

The Narragansett Bay Commission

BPWWTF UPGRADES

Environmental Assessment

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TABLE OF CONTENTS

Executive Summary 9

Purpose and Need 9

Proposed Actions and Alternatives 10

Environmental Impacts, Consequences, and Mitigation 10

Public Participation 10

Agency Coordination and Review 11

1.0 Introduction 15

2.0 Purpose and Need 19

3.0 Proposed Actions and Alternatives 23

3.1 Alternative 1: Install Two New Final Clarifiers 23

3.2 Alternative 2: Convert Existing Bioreactor to Solids Storage During High Flows 24

3.3 Alternative 3: Convert Bioreactors to Contact Stabilization During High Flows 25

3.4 Alternative 4: Install Polymer Feed System 26

3.5 Recommended Alternative 26

3.6 Additional Modifications 26

3.6.1 UV Disinfection Upgrades 26

3.6.2 Chemically Enhanced Primary Treatment (CEPT) 27

4.0 Environmental Impacts, Consequences, and Mitigation 31

4.1 Surface Water 31

4.2 Groundwater 32

4.3 Wetlands and Floodplains 32

4.4 Wild or Scenic Rivers 33

4.5 Coastal Zones/ Costal Barrier Resources 33

4.6 Sole Source Aquifers 33

4.7 Farmlands and Agricultural Uses 33

4.8 Air Quality 33

4.9 Noise 33

4.10 Vegetation and Wildlife 34

4.11 Water Supply/Use 34

4.12 Soil Disturbance 35

4.13 Historical, Archaeological, and Cultural Resources 35

4.14 Aesthetics 36

4.15 Land Use 36
4.16 Economic 36
4.17 Community Facilities 36
4.18 Recreation 36
4.19 Safety 37
4.20 Solid Waste 37
4.21 Traffic and Business Activities 37
4.22 Other Indirect Impacts 38
5.0 Public Participation 41
5.1 Public Meeting 41
5.2 Public Hearing 41
6.0 Agency Coordination and Review 45
6.1 RIDEM Division of Fish and Wildlife 45
6.2 RIDEM Office of Technical and Customer Assistance 47
6.3 Rhode Island Division of Planning 47
6.4 United States Fish and Wildlife Service 49

LIST OF FIGURES

Figure 3-1 Alternative 1 Schematic Layout 24
Figure 3-2 Alternative 2 Schematic Layout 25
Figure 3-3 Alternative 3 Schematic Layout 25
Figure 3-4 Potential CEPT Facility Location 28

APPENDICES

Appendix A Figures
Appendix B FEMA FIRM Maps
Appendix C US Fish and Wildlife Reports
Appendix D Programmatic Agreement (NBC and RI Historic Preservation and Heritage Commission)
Appendix E Public Presentation Materials and Review Comments
Appendix F Regulatory Review Comment Letters

List of Abbreviations and Acronyms

BPSA	Bucklin Point Service Area
BPWWTF	Bucklin Point Wastewater Treatment Facility
CA	Consent Agreement
CEPT	Chemically Enhanced Primary Treatment (CEPT)
CRMC	Coastal Resources Management Council
CSO	Combined Sewer Overflow
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPSA	Field's Point Service Area
FWS	Fish and Wildlife Service
GARFO	Greater Atlantic Regional Fisheries Office
HASP	Health and Safety Plan
IPaC	Information for Planning and Conservation
MGD	Million Gallons per Day
MLSS	Mixed Liquor Suspended Solids
NBC	Narragansett Bay Commission
NRCS	Natural Resource Conservation Service
PA	Programmatic Agreement (PA)
RAS	Returned Activated Sludge
RIDEM	Rhode Island Department of Environmental Management
RIDEM DFW	RIDEM Division of Fish and Wildlife
RIDEM OTCA	RIDEM Office of Technical and Customer Assistance
RIDEM OWR	RIDEM Office of Water Resources
RIDOT	Rhode Island Department of Transportation
RI HPHC	Rhode Island Historic Preservation and Heritage Commission
RI SHPO	Rhode Island State Historic Preservation Office
SRF	State Revolving Fund
USFWS	United States Fish and Wildlife Service
UV	Ultraviolet

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Executive Summary

The Narragansett Bay Commission (NBC) embarked on a three-phase Combined Sewer Overflow (CSO) control program in 1998, aimed at lowering annual CSO volumes and reducing annual shellfish bed closures in accordance with a 1992 Consent Agreement (CA) with the Rhode Island Department of Environmental Management (RIDEM). Phases I and II of this program, which focused on the Fields Point Service Area in Providence, were completed in 2008 and 2015, respectively. The program to date has succeeded in lowering annual CSO volumes and reducing annual shellfish bed closures to levels that are in keeping with a 1992 Consent Agreement between NBC and the RIDEM.

Phase III of the program (Phase III CSO Program), which began in 2016, is focused primarily on the Bucklin Point Service Area (BPSA) in the communities of Pawtucket and Central Falls. The final sub-phase of the program also addresses the final remaining outfalls in the Fields Point Service Area (FPSA). Its projected completion date is 2041.

An Environmental Assessment (EA) was performed for the Phase III CSO Program in 2017 and RIDEM issued a Finding of No Significant Impact (FONSI) on December 13, 2017. While this EA evaluated the major projects anticipated in the program at that time, required upgrades to the Bucklin Point Wastewater Treatment Facility (BPWWTF) were not yet known. Since then, options for upgrading the BPWWTF have been evaluated and preferred alternatives selected. The RIDEM has indicated that a new EA, as well as a Wastewater Facilities Plan, are required due to these proposed upgrades.

Purpose and Need

The BPWWTF provides secondary treatment and nitrogen removal for flows up to 46 million gallons per day (MGD) and primary treatment for flows up to 116 MGD during wet weather conditions. The BPWWTF is located in East Providence and has an annual daily design flow of 23.7 MGD. With the construction and commissioning of the Pawtucket Tunnel and other Phase III CSO Program projects, which will divert CSO flow from existing outfalls for treatment at the BPWWTF, there will be an increase in prolonged high flow periods during tunnel dewatering. The Pawtucket Tunnel is designed to store the volume of CSO flow currently discharged to the receiving waters during the three-month design storm up to a capacity of 58.5 million gallons (MG). The stored volume will be pumped to the BPWWTF by the Tunnel Pump Station. The Tunnel Pump Station is being designed for a firm capacity of 27.3 MGD. The operation and performance of the BPWWTF during prolonged wet weather events has been simulated and potential deficiencies are anticipated to result from prolonged periods of high flow.

Upgrades to the BPWWTF are required to address the deficiencies anticipated once the facility is required to provide secondary treatment for prolonged periods of higher flows from wet weather events. Also, more stringent discharge limitations required through a new RIPDES permit for the facility also necessitate upgrades.

Proposed Actions and Alternatives

Six alternatives for BPWWTF upgrades were identified, with four of these alternatives evaluated relative to performance and cost. Two alternatives were disregarded immediately due to high costs or inadequate treatment efficiency. Two of the remaining alternatives were identified as a preferred approach to upgrading the BPWWTF. These include construction of two new final clarifiers and the potential future addition of a new polymer injection system.

Constructing new clarifiers provides the best effluent quality, is the easiest to operate, and provides additional unit process redundancy to the BPWWTF of all the alternatives considered. While it is more costly than other alternatives considered, it has been selected as a preferred alternative because it improves treatment performance to meet the new RIPDES permit limits while providing NBC operational flexibility. Additionally, the use of polymer to enhance gravity settling characteristics in the final clarifiers will be evaluated once the new clarifiers are put into operation. A potential location for the polymer injection system, should it be necessary, is the proposed Return Sludge Pump Station for the two proposed Final Clarifiers.

Because NBC's existing ultraviolet (UV) disinfection system is aging, a replacement UV disinfection system in a new facility is proposed as part of this project. The proposed UV Facility shall be designed to provide UV disinfection capabilities and satisfy current TR-16 recommendations. In the future, the use of chemically enhanced primary treatment (CEPT) will be evaluated by NBC if the extreme flow and loading conditions modeled for the Facility Plan Amendment result in compromised treatment plant performance or permit violations that are attributed to low primary clarifier removal efficiencies. CEPT is a process in which chemicals, such as ferric chloride, aluminum sulfate or polymer, are added to the wastewater stream to enhance BOD, TSS and pollutant removal by employing the processes of chemical coagulation and flocculation as an aid to improve gravity settling characteristics. Potential locations for the CEPT treatment process have been identified herein.

Environmental Impacts, Consequences, and Mitigation

No long-term adverse impacts are anticipated from this project. Rather, the proposed BPWWTF upgrades will result in an overall long-term improvement in water quality in the Seekonk River and Narragansett Bay. Through the EA process, potential temporary, short-term environmental impacts that may result during construction and implementation were identified. Measures will be taken during construction and project implementation to mitigate these short-term impacts to the greatest extent practicable.

The environmental benefits of this project far outweigh the short-term adverse impacts that may occur during construction. On this basis, it appears that a Finding of No Significant Impact (FONSI) for the BPWWTF upgrades project is appropriate.

Public Participation

This section describes the public participation process as it relates to this EA. A public meeting was conducted at NBC offices on October 25, 2018 to discuss project scope, alternatives, and

the preferred BPWWTF upgrades. A Public Hearing will be scheduled following RIDEM review of this EA.

Agency Coordination and Review

Several agencies were contacted as part of this EA. Each agency was provided a conceptual site plan and sketch showing the addition of two new final clarifiers as well as a cover letter describing these modifications. Letters were distributed on September 26, 2018 by certified mailings and review comments were requested from each agency within 30 days of their receipt of the letter. Certified mail return receipts were received from each agency; however, not all agencies provided review comments. Review comments that have been received were addressed in the EA, as appropriate. At this time, there does not appear to be any significant issues or concerns based on reviews by these agencies.

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Section 1.0
Introduction

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1.0 Introduction

The Narragansett Bay Commission (NBC) embarked on a three-phase Combined Sewer Overflow (CSO) control program in 1998, aimed at lowering annual CSO volumes and reducing annual shellfish bed closures in accordance with a 1992 Consent Agreement with the Rhode Island Department of Environmental Management (RIDEM). Phases I and II of this program, which focused on the Fields Point Service Area in Providence, were completed in 2008 and 2015, respectively. The program to date has succeeded in lowering annual CSO volumes and reducing annual shellfish bed closures to levels that are in keeping with a 1992 Consent Agreement between NBC and the RIDEM.

Phase III of the program (Phase III CSO Program), which began in 2016, is focused primarily on the Bucklin Point Service Area (BPSA) in the communities of Pawtucket and Central Falls. The final sub-phase of the program also addresses the final remaining outfalls in the Fields Point Service Area (FPSA). Its projected completion date is 2041. The Phase III CSO Program has been subdivided into four sub-phases, as follows:

- Phase IIIA: Pawtucket Tunnel
- Phase IIIB: Upper BVI Relief Structure and OF-206 Sewer Separation
- Phase IIIC: Stub Tunnel to Control OF-220
- Phase IIID: West River Interceptor and OF-035 Sewer Separation

The NBC's stated mission is to maintain a leadership role in the protection and enhancement of water quality in Narragansett Bay and its tributaries by providing safe and reliable wastewater collection and treatment services to its customers at a reasonable cost. NBC owns and operates Rhode Island's two largest wastewater treatment plants along with extensive infrastructure of interceptors, sewers, pump stations, tide-gates, and CSO structures. The focus of this assessment is the Bucklin Point Wastewater Treatment Facility (BPWWTF), which is located in East Providence and provides treatment of wastewater flow from NBC's BPSA. This includes all or parts of Central Falls, Pawtucket, East Providence, Lincoln and Cumberland. The location of the BPWWTF and NBC service areas are shown on Figure A-1. Figure A-2 provides an aerial view of the BPWWTF. Pawtucket and Central Falls have combined sewer systems while the other member communities served by NBC's BPWWTF have separated storm and sanitary collection systems.

The objective of the Phase III CSO Program is specifically to improve the environment by achieving significant reductions in annual CSO volumes and shellfish bed closures. The Program, which includes upgrades to the BPWWTF, will result in significant improvement in water quality in the affected areas of Narragansett Bay, including the Seekonk River, the Blackstone River and other tributaries to the bay. An Environmental Assessment (EA) was performed for the Phase III CSO Program in 2017 and RIDEM issued a Finding of No Significant Impact (FONSI) on December 13, 2017. While this EA evaluated the major projects anticipated in the program at that time, required upgrades to the BPWWTF were not yet known. Since then, options for the BPWWTF have been evaluated and preferred alternatives selected.

The RIDEM has indicated that a new EA, as well as a Wastewater Facilities Plan, are required due to these proposed upgrades. The Facilities Plan is provided under separate cover.

Through the EA process, potential temporary, short-term environmental impacts that may result during construction and implementation were identified. These short-term impacts are expected to be generally typical of construction activities of similar scale and will be mitigated using industry standard means and methods commensurate in scale to their overall impact. Also, no significant adverse long-term impacts on the environment associated with the BPWWTF upgrades are expected at this time. The most significant long-term effect will be a substantial improvement in water quality to Narragansett Bay and its tributaries. On this basis, it appears that a FONSI for the work associated with the BPWWTF upgrades is appropriate.

Section 2.0
Purpose and Need

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2.0 Purpose and Need

The Phase III CSO Program is NBC's plan to abate combined sewer overflows to Narragansett Bay and several of its major tributaries. For Phase III CSO projects, such as the proposed BPWWTF upgrades, to be eligible for funding under the State of Rhode Island Clean Water State Revolving Fund (SRF) Program, environmental impacts of project alternatives shall be analyzed as part of an EA.

Within the BPSA, the BPWWTF provides secondary treatment and nitrogen removal for flows up to 46 million gallons per day (MGD) and primary treatment for flows up to 116 MGD during wet weather conditions. The BPWWTF is located in East Providence and has an annual daily design flow of 23.7 MGD. During normal dry weather operation, wastewater flows through the existing mechanical bar screens, vortex grit separators, primary clarifiers, biological reactors, secondary clarifiers and an ultraviolet disinfection system. Effluent is discharged to the Seekonk River through an existing outfall via an effluent pump station. Return activated sludge (RAS) from the final clarifiers is collected and pumped by two RAS pump stations and recycled to the biological reactors. During wet weather events, flow can be diverted from the grit collectors to on-site wet weather tanks, where it then flows through the wet weather chlorine contact tank prior to discharge to the Seekonk River.

With the construction and commissioning of the Pawtucket Tunnel and other Phase III CSO Program projects, which will divert CSO flow from existing outfalls for treatment at the BPWWTF, there will be an increase in prolonged high flow periods during tunnel dewatering. The Pawtucket Tunnel is designed to store the volume of CSO flow currently discharged to the receiving waters during the three-month design storm up to a capacity of 58.5 million gallons (MG).The stored volume will be pumped to the BPWWTF by the Tunnel Pump Station. The Tunnel Pump Station is being designed for a firm capacity of 27.3 MGD.

The operation and performance of the BPWWTF during prolonged wet weather events has been simulated and potential deficiencies are anticipated to result from prolonged periods of high flow. These are as follows:

- Secondary treatment processes show evidence of stress.
- Settled sludge blanket depth may increase and effluent quality may decrease in the final clarifiers. Polymer is used during these times, which is currently applied manually by BPWWTF staff.
- Projected decrease in mixed liquor suspended solids (MLSS) temperature is expected during tunnel pump-out, based on experience with other NBC facilities.

Upgrades to the BPWWTF are required to address the potential deficiencies once the facility is required to provide secondary treatment for prolonged periods of higher flows from wet weather events. Also, more stringent discharge limitations required through a new RIPDES permit for the facility further necessitate upgrades. The alternatives considered, and identification of the preferred alternatives, is included in Section 3 of this EA. Potential environmental impacts and

proposed mitigation strategies are included in Section 4. Section 5 describes the public review and comment process while Section 6 addresses review comments provided by State and Federal agencies.

Section 3.0

Proposed Actions and Alternatives

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3.0 Proposed Actions and Alternatives

A total of six (6) alternatives were developed to address the BPWWTF's ability to effectively treat wastewater during prolonged periods of high flows. These alternatives were as follows:

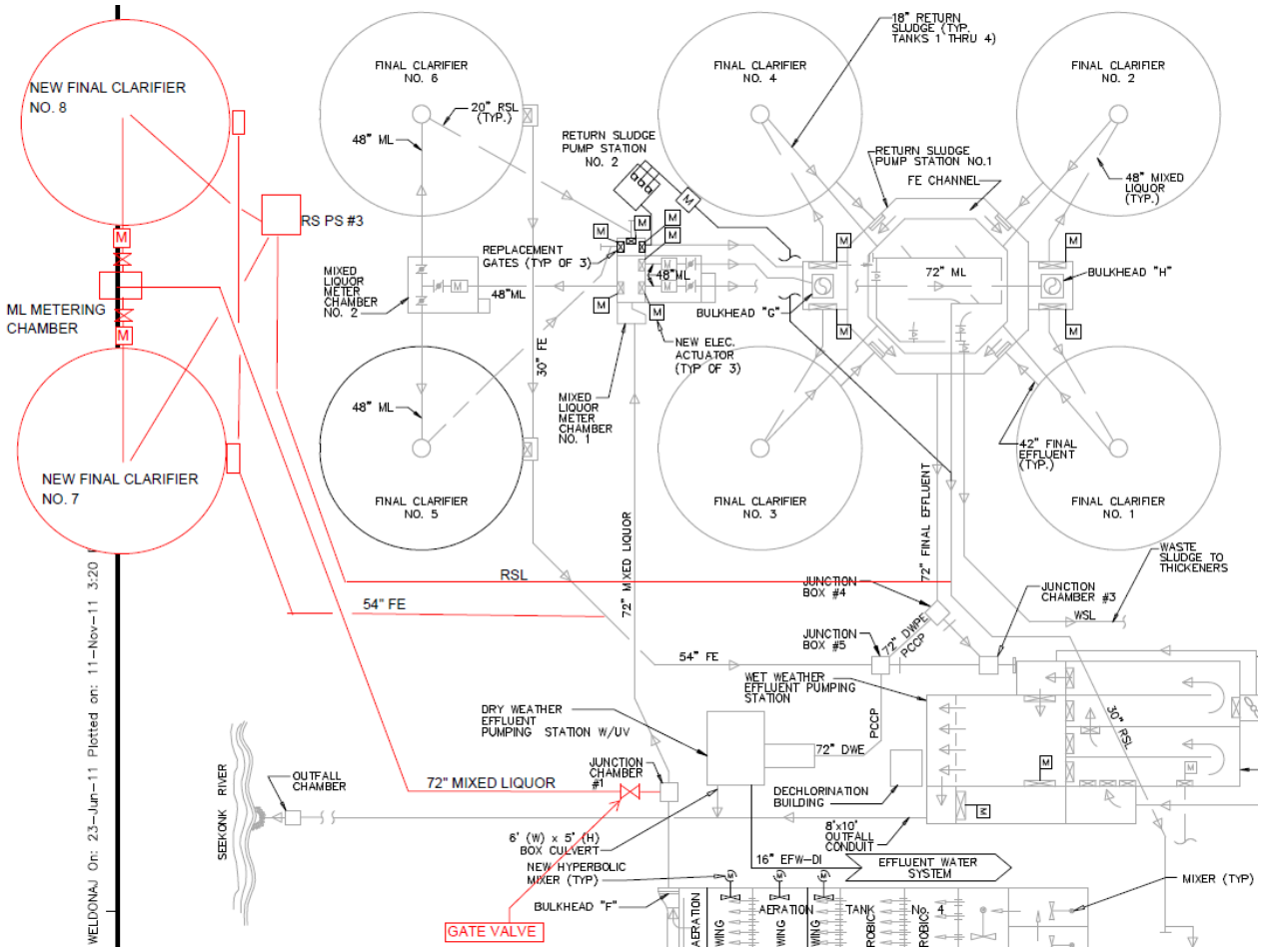
1. Install two (2) new final clarifiers;
2. Convert existing bioreactor to solids storage during high flows;
3. Convert bioreactors to contact stabilization during high flows;
4. Install polymer feed system;
5. Increase return active sludge (RAS) pumping; and
6. Increase bio-reactor volume.

Alternatives 5 and 6 were eliminated from an in-depth analysis due to concerns over their effectiveness and cost. The remaining four (4) alternatives were assessed in detail in the BPWWTF Operational and Capacity Evaluation and are each discussed in the following sections.

3.1 Alternative 1: Install Two New Final Clarifiers

The first alternative would construct two new final clarifiers (Nos. 7 and 8) similar to the existing final clarifiers Nos. 5 and 6, conceptually illustrated in red on Figure 3-1. The project would include new mixed liquor suspended solids (MLSS) piping, flow splitting, a new RAS pump station, and instrumentation and controls to match the existing clarifiers. The new clarifiers are proposed in an existing open area of the BPWWTF site, to the west of clarifiers Nos. 5 and 6. The proposed clarifiers will match existing Clarifiers Nos. 5 and 6 with a diameter of 110 ft, a mean water surface elevation of 4.28 ft, and a sidewater depth of 12.17 ft at their highest point.

