



TOWN OF LINCOLN
WATER DEPARTMENT
MIDDLESEX COUNTY MASSACHUSETTS

TOWN OF LINCOLN
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AGENDA

Water Commissioners Meeting

October 3, 2019 7:30 am

Town Hall 2nd Floor Hearing Room 16 Lincoln Road

12:30	5 minutes	1	Approve Minutes of September 18, 2019 - vote expected
12:35	5 minutes	2	Drought update – vote expected
12:40	10 minutes	3	Discuss contract operations for customer service and billing
12:50	5 minutes	4	Discuss public hearing date on the water rates - vote expected
12:55	5 minutes	5	Discuss Bill insert – vote expected
1:00	60 minutes	6	Discuss the FY21 Operating Budget – vote expected Discuss the FY21 Capital – vote expected Discuss the Water Rate and Fees –vote expected
2:00	25 minutes	7	Discuss LWD Rules and Regs – vote expected
2:25	5 minutes	8	Other Business
2:30			Adjourn

*times are approximate



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October 3, 2019

To: The Board of Water Commissioners
CC: Colleen Wilkins, Finance Director

From: MaryBeth Wiser, Water Superintendent

RE: FY 21 Capital Request – Revised September 30, 2019

I am pleased to present to the Board of Water Commissioners the draft FY21 Capital request, which is described in detail in this memorandum. The intent of this document is to describe The FY21 request, in narrative terms. After Board reviews, vetting and direction, this memo will become the final budget narrative that supports and explains the budget for the benefit of the Board and public. Attached is the proposed FY21 Water Department Capital Request. As part of the annual budget process, in addition to the operations and maintenance budget, the Board approves a targeted level of capital expenditures. Below are descriptions for the request.

Filter Module Replacement

I have been discussing the need to replace the filter modules for over a year with the Board. I have sent memos and emails on this matter. I requested this project to be included in the FY20 Capital Plan and was denied. I would like to request the Board allow me to replace the modules in all five filter skids in FY21. We discussed various options to keep the cost down. The existing filters are overdue for replacement. They have a life expectancy of 5 to 7 years if the systems are maintained. The systems were not maintained due to deferred maintenance and budget constraints. There was a misconception that when the water department received the modules from Evoqua two years ago, we would be all set. The department only received 100 modules. 48 modules were replaced in November 2017 on skid three. Each skid has 48 modules. The remaining modules were installed in May 2018 and are already showing signs of decay. The pressure day test or testing of the integrity of each skid is showing signs of failure. To date we have spent over \$100,00 on maintenance to try to keep the plant running.

Replacing one unit per year: By replacing one unit per year, the result will be added operational demand on the new modules to compensate for the old modules. Eventually the old modules won't work, and the new modules will be doing double duty. When the modules begin to fail, we have to isolate them and take them out of service. The more modules we take offline the harder the rest of the skids have to work. This will shorten the life expectancy of the new modules and the existing ones may fail. The entire filtration system is overdue by three years for replacement and is operating beyond their life expectancy.



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We run a pressure decay test (PTD) on each skid. The skids are failing the PDT. This means individual modules need to be isolated and or replaced. Each time we isolate a module the % efficiency gets less for that skid and the other skids pick up the slack. Evoqua has received approval from the Mass DEP for the new filter technology. So, we will be able to replace with ease.

Under the Surface Water Treatment Rules (SWTR) we have to meet a 4-log removal for giardia and virus inactivation. We take credits with the filters to meet these removal criteria. Eventually we will be unable to do that. If we continue with deferred maintenance, it could lead to another ACO with DEP or even worse a loss of our ability to filter the drinking water. The poor operational condition of the filtration system noted in the August 2019 Sanitary. Good operating filter modules is critical to producing safe clean drinking water.

We currently received 2.5-log credit for Giardia removal through the filters. We achieve an additional 0.5-log through the clear well with chlorine disinfection. This totals the 3-log Giardia removal we need to achieve by the SWTR. In addition, we need to also be able to achieve 4-log Virus Inactivation. This is in the sanitary survey. This means we need a longer contact time (CT) in the clear well. I am already working on that and will be getting a quote from Tata and Howard. The DEP wants us to conduct a full assessment of our current filtration operations at the WTP. The Board has funded this project in FY20.

The new modules will also provide reduced energy needed and thereby reduce operational costs. We can easily anticipate Up to 30% reduction in pumping energy costs.

