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December 21, 2020

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Environmental Impact Report and Comprehensive Wastewater Management Plan / Main Lift Pumping Station Improvements (f/k/a Comprehensive Wastewater Management Plan)
PROJECT MUNICIPALITY	: Taunton
PROJECT WATERSHED	: Taunton
EEA NUMBER	: 13897
PROJECT PROPONENT	: City of Taunton, Public Works Department
DATE NOTICED IN MONITOR	: November 12, 2020

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA Regulations (301 CMR 11.00), I hereby determine that the Final Environmental Impact Report (FEIR) submitted on this project **adequately and properly complies** with MEPA and its implementing regulations. However, as discussed below, the City of Taunton (City) is directed to submit a Notice of Project Change (NPC) if the project is subject to the requirements of the Interbasin Transfer Act (ITA) as determined by the Massachusetts Water Resource Commission.

Project Description and Background

The City's Comprehensive Wastewater Management Plan (CWMP) planning process was initiated via submittal of an Environmental Notification Form (ENF) in October 2006, followed by a Draft Environmental Impact Report (DEIR) in July 2009. Two NPCs requesting Phase 1 Waivers were filed in the interim period between the ENF and DEIR. These Phase 1 Waivers were granted to allow for the construction and extension of sewer service to multiple

locations within the City of Taunton prior to the completion of MEPA review for the full CWMP.[1]

On October 30, 2009, the Secretary issued a Certificate on the DEIR which determined it adequately and properly complied with MEPA; the Certificate included a scope for a FEIR. When the DEIR was reviewed, the City was operating under a draft 2007 National Pollutant Discharge Elimination System (NPDES) Permit. The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) indicated that the future total nitrogen discharges from the Wastewater Treatment Facility (WWTF) would be regulated under the next-generation NPDES Permit. At that time, the schedule and timeframe for issuing the permit was unknown. Based on this, the City paused the CWMP planning process until the NPDES Permit was issued. The NPDES Permit was issued in April 2015 (Permit No. MA0100897) and the City resumed the CWMP planning process via the submittal of a 3rd NPC in December of 2017. The 3rd NPC addressed the lapse of time between the DEIR and NPC filing and requested a Phase 1 Waiver to allow construction of the Main Lift Pump Station and two new sewer force mains prior to completion of the MEPA review process for the full CWMP.[2] Construction of a new or expanded Main Lift Pump Station was previously identified in the DEIR as a component of the Recommended Plan to implement the CWMP. The Certificate in the 3rd NPC provided a Scope for a FEIR that superseded the prior Scope included in the Certificate on the DEIR.

As described in the 2009 DEIR, the City of Taunton proposes to expand its sewer system to encompass an additional 14 priority Needs Areas identified within the CWMP. The Recommended Plan, which sets forth a plan to implement the CWMP, proposed the expansion of the wastewater collection system (mostly within existing paved roadways) to the Needs Areas, an upgrade of the WWTF for nutrient control and increased future flow capacity, and implementation of a plan to eliminate the Combined Sewer Overflow (CSO) located adjacent to West Water Street. According to the DEIR, total estimated wastewater flows included flows from these Needs Areas, future infill development within the existing sewered areas, and projected additional inter-municipal flows from Raynham, Dighton, Norton and Easton. The DEIR estimated that approximately 50 miles of gravity and force main sewers and 16 pump stations would be necessary to accommodate the expansion within the Needs Areas. The DEIR proposed an expansion of the existing WWTF from a current treatment capacity of 8.4 million gallons per day (mgd) (average daily flow) to 10.2 mgd by the year 2025. The Recommended Plan was proposed by the City in accordance with the requirements of an Administrative Consent Order (ACO) (ACOP-SE-R006-1N-SEP) issued by MassDEP and an Administrative Order (AO) issued by U.S. EPA.

Several additional changes have been made to the Recommended Plan in the FEIR since completion of the DEIR. These changes largely arise from a reevaluation of septic system failures and shifts in the City's priorities for expansion of the sewer system. In addition, two Needs Areas have had sewers installed in recent years. As a result, this FEIR identified nine Needs Areas instead of the fourteen identified in the DEIR. The recommended sewering plan

[1] The Final Records of Decision (FROD) which granted the Phase 1 Waivers were issued on March 22, 2007 for the 1st NPC and October 9, 2009 for the 2nd NPC.
[2] The FROD for the 3rd NPC which granted the Phase 1 Waiver was issued on March 9, 2018.

now involves construction of approximately 24 miles of sewers (gravity and low-pressure), and 1 new pumping station. Sewers would primarily be installed within existing roads or rights-of-way and overland routes would largely be avoided. Due to topographical influences, a number of Needs Areas are anticipated to be serviced by low-pressure sewer systems, and in one case a small pump station is required to lift the wastewater to interceptor sewers that in turn would convey wastewater to the WWTF by gravity.

The WWTF is operating under a 2015 NPDES Permit which authorizes nitrogen discharges associated with a daily maximum flow capacity of 8.4 mgd; these discharges are permitted to the Taunton River on a 12-month rolling average. The FEIR indicates that the current WWTF flows experience significant seasonal differences based on rainfall and groundwater level, averaging about 6.6 mgd in the dry season, and 9.8 mgd in the wetter months. The FEIR indicates that the City has requested a modification to the 2015 NPDES Permit that would allow up to 11.6 mgd of flow to the Taunton River during wetter months and 8.4 mgd during the dry season. The FEIR indicated that the increase is due to the planned expansion of the wastewater collection system and increased flows from the communities of Raynham, Dighton, and Norton which have Inter-Municipal Agreements (IMAs) with the City to accept and treat their wastewater.

