining wall along Arn-How Farm Road. The wall was hit by a vehicle at some point and needs to be repaired.



Figure 4 - Arn How Farm MSE Wall Failure

- DPW Engineering began compiling a new paving list for 2020. This list is based on paving contributions from completed infrastructure work throughout the City, presence of underground utilities, Pavement Condition Index (PCI), and a number of other factors. Once the list is finalized it will be reviewed by Commissioner Bosonetto.

Project Reviews

- DPW Engineering continued review of the 25% Design Submission for the Twin Cities Rail Trail project, which is being designed by Stantec through MassDOT. Once review comments are finalized they will be provided to MassDOT/Stantec for consideration.
- Met with Planning to discuss concerns about stormwater design for proposed 22-Unit Planned Unit Development off Meadowbrook Lane.

GIS/Asset Management

- The latest Parcel Assess data is up for use on <https://www.axisgis.com/fitchburgma/>
- Per Request, DPW Engineering provided Building department with historic Hydrants shapefile with description and source data.

Permits & Inspections

- Performed inspection for sewer repair at 114 Klondike Ave. for Unitil/Sfors construction.
- Performed inspection for new signage at 545 Electric Ave. where a new flashing speed limit sign was installed. Asphalt restoration is needed around the base of the pole (cut back 6"- 1' around base and patch asphalt).
- Issued trench permit for water repair at 505 John Fitch Hwy.
- Issued trench permit for water service repair at 340 Mt Vernon St.
- Conducted 2 Sewer inspections at 600 Pearl hill Rd. where a single-family home is being constructed.

Digsafe

- Performed dig safe for 23 Montrose St./114 Klondike Ave. (sewer service was hit when installing new poles on Klondike Ave.).

Streetlights

- Conducted inspection for reported outage on Mallard St. All street lights in Coggshall Crossing are private.
- Directed the streetlight subcontractor, Daigle Electric, to address live wires left after streetlight was knocked down on Cortland Ave. Daigle Electric made the wires safe. The insurance company currently has no timeframe on the repair to the streetlight.
- Directed Daigle Electric to check all street lights at the Electric Ave. and South St. intersection per resident complaint. All light working as designed, no obvious issues.

- Performed inspection of streetlights at intersection of Hollywood St. and Vine St. to address request for better lighting from Councilor Couture. A new street light will be installed on pole Y12 of Vine St. Although this will improve the lighting at the intersection somewhat, the existing pole locations make it difficult to fully light the intersection.

Miscellaneous

- Assisted Hannigan Engineering with sewer and drain plans for 340 Mount Vernon St. and street record plans for Bennett Rd.
- Assisted BR Land Survey with layout plans for South St., Nashua St., and Charles St.
- Prepared cost estimate for paving Perkins St. Estimate included full depth reclamation and 5" of new asphalt at a cost of \$42,477.
- Assisted FPD with confirming street layout of Highland Ave. from Pearl St. to FSU abandonment. FPD will be removing illegal street signs installed by abutters and campus pizza owner. No parking signs will be installed along said portion of Highland Ave.
- Made deposit of \$1,200 (\$300 for trench permits, \$900 for excavation permits).
- Performed site inspection for a dumpster permit at 356 Main St. Dumpster permit was denied, not enough room in the layout.

Engineering Services			
	Type	Number	Fees
PERMITS	Dumpster Permits	0	
	Trench Permits	2	\$300
	Excavation Permits	0	\$900
	Driveway Permits		n/a
	Sign Permits	0	n/a
	Sewer Permits	0	\$0
INSPECTIONS	Driveway Inspections		n/a
	Trench Inspections	6	n/a
	Site Inspections	12	n/a
	Dig-Safe requests	1	n/a
	Sewer/Drain Inspections	2	n/a
	Street Light Inspection	6	n/a
Totals		29	\$1,200

WATER SUPPLY

The Water Supply Division produced 28.6 million gallons of drinking water this past week. Water is being pumped/transferred from Mare Meadow Reservoir to Meetinghouse Pond Reservoir. Reservoirs and watershed areas continue to be inspected and patrolled.

Wyman Pond gate is open 6 inches to compensate for the rainfall/snowmelt that occurred in an effort to maintain the 2-foot drawdown for the winter months. The Reservoir Caretaker is monitoring the level on a daily basis and opening/closing the discharge gate as needed to maintain seasonal drawdown.

