



CITY OF PROVIDENCE, RHODE ISLAND

Department: Providence Water

RFP Title: Removal and Disposal of Residuals from the South Sedimentation (Exp. 12/31/25)

Opening Date: 06/20/2023

Addendum #: 2

Issue Date: 05/08/2023

The purpose of this addendum is to provide additional information for the RFP.



May 5, 2023

ADDENDUM NO. 2

PROVIDENCE WATER REMOVAL AND DISPOSAL OF RESIDUALS FROM THE SOUTH SEDIMENTATION BASIN

SCHEDULED TO BE OPENED JUNE 20, 2023

The following changes, revisions and/ or supplemental information, as hereby issued as Addendum No. 2 in connection with the Contract Documents issued for the above reference project.

The Hon. Brett P. Smiley
Mayor

Ricky Caruolo
General Manager

Please see following pages for additional information..

Receipt of this Addendum shall be acknowledged by inserting a Cover Letter acknowledging all Addendums following all City Required Bid Forms. Failure to properly acknowledge this Addendum may subject the bidder to disqualification.

All other provision of the project shall remain as stated in the original Contract Documents.

Respectfully,
PROVIDENCE WATER SUPPLY BOARD

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Division Manager

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CITY OF PROVIDENCE, RHODE ISLAND

ADDENDUM No. 2

**TO
CONTRACT DOCUMENTS
FOR**

**REMOVAL AND DISPOSAL OF RESIDUALS FROM THE
SOUTH SEDIMENTATION BASIN
PHILIP J. HOLTON PURIFICATION PLANT,
61 NORTH ROAD, SCITUATE, RI**

Bidders are hereby notified of the following additions, deletions, and modifications to the Contract Documents for Removal and Disposal of Residuals from the South Sedimentation Basin at the Philip J. Holton Purification Plant.

Bidders shall acknowledge receipt of this Addendum in the space provided on the bid forms.

A. SPECIFICATIONS

SECTION 00200 INSTRUCTIONS TO BIDDERS

Page 00200-3, Add the following paragraph 3.01.M:

M. Evaluation Criteria

Providence Water may award to an individual firm or not award as is deemed in its best interests. The evaluation and award method utilized by Providence Water will place a weighted emphasis on Providence Water's evaluation of each proposal as outlined below.

1. Prior significant experience and performance with Providence Water of each bidding firm, such as,
 - a. Work History with Providence Water
 - b. Ability to meet schedules and budgets
 - c. Demonstrated professionalism with Providence Water
 - d. Technical Expertise working on Providence Water projects.
2. Experience and Qualifications of the firm and its personnel.
3. Understanding of the project and work, proposed scope of work and the soundness of the project management plan presented for the necessary services and delivering of the project, as presented in the bid.
4. Total Amount of Bid Based on Estimated Quantities

Providence Water retains the exclusive right to determine the qualifications and capabilities of any firm in providing needed services to Providence Water and to award in consideration of the best interest of Providence Water and the City of Providence.

SECTION 00301 BID FORM

Delete page 5 and replace it with the attached revised page 5.

SECTION 00800 SUPPLEMENTARY CONDITIONS

Page 5, Add the following after **SC-4.05.A**:

SC-4.05.C

Insert Paragraph 4.05.C.5 as follows:

5. a change in Federal, State, or local law or ordinance; orders or judgments of any Federal, State, or local court, administrative agency or governmental body; change in permit conditions or requirements.

SECTION 01010 SUMMARY OF WORK

Page 01010-2, Delete Paragraph 1.02.A.2 and replace it with “The volume of liquid pumped will be measured by a flow meter provided by the Contractor and approved by the Owner and Engineer.”

Page 01010-3, Paragraph 1.02.A.8, change the second sentence to read “Weigh scales shall be Certified by the Rhode Island Weights and Measures Office.”

Page 01010-4, Paragraph 1.03.A.10, delete the sentence “A thin layer of residuals remaining on the surface of the basin bottom and troughs is acceptable.”

Add the following Paragraph to 1.02.A:

10. Ahead of discharge to Lagoon 2 filtrate from dewatering operations is to be tested for compliance with Providence Water’s RIPDES permit. The filtrate is to be tested for Total Suspended Solids (TSS), Turbidity, pH, Total Residual Chlorine, Total Iron and Total Lead. If the filtrate causes an increase in these parameters that will exceed the RIPDES permit limits discharge to Lagoon 2 will be stopped until corrective action can be taken.

SECTION 01025 MEASUREMENT AND PAYMENT

Page 01025-2, paragraph 1.02, add the following after Item 11:
“12. Dewatering Area Site Preparation”

Page 01025-2, Item 1 Mobilization/Demobilization, paragraph C, change the second sentence to read “The lump sum amount bid under this Bid Item shall not exceed 10% of the total bid amount, excluding Bid Item 1, and no payment will be made in excess of this amount.”

Add the following after Item 11 on page 01025-6:

ITEM 12 DEWATERING AREA SITE PREPARATION

- A. General. The price bid under this Bid Item for dewatering area site preparation shall be full compensation for all labor, equipment, tools, and materials necessary to complete the Work as required, which shall include transporting, excavation, backfill, compaction, grading, equipment installation and setup, and all other incidental Work relative thereto.
- B. Method of Measurement. Measurement for dewatering area site preparation shall be lump sum as approved by the Engineer.
- C. Method of Payment. Payment for dewatering area site preparation shall be the lump sum price bid under this Bid Item, listed in Document 00301, Bid.

SECTION 02100 SITE PREPARATION

Paragraph 1.05.E, change “Lagoon 1B” to “Lagoon 2”.

B. QUESTIONS

1. **Question:** For decanting thru the head of the plant the specifications call for 5% of the raw water inflow rate. Can you provide the average inflow water rate for the plant in GPD?

Response: The average daily flow is 60 MGD. The maximum daily flow can be up to 100 MGD. The minimum flow is 40 MGD.

2. **Question:** When was the last time the South Sedimentation Basin was cleaned?

Response: The South Sedimentation Basin was last cleaned in 2008 – 2009.

3. **Question:** Can you provide the name of the transporter and disposal location for the sludge removed from the drying beds in the past?

Response: The transporter was Synagro of Naugatuck, CT and the disposal location was Ernest Joly & Sons, Inc., Danielson, CT.

4. **Question:** Please confirm fully completion date, as specified March 1 does not allow for any paving and/or spring restoration.

Response: The Work for draining, cleaning, and returning the South Sedimentation Basin to service is to be completed within 105 calendar days after the date when the Contract Times commence to run. Final drying of the residuals and removal from the site will be completed within 280 calendar days after the date when the Contract Times commence to run. If based on the date of the notice to proceed the timing of the completion time does not allow for restoration of the dewatering site due to weather conditions a time adjustment will be negotiated to allow for restoration under the appropriate weather conditions.

5. **Question:** Can equipment be setup anywhere on the west side of RT116 or does it need to be located in/around the drying beds?

Response: The intent is to utilize the existing drying beds and existing cleared areas. As stated in Section 00301, Article 7, bidders are to include a description of their proposed means and methods to achieve the project goals with the bid. Use of areas other than the existing drying beds will be subject to the approval of Providence Water.

6. **Question:** The treatability of the material is essential to the bidding process. Will potential bidders be allowed to sample the material in the South Sedimentation Basin and drying beds?

Response: Providence Water will grab samples of the residuals in the South Sedimentation basin and the design engineer will perform a treatability study. The treatability study results will be provided in an addendum prior to the bid date. The treatability tests will include the following:

- Stacking/gravity filtration tests
- Passive dewatering tests
 - Geotextile tube efficacy w/ filter tests, hanging bag tests and/or pillow tests
 - Mechanical dewatering: Plate-and-frame and Belt-filter Presses, Centrifuges
- Solidification/stabilization treatability tests
 - Dewatering
 - Strength Improvement
 - Contaminant leachability
- Chemical Conditioning Evaluation to determine the type and dosage of chemical conditioning required
- Geotextile Tube Pillow Test

Conditioned residual slurry is tested using a pillow geotextile tube or hanging bag to measure the efficacy of geotextile tube dewatering, confirm the selection and dosage of the chemical conditioning program, and generate enough filter cake and filtrate for chemical and geotechnical analyses. Aliquots of the filter cake are collected, preserved and analyzed for a select list of COCs and geotechnical parameters to determine efficacy, evaluate disposal options as well as the potential for the dewatered material to meet or exceed beneficial use requirements, as necessary. Filtrate is typically analyzed for a select list of chemicals of concern and turbidity.

The filter cake will be analyzed for volatile organic compounds, semi-volatile organic compounds and metals after Toxicity Characteristic Procedure Leaching (TCLP). Filtrate volume and quality will be evaluated over a 48-h period. The filtrate will be analyzed for total suspended solids, turbidity and analytes (pH, total residual chlorine, total iron, total lead) based on the RIPDES discharge permit requirements.

7. **Question:** Can the South Sedimentation Basin be dredged while the basin is still in service or is all dredging confined to a 105 day window?

Response: All dredging must occur with the South Sedimentation basin out of service. The intent is to minimize the time that the South Sedimentation Basin is out of service and limit it to 105 days.

8. **Question:** Can you provide clarification on whether the total gallons decanted will be paid based on flow meter data or the drone survey shown in Section 01010 1.02 Paragraph 2.

Response: The total gallons decanted will be paid for based on flow meter data.

9. **Question:** If the contractors means and methods do not require water to be decanted, will the decanting of water be required? If not required, does the contractor need to bid line item 3?

Response: If the Contractor's means and methods do not require water to be decanted from the South Sedimentation Basin the unit price of Item 3 can be \$0.00. However, if the upper basin contents are disturbed before decanting, and the turbidity exceeds 5 NTU, the liquid cannot be decanted to the head of the plant and would require dewatering.

10. **Question:** Can the bathymetric survey data be made available?

Response: Yes, the electronic files of the survey data can be provided upon request.

11. **Question:** Is there a known disposal site that has accepted the dried water residuals?

Response: See the response to question 3.

12. **Question:** If the contractors trucking and disposal site are willing to take material at less than 25% solids and the material is truckable. Is it acceptable to take out material that is less than 25%?

Response: Yes, but the material must be sampled to determine the percent solids and the item will be paid for on a dry ton basis. The Contractor shall determine the means and methods of sludge removal from the site. A target of 20 to 25% solids is recommended. The percent solids of the material removed from the site is at the discretion of the Contractor. All trucking shall meet all local, state, and federal transportation codes and regulations.

13. **Question:** Is there a budget number available for the project?

Response: There is no cost estimate for this project.

14. **Question:** Since the treatability studies and chemical testing of the material are essential to the bidding process, can the bid date be extended to allow for time for testing the material?

Response: The bid date has been changed to June 20, 2023, by Addendum No. 1.

15. **Question:** Can the property boundaries of Providence Water be provided on a map?

Response: A plan showing the boundaries of the land owned by Providence Water is attached to this addendum.

16. **Question:** Since Line Item 1: Mobilization/Demobilization is limited to only 5%, can an additional line item for dewatering site prep be added to the bid?

Response: A bid item for dewatering site preparation has been added. The revised Bid Form page is included in this addendum.

17. **Question:** Can the maximum decanting rate be provided in GPM?

Response: As stated in the specifications the decanting rate is 5% of the plant raw water flow. The actual flow rate will have to be coordinated with the plant operations staff on a daily basis. The typical average day and maximum day flow rates of the plant are 60 MGD or 41,667 gpm and up to 100 MGD or 69,444 gpm respectively. The decant flow rates would be 5% of the actual plant flow rate at any given time.

18. **Question:** Will 24 hour working days be allowed if necessary?

Response: If necessary 24 hour working day will be allowed if Providence Water and the Engineer can properly monitor the work.

19. **Question:** Could you provide me some information as to what process is, primary coagulant being used, any flocculant or polymers being used?

Response: Currently liquid ferric sulfate and lime are added to the water ahead of the sedimentation basins.

20. **Question:** Treatability Work on the in-situ Sludge of the South Sedimentation Basin
- a. Can 5 to 10 gallons of a representative sample of the in-situ sludge to be removed from the basin to perform treatability work? Performing treatability prior to the bid submission will allow us to better estimate the project's cost. Treatability will allow us to determine the following.
 - i. Polymer usage and cost
 - ii. Lineal feet of geotextile tubes or dewatering equipment (such as belt presses) performance and number of units required to achieve > 2,000 gpm production.
 - iii. Number of wet tons that will need to be loaded, hauled, and disposed of.
 - iv. Amount of amendment, such as Portland cement required to achieve 25% solids for safe transport and/or landfill acceptance.
 - b. If samples cannot be provided or collected, will the Contractor have the ability to adjust pricing for items affected by results of actual treatability testing that is performed after award?

Response: See the response to question 6 relative to sampling the residuals material and a Treatability Study.

Any amendment to be used (either for sedimentation basin dewatering or drying bed sludge conditioning) is at the discretion of the contractor. The intent is that Providence Water will pay only for the native dry tons of solids removed from the basin (or drying beds). The weight of any amendment used will be measured on arrival at the site at the weigh station, and that weight deducted from the total weight of dry solids that leave the site through the weigh station. A ratio of amendment to total dry solids leaving will be established as part of the monthly payment schedule, if a contractor chooses to add an amendment.

21. Question: Level of clean

- a. Please consider adding a tolerance of residual material allowed to be left behind after dredging. The definition of “clean” or “rinsed” can have a wide range of interpretations and can result in significant project cost. We recommend dredging the entire surface of the basin with a vacuum attachment, with verification of removal by means of a sludge judge and demonstration of removal of material down to 6 inches of light material remaining, while leaving ~ 3 to 4’ of top water remaining to float the dredge. If further removal is required, we suggest that a day rate for equipment and personnel be established to completely drain and rinse the basin, at the owner’s direction.

Response: A thin layer of residuals remaining on the bottom surface of the South Sedimentation Basin is **not** acceptable. The depth of water to float a dredge is at the discretion of the contractor. However, the basin must be drained of all residuals to bare concrete as part of the draining and dewatering process.

22. Question: Drying Beds/Dewatering Area

- a. Section 02140 – Dewatering. This section seems to be for groundwater dewatering. Is the intent of this section to be used in the drying bed area?
- b. Based on Pare Corporation Memorandum on page 330 of the specifications shows the drying bed material ranges from 68.4% to 22.6% solids. The projects requires all material reach 25% solids or greater before removal from the site. Is the intent to add amendment to the drying bed material to help reach the 25% solids requirement?
- c. If the intent is to use amendment for the drying bed material, please consider adding an allowance for amendment since it is impossible to identify how much of the drying bed material will need amendment or further dewatering.
- d. Has any stability testing been performed on the drying bed area that is to be used for dewatering? Can equipment easily work on the drying beds?
- e. Can a liner be installed in the drying bed area for dewatering to prevent erosion during dewatering operations?
- f. The drawings show filtrate water being discharged into Lagoon 2, however, within the specification 02100-1-1.05-E it requires filtrate water to be discharged into Lagoon 1B. Please provide directions as to where filtrate water shall be discharged.

- g. How is the dewatering drainage pipelines to be installed from the drying beds to Lagoon 2 or Lagoon 1B?
- h. Where did the current material in the drying beds originate? Can the Contractor anticipate the material in the south sedimentation basin to perform the same as the current material in the drying beds.

Response:

- a. Section 02140 applies to any dewatering required for excavations necessary for completion of the work including trenching for pipe installation and preparation of the site for dewatering equipment.
- b. Means of dredging and dewatering the solids that are removed will be left to the contractor's discretion, subject to the approval of Providence Water. See responses to questions 12 and 20. Weight of solids will be on Dry Ton basis.
- c. Means of dredging and dewatering the solids that are removed will be left to the contractor's discretion, subject to the approval of Providence Water. See responses to questions 12 and 20. Weight of solids will be on Dry Ton basis.
- d. No stability testing has been performed. Equipment has been used in the drying beds in the past to remove residuals.
- e. Means of dredging and dewatering the solids that are removed will be left to the contractor's discretion. Contractors will propose the equipment and methods for dredging and dewatering with their bid for review by the Owner and Engineer, prior to contract award. A liner would not be prohibited.
- f. Filtrate water is to be discharged to Lagoon 2.
- g. Dewatering drainage pipes should be installed in trenches. Existing berms shall be rebuilt as part of the pipe installation and erosion control measures taken in accordance with Section 01568.
- h. The existing material in the drying beds was removed from the North Sedimentation Basin. The residuals in the South Sedimentation basin are expected to be similar.

23. **Question:** Please consider extending the bid date to allow the Contractors to review the answers to questions and provided adjustments to their pricing and proposal.

Response: The bid date has been extended to June 20, 2023 by Addendum No. 1.

24. **Question:** Can you please provide more detail on what is required within Bid Item 8 – Experimental Excavation? We have not been able to locate a drawing detail showing the requirements and where this excavation is required.

Response: Bid Item 8 is intended to be for the cost of any experimental excavation or test pits requested by the Owner or Engineer or otherwise deemed necessary for completion of the work.

25. **Question:** The project calls for prevailing wage rates, but they were not provided. Can you please provide the wage rates for this project?

Response: Prevailing Wage refers to the requirements of the [Rhode Island General Law 37-13](#) and the general prevailing rate of pay for regular, holiday and overtime wages to be paid to each craftsmen, mechanic, teamster, laborer or other type of worker performing work on public works projects when state or municipal funds are used in excess of \$1,000. Contractors must refer to the applicable [Davis Bacon Wage Determination](#) rate schedule found online at the U.S. System for Award Management (SAM) to determine the prevailing wage rates for a public works construction project. The prevailing wage rates to be applied are those that are effective as of the date of the awarding of the contract to the general contractor. Contractors must also adjust employees' hourly wage rates (if applicable) every July 1st in accordance with any updated Davis Bacon Wage Determination rates.

The current wage rates are attached to this addendum.

26. **Question:** When is the anticipated Notice to Proceed Date?

Response: The Notice of Award is anticipated to be issued within 8 weeks after the receipt of bids. A Notice to Proceed will be issued after contract execution.

27. **Question:** The total volume of residuals (dewatered from the South Basin and stored in the drying beds), will require as many as seven loads per day to be removed from the facility for the full 260-day term of the contract. Recently, I have attempted to find disposal options for a similar project in the region and only found one facility able to receive two loads per day. Have you contacted any possible disposal outlets to inquire about their ability to receive this material?

Response: No disposal facilities have been contacted. Means of dredging, dewatering, removal and disposal of the solids that are removed is left to the contractor's discretion.

28. **Question:** Has this project been performed in the past? If so, when, by whom, and what was the disposal location?

Response: Most recently residuals from the North Sedimentation Basin were removed from the basin and dewatered in the drying beds. See the response to question 3 for the transporter and disposal location.

29. **Question:** Is it possible to schedule a day/time that I can stop by the site and grab a quick sample?

Response: See the response to question 6.

30. **Question:** Can you please consider changing the following requirements for mobilization/demobilization? *“The lump sum amount bid under this Bid Item shall not exceed 5% of the total bid amount, excluding Bid Item 1, and no payment will be made in excess of this amount.”* We recommend at least 10% for this type of work, especially since the majority of the other line items have variable units.

Response: The amount for mobilization/demobilization has been changed to 10% of the total bid in this addendum.

31. **Question:** For the Owner office, it calls for a 4 wide, 3,050 square foot office, minimum of 48’ wide, 70 inch TV screen, 880 download speed internet and 980 upload, 8 cubicles along with many other items. Is this truly what you would like provided for the Owner’s Office?

Response: The requirements in the specifications are what Providence Water requires for the Owner’s trailer. The trailer is being procured under this project for additional projects in the future. In Section 01500 it is stated that the office will become property of the Owner when the work is completed.

32. **Question:** Based on Google Earth images, it looks like material from the drying beds have been removed and disposed of before. Can you please provide the Contractor information and disposal site that was used on the previous projects?

Response: See the response to question 3.

33. **Question:** When previously cleaned out, where did the material go for disposal?

Response: See the response to question 3.

34. **Question:** Please provide the most recent full chemical characterization results for the sediments.

Response: See the response to question 6.

35. **Question:** What are the average total Arsenic concentrations present in the sediments?

Response: See the response to question 6.

36. **Question:** Are there any additives in the sediment from the WTP process and if so, what are they and at what concentration can we expect them to be present?

Response: Currently liquid ferric sulfate and lime are added to the water ahead of the sedimentation basins. See the response to question 6 regarding residuals sampling.

37. **Question:** Who is responsible for determining the percent solids of the material being hauled out by truck? If it is the contractor, is there a specific methodology that the contractor should follow and/or requirements for how the percent solids are measured?

Response: The Contractor is responsible for sampling and testing the material to determine the percent solids for calculation of the dry tons weight. Samples of the material will be split with the Owner to confirm results. The Contractors sampling and testing methods will be subject to review and approval by the Owner and Engineer.

38. **Question:** Is this a prevailing wage job? If so, can the wage rates specific for this job be provided?

Response: See the response to question 25.

39. **Question:** Can the means and methods of determining the volume in the lagoon be made available? Considering that the job is being bid on the dry ton, understanding how the total volume and percent solids of the in situ material were determined is extremely important.

Response: The estimated volumes of residuals in the sedimentation basin and lagoons were calculated based on the information in the Sedimentation Survey and Additional Sediment Sampling that are appended to the Contract Documents. Volumes of liquids and solids in the basin were calculated based on existing as-built drawings of the basin and existing water levels. Solids locations and volumes were calculated based on the Sedimentation Survey with probes and sampling tubes to determine thickness and percent solids for each sample taken. Decant volumes were calculated based on the survey sampling and amount of low solids in the liquid found at each sample point.