As part of the request to modify the flow limits specified in the 2015 NPDES Permit, the City will be required to perform an antidegradation analysis aimed at demonstrating that additional flow will not have a deleterious effect on the Taunton River, since higher WWTF flows only occur when river flows are also high. As a contingency if the City is not able to demonstrate this, the FEIR identifies three sites for groundwater disposal that can be used to dispose of flows in excess of the 8.4 mgd currently permitted by the 2015 NPDES Permit. The City has identified three sites for groundwater disposal. Two of the sites would be traditional groundwater disposal sites, utilizing open infiltration beds and subsurface infiltration chambers respectively. The third site would be a water reuse site, where treated effluent would be utilized to irrigate poplar trees or a similar woody crop. It is estimated that between the three sites, an additional 1.8 mgd can be disposed of. No development of these groundwater disposal sites is planned until MassDEP and EPA determine if additional flow to the Taunton River will or will not be permitted.

Project Site

As described in the FEIR, the municipal sewer system consists of approximately 177 miles of collection system piping and 39 pump stations. The Taunton WWTF discharges to the Taunton River and must maintain compliance with the NPDES Permit discharge limits. The WWTF is designed to treat an average daily flow of 8.4 mgd and a peak daily flow of 17.4 mgd, and can hydraulically handle flows up to 22.4 mgd through the process systems. The Taunton WWTF also treats flows from portions of the towns of Raynham, Dighton, and Norton. The City of Taunton is implementing an extensive I/I removal program to increase capacity of the system.

The Taunton River is mapped as Priority and Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP). According to the Federal Emergency Management Agency's (FEMA) Flood

Insurance Rate Map (FIRM) for Bristol County (Map No. 25005C0163G, effective July 16, 2015), the Main Pump Station that conveys all of the wastewater generated in the service area to the WWTF is located within a designated AE Zone (Areas subject to inundation by the 1-percent-annual-chance flood event).

The FEIR indicated that the majority of the Needs Areas identified in the CWMP are already developed. Portions of the Recommended Plan are located in Priority and/or Estimated Habitat as mapped by the NHESP. Additionally, the CWMP proposes to extend sewers to areas located within the Canoe River Aquifer, Hockomock Swamp, and Three Mile River Areas of Critical Environmental Concern (ACEC).

Environmental Impacts and Mitigation

As described in the FEIR, the project will create approximately 10,000 sf (about 0.23 acres) of new impervious area and will impact the following wetland resource areas: Bordering Vegetated Wetlands (BVW) (13,246 sf), Bordering Land Subject to Flooding (BLSF) (30,149 sf and loss of 8,129 cubic feet (cf) of storage), Land Under Water (LUW) (449 sf), Riverfront Area (2,629 sf), and Bank (30 linear feet (lf)). According to the FEIR, implementation of the remaining portions of the CWMP will not result in permanent wetland impacts or alteration to wetland resource areas. The majority of work is limited to paved roadways or rights-of-way, will be temporary in nature, and located in buffer zones to wetland resource areas or upland areas.

Measures to avoid, minimize, and mitigate impacts include: the use of erosion and sediment control measures during construction, limiting areas of disturbance by locating work within previously disturbed areas where possible, and locating critical infrastructure a minimum of 3-ft above the Base Flood Elevation (BFE) for the 100-year flood plain. Additional measures area proposed to improve the energy efficiency of treatment processes as part of planned upgrades to the WWTF.

Jurisdiction and Permitting

The CWMP is undergoing MEPA review and is subject to preparation of a Mandatory EIR pursuant to 301 CMR 11.03(5)(a)(3) of the MEPA regulations because it requires State Agency Actions and involves the construction of one or more new sewer mains of ten or more miles in length. The FEIR indicated that implementation of the CWMP requires a Vehicular Access Permit from the Massachusetts Department of Transportation (MassDOT) and a Groundwater Discharge Permit, Treatment Works Approval, and Utility-Related Abatement Measure (URAM) Plan from MassDEP. It also requires a Conservation and Management Permit (CMP) from the NHESP. It will require one or more Orders of Conditions from the Taunton Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP). I note that the project no longer requires a Sewer Extension Permit from MassDEP because regulatory revisions transferred permitting authority to the local sewer authority.

Although not identified in the FEIR, MassDEP's comments indicate that portions of the project may require a Chapter 91 License. In addition, a 401 Water Quality Certification (WQC)

may also be required from MassDEP if the project will result in the loss of more than 5,000 square feet (sf) cumulatively of BVW and LUW.

The FEIR indicates that the project will require a Surface Water Discharge Permit Modification to the 2015 NPDES permit if EPA were to allow additional flow to the Taunton River during wetter months as proposed by the Town. The project continues to require a NPDES Construction General Permit, a NPDES General Permit for Construction Dewatering, and a NPDES Remediation General Permit from the EPA.

The City will receive Financial Assistance from the Commonwealth through the State Revolving Fund (SRF). Therefore, MEPA jurisdiction is broad and extends to all aspects of the project with the potential to cause Damage to the Environment as defined in the MEPA regulations.

Review of the FEIR

The FEIR included a detailed description of the project and described the changes to the Recommended Plan since the filing of the DEIR. Each section of the CWMP (Needs Analysis, Recommended Plan, etc.) also contained an executive summary that identified the specific revisions to project design and analyses that occurred since the filing of the DEIR. The FEIR identified the following developments that have occurred since completion of the DEIR:

- Infiltration and Inflow (I/I) Reduction Projects – The City has completed twelve phases of Sewer System Evaluation Survey (SESS) projects which have removed an estimated 5 mgd of I/I from the collection system (based on the 1-year storm). [3]
- Sewer Extensions – The City completed the "Winthrop Street, Williams Street, and Davenport Terrace Sewer Extension and Matthews Drive Septic System Replacement" project and the "Winthrop Street West Sewer Extension Project" which addressed sewer needs in Needs Areas U, Z, K, and a portion of L. [4]
- Needs Analysis and Future Flow Projections – The needs analysis and future flow projections included in the DEIR were originally developed in 2004 and 2005. The FEIR included a re-evaluation of the Needs Areas and reassessment of future flow projections to address changes in conditions (i.e. age of sewer system, failure rates, etc.) and development that is in the planning stages and/or that has occurred since the DEIR was filed.
- New Nutrient Effluent (Discharge) Limits – The DEIR based the design of the WWTF on the assumption of a future total nitrogen effluent limit of 8 mg/l. The NPDES Permit, which was issued after the DEIR, targets a total nitrogen effluent limit of 3 mg/l. The FEIR included a re-evaluation of the treatment technologies and improvements to be incorporated into the WWTF in order to comply with the nitrogen limits.

