

# Melrose Department of Public Works Annual Report - Fiscal Year 2021



## Mission Statement

The Melrose Department of Public Works provides quality services to the community in the areas of drinking water, wastewater, solid waste, recycling, parks, forestry, fleet, highway, cemetery, facilities, engineering, and administration, while promoting health, safety, sustainability, and fiscal responsibility through the teamwork and commitment of an honest and dependable workforce.

Elena Proakis Ellis, P.E.  
Director of Public Works



## Administration

Director of Public Works: *Elena Proakis Ellis, P.E.*  
Assistant Director of Public Works – Administration  
& Finance: *James Troup*  
Operations Manager: *Peter Pietrantonio*  
Facilities Manager: *Jay McNeil*  
Operations Foreman: *Derek Lanphere*  
Resident Service Representative: *Lynda Garron*  
Senior Account Clerk: *Tina Bright*  
Senior Account Clerk: *Marisa Kelly*  
Solid Waste & Recycling Coordinator: *Samantha Flanagan (through 12/2020)*  
Environmental & Outreach Coordinator: *Lisa Scott (04/2021 – present)*



## Engineering/Water and Sewer Billing Division

City Engineer: *Elena Proakis Ellis, P.E. (through 02/2021),  
Vonnie Reis, P.E. (02/2021-present)*  
Water and Sewer Billing Administrator: *Lisa Patterson*  
Enterprise Fund Manager: *Donna Cardillo*  
Deputy City Engineer: *Jay Coy, P.E.*  
Staff Engineer: *Rick Cantone (through 04/2021)*  
Project Engineer: *Scott Dixon*  
Administrative Clerk: *Diane Ardizzoni*  
Engineering Interns: *Jonathan Harriot (06/2021-08/2021),  
Sarah Flower (06/2021-08/2021)*

## Operations - Water and Sewer Division

Division Foreman, Primary Operator: *John Belliveau*  
Water Foreman/HMEO, Secondary Operator: *Tom Bagarella*  
Sewer Foreman: *Robert DiVola*  
Water/Sewer Meter Foreman: *Brendan Cahill*  
Operator HMEO: *Joe Brancato*  
Operator HMEO: *Eric Arria*  
HMEO: *Kris Vozzella*  
Driver MEO: *Doug Hanlon/Ryan Wheelock*  
Skilled Laborer: *Dennis Cashman*  
Skilled Laborer: *Bob Mackenzie (through 9/2020), Jack Sasso (1/2021 – present)*  
Laborer: *Paul Gould*



## Operations – Highway & Sanitation

Highway & Sanitation Division Foreman: *Nicholas Heller (10/2020 – present)*

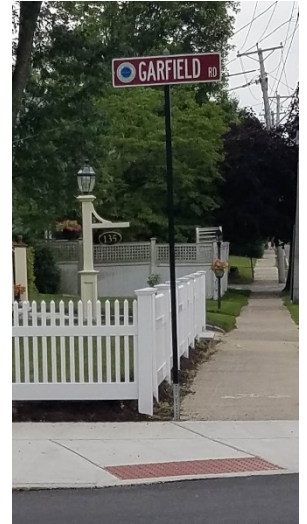
Sanitation Working Foreman: *Nicholas Heller (through 10/2020)*

HMEO Driver: *Charles Thomas*

HMEO Operator: *John Bartlebaugh*

Highway Laborer: *Jack Sasso (through 1/2021), Richard Cutlip (2/2021 – present)*

Sanitation Laborer: *Shaun Foss (through 1/2021), David Anaya (1/2021 – 6/2021)*



## Operations - Park & Forestry Division

Superintendent of Mount Hood and Public Open Space: *Joan Bell*

Park Commission Clerk: *Cindy Brickley*

Tree Foreman/HMEO: *Carmen Sorrentino*

Parks Foreman/MEO: *Michael Sasso*

MEO: *Alejandro Guerra*

MEO: *Ryan Fusco (through 2/2021), John Doherty Jr. (3/2021 – 5/2021), Shaun Foss (5/2021 – present)*

Skilled Laborer: *Bryan West*

Laborer: *Nick DaCova (through 10/2020), Shaun Foss (1/2021 – 5/2021), Scott Supple (6/2021 – present)*

Laborer: *Mike Nee*

Laborer: *Nick Vrooman*

Laborer: *John Doherty, Jr. (through 3/2021), Scott Rush (5/2021 – present)*

## Operations - Cemetery

Cemetery Administrator: *Angela Pisacreta*

Division Foreman: *Jack Rossi*

HMEO Operator: *Ray McGrath*

Laborer: *Scott Rush (through 5/2021), Michael Medeiros (6/2021 – present)*



## Fleet Division

Mechanic/Welder – Foreman: *Mike Kuleszka*

Mechanic/Welder: *Paul Pastos (through 12/2020), Michael Christopoulos (4/2021 – present)*

Jr. Mechanic/Welder: *Reed Williamson (through 9/2020), Johnathan Nascimento (1/2021 – present)*





## Facilities Division

Facilities Manager: *Jay McNeil*

Division Foreman: *Scott Enos*

Plumber: *Ryan Means*

Tradesman: *Joe Dello Russo (through 4/2021)*

Tradesman: *David Filipiak*

Tradesman: *Peter Hickey*

Custodian MVMMS: *Kevin Cronin*

Custodian MVMMS 2nd shift: *Nick White*

Custodian High School: *Rich Curran*

Custodian High School 2nd Shift: *Angelo DaCova*

Custodian High School 2nd shift: *Nick Shelton*

Custodian Lincoln School: *Trevor Rudolph*

Custodian Hoover School: *Mike Mackey*

Custodian Winthrop School: *Paul Thomas*

Custodian Roosevelt School: *Ed Mrozowski*

Custodian Horace Mann School: *Lenny MacLean*

Custodian Franklin Early Childhood Center: *Tommy Murphy (through 8/2020), Bob MacKenzie (9/2020 – present)*

Custodian City Hall and Milano Senior Center: *Will Altidor*

Custodian Library and Police Station: *Dan Guevin*

Custodian Library and Police Station: *Louis Peck*

Part-time Year-round: *Nick Cram, Adam Kleis, Cam Marks, Charlie Peck, Josh Ventura, Owen Ventura*





Fiscal Year 2021 (FY21) was a year unlike any other for the City of Melrose Department of Public Works (DPW). The ongoing COVID-19 pandemic dominated the world news, as well as the day-to-day operations of the DPW, with a continuous focus on the health of our employees through increased hygiene, social distancing, and personal protective equipment, all while continuing to perform the many functions of the department. The fiscal year began with DPW's offices at both City Hall and the City Yard closed to the public. The City Yard recycling center had reopened toward the end of FY20, but the public was not allowed into the City Yard or City Hall buildings to conduct transactions until late-July 2020, when all City offices reopened on a restricted basis. In June 2021, City Hall, including the DPW Engineering Division office, was reopened full time to the public, following nearly a year of reduced hours.

Throughout the fiscal year, as the pandemic waxed and waned, the DPW continued to provide our long list of public services, as detailed in the pages below.

## Administration

The Melrose DPW Administration Division handles issues and requests from the residents of Melrose concerning Public Works responsibilities with the assistance of E-Gov, a web based work order management software package. The Administration Division provides necessary budget management, payroll, and clerical support services for the DPW. The employees in this division track finances and complete administrative and clerical tasks requested by members of the City's largest department.

A few of the major financial impacts of the pandemic included an increase in solid waste and recycling volumes, an increase in water and sewer usage, and a substantial decrease in facilities rentals.

## Curbside Collection

Melrose DPW provides curbside solid waste, recycling, and yard waste pickup to all residents living in buildings with 6 or fewer units in the city - totaling roughly 8,900 households. Trash and recycling service is provided weekly to residents, schools and municipal buildings by JRM via a contract with the City. Yard waste and trash from public parks, the downtown district, and the schools are collected by Public Works Department personnel. FY21 marked the final year of the City's core contract with JRM, which then includes three options years. In FY21, the Administration Division negotiated with JRM to continue to provide solid waste and recycling services to Melrose into FY22 under the first option year of the contract.

The City of Melrose pays a tipping fee of \$66/ton. This fee is set to rise annually through the end of the contract including the option years (through June 2024). In FY21, Melrose generated 7,554.76 tons of municipal trash and 2,757.63 tons of recycling.



DPW collected curbside yard waste 12 weeks in FY21 and Christmas trees for two weeks. Residents can set out up to 10 bags or labeled barrels of yard waste per week during collection weeks.

Residents with curbside trash and recycling service can also purchase stickers for curbside pickup of metal items at the DPW Operations Facility or City Hall during weekday hours of operation. DPW carries out metal goods pickups every Tuesday of the year.