40. **Question:** Please verify that Geotextile tubes are an acceptable method for dewatering.

Response: Yes Geotextile tubes is one of the dewatering methods that would be acceptable. The bidder is required to include a description of the proposed means and methods with their bid.

41. **Question:** Do you have any analytical testing of residuals, Metals, Volatiles etc?

Response: See response to question 6.

42. **Question:** Have the materials specified for disposal and land application been tested at any time over the previous 10 years for PFAS / PFOA or other harmful chemical Components? If so, would the City be willing to share the results of these test results?

Response: The materials have not been tested for PFAS/PFOA over the past 10 years. PFAS testing will be included in the Treatability Study.

43. **Question:** Does the City have any plans to test the materials specified in the agreement for PFAS /PFOA or other harmful chemicals during the duration of the contractual agreement term?

Response: See the response to question 6. PFAS testing will be included in the Treatability Study.

44. **Question:** Will the City agree to allow the contractor the opportunity to adjust the price of the bid, should the City not issue notice to proceed (NTP) within 60 days of the notification of the award. The adjustments, if any would be limited to market conditions represented in CPI, DOT Fuel Adjustment Surcharge and increased costs of materials and equipment?

Response: The intends to issue a Notice of Award within 60 days after the bids are received. The NTP will be issued after execution of the Agreement. Price adjustments will be considered if the Notice of Award is not issued within 60 days.

45. **Question:** Will the City agree to amend Section 4.05 C (P88 of Bid Specs) to include subsection 5 ” a change in Federal, State, or local law or ordinance; orders or judgments of any Federal, State or local court, administrative agency or governmental body; change in permit conditions or requirements.”

Response: Yes, subsection 5 is added as described previously in this addendum.

46. **Question:** Will the City agree to waive liquidated damage assessments for any delays in the contractor’s progress caused by or as a result of a Force Majeure (Act of God) Event as defined by section 4.05 C 1-5 of the contract document? “Contractor shall be given an extension to the work to be performed equal to that in length of the delay caused by the Force Majeure Event, before any liquidated damages will be assessed.”(Page 58 of the bid specs, Section 4.03).

Response: The City will consider a time extension request for delays that are the result of Force Majeure.

47. **Question:** Section 5.02 C (Page 90 of the Bid Specs) Will the city please elaborate in greater detail its definition of “shall restore to original condition all property not designated for alteration by the Contract Documents” – Does this section require a comprehensive reclamation program of replanting of grasses, seeding and loaming, tree and shrub replacement, soil grading, and excavation etc. or is the scope more limited to clean up and reseeding?

Response: Restoration will require backfill of excavations, grading of soil, cleanup and reseeding and repaving of areas of existing pavement that are disturbed.

48. **Question:** Can the City extend the Bid for an additional 1-2 weeks?

Response: The bid date has been changed to June 20, 2023 by Addendum No. 1.

49. **Question:** Will the City amend the terms of payment to NET 30 Payment terms (Currently Specified as NET 60 in the Contract) upon receipt of a properly formatted invoice, (Sample Language Below)

Payment Terms

Contractor shall submit to City an invoice setting forth the amounts due and any additional information with respect to the computation of said amount. City shall pay to Contractor the full amount due under said invoice within thirty (30) days of the date of said invoice. Any invoice amount not paid in full within thirty (30) days after the date of said invoice shall bear interest at the rate of one and one half percent (1.5%) per month on the unpaid balance thereof computed from the date of the invoice. If there are disputes regarding the contract, City agrees to promptly pay any undisputed amounts.

Response: This contract language will not be amended.

50. **Question:** Can we assume that the Whipp shop drawings included in the proposal documents are for the new gates? Can the owner provide drawings of the existing gates?

Response: The shop drawings provided are for the new gates. Shop drawings of the existing gates are not available. Original design drawings showing the existing gates are attached to this addendum. The existing gates are not to be removed.

51. **Question:** The sequence provided in 01010 1.03 A indicates that the new slide gates are to be installed prior to removal of solids from the south sediment basin. Are we to assume that the replacement of the gates is to be completed prior to draw down of the pond? If so, is it assumed that the gate replacements would need to be completed by divers? Would it be acceptable that the gates be replaced after the pond has been drained?

Response: The intent is for the gates to be replaced while the South Sedimentation Basin is out of service and drained for residuals removal. Divers are not necessary.

52. **Question:** If the gates are to be replaced in the 'wet' are there existing bulkhead slots that can be utilized to bypass flows so that gates can be replaced with divers? If bulkhead and slots are not available can you provide details on how gates are to be replaced?

Response: The intent is for the gates to be installed in the dry. The existing gates will have to remain in place to stop flow to the basin. Original design drawings showing the existing gates and the location where new gates are to be installed are attached to this addendum.

53. **Question:** Can we assume that the existing gates are the same dimensions as the new gates and no modifications to the frame opening will need to be made? Can we assume that the new gate frames and stem guides are attached to concrete? Are there any as-built drawings for either the existing gates and/or the dam structure?

Response: Original design drawings showing the existing gates and the location where new gates are to be installed are attached to this addendum.

54. **Question:** Can we assume that the owner will take possession and dispose of the existing gates, frames, guides, etc?

Response: The existing gates are not to be removed.

55. **Question:** Is the contractor responsible for installation of the gate actuators? Is the contractor responsible for power and/or data connections to the new actuators? If yes, can we assume that the power/data from the existing actuators can be swapped to the new actuators?

Response: Only one of the new gates requires an electric actuator. Providence Water will provide the actuator for installation by the Contractor. Providence Water will install power to the actuator under a separate contract.

56. **Question:** Is there any limitation on the number of gates that can be out of service at any given time?

Response: The existing gates must remain in service in the closed position to stop flow and allow for installation of the new gates in the dry. All of the existing gates will remain in service.

57. **Question:** Can you provide photos of the existing gates?

Response: Photos of the existing gates are attached to this addendum.

Attachments:

Unit Price Sheet page 13
Prevailing Wage Rates
Pre-Bid Meeting Sign In Sheet
Plan of Providence Water Property Boundaries
Design Drawings showing the existing sluice gates
Photos of the Existing Sluice Gates
Providence Water RIPDES Permit

END OF ADDENDUM

Item	Quantity	Extended Total
7. For excavation of unsuitable material <u>below</u> finished grade and/or subgrade of structures and pipelines including replacement with suitable fill material, as specified, the sum of		
Dollars (\$) _____) per cubic yard	<u>1000*</u>	_____
8. For experimental excavation as approved by the Engineer and as specified, the sum of		
Dollars (\$) _____) per cubic yard	<u>1000*</u>	_____
9. For installation of five (5) slide gates provided by the Owner and as specified, the sum of		
Dollars (\$) _____) lump sum	<u>1</u>	_____
10. Allowance #1 Unknown Conditions, the sum of		
Two Hundred Thousand Dollars and Zero Cents	<u>1</u>	<u>\$200,000.00</u>
11. Allowance #2 Miscellaneous Landscaping Improvements, the sum of		
Two Hundred Thousand Dollars and Zero Cents	<u>1</u>	<u>\$200,000.00</u>
12. Dewatering Area Site Preparation, the sum of		
Dollars (\$) _____) lump sum	<u>1</u>	_____

*Indeterminate; quantity is assumed for comparison of bids

**Bidder must insert minimum price or greater and insert extended item prices.

TOTAL AMOUNT OF BID BASED ON ENGINEER'S ESTIMATE OF QUANTITIES:
(Items 1 through 12, inclusive) - BASIS OF AWARD.

_____)
Dollars (\$ _____)

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 60 days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids.

Residuals Removal
South Sedimentation Basin

Bid
Section No. 00301-5

"General Decision Number: RI20230001 04/14/2023

Superseded General Decision Number: RI20220001

State: Rhode Island

Construction Types: Building, Heavy (Heavy and Marine) and Highway

Counties: Rhode Island Statewide.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) HEAVY, HIGHWAY AND MARINE CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	02/03/2023
3	03/17/2023
4	04/14/2023

ASBE0006-006 06/01/2022

	Rates	Fringes
HAZARDOUS MATERIAL HANDLER (Includes preparation, wetting, stripping, removal scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems).....	\$ 38.30	25.55

ASBE0006-008 09/01/2021

	Rates	Fringes
Asbestos Worker/Insulator Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems.	\$ 45.00	32.89

BOIL0029-001 01/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 45.87	29.02

BRR0003-001 06/01/2022

	Rates	Fringes
Bricklayer, Stonemason, Pointer, Caulker & Cleaner.....	\$ 46.86	29.14

BRR0003-002 09/01/2022

	Rates	Fringes
Marble Setter, Terrazzo Worker & Tile Setter.....	\$ 46.54	30.34

BRR0003-003 09/01/2022

	Rates	Fringes
Marble, Tile & Terrazzo Finisher.....	\$ 38.78	29.61

CARP0330-001 01/01/2023

	Rates	Fringes
CARPENTER (Includes Soft Floor Layer).....	\$ 41.53	29.35

Diver Tender.....	\$ 42.53	29.35
DIVER.....	\$ 53.88	29.35
Piledriver.....	\$ 41.53	29.35
WELDER.....	\$ 42.53	29.35

FOOTNOTES:

When not diving or tending the diver, the diver and diver tender shall receive the piledriver rate. Diver tenders shall receive \$1.00 per hour above the pile driver rate when tending the diver.

Work on free-standing stacks, concrete silos & public utility electrical power houses, which are over 35 ft. in height when constructed: \$.50 per hour additional.

Work on exterior concrete shear wall gang forms, 45 ft. or more above ground elevation or on setback: \$.50 per hour additional.

The designated piledriver, known as the ""monkey"": \$1.00 per hour additional.

 CARP1121-002 01/02/2023

	Rates	Fringes
MILLWRIGHT.....	\$ 41.54	30.73

 ELEC0099-002 12/05/2022

	Rates	Fringes
ELECTRICIAN.....	\$ 45.86	53.26%
Teledata System Installer.....	\$ 34.40	12.10%+15.31

FOOTNOTES:

Work of a hazardous nature, or where the work height is 30 ft. or more from the floor, except when working OSHA-approved lifts: 20% per hour additional.

Work in tunnels below ground level in combined sewer outfall: 20% per hour additional.

 ELEV0039-001 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 59.36	37.335+a+b

FOOTNOTES:

a. PAID HOLIDAYS: New Years Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

b. Employer contributes 8% basic hourly rate for 5 years or more of service of 6% basic hourly rate for 6 months to 5 years of service as vacation pay credit.

 ENGI0057-001 06/01/2022

Rates Fringes

Operating Engineer: (power plants, sewer treatment plants, pumping stations, tunnels, caissons, piers, docks, bridges, wind turbines, subterranean & other marine and heavy construction work)

GROUP 1.....	\$ 43.55	29.25+a
GROUP 2.....	\$ 41.55	29.25+a
GROUP 3.....	\$ 37.17	29.25+a
GROUP 4.....	\$ 34.32	29.25+a
GROUP 5.....	\$ 40.60	29.25+a
GROUP 6.....	\$ 31.40	29.25+a
GROUP 7.....	\$ 25.40	29.25+a
GROUP 8.....	\$ 37.25	29.25+a
GROUP 9.....	\$ 41.17	29.25+a

a. BOOM LENGTHS, INCLUDING JIBS:

- 150 feet and over + \$ 2.00
- 180 feet and over + \$ 3.00
- 210 feet and over + \$ 4.00
- 240 feet and over + \$ 5.00
- 270 feet and over + \$ 7.00
- 300 feet and over + \$ 8.00
- 350 feet and over + \$ 9.00
- 400 feet and over + \$10.00

a. PAID HOLIDAYS:

New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

a. FOOTNOTES:

Hazmat work: \$2.00 per hour additional.
Tunnel/Shaft work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks

GROUP 2: Digging machine, Ross Carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, graders, front end loader (3 yds. and over), vibratory hammer & vacuum truck, roadheaders, forklifts, economobile type equipment, tunnel boring machines, concrete pump and on site concrete plants.

GROUP 3: Oilers on cranes.

GROUP 4: Oiler on crawler backhoe.

GROUP 5: Bulldozer, bobcats, skid steer loader, tractor, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile-powered sweeper (3-yd. capacity), 8-ft. sweeper minimum 65 HP).

GROUP 6: Well-point installation crew.

GROUP 7: Utility Engineers and Signal Persons

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator and light plant, gas and electric driven pump and air compressor.

GROUP 9: Boat & tug operator.

ENGI0057-002 05/01/2022

	Rates	Fringes
Power Equipment Operator (highway construction projects; water and sewerline projects which are incidental to highway construction projects; and bridge projects that do not span water)		
GROUP 1.....	\$ 36.70	29.25+a
GROUP 2.....	\$ 31.40	29.25+a
GROUP 3.....	\$ 25.40	29.25+a
GROUP 4.....	\$ 31.98	29.25+a
GROUP 5.....	\$ 35.68	29.25+a
GROUP 6.....	\$ 35.30	29.25+a
GROUP 7.....	\$ 30.95	29.25+a
GROUP 8.....	\$ 32.33	29.25+a
GROUP 9.....	\$ 34.28	29.25+a

a. FOOTNOTE: a. Any employee who works three days in the week in which a holiday falls shall be paid for the holiday.

a. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Digging machine, crane, piledriver, lighter, locomotive, derrick, hoist, boom truck, John Henry's, directional drilling machine, cold planer, reclaimer, paver, spreader, grader, front end loader (3 yds. and over), vacuum truck, test boring machine operator, veemere saw, water blaster, hydro-demolition robot, forklift, economobile, Ross Carrier, concrete pump operator and boats

GROUP 2: Well point installation crew

GROUP 3: Utility engineers and signal persons

GROUP 4: Oiler on cranes

GROUP 5: Combination loader backhoe, front end loader (less than 3 yds.), forklift, bulldozers & scrapers and boats

GROUP 6: Roller, skid steer loaders, street sweeper

GROUP 7: Gas and electric drive heater, concrete mixer, light plant, welding machine, pump & compressor

GROUP 8: Stone crusher

GROUP 9: Mechanic & welder

BUILDING CONSTRUCTION

	Rates	Fringes
Power Equipment Operator		
GROUP 1.....	\$ 42.82	29.25+a
GROUP 2.....	\$ 40.82	29.25+a
GROUP 3.....	\$ 40.60	29.25+a
GROUP 4.....	\$ 36.60	29.25+a
GROUP 5.....	\$ 33.75	29.25+a
GROUP 6.....	\$ 39.90	29.25+a
GROUP 7.....	\$ 39.47	29.25+a
GROUP 8.....	\$ 36.79	29.25+a

a. BOOM LENGTHS, INCLUDING JIBS:

- 150 ft. and over: + \$ 2.00
- 180 ft. and over: + \$ 3.00
- 210 ft. and over: + \$ 4.00
- 240 ft. and over: + \$ 5.00
- 270 ft. and over: + \$ 7.00
- 300 ft. and over: + \$ 8.00
- 350 ft. and over: + \$ 9.00
- 400 ft. and over: + \$10.00

a. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

- a. FOOTNOTE: Hazmat work: \$2.00 per hour additional.
Tunnel/Shaft work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks.

GROUP 2: Digging machine, Ross carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, front end loader (3 yds. and over), vibratory hammer and vacuum truck

GROUP 3: Telehandler equipment, forklift, concrete pump & on-site concrete plant

GROUP 4: Fireman & oiler on cranes

GROUP 5: Oiler on crawler backhoe

GROUP 6: Bulldozer, skid steer loaders, bobcats, tractor, grader, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile powered sweeper (3 yds. capacity), 8-ft. sweeper (minimum 65 hp)

GROUP 7: Well point installation crew

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator for light plant, gas and electric driven pump & air compressor

IRON0037-001 09/16/2022

	Rates	Fringes
IRONWORKER.....	\$ 39.01	31.58

LABO0271-001 05/30/2021

BUILDING CONSTRUCTION

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 33.55	26.15
GROUP 2.....	\$ 33.80	26.15
GROUP 3.....	\$ 34.30	26.15
GROUP 4.....	\$ 34.55	26.15
GROUP 5.....	\$ 35.55	26.15

LABORERS CLASSIFICATIONS

GROUP 1: Laborer, Carpenter Tender, Mason Tender, Cement Finisher Tender, Scaffold Erector, Wrecking Laborer, Asbestos Removal [Non-Mechanical Systems]

GROUP 2: Asphalt Raker, Adzemen, Pipe Trench Bracer, Demolition Burner, Chain Saw Operator, Fence & Guard Rail Erector, Setter of Metal Forms for Roadways, Mortar Mixer, Pipelayer, Riprap & Dry Stonewall Builder, Highway Stone Spreader, Pneumatic Tool Operator, Wagon Drill Operator, Tree Trimmer, Barco-Type Jumping Tamper, Mechanical Grinder Operator

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

GROUP 4: Air Track Operator, Hydraulic & Similar Self-Powered Drill, Block Paver, Rammer, Curb Setter, Powderman & Blaster

GROUP 5: Toxic Waste Remover

LABO0271-002 05/30/2021

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
LABORER		
COMPRESSED AIR		
Group 1.....	\$ 53.45	24.15
Group 2.....	\$ 50.98	24.15
Group 3.....	\$ 40.50	24.15
FREE AIR		
Group 1.....	\$ 44.05	24.15
Group 2.....	\$ 43.05	24.15
Group 3.....	\$ 40.50	24.15
LABORER		
Group 1.....	\$ 33.55	24.15
Group 2.....	\$ 33.80	24.15
Group 3.....	\$ 34.55	24.15
Group 4.....	\$ 27.05	24.15
Group 5.....	\$ 35.55	24.15
OPEN AIR CAISSON,		

UNDERPINNING WORK AND
BORING CREW

Bottom Man.....	\$ 39.55	24.15
Top Man & Laborer.....	\$ 38.60	24.15
TEST BORING		
Driller.....	\$ 40.00	24.15
Laborer.....	\$ 38.60	24.15

LABORER CLASSIFICATIONS

GROUP 1: Laborer; Carpenter tender; Cement finisher tender; Wrecking laborer; Asbestos removers [non-mechanical systems]; Plant laborer; Driller in quarries

GROUP 2: Adzeperson; Asphalt raker; Barcotype jumping tamper; Chain saw operators; Concrete and power buggy operator; Concrete saw operator; Demolition burner; Fence and guard rail erector; Highway stone spreader; Laser beam operator; Mechanical grinder operator; Mason tender; Mortar mixer; Pneumatic tool operator; Riprap and dry stonewall builder; Scaffold erector; Setter of metal forms for roadways; Wagon drill operator; Wood chipper operator; Pipelayer; Pipe trench bracer

GROUP 3: Air track drill operator; Hydraulic and similar powered drills; Brick paver; Block paver; Rammer and curb setter; Powderperson and blaster

GROUP 4: Flagger & signaler

GROUP 5: Toxic waste remover

LABORER - COMPRESSED AIR CLASSIFICATIONS

GROUP 1: Mucking machine operator, tunnel laborer, brake person, track person, miner, grout person, lock tender, gauge tender, miner: motor person & all others in compressed air

GROUP 2: Change house attendant, powder watchperson, top person on iron

GROUP 3: Hazardous waste work within the ""HOT"" zone

LABORER - FREE AIR CLASSIFICATIONS

GROUP 1: Grout person - pumps, brake person, track person, form mover & stripper (wood & steel), shaft laborer, laborer topside, outside motorperson, miner, conveyor operator, miner welder, heading motorperson, erecting operator, mucking machine operator, nozzle person, rodperson, safety miner, shaft & tunnel, steel & rodperson, mole nipper, concrete worker, form erector (wood, steel and all accessories), cement finisher (this type of work only), top signal person, bottom person (when heading is 50' from shaft), burner, shield operator and TBM operator

GROUP 2: Change house attendant, powder watchperson

GROUP 3: Hazardous waste work within the ""HOT"" zone

	Rates	Fringes
PAINTER		
Brush and Roller.....	\$ 37.22	23.40
Epoxy, Tanks, Towers, Swing Stage & Structural Steel.....	\$ 39.22	23.40
Spray, Sand & Water Blasting.....	\$ 40.22	23.40
Taper.....	\$ 37.97	23.40
Wall Coverer.....	\$ 37.72	23.40

PAIN0011-006 06/01/2022

	Rates	Fringes
GLAZIER.....	\$ 40.78	23.40

FOOTNOTES:

SWING STAGE: \$1.00 per hour additional.
PAID HOLIDAYS: Labor Day & Christmas Day.

PAIN0011-011 06/01/2022

	Rates	Fringes
Painter (Bridge Work).....	\$ 55.00	23.75

PAIN0035-008 06/01/2011

	Rates	Fringes
Sign Painter.....	\$ 24.79	13.72

PLAS0040-001 06/03/2019

BUILDING CONSTRUCTION

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 36.00	27.15

FOOTNOTE: Cement Mason: Work on free swinging scaffolds under 3 planks width and which is 20 or more feet above ground and any offset structure: \$.30 per hour additional.