[3] The ACO with the City mandates that the City take a number of steps to reduce the size and frequency of combined sewer overflows. The City undertook an annual program designed to eliminate as much I/I from the sewer system.

[4] The FROD which granted the Phase 1 Waivers to allow this was issued October 9, 2009 for the 2nd NPC.

- Energy Audits – The City completed energy audits at the WWTF for the process equipment and the building systems.
- Mobile Home Consent Orders – In 2016, MassDEP issued an ACO that requires the City to extend sewer service to two mobile home parks located in Needs Area C.

The FEIR described the planning process that have occurred to date, and the proposed schedule for implementing the remaining phases of the CWMP. It also included a summary of the activities the City is required to conduct to reduce I/I and eliminate the CSO as required by MassDEP's Administrative Consent Order (ACOP-SE-R006-1N-SEP) and the EPA's Administrative Order and the associated deadlines for completing them.

The FEIR provided an update on construction activities and included a summary table identifying the potential environmental impacts associated with the WWTF upgrades, construction of pump stations, and extension of sewer mains. These impact estimates were described as conceptual but identified the potential permitting requirements, land alteration, wetland, traffic, stormwater, and construction-period impacts.

Growth Management

Executive Order #385 requires that state and local agencies engage in protective and coordinated planning oriented towards resource protection and sustainable economic development. For reasons of both environmental protection and fiscal prudence, investments in public infrastructure should be carefully targeted toward those areas for which clear existing needs have been established and for areas where denser development is appropriate, thereby relieving development pressures on open space, agricultural lands, and other valuable natural resources. The FEIR provided an updated assessment that identifies parcels located within the proposed sewer service areas that are undeveloped or that have development constraints due to the lack of sewers, and compared the potential secondary growth impacts that may be induced by public sewers with local and regional growth management policies. The City's existing regulations, including sub-division rules and regulations, site plan review, Board of Health requirements, low impact development/stormwater management by-laws, and open space and recreation plans contain most of the growth management strategies currently employed by the City. The FEIR concludes that it is the intent of these regulations to allow development in the community to coincide with the City's goals as expressed through their Comprehensive Master Plan. Specifically, new business and residential development would be focused in the village centers as a means to discourage sprawl and loss of historic identity in Taunton. In most of these areas, infrastructure already exists to serve both water and sewer needs.

Wastewater

The City owns and operates the WWTF that discharges to the Taunton River. The City's discharges are regulated by the 2015 NPDES permit. The NPDES permit included a mass loading limit for total nitrogen of 210 lbs/day for the WWTF. The mass loading equates to a concentration of 3 milligrams per liter (mg/l) Total Nitrogen at the WWTF's design and permitted flow of 8.4 mgd. As stated previously, the City is requesting to increase the wastewater flow allowed under its 2015 NPDES permit (currently 8.4 mgd, on a 12-month rolling average). As described in the FEIR, current flows experience significant seasonal

differences based on rainfall and groundwater level, averaging about 6.6 mgd in the dry season, and 9.8 mgd in the wetter months. In addition, the City has planned development and expansion of the wastewater collection system which will cause these flows to rise.

A formal request to increase the flow to the 2015 NPDES discharge has not been submitted to MassDEP and to EPA. The FEIR only indicates that the City is planning to submit this request.

Existing and Proposed Flow Volumes

The FEIR contained an updated analysis of Taunton's existing and proposed wastewater flows. It included an updated discussion of existing flows, infrastructure and service areas within other communities facilitated through the existing inter-municipal agreements (IMAs). The Taunton WWTF is presently designed to treat an average daily flow of 8.4 mgd, a peak daily flow of 17.4 mgd, and a peak hour hydraulic condition of 22.4 mgd through the main process units. According to the FEIR the average daily wastewater flows for 2015, 2016 and 2017 were 6.42 mgd, 6.09 mgd and 6.78 mgd, respectively. Existing flows to the WWTF in 2018 exceeded the permitted flow limit of 8.4 mgd, when the City experienced historically high rainfall where the high rainfall entered CSOs and flowed directly to the WWTF. The average daily flow for calendar year 2018 was 8.60 mgd. During these drier months of May through October, flows to the WWTF are typically much lower than at other times of the year. It should be noted that the existing flow data includes infiltration and inflow (I/I) into the system. The FEIR indicates that the City is pursuing the option of a "split" flow permit as a modification to the 2015 NPDES permit. With a split flow permit modification, the WWTF would request to be allowed to discharge above the currently allowed average flow of 8.4 mgd during the wet season, while maintaining the 8.4 mgd limit during the drier permit season. The WWTF has already experienced average flows above 80% of its permitted flow for the past two years, and is planning for flows in excess of its permitted flow of 8.40 mgd discussed below.