We have 240 modules total to replace. I gave the Board this information over a year ago during our budget discussion. The cost is \$800.00 per module for a total \$192,000.00 + 700.00 for O-Ring Kits and end caps. Total project cost for materials and installation is \$266, 629.60. I will be requesting \$325,000 for contingency for any unknowns we may encounter during the installation phase. It was during these discussions the Board decided to only do one skid per year. I would advise against that for the reasons stated above. I would suggest that this full replacement be included in the FY21 Capital.

Something to think about: I have been working with Evoqua on the filter replacement at the WTP. According to the records, the existing modules are already close to 11 years old. At (1) unit a year – the last modules will be 16 years in use. By replacing 1 unit per year, the result will be added operational demand on the new modules to compensate for the old modules. The modules are good for 5-7 years and are long overdue to be replaced. I highly recommend a full replacement of all five skids rather in the FY21 Capital Plan rather than one skid per year as the Board suggested. **Estimated total capital request \$325,000.**

Raw Water Pump Station Restroom Replacement

The Department of Labor and standards (DLS) completed an inspection of the Lincoln Water Department pumping and treatment facilities on February 19, 2019. The DLS is responsible for occupational health and safety enforcement for OSHA. The inspection identified several deficiencies at the facilities including the restroom at Flint's Pond Road water pump station. The restroom has non-compliance stair tread height and



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depth as well as the lack of a platform at the base of the stairs. The current restroom and access hall configuration do not provide adequate space to reconfigure the stairway. The restroom floor is 4 steps above the hall floor in order to remove the waste from the bathroom which flows by gravity to the on-site sewage disposal system. The new bathroom will create a single unisex restroom including sink, toilet, and shower similar to the downstairs bathroom outside the Treasurer Office. The space limitations in the pump station leave two options 1. Re-modeling the second-floor attic space/ storage room to include a restroom. 2. To locate the new restroom in the storage room below the existing restroom and construct an addition to replace the storage space.

We will not be able to occupy the building as an office with-out a bathroom. The Water Department sent a response to the Department of Labor and Standards (DLS) that we would include the funds needed to relocate the bathroom. The DLS accepted this as satisfactory to comply. They understood funds would need to acquire for construction. Original request \$150,000. **Estimated capital request \$50,000 (9/10/19)**

Tower Road Well Replacement

The Tower Road well is over 40 years old. It is a shallow gravel packed well. The well has been cleaned on a every other year maintenance schedule (\$25,000 per cleaning). The issue at hand is that the well has shown a dramatic decline in specific capacity over the last two years. There is evidence of the production of fine silt and sand during operation. Cleaning no longer seems to work to restore to full specific capacity. The original specific capacity of the Tower Road well was 37 gpm/ft and today in 2019 19 gpm/ft. Rapid declines in specific capacity coupled with the production of fines indicate replacement of the well is the most economical viable choice. Replacement of the Tower Road well is part of the 20-year Capital plan.

If the well is not replaced, then we will have to clean the well at least twice per (\$50,000 for two cleanings added to the operating budget). There would be no guarantee this cleaning effort would work to restore the well. In addition, If the water treatment plant is off-line for any reason, then the LWD would not be able to supply water to the town and meet the maximum day demand (~0.88 mgd to 1.24 mgd) as required by Mass DEP. The ground water supply is also used to blend the water from Flint's Pond to help lower the organic material to reduce (Disinfection By Product) DBP formation. Fire protection, and public health and safety would be compromised as well as mandatory restriction for no water use would be imposed.

In regard to supply redundancy, the LWD meets the requirements of MassDEP to supply the maximum day demand with the Tower Road well and Flint's Pond. The LWD should have infrastructure in place to provide additional water in an emergency such as use of interconnections. Investigation of Interconnections was requested for FY21 and was denied by the Water Board for inclusion in the FY 21 Capital request. We have no redundancy. I strongly recommend the replacement of the Tower Road well.

The existing well is a 48-foot deep gravel packed well with a 24-inch casing and ten feet of shutter style screen at the bottom of the well. The existing well pump station is equipped with a Gould's 10RJLO 8-stage vertical turbine pump with a 50-horsepower motor and variable frequency drive (VFD). This budget includes installation of a new gravel packed well on the same property, a new submersible well pump, motor, and VFD, a pit less adapter, and new site piping to connect the new well to the pump discharge piping in the existing pump station.



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All chemical feed equipment in the existing pump station will continue to be utilized after the replacement well is constructed. The existing well will be abandoned following construction of the replacement well.