PLAS0040-002 07/01/2019

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 32.85	22.20

PLAS0040-003 07/01/2019

	Rates	Fringes
PLASTERER.....	\$ 37.55	27.50

PLUM0051-002 02/27/2023

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 48.89	31.75

ROOF0033-004 12/01/2022		

	Rates	Fringes
ROOFER.....	\$ 42.23	29.67

* SFRI0669-001 04/01/2023		

	Rates	Fringes
SPRINKLER FITTER.....	\$ 47.55	32.27

SHEE0017-002 12/01/2020		

	Rates	Fringes
Sheet Metal Worker.....	\$ 38.58	36.73

TEAM0251-001 05/01/2022		

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 28.46	32.10+A+B+C
GROUP 2.....	\$ 28.61	\$ 32.10+A+B+C
GROUP 3.....	\$ 28.66	\$ 32.10+A+B+C
GROUP 4.....	\$ 28.71	\$ 32.10+A+B+C
GROUP 5.....	\$ 28.81	\$ 32.10+A+B+C
GROUP 6.....	\$ 29.21	\$ 32.10+A+B+C
GROUP 7.....	\$ 29.41	\$ 32.10+A+B+C
GROUP 8.....	\$ 28.91	\$ 32.10+A+B+C
GROUP 9.....	\$ 29.16	\$ 32.10+A+B+C
GROUP 10.....	\$ 28.96	\$ 32.10+A+B+C

FOOTNOTES:

A. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, plus Presidents' Day, Columbus Day, Veteran's Day & V-J Day, providing the employee has worked at least one day in the calendar week in which the holiday falls.

B. Employee who has been on the payroll for 1 year or more but less than 5 years and has worked 150 Days during the last year of employment shall receive 1 week's paid vacation; 5 to 10 years - 2 weeks' paid vacation; 10 or more years - 3 week's paid vacation.

C. Employees on the seniority list shall be paid a one hundred dollar (\$100.00) bonus for every four hundred (400) hours worked, up to a maximum of five hundred dollars (\$500.00)

All drivers working on a defined hazard material job site shall be paid a premium of \$2.00 per hour over applicable rate.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Pick-up trucks, station wagons, & panel trucks

GROUP 2: Two-axle on low beds

GROUP 3: Two-axle dump truck

GROUP 4: Three-axle dump truck

GROUP 5: Four- and five-axle equipment

GROUP 6: Low-bed or boom trailer.

GROUP 7: Trailers when used on a double hook up (pulling 2 trailers)

GROUP 8: Special earth-moving equipment, under 35 tons

GROUP 9: Special earth-moving equipment, 35 tons or over

GROUP 10: Tractor trailer

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can

be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

Sign In Sheet
 Providence Water Supply Board
 Removal and Disposal of Residuals from the
 South Sedimentation Basin
 Pre-Bid Meeting and Site Walk

AECOM PROJECT NO: 60689058
 April 19, 2023 10:00AM

ONLY ONE REPRESENTATIVE PER COMPANY NECESSARY - Please Print

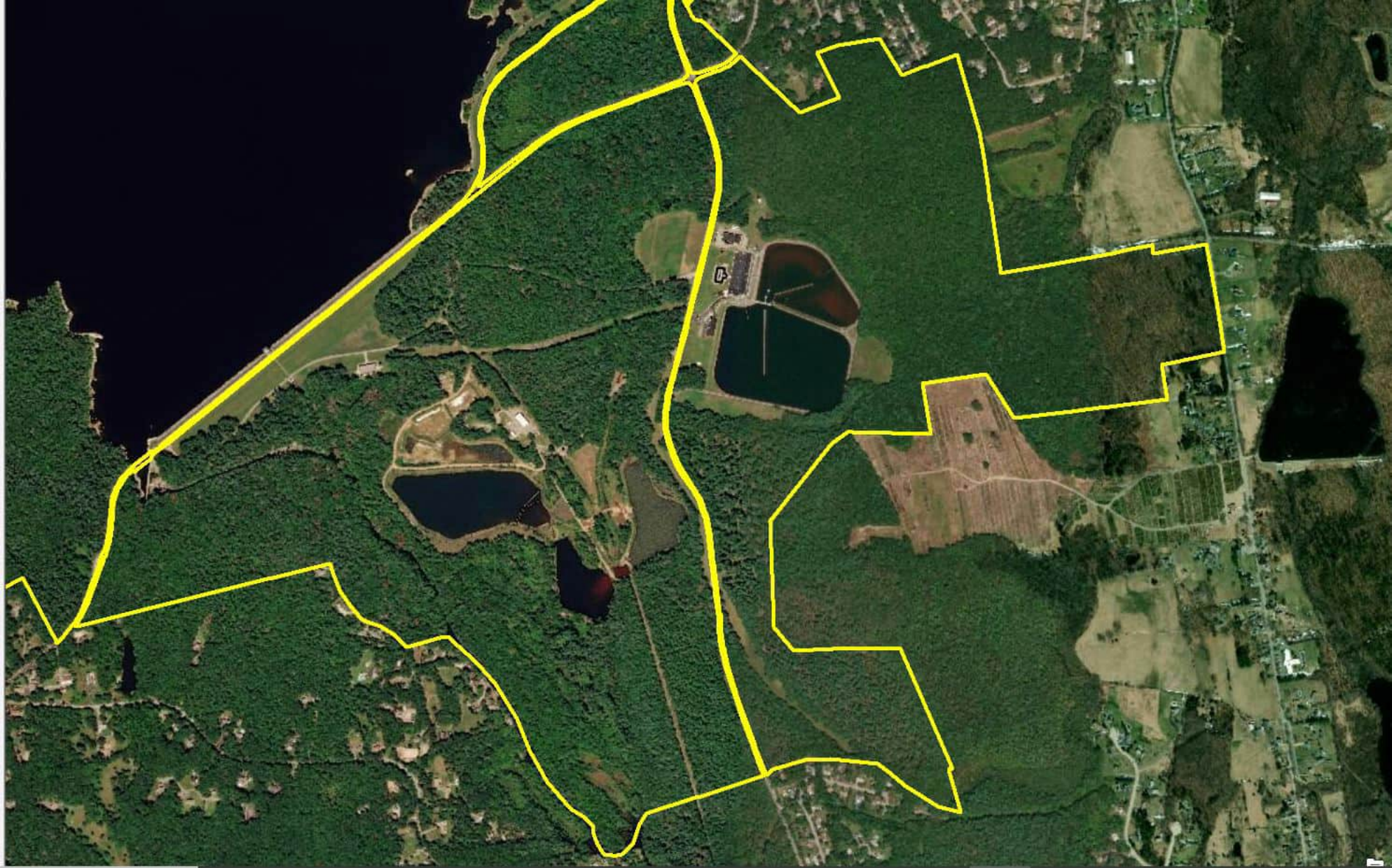
No.	Name/ Title	Company	Telephone No.	Email Address
1	Alexis Sturgis Project Engineer	Charter Contracting	857-319-0156	LSturgis@Charter.us
2	Joshua Lombard Project Manager	J.F. Brennan	608-667-1783	jmlombard@jfbrennan.com
3	Dan Herbst Project Manager	Mobile Dredging	443-392-2744	dherbster@mdupinc.com
4	STEVEN WELLS PRESIDENT	SPECTRASEAR INC.	973-589-0277	swells@spectrasear.com

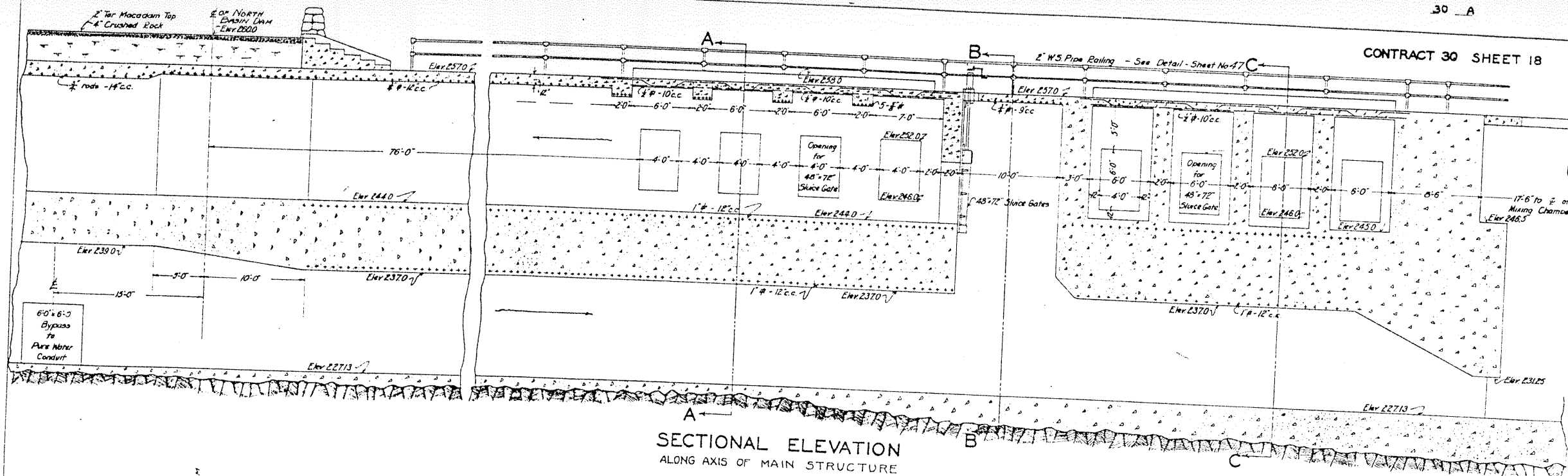
Sign In Sheet
Providence Water Supply Board
Removal and Disposal of Residuals from the
South Sedimentation Basin
Pre-Bid Meeting and Site Walk

AECOM PROJECT NO: 60689058
April 19, 2023 10:00AM

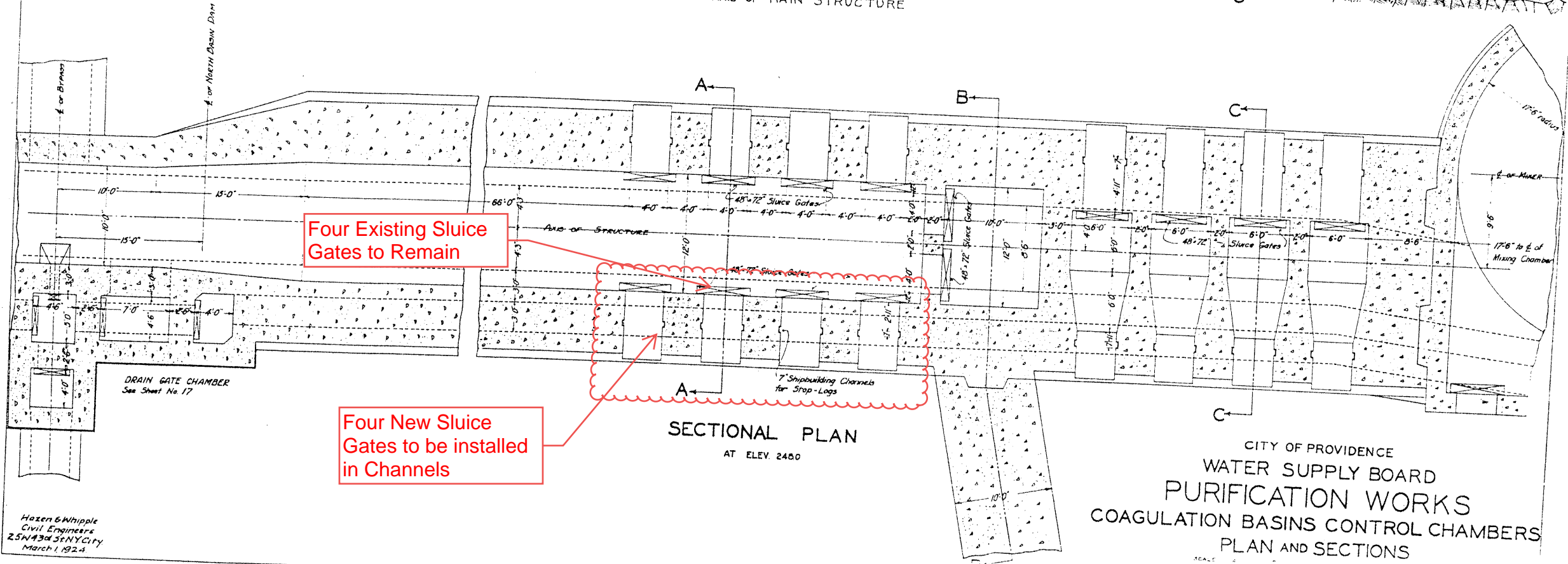
ONLY ONE REPRESENTATIVE PER COMPANY NECESSARY- Please Print

No.	Name/ Title	Company	Telephone No.	Email Address
1	GLENN SCUDDEN CONST. / M.P.	TIGHE & BOND	(508) 245-3999	gfsudden@tighetbond.com
2	SEAN GRIFFIN CONST. / NSP.	CDM SMITH	860-538-0374	GRIFFIN@CDMSMITH.COM
3	Peter DiLorenzo	Providence Water	401-521-6300 ex. 7230	Peter@ProvidenceWater.com
4				





SECTIONAL ELEVATION
ALONG AXIS OF MAIN STRUCTURE



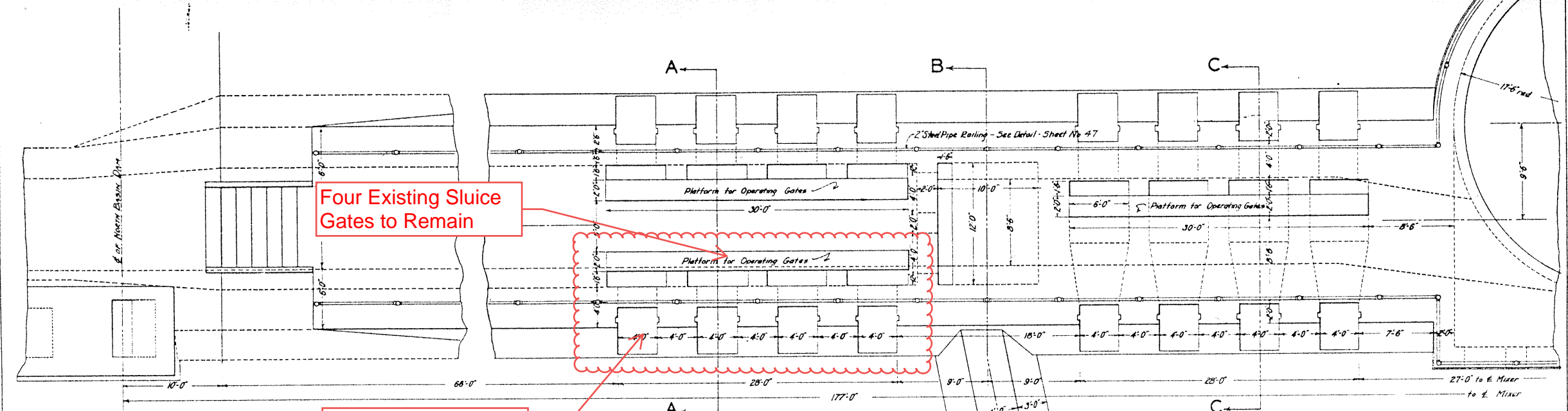
SECTIONAL PLAN
AT ELEV. 2460

Four Existing Sluice
Gates to Remain

Four New Sluice
Gates to be installed
in Channels

CITY OF PROVIDENCE
 WATER SUPPLY BOARD
 PURIFICATION WORKS
 COAGULATION BASINS CONTROL CHAMBERS
 PLAN AND SECTIONS

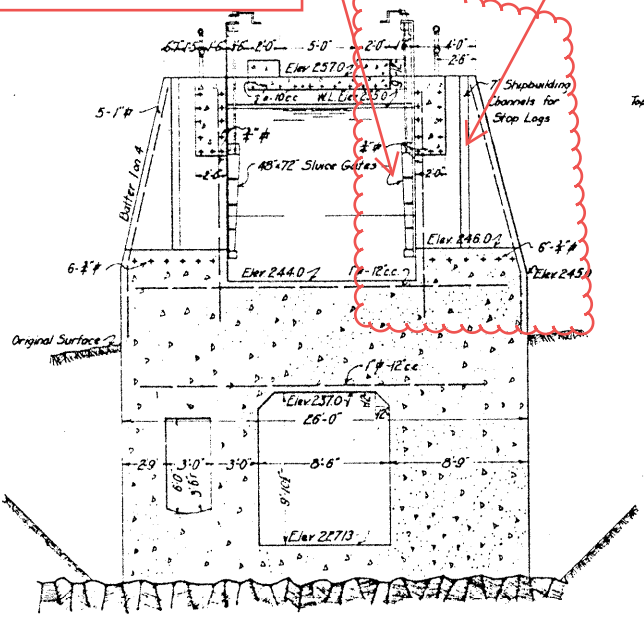
Hazen & Whipple
 Civil Engineers
 25 N 43d St NYC
 March 1, 1924



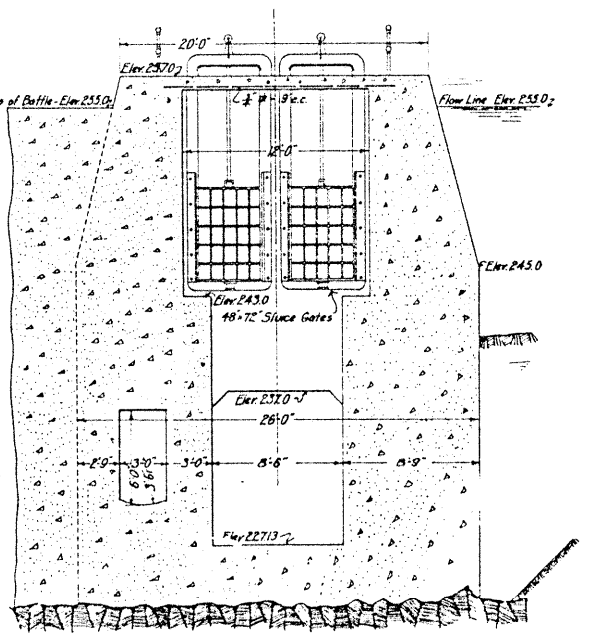
PLAN

Four Existing Sluice Gates to Remain

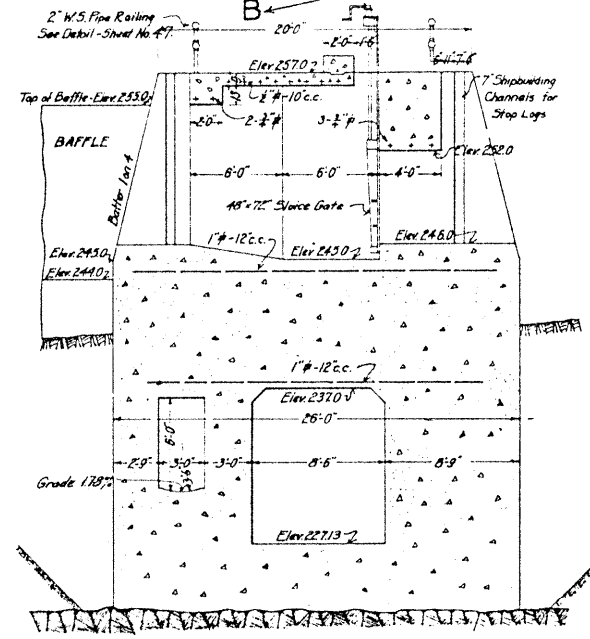
Four New Sluice Gates to be installed in Channels



