

Project Summaries – Recommended Projects for Fiscal Year 2018

GENERAL GOVERNMENT

NON-PUBLIC SAFETY DATA SERVERS & STORAGE UNITS

This project is for the replacement of hardware within the three Town of Needham data centers. Phase I of the project will be the replacement of four servers, two storage units, and four switches. Phase II of the project will be the replacement of six servers, two storage units, and four switches. Data Center 1 is housed at the Town Hall, Data Center 2 is housed at the Public Services Administration Building, and Data Center 3 is housed at the Center at the Heights. Data Center 1 is the primary data center, where Town Departments access files and programs and the Internet. Network and Internet security components are housed here as well. The six servers at Town Hall are physical servers; however, three servers maintain and support approximately 50 virtual servers with corresponding data maintained on the storage units. The other three servers are for specific software functions. The servers, storage unit, and switches at the Public Services Administration Building act as a failsafe in case the Town Hall network and infrastructure is offline. The server and storage at the Center at the Heights houses backup data, and from this location certain segments of the data are migrated off site using a Carbonite business account. All of the servers are Dell PowerEdge R400 - R700 series, the storage units are Dell EqualLogis PS4000 - PS6000 series, and the switches are Dell PowerConnect 8000 series. All replacements would be comparable to the current devices being used. Maintaining this hardware at a level that will support the needs of the Town Departments is critical to the Town's business continuity strategy. As equipment gets older it becomes more difficult to maintain the same level of quality and performance as when initially installed, and this directly affects the day-to-day operations of the Town. *(Submitted by: Technology Department)*

The Town Manager's recommendation for Non-Public Safety Data Servers is \$145,000 to be funded by Free Cash.
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PUBLIC SAFETY

PUBLIC SAFETY COMPLEX AND FIRE STATION 2

The November 2, 2015 and February 10, 2016 Special Town Meetings approved funding for feasibility studies for the renovation and/or reconstruction of the Public Safety Building on Chestnut Street/School Street and Fire Station 2 at the intersection of Highland Avenue and Webster Street. The Public Safety Building, originally built in 1931, was reconstructed in 1988 - 1989. The amount of space that was originally allocated within the building for the Police and Fire Departments is no longer sufficient to accommodate changes in operations, changing personnel needs, technology upgrades, and security improvements. The station is not fully accessible for individuals with limited mobility. Areas reviewed during the feasibility study in the Police Department included: locker space for female officers, evidence and property storage space, interview space and interview recording requirements, public meeting space needs, records storage, inadequate dispatch areas, patrol and administrative office space, report writing space, and prisoner holding cells. The current prisoner booking area is unsafe due to its size and the setup of the room. The building lacks the ability to handle technology

improvements due to available space needed while the roof continues to leak into the records/server room on the second floor. The current climate control only works sporadically throughout the building creating numerous temperature variations. Areas reviewed in the Fire Department included apparatus bays that are too small for modern fire trucks; insufficient area for maintenance activities, non-existent facilities for storing and cleaning turnout gear, minimal existing office space, and insufficient storage space for files and equipment. The study included a review of the operational needs of both departments, facility assessment, assessment of spatial needs within existing or expanded facilities, alternatives analysis for demolition and rebuilding of new facilities, consideration of phasing/swing space, and a cost comparison of addition, renovation or rebuilding. The feasibility study is nearing completion, and additional funding is requested in FY2018 to complete schematic design. Design Development/Construction Document funding is proposed for FY2018 at the fall, 2017 Special Town Meeting, and construction funding is proposed for fiscal year 2019. Project features continue to be refined, and the design and construction cost estimates are under development. *(Submitted by: Town Manager)*

The Town Manager's recommendation for the Public Safety Complex & Fire Station 2 is \$250,000 to be funded by Other Available Funds. A supplemental appropriation in the amount of \$3,500,000 may be presented to Town Meeting in the fall of 2017.

BUNKER GEAR

This request is for the purchase of a second set of Personal Protective Equipment ("bunker gear") for all front line Fire personnel in FY2018. In the years to follow, funding will be sought to continuously replace the gear over a five year period. The bunker gear requested includes boots, firefighting pants and coat. Firefighting personnel regularly work in highly toxic environments caused by spills, chemical releases and the products of combustion. Numerous studies have found that carcinogens and other toxins associated with the fire ground can be extremely high. Further, the toxicity of these carcinogens appears to be much greater and more concentrated today, due to the wide spread use of synthetic and petroleum based building materials and furnishings found in modern construction. These contaminants, chemicals, toxins, and carcinogens adhere to firefighters' bunker gear, creating a lingering exposure concern for the firefighters wearing this equipment and to members of the public they serve. Recent research links increased risk of cancer due to contaminated bunker gear. The Fire Department has already taken measures to help reduce the risk of cancer, including outfitting each piece of apparatus with after-action wipes to quickly remove carcinogens from responders' skin while still in the field. Industry best practices require that firefighters be issued two sets of gear so that once contaminated, the equipment can be washed and dried in extractors and dryers designed specifically for that purpose. A second set of gear will allow personnel to remain available to respond to calls while their gear is being cleaned. Once this initial set of additional firefighting gear is purchased, the Department will begin a planned rotational purchasing request annually, so that all firefighting bunker gear can be replaced within a 10 year schedule to ensure proper functioning and safety. *(Submitted by: Fire Department)*

The Town Manager's recommendation for Fire Bunker Gear is \$167,872 to be funded by Free Cash.