Water Treatment

Reservoir Levels as of 2/6/20			
Northern Reservoirs	Elevation below spillway		Southern Reservoirs
Fitchburg/Ashby	Full	-0.60 feet	Meetinghouse
Scott	Full	Full	Mare Meadow
Lovell	Full	Full	Bickford

Water Filtration Plant Flows/Production from 01/30/20 through 02/26/20			
	Falulah Plant	Regional Plant	Totals
Raw Water Inlet (Gal)	6,041,000	26,739,000	32,780,000
Backwash to waste (Gal)	987,000	3,200,000	4,187,000
Finish Water - Treated & Distributed (Gal)	5,054,000	23,539,000	28,593,000
Capacity	(6 MGD) 14%	(12 MGD) 32%	(18 MGD) 26%
Efficiency	83%	88%	87%

- Issues developed with a chlorine analyzer at the Regional plant. It appears that a piece of sodium from the reagent crystalized and plugged the reagent line supplying the chlorine analyzer. Tubing was replaced and it appears that solved the problem.
- Laviolette Controls adjusted the Oakhill tank level indicator to read correctly - it was discovered last week that the indicator was reading approximately 27 inches low. Because of this, the tank level was being operated (in the range from 9.25 feet to 12.25 feet) at a higher level than the indicator read. With this level reading corrected, the tank operating range is now at the correct 7.00 feet - 10.00 feet, which should help with reducing leakage from the tank due to lower pressure from the total water column.
- Replaced a UPS for a SCADA station at the Regional plant, no issues occurred and everything operated correctly afterwards.
- Laviolette Controls examined an issue that is occurring with the filters at the Regional Plant. The SCADA system indicates that valves are "switching" back and forth from waste and filter. It is believed that it is not actually occurring but only showing up on the chart. Additional monitoring points will be set up to determine whether this is actually occurring.

- Laviolette Controls programmed the SCADA system to collect/record pH readings and average them for both the Regional and Falulah Plants. MA DEP requested that this additional data be collected and submitted with regular monitoring reports under one of the items identified during the most recent Sanitary Survey.
- Ed Kirrane (Primary Operator) did a great job, as always, as the tour guide for the annual Monty Tech tours that visited the Falulah Plant during the course of the week.

Fire Hydrants

Total Hydrants	Out of Operation	Hydrants Replaced	Hydrants Repaired	Painted	Flushed	Winterized
1,632	2	0	1	0	0	49

Water Distribution

- Plow/sanded as needed at the Water treatment plants and remote stations.
- FWD crews located and cleaned out curb stop boxes throughout the week to prepare for possible service line shut downs for meter replacements. Service lines that have been determined to be, or potentially be, iron pipe are likely to require shut downs.
- Completed shut downs of water service lines throughout the week to allow the meter replacement contractor to replace meters which had iron services and/or wheel valves that the contractor determined might fail if operated.
- During the course of the week, FWD crews checked/maintained all water trenches repaired with cold patch (final restoration will be completed in the spring when the weather improves and local asphalt plants reopen).
- FWD crews excavated and repaired a leak at the curb stop to 343 Ashburnham Street. The leak was found to be a broken flare at the curb stop. Trench was backfilled, compacted and cold patched (final restoration of trench will be completed in the spring).
- FWD crews assisted the meter contractor (BayState) with the removal/installation of a 6 inch meter in a pit at Meadowbrook. The whole process went smoothly and the second (of two) 6 inch meter will be scheduled to be replaced.



- FWD crews excavated and located/cleaned curb stop box at 138 Marshall Street to shut off for meter change-out.
- FWD crews excavated/repaired a service leak at the corporation to 95 Wallace Road. Trench was backfilled, compacted and cold patched.
- FWD crews repaired a hydrant at 72 Salem Street and placed it back in service.
- Completed several shut-offs at vacant buildings in which water lines/plumbing had frozen and were discovered leaking by owners, etc.
- Continued checking for frozen hydrants and wintering hydrants as needed throughout the course of the week.
- FWD crews repaired broken gate box top at Overlook Reservoir.
- FWD personnel picked up a load of trap rock and a load of cold patch at Keating's.
- Completed weekly inspections and maintenance/cleaning of Water Division vehicles and equipment.
- Completed housekeeping duties at 1200 Rindge Road.

Administration and Meters/Billing

- Total of 7 real estate closings – final readings completed along with preparation of final bills for attorneys/realtors. Future real estate closing final readings also scheduled.
- 32 invoices totaling \$31,875.13 were processed for FY20 warrant WG20033.
- 8 purchase requisitions and 1 change order were entered into Munis for approval by Purchasing.
- Changed 184 meters in Munis to Neptune. This is time intensive as well as being time sensitive.
- Reviewed the final notice list from Baystate that will be going out to customers for meter change-outs and made corrections.