## DPW Recycling Facilities

In addition to curbside trash, recycling and yard waste pickup service, Melrose DPW offers access to paper, cardboard, and commingled (plastic, glass and aluminum containers) recycling to all members of the public – including businesses – during all hours of operation at the DPW Operations Facility and Recycling Center at 72 Tremont Street. By doing so, DPW endeavors to make recycling easily available to all Melrose residents and businesses, regardless of their living situation or access to recycling pickup services at their home or business. Residents of Melrose may also bring their yard waste (leaves and brush) to the DPW Operations Facility during all hours of operation, which include seasonal Saturdays from the beginning of April until early December, along with Mondays, Tuesdays, and Thursdays year-round. The yard waste is hauled by DPW to the City's land on Rt. 99 where it is composted and brought back to the DPW Operations Facility for free distribution to the residents.

Additional items that are collected from residents at the DPW Operations Facility and Recycling Center during weekday hours of office operation (Monday through Friday) include rechargeable and button cell batteries, books, CFL bulbs and fluorescent tubes, electronics, eyeglasses, dried latex paint, mercury items, propane tanks, textiles and tires. In order to cover costs of proper disposal, fees apply to some of these items, while others are free.

DPW also held seven special Saturday recycling events and two Household Hazardous Waste (HHW) days. These special events included pumpkin composting, recycling of rigid plastic and Styrofoam, and two special events that included the collection of motor oil, gas and antifreeze. The collection of this hazardous liquid on an additional day helped reduce the number of cars at the HHW collection days. Again this year, Melrose partnered with Stoneham and each City/Town hosted a Saturday HHW day on which residents from both Melrose and Stoneham could drop off household hazardous waste.

## DPW Day

Again in FY21 due to the COVID-19 pandemic, DPW Day was not held. Although school was back in session, DPW staff did not feel it would be appropriate to conduct a large gathering where social distancing would be difficult, if not impossible, especially during a timeframe when vaccination was not yet available to young children.

## Social Media

The DPW keeps the lines of communication open with Melrose residents through many avenues. Residents can make a request or report an issue by calling, emailing, or submitting a work order through the E-Gov system or See Click Fix. Event information can be obtained from the City of Melrose website, Twitter, Facebook, and the Melrose Recycles Blog. New in 2021, the DPW also posts event information and updates to Patch. Currently the [Twitter account](#) has 1,122 followers, increasing by over 6% since last year. Our [Facebook page](#) increased its followers to 1,143 people.

DPW utilizes the E-Gov work order system to keep track of requests for all its divisions. This system is available 24/7 from any computer or mobile device with internet access. City staff can search and sort work orders by date, address, category, status, reporter, and more. The work order system has proven to be a useful tool for City employees and residents. Schools and City departments use the online work order system to report and track requests. Work orders are updated as work progresses and eventually closed out, and viewers can see up-to-date information.



Another 24/7 tool that residents can use to report issues such as potholes, graffiti, and trash and recycling problems is See Click Fix. See Click Fix is a digital communication system. Residents can use this mobile app to report nonemergency issues in their neighborhood. With the See Click Fix app, residents can take pictures of an issue and attach it to their requests. The picture helps the DPW staff find and correct the issue quickly and easily.

DPW continuously works to improve our technology options and ways for residents to communicate with Public Works.

In addition to these technological tools, the DPW also still relies on hand-delivered notices and in-person communication through neighborhood meetings and other public forums when projects or programs warrant more direct communication with impacted residents and property owners. We strive to keep the community informed of our larger projects and welcome input from community members.

## Engineering Division

The mission of the Melrose Engineering Division is to provide all engineering functions and support for the City's infrastructure, including roadways, sidewalks, traffic signals, street lights, drainage, water distribution, wastewater collection and conveyance, and public buildings, while also supporting DPW Operations and Facilities Divisions as needed and providing support to the general public. Public interaction includes permitting and oversight of work within or impacting the City's right-of-way and/or utilities connected to the City's infrastructure, assistance with walk-in needs related to DPW functions (e.g., collecting billing discount forms, arranging metal goods pickups, etc.), and answering questions and concerns regarding the City's construction projects. Each year, the Engineering Division procures and oversees improvements to all types of City-owned infrastructure, as described herein.

In FY21, longtime Engineering Division employee Rick Cantone retired after more than 30 years of service to the City of Melrose. His institutional knowledge, as well as his familiarity with every corner of the City and his friendly demeanor, will be greatly missed by the Division and by the DPW as a whole.

## Project Reviews and Permitting

Over the course of FY21, the Engineering Division issued 250 permits for work within the right-of-way. This included 33 permits for water utility upgrades or replacement, 49 permits for sewer upgrades or replacement, 123 permits for National Grid gas work (services and/or mains), 16 permits for curb cuts or other right-of-way modifications, 3 permits for outdoor dining, 22 permits for PODS or dumpsters, and 4 miscellaneous permits that fell into other categories.

In addition to reviewing, issuing, and overseeing permits for small private projects, the Division also performed detailed reviews of cases submitted to the Planning Board and the Zoning Board of Appeals (ZBA). In FY21, reviews were provided for 46 ZBA cases, as well as proposed private development projects undergoing Planning Board review at 272 Tremont St., 138 Main St./Sylvan St., 22 Montvale St., 40 Vine St., 52 West Emerson St., and 735 Newburyport Turnpike.





The Engineering Division provided comments on four Grant of Location requests to the City Council. Lastly the Engineering Division continued to monitor construction of the Blueberry Hill Lane townhouse development, Patrick's Place development, 524-530 Main Street, 87 Essex Street, and 99 Washington Street, as well as the completion of construction at 8 Greenleaf Place, Regan's Way, and 419-429 Main Street.

## **Regulatory Compliance and Funding Reporting**

The Engineering Division ensures that the City remains in compliance with many regulations applicable to DPW functions. Additionally, the City uses state and federal funding for projects that require periodic reporting. Some of these programs are noted below.

- An Annual Statistical Report is submitted to MassDEP each spring pertaining to the City's water distribution system, detailing system performance with regard to water quality, leak detection, unaccounted-for water, cross-connection control, and staffing.
- An annual Consumer Confidence Report is mailed to all water system customers via the MWRA, including community-specific information prepared by the Engineering Division in conjunction with the Director of Public Works.
- Lead and Copper Rule sampling is conducted one or two times per year, depending upon the results of past sampling events, as dictated by both state and federal regulations. In FY21, two sampling rounds were conducted - in September 2020 and March 2021 - based on prior compliance. In September 2020, there were two results above the EPA Action Level for lead. There were no results over the Action Level in March 2021. The City continued removing lead service lines in the public way as opportunities arose and continued to encourage private lead service line replacement. As the sampling resulted in locations with lead concentration exceedances, the City also conducted an aggressive public outreach plan that included letters to customers, distribution of brochures, social media posts, and press releases.
- The Massachusetts Lead and Copper Control Act contains guidelines for lead sampling and follow-up actions in school facilities. Over the course of FY21, the City continued to monitor lead and copper levels at select school facilities, with the assistance of the Massachusetts Water Resources Authority (MWRA), and to address issues where identified. The City did not conduct optional sampling in daycare facilities in Melrose in FY21 due to COVID-19 but did sample two schools during each of the sampling rounds noted above, with no exceedances of the Action Level at any of the schools sampled during the fiscal year.
- An annual Municipal Discharge Permit Application is submitted to the MWRA to allow the City to discharge its wastewater to the MWRA sewer system. This application was submitted in November 2020 and the permit was issued shortly thereafter. The City has consistently maintained compliance with the provisions of this permit.
- On July 1, 2018, a new Municipal Separated Storm Sewer System (MS4) permit went into effect under the National Pollutant Discharge Elimination System (NPDES) "Phase II" stormwater permit program. This multi-year permit requires specific stormwater management activities each year and the Engineering Division is required to submit an annual report in September. FY21 was Year 3 of the permit. The activities conducted during Year 3 are discussed in more detail below. All compliance activities are funded by the City. No federal funding is available for the MS4 program.





- The City utilizes the MWRA’s Grant and Loan Assistance Programs for water and sewer infrastructure upgrades. These programs require periodic reporting to continue to secure funding eligibility. These reports have been submitted to the MWRA throughout FY21 as needed.
- The state provides roadway improvement funding through the Chapter 90 program. This program also entails frequent reporting to ensure proper funding disbursement. Such reports were submitted in FY21 to receive reimbursement for all Chapter 90 roadway improvements.
- The City applied for and received a Complete Streets Tier 3 grant in the amount of \$400,000 from the Massachusetts Department of Transportation in FY21. The grant funded work in the Hoover School neighborhood and is discussed in more detail below.
- In FY21, the City received a \$73,096 Community Mitigation Fund grant from the Massachusetts Gaming Commission in association with the Encore casino project in Everett, Massachusetts, since Melrose is a neighboring community. Acceptance of the grant requires quarterly and annual reporting of expenditures. The focus of the work under this grant is improvements to pedestrian and bicycle access to the Oak Grove MBTA station via Washington Street, Pleasant Street, and West Wyoming Avenue. Recommendations include installation of ADA ramps and crosswalks, line painting to narrow travel lanes in select locations, and rectangular rapid flashing crosswalk pushbutton beacons.
- Water System Emergency Response Planning (WERP) – Section 2013 of the 2018 America Water Infrastructure Act (AWIA) requires municipal water systems serving more than 3,000 customers to complete a Risk and Resiliency Assessment (RRA) and Emergency Response training. In December 2020, the DPW conducted WERP training for staff that included cyber security, and the RRA report was completed and certified by June 30, 2021 as required.