SECTION A-A



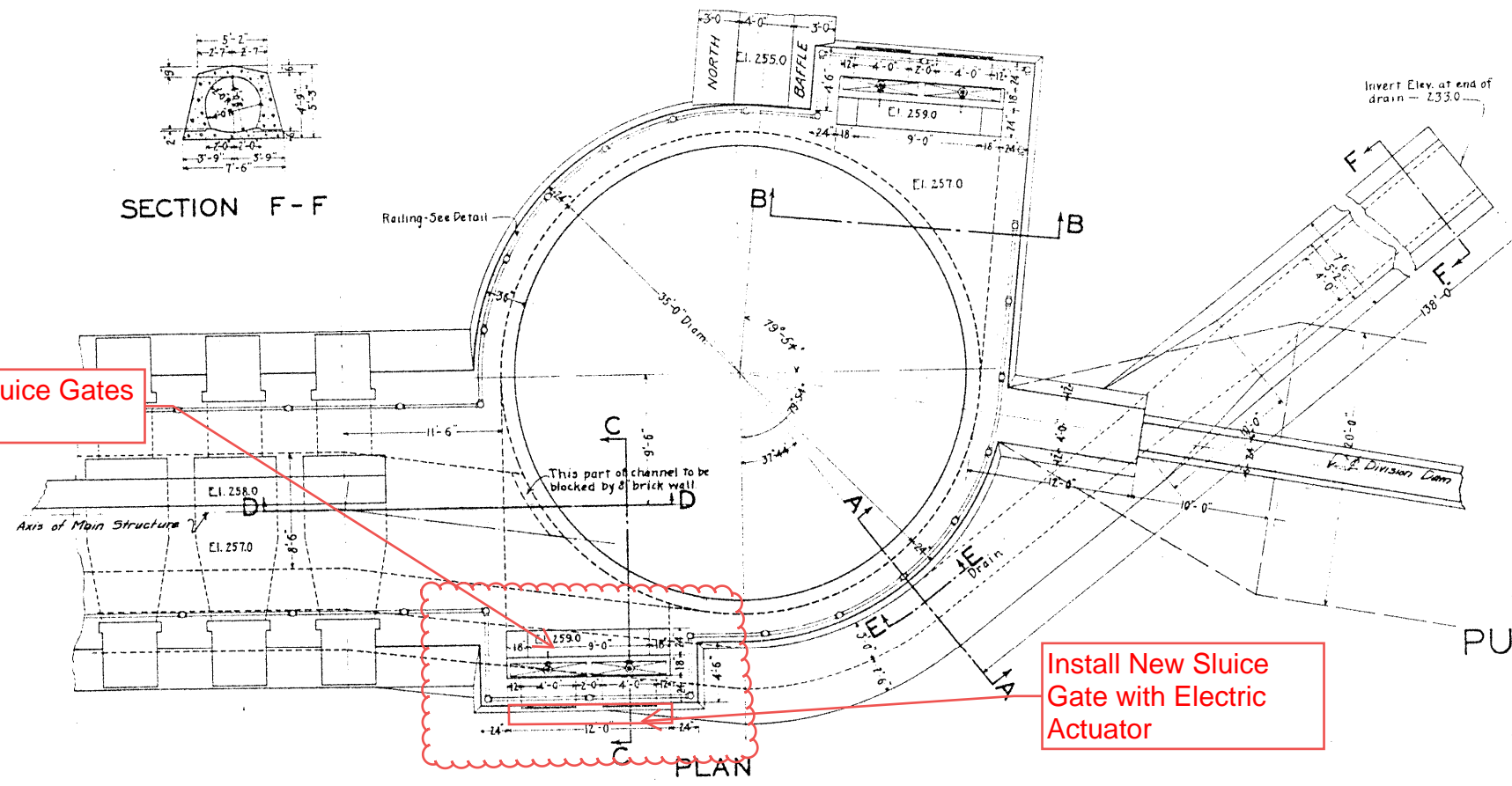
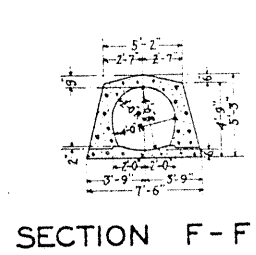
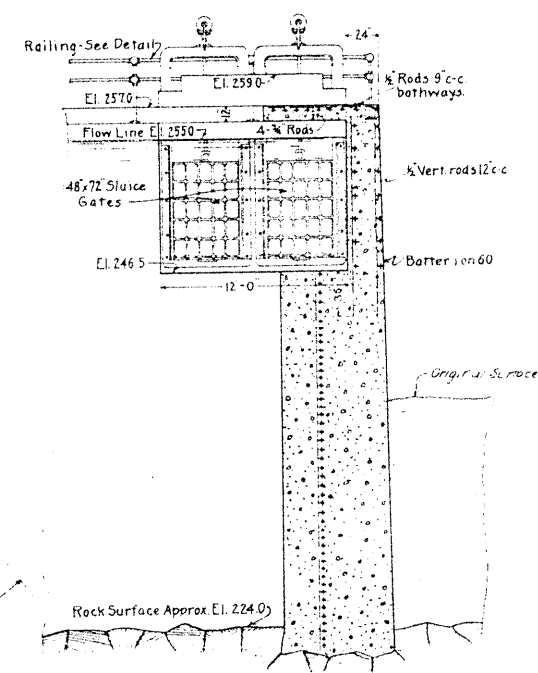
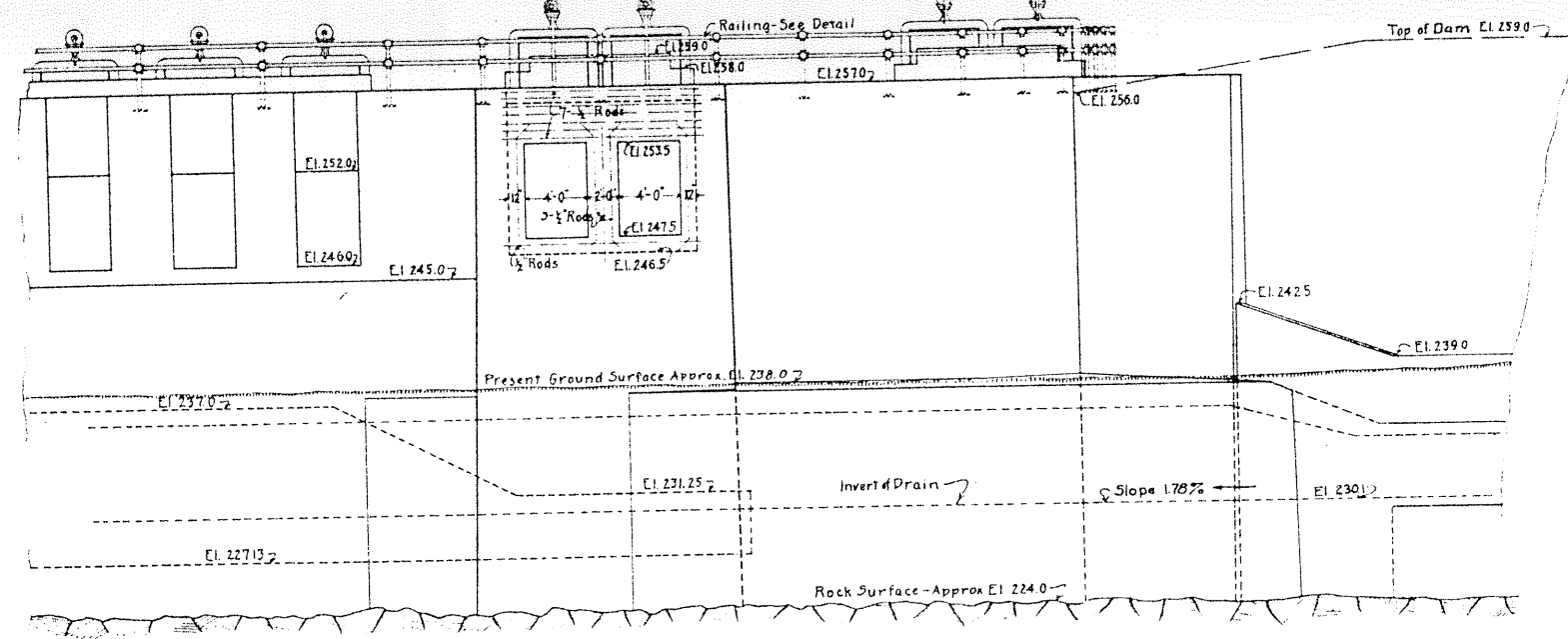
SECTION B-B



SECTION C-C

CITY OF PROVIDENCE
 WATER SUPPLY BOARD
 PURIFICATION WORKS
 COAGULATION BASIN CONTROL CHAMBER
 PLAN AND SECTIONS

SCALE 1" = 12 FEET



Existing Sluice Gates to Remain

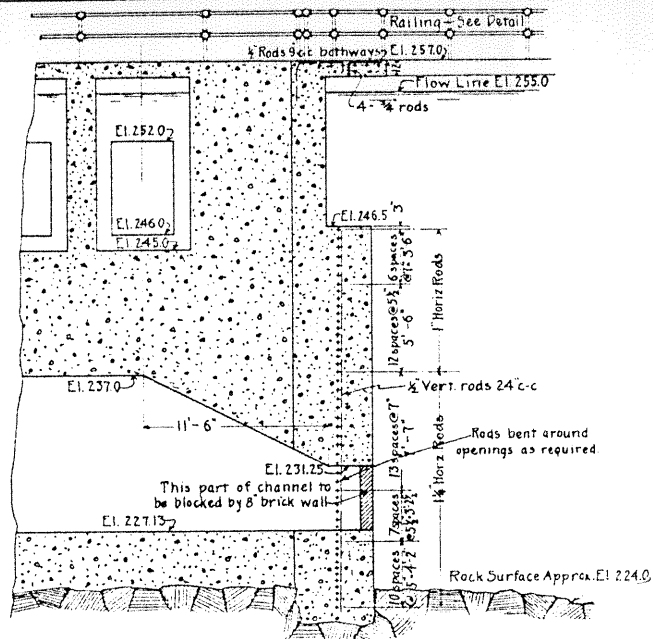
Install New Sluice Gate with Electric Actuator

Note - Sections A-A-C-C, D-D, and E-E shown on Sheet 21

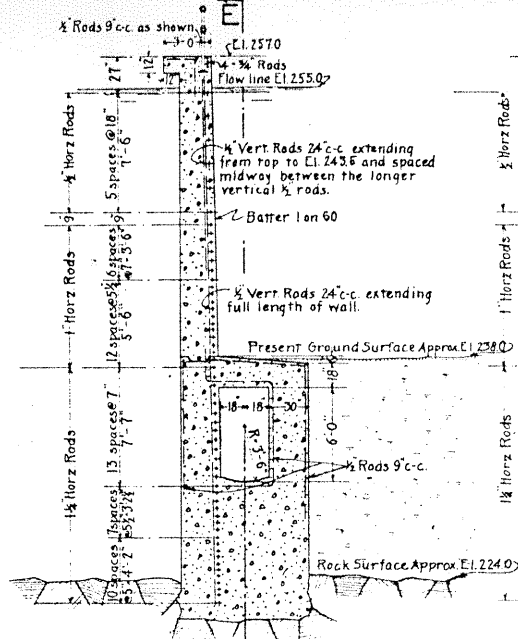
CITY OF PROVIDENCE
 WATER SUPPLY BOARD
 PURIFICATION WORKS
 MIXER
 PLAN AND ELEVATION

SCALE 1" = 12 FEET

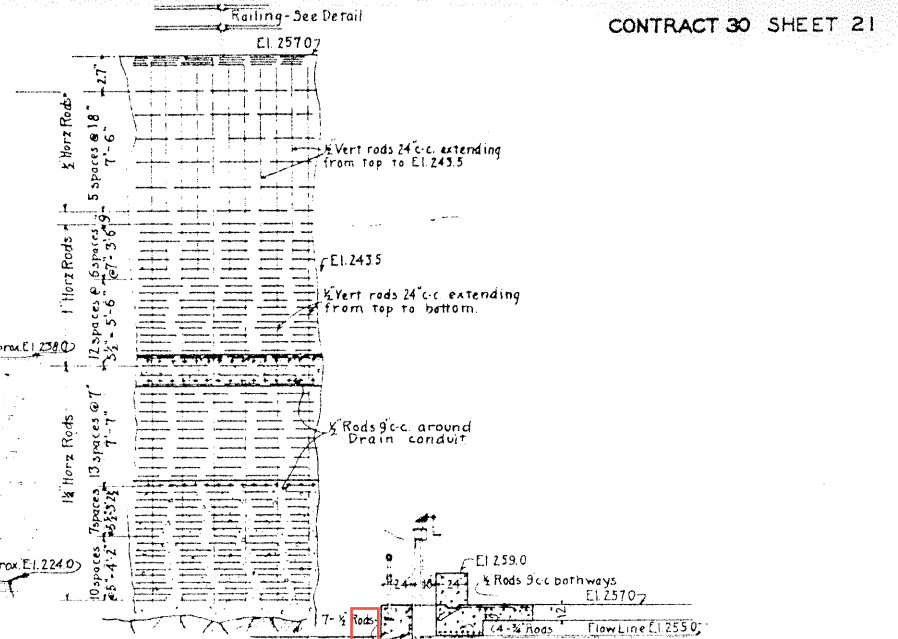
Malcolm Pirnie
 Designing Engineer Acc 6920



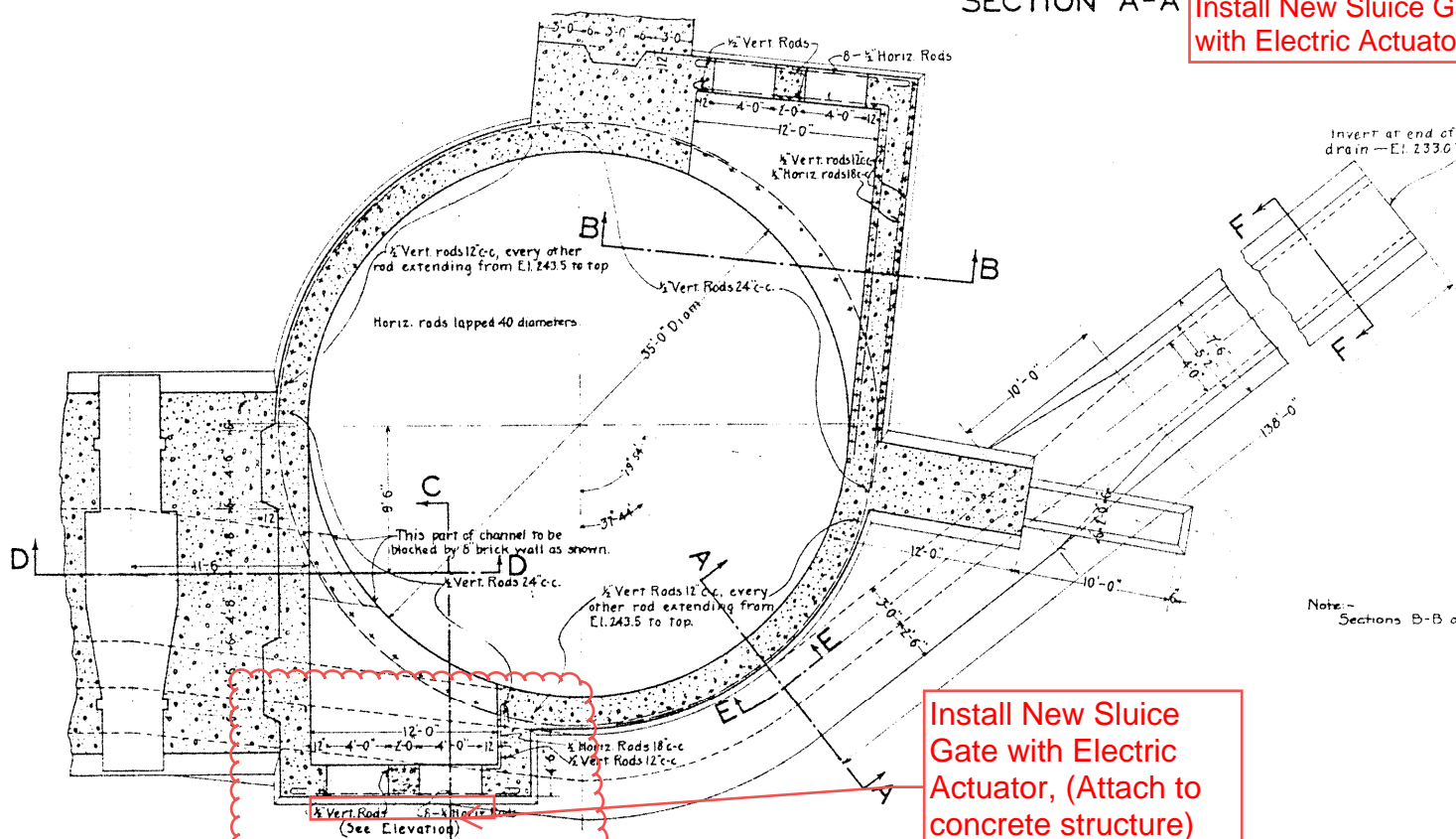
SECTION D-D



SECTION A-A



SECTION E-E

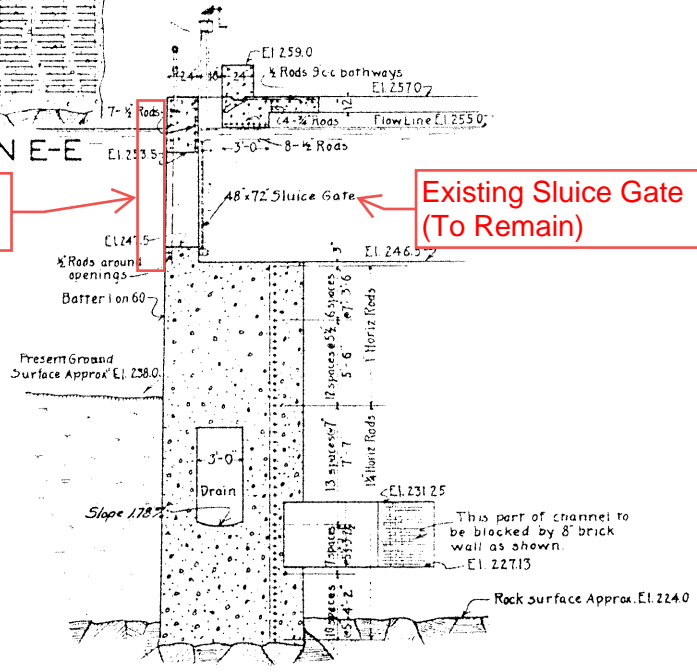


SECTIONAL PLAN AT ELEV 250

Install New Sluice Gate with Electric Actuator

Existing Sluice Gate (To Remain)

Install New Sluice Gate with Electric Actuator, (Attach to concrete structure)



SECTION C-C

Note: Sections B-B and F-F on Sheet 20.

CITY OF PROVIDENCE
 WATER SUPPLY BOARD
 PURIFICATION WORKS
 MIXER
 PLAN AND SECTIONS
 SCALE 1" = 4' FEET











AUTHORIZATION TO DISCHARGE UNDER THE
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 46-12 of the Rhode Island General Laws, as amended,

Providence Water
125 Dupont Drive
Providence, RI 02907

is authorized to discharge from a facility located at

P.J. Holton Water Treatment Plant
61 North Road, Route 116
Scituate, RI 02831

to receiving waters named
unnamed tributary to the Pawtuxet River – North Branch

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

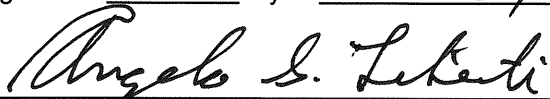
This permit shall become effective on March 1, 2019.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on April 13, 2012.

This permit consists of nine (9) pages in Part I including effluent limitations, monitoring requirements, etc. and 10 pages in Part II including General Conditions.

Signed this 30th day of January, 2019.



Angelo S. Liberti, P.E., Administrator of Surface Water Protection
Office of Water Resources
Rhode Island Department of Environmental Management
Providence, Rhode Island

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 002A (treated filter backwash, treated sedimentation basin cleaning discharges and treated water quality analyzer flows from the overflow structure of Lagoon 2). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Concentration - specify units		Monitoring Requirement		
	Quantity - lbs./day				Maximum Daily	Measurement Frequency	Sample Type
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly			
			*(Minimum)	*(Average)	*(Maximum)		
Flow	--- MGD	--- MGD				Continuous	Recorder
TSS	91 lb/day	218 lb/day	5 mg/l		11 mg/l	2/Month	Composite ¹
Turbidity			--- NTU		--- NTU	2/Month	Composite ¹
pH			(6.0 S.U.)		(9.0 S.U.)	2/Month	Grab ²
Total Residual Chlorine			11 ug/l ³		19 ug/l ³	2/Month	Grab
Total Iron			800 ug/l		--- ug/l	2/Month	Grab
Total Lead			--- ug/l		--- ug/l	1/Quarter	Grab

¹ All composite sampling must consist of a minimum of four (4) grabs spaced equally apart during the selected sampling day.

² Compliance with these limitations shall be determined by taking a minimum of one (1) grab sample. The grab sample must be analyzed for pH immediately (<15 minutes after sample collection). The maximum value to be reported is the highest individual measurement obtained during the monitoring period. The minimum value to be reported is the lowest individual measurement obtained during the monitoring period.

³The following methods may be used to analyze the grab samples: (1) Low Level Amperometric Titration, Standard Methods (18th Edition) No. 4500-CI E; (2) DPD Spectrophotometric, EPA No. 330.5 or Standard Methods (18th Edition) No. 4500-CI G. The limit at which compliance/noncompliance determinations will be based is the Quantitation Limit which is defined as 20 ug/l for TRC. This value may be reduced by permit modification as more sensitive methods are approved by EPA and the State.

--- signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

* Values in parentheses () are to be reported as Minimum/Maximum for the reporting period rather than Average Monthly/Maximum Daily.

**Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Outfall 002A (Final discharge from Lagoon 2)

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001B (treated filter backwash, treated sedimentation basin cleaning discharges and treated water quality analyzer flows from the overflow structure of Lagoon 1B). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Concentration - specify units		Monitoring Requirement		
	Quantity - lbs./day		Concentration - specify units		Maximum	Measurement Frequency	Sample Type
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly			
Flow	--- MGD	--- MGD	*(Minimum)	*(Average)	*(Maximum)	Monthly	Estimate
TSS	91 lb/day	218 lb/day	5 mg/l		11 mg/l	2/Month	Composite ¹
Turbidity			--- NTU		--- NTU	2/Month	Composite ¹
pH			(6.0 S.U.)		(9.0 S.U.)	2/Month	Grab ²
Total Residual Chlorine			11 ug/l ³		19 ug/l ³	2/Month	Grab
Total Iron			800 ug/l		--- ug/l	2/Month	Grab
Total Lead			--- ug/l		--- ug/l	1/Quarter	Grab

¹ All composite sampling must consist of a minimum of four (4) grabs spaced equally apart during the selected sampling day.