PUBLIC SCHOOLS

SCHOOL TECHNOLOGY REPLACEMENT

This request is for funding to replace School Department technology, including computers, printers, IWBs, servers, laptop carts, and specialized instructional labs. The request reflects the decision in FY2017 to move Digital Learning Devices (DLDs) and staff laptops to the operating budget, as well the new classroom technology standard. In FY2017, funding for devices with a lifespan of fewer than five years was shifted to the operating budget. These devices included Digital Learning Devices (DLDs) such as iPads and Chromebooks, and laptops. The FY2018 submitted request is for \$463,500 and represents a \$155,575 increase over the FY2018 projection included in the FY2017-2021 CIP. The \$463,500 request increase consists of \$310,500 in hardware replacement, \$61,000 in infrastructure improvements and \$92,000 in new requests. The hardware replacement budget of \$310,500 increases \$84,575 from the prior year and reflects the reallocation of funds away from whiteboard and desktop computer replacement to the replacement of computer labs at Broadmeadow, Eliot, Hillside and High Rock (\$40,500/each), as well as replacement of the TV Lab at Needham High School (\$36,000.) The infrastructure budget of \$61,000 increased \$10,000 over the prior CIP to fund wireless access points, which were added as a new category under technology infrastructure. Finally, several new requests totaling \$92,000 are included for FY2018: the replacement of the High Rock security camera and keyless entry system (\$20,000), the installation of gymnasium video displays at two schools (Eliot and Hillside for \$6,000), the replacement of the 30-year old mobile PA system for use at graduation (\$30,000), the installation of an auditorium screen and a projection system at High Rock (\$25,000), a replacement screen at Pollard (\$6,000) and a projector and screen in the Pollard cafeteria (\$5,000.) *(Submitted by: Needham Public Schools)*

The Town Manager's recommendation for School Technology Replacement is \$307,825 to be funded by Free Cash, and \$155,575 in the Tier 2 Category.

SCHOOL FURNITURE REPLACEMENT

This request continues the replacement cycle for school furniture in poor and fair condition at the Newman and Pollard schools. In these schools, furniture is 10-20+ years old and in a state of disrepair after decades of heavy use. In FY2005, Town Meeting approved funding of \$20,500 to begin the replacement of furniture in poor condition. By FY2015, all furniture in 'poor' condition was replaced at these schools. The funding request will continue with the replacement of furniture in fair condition at these schools and will allow for the purchase of furniture needed to support enrollment growth. Beginning in FY2022, the furniture request will be used exclusively to purchase new classroom furniture as necessary in all school buildings. *(Submitted by: Needham Public Schools)*

The Town Manager's recommendation for School Furniture Replacement is \$45,000 to be funded by Free Cash.

SCHOOL COPIER REPLACEMENT

In May 2003, Town Meeting authorized \$60,000 in first year funding to establish a replacement cycle for school photocopiers. School photocopiers are located in all the schools and the administration building, and are used both by administrative and teaching staff. Teachers use the machines to reproduce classroom materials, including

homework sheets, exams, teaching packets, etc. Currently the School Department owns 48 copy machines. The FY2018 request includes five copy machines. Copier replacement is planned on a lifecycle analysis, which projects when a copier should be replaced based on actual usage and the manufacturer's total estimated capacity. Copiers that are heavily used are replaced more frequently than copiers that are lightly used. A seven-year maximum is assumed for most machines, even if they have not yet reached maximum copy allowances, given the additional operating expense associated with servicing and maintaining older equipment, as well as the difficulty in obtaining replacement parts. *(Submitted by: Needham Public Schools)*

The Town Manager's recommendation for School Copier Replacement is \$46,790 to be funded by Free Cash.

CENTRAL AVENUE SCHOOL WALKING TRAILS

This is a project to construct a walking trail behind the new "Hillside School" to be constructed on Central Avenue. All or a portion of this project will be constructed on land owned by the Town of Wellesley, which has been licensed to the Town of Needham for this purpose. The project, along with another project to design and build a playing field and adjacent walkways at the new school on the licensed land, is considered a separate, but parallel project to the school building project, and will be timed with the design of the building. The Town is exploring opportunities to have some of the walking trails on the Wellesley-owned land constructed by the Student Conservation Association (SCA) at a potentially reduced cost. *(Submitted by: Needham Public Schools)*

The Town Manager's recommendation for Central Avenue School Walking Trails is \$210,000 contingent on Community Preservation Funding.