## **Annual Contracts**

The Engineering Division procures a number of annual contracts for services and supplies, to allow for continuous operation of the DPW Operations and Facilities Divisions meeting state procurement requirements. In FY21, the following contracts were either bid and awarded or renewed:

### **Service Contracts Bid/Awarded in FY21:**

Athletic field turf maintenance  
Catch Basin Cleaning  
Building Cleaning Services  
Elevator Repair and Maintenance  
Irrigation System Maintenance & Repairs  
Plumbing Services and Repairs  
Traffic Line Painting

Traffic Signal and Street Light Maintenance  
Tree Removal  
Utility System Repairs (Water/Sewer/Drain)  
Supplying Catch Basin and Manhole Frames and Covers  
Supplying Fire Hydrants and Gate Valves  
Supplying Water System Stops and Wastes

### **Service Contracts Renewed in FY21:**

Electrical Services  
Masonry Services  
Pump Station and Ell Pond Floodgate Routine Maintenance  
Roadway and Sidewalk Reconstruction  
Street Sweeping  
Supplying Bituminous Materials  
Supplying Signage  
Tree and Brush Grinding and Disposal  
Tree Supply and Planting  
Supplying Liquid Calcium  
Supplying Rock Salt

### **Infrastructure**

The infrastructure of the city requires continual maintenance and evaluation for adequacy. To do this efficiently, the Department of Public Works (DPW) continues to use data-driven tools to evaluate infrastructure priorities in Melrose, allowing the City to make the best use of its limited funding. The DPW relies on accurate and current data and has increasingly made greater use of geographic information systems (GIS) to map and prioritize needs. In FY21, the City continued the use of the following information sources in order to prioritize and execute capital work:

- 1) The City's water system Capital Efficiency Plan (Tata & Howard, February 2017) continues to be used to guide decisions regarding streets that require water main replacement or rehabilitation.
- 2) A new Roadway Condition Assessment was performed early in 2020 to evaluate which roadways are in need of repaving or reconstruction. This analysis was an update to the 2016 assessment and considered thirteen different parameters for each segment of roadway (from cross street to cross street), then calculated a respective roadway ranking based on a formula to process the individual parameter ratings. This analysis resulted in four categories of roadway conditions: poorest, poor, fair, and good/excellent. This effort was accomplished using a customized tablet application while traveling down every public roadway in Melrose. In FY21, the City used these classifications to develop our Road Program, paving as many of the 'poorest' and 'poor' condition roadways as feasible and as funding allowed.
- 3) The City submitted the Complete Streets Prioritization Plan with assistance from the BETA Group in August 2017 and received approval from MassDOT in September 2017. This plan guides the expenditure of Complete Streets grant funds and also dovetails with other roadway and utility projects to ensure Complete Streets goals are being met. Implementation of this plan continued in FY21.



- 4) Working with Weston and Sampson Engineers, the City continues to identify locations with infiltration and inflow into sewer pipes and coordinates the subsequent remediation or redirection work with other roadway and utility work where feasible.
- 5) The City receives annual GIS data updates from National Grid which show the material of gas mains throughout Melrose. This information is used to identify mains that require replacement as part of National Grid's program to replace all leak-prone piping within their network.

The DPW Divisions continue to invest in compiling and updating data for each infrastructure system, so that objective analyses can be completed using GIS tools to guide infrastructure replacement plans. In FY21, the Engineering Division continued the City's multi-year roadway and utility improvement program, aimed at systematically addressing infrastructure repair needs based on the GIS analyses and prioritization performed.

To ensure that private developments adhere to the same high standards applied to public works projects, the Engineering Division continues to develop written policies, standards, and details for the installation of water, sewer, and drainage lines, as well as roadways and sidewalks. In FY21, draft policies and construction standards were developed, with a goal to finalize new standards, permit applications, and a schedule of updated fees in FY22.



These efforts address previous issues faced by the DPW when maintenance was reactionary rather than proactive. Up-to-date data ensures that DPW and its Divisions know the status and condition of the City's infrastructure and are able to effectively prioritize projects to make the best use of funding. Melrose's infrastructure systems fall into four main categories: water distribution, wastewater collection and conveyance, stormwater management, and right-of-way/traffic management. Each of these systems is discussed herein. In addition, while the City does not own the natural gas distribution system, gas infrastructure is located in the City's right-of-way and is thus included in the discussion below. Finally, work began in FY20 and continued into FY21 on Eversource's electrical transmission mains that traverse Melrose and serve the region's power needs. This infrastructure is discussed below as well.

In FY21, upon the retirement of Rick Cantone, the Engineering Division updated the Staff Engineer position to a Construction Inspector/Engineer. This position is responsible for the coordination, tracking and inspection of private utility projects among other duties. These projects range from National Grid gas main replacements to single property sewer or water service replacements. The Construction Inspector/Engineer reviews and approves permits for private work. In addition, the Construction Inspector coordinates and oversees the annual Road Program and Complete Streets projects.

In FY21, the Engineering Division employed two college-student interns. Tasks assigned to the interns included the following:

- GPS and photographic inventory of public trash receptacles maintained by the DPW
- Mark out of planting locations for street trees
- GPS location of street trees planted the previous year
- Updates to the GIS system
- Inventory of street signs
- Linking of CCTV videos to sewer pipe segments in the GIS

In addition to the interns, the Engineering Division employed three senior citizen volunteers. Tasks assigned to the volunteers included:

- Scanning and inventory of the water service tie cards (completed for streets beginning A-O)
- Scanning and inventory of the sewer service tie cards (completed)
- Scanning and storage of vault plans
- Updates to the sewer tie card spreadsheet linking to book and page references and installation dates

## FY2021 Projects

Each year, a large focus of the Engineering Division is the planning, design, bidding, and construction oversight of capital projects. These projects span the range of City-owned infrastructure and are oftentimes interrelated, such as neighborhoods that receive utility upgrades followed by roadway reconstruction. The major projects performed in FY21 are described below by infrastructure type.



## Water Distribution System

### **2020 -2021 Water Main Replacement Project**

Water main work in FY21 included the replacement of water mains on Echo Street, Damon Avenue, First Street between Ashcroft and Waverly, Wyoming Heights, and portions of Brown Street and Mount Vernon Street. A segment of water main from West Wyoming Avenue was also removed and tested as part of this contract. As-built plans were completed and archived for the locations noted above. The project was designed by Tata & Howard, Inc. and constructed by CJP Corporation. Water main repairs were also completed on Pleasant St. at culvert crossings by Commonwealth Construction.





During FY21, design and bidding were completed for the replacement of water mains on Burnett St., Sycamore Rd., Hunnewell St., Brazil St., Washington St., Felton Pl., and Ashland St.

### **Water Service Replacements**

All water services that were any material other than copper were replaced on the following roadways prior to paving, where full replacement of water mains and services was not deemed necessary: Dexter Rd., Botolph St., Summit Ave., and Poplar St.

### **MWRA Vinton Street Water Main Break**

On the evening of April 27, 2021, the MWRA had a failure in a water transmission main that crosses Melrose to feed Wakefield to the north. The failure took place on Vinton Street just north of the Lynn Fells Parkway and caused substantial damage to the roadway, undermining the soil and potentially compromising other buried utilities. As a result, MWRA's contractor RJV replaced the MWRA transmission main, as well as a portion of the City's water main between Lynn Fells Parkway and the bend in the road north of the Parkway. National Grid subsequently replaced their two gas mains in this corridor (one 6" and one 12"), and MWRA also replaced the City's sewer between two manholes where backups were occurring after the water main break. Following all of the utility repair work, the roadway was paved to binder. Final paving is scheduled for spring 2022.



### **Water Service Line Tie Card Inventory**

In FY21, the City continued to develop an inventory of all water service lines serving the City's over 8,000 water customers. Paper cards presently catalog water service information such as location, material, size, and date of installation. In FY21, the Engineering Division continued to update and scan these service cards, linking each scan to an address. Ultimately, the scanned cards and associated data captured from the cards will be linked to the City's GIS locational database. This inventory, once completed, will allow City personnel or the public to easily retrieve water service material information and to query the data to determine the number of lead service lines connecting the water mains to customers in Melrose. At the end of FY21, the scanning was completed for all streets beginning with the letters A through O. Unfortunately, the COVID-19 pandemic limited the time for senior citizen volunteers to work on this project; therefore, progress was minimal compared to prior fiscal years.

## **Sewer Collection System**

### **Sewer Infiltration and Inflow (I/I) Investigations and Rehabilitation**

The City of Melrose's sewer collection system is among the oldest in the country, with many pipelines dating back over 100 years. In an effort to reduce infiltration and inflow (I/I), which contribute clean groundwater and rainwater into the City's sewer system, the City has undertaken a comprehensive program to reduce I/I where feasible and cost effective. Following spring 2016 flow metering performed throughout the City's sewer system, the twenty-nine metered subareas of sewer mains were divided into five phases for follow-up investigations and rehabilitation.