The FEIR also contained a discussion with a brief history of inter-municipal agreements (IMAs), remaining capacities under existing IMAs, potential future IMAs, and what portion of the proposed CWMP is allocated to accommodate IMAs. Currently Raynham, Dighton, and Norton contribute flow to the Taunton WWTF at average rates of 0.90 mgd, 0.11 mgd, and 0.02 mgd, respectively. Present capacity commitments to these communities through IMAs are 1.3 mgd from Raynham, 0.60 mgd from Dighton, and 0.052 mgd from Norton. Previously the Town of Easton was also considering a capacity allocation of 0.4 mgd. However, Easton has pursued other means of wastewater management and no longer requires capacity from Taunton. Please see the Table 1 below containing the proposed future flows under the CWMP from the adjacent communities:

Table 1

IMA Community	Flow Allotment (MGD)	2017 Flow (MGD)	2027 Flow (MGD)	2037 Flow (MGD)
Raynham	1.30	0.90	1.10	1.30
Dighton	0.60	0.11	0.20	0.30
Norton	0.052	0.020	0.036	0.052
Easton	0.00	0.00	0.00	0.00
Total:	**1.952**	**1.030**	**1.336**	**1.652**

The Taunton WWTF is located on the bank of the Taunton River in an area where the river is tidally influenced. The three adjacent communities (Dighton, Norton and Raynham) will contribute wastewater to the Taunton WWTF. Raynham and Norton are in the Taunton River Basin, and Dighton is in the Taunton River and Narragansett River basins. Interbasin Transfer approval is required from the Water Resources Commission (WRC) for withdrawals crossing a river basin and municipal boundary. The ITA requires protection of the donor basin and sound water supply management practices by the applicant prior to a transfer of water resources between river basins. As the proposed action to increase the Taunton WWTF's wastewater flow may represent an increase in the transfer of water across a river basin boundary, it may trigger the need for approval under the ITA from the Water Resources Commission (WRC). As indicated in WRC comments, the WRC needs additional information to determine if the project is jurisdictional under the ITA. Taunton should provide the information directly to WRC. If there is a need for ITA approval as determined by the WRC, the City is directed to submit a Notice of Project Change (NPC).

As described in the FEIR, wastewater flow projected to the year 2037 from each of the priority wastewater needs areas where sewer service was recommended is 0.26 mgd. All of the identified needs areas are nearly fully developed; approximately 85 percent of the projected flow is from existing development with the remainder allocated to a small amount of infill development that may occur. There are also seven planned residential developments within the City with proposed connections to the wastewater collection system; these projects will have a combined average daily wastewater contribution of 91,300 gpd.

In addition to residential expansion, the FEIR indicates that the City has plans for additional industrial/commercial growth. There are current plans to site and construct a casino in proximity to the intersection of Routes 24 and 140 in the eastern portion of the City. Documents for the Taunton casino project have estimated the wastewater flow at 0.225 mgd. Based on this projection, and ongoing expansion of the Myles Standish Industrial Park (Phases IV and V), the planned industrial/commercial flow increase has been projected at 0.38 mgd. Since development of the industrial park and the casino will be phased, a portion of this allocation is included in the year 2027 flow projection with the balance allocated to the end of the planning period. Based on the factors discussed above, the projected average daily flow to the Taunton WWTF in the year 2037 is estimated to increase by approximately 1.80 mgd.

Nutrient Discharge Limits

The FEIR identified changes to the CWMP proposed to meet the nutrient (nitrogen) discharge limits in the 2015 NPDES Permit. This included an evaluation of alternative treatment technologies to comply with the nutrient discharge limits and an evaluation of potential groundwater discharge/disposal options. Total nitrogen removal is typically accomplished through biological nitrification followed by denitrification. Currently, the Taunton WWTF only provides seasonal nitrification within its secondary treatment system. To comply with the new NPDES permit, denitrification processes will be required. The ability to consistently meet effluent total nitrogen levels of 3.0 mg/l is predicated on the robustness of the selected nitrogen removal technology and the inherent characteristics of the nitrogen species found in the wastewater. The FEIR recommends a four stage process utilizing existing biological reactors which requires the construction of a new biological treatment tank that would house the primary anoxic and primary aerobic zones. The new reactor would be located north of the current clarifiers.

The City has requested a NPDES permit modification from EPA that would allow additional flow from the WWTF and eventual discharge to the Taunton River during wetter months. However, as a contingency if the City is not allowed to modify the NPDES permit, additional improvements have been identified to dispose of flows in excess of the permitted discharge of 8.4 mgd. The City has identified three sites for groundwater disposal and has identified in the FEIR the need for a Groundwater Discharge Permit if a new discharge is necessary. As an alternative to dispose of flows in excess of the permitted discharge of 8.4 mgd, Taunton identified three sites for groundwater disposal – Site #1-the Taunton Municipal Light Department (TMLP) Cleary Flood Generating Station, Site #2-WWTF, and Site #3-Mt. Hope Farm. It is estimated that between the three sites, an additional 1.8 mgd can be disposed of. The construction of the three identified groundwater disposal sites is estimated to cost a total of $30.5M, including pump station and force main costs.

Site #1 is an approximately 10.3 acre parcel located 0.8 miles from the WWTF, adjacent to the Taunton Municipal Light Department (TMLP) Cleary Flood Generating Station. The site is currently unoccupied, but is planned for the near-future installation of a solar array by TMLP. In addition, a rail to- trail bike path is planned for the former railroad bed that forms the east side of this site. For this reason, any groundwater disposal considerations for this site would utilize sub-surface disposal chambers. The planned construction of solar panels and bike path will necessitate that the subsurface disposal system be installed before the solar array and the bike path are constructed.

Site #2 is an approximate 5.75 acre area located immediately west-southwest of the WWTF. It primarily lies on the same parcel as the WWTF with a portion of the land area on an adjacent parcel that is also owned by the City. The site is currently un-occupied. TMLP transmission lines run through the area, which will reduce the area available for infiltration purposes. Due to the relatively open nature of the site, the preferred groundwater disposal method would be open sand beds.

