The Public Works Commission met at 7:15 p.m. on Wednesday, February 13, 2019, at 141 Keyes Road, Concord, Massachusetts. Pursuant to Chapter 303 of the Acts of 1975, notice of the above meeting was duly filed with the Town Clerk, Town House, Monument Square, Concord, Massachusetts.

PRESENT:

Commissioners:
Andrew Boardman
James Terry
Peter W. Wallis

Absent:
Steven Ng
K.C. Winslow

Staff:
Richard K. Reine, M.S.C.E., Public Works Director
Alan Cathcart, Water/Sewer Superintendent
Rod Robison, Environmental Services Program Administrator
Anna R. Trout, Administrative & Special Projects Coordinator

Other:
Robert Hilsinger (League of Women Voters Observer)
Gary Alders (Woodard and Curran)
Jonathan Grant (Woodard and Curran)
Nick Pappas, 300 Virginia Road

A: ACTION ITEMS

A-1 through A-4 - The meeting was convened at 7:15 p.m. by Commissioner Wallis.

The regular and Executive Session meeting minutes from January 9, 2019, were approved. The Executive Session minutes are not to be released at this time. The next two PWC meetings were scheduled for Wednesday, March 13 and Wednesday, April 17 both at 7:15 P.M. at 135 Keyes Road.

D: DISCUSSION/ACTION ITEMS

D-1: Review PWC Calendar Draft

Director Reine mentioned Town Meeting Coordination will be added to the agenda in March. The Roads Program article for borrowing will be included as part of the larger capital borrowing as was done last year, so it should not require a presentation by a Commissioner. The $4,000,000 borrowing debt authorization on the water main will need to be presented by a Commissioner.
Commissioner Boardman MOVED and Commissioner Terry SECONDED, and it was UNANIMOUSLY VOTED as follows:

To open the Public Hearing for the Solid Waste & Recycling Program Subscription Rates.

Director Reine explained that Article 27 of the 1989 Annual Town Meeting established the Solid Waste Disposal Fund. The article states that the rates must be considered and approved by the Public Works Commission after being advertised in a local newspaper and a public hearing must occur. The advertisement has taken place and this is the public hearing. We have recently completed the solid waste budgeting process internally and will be meeting with the Town Manager, and the Finance Director next week to finalize. This will also be presented at the Finance Committee Public Hearing on March 11.

The rate changes this year are mainly driven by the increases in our annual contract with Waste Management and also some minor increases in administrative costs related to the program. We also have some program modifications that are being proposed including a lowering of the current brush fee to $6 and a residential no-cost access sticker program for the Walden Street Compost Site and Landfill.

Rod Robison, the Environmental Services Program Administrator, provided information regarding the curbside collection program. The Town of Concord has a “Pay-as-you-throw” program which generates about 27% less trash than communities that don’t utilize that program. This program encourages recycling and discourages the generation of trash by having the subscriber pay disposal costs for what they throw in the trash. Concord has a fee based program with weekly collection and dual stream recycling. The dual stream recycling allows our paper to be much cleaner which prevents contamination fees. Through the use of the Town’s DropOff SwapOff program since its inception, 400 tons of electronics, over 450 tons of scrap metal, and many more items have been recycled. Concord has a 39% recycling rate with the current number of subscribers at 3,671. A slight drop in recyclables over the years has come about largely because of smart packaging, smaller newspapers and less paper as a result of electronic communications.

The collection fee is proposed to increase from $262 to $272 for FY20. There is no change in the $1.50 disposal tag fee. The average cost for disposal of 1.36 bags or barrels per week is $378.08 annually. The rate increase is 3.8% or 2.7% when you factor in the overall increase per subscriber. The rates for the Town of Concord curbside service continues to be substantially less than the fees charged by private haulers. An additional advantage to participants of the Town’s program includes a free pass to the Minuteman Hazardous Waste facility which is a $60 value.
Brush fees were established in March of 1995. The current fee is $5 per load. This brush fee has been waived since the storm of March 7th and 8th 2018. The brush collected over the last few years has been chipped and removed by a contractor at no cost to the Town. The revenue received from residents has been minimal. The local communities of Bedford, Lexington, Carlisle, Acton and Lincoln do not charge a brush fee. We are recommending that the brush fee be reduced to zero/no cost effective April 6, 2019. If, however, there are any storms in the meantime, residents can continue to dispose of brush at no charge in accordance with the existing fee waiver before that date.