CONSOLIDATED HIGH SCHOOL PROJECT

Classroom Expansion

This project would fund the addition of classroom space at Needham High School to support anticipated student population growth. Enrollment is expected to remain at or over 1,700 students through FY2023. The existing capacity of the school is 1,450. The maximum number of students per classroom in the 2008 renovated and expanded NHS was 22. Currently 25% of the academic classrooms have class sizes of 25 or more. The MSBA standard for classroom utilization rate is 85%. Currently, the utilization rate is at 90%+. Since 2008, several spaces at NHS have been repurposed to function as classrooms, however the number available is below the need. Further, the repurposing has compromised the overall operation of the educational program. The October 2014 Special Town Meeting approved \$200,000 to subdivide two large classroom spaces into four classrooms, and the 2016 Annual Town Meeting approved an additional \$65,000 to conduct a feasibility study of classroom expansion alternatives at NHS, which is underway. This request is a placeholder for the design and construction funds needed to develop between 6-8 classroom spaces at Needham High School, pending the final recommendations included in the feasibility study. *(Submitted by: Needham Public Schools)*

High School Chiller

In FY2016, the chiller at the High School stopped functioning. It is believed that this is due to low glycol levels. The glycol protects the chiller from freezing in cold months. In the summer of 2016, the Public Facilities Department rented a temporary chiller. The

Department intends to continue to rent a temporary chiller for the summer of 2017 while a new chiller is designed. This project is proposed to be evaluated and submitted with the classroom expansion project partly because the size and configuration of the chiller may be modified if the High School footprint is expanded. *(Submitted by: Public Facilities Department)*

High School Boiler Replacement

This request is to remove all four existing cast iron units and replace with three high efficiency gas fired condensing units. The replacement boilers will be complete with controls suitable for connection to the Town Building Management System and have burners with full modulation. The existing domestic hot water heater will also be replaced. The new boiler system will be designed for natural gas and will increase the energy efficiency of the heating system at the High School, and will allow the High School to utilize more than two boilers at a time. This project is proposed to be evaluated and submitted with the classroom expansion project partly because the size and configuration of the boilers may be modified if the High School footprint is expanded. *(Submitted by: Public Facilities Department)*

High School "A" Gym Upgrades

This request is to upgrade the Needham High School A Gym. The NHS A Gym was not part of the 2009 renovation. Plans for bleacher replacement are already underway. The bleachers are beyond their useful life and are difficult to use. The replacement modern bleachers will streamline opening and closing, and the bleacher design will accommodate the proposed floor replacement and re-alignment. Also part of this project is the replacement of lighting and the ceiling. The lighting is presently inadequate, and the ceiling is a drop ceiling and tiles are frequently damaged. IN addition to use by the Schools, this gym is in high demand for community use. This project is being considered in the context of the High School Expansion project to achieve economies of scale and to accommodate scheduling. *(Submitted by: Public Facilities Department)*

High School Athletic Locker Reconfiguration & Addition

This request proposes to reconfigure and increase the number of student physical education lockers at NHS to accommodate the increased student population. Currently, there are 508 lockers at NHS (269 in the boys' locker room and 239 in the girls' locker room.) The project will add 111 lockers in the boys' locker room and 104 lockers in the girls' locker room, for a new grand total of 723. Currently, each locker room has small, medium and large lockers. The reconfiguration would remove the doors and frames from the medium and large lockers, and would create three new, small lockers from every two medium lockers, and three new small lockers from every one large locker. (The existing small lockers would remain unchanged.) This reconfiguration will yield 81 new boy's lockers and 80 new girls' lockers. Additionally, a new bank of 30 lockers would be added in the boys' locker room, and 24 new lockers will be added in the girls' locker room. This project is being considered in the context of the High School Expansion project to achieve economies of scale and to accommodate scheduling. *(Submitted by: Needham Public Schools)*

<p>The Town Manager's recommendation for the Consolidated High School Project is \$9,000,000 in the Tier 2 Category to be financed by General Fund debt and \$400,000 to be funded by Other Available Funds.</p>
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POLLARD BATHROOMS

There are four sets of boy and girl bathrooms at the school that are need of a renovation. The Town constructed the first of the four bathrooms in FY2017. This request is to complete the work started on the first set of bathrooms in the remaining bathrooms. The improvements that were made include new fixtures, new tiles, new layout and open doors, new ADA compliant stalls, and other features to modernize the bathroom facilities. It is intended that the remaining bathrooms will be renovated in one or two summers, depending on the schedule. The project will be timed to achieve the greatest efficiency and savings. *(Submitted by: Public Facilities Department)*

The Town Manager's recommendation for Pollard Bathrooms is \$650,000 to be funded by Other Available Funds.

POLLARD BLUE AND GREEN GYM UPGRADES - DESIGN

Proposed improvements consist of replacing the present rubber flooring with another material that is appropriate for basketball use and installing mats along the side of the gym for safety. Lighting upgrades were completed under the energy efficiency request in FY2016. This funding will support the design of the flooring replacement in both the Blue and Green Gyms. The present rubber flooring is not ideal for basketball use and this building is used frequently by both School and community basketball groups because of its size. The design will investigate handicap accessibility issues, player safety, and basketball specifications, and will determine the best type of flooring to install given restriction in these spaces. *(Submitted by: Public Facilities Department)*

The Town Manager's recommendation for the Pollard Blue & Green Gym Upgrade Design is \$45,000 to be funded by Free Cash.