Phase I: The first phase includes implementation of a test well exploration program and completion of a short-term pump test to estimate the potential yield of the replacement well. The program would include installation of 2½-inch diameter test wells up to approximately 50 feet from the existing well. Installation would include up to 200 vertical feet of 2½-inch diameter casing and approximately 30 feet of screen. Following test well installation, a 4-hour pump test to estimate potential yield and water quality sampling would be completed. One round of water quality testing is required, including secondary chemistry (iron, manganese, alkalinity, calcium, magnesium, hardness, potassium, turbidity, aluminum, chloride, color, copper, odor, pH, silver, sulfate, total dissolved solids, and zinc), nitrate, nitrite, volatile organic compounds (VOCs), and bacteria. Sampling for per-

and polyfluoroalkyl substances (PFAS) shall be completed using EPA Method 537 v1.1. Samples shall be analyzed for PFOA, PFOS, PFNA, PFHxS, PFHpA, and PFBS to a detection limit of 5 parts per trillion, or lower, for each compound.

Phase II: Following approval of the replacement well pump test proposal by MassDEP, we recommend installation of a new gravel packed production well at the well site by a qualified drilling contractor. The size of the well would be determined by information collected during the test well exploration program; however, for cost purposes, we estimate that the size and depth of the replacement well would be similar to the existing Tower Road Well (24-inch diameter well, 50 feet deep with 10 feet of screen). A 24-hour pump test would be performed following construction of the replacement well and water quality samples taken. The findings of the pump test would be submitted to the MassDEP in the form of a Source Final Report for review and approval accompanied by a BRP WS 20 Application (Approval to Construct a Source of 70 Gallons per Minute or Greater). The Source Final Report would include an as-built well construction diagram, a plot plan of the Zone I for the replacement well, summary of pump test results, status of Town's source protection bylaw, and demonstration that the well has acceptable water quality and is capable of producing the desired yield with no additional impacts.

September 30, 2019 pump test and cleaning results.

Before redevelopment: 8.73 GPM/ft @ 500 GPM

After redevelopment: 32.05 GPM/ft @ 500 GPM

Estimated capital request \$575,000

Full Scale Demonstration Study

The Town of Lincoln Water Department have been battling Disinfection by products f since the 1980's. The Town has received two Administrative Consent orders (ACO) form the Mass DEP to comply. I am in the process of preparing a public notice as we are in violation again. Additional treatment is needed to remove the pre-cursors that form when exposed to the chlorine. Raw water Quality has changed since the original design of the Water plant. We are currently working with Tanta and Howard. In order to determine what is the best treatment train for Lincoln's water supply Jar testing and Pilot testing are needed.



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TOC/DOC levels in general have been increasing over the years with consistently higher levels in the summer of 2019 than historical levels. TOC/DOC levels experienced in the summer 2019 are approximately double the levels seen during the pilot study in the summer of 1999 prior to the WTP design. In April 2019 there was large spike in TOC levels in the surface water, followed by a large change in pumping scheme where 88% of water contributions were from the WTP in May 2019. The combined effect of the large increase in TOC and large pumping percentage from the WTP likely resulted in the large spike in TTHMs.

We have been working with the LWD in an attempt to pump greater volumes from the well and less from the WTP by modifying tank control setpoints. However, due to the well's current specific capacity (gpm pumped/foot of drawdown in the well) being less than 50% of the original specific capacity because the well has to be cleaned, the well continues to shut down on low water level. LWD's SCADA integrator was scheduled to be onsite to reduce the low level setpoint from 7.5 to 3.0 feet which will allow the well to be

pumped at a higher rate. Pumping rate was recently dropped to 350 gpm, but will likely be able to be increased back up to 400 gpm or even greater with the low level setpoint change. We recommend cleaning the well in Fall 2019 to restore capacity. However, due to the age and overall condition of the old-style shutter screen, a replacement well is recommended at Tower Road. The current well loses capacity much too quickly

to sustain its use long term. Estimated costs for design, permitting, and construction of a replacement well were submitted to the LWD for planning purposes.

Clearwell operations at the WTP have been adjusted to lower the level of water in the clearwell which reduces the contact time in the clearwell and allows water to flow through the clearwell and into the distribution system quicker after chlorine is added. This was recently modified to help reduce TTHM production in the water in the WTP and reduce overall water age. Reducing the level in the clearwell also reduces the volume of water stored in the WTP clearwell during the 6-10 hour daily shut down period through the evening hours. This results in less water generating TTHMs in the clearwell prior to discharging into the distribution system.