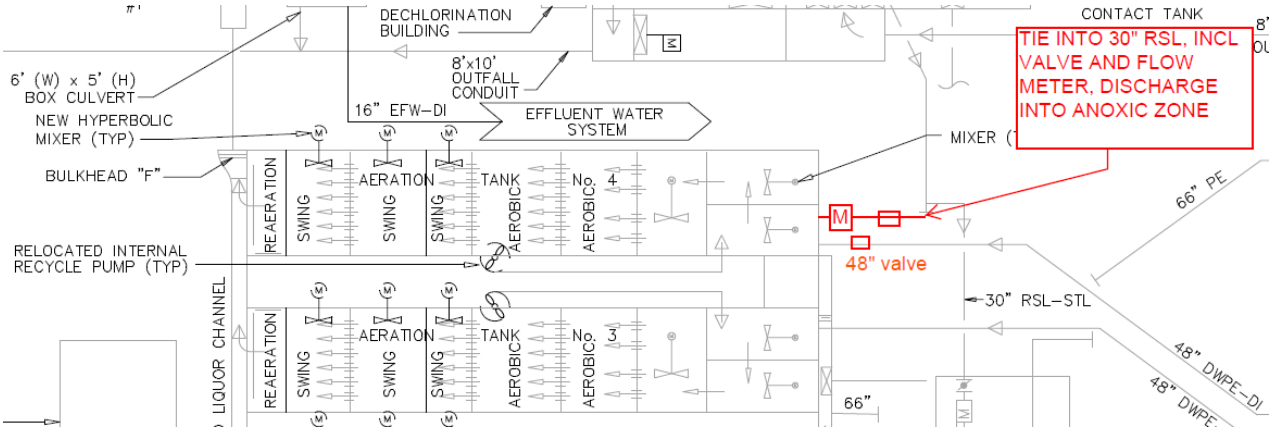
Figure 3-1 Alternative 1 Schematic Layout



3.2 Alternative 2: Convert Existing Bioreactor to Solids Storage During High Flows

Alternative 2 would require the construction of new piping with a valve and new meter to convert one of the four existing bioreactors to a solids storage tank during prolonged wet weather events. This is illustrated in red on Figure 3-2. During the first day of a storm, fifty percent of the RAS flow would be diverted to this bioreactor and the influent primary effluent feed would be shut off. The other three bioreactors would operate as normal, with the exception of the reduced RAS flow. This alternative would increase the MLSS in the other bioreactor from 3000 mg/l to 7500 mg/l, thus storing biomass in this bioreactor and reducing the combined MLSS concentration to the clarifiers to 1200 mg/l. An estimated construction cost for this alternative is approximately $0.90 million.

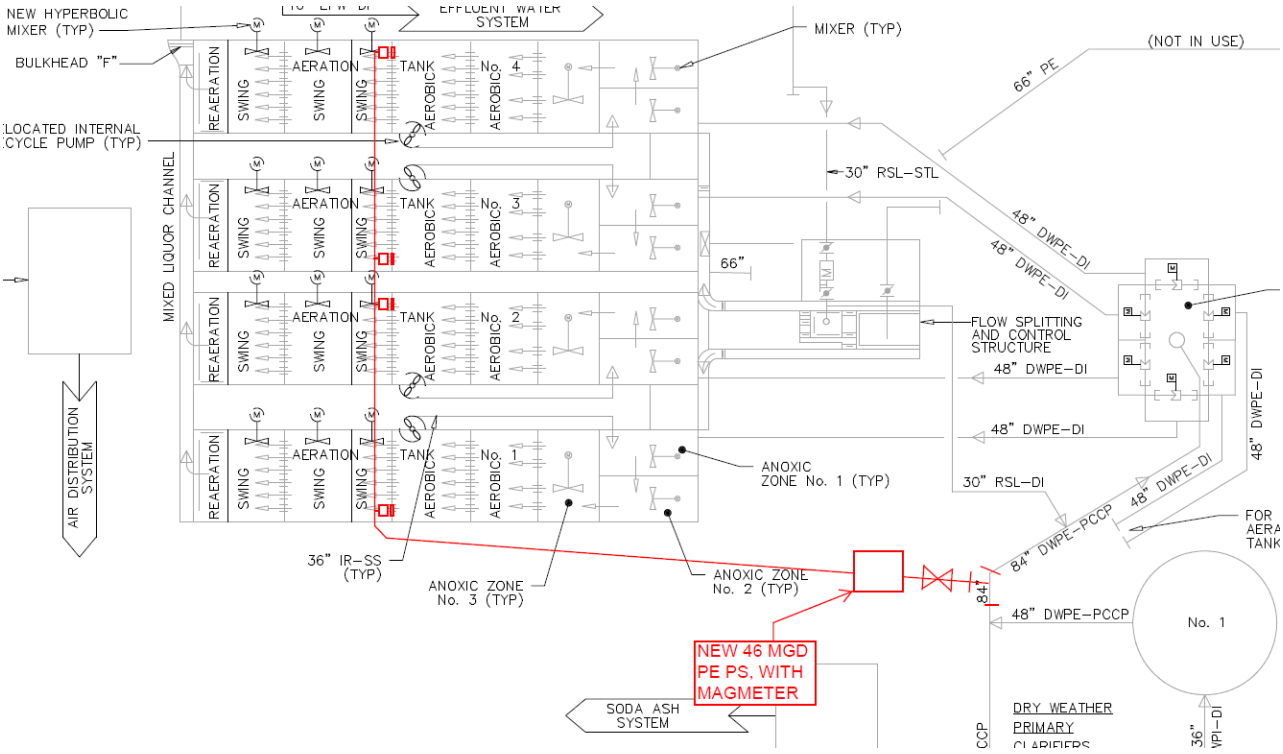
Figure 3-2 Alternative 2 Schematic Layout



3.3 Alternative 3: Convert Bioreactors to Contact Stabilization During High Flows

Alternative 3 would require new piping and a new pump station with a magnetic flow meter to allow the four existing bioreactors to operate in a contact stabilization mode during prolonged wet weather events and in a step feed mode during normal dry weather operations. This is depicted on Figure 3-3. This treatment strategy is commonly used for wastewater treatment plants that serve systems with combined sewers. It would reduce the MLSS concentration to the clarifiers to approximately 900 mg/l. While the reduction of solids loading to the clarifiers will improve the final effluent TSS, the final effluent BOD concentration is expected to increase. As such, this alternative is not considered preferable. An estimated construction cost for this alternative is approximately $5.7 million.

Figure 3-3 Alternative 3 Schematic Layout



3.4 Alternative 4: Install Polymer Feed System

Alternative 4 proposed a new polymer feed system, which would consist of two new polymer storage tanks with mixers and a metering pump dosing system. The polymer feed system would be used only when the clarifiers are in need of a settling aid as determined by BPWWTF operations staff. Currently, polymer is periodically added to the mixed liquor channel by hand during wet weather events, but no automated system currently exists.

A dry or liquid emulsion polymer feed system would add polymer upstream of the final clarifiers to aid in solids settling. A dry system typically includes one to two batch make-up tanks with mixers, a duplex metering pump system, and secondary containment. A liquid emulsion system typically draws directly from a 55-gallon drum or a larger tote to a duplex metering pump skid that mixes the polymer with plant or potable water for carrying to the wastewater. Further analysis is required to determine whether a dry or liquid polymer is more appropriate for this application.

3.5 Recommended Alternative

Alternative 1, *Install Two New Final Clarifiers,* provides the best effluent quality, is the easiest to operate, and provides additional unit process redundancy to the BPWWTF. While Alternative 1 is more costly than other alternatives, it has been selected as a preferred alternative because it not only improves performance to meet the new RIPDES permit limits but allows NBC operational flexibility. Constructing new clarifiers allows NBC to temporarily take others offline for refurbishment to address other operational issues.

Alternative 4, *Install Polymer Feed System,* is a low-cost solution that could be implemented in conjunction with the new clarifiers to improve plant performance when the sludge is experiencing poor settling characteristics. The use of polymer to enhance gravity settling characteristics in the final clarifiers will be evaluated once the new clarifiers are put into operation. A potential location for the polymer injection system, should it be necessary, is the proposed Return Sludge Pump Station for the two proposed Final Clarifiers.

With regard to the environmental impact of all of the alternatives considered, Alternative 1 offers the best net environmental benefit by providing the best level of treatment of CSO flows. Alternative 4 further enhances this level of treatment, should it be necessary based on facility performance following the addition of the two new final clarifiers.

3.6 Additional Modifications

Additional plant modifications have been considered since the initial evaluation and selection of alternatives to address effective treatment of wastewater during prolonged periods of high flows.

3.6.1 UV Disinfection Upgrades

The BPWWTF's existing UV disinfection system was installed as part of the Contract 807 plant upgrades. The existing UV disinfection system is a single channel UV4000 system as

manufactured by Trojan Technologies, Inc. and is comprised of high-wattage, polychromatic, medium-pressure lamps with two banks of lamps installed in a common channel. Due to the age of the existing system, the significant advancement in UV disinfection technology, the need to have an energy efficient UV system and to continue to reliably meet advanced treatment discharge limitations for enterococcus, the NBC has determined a new UV disinfection system is required.

NBC has evaluated alternatives to replace the existing UV disinfection system within the existing building and within a new building. The evaluations revealed that retrofitting a new UV system into the existing building proved too difficult and costly, and presented significant challenges and risks associated with maintenance of plant operations and management of flows during construction and system commissioning. Therefore, placing the new system in a new building has been determined to be necessary. The proposed UV Facility shall be designed to provide UV disinfection capabilities and satisfy current TR-16 recommendations. It will be located to the south of the two new final clarifiers.

3.6.2 Chemically Enhanced Primary Treatment (CEPT)

The future use of chemically enhanced primary treatment (CEPT) will be evaluated if the extreme flow and loading conditions modeled for the Facilities Plan Amendment (FPA) result in compromised treatment plant performance or permit violations that are attributed to low primary clarifier removal efficiencies. CEPT is a process in which chemicals, such as ferric chloride, aluminum sulfate or polymer, are added to the wastewater stream to enhance BOD, TSS and pollutant removal by employing the processes of chemical coagulation and flocculation as an aid to improve gravity settling characteristics. Furthermore, the BPWWTF Operations staff will use their professional judgement to utilize the third Primary Clarifier to help supplement primary clarifier operations during elevated loading conditions. A potential location for the CEPT treatment process is shown in Figure 3-4. Other locations may also be considered if necessary.

Figure 3-4 Potential CEPT Facility Location

Section 4.0

Environmental Impacts, Consequences, and Mitigation

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4.0 Environmental Impacts, Consequences, and Mitigation

Provided below is a discussion of the environmental conditions around the project area, the potential for environmental impact, and the measures that will be used to mitigate the identified impacts associated with the proposed BPWWTF improvements.

Direct environmental impacts identified in this assessment are those that occur temporarily during construction or permanently as a result of the project. Direct impacts could include potentially adverse effects on surface water, disturbance of wetlands and wildlife habitat, disturbance of sensitive historical, archaeological, cultural or recreational areas, and impacts to traffic, business operations or other daily activities in the project area. These types of impacts are generally short-term and can be effectively mitigated during construction. Adverse post-construction impacts are not anticipated. Rather, this project will result in long-term environmental benefits, helping significantly improve water quality in Narragansett Bay and its tributaries. The upgrades proposed to the BPWWTF improve treatment capacity during periods of high flow due to wet weather and provide NBC with operational flexibility and redundant treatment facilities during normal flow conditions.

4.1 Surface Water

Effluent from the BPWWTF discharges to the Seekonk River. The proposed BPWWTF upgrades will improve treatment capacity and produce a higher quality effluent. No adverse permanent or long-term impacts to surface water are anticipated.

With construction of the proposed facility improvements, erosion and sedimentation resulting from construction could potentially have an impact to the Seekonk River if proper controls are not in place. Stockpiled materials and associated site work may also impact the river if they are not stored and handled properly. As such, standard construction phase environmental protection controls will be utilized during the construction of this project. The contractor will be required to provide proper erosion controls and fugitive dust prevention facilities as required by RIDEM and other applicable agencies.

Surface disturbance shall be minimized wherever possible and disturbed surfaces will be restored when project conditions allow. Surface waters will be protected from sedimentation and other pollutant discharges by utilizing compost tubes, hay bales, and/or silt fences. Contractors will be required to provide spill and erosion control measures when working near any surface water bodies or wetlands. Any water that is pumped or bailed from excavations shall be conveyed by conduit or hose and treated for sediment removal and to lower velocity prior to discharge. Ongoing monitoring, maintenance, and repair of erosion controls will be required throughout construction to ensure proper function and adequate protection of adjacent surface waters. Temporary controls will be removed at the end of construction once the site is adequately restored.

4.2 Groundwater

According to RIDEM's online Environmental Resource Map the classification of the groundwater beneath the project area is GB. RIDEM has classified GB as groundwater that is not suitable for drinking water use without treatment. This classification can be attributed to a highly urbanized area, permanent waste disposal area, or an active site permitted for the land disposal of sewage sludge. It is anticipated that the quality and quantity of groundwater will remain substantially unchanged as a result of this project. While some subsurface construction may be within the existing groundwater zone, appropriate construction procedures will be utilized to discharge or recharge groundwater, as required.

4.3 Wetlands and Floodplains

Based on review of FEMA flood zone mapping, National Wetland Inventory data layers obtained from RIGIS, and the online FEMA Flood Map Service Center, the entire project area is located within Zone X associated with the Seekonk River, the 0.2% annual chance flood hazard area with average depth less than one foot or with drainage areas of less than one square mile. FEMA FIRM maps are provided in Appendix B.

The site is currently protected from flooding during a 100-year event with the levee that surrounds the operational footprint of the BPWWTF. The report "NBC Resiliency Plan" (Plan)", prepared by Kleinfelder and submitted to RIDEM in November 2019, states that NBC's infrastructure in coastal areas could be exposed to 3 feet of relative sea level rise by 2050-2060. The Plan establishes the design flood elevation for the BPWWTF to be 17.8 ft. NGVD29 (14.8 ft. base flood elevation plus 3 ft. freeboard). The existing levee provides flood protection to 19.3 ft. NGVD29, which is 4.5 ft higher than the base flood elevation and 1.5 ft. higher than the design flood elevation. The Plan does not recommend a proposed action based on the findings of this assessment. Design of future improvements at the BPWWTF will comply with applicable regulations as they relate to sea level rise.

There are no wetlands within the project limits but there are small wetland areas to the northeast and south of the project limits. No impact to these wetland areas are anticipated. Because this project falls within 200-feet of the Seekonk River, it will be within the Contiguous Area managed by the RI Coastal Resources Management Council (CRMC). The CRMC has issued an Assent for the Program following review and approval of a Master Plan for the Phase III CSO Program. This project will require an Assent Modification from CRMC. Figure A-3 depicts the BPWWTF relative to coastal and freshwater wetlands.

This project will be designed to minimize, or altogether avoid, impacts to wetlands and floodplains to the greatest extent possible. All work is proposed within areas of the BPWWTF site that are currently developed or otherwise reserved for such uses. Erosion and sedimentation controls will be used during construction to mitigate potential short-term impacts to nearby freshwater or riverbank wetlands. No short-term nor long-term impacts to nearby freshwater wetlands are anticipated.

4.4 Wild or Scenic Rivers

To date, there are no designated wild or scenic rivers in Rhode Island. Given the absence of any designated wild or scenic rivers near the project site, it does not appear that there will be any short-term or long-term impacts to these types of natural resources.

4.5 Coastal Zones/ Costal Barrier Resources

Based on review of RIDEM regulatory mapping, it appears that coastal resources near the project area are limited to the tidal Seekonk River and its associated 200-foot contiguous area. As such, the project will require permitting through the CRMC and design and construction shall comply with the requirements stipulated in an Assent issued by that agency. Also, all work is proposed within the existing BPWWTF site and no adverse impacts to coastal zones or barrier resources are anticipated during or as a result of this construction.

4.6 Sole Source Aquifers

According to available RIGIS land use data, there are no sole source aquifers beneath the project area. As such, there will be no impact to sole source aquifers as a result of this project.

4.7 Farmlands and Agricultural Uses

According to available RIGIS land use data, there is no USDA regulated farmland located near or surrounding the project area. As such, there will be no impact to farmland as a result of this project.

4.8 Air Quality

Excavation and general construction activities will be performed as part of this project. Inherent air quality issues are associated with these types of projects such as dust generation and emissions from construction equipment. However, these impacts are anticipated to be of a short-term nature and are not expected to be of significant concern with proper controls.

Dust generated from excavation and spoils piles will be controlled using water for calcium chloride. Street sweeping will be required to remove any accumulated soil from roadways subject to traffic. Emissions from construction equipment will be consistent with that typical of construction equipment on projects of this nature. Construction vehicles will be required to meet the most recent RIDOT emissions standards.

No long-term impacts to air quality are anticipated. While new clarifiers are proposed, the treatment process will remain relatively unchanged and no change to emissions or significant air quality or odor concerns are expected.

4.9 Noise

Noise associated with construction is inevitable. Noise generated from construction equipment will be typical of that from construction equipment used on other projects of this nature.

The construction of the BPWWTF upgrades will require construction vehicles and site work. These projects will be constructed entirely within the BPWWTF site and will therefore be away from businesses and residences. The nearest abutters to the work zone include the landfill, cemetery, and industrial area to the north of the site. The nearest residential properties are located approximately 1,500 feet to the east of the work zone. Construction equipment will be equipped with mufflers that meet the most recent RIDOT standards to keep noise to a minimum. Hauling of construction materials and the staging of equipment and materials will be required; however, the effects of this activity will be short-term in nature. Construction activities will be scheduled during normal business hours (7 a.m. – 5 pm.). It is not anticipated that construction will occur beyond these working hours or on weekends.

Any noise impacts that do result from this project will be temporary, during construction activity. No long-term noise impacts will result from this project.

4.10 Vegetation and Wildlife

The construction of this project should have minimal impact to vegetation and wildlife because the project is proposed entirely within actively used areas of the BPWWTF site.

In accordance with Section 7 of the Endangered Species Act, official species lists from the online United States Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) tool were reviewed for determination of potential impacts to any federally listed or proposed, threatened, or endangered species and wildlife habitats within the project areas. No critical habitats under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur within the project area; however, one threatened species, the Northern long-eared bat, was identified within the project limits. This species roosts in cavities, hollows, or under loose bark of many different species of trees, and forages in a variety of forest types. Any proposed work that would disturb such trees and habitats would require additional investigations to determine potential impacts to the species and possible impact mitigation measures. This type of habitat is not expected to be encountered on the BPWWTF site, therefore, critical habitat is not anticipated to be impacted by this project. A letter from the USFWS identifying threatened and endangered species within the project area is provided in Appendix C.

Based on the proposed area for this project, it appears that there will be minimal impacts to vegetation and wildlife because the proposed work for the BPWWTF upgrades will be entirely within the existing treatment plant site which is already developed with wastewater treatment facilities. Vegetation removed as part of construction will be restored to its previous condition to the greatest extent possible.

4.11 Water Supply/Use

Water supply concerns are not applicable to this project. Some potable water will be used during the construction process (i.e., dust control and concrete mixing). This water use will be minor and of a short-term nature. Potable water used during construction will be obtained from

onsite sources and appropriate backflow prevention will be used, so no impact to water supply systems are anticipated.

4.12 Soil Disturbance

Soil disturbance will occur as part of construction of this project. According to the Soil Survey of Rhode Island (accessed via the NRCS Online Web Soil Survey), the project is located within several soil classes. Soils within the project area are classified as Bigapple sand (BiB), Udorthents-Urban land complex (UD), and Urban land (UrS). Please refer to the attached soil map, identified as Figure A-4 in Appendix A, for a geographic representation of the underlying soils within the site of the proposed BPWWTF upgrades.

- BiB consists of bigapple sand and similar soils. This complex is approximately 90% bigapple sand and similar soils and 10% other soils, somewhat excessively drained Merrimac soils and areas of Urban land.
- UD consists of Udorthents soils and areas of Urban land. This complex is approximately 70 percent Udorthents soils, 20 percent Urban land, and 10 percent other soils. The available water capacity is high.
- UrS consists of Urban land. This complex is approximately 90 percent urban land, and 10 percent other soils.

Soil erosion and sedimentation, if left uncontrolled, is always a possible consequence of soil disturbance and earth work activities. It is also possible that contaminated soil is encountered during construction.

Geotechnical investigations will be performed to evaluate subsurface conditions and identify potential geotechnical and environmental constraints. Part of the scope of work for those investigations will include field screening of soil and groundwater as well as potential sample collection and laboratory analysis to assess for the presence of oil and/or hazardous materials in the subsurface. During geotechnical investigations and throughout the course of construction, appropriate project personnel will be directed to be aware of obvious signs of oils or hazardous materials in soils and groundwater through visual, olfactory, and PID field screening. Additionally, subsurface samples will be collected for laboratory analysis where deemed appropriate based on field screening, past site use, or other information compiled prior to or during construction. If any contaminated soil is encountered during the course of the subsurface investigation or construction, then RIDEM will be notified and appropriate remediation measures will be conducted, in accordance with RIDEM Remediation Regulations.

Erosion and sedimentation controls will be used throughout construction and disturbed areas will be restored as soon as possible.

4.13 Historical, Archaeological, and Cultural Resources

There are no historic sites or districts listed on the National Register of Historic Places within the proposed project area for the BPWWTF upgrades. Two historic properties, the Butler Hospital

and Swan Point Cemetery are located in Providence across the Seekonk River from the BPWWTF. Figure A-5 depicts the project location relative to these resources.