Site #3 is a collection of parcels totaling approximately 88 acres located just west of the Three Mile River and south of Winthrop St (Route 44). The property is agricultural in nature, and has historically been used for raising crops or dairy cattle. Effluent conveyed to this site would be used to irrigate a proposed tree farm. As an active (although largely unused) farm, no clearing of existing vegetation would be necessary.

Sewer Separation and I/I Mitigation

Implementation of the Administrative Order to eliminate the CSO is ongoing. The FEIR clarified how the CSO would be converted to a Sewer System Overflow (SSO) and the timeframe for this change. It provided conceptual plans, identified environmental impacts, and proposed mitigation measures. The terms of the Administrative Order require that a report be submitted that documents the results of the overall I/I program and addresses the elimination of the CSO. The FEIR provided an update on compliance with the AO, including additional I/I reduction measures implemented since the filing of the DEIR, treatment capacity gained, and overall status of the program. The FEIR indicates that beginning in 2019, the City began undertaking an I/I analysis program involving flow metering and modeling the collection system to gauge effectiveness of efforts to date, identify remaining problem areas, and target future projects to maximize their effectiveness. The FEIR did not contain the results of the metering and modeling.

The FEIR contained a discussion as to how the City proposed to control future sewer extensions and connections. This narrative provided an update on the potential creation of a "sewer bank" to mitigate new I/I flows for future connections to the Taunton WWTF. Specifically, a City ordinance was passed in 2008 establishing the sewer bank and an I/I removal fee. This ordinance, which applies to sewer extensions or connections in both Taunton and the communities with IMA with Taunton, will ensure that groundwater and rainfall, or I/I, will be removed in sufficient amounts to allow additional sanitary sewage to be discharged to the system. When I/I is removed from the system, the bank is credited proportionally in gallons of maximum daily wastewater flow. One gallon of wastewater flow is credited to the bank for every five gallons of I/I removed. When connections are made to the sewer system, the flows are deducted from the sewer bank. All construction activities resulting in additional wastewater flow to the City sewer system are subject to the requirements of the sewer bank.

Hydrologic Impacts

The FEIR also updated and provided additional documentation and analysis to support the conclusions of the water balance presented in the DEIR. The water balance is designed to evaluate the hydrologic impacts associated with water supply withdrawals, wastewater discharges, and stormwater run-off associated with various land uses. The results presented in the FEIR of the water balance analysis by sub-watersheds, excluding surface water withdrawals, shows that of the 108 sub-watersheds, 29 have surplus water compared to natural conditions and 79 show water deficits. Overall, the analysis showed a total existing net recharge of 122,900 million gallons per year (mgy) compared to an estimated natural recharge rate of 131,000 mgy. This represents a 6.2 percent water deficit throughout the entire Taunton watershed.

Water Quality

The FEIR clarified how the pollutant loading from the WWTF will be reduced in the future to the Taunton River, an impaired water under Section 303(d) of the federal Clean Water Act. The FEIR provided a summary of the evaluation of the I/I removal efforts that have taken place since 2008 and the impacts from lowering the operating level in the in the Main Lift Pump Station. Both sewer separation and I/I removal efforts will continue under the CWMP, as described in more detail above. As a result, CSO events have been dramatically reduced in both frequency and volume. No events were recorded in 2017, and 2018 only experienced two events. Hydraulic improvements to the influent sewer and increasing the pumping capacity of the new Main Lift Pumping Station to 25 mgd will serve to further abate combined sewer overflows (CSO). The current plan for abating the CSO is to continue efforts to remove I/I from the system (following recommendations from the ongoing I/I analysis), and to evaluate the effects of increased pumping capacity at the Main Lift Pumping Station. If it is determined that additional CSO storage at the WWTF would be beneficial, it will be constructed in the future.

The FEIR indicated it is in the process of examining the potential impact of water quality degradation on aquatic resources, downstream water withdrawals, and water quality. Since the anti-degradation analysis has not yet been completed, no assumptions can be made about its outcome. Antidegradation rules of Massachusetts' Surface Water Quality Standards (314 CMR 4.04(2)) allow MassDEP to approve an increased wastewater discharge to Tier 2 High Quality Waters. The Taunton River qualifies as a High Quality Water. The City should consult with MassDEP as this analysis goes forward and address the detailed issues raised in MassDEP's comment letter. Any request to increase the discharge to the outfall is subject to MassDEP's Antidegradation Provisions contained in 314 CMR 4.04 and the policy document entitled *Implementation Procedures for the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, effective 10/21/2009*. MassDEP's ensuing Antidegradation Review and Determination would include a tiered review to ensure that "in all cases existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." However, without the analysis completed, the FEIR has concluded that the allowable discharges to the Taunton River are capped at the currently permitted annual rolling average flow of 8.4 mgd.

Wetlands / Groundwater Discharge

The FEIR identified and provided additional detail at a conceptual level regarding potential work at the WWTF and in Needs Areas that require wetland crossings, work in flood zones or temporary/permanent disturbances to wetland resource areas. The FEIR propose to design the project to be consistent with the Performance Standards of the Wetlands Protection Act Regulations (310 CMR 10.00). As proposed, wetland resource areas and their associated buffer zones will be clearly marked as off-limits to construction equipment and materials storage. Excavated material will not be placed between the excavation and a wetland resource area. Excavations shall be promptly backfilled and stabilized to reduce the risk of erosion. Stockpiled soil shall be located away from streams and drainage ways so that runoff cannot carry sediment downstream.