Several phases of I/I investigations have been completed since the beginning of the program in 2016. Investigatory efforts conducted for each phase in the program include manhole and pipe inspections, flow isolation, and smoke testing. Rehabilitation work has included cured-in-place-pipe (CIPP) lining and open cut pipe repairs. To date investigations have been completed in the Phase 1 through 3 areas, and rehabilitation has been completed in Phase 1 and portions of Phase 2 areas.

Phase 3 investigations began in FY20 and continued into FY21. As part of the Phase 3 field investigations, smoke testing to identify inflow sources was conducted in FY21. In the winter of 2020-21, CIPP lining of 20,635 linear feet of sewer mains identified in the Phase 2 report was completed by Granite Inliner.

In FY21, I/I efforts also focused on compiling the information from previous investigations into Phase 2 and Phase 3 final reports. These reports summarize the observations from the field investigations and present a methodical approach to remediation of the sewer system to remove I/I. The Phase 2 and Phase 3 reports also included a cost-effectiveness analysis to help prioritize repairs to get the optimum results for the funding dollars spent. These reports were transmitted to MassDEP in accordance with regulatory requirements to demonstrate progress on the City's I/I program. Future I/I work will include construction projects based on the recommendations of these reports.

### **Infiltration and Inflow Mitigation Fund**

The Engineering Division reviews all projects for which a building permit is sought which may require assessment of an I/I mitigation fee. Fees are collected prior to the issuance of a building permit, deposited in a dedicated I/I Mitigation Fund, and tracked for future reference. In FY21 the Engineering Division collected \$34,105 in I/I fees.

### **Other Sewer System Rehabilitation and Repairs**

At the end of FY19, a sewer backup on Brazil Street caused damage to four residential homes, and investigations began into the causes and necessary rehabilitation to improve sewer flow and pipeline conditions in this neighborhood. The report resulted in a CIPP lining project for the Brazil St. sewer in FY21, in conjunction with the Phase 2 lining project. Additionally, Joseph P. Cardillo & Sons replaced the lowest reach of sewer on Brazil Street from Washington Street to the first manhole on Brazil Street, along with the portion of seven private sewer services located beneath the right-of-way in April 2021.



## Asset Management Grant

In August 2019, the City applied for an Asset Management Grant through the Massachusetts Clean Water State Revolving Fund. The City was notified that we successfully received grant funding of \$60,000, to be combined with \$20,000 in City capital outlay and \$20,000 of in-kind services for a total project cost of \$100,000. In FY21 these funds were expended on an initiative to improve the tracking of sewer system maintenance and repairs using the City's sewer GIS. Tablets for use by field crews were purchased and set up to help track data in real-time. GIS data was also updated to populate gaps in sewer ages, materials, and sizes based on historic plans and recent sewer inspection reports. This effort will continue into FY22.

## Drainage

The City's drainage system consists of approximately 1,644 catch basins, 1,162 drainage manholes, and drainage pipes ranging in diameter from 4 to 48 inches. Several drainage projects were undertaken in FY21, as described below.

## NPDES MS 4 Permit Requirements

The City completed Year 3 requirements related to the EPA NPDES MS4 permit. The NPDES permit year is from July 1 to June 30 annually and is a multi-year permit. In FY21, City staff worked with Weston and Sampson Engineers to complete the following Year 3 MS4 permit requirements:

- All annual monitoring and reporting requirements
- Public outreach, including distribution of brochures, an MMTV spot, the Mayor's online news, and postings to the website and social media
- Annual update to the Stormwater Management Program (SWMP)
- Adopted a new stormwater ordinance and stormwater permit process
- Provided Illicit Discharge Detection and Elimination (IDDE) training for City staff
- Developed a catch basin monitoring form to be used as part of a Catch Basin Cleaning Optimization plan
- Cleaned 742 catch basins (50%) and conducted 240 miles of street sweeping
- Management of road salt storage facilities
- Inspection and inventory of all municipal facilities and implementation of Stormwater Pollution Prevention Plans (SWPPPs) for the DPW City Yard and the Wyoming Cemetery garage
- Outfall screening and interconnection prioritization
- Inspection of regulated construction sites for compliance with the SWMP

## Natural Hazards Mitigation Plan Update and Municipal Vulnerability Preparedness (MVP) Program

In October 2017, the City signed an agreement with CDM Smith to update the outdated 2004 Natural Hazards Mitigation Plan (HMP). With this plan updated, the City now qualifies for FEMA grant funding for projects identified within the plan. In partnership with the Mystic River Watershed Association's Upper Mystic Resilient Collaborative, the City took the lead on



a Massachusetts MVP grant in May 2021 to conduct a regional flood assessment study. The goal of the project is to develop a regional approach to addressing climate change impacts through better policy and regulation. Year 1 of the grant focuses on updating the regional stormwater model with a focus on flood exposure analysis. The City, along with the Collaborative, was awarded this grant in FY21 for a total of \$108,655.

After having not received funding under the MVP grant program in 2018 and the Hazard Mitigation Grant Program and Pre-disaster Mitigation Program in 2019 for a backup power generator for City Hall, the City appropriated local funds to design, procure and install an emergency stand-by generator for City Hall and a portable generator for Memorial Hall. Installation of these generators was a high priority in the City's hazard mitigation plan. Bidding and construction of this project is scheduled for FY22.

The City also continued to work with MEMA and FEMA during FY21 to provide supplemental information pertaining to the application for Hazard Mitigation Grant Program funding for the Lebanon and Sylvan Street drainage improvements project. While the City still remains in the queue for FEMA assistance with this project, provided that all outstanding questions and information needs can be satisfied, funding has not yet been formally secured. The City will continue working with these agencies to finalize our approval for these grant funds.



#### **Orient Ave. Rain Garden Project**

Three rain gardens were planted on Orient Ave. in summer 2018. Unfortunately, the plants did not survive the winter in 2020, and the rain gardens required replanting. The rain gardens were replanted in the spring of 2021 and were maintained regularly throughout the summer.

#### **Section 319 Grant Application**

A Section 319 grant application was prepared and submitted to MassDEP to help fund green infrastructure improvements to the City Hall parking lot. The Section 319 program is very competitive and this project was not chosen for the FY22 round of funding.

#### **Ell Pond Park Feasibility Study**

The Deputy City Engineer is a member of the Mayor's Melrose Pond Advisory Group and, as such, played an important role in the Ell Pond Park Feasibility Study. The study was conducted to evaluate alternatives for improvements to the open space around the pond, and input from the Deputy City Engineer was primarily focused on improving water quality in the pond and implementation of green infrastructure improvements in the adjacent park.



#### **Roadway/Sidewalks**

Several major right-of-way projects were either completed or started in FY21, as described below. Many of the project components follow a "Complete Streets" design aesthetic. All of the construction projects

described below were performed using the City's on-call contractors, including D&R General Contracting (paving, curbing, and sidewalks), Markings, Inc. (line painting), and Permaline (sign materials).

## Melrose Complete Streets Program

Melrose's Complete Streets program strives to safely connect people to where they want to go. The City's goal is to enhance the transportation network for all modes by connecting home, work, school, shopping, dining, recreation and more. In June 2016, the City adopted a Complete Streets Policy which was subsequently approved by the state. In order to qualify for state grant funding to assist in the implementation of our Complete Streets goals, the City completed a Prioritization Plan in 2017, identifying the top ranked projects recommended for construction.

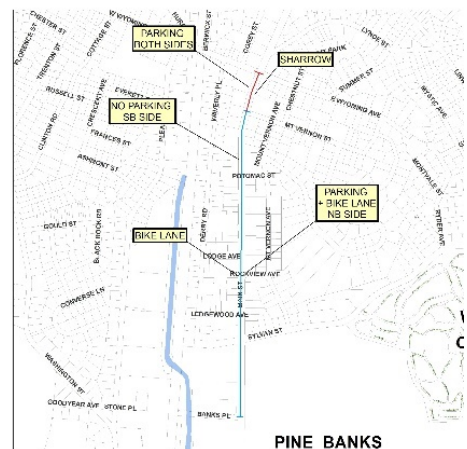


### Hoover School Neighborhood

In June 2020, the City applied for a \$400,000 grant toward the addition of sidewalks in the neighborhood of the Hoover School, including Echo Street, Glendower Road, and portions of Whitman Avenue and Park Street. Construction of this work began in the spring of 2021. This project provided significant safety improvements in the elementary school neighborhood, as well as better pedestrian connections to the MBTA bus routes in the area. The project included the installation of 12 accessible curb ramps and 2,200 LF of sidewalk.

### South Main Street

South Main Street, between West Wyoming Avenue and the Malden City limit, had been identified as a priority location for Complete Streets improvements in the 2017 Prioritization Plan. This corridor is a primary commuter route and is used by cars, bicycles, pedestrians, and buses. This roadway also connects downtown Melrose to Malden and Oak Grove MBTA station. The proposed project includes areas of bike lanes, sharrows, shared bike/bus accommodations, and bike route signage. Safety improvements include a reduction in travel lane widths to help slow traffic speeds, additional crosswalks, and improved signage. In order to add bike lanes, elimination of some parking on one side of Main Street is being considered. Selection and implementation of a final plan will occur in FY22, beginning with a pilot phase and community outreach.