There is some chance we could add a coagulant to the raw water to remove some TOC through the membranes. Tata & Howard is working with Evoqua to come up with a proposed plan to do some preliminary jar testing on various coagulants to determine if any will work to achieve some TOC removal. The membrane filtration technology at the WTP will not be able to remove a large percentage of TOC like a conventional or DAF plant is designed to do, but may be able to remove enough to remain below TTHM MCL. Jar testing and pilot testing will be necessary in the summer season to determine effectiveness. Coagulant storage and addition may be done at the WTP or at the raw water pump station depending on available space required, but space is limited at both locations. If coagulant is added and additional residuals are generated and backwash, the handling facilities/tanks and recycling system will need to be evaluated and likely modified.

Generating chloramines following the clear well may be a viable solution to reducing the formation of additional TTHMs post-clear well. However, if the DBP values coming off the clear well are too high (LWD is conducting sampling to determine clear well effluent DBP values), then generating chloramines may reduce the formation of DBPs, but not at a rate sufficient to prevent MCL violations. DBP values may always be close to MCL levels in the summer season even with chloramines. Generating chloramines does not physically remove the organic content from the water, but just inhibits the reaction of free chlorine and organic DBP precursors reducing the formation of DBPs in the distribution system. **Estimated capital request \$500,000**



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EPA's America Water Infrastructure Act of 2018: Risk Assessment and Emergency Response Plan Waiting on engineers estimate

The Water Department was notified of this change in May 2019. On October 23, 2018, America's Water Infrastructure Act (AWIA) was signed into law. The law requires community (drinking) water systems serving more than 3,300 people to develop or update risk assessments and emergency response plans (ERPs). The law specifies the components that the risk assessments and ERPs must address, and establishes deadlines by which water systems must certify to EPA completion of the risk assessment and ERP. Systems serving 3,301-49,999 compliance date June 30, 2020 for the ERP revisions. Assess the risks to, and resilience of, its system. Such an assessment shall include: The risk to the system from malevolent acts and natural hazards;

- The resilience of the pipes and constructed conveyances, physical barriers, source water, water collection and intake, pretreatment, treatment, storage and distribution facilities, electronic, computer, or other automated systems (including the security of such systems) which are utilized by the system;
- The monitoring practices of the system;
- The financial infrastructure of the system;
- The use, storage, or handling of various chemicals by the system; and
- The operation and maintenance of the system.
- The assessment may include an evaluation of capital and operational needs for risk and resilience management for the system.

In August 2019, EPA will release a baseline threat document to provide community water systems with additional information concerning risk assessment requirements. To date they have not released this information. No later than six months after certifying completion of its risk and resilience assessment, each system must prepare or revise, where necessary, an emergency response plan that incorporates the findings of the assessment. The plan shall include:

- Strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system;
- Plans and procedures that can be implemented, and identification of equipment that can be utilized, in the event of a malevolent act or natural hazard that threatens the ability of the community water system to deliver safe drinking water;
- Actions, procedures and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals, including the development of alternative source water options, relocation of water intakes and construction of flood protection barriers; and
- Strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system. **Estimated capital request \$80,000**

Transfer from retained earnings

To cover the costs associated with remediation of the Potassium Hydroxide chemical release at the Tower Road Well. **Estimated capital request \$100,000**



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Filter Platforms/catwalk

Top of membrane units is 9.75 feet above floor and requires fall protection per OSHA. Catwalk and handrails need to be installed to safely access and work on units. Original request for FY19 was \$50,000. We advertised for bids in August 2019 and the results came in at \$147,000. We re-bid in September 2019 and the results came in at \$120,000. There is \$34,000 remaining in the Article. \$16,000 was spent on design and bidding. We will need to perform maintenance on the filters for the next year utilizing an outside contractor. We need to access the top of the filters to isolate the modules when they fail an integrity test to prevent raw water from getting into the finished water. Then we need to pin or repair the individual modules that are failing. This is critical to putting out safe drinking water.

With the Tower Road Well offline due to the Potassium Hydroxide release, it is imperative the WTP remains online. The WTP was running 13 to 14 hours per day with the Well online. Now the WTP is running 21 to 24 hours per day with the well offline since August 2019. We cannot activate the Tower Road Well until the DEP gives us permission.