The FEIR has identified the need for a Groundwater Discharge Permit if a new discharge to groundwater locations is necessary. MassDEP's comments advise that the reuse of wastewater may require that the wastewater be treated to a higher standard than is necessary for either a Groundwater Discharge Permit or a NPDES permit and that the reuse of wastewater for irrigation may not be feasible as a reliable year-round discharge location due to winter conditions. Of the three proposed groundwater discharge locations, the proposed site at the WWTF encompasses approximately 225,000 sf. The site includes some 100-year floodplain and wetlands. Assuming best soil conditions, approximately 65 percent of the site would be required for leaching. The proposed groundwater discharge site at Cleary-Flood encompasses approximately 450,500 sf. The site does include some floodplain. According to MassDEP's *Guidelines for Design, Construction Operation, and Maintenance of Small Wastewater Treatment Facilities with Land Disposal*, no part of the plant or soil absorption system (SAS) may be located in the 100-yr floodplain. Similar to the WWTF site, approximately 62 percent of the site would be required for leaching. However, this site historically served as the location for tannery waste disposal. As such, any resulting contamination would have to be remediated prior to installation of any leaching areas. Use of effluent for irrigation purposes at Mount Hood Farm site will require reuse permitting. This site is located immediately adjacent to the Three Mile River. The eastern portion of the property is within the 100-year floodplain, and a portion of the site is a delineated wetland. The site is not located in any designated drinking water zones (Zone I, Zone A, or Wellhead Protection Areas) and there are no known past contamination issues that would impact the site's use. According to MassDEP potential exposure risk to humans at this site necessitates frequent sampling for bacteria and may pose logistical issues. The City will need to provide full details of each proposed groundwater discharge locations to MassDEP as part of subsequent permitting.

ACECs

The CWMP proposes to extend sewer to areas located within the Canoe River Aquifer[5], Hockomock Swamp[6], and Three Mile River[7] ACECs. The FEIR included maps that show the ACEC boundaries in relation to the Needs Areas and labeled major water bodies within the ACECs. The FEIR also characterized the Needs Areas within the Three Mile River ACEC. It described the current sewer status, identified Needs Areas, anticipated future flows from these Needs Areas and demonstrated that there would be no negative water balance impacts in the Three Mile River ACEC. The FEIR also included an updated characterization of the Needs Areas within the Hockomock Swamp and Canoe River ACEC's. The FEIR also discussed measures proposed to limit direct environmental impacts in all ACECs. The Needs Area A is located within the Canoe River ACEC and Needs Area C is located within the Hockomock Swamp Area. The FEIR indicates that the construction to extend the sewer in both of these areas

[5] The Canoe River Aquifer ACEC is characterized by an extensive system of surface waters, wetlands, floodplains and high-yield aquifers. It is located within the Taunton River basin in six communities.
[6] The Hockomock Swamp ACEC and associated wetlands and water bodies comprise the largest vegetated freshwater wetland system in Massachusetts. The boundaries of the Hockomock Swamp ACEC include approximately 16,950 acres in the southeastern part of the state.
[7] The Three Mile River ACEC provides important surface water and ground water inputs to public drinking water supplies to local and downstream waters and communities. Rare species habitats for 12 state-listed species are located throughout the ACEC.

has been designed to limit any direct environmental impacts and will not alter wetland resource areas.

Rare Species

According to the Massachusetts Natural Heritage Atlas (14th Edition), portions of the project site is mapped as Priority and Estimated Habitat. This species and its habitats are protected pursuant to the Massachusetts Endangered Species Act (MGL c.131A) and its implementing regulations (MESA; 321 CMR 10.00). State-listed species and their habitats are protected pursuant to the Massachusetts Endangered Species Act (MGL c.131A) and its implementing regulations (MESA; 321 CMR 10.00).

Comments from NHESP indicate that the information contained within the FEIR is not detailed enough to allow for site-specific review of the proposed work. NHESP concurs with the conclusions from the FEIR that any work within existing paved roads is likely exempt pursuant to the MESA (321 CMR 10.14). However, other aspects of the CWMP including, but not limited to, cross-country segments and work more than 10 feet from a paved road, will likely require the filing of a MESA Checklist pursuant to 321 CMR 10.18. Therefore, NHESP was unable to determine if any portion of the project will have state-listed species impacts sufficient to require a MESA Conservation and Management ("Take") Permit ("CMP") pursuant to 321 CMR 10.23.

As project elements move forward to through design, the City should be in contact with the NHESP to address state-listed species concerns, as avoidance and minimization of impacts to rare species and their habitats is likely to expedite endangered species regulatory review. NHESP may require field surveys for state-listed species as part of NHESP review of impacts and such field surveys may be limited to specific times of year relative to the life cycle of the target species. I encourage the City to submit project plans for NHESP's review for any proposed work within rare species habitat located within the project area as early as possible. To the extent any project elements may result in a "take" of mapped rare species such that a CMP is needed, the City should consult with the MEPA office to determine the need for any further review in the form of an NPC.

Climate Change

Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569) was issued on September 16, 2016. EO 569 recognizes the serious threat presented by climate change and directs Executive Branch agencies to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The Order seeks to ensure that Massachusetts will meet GHG emissions reduction limits established under the Global Warming Solution Act of 2008 (GWSA) and will work to prepare state government and cities and towns for the impacts of climate change. I note that the MEPA statute directs all State Agencies to consider reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise, when issuing permits, licenses and other administrative approvals and decisions. M.G.L. c. 30, § 61.

The GHG Policy and requirements to analyze the effects of climate change through EIR review is an important part of a statewide strategy. These analyses advance proponents' understanding of the projects contribution and vulnerability to climate change.