² Compliance with these limitations shall be determined by taking a minimum of one (1) grab sample. The grab sample must be analyzed for pH immediately (<15 minutes after sample collection). The maximum value to be reported is the highest individual measurement obtained during the monitoring period. The minimum value to be reported is the lowest individual measurement obtained during the monitoring period.

³The following methods may be used to analyze the grab samples: (1) Low Level Amperometric Titration, Standard Methods (18th Edition) No. 4500-Cl E; (2) DPD Spectrophotometric, EPA No. 330.5 or Standard Methods (18th Edition) No. 4500-Cl G. The limit at which compliance/noncompliance determinations will be based is the Quantitation Limit which is defined as 20 ug/l for TRC. This value may be reduced by permit modification as more sensitive methods are approved by EPA and the State.

--- signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

* Values in parentheses () are to be reported as Minimum/Maximum for the reporting period rather than Average Monthly/Maximum Daily.

**Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Outfall 001B (Final discharge from Lagoon 1B)

3. The pH of the effluent shall not be less than 6.0 - 9.0 standard units.
4. The discharge shall not cause visible discoloration of the receiving waters.
5. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
6. The turbidity of the receiving water shall not exceed 10 NTU over natural background.
7. Solids, sludges, or biosolids removed in the course of treatment or control of wastewaters, shall be properly disposed of in compliance with applicable state laws, regulations, and permit requirements, and in a manner such as to prevent any pollutant from such materials from entering the waters of the state.
8. The permittee is required to maintain and implement a comprehensive Residuals Management Plan. The components of the Residuals Management Plan must include the following:
 - A. Characterization of the form, quantity, and quality of the residuals;
 - B. Determination of the appropriate regulatory requirements;
 - C. Identification of feasible disposal options;
 - D. Selection of appropriate residuals processing/treatment technologies and development of a residuals management strategy that meets the regulatory goals established for the water treatment facility;
 - E. Development of best management practices which at a minimum include the following: a) an evaluation of the water treatment residuals storage capacity within each residuals treatment unit and identification of criteria which will serve as a trigger to determine when treatment units (i.e. lagoons, equalization basins, etc.) need to be pulled offline in order to avoid short circuiting and potential permit violations; b) development of procedures and periodic evaluation techniques necessary to gauge the remaining storage capacity of residuals treatment units; c) an evaluation of the need for coordination between WTP operators and personnel responsible for the operation of WTP residuals treatment units d) development of maintenance procedures to deactivate and prepare treatment units for sludge removal. These maintenance procedures must identify the appropriate steps necessary to temporarily lower the water level in the treatment unit, remove settled sludges, and restore the flow through the treatment unit in such a way that degradation of the receiving waters and permit violations will be prevented;
 - F. A requirement that the discharge of sedimentation basin cleanings are prohibited during periods when Lagoons 1A, 1B, or 2 are out of service;
 - G. A requirement that all critical activities associated with the operations and maintenance of the water treatment plant residuals treatment units be documented and copies of such documentation be kept on site at all times throughout the effective life of the permit;

- H. A requirement to review the Residuals Management Plan (at a minimum) on a yearly basis and must be updated as necessary. A copy of the Residuals Management Plan and records of the annual reviews must be available on site at all times throughout the effective life of this permit.

The DEM may notify the permittee at any time that the Residuals Management Plan is deficient or does not meet one or more of the minimum requirements of the permit. After such notification from the DEM, the permittee shall make changes to the Residuals Management Plan and shall submit to the DEM a written certification that the requested changes have been made. Unless otherwise provided by the DEM, the permittee shall have thirty (30) days after such notification to make the necessary changes. The permittee shall immediately amend the Residuals Management Plan if it proves to be ineffective in achieving the general objectives of controlling pollutants in discharges associated with the water treatment facility. Changes must be noted and then submitted to the DEM within thirty (30) days of amending the Residuals Management Plan. Amendments to the Residuals Management Plan may be reviewed by the DEM in the same manner as specified above.

9. This permit only authorizes the use of iron based water treatment chemicals as the primary coagulation agent (i.e. ferric sulfate). The permittee must notify the DEM and obtain written approval prior to using any other non iron-based coagulation agent (i.e. aluminum sulfate).
10. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitro-phenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.
 - b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) Five hundred micrograms per liter (500 ug/l);
 - (2) One milligram per liter (1 mg/l) for antimony;

- (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.
- c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or by-product any toxic pollutant which was not reported in the permit application.

11. This permit serves as the State's Water Quality Certificate for the discharges described herein.

B. DETECTION LIMITS

The permittee shall assure that all wastewater testing required by this permit is performed in conformance with the method detection limits listed below. In accordance with 40 CFR Part 136, EPA approved analysis techniques, quality assurance procedures and quality control procedures shall be followed for all reports required to be submitted under the RIPDES program. These procedures are described in "Methods for the Determination of Metals in Environmental Samples" (EPA/600/4-91/010) and "Methods for Chemical Analysis of Water and Wastes" (EPA/600/4-79/020).

The report entitled "Methods for the Determination of Metals in Environmental Samples" includes a test which must be performed in order to determine if matrix interferences are present, and a series of tests to enable reporting of sample results when interferences are identified. Each step of the series of tests becomes increasingly complex, concluding with the complete Method of Standard Additions analysis. The analysis need not continue once a result which meets the applicable quality control requirements has been obtained. Documentation of all steps conducted to identify and account for matrix interferences shall be documented and maintained onsite.

If, after conducting the complete Method of Standard Additions analysis, the laboratory is unable to determine a valid result, the laboratory shall report "could not be analyzed". Documentation supporting this claim shall be maintained onsite. If valid analytical results are repeatedly unobtainable, DEM may require that the permittee determine a method detection limit (MDL) for their effluent or sludge as outlined in 40 CFR Part 136, Appendix B.

When calculating sample averages for reporting on discharge monitoring reports (DMRs):

1. "could not be analyzed" data shall be excluded, and shall not be considered as failure to comply with the permit sampling requirements;
2. results reported as less than the MDL shall be reported as zero in accordance with the DEM's DMR Instructions, provided that all appropriate EPA approved methods were followed.

Therefore, all sample results shall be reported as: an actual value, "could not be analyzed", or zero. The effluent or sludge specific MDL must be calculated using the methods outlined in 40 CFR Part 136, Appendix B. Samples which have been diluted to ensure that the sample concentration will be within the linear dynamic range shall not be diluted to the extent that the analyte is not detected. If this should occur the analysis shall be repeated using a lower degree of dilution.

LIST OF TOXIC POLLUTANTS

The following list of toxic pollutants has been designated pursuant to Section 307(a)(1) of the Clean Water Act. The Method Detection Limits (MDLs) represent the required Rhode Island MDLs.

Volatiles - EPA Method 624 MDL ug/l (ppb)			17P	heptachlor epoxide	0.040
1V	acrolein	10.0	Pesticides - EPA Method 608 MDL ug/l (ppb)		
2V	acrylonitrile	5.0	18P	PCB-1242	0.289
3V	benzene	1.0	19P	PCB-1254	0.298
5V	bromoform	1.0	20P	PCB-1221	0.723
6V	carbon tetrachloride	1.0	21P	PCB-1232	0.387
7V	chlorobenzene	1.0	22P	PCB-1248	0.283
8V	chlorodibromomethane	1.0	23P	PCB-1260	0.222
9V	chloroethane	1.0	24P	PCB-1016	0.494
10V	2-chloroethylvinyl ether	5.0	25P	toxaphene	1.670
11V	chloroform	1.0	Base/Neutral - EPA Method 625 MDL ug/l (ppb)		
12V	dichlorobromomethane	1.0	1B	acenaphthene *	1.0
14V	1,1-dichloroethane	1.0	2B	acenaphthylene *	1.0
15V	1,2-dichloroethane	1.0	3B	anthracene *	1.0
16V	1,1-dichloroethylene	1.0	4B	benzidine	4.0
17V	1,2-dichloropropane	1.0	5B	benzo(a)anthracene *	2.0
18V	1,3-dichloropropylene	1.0	6B	benzo(a)pyrene *	2.0
19V	ethylbenzene	1.0	7B	3,4-benzofluoranthene *	1.0
20V	methyl bromide	1.0	8B	benzo(ghi)perylene *	2.0
21V	methyl chloride	1.0	9B	benzo(k)fluoranthene *	2.0
22V	methylene chloride	1.0	10B	bis(2-chloroethoxy)methane	2.0
23V	1,1,2,2-tetrachloroethane	1.0	11B	bis(2-chloroethyl)ether	1.0
24V	tetrachloroethylene	1.0	12B	bis(2-chloroisopropyl)ether	1.0
25V	toluene	1.0	13B	bis(2-ethylhexyl)phthalate	1.0
26V	1,2-trans-dichloroethylene	1.0	14B	4-bromophenyl phenyl ether	1.0
27V	1,1,1-trichloroethane	1.0	15B	butylbenzyl phthalate	1.0
28V	1,1,2-trichloroethane	1.0	16B	2-chloronaphthalene	1.0
29V	trichloroethylene	1.0	17B	4-chlorophenyl phenyl ether	1.0
31V	vinyl chloride	1.0	18B	chrysene *	1.0
Acid Compounds - EPA Method 625 MDL ug/l (ppb)			19B	dibenzo (a,h)anthracene *	2.0
1A	2-chlorophenol	1.0	20B	1,2-dichlorobenzene	1.0
2A	2,4-dichlorophenol	1.0	21B	1,3-dichlorobenzene	1.0
3A	2,4-dimethylphenol	1.0	22B	1,4-dichlorobenzene	1.0
4A	4,6-dinitro-o-cresol	1.0	23B	3,3 ¹ -dichlorobenzidine	2.0
5A	2,4-dinitrophenol	2.0	24B	diethyl phthalate	1.0
6A	2-nitrophenol	1.0	25B	dimethyl phthalate	1.0
7A	4-nitrophenol	1.0	26B	di-n-butyl phthalate	1.0
8A	p-chloro-m-cresol	2.0	27B	2,4-dinitrotoluene	2.0
9A	pentachlorophenol	1.0	28B	2,6-dinitrotoluene	2.0
10A	phenol	1.0	29B	di-n-octyl phthalate	1.0
11A	2,4,6-trichlorophenol	1.0	30B	1,2-diphenylhydrazine (as azobenzene)	1.0
Pesticides - EPA Method 608 MDL ug/l (ppb)			31B	fluoranthene *	1.0
1P	aldrin	0.059	32B	fluorene *	1.0
2P	alpha-BHC	0.058	33B	hexachlorobenzene	1.0
3P	beta-BHC	0.043	34B	hexachlorobutadiene	1.0
4P	gamma-BHC	0.048	35B	hexachlorocyclopentadiene	2.0
5P	delta-BHC	0.034	36B	hexachloroethane	1.0
6P	chlordane	0.211	37B	indeno(1,2,3-cd)pyrene *	2.0
7P	4,4 ¹ -DDT	0.251	38B	isophorone	1.0
8P	4,4 ¹ -DDE	0.049	39B	naphthalene *	1.0
9P	4,4 ¹ -DDD	0.139	40B	nitrobenzene	1.0
10P	dieldrin	0.082	41B	N-nitrosodimethylamine	1.0
11P	alpha-endosulfan	0.031	42B	N-nitrosodi-n-propylamine	1.0
12P	beta-endosulfan	0.036	43B	N-nitrosodiphenylamine	1.0
13P	endosulfan sulfate	0.109	44B	phenanthrene *	1.0
14P	endrin	0.050	45B	pyrene *	1.0
15P	endrin aldehyde	0.062	46B	1,2,4-trichlorobenzene	1.0
16P	heptachlor	0.029			

OTHER TOXIC POLLUTANTS

	MDL ug/l (ppb)
Antimony, Total	3.0
Arsenic, Total	1.0
Beryllium, Total	0.2
Cadmium, Total	0.1
Chromium, Total	1.0
Chromium, Hexavalent	20.0
Copper, Total	1.0
Iron, Total	50
Lead, Total	1.0
Mercury, Total	0.2
Nickel, Total	1.0
Selenium, Total	2.0
Silver, Total	0.5
Thallium, Total	1.0
Zinc, Total	5.0
Asbestos	**
Cyanide, Total	10.0
Phenols, Total	50.0
Phosphorus, Total	10
Aluminum, Total	5.0
TCDD	**
MTBE (Methyl Tert Butyl Ether)	1.0

* Polynuclear Aromatic Hydrocarbons

** No Rhode Island Department of Environmental Management (RIDEM) MDL

NOTE:

The MDL for a given analyte may vary with the type of sample. MDLs which are determined in reagent water may be lower than those determined in wastewater due to fewer matrix interferences. Wastewater is variable in composition and may therefore contain substances (interferents) that could affect MDLs for some analytes of interest. Variability in instrument performance can also lead to inconsistencies in determinations of MDLs.

To help verify the absence of matrix or chemical interference the analyst is required to complete specific quality control procedures. For the metals analyses listed above the analyst must withdraw from the sample two equal aliquots; to one aliquot add a known amount of analyte, and then dilute both to the same volume and analyze. The unspiked aliquot multiplied by the dilution factor should be compared to the original. Agreement of the results within 10% indicates the absence of interference. Comparison of the actual signal from the spiked aliquot to the expected response from the analyte in an aqueous standard should help confirm the finding from the dilution analysis. (Methods for Chemical Analysis of Water and Wastes EPA-600/4-79/020).

For Methods 624 and 625 the laboratory must on an ongoing basis spike at least 5% of the samples from each sample site being monitored. For laboratories analyzing 1 to 20 samples per month, at least one spiked sample per month is required. The spike should be at the discharge permit limit or 1 to 5 times higher than the background concentration determined in Section 8.3.2, whichever concentration would be larger. (40 CFR Part 136 Appendix B Method 624 and 625 subparts 8.3.1 and 8.3.11).

C. MONITORING AND REPORTING

1. Monitoring

All monitoring required by this permit shall be done in accordance with sampling and analytical testing procedures specified in 40 CFR Part 136 unless other procedures are explicitly required in the permit.

2. Reporting

Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

A. Submittal of DMRs Using NetDMR

The permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to DEM no later than the 15th day of the month electronically using NetDMR. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to DEM.

B. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the permittee must submit electronic copies of documents in NetDMR that are directly related to the DMR. These include the following:

- DMR Cover Letters
- Below Detection Limit summary tables

C. Submittal of Reports in Hard Copy Form

The following notifications and reports shall be submitted as hard copy with a cover letter describing the submission. These reports shall be signed and dated originals submitted to DEM.

- A. Written notifications required under Part II
- B. Notice of unauthorized discharges

This information shall be submitted to DEM at the following address:

Rhode Island Department of Environmental Management
RIPDES Program
235 Promenade Street
Providence, Rhode Island 02908

D. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to the DEM. This includes verbal reports and notifications which require reporting within 24 hours. (See Part II.(I)(5) General Requirements for 24-hour reporting) Verbal reports and verbal notifications shall be made to DEM at (401) 222-4700 or (401) 222-3070 at night.

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 PROMENADE STREET
PROVIDENCE, RHODE ISLAND 02908-5767

STATEMENT OF BASIS

RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PERMIT TO DISCHARGE TO WATERS OF THE STATE

RIPDES PERMIT NO.

RI0021601

NAME AND ADDRESS OF APPLICANT:

Providence Water
125 Dupont Drive
Providence, RI 02907

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

P.J. Holton Water Treatment Plant
61 North Road, Route 116
Scituate, Rhode Island 02831

RECEIVING WATER:

Unnamed wetlands tributary to the Pawtuxet River – North Branch (water body ID #: RI0006016R-06B)

CLASSIFICATION:

B

I. Proposed Action, Type of Facility, and Discharge Location

The above-named applicant has applied to the Rhode Island Department of Environmental Management (DEM) for reissuance of a RIPDES Permit to discharge into the designated receiving water. The facility is involved in the production of potable water for “domestic” and “industrial” uses. The discharge is from two outfalls 002A and 001B located at the overflow of settling lagoon 2 and settling lagoon 1B, respectively. The discharge from the lagoons consist of treated filter backwash, treated sedimentation basin cleaning flows, and treated water quality analyzer discharges originating from the P.J. Holton Water Treatment Plant operated by the Providence Water Supply Board (Providence Water). As part of the water treatment plant residuals treatment system there are three lagoons that are used as settling basins to remove any solids that are included in the filter backwash and from the wastewater generated from the North or South sedimentation basins during cleaning operations that take place approximately every 3-5 years. The majority of the water discharged to the lagoon network infiltrates into the subsurface and a portion of the treated water also overflows from outfall 002A, and when necessary 001B. Outfall 001B was sealed in 2006 in such a way that it could be reopened in the future. As the water treatment plant waste streams pass through the lagoon network, the majority of water treatment plant residuals settle to the bottom of the lagoons and are periodically removed, allowed to dry, and shipped offsite. Additional periodic or continuous flows that are discharged to the lagoon systems include: groundwater and various storm and roof drainage from roofs and parking areas. A process flow diagram of the facility is shown in Attachment B.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters based on discharge monitoring report (DMR) data for January 2013-December 2017 is shown in Attachment A.

III. Permit Limitations and Conditions

The effluent limitations, monitoring requirements, and any implementation schedule (if required) may be found in the draft permit.

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Facility

The Providence Water Supply Board (PWSB) operates a water treatment and filtration plant in Scituate, RI. The plant employs conventional chemical treatment combined with rapid sand filtration to purify the raw water prior to distribution to consumers. The P.J. Holton Water Treatment Plant (WTP) obtains its water from a surface supply located on the north Branch of the Pawtuxet River. The watershed contains 92.8 square miles of land. The previous permit was issued on April 13, 2012 and became effective on July 1, 2012. On December 28, 2016, the facility submitted a permit application to the DEM. In a letter from the DEM to Providence Water dated March 8, 2017 the 2012 permit was administratively continued.

Treatment Process

Water from the Scituate Reservoir treated at the P.J. Holton WTP is drawn through one of three separate intakes at the Gate House located at Gainer Dam. The water is conveyed by gravity through twin 60-inch aqueducts which converge into a single 94-inch aqueduct into the plant and then enters aerators, which oxidize the water and are designed to remove carbon dioxide, taste and odors from the raw water.

From the aerators, the water continues by gravity to a circular tank known as the Tangential Mixer where ferric sulfate is added as a coagulant to remove detritus material (i.e. organic waste material from decomposing plants, etc.). Just prior to entering the mixer, quicklime is added to adjust pH and make the water non-corrosive. The water then enters the Coagulation and Sedimentation Basins, so that the "floc" formed by the coagulant will settle to the bottom, leaving clear water at the top. The combined capacity of both basins is 162.1 million gallons, which provides for a two- to three-day retention time. As the water exits the sedimentation basins it is pH adjusted with quicklime and chlorinated prior to entering the filters.

The purification plant presently operates eighteen (18) rapid sand filters, which give the plant a capacity of 144 million gallons a day. The primary function of the filters is to capture particles, and they must be periodically backwashed in order to clean and restore their hydraulic capacity. After the water is filtered through the plant it enters a series of clear wells prior to leaving the plant via a 78-inch and a 90-inch aqueduct at which point treated water is distributed for use.

This permit authorizes the discharge of treated filter backwash and treated sedimentation basin cleaning flows. The filter backwash waste stream, as mentioned previously, originates from a series of eighteen (18) rapid sand filters used for potable water production. When the filter backwashing process is underway, filtered particles are rinsed from the filter media and discharged by overland flow via a drainage swale to three lagoons positioned in sequence to assist in settling out remaining water treatment residuals from the filter backwash flows. The initial settling lagoon is lagoon 1B, then all water passes through lagoon 2 for final polishing before discharging to a wetland area which ultimately discharges to the North Branch of the Pawtuxet

River. Lagoon 1A was temporarily taken offline for cleaning in the late fall of 2015. In addition to discharging filter backwash on a daily basis to the settling lagoons, once approximately every 3-5 years, either the north or south sedimentation basin is drained and cleaned of all settled water treatment residuals. Approximately 40 - 110 MG of stored water along with settled residuals are discharged into the downstream lagoon system. A bypass pipe has been installed to allow for the direct discharge of sedimentation basin sediment into the drying beds, a process which circumvents the lagoons. Providence Water informed DEM that it had completed construction of the bypass piping in a letter dated October 31, 2014. The sedimentation basin cleaning process is estimated to take several weeks. All water treatment residuals are removed by utilizing bulldozers and rinsing the sedimentation basins with fire hoses. From there, all settled material and rinse water together are directed to the downstream lagoon network where residuals settle to the bottom of the lagoons. The water treatment process diagram is included in Attachment B. The process diagram is designated as the Providence Water Treatment Process Flow Schematic. Attachment B also includes an aerial photograph which identifies where each of the two outfalls, 002A, and 001B discharge to the wetland complex which ultimately discharges to the Pawtuxet River. Although the outfall from lagoon 2 (002A), the primary outfall, is the only outfall currently in use, outfall 001B would also be used during periods when lagoon 2 is being dredged of settled treatment residuals. As mentioned above, outfall 001B was sealed temporarily in 2006.

Dechlorination of Filter Backwash

In 2017, the facility completed installation of a dechlorination system which uses ascorbic acid as the dechlorination chemical. This system was installed to maintain compliance with Total Residual Chlorine (TRC) limits by adding ascorbic acid to the filter backwash that is discharged to the settling lagoons. The system was installed in response to the facility's having had difficulty achieving compliance with TRC limits.