We are proposing a no cost compost site access sticker pilot program effective April 6, 2019. The objective is to prevent non-resident and contractor access. Distribution of the stickers will occur at CPW offices and at the compost site during the days/hours when it is open to the public. This effort will be promoted by the Town Website, Concord Journal, signage, social media and by informing people at the Conservation Coffee.

If a resident asks a friend to haul leaves/brush to the compost site they need to provide a letter. The Town reserves the right to request a Certificate of Origin or site visit. Proof of residency is required in the form of a Driver’s License or in the case of a new resident a utility bill will suffice. There is no limit per household but proof of residency will be required for each sticker. The attendant will affix the sticker on the front lower corner of the windshield on the driver’s side. A vehicle registered in another state can be used as long as proof of residency such as a driver’s license, utility bill or mortgage statement is provided.

When asked about plastic specific facilities, Mr. Robison explained that Waste Management has markets outside of China that they have been able to utilize for plastic recycling. When China implemented the National Sword Policy in January 2018 it shut its doors to accepting recyclables from the U.S. Some smaller haulers were granted a waiver from Mass. DEP to dispose of recyclables as trash when they had a large inventory of recyclable materials but all Concord recyclables collected are being recycled and not disposed as waste.

Commissioner Terry MOVED and Commissioner Boardman SECONDED, and it was UNANIMOUSLY VOTED as follows:

To close the Public Hearing for the Solid Waste & Recycling Program Subscription Rates.

Commissioner Terry MOVED and Commissioner Boardman SECONDED, and it was UNANIMOUSLY VOTED as follows:

To make the following adjustments and additions to the Curbside Collection and Solid Waste Program as detailed in the memorandum to the Public Works Commission dated February 4, 2019 from Director Reine and including the
details discussed and documented in the minutes from this Public Works Commission Meeting dated February 13, 2019:

1. To adjust the curbside subscription rate from $262 to $272 annually for solid waste and recycling subscribers, and from $133 to $140 annually for recycling-only subscribers effective April 1, 2019. The cost of weekly disposal tags will remain at $1.50 each. The cost of six month barrel stickers will remain at $39 each. Retailers purchase disposal tags and barrel stickers at a 5% discount to cover administrative costs and overhead. Retailer cost is $1.425 per disposal tag and $37.05 per barrel sticker.

2. To reduce the brush fee ($5 per load) to zero /no cost effective April 6, 2019.

3. To implement no-charge Compost Site Residential Sticker Program effective April 6, 2019.

**D-3: Cyber Security Briefing**

Director Reine explained that the Commission was proactive in their interest on focusing our efforts on hardening our IT System as relates to Public Works infrastructure with particular attention around our SCADA water and sewer infrastructure. The Public Works Commission, and Commissioner Wallis specifically, introduced this issue formally during the Comprehensive Long Range Planning process in 2017 when the Public Works Commission submitted a letter to the planning committee talking about the SWOT analysis and indicated that this was a focus for CPW which will be prioritizing its cyber security evaluation process for its sensitive infrastructure and the Town should as well and implement recommendations to improve the IT systems in Water and Sewer.

Jonathon Grant, an associate principal and technical manager and Gary Alders, both from Woodard and Curran were present to discuss this topic. Concord Public Works has been working with Woodard and Curran and Mark Howell, the Town’s Chief Information Officer. Mr. Grant reviewed the information contained in a memorandum to the Public Works Commission dated February 6, 2019.

Mr. Grant explained that he would be talking about cyber security specific to the SCADA system related to the water treatment distribution and wastewater collection systems. In the future, those principles can be applied to the contractor run wastewater treatment. SCADA stands for Supervisory Control and Data Acquisition. It monitors and controls all of the processes including the treatment of the water, the distribution of water throughout the Town, along with monitoring the pressure and flow. For wastewater collection it makes sure
that the pump stations don't overflow and they continue to pump the waste to the treatment plant. The information from the smaller remote sites is communicated to the main locations at the Deaconess Treatment Facility and to 135 Keyes Road via radio license frequency radio telemetry. There is also the ability to remotely log into the system over Broadband.