### Lebanon Street

With the help of Stantec, the Engineering Division completed an alternatives analysis for Lebanon Street, between Sylvan Street and the Malden city line. The resulting report identified a preliminary plan to add improved bicycle and pedestrian accommodations along this stretch of Lebanon Street. The City plans to proceed with 25% design and preparation of a Project Notification Form for the MassDOT Transportation Improvement Project (TIP) funding program. Implementation of this project will provide a regional benefit, as Malden plans to make similar improvements to Lebanon St. on their side. While the initiation of the TIP process began in FY21, the City plans to launch an outreach campaign and solidify design decisions during FY22.

### Melrose Shared Streets Program

The MassDOT Shared Streets and Spaces grant program started in 2020 in response to the COVID-19 crisis. The purpose of the program is to provide new or repurposed space for socially-distanced walking, bicycling, dining, retail, and bus travel. The City received approval for funding of two grants, totaling \$59,160. The funds were for the following initiatives:



1. Parklets in four locations that the City, the Chamber of Commerce, and the Pedestrian and Bicycle Advisory Committee collectively identified as potential priority locations.
2. Slow Streets, which are residential roads that are closed off to all vehicles aside from residents. These projects were initiated by residents who collectively requested the infrastructure on their street, to allow for additional common space for exercising or socializing on those streets and to provide traffic calming benefits.

In FY21, the City also began working with engineers from Stantec on conceptual drawings for a Winter Shared Streets application, to revitalize and repurpose the space in Central Terrace, the alley between the YMCA and the Rising Eagle restaurant, upon which the Traffic Commission had recently voted to prohibit traffic. While the initial application for funding was not successful, the City plans to reapply for the next round of funding with a scaled down version of this proposed project.

## **Road Program Projects**

### Annual On-Call Paving

D&R General Contracting is the annual on-call paving contractor for the City in FY21. D&R conducted work on the following public ways in FY21: Ashmont St., Ashmont Park, Botolph St., Dexter Rd., East Emerson St., and Poplar St. A summary of the work completed includes:

- 23,575 SY of paving (approximately 1.5 miles)
- 2,626 SY of sidewalks (approximately 0.9 mile)

These capital projects, as well as additional paving and roadway work, are described below.

### Ashmont Street/Ashmont Park

Following completion in prior years of water main and gas main replacements on Ashmont Street and Ashmont Park, as well as sewer main replacement on Ashmont Park and substantial sidewalk improvements, the City performed paving of the binder course on these streets in November 2019 and final paving of top course in July 2021.



### East Emerson Street (Bellevue to Stratford)

Gas work had been completed on East Emerson Street from Bellevue to Stratford in 2018. Water services were also replaced along this corridor, which was just beyond the water main replacement project east of Stratford Road. This corridor was reclaimed and paved to binder in September 2020, then top course was paved in November 2020.

### Dexter Road

Dexter Road had been on the paving list for a number of years but was awaiting substantial completion of the new road and homes on Regan's Way, to minimize heavy vehicular traffic on the newly paved surface. Bituminous sidewalks were installed on one side of Dexter Road, which previously did not have any sidewalks, and a stop sign and crosswalk were added at the intersection with Penney Road. Final paving took place with leveler followed by a top course in November 2020.



### Poplar Street

Poplar Street was ranked in 'poorest' condition in the 2016 roadway condition assessment and was awaiting gas main replacement prior to paving. Gas main work was completed in 2019. Sidewalk and curbing repairs took place followed by reclamation and paving to binder in September 2020 and final paving in November 2020. This project also included reconfiguration of the intersection of Poplar Street with Prospect Street, to slow traffic and create less ambiguity as to which drivers have the right-of-way. This project also resulted in more sidewalks and green space, as well as a stop sign and crosswalk at the

intersection with Prospect Street. Finally, the curbing at the intersection with West Emerson was bumped out to create a better delineated parking area for cars on West Emerson and to effectively narrow the intersection for speed reduction on West Emerson Street.

### Botolph Street and Summit Avenue

The gas main had been replaced on a portion of Botolph Street in 2017, and paving was recommended due to the 'poor' condition rating of the entire street. Sidewalk and curbing repairs were completed on Botolph and Summit, and Botolph was reclaimed and paved to binder in September 2020. Further work in this neighborhood was delayed pending a decision on a proposed development at the end of Summit Avenue. Summit Avenue is recommended for an overlay following completion of the proposed development project, and top course on Botolph Street is planned to be paved in FY22.

### Sherman Road

The City performed a water main and service replacement project on Sherman Road in 2018, followed by gas main and service work performed by National Grid's contractor in 2020. Although Sherman Road is a private way, due to the extensive utility work performed and the resulting condition of the roadway, the City and National Grid divided the cost to overlay the road in November 2020.

### Grove Street

While Grove Street is slated for eventual water main replacement work, and the overall roadway condition was ranked as "fair," a portion of Grove Street west of Lebanon Street was patched with leveler due to rapid deterioration during 2020. This work was performed by D&R in December 2020.

### Vinton Street (north of Lynn Fells Parkway)

Following the major MWRA water main break on Vinton Street just north of the Lynn Fells Parkway and replacement of portions of the MWRA water main, the City's water main, and the City's sewer main, binder course was paved on Vinton Street in June 2021 by the MWRA's contractor.

## **New Crosswalks and Ramps**

Each year, the City tries to improve our network of crosswalks and accessible curb ramps in high need areas where pedestrians travel frequently and safety improvements are necessary. In FY21, the DPW along with our contractor, D&R, installed 18 new curb ramps on Botolph St. (4), Dexter Rd. (4), East Emerson St. (2), and Poplar St. (8). D&R also began work on ramps for new crosswalks that were approved by the Traffic Commission. These ramps will be completed and crosswalks painted in FY22.

## **Traffic Commission**

In addition to the roadway work described above, the Engineering Division participated in four meetings of the Melrose Traffic Commission, with the City Engineer (and later DPW Director) serving as the Chair and another Division employee serving as the Committee's Clerk. The Traffic Commission continues to address requests from the public or City personnel for regulatory changes to the City's Traffic Code. In FY21, the Engineering Division continued to work on final updates to the City's Traffic Code, which had not received a formal update since 2009. The GIS layer showing all items in the Code continued to be used to compare the code to the votes that had been taken since 2009.

The FY21 meetings included four regularly-scheduled quarterly meetings (September and December 2020, and March and June 2021). Items approved in FY21 are as follows:

- New crosswalks across Grove Street at Dell Ave. and at Linwood Ave.
- New crosswalks across Pleasant Street at Converse Lane (north side) and at Everett Street
- New crosswalk across Sylvan Street at Ryder Ave.
- New stop sign and crosswalk on Prospect Street at Poplar Street
- New stop sign and crosswalk on Dexter Road at Penney Road
- Changes to parking regulations on Sylvan Street between Derby and Main
- New stop sign on Everett Street at Crescent Ave.
- New crosswalk across Swains Pond Ave. at Penney Road
- No Turn on Red restriction from Green Street north onto Lynn Fells Parkway
- New stop sign on Maple Terrace at Swains Pond Ave.
- Changes to parking restrictions on Echo Street as part of the Hoover area Complete Streets project



## Private Utility Projects

### **National Grid Work**

The Engineering Division supervised the following National Grid gas system replacement work in FY21, most of which was performed by National Grid's contractor RJ Deveraux Corporation:

- South Main St. (Mt. Vernon Ave. to Sylvan St.) – September through December 2020
- Brazil Street – November 2020 through February 2021
- Beech Ave., Elliot St., Appleton St., Irving St., Harvard St., Fairmount St. – November 2020 through June 2021
- Vinton Street (Lynn Fells Parkway to Orris), related to the MWRA water main break – May through June 2020
- Damon Ave. (51 Damon to Boardman), Lovell Rd. (59 Lovell to Damon), Boardman Ave. (Main to Cochrane), Frost Ave. – March 2021 continuing into FY22



National Grid electric also continued replacing utility poles as needed, with Verizon removing double poles.

### **Eversource Mystic to Golden Hills Reliability Project**

In December 2019, Eversource, working with their contractor, Bond Brothers, began a major electrical transmission line upgrade that spanned from Golden Hills in Saugus to Everett, including a route through Melrose beginning on Howard Street at the Saugus line, continuing down Green Street to Main Street, then traversing Main Street from the intersection at Green all the way to the Malden city limit. Two parallel electrical transmission mains along this corridor required replacement to serve the region's power supply needs. Replacement of the second transmission main began in December 2020 and was completed by June 2021. While the City was not managing this project, the coordination with DPW and other City staff (e.g., the Police Department) was significant due to the many required traffic detours and frequent tasks requiring 24-7 work by Bond Brothers. Immediately following completion in June 2021,

Eversource identified an issue with the second transmission cable that had been installed and initiated emergency work required in the Howard Street area. This work is continuing into FY22.