NBC and the Rhode Island State Historic Preservation Office (now the RI Historic Preservation and Heritage Commission, RI HPHC) entered into a Programmatic Agreement (PA) prior to the initiation of Phase I of the CSO Program. As part of this PA, NBC has agreed to several stipulations for the protection of potentially affected properties and structures for the duration of the CSO Program. A copy of the PA is included in Appendix D. The proposed BPWWTF upgrades are not anticipated to disturb historical, archaeological, or cultural resources given the project's location entirely within the BPWWTF site.

4.14 Aesthetics

The project is located entirely within the BPWWTF site. While aesthetics are not anticipated to be a major concern for this project, construction of the new facilities will complement the appearance of existing facilities. Also, the site will be restored at the completion of construction.

4.15 Land Use

The project is proposed entirely within the BPWWTF site and construction will not impact offsite land uses.

4.16 Economic

This project is not expected to negatively impact local businesses because work will be entirely on the BPWWTF site and away from existing businesses and commerce. To the contrary, during the construction phase this project can be expected to benefit the local economy through increased local construction employment, material supplies, etc. NBC will endeavor to use local construction firms for this project if feasible. It is anticipated that much of the work required for the BPWWTF upgrades, if not all of it, could be constructed by construction firms that currently work in the local market.

4.17 Community Facilities

There are no community facilities within close proximity to the BPWWTF. Therefore, the proposed upgrades to the existing BPWWTF site are not anticipated to adversely impact community facilities.

4.18 Recreation

There are no parks or recreational areas within the BPWWTF site or within close proximity to the site. Therefore, the proposed upgrades to the existing BPWWTF site are not anticipated to adversely impact recreational facilities.

4.19 Safety

Construction safety will be a top priority and the project will adhere to all pertinent OSHA requirements. In addition to meeting these requirements, construction contractors will be required to provide a project-specific Health and Safety Plan (HASP) that details the safety risks of each project component and the necessary measures to avoid them.

The BPWWTF upgrades are proposed entirely within the existing treatment plant site and it is expected that the plant will remain operational throughout construction. During construction, unauthorized personnel will be prohibited from entering construction zones. Special attention will be made to ensure the safety of treatment plant personnel on site.

The work of this project is away from residences, businesses, and the general public whereas additional safety precautions are not anticipated to be required. The BPWWTF site is not open to the public but access to the construction site will be restricted by using temporary fences and construction signage.

4.20 Solid Waste

Solid waste will be generated during construction, much of which will consist of debris typical of construction activity. All construction debris and other solid waste will be disposed of in compliance with Federal, State, and local regulations. Surplus excavated soil that cannot be used as backfill, whether due to displacement by construction of permanent facilities or due to it being unsuitable for reuse, will also be generated. Construction contractors will be required to appropriately manage solid waste at the project site to prevent it from becoming a nuisance to NBC. Likewise, surplus soil shall be managed appropriately and hauled offsite to an appropriate facility. No long-term impacts associated with solid waste are anticipated as part of this project.

It is possible that contaminated soil will be encountered during the course of construction due to the amount of earthwork that is required. Contaminated soil may require disposal at a solid waste landfill or other disposal facility in accordance with the program's soils management plan, should it be encountered. Throughout construction, appropriate project personnel will be directed to be aware of obvious signs of oils or hazardous materials in soils and other types of solid waste through visual and olfactory observations. Additionally, subsurface soil samples will be collected for laboratory analysis where deemed appropriate based on field screening, past site use, or other information compiled prior to or during construction. If any contaminated soil is encountered during subsurface investigation or construction, then RIDEM will be notified and appropriate remediation measures will be conducted, in accordance with RIDEM Remediation Regulations. Contaminated soil, should it be encountered, may require disposal at a solid waste landfill or other disposal facility.

4.21 Traffic and Business Activities

This project will be constructed entirely within the BPWWTF site and away from existing roadways and rights-of-way. Construction vehicle traffic is anticipated to be minimal, limited to the movement of personnel, material deliveries, and surplus soil hauling over access roadways

currently used by NBC. As such, no significant short-term or long-term traffic impacts are anticipated as a result of this project.

4.22 Other Indirect Impacts

Indirect environmental impacts are those which result from the circumstances imposed by the implementation of this project that have not specifically been addressed elsewhere in this EA. Because this project will be confined to the BPWWTF site, no short-term or long-term adverse indirect environmental impacts are anticipated.

The primary goal of the Phase III CSO Program is to improve water quality in Narragansett Bay and surrounding surface water bodies. Though difficult to measure, there may be indirect benefits associated with implementation of this program and specifically the proposed upgrades to the BPWWTF. This might include increased recreational opportunities resulting from improved water quality, advances in tourism and development from positive public relations, and overall improvements in community pride. However, significant growth in development and population directly linked to this program is not anticipated.

Section 5.0
Public Participation

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5.0 Public Participation

This section describes the public participation process as it relates to this EA.

5.1 Public Meeting

A public meeting for the BPWWTF Environmental Assessment and Facilities Plan Amendment was scheduled for 10:00 am at NBC offices on October 25, 2018 to discuss project scope, alternatives, and the preferred BPWWTF upgrades of new final clarifiers and possible polymer injection. The public meeting was advertised in the Providence Journal and on the NBC website 30 days in advance of the meeting. No members of the public attended, and the meeting was closed.

The newspaper advertisement, sign-in sheet, and presentation materials prepared for the meeting are included in Appendix E.

5.2 Public Hearing

A Public Hearing will be scheduled following RIDEM review of the Draft EA. The public hearing will be held to review the recommended plan, addressing any substantive comments received from the public, RIDEM, and other inter-governmental review agencies. Similar to the public meeting, it will be conducted at NBC and will be advertised in the Providence Journal and on the NBC website 30 days in advance of the meeting. Presentation materials and meeting minutes from the public hearing will be added to Appendix E of the Final EA.

Since the Public Meeting was conducted, NBC has determined that replacement of the UV Disinfection system is required. NBC has also considered the potential future need for a CEPT facility, though such a facility is not currently proposed and will be evaluated in the future based on plant performance. This is further addressed in the Facilities Plan Amendment. These changes to the project will be addressed during the Public Hearing.

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Section 6.0

Agency Coordination and Review

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6.0 Agency Coordination and Review

Several agencies were contacted as part of this EA. Each agency was provided a conceptual site plan and sketch showing the addition of two new final clarifiers as well as a cover letter describing these modifications. The following agencies were contacted:

- Rhode Island Coastal Resources Management Council (RI CRMC);
- Rhode Island Department of Environmental Management-Division of Fish and Wildlife;
- Rhode Island Department of Environmental Management - Office of Technical and Customer Assistance;
- Rhode Island Division of Planning;
- Narragansett Tribal Historic Preservation Office (NTHPO);
- NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO);
- USDA Natural Resources Conservation District;
- Rhode Island Historic Preservation and Heritage Commission; and
- Rhode Island Department of Transportation (RIDOT).

Letters were distributed on September 26, 2018 by certified mailings and review comments were requested from each agency within 30 days of their receipt of the letter. Certified mail return receipts were received from most agencies, and several of these agencies have not provided any comments to date. These include:

- Rhode Island Coastal Resources Management Council;
- NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO);
- USDA Natural Resources Conservation District; and
- Rhode Island Historic Preservation and Heritage Commission.

Return receipts were not received from the letters sent to the Narragansett Tribal Historic Preservation Office (NTHPO) and RIDOT. Based on past correspondence with the NTHPO, the letter was sent via email on Wednesday, November 7th but no comments have been received.

Three agencies, the RIDEM Division of Fish and Wildlife, RIDEM Office of Technical and Customer Assistance, and Rhode Island Division of Planning provided comments. The following sections summarize the review comments received from these agencies. Copies of the comment letters received are included as Appendix F.

6.1 RIDEM Division of Fish and Wildlife

Comments were received from the RIDEM Division of Fish and Wildlife via email on October 26, 2018, as summarized below. Response to these comments follows.

Comments:
We have recent records of diamond-backed terrapins in the immediate area of the facility in question. Diamond-backed terrapins are a 'critically imperiled' species in the state. The species spends the majority of its life in the water column but will come into the uplands to bask and nest. There is an unvegetated area (between points "2" and "218" on figure provided) on the

property that, from aerial imagery, looks like it could be appropriate nesting habitat. Have terrapins ever been observed using this area or in any other area that may be impacted by construction?

Response:
All work associated with implementing the recommended alternative described herein is interior to the existing, armored coastal levee that surrounds the BPWWTF. No shoreline survey has been conducted to identify the presence of diamond-backed terrapins and/or appropriate nesting habitats.

Comments:
Also, it is not entirely clear what the nature of the construction in question will entail. The figures provided by you appear to indicate the construction of three additional outfalls as well as the construction of a tunnel shaft between the yellow squares on the figures. Is this a correct interpretation? Will there be an additional tunnel built underwater between points “2” (on east side of Seekonk River) and “27” (on west side of Seekonk River)? If not, what will be the source of the water being deposited by the outfall on the west side of the river and what will be the scale of construction associated with this feature?

Response:
The purpose of the EA and Facilities Plan Amendment is to update flows and loads to the BPWWTF for a 20-year planning period as well as to make required upgrades to the facility to meet RIPDES discharge limits. Construction associated with these upgrades is entirely within the current operational footprint of the BPWWTF. The construction associated with the recommended alternative include the following elements: construction of two secondary clarifiers, associated process piping, upgrade to existing pump facilities, and miscellaneous instrumentation. As noted above, all proposed work is landward of the existing coastal levee that protects the plant.

Please note the outfalls represented above (i.e. 2, 27, 218) are existing combined sewer overflows. Outfall 27 is a CSO within the combined sewer that is within the sewershed of the Fields Point system in Providence. Outfall 27 has been addressed by sewer separation during the previous phase of the CSO program. No tunnel and/or conveyance conduit is proposed between outfall 27 and outfall 218.

Comments:
As a general question, will there be any temporary or permanent constructed features that may be accessible to a terrapin swimming in the water column at any point during the tidal cycle?

Response:
No work is proposed seaward of the existing levee.

6.2 RIDEM Office of Technical and Customer Assistance

Comments were received from the RIDEM Office of Technical and Customer Assistance via email on November 15, 2018, as summarized below. Response to these comments follows.

Comments:

The only comments that we have at this time is that NBC must ensure that the schedule to complete the Phase III CSO project must comply with the requirements from their consent agreement RIA-424, which was entered into between the NBC and DEM on September 6, 2018.

Also, it appears that he project will improve water quality in the river. It may need a RIPDES Construction General Permit (CGP).

Responses:

NBC acknowledges and will comply with the schedule of major milestones for the Phase III CSO Program laid out in Consent Agreement RIA-424. It is also understood that a RIPDES Construction General Permit (CGP) may be required for the BPWWTF upgrades project.

6.3 Rhode Island Division of Planning

Comments were received from Ms. Nancy Hess of the Rhode Island Division of Planning via email on October 24, 2018, as summarized below. Response to these comments were provided by email and certified mail on November 14, 2018. Ms. Hess responded by email on November 15, 2018 indicating that her comments have been adequately addressed.

A summary of the comments from October 24th and the responses issued November 14th follow.

Comments:

Please be advised that there have been several changes to the State Guide which are pertinent to your review. The following Elements have been rescinded and no longer need to be checked within project assessments:

- 110, Goals 7 Policies
- 112, Ruse of Surplus Military Lands
- 162, Rivers Policy & Classification Plan
- 621, Policy Statement for …Public transit…
- 711, Blackstone Region Water Resources Management Plan
- 715, CCMP for Narraganset Bay, 912, Howard Center Master Plan

There has been an update to the Element 731, Nonpoint Source Pollution Management Plan. It was replaced with a new Element, *Water Quality 2035*. It was adopted by the State Planning Council on October 13, 2016. This Element is most relevant to your project.

Would you please resubmit your assessment considering the updated information on the State Guide Plan?

Responses:

As indicated in the above comments, several State Guide Plan (SGP) elements have been rescinded and are therefore no longer necessary for review with respect to project assessments. These are as follows:

- Element 110: Goal and Policies for the Development of Rhode Island
- Element 112: Resources Management in the Reuse of Surplus Navy Lands
- Element 162: Rivers Policy and Classification Plan
- Element 621: Policy Statement – Proposals for New or Restructured Public Transit Facilities or Service
- Element 711: Blackstone Region Water Resource Management Plan
- Element 715: Comprehensive Conservation and Management Plan for Narragansett Bay
- Element 912: Howard Center Master Plan

SGP Elements 110, 112, 621, and 912 were not applicable to this project. The comments also indicated that Element 731: Nonpoint Source Pollution Management, was replaced with a new element, Water Quality 2035. Water Quality 2035 updates and replaces former SGP Element 731 as well as SGP Elements 162, 711, and 715.

It was also noted that Water Quality 2035 appears to be the SGP Element most relevant to this project. As such, it was requested that we update our assessment based on the findings of our review of this element. An assessment of how Water Quality 2035 relates to this project follows.

Water Quality 2035

Water Quality 2035 is the State's plan to protect and restore the quality of Rhode Island's water resources. It encompasses freshwater and saltwater surface waters, groundwaters, and wetlands – from inland lakes and streams to Narragansett Bay and coastal salt marshes. Central to this plan is a focus on watersheds as the appropriate basis for management of water resources. It is intended that state agencies will integrate work at the watershed scale and identify ways that such work can align with and support the related activities of municipal, regional, and federal agencies; watershed organizations; and other entities.

The primary goals of Water Quality 2035 are to promote:

- Protection of existing quality of RI's waters and aquatic habitats and prevention of further degradation.
- Restoration of degraded waters and aquatic habitats to a condition that meets their water quality and habitat goals.

The goals and objectives of the Phase III CSO Program, and in turn the environmental benefits that will result by the proposed upgrades to the BPWWTF, help realize the State's goal of protecting existing water quality and preventing further degradation of Rhode Island's waterways. Upgrades are required to the BPWWTF to better treat the increase in flow expected once proposed CSO abatement facilities are constructed. An alternatives evaluation was performed, and the currently preferred alternative of two (2) new secondary clarifiers and a polymer injection system provides the best effluent water quality of all the alternatives considered. The proposed upgrades will also provide more operational flexibility allowing for better treatment of wastewater to meet new RIPDES discharge limits. The Facilities Plan Amendment will present the alternatives evaluated and identify the preferred alternative.

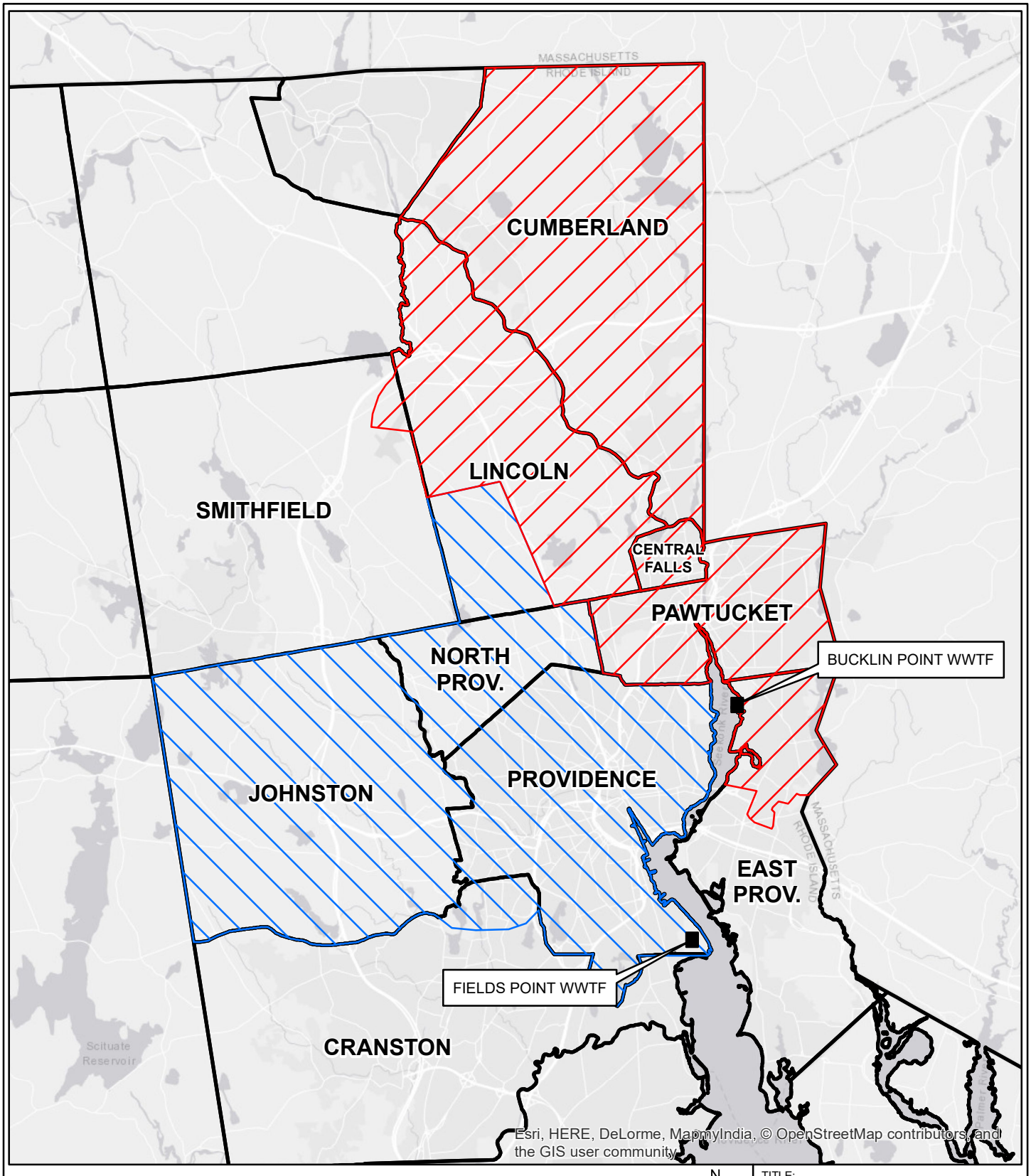
"Wastewater discharges to surface waters and collection sewers" are classified as pollution sources in Water Quality 2035. Combined sewer overflows and effluent discharges from WWTFs are cited as sources of biological and nutrient loading to Rhode Island waters. NBC's CSO Program and their operation of the two largest WWTFs in the State are specifically referenced. Ten policies are identified in Water Quality 2035 with respect to managing possible impacts from WWTF discharges and CSO overflows, several of which relate to NBC's operations. The proposed improvements to the Bucklin Point WWTF, and to a greater extent the Phase III CSO Program as a whole, are consistent with these policies.

Based on our assessment, it appears that the proposed project furthers the State's goals of protecting water quality in Rhode Island and maintains consistency with the policies presented in Water Quality 2035.

6.4 United States Fish and Wildlife Service

In lieu of issuing a letter requesting project review, the US Fish and Wildlife Service (FWS) requires that applicants obtain official species lists from their online Information for Planning and Conservation (IPaC) tool for determination of potential impacts to any federally listed or proposed, threatened, or endangered species and wildlife habitats within the proposed project areas. This was performed for the project area. This has been addressed in Section 4.10 of this EA. Refer to Appendix C for information obtained from the US FWS relative to endangered species and wildlife habitats.