The cost for the outside contractor is about \$10,000 per visit (3 to 4 days onsite). We have had to perform this maintenance twice since June 2019. If I need to perform this maintenance utilizing FY20 operating funds it could be about \$60,000 for maintenance on the filters to keep them operational. Just today 9/30/19 CMF#2 failed the integrity test. **Estimated capital request \$100,000**

Respectfully submitted
MaryBeth Wisner, Water Superintendent



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October 3, 2019

To: Ruth Ann Hendrickson, Chairman Board of Water Commissioner
Heather Ring, Water Commissioner

From: MaryBeth Wisner, Water Superintendent

RE: FY21 Operating Budget Request That Meets FY19 Revenues
Preferred FY21 Operating Budget Request Revised 9/30/19

The budget provides a forecast of the source and use of funds and serves as a managerial tool for guiding the Department towards achieving its goals outlined in the Mission statement. Our Mission statement is used to set priorities, focus energy and resources, strengthen operations, ensure that employees are working towards common goals, and assess and adjust the department's direction in response to the changing environment.

This plan defines the priorities and influences the development of the budgetary commitments needed in the upcoming fiscal year. The budget message will highlight the goals and priorities for the coming year.

I am pleased to present the proposed FY21 Budget for your review and consideration. The Lincoln Water Department budget is driven by state and federal mandates as well as statutory requirements to provide safe drinking water to the community. We face a number of interesting, but manageable challenges for FY21. As part of our preparation of the FT21 budget, I reviewed the expenditures through June 30th for the previous budget year in order to gauge where we stand and how correct our budget estimates have been.

This financial request for work proposed in FY2 outlines the expected project costs and description. This budget is presented as a categorical list of anticipated project costs representing the best estimate of the funds needed to support the proposed work. This budget is intended to be used as a flexible tool to assist the department with efficient operations.

The department needs to continue to increase the operating budget to better reflect expenditures related to operations so that there is not a shortfall at the end of each fiscal year. We need to keep up with inflation and present rates. Additionally, all operational costs must be absorbed through the budget and over expenditures of any specific line item must be compensated for by sacrificing other line items. When a budget is created solely on needs, necessities and legal/regulatory requirements, prioritizing becomes another word for sacrificing. Historically the following line items have been underfunded: Waste disposal, chemicals, electricity, water analysis, vehicle maintenance, buildings and grounds engineering and distribution system repairs. Deferred maintenance is the result of underfunding the budget each year. Below is a list of outstanding items that need to be addressed.

Deferred maintenance items not addressed due to budget constraints

- Nine fire hydrants out of service
- Three active service leaks on our side
- 18 broken curb stops
- 12 paved over curb stops

- 6 broken gate valves
- One active KOH leak at the well
- Chemical handling and venting issues at the WTP
- Little or no spare parts for routine repairs for the WTP and well
- Little or no stock to address service leaks or main breaks
- Lack of equipment to address distribution needs having to rely on the availability of an available contractor for routine and emergency
- Lack of funds for outside contractors to perform annual maintenance on equipment
- Lack of adequate storage and office space
- Lack of staff to perform flushing, hydrant maintenance, leak detection, gate valve exercising
- Deferred Maintenance Pumps Motors
- Deferred Maintenance VFD.
- Deferred Maintenance Generators
- Deferred Automatic transfer switches
- Deferred on the microfiltration system
- Deferred Replacement tubing for LMI chemical feed pumps
- Annual maintenance on- line analyzers.
- Annual calibrations of flow meters
- Deferred Annual Maintenance Vacuum Prime
- Hydrants Maintenance 2200 each plus cost of a contractor to install, painting flagging tagging greasing
- Chemical feed systems, Chapter 6 chemical application laws need to be addressed at the pumping facilities and WTP. This includes day tank storage, chemical transfer, electrical, and eye wash, handling and venting.
- Safety, Per Chapter 6 chemical applications laws, all facilities need to upgrade the (PPE) Personal Protective Equipment necessary storage lockers, MSDA , safety equipment that meet and or exceeds Mass. Department of Safety and OSHA, and necessary training for the equipment to keep employees safe while handling chemicals and what to do in case of an emergency.

The following is the line item explanation for the base budget (Table A) and the preferred budget (Table B)

Table A: Base Budget

The following is the FY21 request. The Fy21 budget was prepared utilizing the FY19 revenues.