PUBLIC WORKS

FUEL ISLAND RELOCATION & UPGRADE

Currently DPW, Fire Department, School Department, and other Town vehicles rely on this fueling station. Beginning in September 2013, all Police Department vehicles also rely on this filling station. The Police Department consumes a large volume of gasoline, and that Department's reliance on this station represents a dramatic increase in use. This funding request reflects the anticipated costs of relocating the fuel station, demolition of the existing station, installation of a new station, and demolition of the "old" salt shed. The fueling station will be located on property transferred to the jurisdiction of the School Committee but remaining under the control of the DPW. The station is designed to be relocatable in the future if necessary. The fuel station is proposed for replacement and relocation based on its general age, condition, location, environmental concerns (e.g. proximity to wetlands, proximity to groundwater table, threat of algae contamination, and susceptibility to flooding), access and maneuverability, capacity, and compatibility with the proposed expansion of the DPW Operations Building at 470 Dedham Avenue. The RTS, Sewer and Water Enterprise Funds will be allocated 20% of the cost of the project based on fuel consumption. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Fuel Island Relocation & Upgrade is \$1,320,000 financed by debt - 80% paid by the General Fund and 20% paid by the Enterprise Funds

DPW SEASONAL STORAGE FACILITY AT THE RECYCLING AND TRANSFER STATION - DESIGN

The recently completed DPW relocation feasibility study determined that approximately 14,000 s.f. of storage space required to fulfill DPW operations programming needs cannot fit on the existing site (470/484 Dedham Avenue). The existing site has been approved by the Board of Selectmen as the preferred site for the ultimate reconstruction of the facility. Weston & Sampson evaluated many options and locations, recommending that a seasonal storage facility be constructed in a remote location consisting of a building of approximately 7,000 s.f. and covered storage (canopy) of another 7,000 s.f. After reviewing recommendations with the PPBC and Board of Selectmen, Weston & Sampson has recommended that the facility be located at the RTS. Locating the seasonal storage building at the RTS will necessitate the relocation of existing operations to the currently unused acreage adjacent to the site. Design funding will include a review of RTS operations to determine the most appropriate location for the storage building and the operations to be relocated. Construction funding is proposed for FY2019. While the funding source is listed as General Fund, enterprise funding will likely be recommended as part of the construction appropriation. *(Submitted by: Department of Public Works)*

An appropriation may be presented to Town Meeting in the fall of 2017 to be financed by debt.

PUBLIC WORKS INFRASTRUCTURE PROGRAM

The Public Works Infrastructure Program allows the Department of Public Works to make improvements and repairs to Town infrastructure, including but not limited to roads, bridges, sidewalks, intersections, drains, brooks and culverts. Each program is detailed below.

Street Resurfacing

This Program is essential to maintaining the structural and surface integrity of the Town's approximately 279 lane miles of accepted streets. The Town targets 17 lane miles per year to achieve a desired life cycle of 15 to 20 years. The primary strategy of this program is asphalt paving and incidental work. Incidental work may include asphalt berm curb, new grass shoulders, corner reconstruction including handicapped ramps, minor drainage improvements, street sign replacement, traffic markings, and signs. Applying this repair strategy in a timely manner will extend the useful life of the roadway for up to 15 years. Installing a monolithic asphalt berm curb better defines the edge of road, improves drainage and protects the shoulder from erosion. The Town targets roads with a Pavement Condition Index (PCI) of below 70 for resurfacing or specialized treatment. The Town targets a PCI of 60 or below for repair/renovation. The Town's goal is to maintain its roadway network at an average PCI rating of 75. Target funding for street resurfacing in FY2018 is \$800,000.

Traffic Signal & Intersection Improvements

This Program funds traffic signal and intersection improvements and installation of signalized intersections where none currently exist. Target funding for FY2018 is \$128,000 to be used for Engineering & Design for the Highland Avenue and West Street intersection.

Sidewalk Program

This program funds improvements to the network of sidewalks throughout the community. There are over 160 miles of accepted sidewalks in Needham. Over half of

the Town's sidewalks do not comply with current standards and require significant improvements, including the installation of handicapped ramps. Sidewalk improvements must comply with Federal and State laws and construction standards. The target funding for FY2018 is \$484,000.

Storm Drain Capacity Improvements

This Program provides funding to improve roadway drainage capacity. The Town's Stormwater Master Plan identified a number of areas throughout Needham where improvements are required to resolve flooding problems and illicit discharge. Locations for improvements have been prioritized within the plan. This funding request includes, but is not limited to, the installation of additional storm drains and the replacement and extension of drains on Manning Street, Hoover Road, Concord Road and Burnside Road with larger capacity drains. Since the issuance of the Stormwater Master Plan numerous multi-unit developments have been built or planned in the Town of Needham. These developments include new roads with drainage structures and roof or sump connections that are then connected to existing Town systems. These new connections have increased the load on the Town's drainage system and caused flooding in some areas. Due to extensive drainage repairs that were required on Greendale Avenue, funds for FY2017 were diverted from Ardmore Road and Hunnewell Street to complete that project. Unless circumstances dictate otherwise, FY2018 funding of \$100,000 is planned for Ardmore Road and Hunnewell Street.

Storm Drain System Repairs

This Program provides funding to repair failing storm drainage infrastructure within Town easements that have been discovered through investigation work. These projects will include the replacement of existing culverts that have deteriorated over time and are restricting flow. This work will eliminate flooding and capacity issues in the immediate vicinity. This project will provide funding over five years for the Drains Division to address small projects related to the Labor Day 2013 storm drainage remediation. Unless circumstances dictate otherwise, FY2018 funding in the amount of \$50,000 is targeted for system upgrades and repairs at various locations.