Appendix A
Figures



LEGEND:

- Bucklin Point Service Area
- Fields Point Service Area
- Town Lines

N
W E
S

13,000 6,500 0 13,000 Feet

TITLE:

NBC SERVICE AREAS

PHASE III CSO CONTROL FACILITIES PROGRAM

REFERENCE(S): DATE: DECEMBER 2018

Coordinate System: NAD83 Rhode Island ft
Units: Foot US

Stantec

PARE CORPORATION

FIGURE: **A-1**

LEGEND:

Property Line

N
W E
S

600 300 0 600 Feet

TITLE:

BUCKLIN POINT AERIAL

PHASE III CSO CONTROL FACILITIES PROGRAM

REFERENCE(S): DATE: DECEMBER 2018

Coordinate System: NAD83 Rhode Island ft
Units: Foot US

Stantec

PARE CORPORATION

FIGURE: **A-2**

All land within the current extents have the following geology:
Terrane: Avalon
Subterrane: Esmond-Dedham
Rock Type: Stratified

LEGEND:

Water Use Categories

- Conservation Area
- Multi-Purpose Water
- Industrial Waterfronts and Commercial Navigation Channels

- Property Line
- 200' Contiguous Area
- RIGIS Stream
- RIGIS Wetland

N
W E
S

600 300 0 600 Feet

TITLE:
WETLAND RESOURCES

PHASE III CSO CONTROL FACILITIES PROGRAM

REFERENCE(S):
DATE: DECEMBER 2018
Coordinate System: NAD83 Rhode Island ft
Units: Foot US

Stantec
PARE CORPORATION
FIGURE: **A-3**

LEGEND:

BiB	Bigapple sand, 0 to 8 percent slopes
FtA	Fortress sand, 0 to 3 percent slopes
HkA	Hinckley gravelly sandy loam, 0 to 3 % slopes
HkC	Hinckley gravelly sandy loam, rolling
MU	Merrimac sandy loam, 3 to 8 % slopes
MmB	Merrimac-Urban land complex
UD	Udorthents-Urban land complex
UrS	Urban land, 0 to 3 percent slopes, sandy substratum
W	Walpole sandy loam
Wa	Water
Ws	Water, saline

N
W E
S

600 300 0 600 Feet

TITLE:

SOIL TYPES

PHASE III CSO CONTROL FACILITIES PROGRAM

REFERENCE(S): DATE: DECEMBER 2018

Coordinate System: NAD83 Rhode Island ft
Units: Foot US

Stantec

PARE CORPORATION

FIGURE: **A-4**

LEGEND:

- Property Line
- Phillipsdale Historic District Study Area
- Historic Candidate Site
- Historic Cemetery

N
W E
S

600 300 0 600 Feet

TITLE:

HISTORIC RESOURCES

PHASE III CSO CONTROL FACILITIES PROGRAM

REFERENCE(S):

DATE: DECEMBER 2018

Coordinate System: NAD83 Rhode Island ft
Units: Foot US

Stantec

PARE CORPORATION

FIGURE: **A-5**

Appendix B
FEMA FIRM Maps

National Flood Hazard Layer FIRMette

FEMA

41°51'16.10"N

71°22'27.84"W

71°21'50.39"W

41°50'49.30"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/16/2018 at 9:08:43 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix C
US Fish and Wildlife Reports

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN RHODE ISLAND

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Bristol	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- Unknown, Summer – wide variety of forested habitats	Statewide
Kent	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter-Unknown, Summer – wide variety of forested habitats	Statewide
Newport	Piping Plover	Threatened	Coastal Beaches	Little Compton, Middletown, Tiverton
	Roseate Tern	Endangered	Coastal beaches, islands and the Atlantic Ocean	Newport
	Red knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- Unknown, Summer – wide variety of forested habitats	Statewide
Providence	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Glocester
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- Unknown, Summer – wide variety of forested habitats	Statewide
Washington	Roseate Tern	Endangered	Coastal beaches, islands and the Atlantic Ocean	Westerly
	Piping Plover	Threatened	Coastal Beaches	Narragansett, Charlestown, Westerly, New Shoreham and South Kingstown.
	Red knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal towns
	American burying beetle	Endangered	Upland grassy meadows	New Shoreham
	Sandplain Gerardia	Endangered	Sandplain grasslands	Charlestown, Exeter, Richmond
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter - Unknown, Summer – wide variety of forested habitats	Statewide

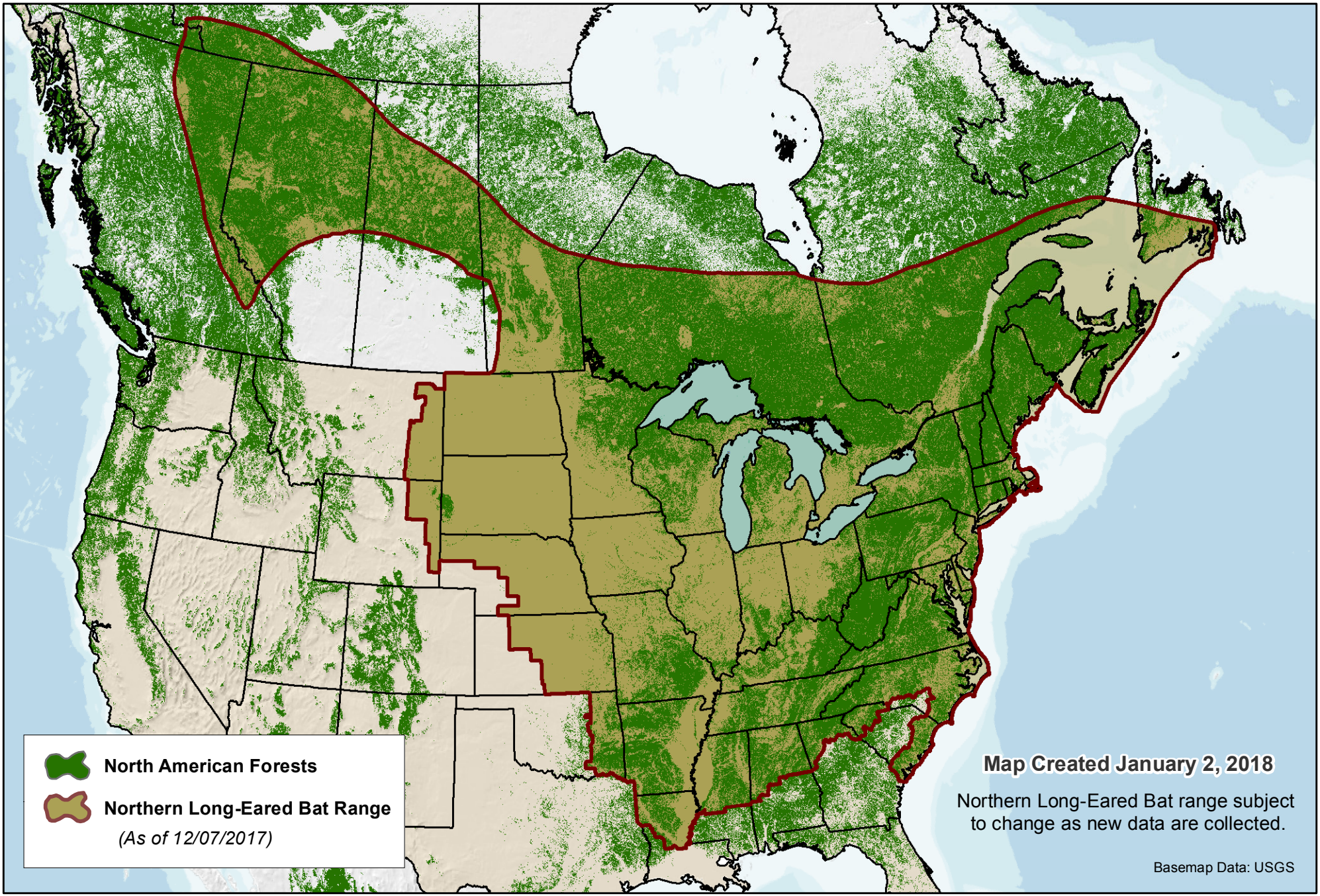
[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar, gray wolf and Northeastern beach tiger beetle are considered extirpated in Rhode Island.

-There is no federally-designated Critical Habitat in Rhode Island.

U.S. Fish & Wildlife Service

Northern Long-Eared Bat Range



U.S. Fish & Wildlife Service

Search ECOS

ECOS **Environmental Conservation Online System**

Conserving the Nature of America

Northern Long-Eared Bat (Myotis septentrionalis)

Range Information | Federal Register | Recovery | Critical Habitat | Conservation Plans | Petitions | Biological Opinions Life History

Taxonomy: View taxonomy in ITIS

Listing Status: Threatened

Where Listed: WHEREVER FOUND

General Information

The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, Myotis, which are actually bats noted for their small ears (Myotis means mouse-eared). The northern long-eared bat is found across much of the eastern and north central United States and all Canadian provinces from the Atlantic coast west to the southern Northwest Territories and eastern British Columbia. The species' range includes 37 states. White-nose syndrome, a fungal disease known to affect bats, is currently the predominant threat to this bat, especially throughout the Northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. Although the disease has not yet spread throughout the northern long-eared bat's entire range (white-nose syndrome is currently found in at least 25 of 37 states where the northern long-eared bat occurs), it continues to spread. Experts expect that where it spreads, it will have the same impact as seen in the Northeast.

The species historical range included Alabama, Arkansas, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, Wyoming. See below for information about where the species is known or believed to occur.

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Threatened	05/04/2015	Great Lakes-Big Rivers Region (Region 3)	Wherever found Additional species information

» Range Informa

Current Range

Wher

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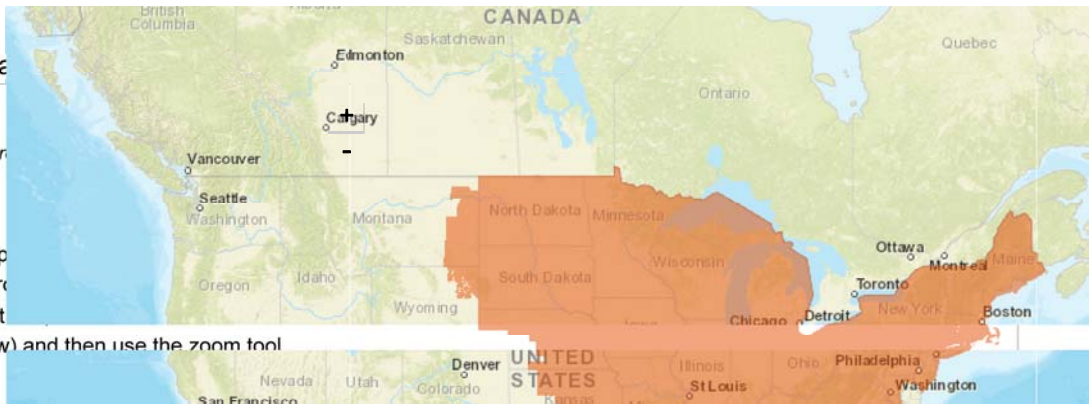
county lists (below) and then use the zoom tool



Want the FWS's current range for all species? Click here to download a zip file containing all individual shapefiles and metadata for all species.

- **Wherever found**

  Listing status: Threatened

  - **States/US Territories** in which this population is known to or is believed to occur: Alabama , Arkansas , Connecticut , Delaware , District of Columbia , Georgia , Illinois , Indiana , Iowa , Kansas , Kentucky , Louisiana , Maine , Maryland , Massachusetts , Michigan , Minnesota , Mississippi , Missouri , Montana , Nebraska , New Hampshire , New Jersey , New York , North Carolina , North Dakota , Ohio , Oklahoma , Pennsylvania , Rhode Island , South Carolina , South Dakota , Tennessee , Vermont , Virginia , West Virginia , Wisconsin , Wyoming
  - **US Counties** in which this population is known to or is believed to occur: View All
  - **USFWS Refuges** in which this population is known to occur: Moosehorn National Wildlife Refuge

» Federal Register Documents

Federal Register Documents

Show 10 entries

Date	Citation Page	Title
06/20/2016	81 FR 39947	Draft Environmental Assessment, Draft Habitat Conservation Plan, and Draft Implemen an Application for an Incidental Take Permit, Wildcat Wind Farm, Madison and Tipton C
04/27/2016	81 FR 24707 24714	Determination That Designation of Critical Habitat Is Not Prudent for the Northern Long determination.
01/14/2016	81 FR 1900 1922	4(d) Rule for the Northern Long-Eared Bat; Final rule
04/02/2015	80 FR 17973 18033	Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule
01/30/2015	80 FR 5079	Listing the Northern Long-Eared Bat With a Rule Under Section 4(d) of the Act; Correct
01/16/2015	80 FR 2371 2378	Listing the Northern Long-Eared Bat With a Rule Under Section 4(d) of the Act
11/18/2014	79 FR 68657 68659	Endangered Species Status for the Northern Long-Eared Bat: Reopening of comment p
06/30/2014	79 FR 36698 36699	6-Month Extension of Final Determination on the Proposed Endangered Status for the I
12/02/2013	78 FR 72058 72059	Listing the Northern Long-Eared Bat as an Endangered Species
10/02/2013	78 FR 61045 61080	12-Month Finding on a Petition To List the Eastern Small-Footed Bat and the Northern I Endangered or Threatened Species; Listing the Northern Long-Eared Bat as an Endan Rule

Showing 1 to 10 of 11 entries ‹ Previous 1 2 Next ›

Special Rule Publications

Show 10 entries

Date	Citation Page	Title
01/14/2016	81 FR 1900 1922	4(d) Rule for the Northern Long-Eared Bat; Final rule
04/02/2015	80 FR 17973 18033	Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule

Showing 1 to 3 of 3 entries ‹ Previous 1 Next ›

» Recovery

- Recovery Plan Information Search
- Information Search FAQs

No recovery information is available for the Northern long-eared Bat.

» Critical Habitat

Show 10 entries

Date	Citation Page	Title	Document Type
04/27/2016	81 FR 24707 24714	Determination That Designation of Critical Habitat Is Not Prudent for the Northern Long-Eared Bat: Critical habitat determination.	Notice of rule correcti rule withdrawal or rule

Showing 1 to 1 of 1 entries ‹ Previous 1 Next ›

To learn more about critical habitat please see http://ecos.fws.gov/crithab

» Conservation Plans

Habitat Conservation Plans (HCP) (learn more)

Show 10 entries

HCP Plan Summaries
Wildcat Wind Farm
Pioneer Trail Wind Farm E.ON
Hoopeston HCP

Showing 1 to 3 of 3 entries ‹ Previous 1 Next ›

» Petitions

Show 10 entries

Showing 1 to 2 of 2 entries

‹ Previous 1 Next ›

» Biological Opinions

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
08/05/2015	Assistant Regional Director-Ecological Services	Southern Region National Forests northern long-eared bat	04E00000-2015-F-0003	Land Management Plans - Forest		Forest Service	Biological Opinion Rendered (Final) _04E00000-2015-E-00008
07/16/2015	Tennessee Ecological Services Field Office	ER# 15/0275 Proposed Broad Run Expansion Project	04ET1000-2015-F-0633	Oil / Gas Pipeline - Onshore - New Constr - Above Ground		Federal Energy Regulatory Commission	Biological Opinion Rendered (Final) _04ET1000-2015-E-01540
12/17/2015	Assistant Regional Director-Ecological Services	Tennessee FO Participation in Conservation MOUs for the Indiana Bat and/or Northern Long-eared Bat	04E00000-2016-F-0001	Land Acquisition - Forest, Land Clearing - Forest, Land Preservation - Forest, Land Restoration / Enhancement - Forest		Fish and Wildlife Service	Biological Opinion Rendered (Final) _04E00000-2016-E-00001
12/22/2015	Kentucky Ecological Services Field Office	Hwy 92 realignment	04EK1000-2016-F-0023	Transport - Road / Hwy - M / M / R / U - Federal		Federal Highway Administration	Biological Opinion Rendered (Final) _04EK1000-2016-E-00440
01/12/2016	Kentucky Ecological Services Field Office	LG&E Trimble County Special Waste Landfill	04EK1000-2015-F-0385	Landfill		Army Corps of Engineers	Biological Opinion Rendered (Final) _04EK1000-2016-E-00442

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
05/15/2015	Arkansas Ecological Services Field Office	Wolf Pen Gap, Wolf Pen Gap BO	04ER1000-2013-F-0735, 04ER1000-2015-F-0598	RECREATION CONSTRUCTION / MAINTENANCE, Recreation - Maint / Mod / Replace / Upgrade		Forest Service	Biological Opinion Rendered (Final) _04ER1000-2015-E-00416
01/29/2016	Arkansas Ecological Services Field Office	Diamond Pipeline Project	04ER1000-2016-F-0255	Oil / Gas Pipeline - Onshore - New Constr - Below Ground		Army Corps of Engineers	Biological Opinion Rendered (Final) _04ER1000-2016-E-00126
02/06/2017	Tennessee Ecological Services Field Office	Forest Management Activities Affecting NLEBs & IN Bats on Region 4 NWRs	04ET1000-2015-F-0653	Fire - Prescribed Burn, FORESTRY, Forestry - Clearing, Forestry - Harvest, Forestry - Pesticide Use, Forestry - Planting / Silviculture, Forestry - Weed Control / Vegetation Management, Land Restoration / Enhancement - Forest		Fish and Wildlife Service	Biological Opinion Rendered (Final) _04ET1000-2017-E-00502

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
01/06/2016	Tennessee Ecological Services Field Office	AEDC (AFMC) Routine Training, Land Mgmt and Elk River Dam Operations	04ET1000-2015-F-0420	Agriculture - Crop Maintenance, Dam - Maint / Mod / Replace / Upgrade - Federal, Development - Government / Military, Fire - Control / Suppression, Fire - Prescribed Burn, Forestry - Clearing, Forestry - Harvest, Forestry - Timber Sale, Forestry - Weed Control / Vegetation Management, Invasive Plant Control, Land Clearing - Other, Land Clearing - Upland, Land Management Plans - Other, Land Restoration / Enhancement - Forest, Military - Maneuvers, Military - Operations, Transport - Airport - Maint / Mod / Replace / Upgrade, Transport - Road / Hwy - M / M / R / U - Federal, Veg Management - Fire - Forest, Veg Management - Mechanical, Veg Management - Pesticide / Chem - Upland, Water Quality Mod - Stormwater Discharge, Water Quality Mod - Stormwater Discharge with NPDES Permit	Coffee (TN), Franklin (TN)	DEPT OF DEFENSE	Biological Opinion Rendered (Final) _04ET1000-2016-E-01566

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
07/27/2017	Kentucky Ecological Services Field Office	USDOJ Federal Bureau of Prisons, Letcher Co. KY	04EK1000-2014-F-0421	** OTHER **		Federal Bureau of Prisons	Biological Opinion Rendered (Final) _04EK1000-2017-E-02279
02/09/2018	Alabama Ecological Services Field Office	GeoSense - Licensing_Demopolis Lock & Dam Hydroelectric -Marengo & Sumter Co AL	43410-2011-F-0682	Power Gen - Hydropower - New License - FERC	Greene (AL)	Federal Energy Regulatory Commission	Biological Opinion Rendered (Final) _04EA1000-2018-E-01229

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
04/12/2018	Tennessee Ecological Services Field Office	Evaluation of Impacts of TVA's Routine Actions on Four Federally Listed Bats	04ET1000-2018-F-0017	Development - Government / Municipal, Fire - Prescribed Burn, Forestry - Clearing, Forestry - Harvest, Forestry - Pesticide Use, Forestry - Planting / Silviculture, Forestry - Weed Control / Vegetation Management, Invasive Plant Control, Land Clearing - Forest, Land Creation - Forest, Land Easement / Right-of-Way - Forest, Land Easement / Right-of-Way - Other, Land Restoration / Enhancement - Forest, Power Gen - Coal, Power Gen - Natural Gas, Power Gen - Nuclear, Recreation - Maint / Mod / Replace / Upgrade, Recreation - New Construction, Stream Preservation, Transmission Line - Electrical - M / M / R / U - Above Ground, Transmission Line - Electrical - New Constr - Above Ground, Transport - Road / Hwy - M / M / R / U - Federal, Transport - Road / Hwy - New Constr - Federal, Veg Management - Fire, Veg Management - Fire		Tennessee Valley Authority (Federal Government)	Biological Opinion Rendered (Final) _04ET1000-2018-E-01049

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
				- Forest, Veg Management - Fire - Grassland, Veg Management - Fire - Invasives, Veg Management - Mechanical - Forest, Veg Management - Mechanical - Grassland, Veg Management - Mechanical - Invasives, Veg Management - Pesticide / Chem - Forest, Veg Management - Pesticide / Chem - Grassland, Veg Management - Pesticide / Chem - Invasives			

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
04/12/2018	Tennessee Ecological Services Field Office	Evaluation of Impacts of TVA's Routine Actions on Four Federally Listed Bats	04ET1000-2018-F-0017	Development - Government / Municipal, Fire - Prescribed Burn, Forestry - Clearing, Forestry - Harvest, Forestry - Pesticide Use, Forestry - Planting / Silviculture, Forestry - Weed Control / Vegetation Management, Invasive Plant Control, Land Clearing - Forest, Land Creation - Forest, Land Easement / Right-of-Way - Forest, Land Easement / Right-of-Way - Other, Land Restoration / Enhancement - Forest, Power Gen - Coal, Power Gen - Natural Gas, Power Gen - Nuclear, Recreation - Maint / Mod / Replace / Upgrade, Recreation - New Construction, Stream Preservation, Transmission Line - Electrical - M / M / R / U - Above Ground, Transmission Line - Electrical - New Constr - Above Ground, Transport - Road / Hwy - M / M / R / U - Federal, Transport - Road / Hwy - New Constr - Federal, Veg Management - Fire, Veg Management - Fire		Tennessee Valley Authority (Federal Government)	Biological Opinion Rendered (Final) _04ET1000-2018-E-01049

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
				- Forest, Veg Management - Fire - Grassland, Veg Management - Fire - Invasives, Veg Management - Mechanical - Forest, Veg Management - Mechanical - Grassland, Veg Management - Mechanical - Invasives, Veg Management - Pesticide / Chem - Forest, Veg Management - Pesticide / Chem - Grassland, Veg Management - Pesticide / Chem - Invasives			
10/15/2018	Kentucky Ecological Services Field Office	Fort Knox INRMP	04EK1000-2018-F-0797	MILITARY OPERATIONS / MANEUVERS	Bullitt (KY), Hardin (KY), Meade (KY)	Department of Defense (DOD) - Army	Biological Opinion Rendered (Final) _04EK1000-2019-E-00099
11/29/2018	Kentucky Ecological Services Field Office	CVG Amazon Development	04EK1000-2017-F-0412	DEVELOPMENT	Boone (KY)	Federal Aviation Administration	Biological Opinion Rendered (Final) _04EK1000-2019-E-00577
05/20/2016	Assistant Director-Ecological Services	Programmatic BO for Transportation Projects in the Range of the Ibat and NLEB	09E00000-2016-F-0001	Transport - Railroad - Maint / Mod / Replace / Upgrade, Transport - Road / Hwy - M / M / R / U - Federal		Federal Highway Administration	Biological Opinion Rendered (Final) _09E00000-2016-E-00002
02/05/2018	Assistant Director-Ecological Services	Programmatic BO for Transportation Projects in the Range of the Ibat and NLEB	09E00000-2016-F-0001	Transport - Railroad - Maint / Mod / Replace / Upgrade, Transport - Road / Hwy - M / M / R / U - Federal		Federal Highway Administration	Biological Opinion Rendered (Amendment) _09E00000-2018-E-00121

BO date	Lead Office	Title	Activity Code	Project Type	Location	Lead Agency	Document
05/11/2017	Arkansas Ecological Services Field Office	USFS_Mena Ogden Dist_West Chula Project_AR	04ER1000-2017-F-0239	Forestry - Clearing, Forestry - Harvest, Forestry - Pesticide Use, Forestry - Planting / Silviculture, Forestry - Timber Sale, Invasive Plant Control, Stream Restoration / Enhancement, Veg Management - Fire	Montgomery (AR), Yell (AR)	Forest Service	Biological Opinion Rendered (Final) _04ER1000-2017-E-02028
11/20/2018	South Carolina Ecological Services	P/N 2016-00756, Peter Lawson, Berkeley County, SC	04ES1000-2018-F-0954	Development - Residential	Berkeley (SC)	Army Corps of Engineers	Biological Opinion Rendered (Final) _04ES1000-2019-E-00244
05/24/2018	West Virginia Ecological Services Field Office	Threedubs CF - Grizzel Alternative 1	05E2WV00-2018-F-0246	OIL OR GAS	Brooke (WV)	Army Corps of Engineers	Biological Opinion Rendered (Final) _05E2WV00-2018-E-02662

To see all Issued Biological Opinions please visit the report .