### **MBTA Lynn Fells Parkway Bridge Replacement**

In March 2021, the Massachusetts Bay Transportation Authority (MBTA) began construction on a project to replace the railway bridge over the Lynn Fells Parkway, which is situated between Vinton Street and Tremont Street. Their contractor, Barletta, worked throughout the remainder of FY21 to construct the new footings and bridge deck, which are slated for final installation in FY22.

### **Facilities Assistance**

The Engineering Division also provided assistance as needed with projects related to City facilities in FY2021, including the design of the Memorial Hall Envelope Restoration and the City Hall Generator projects. Both projects will be bid in FY22.

## Operations Division

The City of Melrose's DPW Operations group is broken down into the following divisions: Water, Sewer, Highway, Sanitation, Fleet, Parks, Forestry, and Cemetery. Each division is described herein, supplemented by some information at the beginning of this report that crosses over between Administration and Sanitation (special collection days, etc.).

### Water and Sewer Division

The objective of Melrose's water distribution system is to distribute clean, safe water effectively throughout the City for residential and commercial use, and to provide water for fire emergencies. The City obtains water from the Massachusetts Water Resources Authority (MWRA). Water is distributed via natural (gravitational) flow throughout most of the City. The exception is at high elevation areas in which the water is distributed through two pumping stations, as described below.

There are approximately 82 miles of water mains in the Melrose water distribution system ranging in size from 2 to 16 inches in diameter. These pipes receive water from several large MWRA transmission mains in Melrose and are the responsibility of the City to operate and maintain. Pipe materials include cement lined ductile iron (CLDI), unlined and cement lined cast iron, and copper. Most water mains installed after approximately 1975 (representing 30 percent of all mains in the City) are CLDI pipe, which is the current industry standard. The remaining piping network is mostly comprised of unlined cast iron, with some copper pipes typically of smaller diameters.

The purpose of Melrose's wastewater collection and conveyance system is to remove wastewater coming from residential and commercial properties and convey it to the MWRA's wastewater interceptor pipes. The MWRA treats Melrose's wastewater at the Deer Island Wastewater Treatment Facility and charges the City by metering the volume both entering and leaving Melrose and calculating the difference. There are roughly 76 miles of sewer mains in the City, ranging in size from 4 to 24 inches, approximately 2,286 sewer manholes, and 5 City-owned sewer pump stations. The current standard pipe for wastewater conveyance is polyvinyl chloride (PVC) pipe. However, many of Melrose's older sewer pipes are made of clay.

### **Water and Sewer Pump Stations**

The City owns and maintains two water booster stations to provide additional pressure and volume to customers in areas of the City located at high elevations. These are in the northwest (Botolph Street and surrounding areas) and southeast (Park Street and surrounding areas) corners of the City, and the booster stations are located on Greenwood Street and Glendower Road, respectively. The high-pressure service systems are small, representing only about 10 percent of the total system demand. Both pumping stations were replaced by new facilities in the summer of 2003 and are operating as intended. Water Division personnel inspect the stations weekly, and an outside contractor (Weston & Sampson) provides detailed monthly inspections.

The City also owns and maintains five sewer pump stations. These stations convey wastewater from low lying areas via force mains up to the gravity sewer system. All sewer flows in Melrose ultimately flow to the MWRA collection system and to the Deer Island Wastewater Treatment Facility. Similar to the water booster stations, City personnel inspect the sewer stations weekly, and Weston & Sampson inspects them monthly.

City inspections follow written protocols and include confirmation of normal operation of facility equipment and a lack of alarm conditions. Consultant inspections include more detailed preventative maintenance of equipment and equipment replacement when needed.

Major pump station repair items undertaken in FY21 included the following:

- Replacement of the electrical motor control center (MCC) at the Upham Street sewer station
- Replacement of HVAC exhaust systems at the Fellsway and Upham Street sewer stations
- Professional cleaning of all five wetwells at the sewer pump stations

In addition, the City owns and maintains the Ell Pond Flood Gate, which controls the elevation within the pond, allowing for the pond level to be adjusted as needed to minimize flooding within the City. City personnel check the elevation of the pond weekly and make adjustments prior to predicted heavy rain storms. Weston and Sampson also inspects the flood gate monthly along with their pump station inspections.

### **Preventative Maintenance and Repairs**

City personnel respond year-round to address water and sewer system preventative maintenance needs and respond to system emergencies. Through the City's work order system, activities are tracked and brought to closure. In FY21, the following items were addressed:

- 4 water main breaks
- 1 water leak repair
- 12 sewer mainline blockages (32 total responses for sewer issues; 20 were private lateral issues)
- 16 water service replacements
- Weekly bacteria sampling of the City's drinking water in nine locations
- Two rounds of lead and copper drinking water sampling at 15 residential locations and two schools; results from one of the rounds were above the EPA Action Level for lead, while all samples were below the Action Level for copper as described previously
- Testing of all backflow devices two times annually through a private contractor (Water Safety Services, Inc.)
- Monthly inspections of known locations of sewer main issues (55 locations) and drainage pipe and catch basin issues (26 locations)
- Monthly inspections of major drainage system outfalls (6 locations)
- Catch basin cleaning covering approximately one half of the City's total catch basins annually

Each year, the City brings in a private contractor to perform a comprehensive leak detection survey throughout the City. This survey was performed in January 2021, and the issues identified in the subsequent report were then addressed by the Water Division.

Unidirectional water main flushing is performed every two years and was completed most recently in August through September 2019. This work includes flushing all water mains in the City to improve water quality, as well as exercising many valves and hydrants, allowing an opportunity to identify any deficiencies requiring repairs. Hydrant caps are also lubricated at this time. While hydrant flushing did not take place in FY21, the City uses the off-years to replace additional valves and hydrants identified as requiring replacement during the prior year's flushing program.



## Water and Sewer Billing

The Water and Sewer Billing office manages the water, sewer and trash billing programs for the City. This includes reviewing monthly meter reads, processing and inputting billing data, and processing adjustments and discounts. Personnel are frequently called on to respond promptly, sensitively and constructively to citizen inquiries, requests and complaints. The Water and Sewer Billing personnel schedule water meter readings, shutoffs, installations, final reads, and utility mark-outs. They also analyze high consumption accounts to identify customers who appear to have leaks and proactively notify those customers to help manage their high usage.



In FY21, the Water and Sewer Billing Division performed the following special projects:

- Distributed senior discount applications at the annual Senior Citizen Discount Fair; there are currently 632 seniors receiving the water and sewer discount and 266 receiving the trash discount
- Continued the Citywide meter replacement project focusing on problem accounts
- Continued the implementation of opt-in monthly billing, which increased from 804 to 826 accounts, up 22 since FY20.

For FY21, the water and sewer volumetric rates and the water and sewer base fees did not change. The Water and Sewer Rate Advisory Committee focused its efforts on preventing any rate increases from FY20 in light of the financial hardships many residents faced during the pandemic. This was accomplished partially through the deferment of payments on one MWRA water system loan in FY21. All other financial obligations were able to be met using the rates and fees collected.

## Highway and Sanitation Divisions

The City has approximately 83.5 miles of streets and 170 miles of sidewalks. The roadway layouts consist of concrete, asphalt and grass. The Highway and Sanitation Divisions are also responsible for street signs, potholes, fences, line painting, street sweeping, snow plow damage, traffic signals, street lights, curbside yard waste collection, and trash pickup at all parks, street receptacles, and schools.

Street sweeping has a fall cleaning schedule done by ward and main drags. This program is performed by an outside contractor for the months of November and December. The City sweeps in-house every Friday for the months of April to October and also performs citywide spring sweeping.

The list below describes the majority of work orders performed by these Divisions in FY21:

- Preparation for and staffing all city events. Note that the Victorian Fair, Summer Stroll, Memorial Day Parade, Melrose Porchfest, downtown Trick or Treat event, Healthy Melrose, and Home for the Holidays were all canceled in FY21 due to the pandemic. The DPW instead worked with local businesses to help allow Saturday sidewalk sales, outdoor dining, and other opportunities for socially distanced ways to promote local businesses. Events held in the City that required the assistance of DPW included COVID testing and vaccination clinics, as well as distribution of food and public health supplies. In place of Home for the Holidays, due to the need to limit gatherings, the DPW conducted a “Santa Ride” covering the majority of the City.