Brooks and Culverts – Repair and Maintenance It is the intention of the DPW to expend Capital Funds to address the issue of poorly draining brooks, streams, waterways and culverts throughout the Town that have been severely damaged by heavy rains/storms in the past. Flooding has caused the failure of retaining walls, resulting in extensive erosion and silt deposits in brooks and streams. The silt has provided a medium for vegetation and affected the flow of water, and the situation has resulted in the loss of useable abutting property and flooded basements. The current conditions are beyond the means of DPW equipment and personnel. It will require a detailed investigation, a plan of recommended improvements, a design drawing and specifications, environmental permitting and bidding of construction to be overseen by the Town's Engineering Division. This will return the waterways to a condition that the DPW will be able to maintain. The Environmental Protection Agency (EPA) is currently finalizing stronger requirements for stormwater and permitting under the NPDES permit. The Town will need to continue to demonstrate its efforts regarding cleaning and improvements to water quality of brook and culverts. Unless circumstances dictate otherwise, FY2018 funding of \$200,000 is planned for construction of a culvert at Meadowbrook Road.

Roadway Reconstruction

Town evaluates the sight distance, drainage, handicap ramps, sidewalks, subsurface utilities, public utility poles and overhead utilities of all roads. The physical condition of

roads to be considered for full reconstruction include shape, foundation and traffic volume. This is a multi-year process requiring surveying, designing, utility evaluation and construction. Some of the roads that may be targeted for full reconstruction in the future include: Marked Tree Road, Nehoiden Street, Kingsbury Street, sections of Central Avenue, and Webster Street from Dedham Avenue to South Street. No funding is allocated to the Roadway Reconstruction category in FY2018.

Bridge Repairs

Surrounded on three sides by the Charles River, the Town jointly maintains a number of bridges with neighboring communities. The Massachusetts Bridge Inspection Program has identified a number of bridges that have some level of deficiency and has recommended repairs. This Program is essential to improve the structural and/or surface integrity of all bridges throughout Needham. Capital Project costs will include surveying, engineering evaluation, design, and repair or reconstruction. Bridges are one of the infrastructure assets whose value and depreciation are now tracked under the GASB 34 Program. The Massachusetts Department of Transportation issued a report on Newell's Bridge which connects Needham and Dover on Central Avenue and indicated that the bridge is deficient and in need of repair. The Town will work with Dover to determine how to address these deficiencies. No funding is allocated to the Bridge Repairs category in FY2018. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for the Public Works Infrastructure Program is \$1,300,000 (\$800,000 to be funded by Free Cash and \$500,000 to be financed by General Fund debt) in the Tier 1 Category and \$462,000 in the Tier 2 Category.

PUBLIC WORKS SPECIALTY EQUIPMENT

The FY2018 request is to fund a new Field Renovator for the Parks & Forestry Division. This piece of equipment renovates baseball diamonds and will be the second field renovator in the fleet. This acquisition is necessary to handle the acreage that Parks & Forestry maintains. The Field Renovation will also be used to de-weed clay skins and make them look fresh and play-worthy. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Public Works Specialty Equipment is \$30,000 to be funded by Free Cash.

TRAFFIC IMPROVEMENTS

This funding would support projects that are recommended by the DPW and the Traffic Management Advisory Committee (TMAC). These recommendations include items such as permanent speed monitoring devices, traffic calming measures, and school zone enhancements. These items are not presently included in the Department of Public Works operating budget. The proposed annual request will support one or two construction-related requests per year, such as 500 feet of roadway granite curb installation, two school zone installations, two average traffic calming installations, several radar sign installations or sign and/or pavement markings. The FY2018 funding request is to improve the Cedar Street and Central Avenue Intersection. This project was recommended by the Safe Routes to School Study that was prepared by the Commonwealth for the Eliot School. The project will improve the safety for vehicles and pedestrians crossing at the intersection by relocating curbing and sidewalk areas. This will shorten the distance of the cross-walk and allow the crossing guard to have better control over traffic flow and pedestrian crossings. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Traffic Improvements is \$249,000 to be funded by Free Cash.

PUBLIC FACILITIES

ENERGY EFFICIENCY UPGRADES

The 2011 May Special Town Meeting approved funding for an Engineering Study for Energy Upgrades. This study was conducted on ten key buildings in 2011. The results of this study illustrate that if the Town makes an initial investment in selected and recommended energy upgrades, the cost of these upgrades will pay for themselves within ten years. In FY2018, the department intends to install on-demand ventilation on air handlers in the mechanical room, and re-commission building HVAC controls at the Eliot School. The original study included Fire Station #2 and the Public Safety Building. While the Town has performed some of the energy efficiency upgrades, additional upgrades are on hold pending proposed reconstruction of these buildings. *(Submitted by: Public Facilities Department)*

The Town Manager's recommendation for Energy Efficiency Upgrades is \$57,000 to be funded by Free Cash.