Greenhouse Gas Emissions (GHG)

The CWMP was subject to review under the May 5, 2010 MEPA GHG Policy. The Policy requires Proponents to quantify carbon dioxide (CO_2) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis should quantify the direct and indirect CO_2 emissions of the project's energy use. Direct emissions include on-site stationary sources, which typically emit GHGs by burning fossil fuel for heat, hot water, steam and other processes. Indirect emissions result from the consumption of energy, such as electricity, that is generated off-site by burning of fossil fuels, and from emissions from vehicles used by employees, vendors, customers and others. The Policy directs Proponents to use applicable building codes to establish a project emissions baseline that is "code-compliant." However, there is no building energy code equivalent that applies specifically to WWTFs or commonly accepted energy use models designed to estimate the projected energy use of the WWTF processing energy loads.

The age of the existing equipment being used at the WWTF, as well as existing inefficiencies presents many opportunities throughout the facility for increased efficiency and decreased greenhouse gas emissions. However, the FEIR acknowledges that enhancing the level of treatment (in this case Total Nitrogen removal) necessarily requires the improvements to the facility to increase performance and increase treatment capacity. The proposed improvements include: renovation of existing primary clarifiers and construction of one additional primary clarifier; construction of additional disinfection tankage; replacement of the facility headworks; replacement and enhancement of the facility's solids handling systems; and, construction of a new blower building and replacement of the facility's aeration system. These improvements will require higher motor horsepower and increased energy consumption. The FEIR contains the results of an analysis that was performed on all of the WWTF processes to determine where opportunities for energy efficiency exist, and what effect the planned WWTF upgrade will have on energy consumption and GHG emissions. The analysis concluded that while energy consumption at the WWTF will increase slightly due to the increased level of treatment, significant energy savings will be realized from the use of more efficient motors, energy saving equipment such as variable frequency drives, and changes to operational strategies. GHG emissions will likewise be minimized with the use of energy efficiency measures, since the vast majority of GHG emissions generated by a WWTF are as a result of energy production.

In addition, the FEIR presented the results of the energy audits conducted on the WWTF, which examined potential opportunities for use of renewable energy. The audit identified three locations that could be used as sites for solar panels. Of these, the closed 4-acre sludge landfill represents the largest potential producer or renewable power. If all three sites are installed with panels, the potential exists to generate enough electricity to power the entire WWTF with solar energy. The City plans to work with renewable energy providers to enter into lease arrangements for power production. The City should consult MassDEP's "Energy Efficiency and Renewable

Energy Opportunities at Water and Wastewater Facilities" webpage[8], the Water Environment Research Foundation's *Utilities of the Future Energy Findings*[9] report published in 2014, the EPA's *Evaluation of Energy Conservation Measures for Wastewater Facilities*[10] (2010), the *Water and Wastewater Energy Management Best Practices Handbook*[11] (2010) prepared by the New York State Energy Research and Development Authority, and other resources to identify energy efficiency practices at WWTFs.

Adaptation and Resiliency

The FEIR provided a discussion of the vulnerabilities of the wastewater collection and treatment system to the potential effects of climate change. The FEIR concluded that portions of the WWTF site are within the 100-year flood plain of the Taunton River. In accordance with recommendations in TR-16, *Guides for the Design of Wastewater Treatment Works*, structures are proposed to be designed to protect critical equipment by placing such equipment three feet above the base flood elevation (BFE) for the 100-year flood plain (elevation 13 ft NAVD88), and non-critical equipment two feet above the BFE for the 100-year flood plain. The FEIR indicates that all equipment on the site is already protected to the elevation required, so no additional action is required to protect the site. I note that the current BFE for the 100-year flood plain is derived from rainfall data that do not take into account the impacts of climate change, including the potential for increased rainfall and higher intensity storm events.

The City is a participant in the Commonwealth's Municipal Vulnerability Preparedness (MVP) program. The MVP program is a community-driven process to define natural and climate-related hazards, identify existing and future vulnerabilities and strengths of infrastructure, environmental resources and vulnerable populations, and develop, prioritize and implement specific actions the City can take to reduce risk and build resilience. The City should consult this plan and additional MVP resources as the design of the project is finalized.

I strongly encourage the City to incorporate climate change into its planning, including into its design for upgrades to the WWTF. At a minimum, rainfall data from the NOAA Atlas 14 should be consulted and increased by a factor that takes into account the effects of climate change. To the extent NPC filings are required in the future for material changes to the project, the City is directed to submit an updated climate analysis of any relevant project components that may be subject to climate risk factors such as sea level rise, increased precipitation, and heat island effect.

<u>Historic/Archaeological Resources</u>

The FEIR indicated that the City will file a Project Notification Form (PNF) with the Massachusetts Historical Commission (MHC) during the design phase of each proposed sewer

[8] http://www.mass.gov/eea/agencies/massdep/climate-energy/energy/water-utilities/energy-efficiency-at-water-and-wastewater-facilities.html
[9] Available online at https://www.werf.org/a/ka/Search/ResearchProfile.aspx?ReportId=ENER6C13
[10] Available online at https://nepis.epa.gov/Exe/ZyPDF.cgi/P1008SBM.PDF?Dockey=P1008SBM.PDF
[11] Available online at https://www.nyserda.ny.gov/-/media/Files/Programs/Clean-Energy-Communities/NYSERDA-Water-Wastewater-Energy-Management-Best-Practices-Handbook.pdf

expansion, when the project has generated adequate construction plans and details. An adequate level of detail should be provided in the PNF to allow the MHC to determine the effects the project will have on identified historic and/or archaeological resources. MHC has identified several archaeological sites in the vicinity of the project site: Needs Area Q lies in the most southerly section of the City and contains two archaeological sites and a historic cemetery site; Needs Area L contains a historic cemetery, the Walker Burying Ground; Needs Area A contains three archaeological sites, three historic cemeteries, and a historic area; and, Needs Area X contains an archaeological site and a historic cemetery.