Receiving Water

The water body segment that ultimately receives the discharge from the PJ Holton WTP, after flowing through an unnamed wetland, is described as the North Branch of the Pawtuxet River. The waterbody identification # for this water body is RI0006016R-06B. This segment is located in Scituate, Cranston, and Coventry and is classified as a class B waterbody according to the Rhode Island Water Quality Regulations. Class B waters shall be suitable for compatible industrial processes and cooling, hydropower, aquacultural uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value. The North Branch of the Pawtuxet River is currently not meeting Rhode Island Water Quality Standards and is listed as impaired for Lead (Pb) and Mercury in Fish Tissue according to the State of Rhode Island 2016 303(d) List, List of Impaired Waters dated March 2018.

General Requirements

Development of RIPDES permit limitations is a multi-step process consisting of the following steps: identifying applicable technology-based limits; calculating allowable water-quality based discharge levels based on instream criteria, background data and available dilution; establishing Best Professional Judgement (BPJ) limits in accordance with Section 402 of the CWA; taking the most stringent of the water quality-based, technology-based, and BPJ-based limits as the new allowable discharge levels; comparing existing permit limits to the new allowable discharge levels and performing an antidegradation/antibacksliding analysis to determine the final permit limits; and evaluating the ability of the facility to meet the final permit limits.

Water quality criteria are comprised of numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by EPA or States for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal. A technology-based limit is a numeric limit, which is determined by

examining the capability of a treatment process to reduce or eliminate pollutants.

The requirements set forth in this permit are from the State's Water Quality Regulations and the State's Regulations for the Rhode Island Pollutant Discharge Elimination System, both filed pursuant to Chapter 46-12, as amended. RIDEM's primary authority over the permit comes from EPA's delegation of the program in September 1984 under the Federal Clean Water Act (CWA).

Dilution Factor

Appendix B of the Water Quality Regulations describes the flows used to determine compliance with the aquatic life criteria, specifying that the design flow to be utilized for aquatic life criteria shall not be exceeded at or above the lowest average seven (7) consecutive day low flow with an average recurrence frequency of once in ten (10) years (7Q10). Since the effluent discharges from outfall 001B or 002A discharge directly into a wetland complex prior to flowing into the North Branch of the Pawtuxet River, a dilution factor of one (1) was used in the determination of water quality-based discharge limits.

Calculation of Water Quality-Based Limits

The allowable discharge limits were calculated as follows:

- a) Background concentration unknown.

$$Limit_1 = (DF) * (Criteria) * (80\%)$$

Where: DF = acute or chronic dilution factor, as appropriate

- b) Using available background concentration data¹.

$$Limit_1 = (DF) * (Criteria) * 90\% - (Background) * (DF - 1)$$

Where: DF = acute or chronic dilution factor, as appropriate

Based on the above dilution factors and the freshwater aquatic life and non-class A human health criteria, from the Rhode Island Water Quality Regulations, allowable discharge concentrations were established using 80% allocation when no background data was available and 90% allocation when background data was available. Background data for the Pawtucket River was obtained from DEM's Ambient River Monitoring Program gathered in 2012 and 2016. No background hardness data was available for the wetlands into which the facility discharges, therefore the default hardness value of 25.0 mg/L was maintained for the receiving water.

The formulas and data noted above were applied with the following exceptions:

One exception to this methodology was for those pollutants, based on the acute and chronic dilution factors, which had a higher allowable chronic limit than allowable acute limit. For this situation, both the "Monthly Average" and "Daily Maximum" limits were set at the allowable acute limit.

A second exception was for the calculation of the total residual chlorine limit. The limits for total residual chlorine (TRC) were established in accordance with the RIDEM Effluent Disinfection Policy. The "Monthly Average" and "Daily Maximum" were based on a 100% allocation, a zero background concentration, and a dilution factor of 1. The 100% allocation factor for TRC was used due to the non-conservative nature of chlorine and the improbability of the receiving water

¹Source of background data for the Pawtuxet River is DEM's Ambient River Monitoring Program

having a detectable background TRC concentration.

A third exception to this methodology would be for any pollutants that had a previous water quality based monthly average limit in the 2012 RIPDES permit. For such pollutants, the relaxation of the monthly average limits from the previous permit was restricted in accordance with the antibacksliding provisions of the Clean Water Act and the Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations. Reference Attachment C for calculations of allowable water quality-based limits based on Freshwater Aquatic Life and Human Health Criteria.

Provided below is a brief introduction to Antibacksliding and Antidegradation; as well as a discussion on how the two policies were used to calculate water quality based limits.

Anti-backsliding/Anti-degradation

Antibacksliding

Antibacksliding restricts the level of relaxation of water quality based limits from the previous permit. Section 303(d)(4) of the Clean Water Act addresses antibacksliding as the following:

Section 303(d)(4)

- A) Standards not attained - For receiving waters that have not attained the applicable water quality standards, limits based on a TMDL or WLA can only be revised if the water quality standards will be met. This may be done by (i) determining that the cumulative effect of all such revised limits would assure the attainment of such water quality standards; or (ii) removing the designated use which is not being attained in accordance with regulations under Section 303.
- B) Standards attained - For receiving waters achieving or exceeding applicable water quality standards, limits can be relaxed if the revision is consistent with the State's Antidegradation Policy.

Therefore, in order to determine whether backsliding is permissible, the first question that must be answered is whether or not the receiving water is attaining the water quality standard. The Office has determined the most appropriate evaluation of existing water quality is by calculating the pollutant levels, which would result after consideration of all currently valid RIPDES permit limits or historic discharge data (whichever is greater), background data (when available), and any new information (i.e.: dilution factors).

Antidegradation

The RIDEM's "Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations July 2006" (the Policy) establishes four tiers of water quality protection:

Tier 1. In all surface waters, existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

Tier 2. In waters where the existing water quality exceeds levels necessary to support propagation of fish and wildlife, and recreation in and on the water, that quality shall be maintained and protected, except for insignificant changes in water quality as determined by the Director and in accordance with the Antidegradation Implementation Policy, as amended. In addition, the Director may allow significant degradation which is determined to be necessary to achieve important economic or social benefits to the State in accordance with the Antidegradation Implementation Policy, as amended.

Tier 2½. Where high quality waters constitute a Special Resource Protection Water SRPW², there shall be no measurable degradation of the existing water quality necessary to protect the characteristic(s) which cause the waterbody to be designated a SRPW. Notwithstanding that all public drinking water supplies are SRPWs, public drinking water suppliers may undertake temporary and short-term activities within the boundary perimeter of a public drinking water supply impoundment for essential maintenance or to address emergency conditions in order to prevent adverse effect on public health or safety. These activities must comply with the requirements set forth in Tier 1 and Tier 2.

Tier 3. Where high quality waters constitute an Outstanding Natural Resource ONRWs³, that water quality shall be maintained and protected. The State may allow some limited activities that result in temporary and short-term changes in the water quality of an ONRW. Such activities must not permanently degrade water quality or result in water quality lower than necessary to protect the existing uses in the ONRW.

The formulas previously presented ensure that permit limitations are based upon water quality criteria and methodologies established to ensure that all designated uses will be met.

In terms of the applicability of Tier 2 of the Policy, a water body is assessed as being high quality on a parameter-by-parameter basis. In accordance with Part II of the Policy, "Antidegradation applies to all new or increased projects or activities which may lower water quality or affect existing water uses, including but not limited to all 401 Water Quality Certification reviews and any new, reissued, or modified RIPDES permits." Part VI.A of the Policy indicates that it is not applicable to activities which result in insignificant (i.e.: short-term minor) changes in water quality and that significant changes in water quality will only be allowed if it is necessary to accommodate important economic and social development in the area in which the receiving waters are located (important benefits demonstration). Part VI.B.4 of the Policy states that: "Theoretically, any new or increased discharge or activity could lower existing water quality and thus require the important benefits demonstration. However, RIDEM will: 1) evaluate applications on a case-by-case basis, using BPJ and all pertinent and available facts, including scientific and technical data and calculations as provided by the applicant; and 2) determine whether the incremental loss is significant enough to require the important benefits demonstration described below. [If not then as a general rule RIDEM will allocate no more than 20%.] Some of the considerations which will be made to determine if an impact is significant in each site-specific decision are: 1) percent change in water quality parameter value and their temporal distribution; 2) quality and value of the resource; 3) cumulative impact of discharges and activities on water quality to-date; 4) measurability of the change; 5) visibility of the change; 6) impact on fish and wildlife habitat; and 7) impact on potential and existing uses. As a general guide, any discharge or activity which consumes greater than 20% of the remaining assimilative capacity (See Section VI.B.2) will be considered a significant impact and will be required to demonstrate important economic or social benefits to justify the activity (See Section VI.C. below). However, on a case-by-case basis, any proposed percent consumption of the remaining assimilative capacity may be deemed significant and invoke full requirements to demonstrate important economic or social benefits."

In terms of a RIPDES permit, an increased discharge is defined as an increase in any limitation, which would result in an increased mass loading to a receiving water. The baseline for this comparison would be the monthly average mass loading established by the previous permit. It would be inappropriate to use the daily maximum mass loading since the Policy is not applicable

²SRPWs are surface waters identified by the Director as having significant recreational or ecological uses.

³ONRWs are a special subset of high quality water bodies, identified by the State as having significant recreational or ecological water uses.

to short-term changes in water quality.

For the purposes of ensuring that the revised limit is consistent with the requirements of antidegradation, existing water quality must be defined. As explained earlier, RIDEM evaluates existing water quality by determining the pollutant levels which would result under the design conditions appropriate for the particular criteria (i.e., background water quality, when available and/or appropriate; non-point source inputs; and existing RIPDES permit limitations or recent historical discharge data, whichever is higher). In general, available data would be used to make this determination.

Using the above-mentioned criteria, the present instream water quality C_p is defined as:

$$C_p = \frac{(DF - 1) * C_b + (1 * C_d)}{DF}$$

where: C_b = background concentration⁴
 C_d = discharge data⁵
DF = dilution factor

If the waterbody is a high quality water for the pollutant in question ($C_p < C_{criteria}$), then the discharge requires an evaluation under Tier 2 protection. If the waterbody is not determined to be high quality for that parameter, then antibacksliding will allow an increased permit limit only if it can be assured that water quality standards would be attained. Therefore, the permit limit would be calculated to comply with Tier 1 protection, using the procedures noted previously (i.e., Limit₁).

Assuming the receiving water has been designated as a high quality waterbody for the parameter under investigation, the next step is to determine whether the new or increased discharge is permissible and if so whether an important benefits demonstration is required. As explained above, for existing discharges RIDEM shall follow the general rule of allocating no more than 20% of the remaining assimilative capacity without the need to complete this demonstration (assuming the receiving water is not an SRPW or ONRW). On a case-by-case basis, the RIDEM may limit the allocation or determine that any incremental loss or impact to the receiving water is significant enough to require a detailed important benefits demonstration.

Water Quality Based Limits - Considering Antibacksliding and Antidegradation

The draft permit is being reissued with limitations as stringent as or more stringent than those in the existing permit with no change to the outfall location. The Antibacksliding Provision of the Clean Water Act (found at Section 402(o) and repeated at 40 CFR 122.44(l)) prohibits reissuing a permit containing less stringent effluent limits than the comparable limits from the previous permit.

Since none of the permit limits, both concentration and mass loadings, are less stringent than in the previous permit, antibacksliding and antidegradation regulations are being met.

Attachment C includes a summary comparison of the allowable limits vs. the DMR (Discharge Monitoring Report) data.

Total Suspended Solids

⁴Data collected at a location that is unimpacted by significant point source discharges.

⁵Discharge data refers to the maximum of the permit limit or the historic discharge level. The historic discharge level is determined by calculating the upper 95th percent confidence interval for the monthly average reported data for the past five (5) years. For specific cases, changes in treatment efficiency or pretreatment limitations may support the use of an alternative period of time.

The permit issued on July 12, 2006 established mass and concentration based total suspended solids limits using data from historical treatment system performance records collected at the P.J. Holton Water Treatment Plant. These TSS permit limits were maintained in the facility's April 13, 2012 permit, and have been carried forward in accordance with the DEM's antibacksliding requirements.

Turbidity

Turbidity monitoring requirements have been maintained in this permit in order to establish a database of NTU data that can be used to determine compliance with water quality criteria. The permit also includes a narrative condition that the receiving water's turbidity not be increased more than 10 NTU over background.

Total Iron

Due to the fact that the P.J. Holton WTP utilizes Ferric Sulfate as the primary coagulation agent in the water treatment process, during the development of the facility's 2012 permit, the RIPDES program evaluated the impact that the use of Ferric Sulfate may have on the receiving water during filter backwash discharges. On the basis of that evaluation, Total Iron limits were assigned, and the facility entered into Consent Agreement RIA-420 with DEM to address Total Iron compliance. The facility submitted an Engineering Alternatives Study on August 6, 2013. The study proposed three operational changes to bring the facility into compliance with permit limits for iron:

1. Installation of bypass piping to send solids from the sedimentation basins directly to the drying beds
2. Installation of turbidity curtains in all three lagoons
3. Isolation of lagoons during dredging operations

DEM approved the first two operational changes listed above in a letter to the facility dated August 29, 2013. The facility installed a turbidity curtain in lagoon 2 in early 2014 (according to an April 18, 2014 letter from the facility to DEM). As mentioned above, the facility notified DEM in a letter dated October 31, 2014 that it had installed bypass piping to send solids from the sedimentation basins directly to the drying beds. Consent Agreement RIA-420 was closed as of February 1, 2015.

Total Aluminum

Due to the fact that the P.J. Holton Plant does not use Aluminum as a coagulation agent in the water treatment process, the permit does not contain Aluminum permit limits. Instead, this permit maintains language in the 2012 permit which prohibits the use of Aluminum-based chemicals (i.e., Aluminum sulfate).

Total Residual Chlorine

When calculating Total Residual Chlorine (TRC) limits 100% allocation of TRC was used due to the fact that chlorine is not expected to be found in ambient water and it is a non-conservative pollutant. Therefore, the permit limit is calculated using the following equation:

$$\text{Limit}_1 = (\text{Criteria}) * (100\%)$$

Based on the above-mentioned equation, limits for chlorine were calculated as: Monthly Average Limit (ug/l) = 11, and Maximum Daily Limit (ug/L) = 19. The limit at which compliance/noncompliance determinations will be based is the Quantitation Limit which is defined as 20 ug/l for TRC. These values may be reduced by permit modification as more sensitive methods are approved by EPA and the State. Based on the information supplied by the permittee as part of the December 28, 2016 reapplication submittal, the chlorine concentration to the water

entering the sand filter is 1.8 mg/l. The permit limitations and monitoring twice per month has been maintained to help ensure that the discharge does not exceed water quality standards for TRC. As mentioned above, in 2017, the facility completed installation of a dechlorination system which uses ascorbic acid as the dechlorination chemical. This system was installed to maintain compliance with TRC limits.

pH

The pH limits of 6.0-9.0 u.s. limits from the 2012 permit have been carried forward in this permit. The basis for using a range of 6.0-9.0 for pH limits rather than the range of 6.5-9.0 specified in the Rhode Island Water Quality Regulations is that a site-specific study submitted by the facility on November 26, 2008 indicated that the natural background wetland pH levels were in the range of 5.5-7.0 s.u., which would justify using pH limits in the range of 6.0-9.0.

Receiving Water Body Impairments

According to the 2016 303(d) List of Impaired Waters water body segment # RI0006016R-06B of the North Branch of the Pawtuxet River is currently impaired for Lead and Mercury in Fish Tissue. There is no reasonable potential for the proposed discharges to violate the potential water quality-based permit limitations calculated for Lead. In addition, the discharges are not a contributor of mercury (i.e., the impairment is caused by atmospheric deposition). As a result, permit limitations were not applied. However, monitoring has been added to the permit for Total Lead due to the water body impairments which exist for these parameters to ensure that the discharge does not further degrade the receiving water.

Residuals Management Requirements

Water treatment plant residuals form when suspended solids in the raw water react with chemicals such as coagulants added as part of the water treatment process and from the addition of associated process control chemicals such as lime. Some potable water treatment processes generate residuals that are relatively easy to process and dispose of. For example, leaves, limbs, logs, plastic bottles, and other large floating debris separated from water during the initial screening process can be disposed of at conventional solid waste landfills. However, most other treatment processes produce more complex residual waste streams that may require advanced processing and disposal methods to protect human health and the environment.

The primary residuals that are produced at the P.J. Holton WTP are sludges (i.e., water that contains suspended solids from the source water and the reaction products of chemicals added in the treatment process). The P.J. Holton WTP utilizes *liquid ferric sulfate*, and *quicklime* for the pretreatment process prior to beginning the flocculation, clarification, and filtration phases. Water that passes through the filters during filter backwashing periods is also treated with chlorine prior to backwashing. For a typical coagulation filtration system such as the one used at the P.J. Holton WTP the typical disposal options for these residuals consist of the following: landfilling, surface discharge of filter backwash and other treated waste streams, disposal to the sanitary sewer, or shipping to a facility which possesses an effective Solid Waste Beneficial Use Determination (BUD) issued by the DEM Office of Waste Management.

The P.J. Holton WTP directs both routine filter backwash discharges and sedimentation basin residuals to the onsite Lagoon network consisting of lagoons 1A, 1B, and 2. As mentioned above, Lagoon 1A was temporarily taken offline for cleaning in late 2015. The discharges from either lagoon 2 or lagoon 1B consist of the supernatant from the lagoons. The supernatant enters a wetland complex immediately upon passing through the overflow structures. As mentioned above, outfall 001B was temporarily closed in 2006. All accumulated residuals that settle to the bottom of the lagoons will be periodically removed, stored onsite to dry and will eventually be shipped offsite for disposal or reuse. As mentioned above, the facility installed piping which gives the facility the

ability to send solids from the sedimentation basins directly to the drying beds to be dewatered via infiltration of moisture into the ground underneath the drying beds.

This permittee is required to develop, implement, and periodically revise when necessary a comprehensive Residuals Management Plan. A Residuals Management Plan was developed by the facility in February 2007 and it was last updated and sent to DEM in February of 2014. As of July of 2018, the facility informed DEM that a review/update of the Residuals Management Plan by a consulting firm was in the planning stages. The specific Residuals Management Plan requirements can be found in the permit.

Water Treatment Chemicals

As described in the treatment process section, the P.J. Holton WTP utilizes several water treatment chemicals. The treatment chemicals used at the plant are: Quicklime, liquid chlorine, ferric sulfate, hydrofluorosilicic acid, and ascorbic acid. The facility has used Lime-D-Scale, Limestone, and carbon dioxide in the past, and reserves the option to use those chemical in the future. Each of the chemicals have been evaluated to determine whether or not restrictions on their use are necessary to protect the wetland complex and the North Branch of the Pawtuxet River. Because total iron monitoring and limitations are included in the permit no additional usage restrictions are recommended by the DEM for ferric sulfate. Lime-D-Scale, Quicklime, and Limestone are or have been used as pH adjustment chemicals and as such their usage is regulated primarily through the application of the pH limitations listed in the permit. Fluorosilic Acid is introduced into the treatment process after backwashing takes place and therefore usage restrictions are not necessary as this chemical is not expected to be present in the discharge from outfall 002A and 001B. Total Residual Chlorine limitations have also been applied in the permit, therefore no additional usage restrictions are recommended for liquid chlorine. As of April 2011, the facility had been using carbon dioxide for corrosion control. This practice was discontinued in early 2013. As mentioned above, the facility has been using ascorbic acid to dechlorinate its filter backwash waste stream discharge, after having received approval to do so from DEM in an Order of approval. The Order of Approval for the project was Order of Approval #16-02, issued by DEM on October 31, 2016. In a letter dated May 5, 2017, the facility informed DEM that it had completed the work to install the dechlorination system. The dechlorination system was implemented in response to Total Chlorine exceedances, as documented in a letter from DEM to the facility dated June 8, 2015.

Stormwater

This permit does not authorize the discharge of stormwater from the facility. Based on the RIPDES Program's review it has been determined that facilities that fall under SIC code 4941 – Distribution of Potable Water are not required to obtain coverage under the NPDES Storm Water Multi-Sector General Permit and therefore the facility is not required to apply.

Selection of Final Permit Limits

The effluent monitoring requirements have been specified in accordance with RIPDES regulations as well as 40 CFR 122.41(j), 122.44(l), and 122.48 to yield data representative of the discharge. The Office has determined that all permit limitations are consistent with the Rhode Island Antidegradation Policy.

The remaining general and specific conditions of the permit are based on the RIPDES regulations as well as 40 CFR Parts 122 through 125 and consist primarily of administrative and management requirements common to all permits.

V. **Comment Period, Hearing Requests, and Procedures for Final Decisions**

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the Rhode Island Department of Environmental Management, Office of Water Resources, 235 Promenade Street, Providence, Rhode Island, 02908-5767. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to the Rhode Island Department of Environmental Management. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days public notice whenever the Director finds that response to this notice

indicates significant public interest. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence Office.

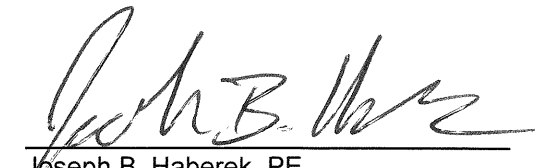
Following the close of the comment period, and after a public hearing, if such hearing is held, the Director will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of Rule 49 of the Regulations for the Rhode Island Pollutant Discharge Elimination System.