Wages and Salaries: The Water Department employs six three full time employees. Three of the positions are funded and currently vacant. The Administrative Assistant's position went from part time 24 hours per week to full time 40 hours per week. We added the newly created position of Utility Maintenance Laborer. All salaries and wages were estimated using the Town of Lincoln salary scale for Union and non-Union positions See attached.

Total Wages and Salary request is \$560,270

Expenses: Total Expense request \$581,950

Total FY21 Budget request is \$1,292,220. This budget must meet FY19 Revenues \$1,292,302.75

Table B: Preferred Budget

The following is the preferred FY21 Request: In order to increase the Budget water rates and fees will need to be adjusted.

Wages and Salaries:

The Water Department employs six three full time employees. Two of the positions are funded and currently vacant. The Administrative Assistant's position went from part time 24 hours per week to full time 40 hours per week. We added the newly created position of Utility Maintenance Laborer. Add a part time Administrative Assistant. All salaries and wages were estimated using the Town of Lincoln salary scale for Union and non-Union positions See attached.

Total Wages and Salary request is \$496,037

Standby

FY20 \$18,000
FY21 \$20,000

Overtime

FY20 \$39,000
FY21 \$41000.

Total Wages and Salary request is \$569,612

Expenses:

Electricity: level funded \$125,000

Natural gas Increased line from \$10,000 to \$13,000 to reflect increase in usage

Buildings and grounds: Level funded

Maintenance Dept. Equip: level funded \$15,000

Filter Maintenance: Increased from \$24,000 to \$30,000. To be able to perform deferred maintenance. Not to replace the modules. The original appropriation was \$30,000 in FY18 and the Board cut the request to \$24,000 in FY19.

Waste disposal fees: Disposal of waste from lab processes, hazardous waste from cleaning out chemical tanks, and pumping out tite tanks and the WTP and pump station and trash disposal. Increased this line from \$4000 to \$10,000

FY 18 budget \$3,500
FY18 actual \$7,288.52

FY19 budget \$3,500
FY 19 actual \$20,527

Snow removal hydrants: unfunded in FY20 historically no charges have been applied to this line. Unfunded

Engineering Services: increased this line from \$30,000 to \$124,000.

- Investigate interconnections \$22,000
- Capital Efficiency Planning \$52,000 (requested for FY20 denied request)
- Business Strategic Plan \$50,000 (requested for FY20 denied request)

The Capital Efficiency Plan (CEP) will develop a prioritized plan for water main replacement to maximize the benefits of replacements instead of randomly selecting water mains to be replaced without firm supporting evidence as to why it is priority #1 or #2, etc. In this CEP, we will also look at storage volume in the tank and compare it to what you really need for useable storage. If additional storage is needed, then would identify that or we would say we have sufficient storage capacity for the next 20 years. We will look at supplies and check if we have sufficient water sources for the next 20 years to support the projected water demands in the system. Those are the focuses of the CEP and I would say the #1 focus is development of a prioritized water main replacement plan. Costs for these recommendations will be included so we can begin to budget for future improvements. A budgetary cost for engineering services to conduct the Capital Efficiency Planning is \$50,000.

The Business Practice Evaluation (BPE), takes a close look at the Water Department's operations and business practices. The BPE goes through several criteria and comes up with evaluations and future goals and improvements that can be made to develop a better, efficient, well operated department. A budgetary cost for engineering services to conduct the BPE is \$50,000.

Outside Services: Total request \$164,000

- Water storage tank inspection/clear well inspection (every other year) **\$5000**
- VFD maintenance **\$4000**
- Motors inspections/maintenance **\$6000**
- Filters **\$20,000**
- Fire extinguishers **\$600**
- Lab equipment **\$5000**
- Master meters **\$4000**
- Chlorine gas system **\$10,000**
- Compressors **\$4000**
- Distribution system repairs **\$40,000**
- ATS switches **\$2000**
- Vacuum prime system **\$3000**
- Generator **\$3000**
- Alarm system **\$1000**
- HVAC **\$5000**
- Online turbidimeters (compliance required) Quarterly maintenance **\$6000**
- Lincoln DPW winter operations assistance with plowing and sanding parking lots **\$4,000**
- Tree removal: Storm damage clean-up at the Water Storage Tank and Well. Pruning large overhanging limbs at the pump station and removal of a few small trees **\$5000**
- Leak Detection: perform annual leak detection survey: Cost for survey **\$10,000**
- Telemetry/radios/communications **\$8,000**
- Alarms/SCADA Quarterly monitoring for the WTP, Well and Pump station and any troubleshooting issues **\$8,000**
- Copier **\$2400**
- Janitorial **\$6000**
- Pumps RW, FW, BW and vertical turbine at the well annual maintenance **\$20,000**
- Annual backflow device testing **\$1000**
- Semi-annual backflow device testing **\$2000**
- **Backwash Pumps:** The WTP has two backwash pumps. One of the pumps has been out of service for 7 years. We are required to have redundant working systems. **The estimated cost to repair in \$10,500**
- Annual calibrations of flow meters **\$2000**