COMMUNITY SERVICES

ROSEMARY RECREATION COMPLEX

This project received design funds at two prior Town Meetings: FY2015 in the amount of \$450,000 and FY2016 in the amount of \$550,000. Both appropriations were awarded from the Community Preservation Fund. The Park and Recreation Commission, PPBC, Public Facilities-Construction Department, and Park and Recreation Department underwent a year-long feasibility study of Rosemary Pool and the site in 2013. The study was conducted by Weston & Sampson, with public input throughout the process. The Park and Recreation Commission voted to replace the outdoor pool on the Rosemary site, and to renovate the building to accommodate year-round use, and renovate the parking areas to accommodate more vehicles, as well as year-round use. The Park and Recreation Commission's goal is to have the site be used year-round. In summer 2015, BH+A was hired to design the new facility. This process included public input on the options for the site and the final design choices are currently in the permitting stages with local and state agencies. Rosemary Pool closed on August 26, 2016 and will not re-open. If this funding request is approved, the construction is proposed to begin in June 2017, with a goal of having a new facility for summer 2018. If a new facility is not built at the site, the Town will be required to remove the current structure and restore the banks on the lake, which has been estimated to cost of approximately \$2 million. Draining the lake for maintenance will no longer be needed with a new two pool option. The building will have bathhouse functions on the lower level. The second level will be operated separately, with a multi-purpose room for programs and office space for the Park and Recreation Department and the Health Department. The parking lot will require stormwater management improvements, create more parking opportunities than currently available, and be able to be used year-round. The entrance roadway will be resituated on the site, to decrease the slope. The portions of the facility that are related to outdoor recreation are eligible for funding consideration under the Community

Preservation Act. These would include the pools, the site work and parking, and the functions of the building related to the outdoor pool. *(Submitted by: Park & Recreation)*

The Town Manager's recommendation for Rosemary Recreation Complex is \$15,800,000 contingent on Community Preservation debt financing (\$12,000,000), General Fund debt financing (\$3,000,000) and Other Available Funds (\$800,000).

ATHLETIC FACILITY AND PUBLIC RECREATION IMPROVEMENTS

The Department of Public Works and Park and Recreation have developed a maintenance plan for all fields, which includes new or total reconstruction, partial renovation, irrigation, drainage improvements, and equipment replacement or repair (bleachers, fences/backstops, player benches and miscellaneous equipment) for multi-use fields and ball diamonds. The FY2018 request is to fund engineering and design for drainage and field renovation for Cricket Field's Field #2, and irrigation renovation for both fields at Cricket. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Athletic Facility and Public Recreation Improvements is \$285,000 contingent on Community Preservation Funding.

DRAIN SYSTEM IMPROVEMENTS – WATER QUALITY/ROSEMARY LAKE SEDIMENT REMOVAL

This project would fund the dredging and off-site management of impacted sediment from Rosemary Lake. There is sediment at the bottom of the lake that is impaired due to the accumulation of roadway pollutants from storm runoff water. The lake is suffering from low dissolved oxygen levels, nutrient loading (fertilizers), bacteria, and road contaminants, which are all problematic to the ecosystem of the lake and adjoining brook. This project will consist of removing the impacted sediment (0.5 to 5.5 feet in thickness) from the bottom of Rosemary Lake. Additional contaminants have been found in the sediment subsequent to the initial testing, requiring disposal at an out-of-state landfill facility. It is estimated that up to 30,000 cubic yards of sediment will be dredged. The lake is located in the Charles River watershed which has a Total Maximum Daily Load (TMDL) for pathogens and phosphorus. Rosemary Brook, from the outlet of the lake to its confluence with the Charles River, is listed as an impaired water and is a Category 5 water body. Under the recent National Pollution Discharge Elimination System (NPDES) Permit, a program under the Clean Water Act, Needham is required to undertake Best Management Practices (BMPs) to improve existing water quality in impaired waterbodies. Removal of impacted sediments will enhance one of Needham's natural resources by improving the water quality of the Lake, and thus the quality of Rosemary Brook. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Rosemary Lake Sediment Removal is \$2,400,000 contingent on Community Preservation Funding.

RESERVOIR TRAIL

Design funding for the Reservoir trail was appropriated in FY2014, and the contract for the design was awarded in October 2014 to BETA. The project has been permitted and received an Order of Conditions from the Needham Conservation Commission under the Massachusetts Wetlands Protection Act and the Needham Wetlands Protection Bylaw. The request for an amendment to the Special Permit for the Public Services Administration Building (PSAB) has been approved by the Needham Planning Board. Two public sessions were held during the design phase, and a presentation was made to the

Needham Commission on Disabilities. The input from all sessions was incorporated into the design. This request is for the construction funds to create a handicap accessible perimeter trail, with boardwalks, around the Needham Reservoir. The development of an accessible trail around one of the Town's important amenities - the Needham Reservoir - was a key priority identified in the Town's Trails Master Plan. The Eastman Conservation Trail, recently rebuilt at the Newman School, is accessible but only available outside of school hours. The Reservoir Trail will have more hours of available use and closer parking. The Reservoir Trail will also include assistance for those with visual impairments, and provide an accessible fishing dock. The two decommissioned water supply wells are located within the trail area. The existing fence and concrete will be removed, the areas excavated and regraded. Prior to the building of PSAB, the trail had minimal use, but with more open access, it has become a popular location for fishing and walking. The dirt road, in place to access the wells, is eroding in places and is impassable during wet conditions. The southerly section has inconsistent routes, partially due to wet areas, creating damage to the wetland resource areas. Public education will be added throughout the trail related to the history of the reservoir and the natural environment within which it exists. *(Submitted by: Park & Recreation)*

The Town Manager's recommendation for the Reservoir Trail is \$850,000 contingent on Community Preservation Funding and \$75,000 to be funded by Water Enterprise Fund Retained Earnings.