V. **DEM Contact**

Additional information concerning the permit may be obtained between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays from:

Samuel Kaplan, P.E.
Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700 ext. 7046; Email: samuel.kaplan@dem.ri.gov

1/30/19
Date _____



Joseph B. Haberek, PE
Supervising Sanitary Engineer
RIPDES Permitting Section
Office of Water Resources
Department of Environmental Management

ATTACHMENT A

DESCRIPTION OF DISCHARGE: Filter Backwash from P.J. Holton WTP
DISCHARGE: 001B

PARAMETER	MO AVG¹	DAILY MAX¹
Total Residual Chlorine (ug/l)	NA	NA
Iron, total (as Fe) (ug/l)	NA	NA
pH (S.U.)	NA	NA
TSS (LB/DAY)	NA	NA
TSS (mg/L)	NA	NA
Turbidity (NTU)	NA	NA
Flow (MGD)	NA	NA

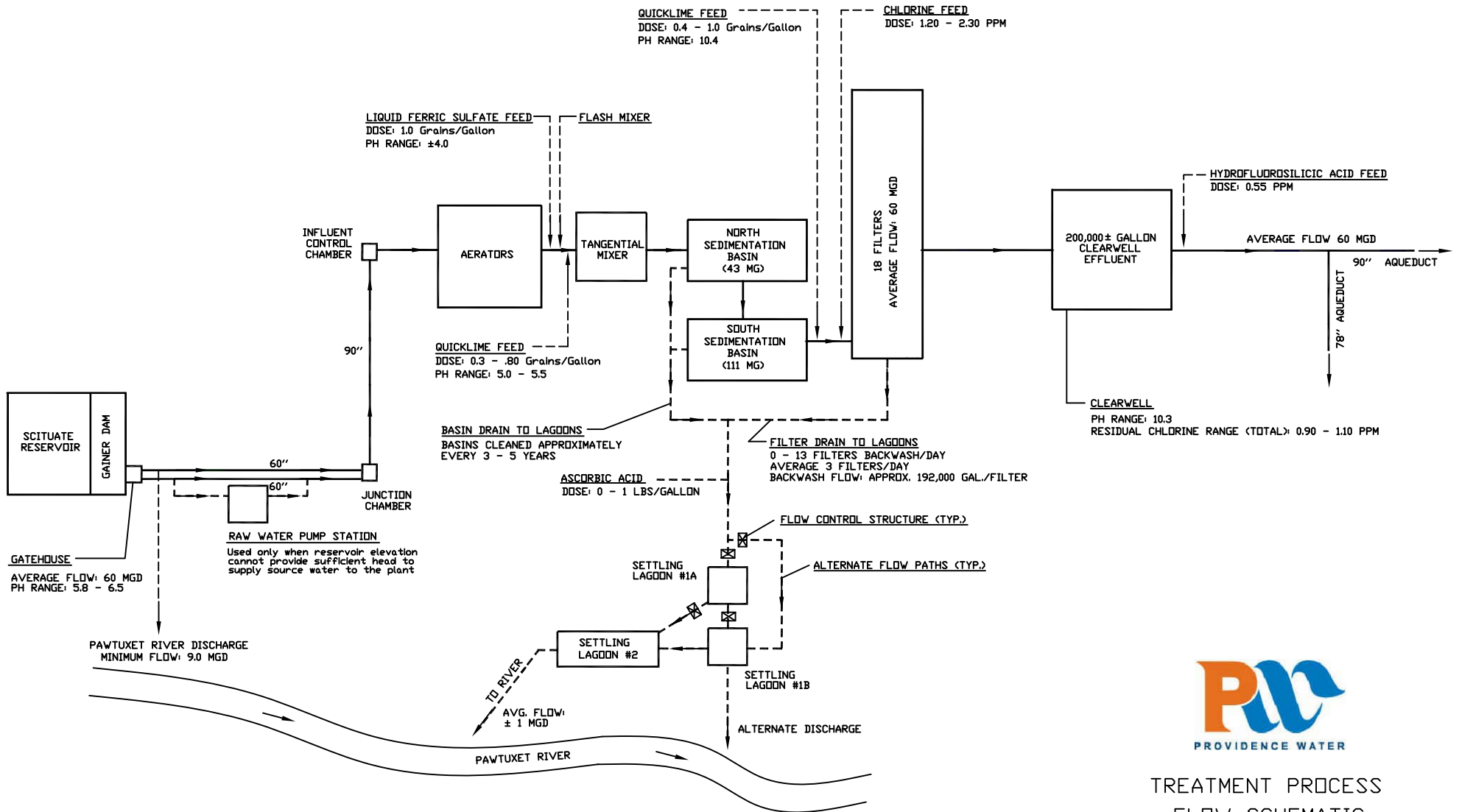
¹ There was no discharge from outfall 001B during the time period of January 2013 thru December 2017.

DESCRIPTION OF DISCHARGE: Filter Backwash from P.J. Holton WTP
DISCHARGE: 002A

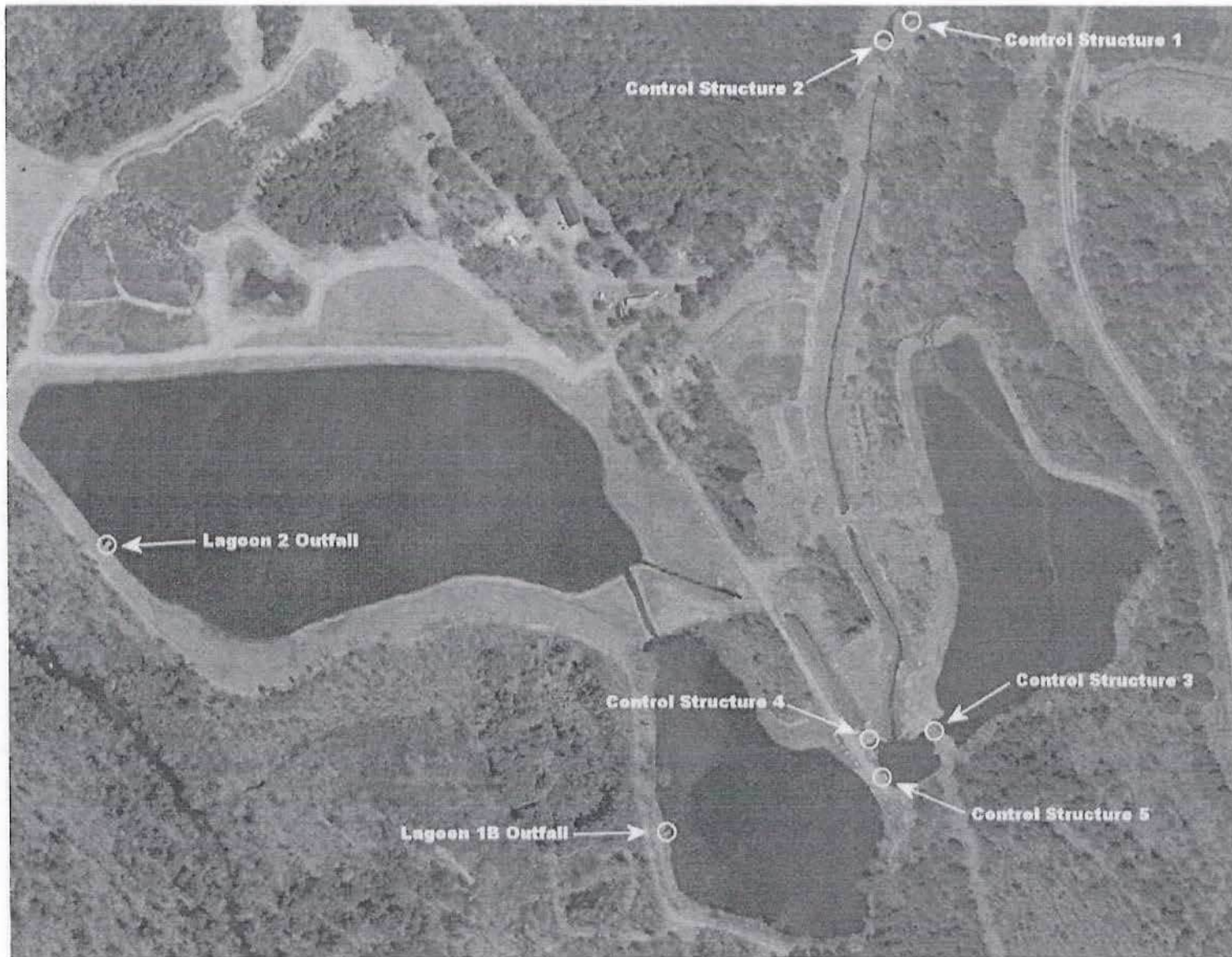
PARAMETER	MO AVG¹	DAILY MAX¹
Total Residual Chlorine (ug/l)	11.4	15.2
Iron, total (as Fe) (ug/l)	1168	1428
pH (S.U.)	7.02 (min)	7.62 (max)
TSS (LB/DAY)	52	104
TSS (mg/L)	2.42	3.21
Turbidity (NTU)	2.44	2.94
Flow (MGD)	2.39	3.58

¹ All data represents the average of the monthly average data or the average of the daily maximum DMR data submitted by the permittee for January 2013 thru December 2017.

ATTACHMENT B – Process Flow Diagram and Aerial Photo



TREATMENT PROCESS
FLOW SCHEMATIC
March 2018



Normal Operation: Stoplogs in Control Structures 2 and 4.

Isolate Lagoon 1A: Stoplogs in Control Structures 1, 3 and 4; no stoplogs in Control Structures 2 and 5.

Isolate Lagoon 1B: Stoplogs in Control Structures 2 and 5; no stoplogs in Control Structures 1, 3 and 4.

Attachment C – Water Quality Calculations

**CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS
 FACILITY SPECIFIC DATA INPUT SHEET**

NOTE: LIMITS BASED ON RI WATER QUALITY CRITERIA DATED JULY 2006

FACILITY NAME: P.J. Holton Water Treatment Plant
 RIPDES PERMIT #: RI0021601

	DISSOLVED BACKGROUND DATA (ug/L)	ACUTE METAL TRANSLATOR	CHRONIC METAL TRANSLATOR
ALUMINUM	29.2	NA	NA
ARSENIC	NA	1	1
CADMIUM	0	1	0.967000673
CHROMIUM III	NA	0.316	0.86
CHROMIUM VI	NA	0.982	0.962
COPPER	0.527	0.96	0.96
LEAD	0.150	0.993001166	0.993001166
MERCURY	NA	0.85	0.85
NICKEL	NA	0.998	0.997
SELENIUM	NA	NA	NA
SILVER	NA	0.85	NA
ZINC	4.54	0.978	0.986
AMMONIA (as N)	0		

FLOW DATA	
DESIGN FLOW =	0.870 MGD
=	1.346 CFS
7Q10 FLOW =	0.000 CFS
7Q10 (JUNE-OCT) =	0.000 CFS
7Q10 (NOV-MAY) =	0.000 CFS
30Q5 FLOW =	0.000 CFS
HARMONIC FLOW =	0.000 CFS

DILUTION FACTORS	
ACUTE =	1.000
CHRONIC =	1.000
(MAY-OCT) =	1.000
(NOV-APR) =	1.000
30Q5 FLOW =	1.000
HARMONIC FLOW =	1.000

USE NA WHEN NO DATA IS AVAILABLE

NOTE 1: METAL TRANSLATORS FROM RI WATER
 QUALITY REGS.

pH =	6.65 S.U.
HARDNESS =	25.0 (mg/L as CaCO ₃)

WATER QUALITY BASED EFFLUENT LIMITS - FRESHWATER

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS
FACILITY NAME: P.J. Holton Water Treatment Plant RIPDES PERMIT #: RI0021601

Month	Upper 90 th % pH	Acute Criteria* mg/L as N	Chronic Criteria* mg/L as N
May	6.65	45.7	3.53
Jun	6.65	45.7	3.53
Jul	6.65	45.7	3.53
Aug	6.65	45.7	3.53
Sep	6.65	45.7	3.53
Oct	6.65	45.7	3.53
Nov	6.65	45.7	3.53
Dec	6.65	45.7	10.6
Jan	6.65	45.7	10.6
Feb	6.65	45.7	10.6
Mar	6.65	45.7	10.6
Apr	6.65	45.7	3.53

**NOTE: Criteria from Appendix B of the RI Water
Quality Regs., July 2006.*

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME:

P.J. Holton Water Treatment Plant RIPDES PERMIT #: RI0021601

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:							
TOXIC METALS AND CYANIDE							
ANTIMONY	7440360		450	360	10	640	8
ARSENIC (limits are total recoverable)	7440382	NA	340	272	150	1.4	1.12
ASBESTOS	1332214			No Criteria			No Criteria
BERYLLIUM	7440417		7.5	6	0.17		0.136
CADMIUM (limits are total recoverable)	7440439	0	0.522206507	0.469985856	0.093696824		0.087204842
CHROMIUM III (limits are total recoverable)	16065831	NA	183.0659069	463.4579922	23.81311337		22.15173337
CHROMIUM VI (limits are total recoverable)	18540299	NA	16	13.03462322	11		9.147609148
COPPER (limits are total recoverable)	7440508	0.527	3.640069619	3.412565268	2.739313654		2.568106551
CYANIDE	57125		22	17.6	5.2	140	4.16
LEAD (limits are total recoverable)	7439921	0.15	13.88217279	12.58201495	0.540968344		0.490303059
MERCURY (limits are total recoverable)	7439976	NA	1.4	1.317647059	0.77	0.15	0.141176471
NICKEL (limits are total recoverable)	7440020	NA	144.9178377	116.1666034	16.09589771	4600	12.91546456
SELENIUM (limits are total recoverable)	7782492	NA	20	16	5	4200	4
SILVER (limits are total recoverable)	7440224	NA	0.31788916	0.299189798	NA		No Criteria
THALLIUM	7440280		46	36.8	1	0.47	0.376
ZINC (limits are total recoverable)	7440666	4.54	36.20176511	33.31450777	36.49789406	26000	33.31450777
VOLATILE ORGANIC COMPOUNDS							
ACROLEIN	107028		2.9	2.32	0.06	290	0.048
ACRYLONITRILE	107131		378	302.4	8.4	2.5	2
BENZENE	71432		265	212	5.9	510	4.72
BROMOFORM	75252		1465	1172	33	1400	26.4
CARBON TETRACHLORIDE	56235		1365	1092	30	16	12.8
CHLOROBENZENE	108907		795	636	18	1600	14.4
CHLORODIBROMOMETHANE	124481			No Criteria		130	104
CHLOROFORM	67663		1445	1156	32	4700	25.6
DICHLOROBROMOMETHANE	75274			No Criteria		170	136
1,2DICHLOROETHANE	107062		5900	4720	131	370	104.8
1,1DICHLOROETHYLENE	75354		580	464	13	7100	10.4
1,2DICHLOROPROPANE	78875		2625	2100	58	150	46.4
1,3DICHLOROPROPYLENE	542756			No Criteria		21	16.8
ETHYLBENZENE	100414		1600	1280	36	2100	28.8
BROMOMETHANE (methyl bromide)	74839			No Criteria		1500	1200
CHLOROMETHANE (methyl chloride)	74873			No Criteria			No Criteria
METHYLENE CHLORIDE	75092		9650	7720	214	5900	171.2

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: P.J. Holton Water Treatment Plant RIPDES PERMIT #: RI0021601

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,1,2,2TETRACHLOROETHANE	79345		466	372.8	10	40	8
TETRACHLOROETHYLENE	127184		240	192	5.3	33	4.24
TOLUENE	108883		635	508	14	15000	11.2
1,2TRANSDICHLOROETHYLENE	156605			No Criteria		10000	8000
1,1,1TRICHLOROETHANE	71556			No Criteria			No Criteria
1,1,2TRICHLOROETHANE	79005		900	720	20	160	16
TRICHLOROETHYLENE	79016		1950	1560	43	300	34.4
VINYL CHLORIDE	75014			No Criteria		2.4	1.92
ACID ORGANIC COMPOUNDS							
2CHLOROPHENOL	95578		129	103.2	2.9	150	2.32
2,4DICHLOROPHENOL	120832		101	80.8	2.2	290	1.76
2,4DIMETHYLPHENOL	105679		106	84.8	2.4	850	1.92
4,6DINITRO2METHYL PHENOL	534521			No Criteria		280	224
2,4DINITROPHENOL	51285		31	24.8	0.69	5300	0.552
4NITROPHENOL	88755			No Criteria			No Criteria
PENTACHLOROPHENOL	87865		0.051565107	0.041252085	0.039561057	30	0.031648845
PHENOL	108952		251	200.8	5.6	1700000	4.48
2,4,6TRICHLOROPHENOL	88062		16	12.8	0.36	24	0.288
BASE NEUTRAL COMPUNDS							
ACENAPHTHENE	83329		85	68	1.9	990	1.52
ANTHRACENE	120127			No Criteria		40000	32000
BENZIDINE	92875			No Criteria		0.002	0.0016
POLYCYCLIC AROMATIC HYDROCARBONS						0.18	0.144
BIS(2CHLOROETHYL)ETHER	111444			No Criteria		5.3	4.24
BIS(2CHLOROISOPROPYL)ETHER	108601			No Criteria		65000	52000
BIS(2ETHYLHEXYL)PHTHALATE	117817		555	444	12	22	9.6
BUTYL BENZYL PHTHALATE	85687		85	68	1.9	1900	1.52
2CHLORONAPHTHALENE	91587			No Criteria		1600	1280
1,2DICHLOROBENZENE	95501		79	63.2	1.8	1300	1.44
1,3DICHLOROBENZENE	541731		390	312	8.7	960	6.96
1,4DICHLOROBENZENE	106467		56	44.8	1.2	190	0.96
3,3DICHLOROBENZIDENE	91941			No Criteria		0.28	0.224
DIETHYL PHTHALATE	84662		2605	2084	58	44000	46.4
DIMETHYL PHTHALATE	131113		1650	1320	37	1100000	29.6
DI-n-BUTYL PHTHALATE	84742			No Criteria		4500	3600
2,4DINITROTOLUENE	121142		1550	1240	34	34	27.2

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME:

P.J. Holton Water Treatment Plant RIPDES PERMIT #: RI0021601

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,2DIPHENYLHYDRAZINE	122667		14	11.2	0.31	2	0.248
FLUORANTHENE	206440		199	159.2	4.4	140	3.52
FLUORENE	86737			No Criteria		5300	4240
HEXACHLOROBENZENE	118741			No Criteria		0.0029	0.00232
HEXACHLOROBUTADIENE	87683			No Criteria		180	144
HEXACHLOROCYCLOPENTADIENE	77474		0.35	0.28	0.008	1100	0.0064
HEXACHLOROETHANE	67721		49	39.2	1.1	33	0.88
ISOPHORONE	78591		5850	4680	130	9600	104
NAPHTHALENE	91203		115	92	2.6		2.08
NITROBENZENE	98953		1350	1080	30	690	24
N-NITROSODIMETHYLAMINE	62759			No Criteria		30	24
N-NITROSODI-N-PROPYLAMINE	621647			No Criteria		5.1	4.08
N-NITROSODIPHENYLAMINE	86306		293	234.4	6.5	60	5.2
PYRENE	129000			No Criteria		4000	3200
1,2,4trichlorobenzene	120821		75	60	1.7	70	1.36
PESTICIDES/PCBs							
ALDRIN	309002		3	2.4		0.0005	0.0004
Alpha BHC	319846			No Criteria		0.049	0.0392
Beta BHC	319857			No Criteria		0.17	0.136
Gamma BHC (Lindane)	58899		0.95	0.76		1.8	1.44
CHLORDANE	57749		2.4	1.92	0.0043	0.0081	0.00344
4,4DDT	50293		1.1	0.88	0.001	0.0022	0.0008
4,4DDE	72559			No Criteria		0.0022	0.00176
4,4DDD	72548			No Criteria		0.0031	0.00248
DIELDRIN	60571		0.24	0.192	0.056	0.00054	0.000432
ENDOSULFAN (alpha)	959988		0.22	0.176	0.056	89	0.0448
ENDOSULFAN (beta)	33213659		0.22	0.176	0.056	89	0.0448
ENDOSULFAN (sulfate)	1031078			No Criteria		89	71.2
ENDRIN	72208		0.086	0.0688	0.036	0.06	0.0288
ENDRIN ALDEHYDE	7421934			No Criteria		0.3	0.24
HEPTACHLOR	76448		0.52	0.416	0.0038	0.00079	0.000632
HEPTACHLOR EPOXIDE	1024573		0.52	0.416	0.0038	0.00039	0.000312
POLYCHLORINATED BIPHENYLS3	1336363			No Criteria	0.014	0.00064	0.000512
2,3,7,8TCDD (Dioxin)	1746016			No Criteria		0.000000051	4.08E-08
TOXAPHENE	8001352		0.73	0.584	0.0002	0.0028	0.00016
TRIBUTYL TIN			0.46	0.368	0.072		0.0576

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: P.J. Holton Water Treatment Plant RIPDES PERMIT #: RI0021601