CUSTOMER SERVICE AND BILLING ASSISTANCE CONTRACT OPERATIONS \$70,000 new line item

Legal Service: Level funded

Drug Testing: Unfunded in FY20 historically no charges have been applied to this line

Printing: Level funded

Alarm system: Un-fund this line item and move to outside services

Water Testing: Increased this line from \$18,000 to \$26,000. Increased monitoring as required and increase in lab costs

- NPDES permit annual testing \$4000.
- Monthly monitoring for ACO compliance \$660 a month. \$8000/year
- Bacteria samples. \$12.00 each (10 per month) \$1440
- HPC \$20.00 each (2 to 3 per month) \$720
- Nitrite and Nitrite \$60
- Fluoride \$180
- Individual filter monitoring \$4000
- Perchlorate \$150
- UV254 \$1200
- Quarterly VOC \$250
- Quarterly TTHM and HAA5 \$3000
- SOC \$850
- Secondary contaminant \$100
- IOC \$150
- TSS \$840
- Radon \$310
- TOC \$600
- DOC \$600
- Additional testing as needed \$3,000

Police detail: It is required in Mass to have police detail when working in streets and roads. We will be repairing the broken curb stops, broken hydrants and gates valves and if we are going to be making repairs in the system. Increased line from \$4000 to \$8000

Employee Physicals. Level funded. We need to provide annual respirator fit testing to the operators.

Admin MWPAT: Level funded

Telephone: Increased line from \$8000 to \$12000 to accommodate the land line, cell phones, internet, cable at the WTP, pump station, Tower Road Well and Bedford Road Tank .

Postage: Level funded

Advertising legal notices: Level funded. We will need to advertise all projects and bids.

Misc. Office Supplies: Level funded

Gasoline: Level funded

Diesel: Unfunded in FY 21 we no longer have diesel vehicles

Water Super Vehicle: Level funded

Ranger: Oldest vehicle in the fleet due for replacement in FY21. Not replacing in FY21. Increased line from \$2000 to \$5000

Utility Truck: Level funded

Chemicals: Historically underfunded line item. Increased line from \$40,000 to \$48,000. To accommodate the additional chemicals for the well and WTP

Water Meters: The Board voted that the department would pay for water meters. I have increased this line item from \$3000 to \$10000. 5/8 meter cost \$400 each and 1 inch meters cost \$900 each. We replaced 39 meters from December 2018 to June 2019.

Water works supplies: Level funded

Tools: level funded

Pumping System Supplies: level funded

Distribution system repairs: Unfunded this line and move to outside services line

Misc. Other Supplies: Level funded

DEP Fees: Level funded

Town of Weston: Increased this line from \$13,500 to \$14,500 to reflect increase in water rates for purchased water.

Water Conservation: Level funded

Mileage and transportation: level funded

Training and certification: NEWWA Operator certification course is \$1200. We have one operator that needs to take this course to obtain the D2 drinking water license. This is also a license renewal year and 3 operators need to take classes for CEUs. Average cost for NEWWA is \$285 per class. We are now funding a training program for the new Career pathway program the Board approved on July 10, 2019 add \$2400 for the two needed classes. Annual Emergency response training (required) \$4,000. Added \$4000 for Superintendent to attend the NEWWA Annual Conference. Increased this line from \$6,000 to \$7,000

Dues: level funded. NEWWA, MWWA, WARN, AWWA, MRWA

Principal and long term debt: level funded

Indirect costs transfer: level funded

OPEB: Increased this line from \$40,000 to \$45,000 to reflect the addition of a new operator and the utility maintenance laborer

Emergency Reserve Fund: Level funded

Total FY21 Wages and Salary is \$569,612. This is \$91,308 or 19% increase from FY20.

Total FY21 preferred Operating Budget request is \$1,771,512. This is \$398,808 or 29% increase from FY20.

Considerable time and effort are required to furnish a responsible, accurate budget proposal. Variables such as present rate, inflation rate, prior expenses, future needs and predicted expenses dictate the funds required from which a department may operate efficiently and effectively.