» Life History

Habitat Requirements

During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on suitability to retain bark or provide cavities or crevices. It has also been found, rarely, roosting in structures like barns and sheds. Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They typically use large caves or mines with large passages and entrances; constant temperatures; and high humidity with no air currents. Specific areas where they hibernate have very high humidity, so much so that droplets of water are often seen on their fur. Within hibernacula, surveyors find them in small crevices or cracks, often with only the nose and ears visible.

Food Habits

Northern long-eared bats emerge at dusk to fly through the understory of forested hillsides and ridges feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation. This bat also feeds by gleaning motionless insects from vegetation and water surfaces.

Reproductive Strategy

Breeding begins in late summer or early fall when males begin swarming near hibernacula. After copulation, females store sperm during hibernation until spring, when they emerge from their hibernacula, ovulate, and the stored sperm fertilizes an egg. This strategy is called delayed fertilization. After fertilization, pregnant females migrate to summer areas where they roost in small colonies and give birth to a single pup. Maternity colonies, with young, generally have 30 to 60 bats, although larger maternity colonies have been observed. Most females within a maternity colony give birth around the same time, which may occur from late May or early June to late July, depending where the colony is located within the species' range. Young bats start flying by 18 to 21 days after birth. Adult northern long-eared bats can live up to 19 years.

» Other Resources

NatureServe Explorer Species Reports -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communtities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

ITIS Reports -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

FWS Digital Media Library -- The U.S. Fish and Wildlife Service's National Digital Library is a searchable collection of selected images, historical artifacts, audio clips, publications, and video.

Appendix D

Programmatic Agreement (NBC and RI Historic Preservation and Heritage Commission

The Narragansett Bay Commission
One Service Road
Providence, Rhode Island 02905

401 • 461 • 8848
401 • 461 • 6540 FAX
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http://www.narrabay.com

Vincent J. Mesolella
Chairman

Paul Pinault, P.E.
Executive Director

April 1, 2003

Don L. Klima, Director
Eastern Office of Review
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue NW
Washington, D.C. 20004

Re: Narragansett Bay Commission
Combined Sewer Overflow Control Facilities Program
Programmatic Agreement

Dear Mr. Klima:

Please find enclosed a copy of the executed Programmatic Agreement between the Narragansett Bay Commission (NBC) and the Rhode Island State Historic Preservation Office (SHPO) for the NBC Combined Sewer Overflow Control Facilities Program in Rhode Island. This Agreement was prepared in compliance with Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) and as provided for in 36 CFR 800.14(b)(1)(ii).

By letter of July 23, 2002, in accordance with 36 CFR 800.6(a)(1)(C), the Bay Commission notified the Council of its finding that the undertaking may have an adverse effect on historic properties, including properties yet to be identified, and invited the Council to participate in development of a Programmatic Agreement. Since the Council did not express in writing its intention to participate in the consultations, the Bay Commission proceeded to develop the Agreement in consultation with the SHPO. By letter of September 11, 2002, the Bay Commission forwarded a draft Agreement to the SHPO for review and comment and to the Narragansett Indian Tribe in the event that the Tribe wished to be a party to the consultation. The Bay Commission received no comment or other communication from the Tribe concerning the proposed Agreement and therefore concluded that the Tribe did not wish to participate. Please note also that the Rhode Island Department of Transportation declined to concur in the Agreement on the grounds that it had no legal responsibilities with reference to the undertaking.

Don L. Klima, Director
April 1, 2003

The Bay Commission understands that submission of this executed Agreement to the Council concludes the Section 106 process for this undertaking. If you have any questions, please contact Joe Pratt at (401) 521-5980.

Sincerely,

THE NARRAGANSETT BAY COMMISSION

Thomas Brueckner

Thomas G. Brueckner, P.E.
Engineering Manager

cc: E. Sanderson/RIHPHC
J. Pratt/LBG
M. Powers/LBG

PROGRAMMATIC AGREEMENT
BETWEEN
THE NARRAGANSETT BAY COMMISSION
AND
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICE
REGARDING
THE COMBINED SEWER OVERFLOW FACILITIES PROJECT
Providence, Rhode Island

Submitted to the Advisory Council on Historic Preservation
pursuant to 36 CFR 800, Sections 6(b)(iv) and 14(b)(ii)

WHEREAS, the Narragansett Bay Commission (Bay Commission), an agency created by the State of Rhode Island in 1982, proposes to improve water quality in Narragansett Bay by building facilities to capture combined stormwater and wastewater during periods of high precipitation and runoff, storing it until it can be properly treated and released into the bay (CSO Facilities); and

WHEREAS, the Bay Commission will finance its construction of the CSO Facilities through a loan from the Rhode Island Clean Water Finance Agency (CWFA) which administers the State Revolving Fund (SRF); and

WHEREAS, the SRF includes capitalization grants provided to the State of Rhode Island by the U.S. Environmental Protection Agency (EPA) under Title VI of the Federal Water Pollution Control Act (33 USC Section 1251 et seq.)(Clean Water Act); and

WHEREAS, the Rhode Island Department of Environmental Management (RIDEM) must issue a Certificate of Approval for any project being proposed pursuant to the requirements of Section 201 of the Clean Water Act in order for an applicant to receive an SRF loan; and

WHEREAS, the Bay Commission has certified in writing that it will comply with the National Historic Preservation Act as a condition of receiving federal funds through the SRF and is therefore, pursuant to 36 CFR 800.2, serving as the Agency Official in this Agreement; and

WHEREAS, the Bay Commission has determined that Phase I of the Undertaking may have adverse effects on the former Rhode Island Department of Transportation (RIDOT) Headquarters and Garage (RIDOT Garage) at 30 Arline Street which is eligible for listing in the National Register of Historic Places; and

WHEREAS, the Bay Commission has determined that Phase I of the Undertaking may also have adverse effects on prehistoric and historical archaeological resources yet to be identified at the proposed location of Outfall 032 (Charles Street); and

WHEREAS, the Bay Commission has determined that Phases II and III of the CSO Program may

also have adverse effects on archaeological or historical resources at locations yet to be selected for Outfalls 213, 210, Seekonk Interceptor, Woonasquatucket Interceptor, 219/220 Interceptor and proposed Sewer Separations in Providence and Pawtucket; and

WHEREAS, The Bay Commission has consulted with the SHPO, and with the Narragansett Indian Tribe and Waterfire Providence in accordance with 36 CFR 800.6 to resolve the adverse effects of the Undertaking on historic properties; and

WHEREAS, the Rhode Island Department of Transportation has participated in the consultation and has been invited to concur in this Agreement;

NOW, THEREFORE, the Bay Commission and the SHPO agree that the Bay Commission will ensure that the following stipulations are implemented in order to take into account the effects of the Undertaking on historic properties, and that these stipulations shall govern the Undertaking and all of its parts until this Agreement expires or is terminated.

STIPULATIONS

The Bay Commission will ensure that the following measures are implemented:

I. FORMER RIDOT HEADQUARTERS AND GARAGE

A. Protection

1. The Bay Commission shall ensure that the former RIDOT Headquarters and Garage at 30 Arline Street is protected against damage during the Bay Commission's use of the surrounding site for purposes of constructing the Foundry Shaft.

2. After completion of the Foundry Shaft, the Bay Commission shall ensure the historic property is protected against damage until treatment measures agreed upon with the SHPO (see Stipulation I.B below) have been properly executed.

B. Marketing and Disposal

1. In consultation with the SHPO, and consistent with applicable laws governing disposal of State property in Rhode Island, the Bay Commission shall prepare and implement a marketing plan for the former RIDOT Headquarters and Garage. The plan shall include the following elements:

   An information package about the building containing notification that the purchaser will be

required to convey an historic preservation easement on the building (a copy of which is found at Appendix A to this Agreement) to the Rhode Island Historic Preservation and Heritage Commission;

- A distribution list of potential purchasers or transferees;
- An advertising plan and schedule;
- A schedule for receiving and reviewing offers.

2. The Bay Commission shall employ the results of this marketing effort in its decision regarding the ultimate disposal of the former RIDOT Headquarters and Garage. The Bay Commission shall make this decision, including identification of measures to minimize or mitigate any adverse effects arising from disposal, in consultation with the SHPO.

II. OUTFALL 032

A. Prior to initiation of any construction-related ground disturbing activities, the Bay Commission will undertake a program to determine the presence or absence of soil levels associated with pre-colonial Native American settlement, and of any potentially significant archaeological deposits associated with the Town Work House. This program, developed in consultation with the SHPO, may include continuous soil borings and/or machine trenching. The Bay Commission will prepare and submit reports of the results to the SHPO and the Narragansett Indian Tribe. As necessary, based on the report findings and consultations with the SHPO, the Bay Commission will complete identification of historic properties in accordance with 36 CFR 800.4. In the event that historic properties are identified, the Bay Commission will consult with the SHPO and Narragansett Indian Tribe to resolve any adverse effects.

III. CSO FACILITIES, PHASE II AND PHASE III

A. In consultation with the SHPO, the Bay Commission will complete any studies required to identify historic properties that may be affected by construction in Phases II and III of Outfalls 213 and 210, Seekonk Interceptor, Woonasquatucket Interceptor, 219/220 Interceptor and proposed Sewer Separations in Providence and Pawtucket, in accordance with 36 CFR 800.4. In the event that historic properties are identified, the Bay Commission will consult with the SHPO, Narragansett Indian Tribe, and other consulting parties, as appropriate, to resolve any adverse effects.

IV. REVIEW AND COMMENT PERIODS

Unless otherwise specified in this Agreement, the SHPO and other consulting parties shall have thirty (30) calendar days from receipt to provide written comment on any reports, letters or other written communications prepared by the Bay Commission in its execution of this Agreement.

V. TECHNICAL REPORTING

All reports of archaeological investigations conducted under Stipulations II and III shall be prepared in accordance with the Rhode Island Historical Preservation and Heritage Commission's *Performance Standards and Guidelines for Archaeological Projects*.

VI. PROFESSIONAL QUALIFICATIONS

A. All archaeological investigations conducted pursuant to this Agreement shall be accomplished by or under the supervision of an individual or individuals meeting the standards for archaeologist set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (NPS 1983:44738-9).

B. All studies involving identification, evaluation and treatment of historic buildings and structures conducted pursuant to this Agreement shall be accomplished by or under the supervision of an individual or individuals meeting the standards for historian, architectural historian, or other professional as appropriate for the work, set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (NPS 1983:44738-9).

VII. ANNUAL REPORTING

A. On or before January 1of each year until the Bay Commission and the SHPO agree in writing that the terms of this Agreement have been fulfilled, the Bay Commission shall prepare and provide an annual report to the SHPO and Narragansett Indian Tribe addressing the following topics:

1. Progress in completing Stipulations I through III;
2. Any problems or unexpected issues encountered during the year;
3. Anticipated schedule for planning and design work over the coming year;
4. Any changes that Bay Commission believes should be made in implementation of this agreement.

B. The Bay Commission shall ensure that its annual report is made available for public inspection, that potentially interested members of the public are made aware of its availability, and that

interested members of the public are invited to provide comments to the SHPO and Narragansett Indian Tribe as well as to the Bay Commission.

VIII. DISPUTE RESOLUTION

A. Should any party to this agreement object in writing to the Bay Commission regarding any action carried out or proposed with respect to the undertaking or implementation of this agreement, the Bay Commission shall consult with the objecting party to resolve the objection. If after initiating such consultation the Bay Commission determines that the objection cannot be resolved through consultation, the Bay Commission shall forward all documentation relevant to the objection to the Advisory Council on Historic Preservation (Council), including the Bay Commission's proposed response to the objection. Within 30 days after receipt of all pertinent documentation, the Council shall exercise one of the following options:

1.The Council will consult with the objecting party, and with other parties as appropriate, to resolve the objection.

2 Provide the Bay Commission with recommendations, which the Bay Commission shall take into account in reaching a final decision regarding its response to the objection; or

3.. Notify the Bay Commission that the objection will be referred for comment pursuant to 36 CFR 800.7(a)(4), and proceed to refer the objection and comment. The Bay Commission shall take the resulting comment into account in accordance with 36 CFR 800.7(c)(4) and Section 110(l) of NHPA.

B. Should the Council not exercise one of the above options within 30 days after receipt of all pertinent documentation, the Bay Commission may assume the Council's concurrence in its proposed response to the objection.

C. The Bay Commission shall take into account any Council recommendation or comment provided in accordance with this stipulation with reference only to the subject of the objection; the Bay Commission's responsibility to carry out all actions under this agreement that are not the subjects of the objection shall remain unchanged.

IX. AMENDMENT AND TERMINATION

A. Any of the signatories to this Agreement may request that this Agreement be amended, whereupon these parties will consult in accordance with 36 C.F.R. Section 800.6(c)(7) .

B. Any of the signatories to this Agreement may terminate this Agreement by providing 30 days written notice to all consulting parties, provided that the signatories consult during the 30-day notice period in order to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the Bay Commission will comply with 36 C.F.R. Sections 800.3 through 800.7(c)(3), with regard to individual actions covered by this Agreement.

Execution of this Agreement by the Bay Commission and the SHPO, and its submission to the Council in accordance with 36 CFR 800.6(b)(1)(iv) shall pursuant to 36 CFR 800.6, be considered to be an Agreement with the Council for the purposes of Section 110(1) of NHPA. Execution and submission of this Agreement, and implementation of its terms, evidence that the Bay Commission has afforded the Council an opportunity to comment on the Undertaking and its effects on historic properties, and that the Bay Commission has taken into account the effects of the Undertaking on historic properties.

Signed:

NARRAGANSETT BAY COMMISSION

By: Paul Pisanto Date: 2/21/03

RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER

By: Edward Sanderson Date: 3/3/03

Concur:

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

By:_____ Date:_____

ACCEPTED FOR THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

By:_____ Date:_____

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

HISTORICAL PRESERVATION COMMISSION

HISTORICAL EASEMENT

THIS HISTORIC PRESERVATION EASEMENT is made this_____day of_____by and between meaning and intending to include therein their successors and assigns (hereinafter Grantor), and the STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS through its Historical Preservation & Heritage Commission (hereinafter sometimes called Grantee).

W I T N E S S E T H :

WHEREAS the Grantor is the owner of land in fee simple, and holds title under the document recorded with the land evidence records of the Town/City of _____ as recorded in Book_____, Page _____, which instrument is not violated by this conveyance, which land (hereinafter "land") is described in Exhibit "A" attached hereto which land is improved with historic structure(s) (said structure sometimes hereinafter called the building), more fully described in Exhibit "B" attached hereto (said land and structures together being hereinafter called the "Premises") which premises have been registered on the National Register of Historic Places by the United States Department of the Interior;

WHEREAS the State of Rhode Island, through its Historical Preservation and Heritage Commission, is presently responsible for precluding any activity at the premises which would destroy or impair the value of the premises as a registered place on the National Register of Historic Places; and

WHEREAS the Grantor is willing to grant to the State of Rhode Island the easement as hereinafter expressed for the purpose of insuring that the value of the premises for such purpose will not be destroyed or impaired;

NOW, THEREFORE, in consideration of the sum of One Dollar, and other valuable consideration paid to the Grantor, the receipt whereof is hereby acknowledged, and Grantor does hereby give, grant, bargain, sell, and convey unto the State of Rhode Island and Providence Plantations an easement in the following described premises of the Grantor, of the nature and character and to the extent hereinafter expressed as a covenant running with the land, to be binding upon the parties hereto and their respective successors and assigns, and to that end and for the purpose of accomplishing the intent of the parties hereto to preserve,

protect, and maintain the value of the premises of the Grantor as a registered place on the State Register of Historic Places, the Grantor does hereby covenant on behalf of itself, its successors and assigns, with the Grantee, its successors and assigns, to refrain from doing, and to permit the Grantee to do upon the premises of the Grantor, the various acts hereinafter mentioned.

THE EASEMENTS AND RESTRICTIONS shall be effective in perpetuity (or for a term of ____ years).

and are as follows:

A. Grantor's Covenants. In furtherance of the Preservation Easement herein granted, Grantor covenants:

1. Review Without the written permission of Grantee, executed by a duly authorized officer under its corporate seal, which written permission or refusal to grant such permission, including a statement of reasons for refusal, shall be delivered to Grantor by Grantee within thirty (30) days of receipt of Grantor's written request for such approval, there shall be:
   a. no demolition or partial demolition or removal of any building or structure located on the real property except in connection with interior renovation and exterior alterations described in Exhibit "C"
   b. no change in the facade or to the landscape features and improvements or interior portions that are being protected, as set forth in Exhibit "B" subject to the Preservation Easement, including no alteration, partial removal, construction, remodeling or physical or structural change, or change in color or surfacing with respect to the appearance or construction of the facade or the landscape features and improvements or interior portions, except as described in Exhibit "C"
   c. no addition of signs or addition to the facade including fences, or awnings except as described in Exhibit "C"
   d. no expansion of the building either horizontally or vertically except as described in Exhibit "C"
   e. no construction of additional building's on the premises, except as described in Exhibit "C"
   f. no significant alteration of the topography, except as may be required by good husbandry.
2. Specification of Materials. Grantor covenants that Grantee in providing its written authorizations for work may specify all materials, methods, cleaning substances and colors to be used in any such work, provided, nevertheless, that repair or replacement of surface

materials will be with materials of the same or similar texture and quality as currently existing and reasonably available.

3. Casualty Damage. In the event of casualty damage, no repairs or reconstruction of any type, other than temporary emergency work to prevent further damage to the real property and to protect public safety, shall be undertaken by Grantor without the prior written approval of the work by Grantee (which written approval shall be given as provided in paragraph (2) above).

4. Inspection. Grantor covenants that representatives of Grantee shall be permitted to inspect the building at reasonable times upon reasonable notice for the purpose of determining conformance to this Preservation Easement.

5. Insurance. Grantor covenants that it will maintain in force standard property and liability insurance policies. The property insurance policy shall be adequate to provide for reconstruction of the building and the liability policy shall provide coverage in the amount of at least One Million Dollars ($1,000,000). The liability policy shall name the Grantee as a named additional insured. The amount of property and liability insurance maintained by Grantor shall be adjustable, upon the request of Grantee, to reflect proportionate increases in the cost of construction and the cost of living, respectively, provided that such a request may not be made more frequently than once every three (3) years.

6. Real Estate Taxes. The Grantor shall promptly pay all real estate taxes assessed and levied against the building on or prior to the due date, regardless of the status of protests or appeals.

7. Public View. Grantor agrees not to obstruct the substantial and regular opportunity of the public to view the exterior architectural features of any building, structure, or improvements of the premises from adjacent publicly accessible areas such as public streets. Grantor shall make the premises accessible to the public from time to time and by appointment to permit persons affiliated with educational organizations, professional architectural associations and historical societies to study the property. Any such public admission may be subject to restrictions, mutually agreed upon as reasonably designed for the protection and maintenance of the property. Such admission may be subject to a reasonable fee, if any, as may be approved by the Grantee.

8. Publication. The Grantee may make photographs, drawings or other representations documenting the significant historical, cultural, or architectural character and features of the property and distribute them to magazines, newsletters, or other publicly available publications, or

use them in any of its efforts or activities for the preservation and conservation of Rhode Island's heritage.

9. Indemnity. The Grantor covenants that it shall indemnify and hold Grantee harmless for any liability, costs, attorney's fees, judgments or expenses to the Grantee or any officer, employee, agent or independent contractor of the Grantee resulting from actions or claims of any nature by third parties arising from defaults under this Preservation Easement by the Grantor, or arising out of the conveyance of, possession of, or exercise of rights under this Preservation Easement, excepting any such matters arising solely from the negligence of the Grantee.