IMPROVEMENTS TO MEMORIAL PARK BUILDING AND GROUNDS

The Memorial Park Building was included in the Townwide Facilities Study planning update completed in 2014. The study presumed a complete renovation of the current Memorial Park Building, which would make the building fully handicap accessible, and would be designed and constructed in accordance with the new building code. The facility would be part of an overall plan that enhances programs and promotes synergy among the other nearby Town facilities, and is seen as a service point for High School athletics and other community activities. The feasibility study for this project was funded at the 2016 Annual Town Meeting, and is under the charge of the PPBC. *(Submitted by: Memorial Park Trustees)*

Depending on the timing of the on-going feasibility study, an appropriation may be presented to Town Meeting to be funded by Other Available Funds, Community Preservation Funds, and General Fund debt (amounts yet to be determined).

GENERAL FUND FLEET REPLACEMENT PROGRAM

The Town's fleet replacement program was established in FY2015. The program includes a budget and schedule for the Town's rolling stock fleet of appropriately 220 vehicles, trailers, and large specialized attachments and the School Department fleet of 14 vans and buses. General purpose vehicles include pickup trucks, a variety of sedans, SUV's, vans, and police vehicles (87). They comprise approximately 39 percent of the entire fleet. General purpose vehicles are utilized in every department and are relatively interchangeable. The replacement of these vehicles can proceed on a regular schedule and should be part of the of the Town's recurring costs. The Town relies on a number of trailers for the purpose of moving tools and equipment, hauling trash and debris, and transporting special equipment. The Town has 47 trailers which represents approximately 23 percent of the fleet. Specialized, high value vehicles and snow and

ice equipment comprise the other 38 percent of the fleet. These vehicles and equipment are just as integral to Town operations as the general purpose vehicles, but serve the unique purposes of specific departments or divisions. Included in this group are the high value vehicles such as ambulances, large dump trucks, fire engines, street sweepers, and others for which appropriations need to be planned. *(Submitted by: Multiple Departments)*

GENERAL FUND CORE FLEET REPLACEMENT

Unit/Division	Year	Replacement	Amount
12/Parks	2009	Chevrolet Colorado	\$38,277
15/Admin	2008	Ford Explorer	\$35,481
52/Highway	2009	Toyota RAV4 Hybrid	\$34,729
704/Facilities	2005	Ford T250	\$31,222
PV/School	2008	Ford Transit XL	\$33,861
Van 3/School	2011	Ford Transit XL	\$32,875
Van 6/School	2011	Ford Transit XL	\$32,875

The Town Manager’s recommendation for General Fund Core Fleet Replacement is \$239,320 to be funded by Free Cash.

GENERAL FUND FLEET REPLACEMENT – SPECIALIZED EQUIPMENT

Unit/Division	Year	Replacement	Amount
48/Highway	2008	Ford F450	\$83,561
336/Parks	2011	TORO 5900	\$98,747
R-02/Fire	2008	F-450 Horton 553	\$224,677

The Town Manager’s recommendation for General Fund Fleet Replacement – Specialized Equipment is \$406,985 to be funded by Free Cash.

**RECYCLING AND TRANSFER STATION (RTS)
ENTERPRISE FUND**

RECYCLING AND TRANSFER STATION PROPERTY IMPROVEMENTS

This article will be used to fund improvements to the Recycling & Transfer Station (RTS) facility to increase efficiency, comply with regulatory requirements, and improve functionality. Funding requested for FY2018 will support the reorganization of the Materials Processing and Composting Areas. The RTS receives and stores various construction materials generated both from Town projects and paying customers at its Materials Processing Area (MPA). In 2014 it was determined that the MPA was in need of better organization due to the inflow of various materials and its proximity to wetlands. Much of the material stored on site has become commingled and difficult to separate, resulting in materials that are difficult to reuse or market. Given that the Materials Processing Area is now accepting additional aggregate material and will be conducting an annual rock crushing operation, an opportunity exists to develop this area to better store, categorize and utilize materials in a manner that is conducive to limiting or negating adverse impacts to the adjacent wetlands. To bring better organization to the Materials Processing Area and ensure that operations do not adversely impact the wetlands, the RTS plans to purchase approximately 10,000 square feet of block face made up of interlocking precast concrete blocks that will be delivered and installed at the site in accordance with an engineering plan to create ten material storage bins with

dimensions of 25' wide x 30' deep x 10' tall. If the seasonal storage is moved to the Materials Processing Area, the blocks can be disassembled and reassembled at a different location. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for RTS Property Improvements is \$290,000 to be funded by RTS Enterprise Fund Retained Earnings.

TRANSFER STATION FLOOR REPLACEMENT

The Municipal Solid Waste (MSW) transfer building was built in 1998. The concrete floor has not been replaced since it was constructed and it is in poor condition. The current condition is the result of heavy equipment operating across the surface each working day since the building was constructed, which has slowly eroded the concrete and exposed rebar in many places. The protruding rebar and ruts in the concrete floor could be a hazard to both RTS staff and the general public using the facility. The RTS plans to replace the entire MSW tip floor. This will require the floor to be jackhammered, the existing rebar removed and the ground surface prepared for new rebar and concrete. The dimensions of the MSW transfer building floor are 40 feet by 56 feet, eight inches (approximately 2,260 square feet). *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Transfer Station Floor Replacement is \$166,000 to be funded by RTS Enterprise Fund Retained Earnings.