Following a great deal of internal discussion and planning Superintendent Cathcart approached Woodard and Curran to review and evaluate the security around the Water and Sewer SCADA system to address the uptick in the past several years of attention by computer hackers to industrial control systems worldwide. Our goal is to attempt to maintain the level of service and functionality while providing an increased level of protection to the system. Areas were identified that could be addressed in the short-term to help improve security which are lower in investment and can be addressed with existing hardware and infrastructure. Additional information has been provided which requires a greater level of investment and planning which is also underway.

The existing emergency response plan has been reviewed to ensure there are provisions in the event a cyber threat is being suspected or detected. The use of Multifactor Authentication will be created to increase the security around access to the SCADA system. Superintendent Cathcart explained that these proposed upgrades come at a good time when CPW is anticipating replacing software and hardware.

When asked about connecting to the SCADA system via radio vs. the internet for increased security, the response was that the radio transmission would also be relatively easy to hack. Mr. Grant suggested that an auto dialer be connected to a PLC that is monitoring the alarms. That would communicate via phone line. The backup system would also be via phone line. If the internet went down this system would indicate there has been an unacknowledged alarm for an unacceptable period of time and another route would be determined. Director Reine explained that operators are in the system seven days a week. People are in Monday through Friday full time, and operators are touring the sites on weekends and holidays. This is a challenge that we will have to address with the DEP as we roll out the Nagog Pond Water Treatment Facility. It's not completely clear what their requirements will be versus what they will accept, SCADA monitoring or twenty-four hour per day presence, which would be quite costly. Operators are on call that can respond to issues quickly.

Another short term recommendation is to connect the older hardware before it is upgraded to the IT backup processes that are already in place. Moving into the longer term plan it is proposed to reduce the reliance on local hardware and take advantage of the Town’s robust IT infrastructure by running the SCADA applications on virtual machines hosted on Town servers. One of the biggest advantages is taking advantage of IT processes and systems that are already in place such as backup procedures and swappable machines, in the event one goes down. The firewall will be segmented in such a way that the sonic wall application is going to be configured to protect from the outside world and a
separate partition will be in place between the internal Town network and the SCADA network.

The Demilitarized Zone (DMZ) server infrastructure is a zone that is trying to protect and insulate the process control network hardware, which does not have a lot of built in securities. The virtualized servers will be configured in this manner. Anti-Virus and disaster recovery will be stressed. Log aggregation and monitoring will also be in place to stay on top of what is going on.

Services that can be added to improve the security of the SCADA system include hardening the virtual machines to make sure they are as secure as possible while still allowing proper operation. It is also important to make sure people understand the policies and are properly trained. Remote site security is also important, with daily visits.

D-4: Director's Report

- **Cambridge Turnpike Project** – J. Tropeano is the Phase I contractor who has been working on this project since late fall. National Grid is now planning to mobilize shortly in Phase I, Section I, which is from Lexington Road to the Farm Stand. They will be constructing gas main replacement in the section between Hawthorne and Sandy Pond next. The Phase II contract has been awarded to George R. Cairns and Sons, Inc. There was an issue with MDR Construction who has lodged a bid protest. The Attorney General’s office had reviewed this and concluded that there is not a bidding issue although MDR continues to disagree and has submitted a public records request. A pre-construction meeting was scheduled next week with Cairns. Construction contingency funds have been set aside from Road Program funding including borrowing and Chapter 90.

- **OSHA Safety** – Effective February 1, 2019 OSHA safety protections were extended to Mass. municipal employees. CPW has been ahead of the curve by already having a number of OSHA required safety measures in place.

- **Brine** – The brining process contains a 23% solution of sodium chloride with water. The brine prevents the bonding of the snow to the pavement. This has been a part of our program since 2005.

- **Winter Maintenance** – We have had about 26 responses for winter maintenance this season including pre-treatment and brining.

- **Road Maintenance** – Pot hole repairs continue to be made, utilizing our “hot box”.

- **Hugh Cargill Pump Station** – A leaking check valve was replaced.

D-4: Commissioner’s Comments

Commissioner Wallis suggested that water and wastewater might look at potentially varying the operation of its equipment to save on electricity fees. Director Reine explained that there is an agreement at the Wastewater Treatment Plant with a generator for load shedding.
D-5: Public Comments

None.

ADJOURNED: 9:10 P.M.

Respectfully submitted,

Anna R. Trout
Administrative & Special Projects Coordinator
Concord Public Works

Approved,

K.C. Winslow
Public Works Commission