- 76 signs installed
- 10 traffic signs made in-house
- 19 regulatory/advisory traffic signs posted
- 561 potholes filled
- 1 sinkhole addressed
- 10 line-painting work orders completed, in addition to standard semi-annual line painting
- 2 curb repairs
- 85 street light outages fixed
- 188 sidewalk repairs/assessments
- 2 snow damage repairs
- No Victorian poles replaced
- 4 fence repairs in parks and schools
- 850 curbside metal goods pickups
- 23 block party setups/take-downs
- 125 crosswalks painted
- Blocking of streets for 5 events
- 12 weeks of curbside yard waste pickup
- Over 100 bicycle symbols and sharrows painted



## Fleet Division

The Public Works Fleet Division is responsible for maintenance, repairs, specifications and disposal of all DPW equipment. There are approximately 140 vehicles in our fleet consisting of front end loaders, dump trucks, garbage compactors, recycling trucks, leaf vacuums, tractors, street sweeper, wood chipper, pickup trucks, vans and automobiles. We are also responsible for small equipment such as chainsaws, lawnmowers, weed whackers, etc. In addition, we maintain sixteen vehicles for the Melrose Police Department. Our three in-house mechanics repair and maintain this equipment. The Fleet Division is also responsible for the seasonal change-over of equipment for snow and ice control, leaf collection, street cleaning and other projects completed by DPW. The Fleet Division has a preventive maintenance program and tracking system to record parts and labor expended on each piece of equipment, identify mechanical issues, and determine when equipment should be replaced. The Fleet Division is in the implementation phase for improving the use of our computerized asset management system to track fleet activities and purchases. Our average age for our fleet is approximately 10 years old.

The Fleet Division is also responsible for preparing specifications for the purchase of new and replacement equipment each year when there is money available. After new equipment is received, it is verified that it meets all bid specifications.

The DPW was able to purchase equipment, parts, and repairs in FY21, including the purchase of the following new equipment:

- One Elgin street sweeper, after the failure of the old sweeper which caused property damage
- One F350 sewer truck with extended cab
- One Ford Ranger for the Inspectional Services Department
- One Ford F150 for the Operations Division



### Parks and Forestry Divisions

There are 81 sites that the Parks Division maintains from parks and street islands, to public buildings. The Forestry Division maintains over 6,000 street trees that are on public property. They take down trees, trim, plant and have a pruning program in place.

The Forestry Division, as well as outside contractors working for the City, planted new trees throughout the city, including 78 new trees planted by the City's contractor, Leo's Landscaping, in fall 2020. Despite the pandemic, the Friends of Ell Pond and other community groups held dispersed clean-up days with which DPW assisted by way of removing trash and recycling following the cleanup events around the City. Two road races were organized with the help of DPW and the Melrose Police Department.

Below is a list of work orders and routine activities completed in FY21 by these divisions:

- Cut grass daily
- Irrigation installations and repairs
- Seeded fields and islands
- Fertilized fields and islands
- Installed spring flowers in 11 locations
- Installed fall flowers in 18 locations
- Repaired and/or installed playground equipment
- 249 tree assessments
- 72 tree removals
- 151 tree trims
- 75 trees planted
- 76 stumps ground
- Decorated downtown for the holidays
- Replaced Main Street banner 10 times
- Watered the city hanging plants in spring and summer
- Lined fields and painted for high school and youth in the spring and fall
- Dropped and spread mulch at the beginning of the school year and the beginning of spring





Between the Melrose and Pine Banks Fields and Open Space, 3,219 Permits were issued in FY21. In addition to routine maintenance and usage, notable projects completed in the parks and playgrounds in FY21 included the following:

#### Fred Green Field

- Updated Musco Lighting System Radio to 5G

#### Dog Park

- Removed and replaced all mulch and restored 4-ft fence height

#### Common

- Resurfaced pour-in-place rubber damages
- Laser graded both diamonds

#### Dunton Park

- Installed Memorial Daisy tot swing and borders

#### Adopt-a-Sites

- Created one new and two updated Adopt-a-Sites at the Howard and Green Street intersection
- Updated the Lloyd Adopt-a-Site at Sixth and Grove Street intersection
- Updated and enlarged the Poplar Street island Adopt-a-Site

#### Lincoln Tot Lot

- Replaced 4-ft black fence along the front and school side of the tot lot

#### Winthrop School

- Playground upgrades

#### Morelli Field

- Updated Musco Lighting System Radio to 5G
- Upgraded scoreboard to a wireless control radio
- Laser graded infield

#### West Knoll

- Updated Musco Lighting System Radio to 5G

#### Lewis Monk & Conant Park

- Laser graded infield

#### Cedar Park

- Green Man Wall Installation: Thirty-five artists, many from the Malden-Melrose area, came together to create a mosaic that celebrates our connection to the natural world. Spearheaded by Melrose artist Lisa Tiemann and partially funded through the Melrose Wayfinding and Creative Placemaking Initiative, this installation was placed in Cedar Park in FY21.



Ell Pond Gazebo

- Three wedding ceremonies were held at the Ell Pond Gazebo in FY21





### August 23, 2020 Storm

Also of note in FY21 was a major wind storm (microburst) that occurred on August 23, 2020. Damage was extensive around the City, including impacts to street trees, parks, and utility poles. The worst damage occurred in Ward 2 in the vicinity of Howard Street, where many trees and poles came down, in addition to a tree that fell and caused damage at the Horace Mann School playground.



### Cemetery Division

Under the direction of both the Cemetery Commission and the Department of Public Works, Wyoming Cemetery saw several improvements throughout FY21.

The Wyoming Cemetery Administration Building was reopened to the public, having been closed for a short period of time due to the pandemic. The cemetery grounds crew continued to adjust protocols as directed by state and local authorities. All graveside services were held in accordance with Massachusetts COVID-19 guidelines when required. The health and safety of the families in attendance and our employees was a top priority.

As a result of the focus on the pandemic, FY21 saw only a limited number of improvements to the Wyoming Cemetery grounds and facilities.

In the field, the following items were accomplished:

- The certified land surveyor completed the process of laying out and pinning the proposed new expansion area on Vesper Avenue. Once completed, there will be 150+ double depth graves available for use, for a total of over 300 burials.



- A functioning water source was installed on Vesper Avenue providing an ample source for the care of the new graves in that area.
- Eagle Scout Thomas Fund completed his Eagle Scout project of clearing the veterans' bronze and granite foot markers throughout the cemetery.

An administrative accomplishment of the Cemetery Department was as follows:

- The cemetery software plan that was previously initiated continued in FY21. The next phase in the cemetery digitization process is scanning and linking the new burial cards, as burials occur, as well as populating the GIS database.

During FY21, Wyoming Cemetery had a total of one hundred fifty-seven (157) burials. The breakdown was as follows:

Casket Burials - 86

Cremation Burials - 71

The Cemetery Division of the Department of Public Works maintains the cemetery on a daily basis. In addition to burials, the cemetery crew is responsible for the cutting and watering of the grass at reasonable intervals, the raking and cleaning of the grounds, the planting of seasonal displays of flowers, the pruning of shrubs and trees, the placement of foundations, and the installation of flat markers and veterans' government-issued headstones.

### **Memorial Day Activities**

Due to the COVID-19 pandemic, the City of Melrose was not able to have its traditional Memorial Day parade and ceremonies again this year.

On Saturday, May 29, 2021, Karen Burke, Director of Veterans' Services, along with the Melrose Scouting community decorated the veterans' graves at the Wyoming Cemetery. The flag retirement ceremony, however, had to be postponed due to inclement weather.

### **Flower Program**

The usual seasonal displays of flowers enhanced the cemetery grounds, in particular, the wonderful summer flowering displays of large canna, impatiens, begonias, petunias, etc. The beds were edged and mulched and the lawn in front of the building was loamed and seeded. An irrigation system provides water to that area. The beds at the Lebanon Street entrance of the cemetery were also landscaped.

### **Perpetual Care Flower Fund Program**

Twice-yearly, seasonal tributes are placed on designated graves of those who subscribed to the Perpetual Care Flower Fund. Baskets of mixed plants are placed on graves in time for Memorial Day, in addition to a winter basket of holiday greens in mid-December. This year, the cemetery staff placed sixty (60) baskets of each.

### Memorial Bench Program

The Cemetery Commission determined that the cost for family members wishing to participate in the Memorial Bench Program would be \$1,100.00. This would include an epitaph on the bench seat. The cemetery chooses a location as close as possible to the family's desired location. No one participated in the Memorial Bench Program in FY21.



### Memorial Tree Program

The cost for family members wishing to participate in Memorial Tree Planting Program is \$600.00. This includes a granite marker that is placed at the base of each tree that is planted. In FY21, a tree was planted at the request of the Runge Family in memory of G. Russell Runge.

The mission of the Wyoming Cemetery is to serve the citizens of Melrose by meeting their final needs with compassion and dignity. In these unprecedented times, the Wyoming Cemetery Commission and staff continued their commitment, as always, to serving the needs of the Melrose community.

### Snow and Ice

The 2020-21 winter season proved challenging in many ways. The number of storms that required sanding and plowing were fewer than average, however they were longer in duration. A colder than average February led to several sanding events to deliver the services to make our streets safe for travel. The aging fleet proved to be a challenge to maintain, and costs to keep our equipment operable are unfortunately rising. On the positive side, we experienced a milder than normal January and March. We also drew down our salt inventory in preparation for the anticipated salt shed replacement, although the borrowing required for the replacement of the salt shed was ultimately not approved by the City Council.