As an Enterprise fund the goal of the water department is to administer the drinking water system through financial, technical, and managerial planning. The technical, financial, and managerial capacity overlap. This means that technical capacity isn't possible without financial capacity. The facilities cannot run without money. Water systems with adequate technical, financial, and management capacities are less likely to have compliance problems. As stewards, we need to make sure that the water system has the necessary funds to comply with drinking water regulations. It is important the water system possesses these resources to comply with drinking water requirements for both the short and long term.

Maintenance is one of the visible aspects of good asset management. It is a service that aims to ensure equipment function. When maintenance is not done, or it is delayed for too long, the risk to continued operation rises rapidly because of the increasing likelihood of parts failure. It is more cost effective to maintain the equipment than to let get to the point it needs repair. The operating budget is inadequate to maintain current system operations to the point that the infrastructure and facilities continue to degrade and water quality may be compromised.

Issues that have already arrived, interrupted service, degradation in WQ, leaks, lost revenue, overtime to respond to equipment failure, unsafe work environment for employees, low consumer confidence. The Water Department completed the Sanitary Survey with the Mass DEP in August 2018. This survey is conducted once every three years. The purpose of the survey is to make sure we are providing a safe and reliable drinking water supply through proper operation and maintenance of our water system. The lack of maintenance for some of the system components and other operational issues were identified during this survey. The Lincoln Water Department has had Five (5) Administrative Consent Orders from the Mass DEP from 2003 to present for various operational issues. We are expecting another ACO from DEP in the near future for TTHM exceedance.

The expenditure budget is the division of the revenues among a variety of resources that are "purchased" to accomplish objectives and tasks. The cost of maintaining and replacing our aging infrastructure continues to rise and federal mandates and regulations continue to increase in number and cost.

I have a staff of 2 charged with maintaining and upgrading a labyrinthine underground system of pipes and valves, a raw water pump station, water storage tank ground water well. To maintain this network in the face of economic pressures, stricter environmental mandates, and a customer base that may be unfamiliar is a, humbling challenge. Customers expect services to be uninterrupted. Regulators expect the service to be simultaneously and continuously upgraded.

Our budget needs to focus on the future. We need to recognize the many challenges we face while maintaining appropriate fiscal controls. We need to demonstrate a willingness and ability to continue excellent customer

service while focusing on improved ways of conducting business and planning for greater efficiency all with our customers in mind.

Development of the operating budget is challenging. There needs to be a balance between the resources required to meet the EPA and Mass DEP stringent regulatory requirements while maintaining and sustaining its aging infrastructure. To provide continuous delivery of water adequate funds need to be budgeted for to cover operating and maintenance (O&M) costs.

Without this funding the infrastructure will continue to degrade. Water Quality will continue to be compromised. Overtime costs will increase. You incur the biggest operating and maintenance costs when things fail. You suffer lost production, raw material and product waste, money is lost to poor efficiency, there are run-down and run-up of plant costs, replacement parts need to be brought, overtime is worked, subcontracted services are rushed in, operators stand around idle or are given unnecessary tasks, stress levels rise.

The Mission of any public water system is to provide adequate water quantity and quality at a reasonable cost that meets or exceeds state and federal drinking water standards. Provide sufficient water for fire protection; maintain adequate pressures throughout the distribution system and to offer first-rate customer service in an environmentally conscientious fashion at a minimal expense now and for generations to come.

We can no longer afford to be reactive to the needs of the water system. We are inefficient in how we do business. I would respectfully ask the Board to consider raising the water rates or to consider adding in a capital improvement fee to the quarterly billing. We need to be proactive in order to meet customer's expectations and meet the goals of the department. The budget was prepared in a responsible manner with the Town's best interest and operational needs in mind.

The Proposed 2021 Budget is respectfully submitted for your consideration. I am pleased to be able to report both the base and preferred budget. The Water Department will continue to strive to find new ways to be efficient, while providing quality service and achieving progress in our many areas of focus. I want to also call attention to the support and work that has been given to me in the creation and review of this budget by Collen Wilkins, Town Accountant. Without her assistance, this effort would be too monumental and I appreciate the aid which makes the process as painless as it can possibly be. This budget was carefully crafted to make sure that levels of services are sufficient to meet the Water Department Mission statement, State and federal mandates.

Respectfully submitted,
MaryBeth Wisner, Water Superintendent