B. Grantee's Remedies. In the event of a violation of any provision of this Preservation Easement, in addition to any remedies now or hereafter provided by law, (i) Grantee may, following reasonable notice to Grantor, institute a suit for injunctive relief, specific performance or damages, or (ii) representatives of Grantee may enter upon the real property to correct any such violation, and hold Grantor and Grantor's successors, heirs and assigns in title responsible for the cost thereof, and such cost, until repaid, shall constitute a lien on the real property. In the event Grantor is adjudicated to have violated any of Grantor's obligations herein, Grantor shall reimburse Grantee for any costs or expenses incurred in connection with the enforcement of its rights, including court costs and attorney's fees. The exercise by Grantee of one remedy hereunder shall not have the effect of waiving any other remedy, and the failure to exercise any remedy shall not have the effect of waiving the use of such remedy at any other time.

C. Standards for Review. In exercising any authority created by the Easement to inspect the premises, the buildings, or the facades; to review any construction, alteration, repair or maintenance; or to review casualty damage or to reconstruct or approve reconstruction of the buildings following casualty damage, Grantee shall apply the Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, issued and as may be amended from time to time by the Secretary of the United States Department of the Interior. In the event that the Standards are abandoned or materially altered or otherwise become, in the sole judgment of the Grantee, inappropriate for the purposes set forth above, the Grantee may apply reasonable alternative standards, and notify the Grantor of the substituted standards.

D. Assignability. Grantor agrees that Grantee may, in its discretion, and without prior notice to Grantor, convey and assign this Preservation Easement to any agency of the State of Rhode Island, to a unit of local government, or not-for-profit corporation or trust provided that the mandated purpose of such assignee includes the preservation of properties of

historical, architectural, or cultural significance. Such conveyance, assignment, or transfer shall require that the preservation and conservation purposes for which the Easement was granted will continue to be carried out.

E. Duration. This Preservation Easement shall be effective for a period of ____ years. Grantor and Grantee hereby recognize that an unexpected change in the conditions surrounding the premises may make impossible the continued ownership or use of the premises for preservation and conservation purposes and necessitate extinguishment of the Easement. Such a change in conditions includes, but is not limited to, partial or total destruction of the building resulting from a casualty of such magnitude that in the opinion of Grantee the building and premises have lost their historical and architectural significance, or condemnation or loss of title through an eminent domain proceeding. Grantor agrees that this Easement shall not be released to the Grantor or its successors or assigns without the consent of the Grantee, which consent shall be appended to such release.

F. Runs with the Land. The obligations imposed by this Preservation Easement shall be deemed to run as a binding servitude with the land. This instrument shall extend to and be binding upon Grantor and all persons hereafter claiming under or through Grantor, and the word "Grantor" when used herein shall include all persons. Anything contained herein to the contrary notwithstanding, a person shall have no obligations pursuant to this instrument after such person shall cease to have any interest in the Premises by reasons of a bona fide transfer for full value.

G. Statutory Authority. This instrument is valid in Rhode Island by virtue of the enactment of Chapter 39 of title 34 of the General Laws of Rhode Island, but the invalidity of such Act or any part thereof shall not effect the validity and enforceability of this instrument according to its terms, it being the intent of the parties that this instrument constitutes a charitable trust, a preservation restriction, a common law easement in gross and a restrictive covenant.

H. Notices. Any notice called for herein shall be in writing and shall be mailed postage prepaid by registered or certified mail with return receipt requested, or hand delivered and receipted. If to Grantor, then at _____ and if to Grantee, then at the Rhode Island Historical Preservation and Heritage Commission, 150 Benefit Street, Providence, Rhode Island. Each party may change its address set forth herein by a notice to such effect to the other party. The failure to service a change of address notice shall not waive the notice requirement.

I. Compliance with Applicable Ordinances. To the extent this easement permits future development of the Premises, such development shall conform with appropriate local, state or

federal standards for construction or rehabilitation. Furthermore, nothing contained herein shall be interpreted to authorize or permit Grantor to violate any ordinance relating to building materials, construction methods or use. In the event of any conflict between such ordinance and the terms hereof, the ordinance shall prevail and the Grantor promptly shall notify the Grantee of such conflict and shall cooperate with Grantee and the Town of _____ and the State of Rhode Island or other appropriate authority to accommodate the purposes of both this instrument and such ordinance.

1. A copy of this Preservation Easement shall be recorded with the City Recorder of Deeds and copies shall be furnished by the Grantor to the Rhode Island Historical Preservation and Heritage Commission.
2. The Grantee shall have the right to install a plaque of suitable design at a point easily visible by the public, from a public way, which plaque shall name the architect, the date of construction and state that the facade is subject to a Preservation Easement held by the Rhode Island Historical Preservation and Heritage Commission.
3. The Grantor acknowledges that the subject matter of this conveyance is a historic preservation restriction which can no longer be transferred, hypothecated or subordinated to liens or encumbrances by the Grantor except as regards to condemnation awards or insurance proceeds.
4. For purposes of furthering the preservation of the premises and buildings and of furthering the other purposes of this Easement, and to meet changing conditions, Grantor and Grantee are free to amend jointly the terms of this instrument in writing, without notice to any party. Such amendment shall become effective upon recording among the land records of the City or Town.

IN WITNESS THEREOF, on the date first shown above, Grantor has caused this Preservation Easement to be executed, sealed and delivered by its

ATTEST GRANTOR:

Accepted by Grantee, Rhode Island Historical Preservation and Heritage Commission, pursuant to Chapter 39, Conservation and Preservation Restriction on Real Property, this day of , 19 .

By _____
Edward F. Sanderson, Executive Director
Rhode Island Historical Preservation
and Heritage Commission

ATTEST:

_____

State of Rhode Island

Town/City of

I, the undersigned, a Notary Public in and for said Town/City, in the State aforesaid, do hereby certify that personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that is duly authorized, signed, sealed and delivered the said instrument as his/her own free and voluntary act, for the uses and purposes therein set forth.

Given my hand and official seal, this day of 19 .

_____

Notary Public

My commission expires;

_____

State of Rhode Island)
) SS
City of Providence)

I, the undersigned, Notary Public, appointed in the City of for the State of Rhode Island, do hereby certify that Edward F. Sanderson, personally known to me to be the same person whose name is, as Executive Director of the Rhode Island Historical Preservation and Heritage Commission, a not-for-profit corporation of the State of Rhode Island, subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that he is duly authorized, signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of the corporation and as his own free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this day of , 19 .

_____

Notary Public

My commission expires;

_____

Appendix E

Public Presentation Materials and Review Comments

Phase III CSO Control Facilities Program

Bucklin Point WWTF Upgrades



Facilities Plan Amendment
Environmental Assessment

Public Meeting

October 25, 2018
10:00 AM

Stantec

PARE CORPORATION

The Narragansett Bay Commission

Presenters

Narragansett Bay Commission
Kathryn Kelly, P.E. – Project Manager/ Principal Environmental Engineer

Stantec
David Van Hoven, P.E. – Project Manager/ Task Lead

Pare Corporation
Brandon Blanchard, P.E. – Deputy Program Manager

Bucklin Point Wastewater Treatment Facility

- Bucklin Point Wastewater Treatment Facility (BPWWTF) is located off Campbell Avenue in East Providence
- Serves NBC's Bucklin Point Service Area
- 46 MGD Secondary Treatment; 116 MGD Primary Treatment Capacity
- Average daily flow capacity: 23.7 MGD

2009 Facilities Plan Amendment

- Facilities plan last amended in 2009
- New RIPDES discharge permit issued June 2005
  - Seasonal limits for total nitrogen – 5 mg/L
- Modifications made to meet more stringent nitrogen discharge limits
- Implementation plan recommended:
  - Upgrades to enable BPWWTF to comply with average monthly effluent discharge limit
  - Provide operational efficiency
  - Resolve maintenance problems

Improvements to BPWWTF Since 2009

- Modifications for improved nitrogen removal
- Dry-weather primary clarification system
- Dry-weather flow distribution improvements
- Aeration improvements (scum removal system)
- Secondary clarifier improvements
- Disinfection improvements
- Miscellaneous improvements
  - Solids processing, plant water, wet-weather tank return pumping
  - Instrumentation and electrical upgrades
  - Staffing

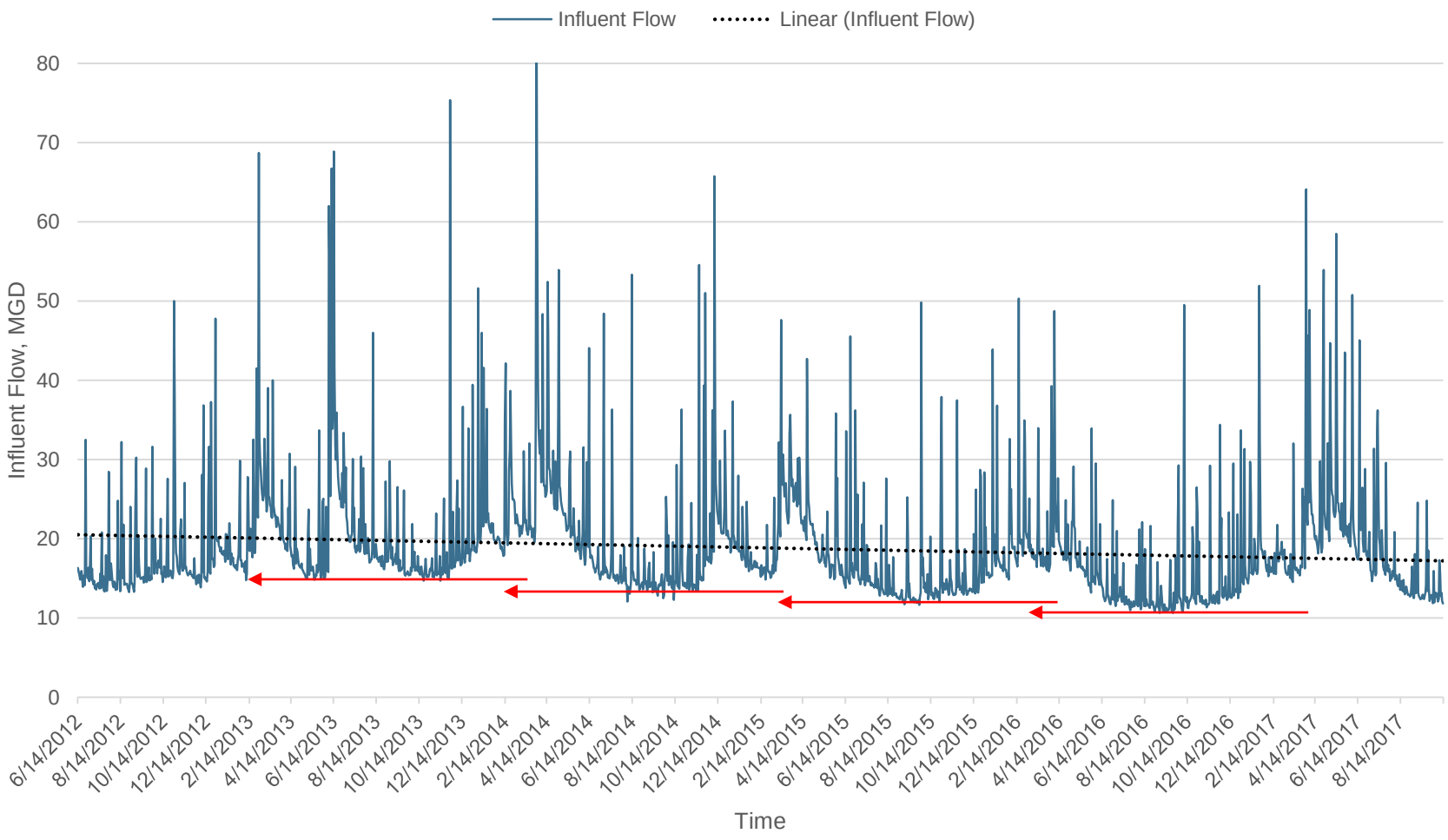
2018 FP Amendment - Purpose and Need

- BPWWTF potential deficiencies include:
  - Evidence of stress
  - Sludge blanket depth will increase/effluent quality will decrease
  - Decrease in MLSS temperature
- Increased wet-weather flow to BPWWTF from Pawtucket Tunnel and Tunnel Pump Station
- New RIPDES Permit:
  - Issued December 1, 2017
  - Seasonal 5 mg/L Nitrogen Limit

Current Effluent Limits

Parameter	Monthly Limit (mg/L)	Weekly Limit (mg/L)	Daily Limit (mg/L)
TSS (Nov 1 – Apr 30)	30	45	50
TSS (May 1 – Oct 31)	20	20	45
$CBOD_5$ (Nov 1 – Apr 30)	25	40	45
$CBOD_5$ (May 1 – Oct 31)	20	20	30

Average Influent Flow for Every Day During the Time Period Analyzed



Population in Service Area

Service Area	Measured	Projected					
	2010	2015*	2020	2025	2030	2035	2040
Pawtucket	71,148	71,757	71,147	70,537	69,927	69,317	68,707
Central Falls	19,376	19,403	19,612	20,001	20,325	20,537	20,613
Lincoln	21,105	21,438	21,857	22,482	23,038	23,470	23,750
Cumberland	33,506	33,936	34,698	35,784	36,762	37,541	38,074
Smithfield	21,430	21,634	22,023	22,616	23,136	23,529	23,766
New Development	–	–	5,832	5,832	5,832	5,832	5,832
TOTAL	166,565	168,168	175,169	177,252	179,020	180,226	180,742

Measured and Anticipated Flows (bold with Operational Storage Tunnel)

Flow	Measured	Projected						
(MGD)	2014	2018	2019	2020	2025	2030	2035	2040
Average Day	21.22	21.34	21.38	22.11	22.37	**26.58**	**26.48**	**26.54**
Max Day	85.81	86.27	86.42	89.38	90.45	**91.35**	**91.96**	**92.23**
Max Week	46.01	46.26	46.34	47.93	48.50	**39.21**	**39.39**	**39.47**
Max Month	33.79	33.97	34.03	35.19	35.61	**35.03**	**35.20**	**35.29**
Peak Hour to Secondary Treatment	46.00	46.00	46.00	46.00	46.00	**46.00**	**46.00**	**46.00**
Peak Hour to Wet-weather Treatment	7.06	7.35	7.44	9.27	9.93	**10.48**	**10.86**	**11.03**

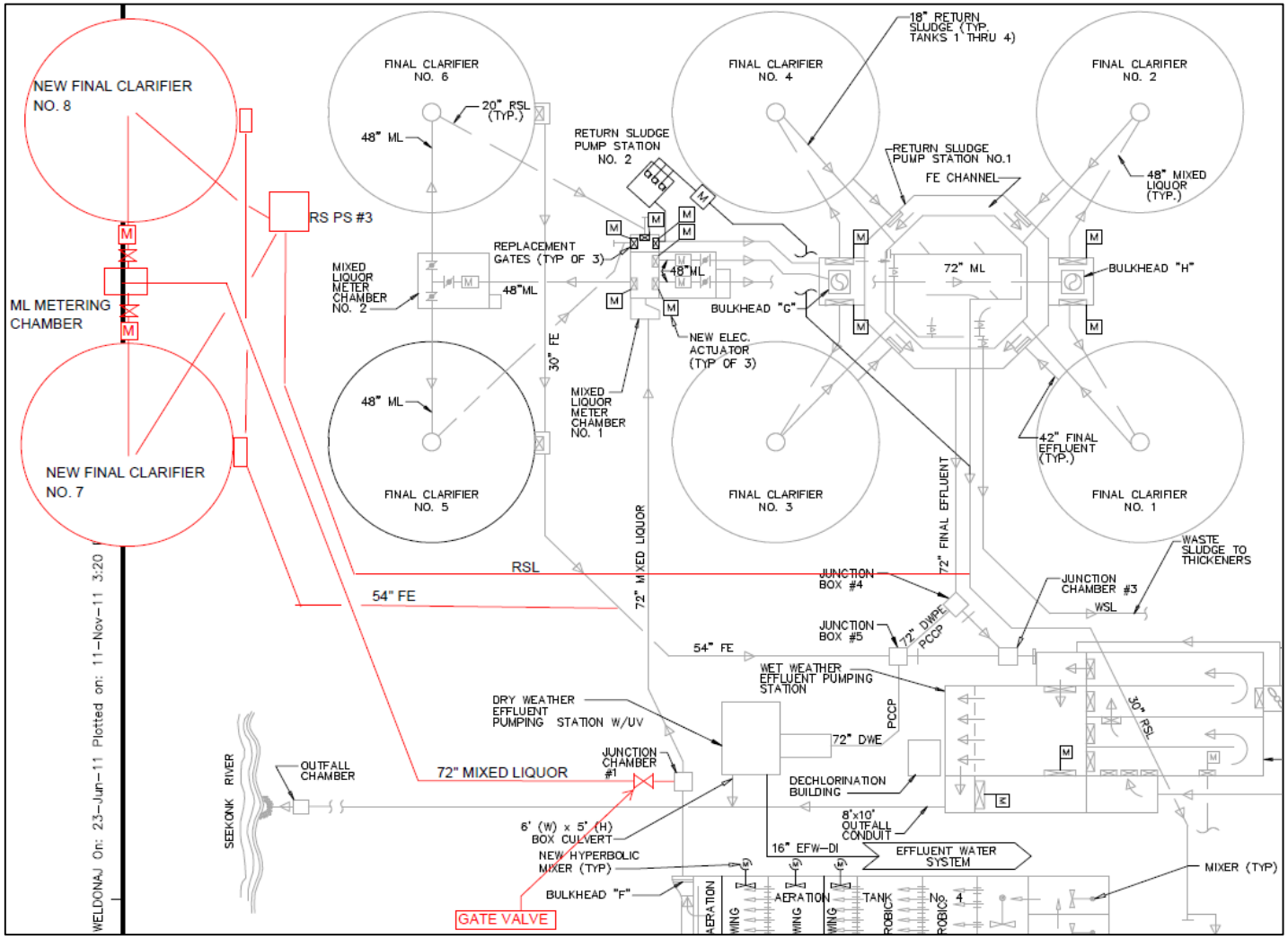
Measured and Anticipated BOD Loads with Operational Storage Tunnel

BOD Load	Measured	Projected						
	2014	2018	2019	2020	2025	2030	2035	2040
Average Day (lb/day)	33,089	33,268	33,326	34,467	34,877	**35,225**	**35,462**	**35,564**
Average Day (mg/L)	186.94	186.94	186.94	186.94	186.94	**158.89**	**160.57**	**160.65**
Max Day (lb/day)	104,376	104,938	105,121	108,721	110,014	**111,112**	**111,860**	**112,180**
Max Week (lb/day)	46,289	46,539	46,620	48,216	48,790	**49,277**	**49,608**	**49,751**
Max Month (lb/day)	39,037	39,248	39,316	40,663	41,146	**41,557**	**41,837**	**41,956**

Alternative 1: Install Two (2) New Clarifiers

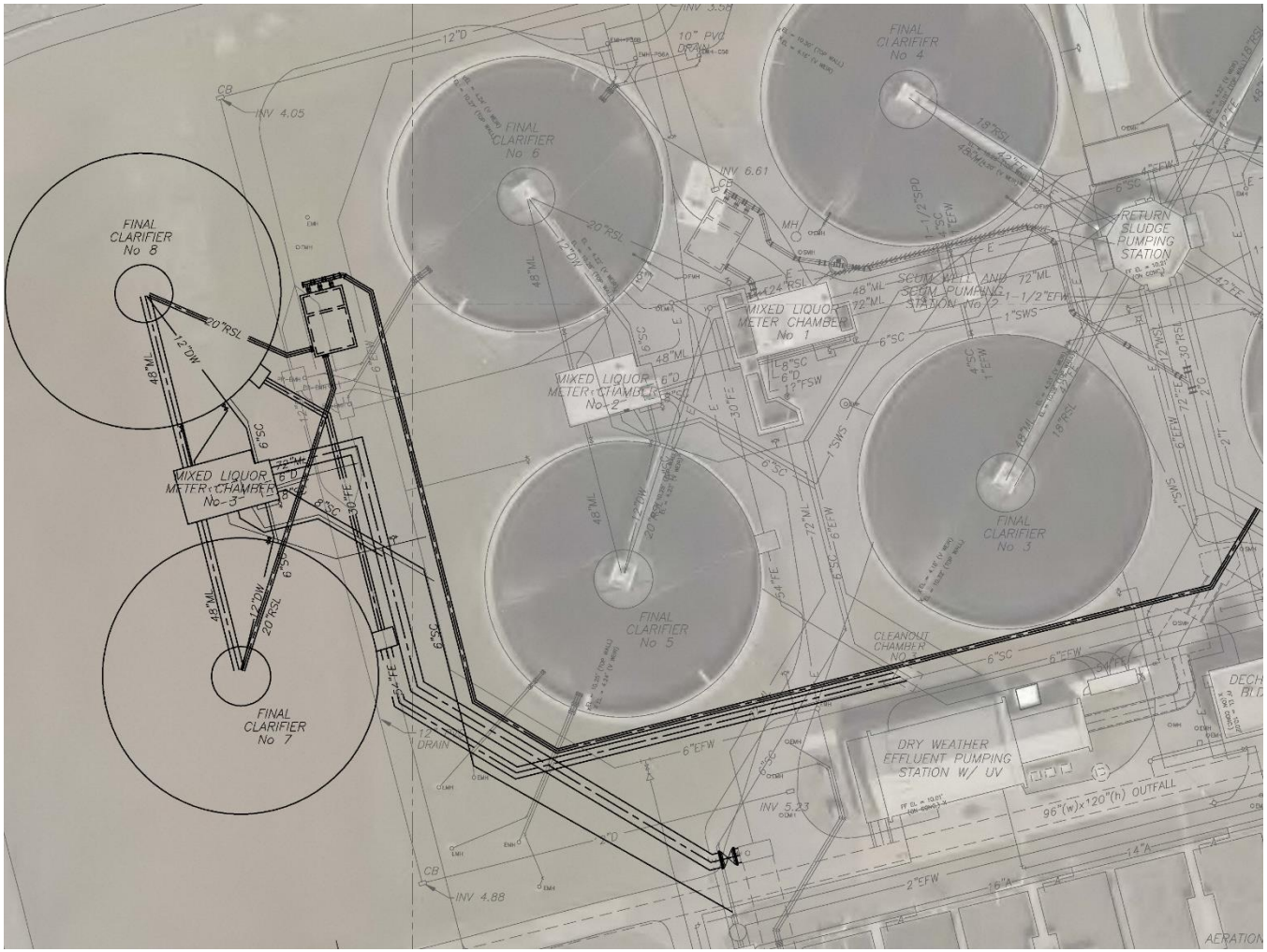
- Construction of two (2) new clarifiers (Nos. 7 and 8)
- Project would include:
  - New mixed liquor suspended solids (MLSS) piping
  - Flow splitting
  - New RAS pump station
  - Instrumentation and controls to match existing clarifiers.
- New clarifiers are proposed to the west of Nos. 5 and 6
- New clarifiers to match their existing specifications