FLEET REPLACEMENT – SPECIALIZED EQUIPMENT

Unit/Division	Year	Replacement	Amount
67/RTS	2004	Vermeer Grinder	\$43,086
80/RTS	2010	Packer Truck	\$211,256

The Town Manager's recommendation for RTS Specialized Equipment is \$254,342 to be funded by RTS Enterprise Fund Retained Earnings.

SEWER ENTERPRISE FUND

SEWER PUMP STATION IMPROVEMENTS

The Town's wastewater pumping stations have been evaluated to assess their physical condition and capacity, and to evaluate current and future flow projections. The Canister pump stations at Lake Drive, Cooks Bridge (Milo Circle), and Alden Road are each either at or beyond their design life. Maintenance and emergency shutoffs occur more frequently, and these stations require a greater amount of personnel and financial resources to keep them operational. The Alden Road Pump Station was originally constructed in the mid-1950's as a pneumatic ejection station, and was converted in the 1970's to a built in place wet well/dry well station with vertical flooded suction sewage pumps. There are no alarms with the exception of a local red light alarm to indicate high wet well levels. The electrical control panels are outdated and located below grade level adjacent to the pumps, which if flooded, poses a threat to personnel and equipment. The station has heat, but no dehumidification or ventilation. FY2018 funding is intended for the Alden Road Pump Station Design/Engineering and Construction. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Sewer Pump Station Improvements is \$600,000 to be financed by Sewer Enterprise Fund debt.

WATER ENTERPRISE FUND

WATER SERVICE CONNECTIONS

The primary purpose of this program is to remove old iron pipe water services that may contain lead from the water distribution system. Old water services are to be replaced prior (at least one year) to a road reconstruction/paving project. If this replacement does not occur, an element of the subsurface infrastructure remains susceptible to failure before the useful life of the reconstructed roadway has been realized. System-wide, there are approximately 1,220 services that still need to be replaced in the system. Approximately 70 services are expected to be replaced with the FY2018 budget request of \$200,000. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Water Service Connections is \$200,000 to be funded by Water Enterprise Fund Retained Earnings.

WATER SPECIALTY EQUIPMENT

The FY2018 request is to fund the replacement of Unit #115. The current 2008 excavator is used for water/sewer/drains projects including responding to emergencies. At the time of the requested replacement, the excavator will be ten years old. The replacement will be an upgraded version of the existing piece of equipment, which will make operations more efficient as it will be able to dig deeper to replace catch basins, excavate the whole bottom length of water pipe at proper depth because of its longer reach, help to install larger precast structures, and move steel road plates more easily because of an increased lifting power. The anticipated make and model will be a Komatsu PC88MR-10 or equivalent with a 12 year lifecycle. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Water Specialty Equipment is \$132,000 to be funded by Water Enterprise Fund Retained Earnings.

WATER DISTRIBUTION SYSTEM IMPROVEMENTS

The fiscal year 2018 – 2022 CIP combines all water distribution system Improvements into one article including water system rehabilitation and water main replacement.

Water System Rehabilitation

Under the Water System Rehabilitation Program, the Town's water infrastructure is routinely analyzed to assess functionality and performance, and to identify areas in need of repair. Water infrastructure requires ongoing attention and periodic replacement. A diligent rehabilitation program encompassing maintenance, repair, and replacement ensures a continual supply of water to the public. The Department of Public Works prioritizes replacement of water pipes based upon pipe condition, water break history, and adequacy of water flow to fire hydrants. Unless circumstances require otherwise, funding for FY2018 will support the rehabilitation of Alfreton Road from Highland Avenue to Webster Street (unlined), Bennington Street from High Street to Concord Street (unlined) and Country Way (unlined).

Water Main Replacement

This request is to replace a total of 11,500 linear feet of 14" water main. The existing water line dates from 1936-1939 and is cast iron with a bitumastic or coal tar liner. The water quality in areas serviced by this line is a concern as the lining of these pipes breaks down over time causing discoloration in the water. In 2008, the Town began addressing areas served by this type of piping which at the time was approximately

19,000 linear feet extending from Charles River Street, to Pine Street, to Central Avenue, to Marked Tree Road and a section between Oak Street and Chestnut Street, to School Street. In 2008, the 14" water main was relined from the Charles River Water Treatment Facility to Grove Street. In 2010, the second phase of this project replaced the 14" water main with a new 16" water main extending from Grove Street to Central Avenue. The current project will be replacing a 14" water main with a new 16" water main. This project includes replacing the pipe and reconstructing the road. Unless circumstances require otherwise, FY2018 funding is proposed for the design of the remaining 11,500 linear feet of water main to be replaced from the intersection of Pine Street to Marked Tree Road to Oak Street and Maple Street. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Water Distribution System Improvements is \$1,300,000 to be financed by Water Enterprise Fund debt.

CORE FLEET REPLACEMENT

<u>Unit/Division</u>	<u>Year</u>	<u>Replacement</u>	<u>Amount</u>
20/Water	2009	Toyota RAV4 Hybrid	\$34,729
24/Water	2009	Ford Transit Connect	\$29,345

(Submitted by: Department of Public Works)

The Town Manager's recommendation for Water Core Fleet Replacement is \$64,074 to be funded by Water Enterprise Fund Retained Earnings.