- Water/Wastewater Commission agenda loaded to City website and sent to City Clerk.
- Completed meeting minutes from January 8th Water/Wastewater meeting.
- Meter Room personnel collected missed water meter readings city-wide. The next round of meter replacements will focus on those areas in which readings are not be collected due to failing batteries in the existing/"old" meter interface units (MIUs).
- Finalized the proposed FY2021 Water Division budget and submitted to the City Auditor.

In addition to routine maintenance and administrative tasks, the following services were completed by Water Division staff:

Water Permits and Inspections	
Type	Number
Emergency DigSafe Mark-outs	1
DigSafe Mark-outs	7
Inspections of Work on Water System	3
Record Plan Updates	6
New Water Service Applications	1
View Permits reviewed	2
Curb Stops Turned off/on	11
Located/cleaned gate/curb boxes	23
Final Readings/Real Estate Closings	4
New Meter Installations	13
Backflow Preventers Tested	27
Cross Connection Surveys	1
Residential Appointments Made	4
Totals	103

WASTE WATER

The WWTF processed 70.80 million gallons of sewage. In total, 45.56 tons of organics and 64.66 tons of solids were removed and prevented from entering the Nashua River.

Week of 1/26/2020 - 2/1/2020		
Sewage Flow	70.80	Million Gallons
Rainfall	0.00	Inches
Secondary Bypass	0.00	Million Gallons
BOD _{in} (lbs)	93,849	Pounds
BOD _{out} (lbs)	2,737	Pounds
BOD Removal (%)	96.50%	
TSS _{in} (lbs)	134,597	Pounds
TSS _{out} (lbs)	5,276	Pounds
TSS Removal (%)	96.02%	

- Participated in SSU Project Monthly Construction Progress Meeting.

- Participated in 'West Plant Repurposing Procurement' conference call with West Group Law.
- Participated in Collection System Engineering Monthly Progress Meeting.
- Met with Fitchburg Airport Interim Manager to discuss site access safety and security concerns for Wastewater personnel.
- Requested H.R. to proceed to job position offer to interviewed "Sewer/ Stormwater System Operator" position candidate.
- "Five-Year Capital Plan" updating.
- FY-21 Annual Budget development.

Sewer System

- Combined Sewer Overflow Checks due to weekend rain event; 2 activations were observed.
- Cleaned sewers on Townsend Street between John Fitch Highway and Pearl Street as we had a service call over the weekend; sewer cleaning pulled back gravel and pavement debris. We plan to CCTV this sewer segment in next few weeks.
- Reset manhole at intersection of Main Street at North Street.
- Replaced failing frame and cover at intersection of Temple Street at Sprague Street.
- Conducted spot repair on 8-inch sewer on Parker Avenue, north of Thurston Avenue. Pipe was completely missing and soil visible in all directions (see photographs).



Photo 5: Spot Sewer Repair (Trench View).



Photo 2: Spot Repair Location ... Parker Ave. @ Thurston Ave.

- Conducted problem area checks: all problem areas appear to be flowing well.
- ADS Environmental came to city to conduct meter maintenance on City's Meters System, and newly purchase Level Sensor System.

ADMINISTRATION

- Winter operations:
 - Processed the invoices for payment that were turned in by plow contractors.
 - Calculated snow & ice costs to date. We had two snow & ice events this week on Thursday and Friday which required plowing and salting by DPW crews and contractors.

- Placed an order for 18 loads of salt from Eastern Salt (approx. 600 tons). All loads were delivered on Saturday 2/8/20 to the salt shed.
- Corresponded with insurance agents to secure certificates of insurance for plow contractors who have expired or expiring insurance policies.
- Budgets:
 - Finalized and submitted FY21 Operating Budgets to the Mayor's Office.
 - Finalized and submitted the 5 year Capital Budgets.
 - Attended budget meeting with the Cemetery Trustees and obtained approval for the FY21 proposed cemetery budget.
 - Performed an electricity analysis for the wastewater division and started to perform the same analysis for the water division.
 - Reviewed all DPW Department accounts for accuracy and monitored budgets.
- Attended a meeting with City Officials and representatives from the Town of Ashby to discuss a proposed project that would provide public water from Fitchburg to portions of the Town of Ashby.
- Attended a meeting with the Procurement Department to discuss existing contracts, contracts needed and projects in the pipeline.

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	150	\$ 116,963	*Note 1	\$ 1,200		
Cemeteries	3	\$ 955				
Parks						
Recreation	9	\$ 718				
Water Supply	32	\$ 31,875				
Waste Water	36	\$ 36,439	*Note 2	\$ 19,000		
			*Note 3			
Total	230	\$ 186,951		\$ 20,200	\$ -	\$ -
*1 - Engineering Permits & Performance Bonds						
*2 - Septage at East Plant (Gallons)						
*3 - Industrial Billing Payments						