Alternative 1 Schematic Layout



Alternative 1 Schematic Layout

Install Two New Final Clarifiers



Alternative 2: Convert Existing Bioreactor to Solids Storage During High Flows

- Convert one of existing bioreactors to a solid storage tank.
  - Install new piping, valve, and meter
- During first day of a storm, 50% of the RAS flow would be directed to solid storage bioreactor, primary effluent feed would be shut off
- Remaining three (3) bioreactors would operate as normal

Alternative 2 Schematic Layout

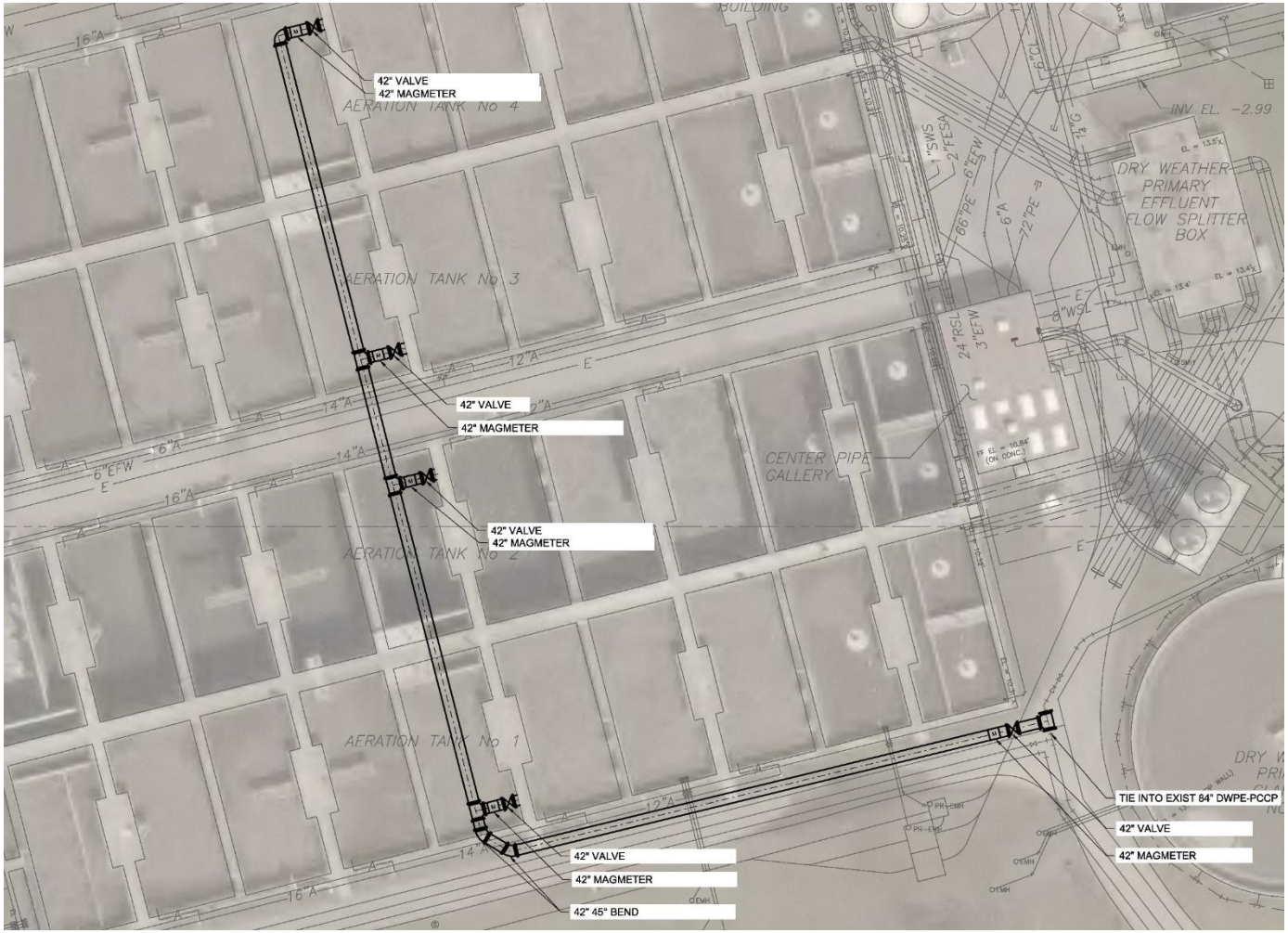
Convert Existing Bioreactor to Solids Storage During High Flows

Alternative 3: Convert Bioreactors to Contact Stabilization During High Flows

- Operate existing bioreactors to operate in constant stabilization mode during wet-weather events and step mode during normal operations
  - Install new piping, pump station, and flow meter
- Common strategy for treatment plants that serve systems with combined sewers
- Reduces MLSS concentration to clarifiers, but effluent BOD concentration expected to increase

Alternative 3 Schematic Layout

Convert Bioreactors to Contact Stabilization During High Flows



Alternative 4: Install Polymer Feed System

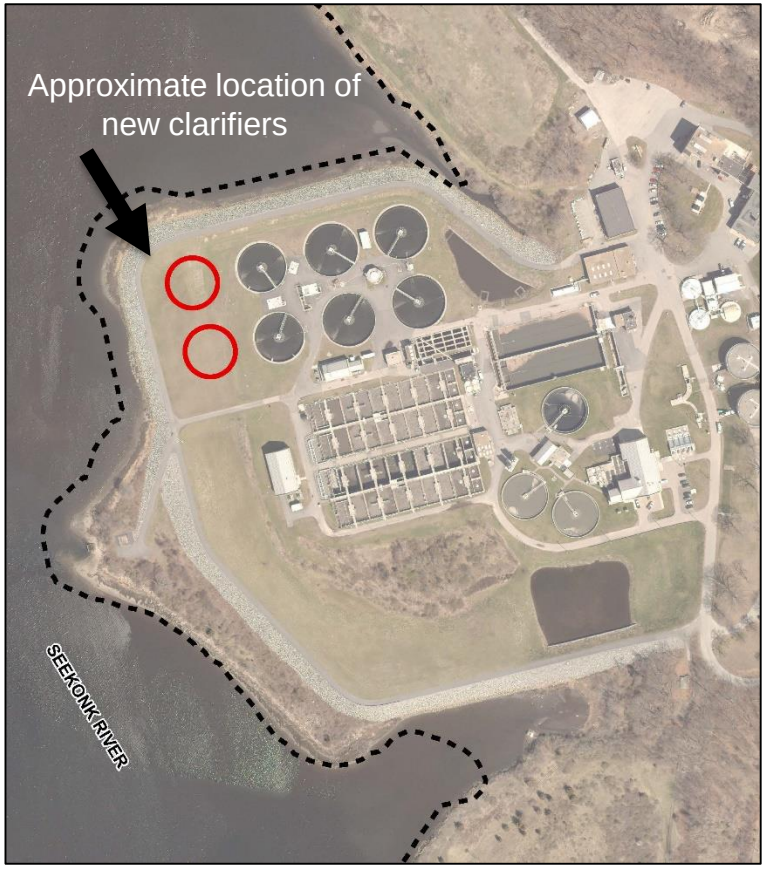
- Convert existing manual polymer addition to automated polymer feed system
- Install two (2) new polymer storage tanks with mixers and metering pump dosing system
- Polymer to be added upstream of final clarifiers as a settling aid
- Further analysis is required to determine whether a dry or liquid polymer is more appropriate

Alternatives Summary

Alternative	Comments
1: Install Two New Final Clarifiers	• Provides redundant clarifiers • Increases RAS pumping • Least complicated operations
2: Convert Existing Bioreactor to Solids Storage During High Flows	• Risk of overloading clarifiers during transition from wet weather to dry weather operations
3: Convert Bioreactors to Contact Stabilization During High Flows	• Provides opportunity for total nitrogen reduction during normal operating conditions • Risk of overloading clarifiers during transition from wet weather to dry weather operations
4: Install Polymer Feed System	• Operated when SVIs > 150 ml/g • Can be implemented in conjunction with any alternative

Recommended Plan: Alternatives 1 and 4

- Alternative 1:
  - best effluent quality
  - easiest to operate
  - Improves performance to meet new RIPDES permit limits
- Constructing new clarifiers allows NBC to temporarily take others offline
- Alternative 4 is low cost solution when clarifiers experience poor settling
- Alternative 1 offers best level of treatment
- Alternative 4 enhances treatment
- Total Cost: $14.4 Million



- 30% Design to RIDEM by June 30, 2020 (per CA RIA-424)
- Final Design 18 months after 30% Design Approval
- Substantial Completion May 2023

Environmental Assessment

Potential impacts evaluated:

1. Surface Water
2. Erosion and Sedimentation
3. Groundwater
4. Wetlands and Floodplain
5. Wild or Scenic Rivers
6. Coastal Zones/Coastal Barrier Resources
7. Sole Source Aquifers
8. Farmlands and Agricultural Uses
9. Air Quality
10. Noise
11. Vegetation and Wildlife
12. Water Supply/Use
13. Soil Disturbance
14. Historical, Archaeological, and Cultural Resources
15. Aesthetics
16. Land Use
17. Economic
18. Community Facilities
19. Recreation
20. Safety
21. Solid Waste
22. Traffic
23. Other Indirect Impacts

Potential Environmental Impacts Evaluated

Some do not apply:

1. Surface Water
2. Erosion and Sedimentation
3. Groundwater
4. Wetlands and Floodplain
5. Wild or Scenic Rivers
6. Coastal Zones/Coastal Barrier Resources
7. Sole Source Aquifers
8. Farmlands and Agricultural Uses
9. Air Quality
10. Noise
11. Vegetation and Wildlife
12. Water Supply/Use
13. Soil Disturbance
14. Historical, Archaeological, and Cultural Resources
15. Aesthetics
16. Land Use
17. Economics
18. Community Facilities
19. Recreation
20. Safety
21. Solid Waste
22. Traffic
23. Other Indirect Impacts

Potential Environmental Impacts Evaluated

Others are potential short-term impacts typical of construction:

1. Surface Water
2. Erosion and Sedimentation
3. Groundwater
4. Wetlands and Floodplain
5. Wild or Scenic Rivers
6. Coastal Zones/Coastal Barrier Resources
7. Sole Source Aquifers
8. Farmlands and Agricultural Uses
9. Air Quality
10. Noise
11. Vegetation and Wildlife
12. Water Supply
13. Soil Disturbance
14. Historical, Archaeological, and Cultural Resources
15. Aesthetics
16. Land Use
17. Economics
18. Community Facilities
19. Recreation
20. Safety
21. Solid Waste
22. Traffic
23. Other Indirect Impacts

Avoidance, Minimization, and Mitigation

- Project limited to existing BPWWTF site
- Best management practices (BMPs) used in design and construction
  - Erosion/dust control and site restoration
  - Construction safety and solid waste management
  - Noise, traffic, odor controls
  - Work hours in accordance with local ordinances
- Project will receive appropriate permits and undergo regulatory review

This project will result in long-term environmental benefits, helping significantly improve water quality in the Seekonk River and Narragansett Bay

State and Federal Agency Review

- Intergovernmental agency review requested September 26, 2018:

- RI Division of Planning
- RI Department of Transportation
- RI Historic Preservation and Heritage Commission
- RI Department of Environmental Management-Division of Fish and Wildlife
- Narragansett Tribal Historic Preservation Office
- RI Coastal Resources Management Council;
- RI Department of Environmental Management- Office of Technical and Customer Assistance
- NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO)
- Natural Resources Conservation Service
- U.S. Fish and Wildlife Service

- Comments to be incorporated into Facilities Plan Amendment and Environmental Assessment
- Submit to RIDEM by December 31, 2018
- Public Hearing to follow RIDEM review

Phase III CSO Program
Sign-In Sheet

Meeting Information:

Meeting Topic: BPWWTF Facilities Plan/Environmental Assessment PUBLIC MEETING

Date: 10/24/2018 **Time:** 10:00 AM

Location: Narragansett Bay Commission Offices

Name	Organization	Email
BRANDON BLANCHARD	PARE CORPORATION	bblanchard@parecorp.com
Kathryn Kelly	NBC	KKelly@narrabay.com
David VanHaven	Stantec	david.vanhaven@stantec.com
Alex Pinto	RI DEM	alex.pinto@dem.ri.gov
Paul Nordstrom	NBC	pnordstrom@narrabay.com
DAVID BOWEN	NBC	dbowen@narrabay.com

ision I
rth Kingstown at
ricken
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Skippers and look like
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ne cares if I'm wrong,
can be a coward and
the favorite and if
lose, it's not a big deal
use you can't pick
nst them. I think this
e is going to be closer
most think and I'm
counting out the Skip-
, but since I'm gutless I
w what I'm doing here.
y pick: Hendricken

ision II
rrillville at Mount Pleasant
ady for the most smol-
ng hot take prediction
ck off Week 3? Which-
team wins this game
end up in the Division
per Bowl.
y pick: Burrillville

ision III & Division IV
naganset at Pilgrim
ne biggest surprise in
V vs. the biggest sur-
e in Div. III? Don't tell
wife I'm picking against
alma mater.
y pick: Pilgrim

fish criteria for the allocation of Housing Tax Credits in Rhode Island. A draft of the Qualified Allocation Plan is available for public inspection on our website at www.rihousing.com.

All interested persons may submit their views, data or comments regarding the Qualified Allocation Plan, including statements concerning alternative approaches. For comments or more information, contact Eric Shorter at (401) 457-1219 or e-mail eshorter@rihousing.com. **The deadline for comments is 5:00 PM on October 24, 2018.**

A public hearing regarding the Qualified Allocation Plan will be held on **October 24, 2018, at 10:00AM** at our offices at 44 Washington St., Providence, RI, 02903, Second Floor Boardroom. All interested parties are welcome to attend.

EQUAL HOUSING OPPORTUNITY

MORTGAGEE'S NOTICE OF SALE OF REAL ESTATE
586 BUCK HILL ROAD, BURRILLVILLE, RI 02859

The premises described in the mortgage will be sold subject to all encumbrances and prior liens on October 5, 2018 at 10:00 AM on the premises, by virtue of the power of sale contained in a mortgage by John D. Marchand, Junior dated July 15, 2003 and recorded with the Town of Burrillville Land Evidence Records at Book 289, Page 696; the conditions of said mortgage having been broken.

TERMS OF SALE:

A deposit of FIVE THOUSAND DOLLARS AND 00 CENTS ($5,000.00) in the form of a certified check, bank treasurer's check, or money order will be required to be delivered at or before the time the bid is offered. The description of the premises contained in said mortgage shall control in the event of an error in this publication. Other terms will be announced at the sale.

ORLANS PC
Attorney for the Present Holder of the Mortgage
PO Box 540540
Waltham, MA 02454
Phone: (781) 790-7800
16-011421

plaintiff's attorney, whose address is Hemenway & Barnes LLP, 75 State Street, 16th Floor, Boston, MA 02109 an answer to the complaint which is filed in said Court and Demands which appear in this summons within 20 days after publication. If you fail to do so, judgment by default will be taken against you. You are also required to file your answer to the complaint in the office of the Register of this Court at CAMBRIDGE either before service upon plaintiff's attorney or within a reasonable time thereafter.

Unless otherwise provided by Rule 13(a), Mass.R.Civ.P., your answer must state as a counter claim any claim which you may have against the plaintiff which arises out of the transaction or occurrence that is the subject matter of plaintiff's claim or you will thereafter be barred from making such claim in any other action.

WITNESS
Edward F.Donnelly, Jr.
Esquire/First Justice of said Court at Cambridge
Tara E. DeCristofaro
September 4, 2018
Register of Probate

DEMANDS OF COMPLAINT:

STATE OF RHODE ISLAND
Probate Court of the City of Providence
NOTICE OF MATTERS PENDING AND FOR HEARING IN SAID COURT

The Court will be held in session at City Hall on the dates specified in the notices below at 10:00 a.m. for hearing said matters.

ABREU VARGAS, YORDY LUIS – MINOR Appointment of guardian; for hearing October 9, 2018.

BECKEN, BRIAN ALLEN – estate Anne Tracey Becken (Jeremiah C. Lynch, III, 97 John Clarke Road, Middletown, Rhode Island, Agent) has qualified as administratrix; creditors must file their claims in the office of the probate clerk within the time required by law beginning September 21, 2018.

LOPEZ, JR., JOSE MANUEL – MINOR Appointment of guardian; for hearing October 9, 2018.

QUIROS, JORDAN LUIS – MINOR Appointment of guardian; for hearing October 9, 2018.

HANDICAPPED ACCESSIBLE: Individuals requesting interpreter services for hearing impaired must notify the office of the City Clerk at 421-7740 (ext. 248), 48 hours in advance of the hearing date.

PAUL V. JABOUR,
PROBATE CLERK

disposition.

You are hereby ORDERED to appear in this court, at the court address set forth above, on **11/02/2018 09:00 AM Other Hearing**

You may bring an attorney with you. If you have a right to an attorney and if the court determines that you are indigent, the court will appoint an attorney to represent you.

If you fail to appear, the court may proceed on that date and any date thereafter with a trial on the merits of the petition and an adjudication of this matter.

For further information call the Office of the Clerk-Magistrate at 413-322-6700.

WITNESS:
Hon. Lois M. Eaton,
FIRST JUSTICE
Paul R. Viets,
Clerk-Magistrate,
DATE ISSUED: 09/07/2018

NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER OVERFLOW PROGRAM
Notice of Public Meeting for Environmental Assessment and Facilities Plan Amendment

An Environmental Assessment and a Facilities Plan Amendment are being prepared for improvements proposed by the Narragansett Bay Commission to the Bucklin Point Wastewater Treatment Facility in East Providence, RI. A Public Meeting will be held on October 25, 2018 at 10:00 am at the Narragansett Bay Commission's Administrative Offices located at 1 Service Road, Providence, RI 02905. The meeting will be for the purposes of presenting the proposed improvements, the reasons for these improvements, and the alternatives considered. The meeting place is accessible.

Individuals requesting interpreter services must notify the Commission office at 401-461-8848/TTY (RI Relay Operator) at least 72 hours in advance of the meeting date.

YEAR OPTION-RIDE CTE INNOVATION & EQUITY GRANT.

FOOD SERVICE MANAGEMENT COMPANY (FSMC) RFP CONSULTANT-FOOD SERVICE ACCOUNT.

PCTA HOUSE BUILDING PROJECT-PERKINS GRANT & CATEGORICAL FUNDING.

RE-BID FOR CONTRACT SERVICES FOR A CONSULTANT TO ANALYZE AND PROVIDE RECOMMENDATIONS ON SERVICES FOR ENGLISH LEARNERS IN PROVIDENCE PUBLIC SCHOOLS ONE YEAR WITH TWO ONE YEAR OPTIONS FOR RENEWAL.

The City of Providence reserves the right to reject any and all bids in the best interest of the City. An Equal Opportunity Employer and Minimum Wage Rates to be Paid.

Minority Business Enterprises and Women Business Enterprises are encouraged to submit bids.

By Order of the Board of Contract and Supply, which will meet on the above day and date at 2:15 o'clock P.M. in the Chambers of the City Council.

Offices and City Council Chambers are accessible to individuals with disabilities. Facilities are accessible to people with disabilities. If you are in need of interpreter services for the hearing impaired, please contact the Office of Neighborhood Services at 421-7768 not less than 48 hours in advance of the meeting.

Jorge O. Elorza
Mayor and Chairman
Lori L. Hagen
City Clerk.

child, and the child may be adopted.