Construction Period Impacts

The FEIR conceptually described how construction staging will be accommodated within the Needs Areas and outlined protocols and mitigation measures to be implemented to minimize, avoid or mitigate impact to wetland resource areas, rare species, traffic, land alteration and noise and dust impacts.

The FEIR has indicated that the City will comply with MassDEP's Solid Waste and Air Quality Control regulations during construction. Erosion and sedimentation controls should be implemented and maintained in accordance with the Stormwater Pollution Prevention Plan prepared in accordance with the NPDES Construction General Permit requirements. Response actions on the project site should continue to be conducted pursuant to the MCP (310 CMR 40.0000). The City must require contractors to participate in the MassDEP Diesel Retrofit Program in conjunction with receiving SRF funding. Construction equipment must also use Ultra Low Sulfur Diesel (ULSD) fuels.

Mitigation and Draft Section 61 Findings

The FEIR included a separate chapter on mitigation measures. This chapter on mitigation included distinct Draft Section 61 Findings for each state agency action. A summary of the measures to which the City has committed to implement to avoid, minimize, and mitigate, environmental impacts is provided below.

Wastewater / Water Quality

- Compliance with NPDES permit effluent limits, including a mass loading limit of 3 mg/l Total Nitrogen at the WWTF's design and permitted flow of 8.4 mgd.
- Compliance with requirements of MassDEP Groundwater Discharge Permit, if groundwater discharge locations will be pursued as an alternative NPDES permit modifications for increased discharges to Waters of the United States.
- Maximizing construction of sewer mains along already developed roadways.
- Sewer Separation and I/I mitigation, including the recommendation contained in the CWMP for further investigation and repair of system to eliminate I/I.
- Compliance with ITA requirements should an interbasin wastewater transfer be required, and commitment to file an NPC with the MEPA office should ITA requirements be triggered.

Rare Species

- Commitment to consult with NHESP once design plans are more progressed to determine the need for CMP, including requirement to consult with the MEPA office regarding the need for further review should a CMP be needed.

Climate Change

- Energy efficiency measures to improve treatment processes at the WWTF, including significant energy savings will be realized from the use of more efficient motors, energy saving equipment such as variable frequency drives, and changes to operational strategies.
- Compliance with TR-16 guidelines for construction of WWTFs, including elevation of critical infrastructure above the BFE for the 100-year flood plain.

Historic Resources

- The proposed construction will occur within the confines of disturbed/developed properties. Pipeline construction will not proceed onto private properties. Once adequate construction plans and details are developed, the City will provide this information to the MHC to determine what effect the project will have on identified resources. The design will include preparation of a Project Notification Form for submittal to the MHC as necessary, and will coordinate with the determination made by the MHC on the project.

Construction Period

- Impacts to water bodies will be mitigated through the use of BMPs for construction projects. Activities will also be coordinated with the City's local NPDES Phase II Stormwater Management Plan and the Conservation Commission. Erosion and sedimentation control measures will be installed and functional before excavation operations begin and shall be properly maintained throughout the construction period. Staked and entrenched straw bales and/or silt fence shall be installed along wetland resource areas to prevent erosion into streams and wetlands. All control measures will be checked weekly and after each rainfall. Excavated material will be placed on the upslope side of the trench to permit any erosion from the material to be captured by the trench. Grading activities will be avoided during periods of high rainfall. Construction will be staged in sections. Areas disturbed for each section shall be stabilized immediately upon completion of the section. Stabilization will be accomplished by temporarily or permanently protecting the disturbed soil surface from rainfall impacts and run-off and/or repaving cuts in roadways or sidewalks.

- Construction dewatering from open cuts and trenches will be routed through appropriately designed sediment basins or traps and discharged through a pipe or lined channel to a stream or other surface water body (under an applicable construction dewatering permit), unless such dewatering can be handled in another manner not requiring discharge to a water body.

- Maintenance, repair, and fueling of equipment will be confined to areas specifically designed for that purpose. These areas will have adequate waste disposal receptacles for liquid and solid waste. Waste oil shall be removed to designated waste oil collection areas for recycling. No potential pollutants will be allowed to drain into catch basins, streams, or other water bodies. When using fertilizer to establish areas of new vegetation for soil stabilization, mulches will be used to prevent fertilizer nutrients from washing off the vegetated areas. Fertilizer will not be applied unless there is adequate protection of surface water, groundwater, and pipeline systems.

- Wetland resource areas and their associated buffer zones will be clearly marked as off-limits to construction equipment and materials storage. Excavated material will not be placed between the excavation and a wetland resource area. Excavations shall be promptly backfilled and stabilized to reduce the risk of erosion. Stockpiled soil will be located away from streams and drainage ways so that runoff cannot carry sediment downstream.

Potential Future NPC

As stated earlier in the Certificate, if there is a required Interbasin Transfer Act (ITA) approval as determined by the Massachusetts Water Resource Commission, a NPC would be required because this new permitting would results in a material change to the project that was not adequately disclosed in the FEIR or prior filings. In accordance with Section 11.10 of the MEPA Regulations and as modified by this Certificate, the Proponent should circulate a hard copy of the potential NPC to each Agency or Person who received the ENF or commented on the ENF, DEIR, and/or FEIR.

Conclusion

Based on a review of the FEIR, comment letters, and consultation with State Agencies, I find that the FEIR adequately and properly complies with MEPA and its implementing regulations. The project may proceed to permitting.

K. Theoharides

December 21, 2020
Date

Kathleen A. Theoharides

Comments received:

12/08/2020 Massachusetts Historical Commission (MHC)
12/14/2020 Save The Bay
12/14/2020 Water Resource Commission (WRC)
12/14/2020 Natural Heritage and Endangered Species Program (NHESP)
12/14/2020 Massachusetts Department of Environmental Protection (MassDEP)

KAT/ACC/acc