In total, the DPW responded to eleven winter weather events in FY21, with a total estimated local snow accumulation of 51 inches. We were able to handle six of the eleven storms using in-house forces only and supplemented our DPW crews with contractors for the other five storms. We also brought in DPW personnel to perform post-storm cleanup and snow removal on two additional nights. Over the course of the 2020-21 winter season, we used approximately 4,800 tons of salt. The largest accumulation measured in Melrose was 15-inches during the December 16-17, 2020 storm event.



## Facilities Division

The Facilities Division consists of both custodial staff and tradespeople. The Division completed approximately 2,000 work orders in FY21, while maintaining 20 municipal and school buildings covering over 1.5 million square feet. The Division continued to increase the number and types of projects completed in-house. These projects included: roof repairs, thermal imaging and reporting, masonry repairs, larger painting projects, fence building, and doors and frames installation. Work orders ranged from window repairs to furniture moves to replacing faucets, to name a few.

Noteworthy in FY21 was the ongoing COVID-19 pandemic. The custodial staff continued to keep buildings clean and maintained, accommodating the clean-outs of classrooms for year-end and the maintenance of safe and clean conditions in municipal buildings. The maintenance of our City facilities required ongoing attention as the pandemic continued through FY21. The Facilities Division was primarily responsible for supplying and distributing COVID supplies such as hand sanitizer and disinfectant to all City and school buildings, making almost daily deliveries. We also acquired approximately 400 HEPA air purifiers which were labeled, inventoried, and distributed throughout the City. The Facilities Division also fabricated and installed over 60 custom Plexiglas barriers throughout the schools and City buildings, and installed dozens of touchless faucets and flushometers in response to the pandemic. The Facilities Division continued to collaborate with the IT Department for various A/V upgrades, primarily in the schools. This work includes changing out white and smart boards, electrical modifications, and wall repairs and painting.

The Facilities Division also contributed to several community projects and outdoor spaces. These included building the modular parklets seen in front of several local businesses, wall preparation including power washing and priming for several public murals such as that on the wall of Melrose High School, repairing and replacing public garden boxes, and repairs of some playground and park equipment.



Below is a summary of noteworthy work completed at each building.

At the Horace Mann Elementary School, over 100 feet of sewer main pipe located in the basement was replaced, two water bottle filling stations were installed as well as hallway hand washing sinks, various painting projects were completed, light fixtures were retrofitted with LED lights, and various roof, window, and masonry repairs were completed. Also, multiple faucets and flushometers were upgraded to modern, touchless units to assist in meeting COVID protocols for minimizing the need to touch common area surfaces.

At the Roosevelt Elementary School, the Facilities Division performed various painting projects. Grease traps and exhaust hoods in the kitchen were cleaned out, water bottle filling stations were installed, and roof repairs were completed. Multiple faucets and flushometers were upgraded to modern, touchless units.



At the Franklin Early Childhood Center, window and roofing repairs were performed, various painting projects were completed, the inside stairs received safety tape applied to the treads, and multiple faucets and flushometers were upgraded to modern, touchless units.



At the Winthrop Elementary School, several bathrooms were painted as well as some spot, hardwood floor refinishing, water bottle filling stations and hand washing sinks in hallways were installed, the inside stairs received safety tape applied to the treads, and multiple faucets and flushometers were upgraded to modern, touchless units. Also, several windows were repaired, and some new shades were installed.

At the Hoover Elementary School, several hallways and offices were painted as needed. Water damaged ceiling tiles were replaced. Several emergency lights were upgraded, and water bottle filling stations and hallway hand washing sinks were installed. Multiple faucets and flushometers were upgraded to modern, touchless units, and several windows were repaired.

At the Lincoln Elementary School, grease traps and exhaust hoods in the kitchen were cleaned out. Various painting projects were completed, and water bottle filling stations and hallway hand washing sinks were installed. Multiple faucets and flushometers were upgraded to modern, touchless units, and several windows were repaired.

At Melrose Veterans Memorial Middle School, grease traps and exhaust hoods in the kitchen were cleaned out. The Facilities Division worked with the IT Department for FOB access upgrades. Water bottle filling stations were installed, and the gym floor was refinished, including updating the lines and center court logo and repairing water damage. Various painting projects were completed. Multiple faucets and flushometers were upgraded to modern, touchless units.

At Melrose High School, grease traps and exhaust hoods in the kitchen were cleaned out. Various painting projects were completed. The auto garage was cleaned out and reorganized to prepare for the large volumes of COVID-related supplies that were needed for the start of the 2020-21 school year. Water bottle filling stations and hallway hand washing sinks were installed. Dozens of faucets and flushometers were upgraded to modern, touchless units. The windows were audited and repaired with new hardware and select glass, and some shades were repaired as well as a few new shades installed.

At Memorial Hall, the Facilities Division assisted as needed in the planning and kick-off of the Memorial Hall renovation project.



At City Hall, various painting projects were completed. Water bottle filling stations were installed, and roof repairs were completed. Multiple faucets and flushometers were upgraded to modern, touchless units. The windows were audited and repaired with new hardware and select glass, and some shades were repaired as well as few new shades installed.



At the Melrose Public Library, various roof repairs were made and several doors were repaired.

At the Milano Senior Center and the adjacent Beebe Estate, some plumbing fixtures were upgraded.

At the police and fire stations, the Facilities Division performed a variety of tasks including various roof repairs, re-lamping old light fixtures with LED bulbs, and various door and window repairs. The Central Fire Station had a one of three large unit heaters replaced which heats the main bays. At the Police Station, we replaced the HVAC system which serves the Dispatch Room and installed an exterior, police call box in conjunction with the IT department.

Depending on the work order requested and building the work is being performed in, facilities employees worked staggered shifts in order to make repairs without disruption to the occupant's regular schedule. The Division's staff starts as early as 6:00 AM and ends as late as 10:30 PM. The early shift gives us the opportunity to solve issues before buildings open, and the later shift allows work to be performed in buildings after the regular day has ended.

During the summer, regular preventative maintenance and annual testing and inspections occurred and included: generators, grease traps, genie lifts, kitchen hood, bleachers and stands, rigging, boilers, fire extinguishers, fire alarms and sprinklers, science lab fume hoods, lab waste treatment system, pest control, and emergency shower and eyewash stations. Crews and vendors cleaned carpets and rugs, moved furniture, painted classrooms, halls, and gyms, and cleaned and sanitized buildings. City staff provided support for several City events, both municipal and school related over the course of the year.

Preparing for the 2020-21 school year proved to be an enormous undertaking to meet state and federal guidance for in-person learning during the pandemic, especially prior to the availability of vaccines. The Facilities and Engineering Divisions worked together to label the floors in all school and public buildings prior to refinishing for social distancing. Outdoor classrooms were set up with hundreds of tree stumps provided by the Forestry Division. The Facilities Division set up protocols for daily spraying of all classrooms to sanitize rooms following occupancy, and other daily expectations were set for cleanliness in all school and municipal buildings. Tents were coordinated and set up at each school to further assist with outdoor learning and lunch periods. Classroom furniture was thinned out and moved to common spaces to set up rooms for the desired 6-foot distancing for the return to school in September 2020. The DPW developed a Return-to-School guidance document that summarized all of these items, along with proposed overtime schedules for sanitizing shifts, staffing needs, and proposed contractor arrangements with vendors such as MP Cleaning and Cintas, to supplement in-house labor and supply resources.



Also during summer 2020, HVAC analyses were performed at each of the school buildings by an outside consultant team to recommend strategies to maximize air changes and outdoor air flow into school buildings and to identify any system deficiencies that needed to be addressed. Facilities Division staff then worked to replace HVAC filters, seal filter assembly gaps, fine tune system controls, and retrofit HVAC units to allow for maximum outdoor air flow as long as temperatures allowed. This process was followed by performing similar analyses and improvements in all other municipal buildings.

Separate from the needs presented by the pandemic, the City continued load shedding at the Middle School and High School. Load shedding is a concept where buildings make an effort to consume less energy on days when energy usage normally peaks to save money. Since the power company has to account for the maximum capacity of power usage, lowering the peak consumption helps reduce rates for the entire year. The Division's Building Systems Supervisor utilizes an energy management system to manage load shedding and minimize the effects on people's comfort. The City saves thousands of dollars yearly by load shedding at our public buildings.

Training continued to be a top priority for staff. The Facilities Division continued to work on procedures and methods to keep buildings as clean, safe and running as smoothly as possible including staying compliant with periodic AHERA asbestos inspections and action items. Several employees participated in OSHA required trainings.

The Facilities Division continued to provide essential services, through routine cleaning, preventative maintenance, and as-needed repairs, to all of our City buildings, including City Hall, Police and Fire Stations, Melrose Public Library, the Milano Senior Center, the Beebe Estate, the DPW City Yard, Memorial Hall, the Cemetery buildings, water and sewer pump stations, and all of our City-owned school buildings. The work of this division ensures that the City's facilities are well maintained for continued operation, to meet the many needs of the community.



The DPW looks forward to meeting the challenges and experiencing the triumphs of the year to come in FY22, as we continually strive to do our best to maintain and enhance the Melrose community.