Ronald J. Pagliarini,
Administrator/Clerk,
8/2/2018

TOWN OF JOHNSTON
Notice of matters pending and for hearing in said court

The Probate Court of the Town Of Johnston will be in session on the dates specified in the notices below at 9:00 A.M. at the Probate Court, 1600 Atwood Avenue, Johnston, R.I. 02919 unless noted below, for hearing on said matters.

Santagata, Thomas Estate #2018-119 Petition for Probate of Will for hearing October 9, 2018

Santagata, William Estate #2018-120 Petition for Probate of Will for hearing October 9, 2018

Cavanagh, Helena E Estate #2018-118 Mark J. Cavanagh having qualified as Executor of the estate. Creditor must file their claims in the office of the Probate Clerk in the time required by law begin September 14, 2018

Cassiere, Michael F Estate #2018-112 Petition for Probate of Will for hearing October 9, 2018

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
FAMILY COURT
JUVENILE CLERK'S OFFICE,
Providence/Bristol County.

Notice to BETHANY MARIE FUSTER-FIGUEROA A/K/A BETHANY FIGUEROA and any and all parties in interest. In re: ANGEL NIJASH ORELLANA-FIGUEROA A/K/A ANGEL ORELLANA, EVELIZ MARIE FUSTER FIGUEROA A/K/A EVELIZ FIGUEROA AND LEO SALVADOR FUSTER-FIGUEROA A/K/A LEO ORELLANA-FIGUEROA born on 6/29/2012; 7/12/2014; 7/23/2016 Case Number P 18-004490; P 18-004492; P 18-004496.

The Department of Children, Youth, and Families has filed Petitions in the Rhode Island Family Court to terminate your parental rights. The Petitions are scheduled for a hearing at One Dorrance Plaza, Providence RI 02903 on 10/9/2018 at 9:00 AM. If you do not appear on 10/9/2018 at 9:00 AM, an Order will enter terminating your parental rights to these children.

Ronald J. Pagliarini,
Administrator/Clerk,
9/10/2018

In The Matter Of:

Narragansett Bay Commission

Bucklin Point WWTF Upgrades

October 25, 2018

ALLIED
COURT REPORTERS, INC.
AND
VIDEO CONFERENCE CENTERS

Min-U-Script® with Word Index

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

NARRAGANSETT BAY COMMISSION

PROCEEDINGS IN RE:

PHASE III CSO CONTROL
FACILITIES PROGRAM
BUCKLIN POINT WWTF UPGRADES

FACILITIES PLAN AMENDMENT
ENVIRONMENTAL ASSESSMENT
PUBLIC MEETING

NARRAGANSETT BAY COMMISSION
ONE SERVICE ROAD
PROVIDENCE, RI 02905
OCTOBER 25, 2018
10:00 A.M.

BEFORE:

KATHRYN KELLY, NARRAGANSETT BAY COMMISSION
BRANDON M. BLANCHARD, PE, PARE CORPORATION
DAVID VanHOVEN, STANTEC

ALSO PRESENT:

ALEX PINTO, RIDEM
PAUL NORDSTROM, NARRAGANSETT BAY COMMISSION
DAVID BOWEN, NARRAGANSETT BAY COMMISSION

E X H I B I T S

NO.	DESCRIPTION	PAGE
A	POWERPOINT PRESENTATION (21 PGS.)	3

(MEETING COMMENCED AT 10:10 A.M.)

MS. KELLY: So it is 10:10 A.M., and this is the public meeting of the Narragansett Bay Commission's Environmental Assessment for the Bucklin Point Wastewater Treatment Plant Facilities Plan Amendment. My name is Kathryn Kelly. With me is Dave Bowen and Paul Nordstrom of the Narragansett Bay Commission, Alex Pinto of Rhode Island Department of Environmental Management, Dave VanHoven of Stantec, and Brandon Blanchard of Pare Corporation.

Notice of this public meeting was published in the Providence Journal on September 21, 2018. There being no one present from the public, I'm closing this meeting at 10:11 A.M. I will enter this PowerPoint presentation into the record as Exhibit A.

(EXHIBIT A MARKED)

(PROCEEDINGS CONCLUDED AT 10:11 A.M.)

C E R T I F I C A T E

I, Jane M. Poore, hereby certify that the foregoing is a true, accurate, and complete transcript of my notes taken at the above entitled hearing.

IN WITNESS WHEREOF I have hereunto set my hand this 25th day of October, 2018.

JANE M. POORE, NOTARY PUBLIC/RPR
My commission expires 9/11/21

DATE: October 25, 2018
IN RE: NBC public meeting

A

Alex (1)
3:8
Amendment (1)
3:6
Assessment (1)
3:4

B

Bay (2)
3:3,8
Blanchard (1)
3:11
Bowen (1)
3:7
Brandon (1)
3:10
Bucklin (1)
3:5

C

closing (1)
3:15
COMMENCED (1)
3:1
Commission (1)
3:8
Commission's (1)
3:4
CONCLUDED (1)
3:19
Corporation (1)
3:11

D

Dave (2)
3:7,10
Department (1)
3:9

E

enter (1)
3:15
Environmental (2)
3:4,9
Exhibit (2)
3:17,18

F

Facilities (1)
3:6

I

into (1)
3:16
Island (1)
3:9

J

Journal (1)
3:13

K

Kathryn (1)
3:6
KELLY (2)
3:2,7

M

Management (1)
3:10
MARKED (1)
3:18
MEETING (4)
3:1,3,12,15

N

name (1)
3:6
Narragansett (2)
3:3,8
Nordstrom (1)
3:7
Notice (1)
3:12

O

one (1)
3:14

P

Pare (1)
3:11
Paul (1)
3:7
Pinto (1)
3:8
Plan (1)
3:6
Plant (1)
3:5
Point (1)
3:5
PowerPoint (1)
3:16
present (1)
3:14
presentation (1)
3:16
PROCEEDINGS (1)
3:19
Providence (1)
3:13
public (3)
3:3,12,14
published (1)
3:12

R

record (1)
3:16
Rhode (1)
3:9

S

September (1)
3:13
Stantec (1)
3:10

T

Treatment (1)
3:5

V

VanHoven (1)
3:10

W

Wastewater (1)
3:5

1

10:10 (2)
3:1,2
10:11 (1)
3:15
10:11 AM (1)
3:19

2

2018 (1)
3:13
21 (1)
3:13

Appendix F
Regulatory Review Comment Letters

Brandon Blanchard

From: Hess, Nancy (DOA) <Nancy.Hess@doa.ri.gov>
Sent: Thursday, November 15, 2018 8:13 AM
To: Brandon Blanchard; Pinto, Alex (DEM); Liberti, Angelo (DEM)
Cc: Kathryn Kelly (kkelly@narrabay.com); Feeney, Christopher (christopher.feeney@stantec.com); Sean P. Searles (sean.searles@stantec.com); Carter, Melissa; VanHoven, David
Subject: RE: [EXTERNAL] : RE: NBC Environmental Assessment & Facilities Plan Amendment

Thank you. Brandon for your updated review. You have adequately addressed my comments.
Happy Thanksgiving

Nancy Hess
Supervising Land Use Planner
Land Use and Natural Resources
Division of Planning
Department of Administration
One Capitol Hill, Providence, RI 02908
Phone: 401-222-6480
Email: nancy.hess@doa.ri.gov
Website: www.planning.ri.gov

From: Brandon Blanchard <bblanchard@parecorp.com>
Sent: Wednesday, November 14, 2018 5:11 PM
To: Hess, Nancy (DOA) <nancy.hess@doa.ri.gov>
Cc: Kathryn Kelly (kkelly@narrabay.com) <kkelly@narrabay.com>; Feeney, Christopher (christopher.feeney@stantec.com) <christopher.feeney@stantec.com>; Sean P. Searles (sean.searles@stantec.com) <sean.searles@stantec.com>; Carter, Melissa <melissa.carter@stantec.com>; VanHoven, David <david.vanhoven@stantec.com>
Subject: [EXTERNAL] : RE: NBC Environmental Assessment & Facilities Plan Amendment

Hello Nancy. Attached is a letter responding to your comments below. We also sent a hardcopy of this letter to you by certified mail.

Thank You,

Brandon M. Blanchard, P.E.
Managing Engineer

Pare Corporation
8 Blackstone Valley Place
Lincoln, RI 02865
401.334.4100 (T)
508.951.6581 (C)
401.334.4108 (F)
bblanchard@parecorp.com

14106.02

From: Hess, Nancy (DOA) <Nancy.Hess@doa.ri.gov>
Sent: Wednesday, October 24, 2018 2:20 PM
To: Zeman, Art (DEM) <art.zeman@dem.ri.gov>
Cc: Brandon Blanchard <bblanchard@parecorp.com>
Subject: RE: NBC Environmental Assessment & Facilities Plan Amendment

Yes, I will, Typo on my part.

Nancy Hess
Supervising Land Use Planner
Land Use and Natural Resources
Division of Planning
Department of Administration
One Capitol Hill, Providence, RI 02908
Phone: 401-222-6480
Email: nancy.hess@doa.ri.gov
Website: www.planning.ri.gov

From: Zeman, Art (DEM)
Sent: Wednesday, October 24, 2018 2:10 PM
To: Hess, Nancy (DOA) <nancy.hess@doa.ri.gov>
Subject: RE: NBC Environmental Assessment & Facilities Plan Amendment

Thank you Nancy. BTW can you please forward my last email to Brandon Blanchard at Pare. His email address is incorrectly listed as bblanchard@parecopr.com. It should be bblanchard@parecorp.com I would guess.

Art Zeman, P.E.
Supervising Civil Engineer
Division of Planning & Development
RI Department of Environmental Management
235 Promenade Street, 3rd floor
Providence, RI 02908

T: 401.222.2776, x7702
E: art.zeman@dem.ri.gov

From: Hess, Nancy (DOA)
Sent: Wednesday, October 24, 2018 2:07 PM
To: Zeman, Art (DEM) <art.zeman@dem.ri.gov>
Subject: RE: NBC Environmental Assessment & Facilities Plan Amendment

Thanks Art. Good luck in your new position.

Nancy Hess
Supervising Land Use Planner
Land Use and Natural Resources
Division of Planning

Department of Administration
One Capitol Hill, Providence, RI 02908
Phone: 401-222-6480
Email: nancy.hess@doa.ri.gov
Website: www.planning.ri.gov

From: Zeman, Art (DEM)
Sent: Wednesday, October 24, 2018 1:34 PM
To: Hess, Nancy (DOA) <nancy.hess@doa.ri.gov>; bblanchard@parecopr.com
Cc: kkelly@narrabay.com; Pinto, Alex (DEM) <alex.pinto@dem.ri.gov>; Liberti, Angelo (DEM) <angelo.liberti@dem.ri.gov>
Subject: RE: NBC Environmental Assessment & Facilities Plan Amendment

All –

Just a heads up that I'm no longer the wastewater planning & design contact in Water Resources. I've moved on to the DEM Division of Planning & Development. Please contact Alex Pinto (alex.pinto@dem.ri.gov) or Angelo Liberti (angelo.liberti@dem.ri.gov) for any wastewater-related projects.

Thanks,

Art Zeman, P.E.
Supervising Civil Engineer
Division of Planning & Development
RI Department of Environmental Management
235 Promenade Street, 3rd floor
Providence, RI 02908

T: 401.222.2776, x7702
E: art.zeman@dem.ri.gov

From: Hess, Nancy (DOA)
Sent: Wednesday, October 24, 2018 9:36 AM
To: bblanchard@parecopr.com
Cc: kkelly@narrabay.com; Zeman, Art (DEM) <art.zeman@dem.ri.gov>
Subject: NBC Environmental Assessment & Facilities Plan Amendment

Brandon
I'm reviewing your submission for Pare Project No: 14106.02 for the Bucklin Point WWTF Upgrades. Please be advised that there have a been several changes to the State Guide which are pertinent to your review. The following Elements have been rescinded and no longer need to be checked within project assessments:

- 110, Goals 7 Policies
- 112, Ruse of Surplus Military Lands
- 162, Rivers Policy & Classification Plan
- 621, Policy Statement for …Public transit…
- 711, Blackstone Region Water Resources Management Plan
- 715, CCMP for Narraganset Bay, 912, Howard Center Master Plan

There has been an update to the Element 731, Nonpoint Source Pollution Management Plan. It was replaced with a new Element, *Water Quality 2035*. It was adopted by the State Planning Council on October 13, 2016. This Element is most relevant to your project. Would you please resubmit your assessment considering the updated information on the State Guide Plan? Should you have any questions please feel free to call me.

Nancy Hess
Supervising Land Use Planner
Land Use and Natural Resources
Division of Planning
Department of Administration
One Capitol Hill, Providence, RI 02908
Phone: 401-222-6480
Email: nancy.hess@doa.ri.gov
Website: www.planning.ri.gov

Phase III CSO Program

November 14, 2018

Ms. Nancy Hess
Principal Environmental Planner
RI Statewide Planning Program
One Capitol Hill
Providence, Rhode Island 02908-5871

Subject: **Narragansett Bay Commission**
Environmental Assessment &
Facilities Plan Amendment
Bucklin Point WWTF Upgrades
Pare Project No: 14106.02

Certified Mail
Return Receipt Requested

Dear Ms. Hess:

Pare Corporation, on behalf of the Narragansett Bay Commission, is writing in response to your review comments provided via email on October 24, 2018 with respect to the Environmental Assessment (EA) and Wastewater Facilities Plan Amendment for the above referenced project. The Facilities Plan Amendment is being prepared due to proposed upgrades at the Bucklin Point Wastewater Treatment Facility (WWTF). It also assesses the facility over a 20-year planning period. The EA is being prepared in support of the Facilities Plan Amendment.

Your comments were provided in response to our letter dated September 26, 2018 and our responses are summarized below.

Comment:

Please be advised that there have been several changes to the State Guide which are pertinent to your review. The following Elements have been rescinded and no longer need to be checked within project assessments:

- 110, Goals 7 Policies
- 112, Ruse of Surplus Military Lands
- 162, Rivers Policy & Classification Plan
- 621, Policy Statement for …Public transit…
- 711, Blackstone Region Water Resources Management Plan
- 715, CCMP for Narraganset Bay, 912, Howard Center Master Plan

There has been an update to the Element 731, Nonpoint Source Pollution Management Plan. It was replaced with a new Element, *Water Quality 2035*. It was adopted by the State Planning Council on October 13, 2016. This Element is most relevant to your project.

Would you please resubmit your assessment considering the updated information on the State Guide Plan?

Stantec
260 W. Exchange Street
Suite 001
Providence, RI 02903

Response:

As you have indicated, several State Guide Plan (SGP) elements have been rescinded and are therefore no longer necessary for review with respect to project assessments. These are as follows:

- Element 110: Goal and Policies for the Development of Rhode Island
- Element 112: Resources Management in the Reuse of Surplus Navy Lands
- Element 162: Rivers Policy and Classification Plan
- Element 621: Policy Statement – Proposals for New or Restructured Public Transit Facilities or Service
- Element 711: Blackstone Region Water Resource Management Plan
- Element 715: Comprehensive Conservation and Management Plan for Narragansett Bay
- Element 912: Howard Center Master Plan

SGP Elements 110, 112, 621, and 912 were not applicable to this project. Your comments also indicated that Element 731: Nonpoint Source Pollution Management, was replaced with a new element, Water Quality 2035. Water Quality 2035 updates and replaces former SGP Element 731 as well as SGP Elements 162, 711, and 715.

You noted that Water Quality 2035 appears to be the SGP Element most relevant to this project. As such, you requested that we update our assessment based on the findings of our review of this element. Provided below is our assessment of how Water Quality 2035 relates to this project. Our assessment of this project relative to other applicable SGP elements remains unchanged from our letter issued to you on September 26, 2018.

Water Quality 2035

Water Quality 2035 is the State's plan to protect and restore the quality of Rhode Island's water resources. It encompasses freshwater and saltwater surface waters, groundwaters, and wetlands – from inland lakes and streams to Narragansett Bay and coastal salt marshes. Central to this plan is a focus on watersheds as the appropriate basis for management of water resources. It is intended that state agencies will integrate work at the watershed scale and identify ways that such work can align with and support the related activities of municipal, regional, and federal agencies; watershed organizations; and other entities.

The primary goals of Water Quality 2035 are to promote:

- Protection of existing quality of RI's waters and aquatic habitats and prevention of further degradation.
- Restoration of degraded waters and aquatic habitats to a condition that meets their water quality and habitat goals.

The goals and objectives of the Phase III CSO Program, and in turn the environmental benefits that will result by the proposed upgrades to the Bucklin Point Wastewater Treatment Facility (WWTF), help realize the State's goal of protecting existing water quality and preventing further degradation of Rhode Island's waterways. As indicated in our previous letter to you, upgrades are

Stantec
260 W. Exchange Street
Suite 001
Providence, RI 02903

required to the Bucklin Point WWTF to better treat the increase in flow expected once proposed combined sewer overflow (CSO) abatement facilities are constructed. An alternatives evaluation was performed, and the currently preferred alternative of two (2) new secondary clarifiers and a polymer injection system provides the best effluent water quality of all the alternatives considered. The proposed upgrades will also provide more operational flexibility allowing for better treatment of wastewater to meet new RIPDES discharge limits. The Facilities Plan Amendment will present the alternatives evaluated and identify the preferred alternative.

"Wastewater discharges to surface waters and collection sewers" are classified as pollution sources in Water Quality 2035. Combined sewer overflows and effluent discharges from WWTFs are cited as sources of biological and nutrient loading to Rhode Island waters. NBC's CSO Program and their operation of the two largest WWTFs in the State are specifically referenced. Ten policies are identified in Water Quality 2035 with respect to managing possible impacts from WWTF discharges and CSO overflows, several of which relate to NBC's operations. The proposed improvements to the Bucklin Point WWTF, and to a greater extent the Phase III CSO Program as a whole, are consistent with these policies.

Based on our assessment, it appears that the proposed project furthers the State's goals of protecting water quality in Rhode Island and maintains consistency with the policies presented in Water Quality 2035. We trust that this letter addresses your comments.

Please do not hesitate to contact me should you have any further questions or require additional information.

Very truly yours,

Brandon Blanchard, P.E.
Managing Engineer, Pare Corporation

cc: Ms. Kathryn Kelly, P.E. – Narragansett Bay Commission
Ms. Melissa Carter, P.E. – Stantec
Mr. Sean Searles, P.E. – Stantec
Mr. Briscoe B. Lang, PWS – Pare Corporation

Stantec
260 W. Exchange Street
Suite 001
Providence, RI 02903

Brandon Blanchard

From: Buchanan, Scott (DEM) <Scott.Buchanan@dem.ri.gov>
Sent: Friday, October 26, 2018 10:32 AM
To: Brandon Blanchard
Cc: kkelly@narrabay.com; Mello, Leland (DEM)
Subject: Responding to NBC Env. Assessment & Facilities Plan Amendment Bucklin Point WWTF Upgrades

Follow Up Flag: Follow up
Flag Status: Flagged

Mr. Bucklin,

Thank you for the information regarding the upgrades at Bucklin Point. I received these on behalf of Chris Raithel who is now retired from DEM. I do have a couple of questions.

We have recent records of diamond-backed terrapins in the immediate area of the facility in question. Diamond-backed terrapins are a 'critically imperiled' species in the state. The species spends the majority of its life in the water column but will come into the uplands to bask and nest. There is an unvegetated area (between points "2" and "218" on figure provided) on the property that, from aerial imagery, looks like it could be appropriate nesting habitat. Have terrapins ever been observed using this area or in any other area that may be impacted by construction?

Also, it is not entirely clear what the nature of the construction in question will entail. The figures provided by you appear to indicate the construction of three additional outfalls as well as the construction of a tunnel shaft between the yellow squares on the figures. Is this a correct interpretation? Will there be an additional tunnel built underwater between points "2" (on east side of Seekonk River) and "27" (on west side of Seekonk River)? If not, what will be the source of the water being deposited by the outfall on the west side of the river and what will be the scale of construction associated with this feature? As a general question, will there be any temporary or permanent constructed features that may be accessible to a terrapin swimming in the water column at any point during the tidal cycle?

Thank you for your time and please let me know if I may clarify anything,

Scott W. Buchanan, Ph.D.
Herpetologist
Rhode Island DEM
Division of Fish and Wildlife
277 Great Neck Rd
West Kingston, RI 02892
Phone: (401) 789-0281 x28

Brandon Blanchard

From: Antonio, Joseph (DEM) <joseph.antonio@dem.ri.gov>
Sent: Thursday, November 15, 2018 11:04 AM
To: P. E. Kathryn Kelly (kkelly@narrabay.com); Brandon Blanchard
Subject: Comments on Narragansett Bay Commission Bucklin Point WWTF Upgrades, EA and FPA document

Hi Kathryn and Brandon,

The only comments that we have at this time is that NBC must ensure that the schedule to complete the Phase III CSO project must comply with the requirements from their consent agreement RIA-424, which was entered into between the NBC and DEM on September 6, 2018.

Also, it appears that he project will improve water quality in the river. It may need a RIPDES Construction General Permit (CGP).

Joe

Joseph Antonio, Senior Environmental Scientist RIDEM/Office of Customer & Technical Assistance
235 Promenade Street
Providence, RI 02908
401-222-4700, x4410
joseph.antonio@dem.ri.gov