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS:							
OTHER SUBSTANCES							
ALUMINUM (limits are total recoverable)	7429905	29.2	750	675	87		78.3
AMMONIA as N(winter/summer)	7664417		45.7 45.7	41130 41130	3.53 3.53		3177 3177
4BROMOPHENYL PHENYL ETHER			18	14.4	0.4		0.32
CHLORIDE	16887006		860000	688000	230000		184000
CHLORINE	7782505		19	19	11		11
4CHLORO2METHYLPHENOL			15	12	0.32		0.256
1CHLORONAPHTHALENE			80	64	1.8		1.44
4CHLOROPHENOL	106489		192	153.6	4.3		3.44
2,4DICHLORO6METHYLPHENOL			22	17.6	0.48		0.384
1,1DICHLOROPROPANE			1150	920	26		20.8
1,3DICHLOROPROPANE	142289		303	242.4	6.7		5.36
2,3DINITROTOLUENE			17	13.6	0.37		0.296
2,4DINITRO6METHYL PHENOL			12	9.6	0.26		0.208
IRON	7439896			No Criteria	1000		800
pentachlorobenzene	608935		13	10.4	0.28		0.224
PENTACHLOROETHANE			362	289.6	8		6.4
1,2,3,5tetrachlorobenzene			321	256.8	7.1		5.68
1,1,1,2TETRACHLOROETHANE	630206		980	784	22		17.6
2,3,4,6TETRACHLOROPHENOL	58902		7	5.6	0.16		0.128
2,3,5,6TETRACHLOROPHENOL			8.5	6.8	0.19		0.152
2,4,5TRICHLOROPHENOL	95954		23	18.4	0.51		0.408
2,4,6TRINITROPHENOL	88062		4235	3388	94		75.2
XYLENE	1330207		133	106.4	3		2.4

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS
FACILITY NAME: P.J. Holton Water Treatment Plant **RIPDES PERMIT #: RI0021601**

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:			
TOXIC METALS AND CYANIDE			
ANTIMONY	7440360	360.00	8.00
ARSENIC, TOTAL	7440382	272.00	1.12
ASBESTOS	1332214	No Criteria	0.00000
BERYLLIUM	7440417	6.00	0.14
CADMIUM, TOTAL	7440439	0.47	0.08720
CHROMIUM III, TOTAL	16065831	463.46	22.15
CHROMIUM VI, TOTAL	18540299	13.03	9.15
COPPER, TOTAL	7440508	3.41	2.57
CYANIDE	57125	17.60	4.16
LEAD, TOTAL	7439921	12.58	0.49
MERCURY, TOTAL	7439976	1.32	0.14
NICKEL, TOTAL	7440020	116.17	12.92
SELENIUM, TOTAL	7782492	16.00	4.00
SILVER, TOTAL	7440224	0.30	No Criteria
THALLIUM	7440280	36.80	0.38
ZINC, TOTAL	7440666	33.31	33.31
VOLATILE ORGANIC COMPOUNDS			
ACROLEIN	107028	2.32	0.04800
ACRYLONITRILE	107131	302.40	2.00
BENZENE	71432	212.00	4.72
BROMOFORM	75252	1172.00	26.40
CARBON TETRACHLORIDE	56235	1092.00	12.80
CHLOROBENZENE	108907	636.00	14.40
CHLORODIBROMOMETHANE	124481	No Criteria	104.00
CHLOROFORM	67663	1156.00	25.60
DICHLOROBROMOMETHANE	75274	No Criteria	136.00
1,2DICHLOROETHANE	107062	4720.00	104.80
1,1DICHLOROETHYLENE	75354	464.00	10.40
1,2DICHLOROPROPANE	78875	2100.00	46.40
1,3DICHLOROPROPYLENE	542756	No Criteria	16.80
ETHYLBENZENE	100414	1280.00	28.80
BROMOMETHANE (methyl bromide)	74839	No Criteria	1200.00
CHLOROMETHANE (methyl chloride)	74873	No Criteria	0.00000
METHYLENE CHLORIDE	75092	7720.00	171.20
1,1,2,2TETRACHLOROETHANE	79345	372.80	8.00

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
TETRACHLOROETHYLENE	127184	192.00	4.24
TOLUENE	108883	508.00	11.20
1,2TRANS-DICHLOROETHYLENE	156605	No Criteria	8000.00
1,1,1TRICHLOROETHANE	71556	No Criteria	0.00000
1,1,2TRICHLOROETHANE	79005	720.00	16.00
TRICHLOROETHYLENE	79016	1560.00	34.40
VINYL CHLORIDE	75014	No Criteria	1.92
ACID ORGANIC COMPOUNDS			
2CHLOROPHENOL	95578	103.20	2.32
2,4DICHLOROPHENOL	120832	80.80	1.76
2,4DIMETHYLPHENOL	105679	84.80	1.92
4,6DINITRO-2METHYL PHENOL	534521	No Criteria	224.00
2,4DINITROPHENOL	51285	24.80	0.55
4NITROPHENOL	88755	No Criteria	0.00000
PENTACHLOROPHENOL	87865	0.04	0.03165
PHENOL	108952	200.80	4.48
2,4,6TRICHLOROPHENOL	88062	12.80	0.29
BASE NEUTRAL COMPOUNDS			
ACENAPHTHENE	83329	68.00	1.52
ANTHRACENE	120127	No Criteria	32000.00
BENZIDINE	92875	No Criteria	0.00160
PAHs		No Criteria	0.14
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	4.24
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	52000.00
BIS(2ETHYLHEXYL)PHTHALATE	117817	444.00	9.60
BUTYL BENZYL PHTHALATE	85687	68.00	1.52
2CHLORONAPHTHALENE	91587	No Criteria	1280.00
1,2DICHLOROBENZENE	95501	63.20	1.44
1,3DICHLOROBENZENE	541731	312.00	6.96
1,4DICHLOROBENZENE	106467	44.80	0.96
3,3DICHLOROBENZIDENE	91941	No Criteria	0.22
DIETHYL PHTHALATE	84662	2084.00	46.40
DIMETHYL PHTHALATE	131113	1320.00	29.60
DI-n-BUTYL PHTHALATE	84742	No Criteria	3600.00
2,4DINITROTOLUENE	121142	1240.00	27.20
1,2DIPHENYLHYDRAZINE	122667	11.20	0.25
FLUORANTHENE	206440	159.20	3.52

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS
FACILITY NAME: P.J. Holton Water Treatment Plant **RIPDES PERMIT #: R10021601**

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
FLUORENE	86737	No Criteria	4240.00
HEXACHLOROBENZENE	118741	No Criteria	0.00232
HEXACHLOROBUTADIENE	87683	No Criteria	144.00
HEXACHLOROCYCLOPENTADIENE	77474	0.28	0.00640
HEXACHLOROETHANE	67721	39.20	0.88
ISOPHORONE	78591	4680.00	104.00
NAPHTHALENE	91203	92.00	2.08
NITROBENZENE	98953	1080.00	24.00
N-NITROSODIMETHYLAMINE	62759	No Criteria	24.00
N-NITROSODI-N-PROPYLAMINE	621647	No Criteria	4.08
N-NITROSODIPHENYLAMINE	86306	234.40	5.20
PYRENE	129000	No Criteria	3200.00
1,2,4trichlorobenzene	120821	60.00	1.36
PESTICIDES/PCBs			
ALDRIN	309002	2.40	0.00040
Alpha BHC	319846	No Criteria	0.04
Beta BHC	319857	No Criteria	0.14
Gamma BHC (Lindane)	58899	0.76	0.76
CHLORDANE	57749	1.92	0.00344
4,4DDT	50293	0.88	0.00080
4,4DDE	72559	No Criteria	0.00176
4,4DDD	72548	No Criteria	0.00248
DIELDRIN	60571	0.19	0.00043
ENDOSULFAN (alpha)	959988	0.18	0.04480
ENDOSULFAN (beta)	33213659	0.18	0.04480
ENDOSULFAN (sulfate)	1031078	No Criteria	71.20
ENDRIN	72208	0.07	0.03
ENDRIN ALDEHYDE	7421934	No Criteria	0.24
HEPTACHLOR	76448	0.42	0.00
HEPTACHLOR EPOXIDE	1024573	0.42	0.00
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.00
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00
TOXAPHENE	8001352	0.58	0.00
TRIBUTYLTIN		0.37	0.06

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS:			
OTHER SUBSTANCES			
ALUMINUM, TOTAL	7429905	675.00	78.30
AMMONIA (as N), WINTER (NOV-APR)	7664417	41130.00	3177.00
AMMONIA (as N), SUMMER (MAY-OCT)	7664417	41130.00	3177.00
4BROMOPHENYL PHENYL ETHER		14.40	0.32
CHLORIDE	16887006	688000.00	184000.00
CHLORINE	7782505	19.00	11.00
4CHLORO2METHYLPHENOL		12.00	0.26
1CHLORONAPHTHALENE		64.00	1.44
4CHLOROPHENOL	106489	153.60	3.44
2,4DICHLORO6METHYLPHENOL		17.60	0.38
1,1DICHLOROPROPANE		920.00	20.80
1,3DICHLOROPROPANE	142289	242.40	5.36
2,3DINITROTOLUENE		13.60	0.30
2,4DINITRO6METHYL PHENOL		9.60	0.21
IRON	7439896	No Criteria	800.00
pentachlorobenzene	608935	10.40	0.22
PENTACHLOROETHANE		289.60	6.40
1,2,3,5tetrachlorobenzene		256.80	5.68
1,1,1,2TETRACHLOROETHANE	630206	784.00	17.60
2,3,4,6TETRACHLOROPHENOL	58902	5.60	0.13
2,3,5,6TETRACHLOROPHENOL		6.80	0.15
2,4,5TRICHLOROPHENOL	95954	18.40	0.41
2,4,6TRINITROPHENOL	88062	3388.00	75.20
XYLENE	1330207	106.40	2.40

Facility Name: P.J. Holton Water Treatment Plant
RIPDES Permit #: RI0021601

Outfall #: 001B and 002A (maximum values presented)

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	CAS #	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L) Monthly Ave	Permit Ap (ug/L) Dec. '16		Ave. DMR Data (ug/L) Jan. '13 - Dec. '17		Potential Permit Limits (ug/L)		Reasonable Potential?	
		Daily Max	Monthly Ave		Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave		Daily Max
PRIORITY POLLUTANTS												
TOXIC METALS AND CYANIDE												
ANTIMONY	7440360	360.00	8.00	---	---	---	---	---	---	360	8	
ARSENIC (limits are total recoverable)	7440382	272.00	1.12	---	---	---	---	---	---	272	1.12	
ASBESTOS	1332214	No Criteria	0.00	---	---	---	---	---	---	---	0	
BERYLLIUM	7440417	6.00	0.14	---	---	---	---	---	---	6	0.136	
CADMIUM (limits are total recoverable)	7440439	0.47	0.09	---	---	---	---	---	0.469985856	0.087204842		
CHROMIUM III (limits are total recoverable)	16065831	463.46	22.15	---	---	---	---	---	463.4579922	22.15173337		
CHROMIUM VI (limits are total recoverable)	18540299	13.03	9.15	---	---	---	---	---	13.03462322	9.147609148		
COPPER (limits are total recoverable)	7440508	3.41	2.57	---	---	---	---	---	3.412565268	2.568106551		
CYANIDE	57125	17.60	4.16	---	---	---	---	---	17.6	4.16		
LEAD (limits are total recoverable)	7439921	12.58	0.49	---	---	---	---	---	12.58201495	0.490303059		
MERCURY (limits are total recoverable)	7439976	1.32	0.14	---	---	---	---	---	1.317647059	0.141176471		
NICKEL (limits are total recoverable)	7440020	116.17	12.92	---	---	---	---	---	116.1666034	12.91546456		
SELENIUM (limits are total recoverable)	7782492	16.00	4.00	---	---	---	---	---	16	4		
SILVER (limits are total recoverable)	7440224	0.30	No Criteria	---	---	---	---	---	0.299189798	0.299189798		
THALLIUM	7440280	36.80	0.38	---	---	---	---	---	36.8	0.376		
ZINC (limits are total recoverable)	7440666	33.31	33.31	---	---	---	---	---	33.31450777	33.31450777		
VOLATILE ORGANIC COMPOUNDS												
ACROLEIN	107028	2.32	0.05	---	---	---	---	---	2.32	0.048		
ACRYLONITRILE	107131	302.40	2.00	---	---	---	---	---	302.4	2		
BENZENE	71432	212.00	4.72	---	---	---	---	---	212	4.72		
BROMOFORM	75252	1172.00	26.40	---	---	---	---	---	1172	26.4		
CARBON TETRACHLORIDE	56235	1092.00	12.80	---	---	---	---	---	1092	12.8		
CHLOROBENZENE	108907	636.00	14.40	---	---	---	---	---	636	14.4		
CHLORODIBROMOMETHANE	124481	No Criteria	104.00	---	---	---	---	---	---	104		
CHLOROFORM	67663	1156.00	25.60	---	---	---	---	---	1156	25.6		
DICHLOROBROMOMETHANE	75274	No Criteria	136.00	---	---	---	---	---	---	136		

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1,2DICHLOROETHANE	107062	4720.00	104.80	---	---	---	---	---	4720	104.8		
1,1DICHLOROETHYLENE	75354	464.00	10.40	---	---	---	---	---	464	10.4		
1,2DICHLOROPROPANE	78875	2100.00	46.40	---	---	---	---	---	2100	46.4		
1,3DICHLOROPROPYLENE	542756	No Criteria	16.80	---	---	---	---	---	---	16.8		
ETHYLBENZENE	100414	1280.00	28.80	---	---	---	---	---	1280	28.8		
BROMOMETHANE (methyl bromide)	74839	No Criteria	1200.00	---	---	---	---	---	---	1200		
CHLOROMETHANE (methyl chloride)	74873	No Criteria	0.00	---	---	---	---	---	---	0		
METHYLENE CHLORIDE	75092	7720.00	171.20	---	---	---	---	---	7720	171.2		
1,1,2,2TETRACHLOROETHANE	79345	372.80	8.00	---	---	---	---	---	372.8	8		
TETRACHLOROETHYLENE	127184	192.00	4.24	---	---	---	---	---	192	4.24		
TOLUENE	108883	508.00	11.20	---	---	---	---	---	508	11.2		
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	8000.00	---	---	---	---	---	---	8000		
1,1,1TRICHLOROETHANE	71556	No Criteria	0.00	---	---	---	---	---	---	0		
1,1,2TRICHLOROETHANE	79005	720.00	16.00	---	---	---	---	---	720	16		
TRICHLOROETHYLENE	79016	1560.00	34.40	---	---	---	---	---	1560	34.4		
VINYL CHLORIDE	75014	No Criteria	1.92	---	---	---	---	---	---	1.92		
ACID ORGANIC COMPOUNDS												
2CHLOROPHENOL	95578	103.20	2.32	---	---	---	---	---	103.2	2.32		
2,4DICHLOROPHENOL	120832	80.80	1.76	---	---	---	---	---	80.8	1.76		
2,4DIMETHYLPHENOL	105679	84.80	1.92	---	---	---	---	---	84.8	1.92		
4,6DINITRO2METHYL PHENOL	534521	No Criteria	224.00	---	---	---	---	---	---	224		
2,4DINITROPHENOL	51285	24.80	0.55	---	---	---	---	---	24.8	0.552		
4NITROPHENOL	88755	No Criteria	0.00	---	---	---	---	---	---	0		
PENTACHLOROPHENOL	87865	0.04	0.03	---	---	---	---	---	0.041252085	0.031648845		
PHENOL	108952	200.80	4.48	---	---	---	---	---	200.8	4.48		
2,4,6TRICHLOROPHENOL	88062	12.80	0.29	---	---	---	---	---	12.8	0.288		
BASE NEUTRAL COMPOUNDS												
ACENAPHTHENE	83329	68.00	1.52	---	---	---	---	---	68	1.52		
ANTHRACENE	120127	No Criteria	32000.00	---	---	---	---	---	---	32000		
BENZIDINE	92875	No Criteria	0.00	---	---	---	---	---	---	0.0016		
POLYCYCLIC AROMATIC HYDROCARBONS		No Criteria	0.14	---	---	---	---	---	---	0.144		
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	4.24	---	---	---	---	---	---	4.24		
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	52000.00	---	---	---	---	---	---	52000		
BIS(2ETHYLHEXYL)PHTHALATE	117817	444.00	9.60	---	---	---	---	---	444	9.6		
BUTYL BENZYL PHTHALATE	85687	68.00	1.52	---	---	---	---	---	68	1.52		
2CHLORONAPHTHALENE	91587	No Criteria	1280.00	---	---	---	---	---	---	1280		
1,2DICHLOROENZENE	95501	63.20	1.44	---	---	---	---	---	63.2	1.44		
1,3DICHLOROENZENE	541731	312.00	6.96	---	---	---	---	---	312	6.96		
1,4DICHLOROENZENE	106467	44.80	0.96	---	---	---	---	---	44.8	0.96		
3,3DICHLOROENZIDENE	91941	No Criteria	0.22	---	---	---	---	---	---	0.224		

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DIETHYL PHTHALATE	84662	2084.00	46.40	---	---	---	---	---	2084	46.4		
DIMETHYL PHTHALATE	131113	1320.00	29.60	---	---	---	---	---	1320	29.6		
DInBUTYL PHTHALATE	84742	No Criteria	3600.00	---	---	---	---	---	---	3600		
2,4DINITROTOLUENE	121142	1240.00	27.20	---	---	---	---	---	1240	27.2		
1,2DIPHENYLHYDRAZINE	122667	11.20	0.25	---	---	---	---	---	11.2	0.248		
FLUORANTHENE	206440	159.20	3.52	---	---	---	---	---	159.2	3.52		
FLUORENE	86737	No Criteria	4240.00	---	---	---	---	---	---	4240		
HEXACHLOROBENZENE	118741	No Criteria	0.00	---	---	---	---	---	---	0.00232		
HEXACHLOROBUTADIENE	87683	No Criteria	144.00	---	---	---	---	---	---	144		
HEXACHLOROCYCLOPENTADIENE	77474	0.28	0.01	---	---	---	---	---	0.28	0.0064		
HEXACHLOROETHANE	67721	39.20	0.88	---	---	---	---	---	39.2	0.88		
ISOPHORONE	78591	4680.00	104.00	---	---	---	---	---	4680	104		
NAPHTHALENE	91203	92.00	2.08	---	---	---	---	---	92	2.08		
NITROBENZENE	98953	1080.00	24.00	---	---	---	---	---	1080	24		
NNITROSODIMETHYLAMINE	62759	No Criteria	24.00	---	---	---	---	---	---	24		
NNITROSODINPROPYLAMINE	621647	No Criteria	4.08	---	---	---	---	---	---	4.08		
NNITROSODIPHENYLAMINE	86306	234.40	5.20	---	---	---	---	---	234.4	5.2		
PYRENE	129000	No Criteria	3200.00	---	---	---	---	---	---	3200		
1,2,4trichlorobenzene	120821	60.00	1.36	---	---	---	---	---	60	1.36		
PESTICIDES/PCBs												
ALDRIN	309002	2.40	0.00	---	---	---	---	---	2.4	0.0004		
Alpha BHC	319846	No Criteria	0.04	---	---	---	---	---	---	0.0392		
Beta BHC	319857	No Criteria	0.14	---	---	---	---	---	---	0.136		
Gamma BHC (Lindane)	58899	0.76	0.76	---	---	---	---	---	0.76	0.76		
CHLORDANE	57749	1.92	0.00	---	---	---	---	---	1.92	0.00344		
4,4DDT	50293	0.88	0.00	---	---	---	---	---	0.88	0.0008		
4,4DDE	72559	No Criteria	0.00	---	---	---	---	---	---	0.00176		
4,4DDD	72548	No Criteria	0.00	---	---	---	---	---	---	0.00248		
DIELDRIN	60571	0.19	0.00	---	---	---	---	---	0.192	0.000432		
ENDOSULFAN (alpha)	959988	0.18	0.04	---	---	---	---	---	0.176	0.0448		
ENDOSULFAN (beta)	33213659	0.18	0.04	---	---	---	---	---	0.176	0.0448		
ENDOSULFAN (sulfate)	1031078	No Criteria	71.20	---	---	---	---	---	---	71.2		
ENDRIN	72208	0.07	0.03	---	---	---	---	---	0.0688	0.0288		
ENDRIN ALDEHYDE	7421934	No Criteria	0.24	---	---	---	---	---	---	0.24		
HEPTACHLOR	76448	0.42	0.00	---	---	---	---	---	0.416	0.000632		
HEPTACHLOR EPOXIDE	1024573	0.42	0.00	---	---	---	---	---	0.416	0.000312		
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.00	---	---	---	---	---	---	0.000512		
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00	---	---	---	---	---	---	4.08E-08		
TOXAPHENE	8001352	0.58	0.00	---	---	---	---	---	0.584	0.00016		
TRIBUTYLTIN		0.37	0.06	---	---	---	---	---	0.368	0.0576		

DEM/RIPDES
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NON PRIORITY POLLUTANTS:												
OTHER SUBSTANCES												
ALUMINUM (limits are total recoverable)	7429905	675.00	78.30	---	---	---	---	---	675	78.3		
AMMONIA (winter)	7664417	41130.00	3177.00	---	---	---	---	---	41130	3177		
AMMONIA (summer)		41130.00	3177.00	---	---	---	---	---	41130	3177		
4BROMOPHENYL PHENYL ETHER	16887006	14.40	0.32	---	---	---	---	---	14.4	0.32		
CHLORIDE	7782505	688000.00	184000.00	---	---	---	---	---	688000	184000		
CHLORINE		19.00	11.00	---	47	6.43	15.2	11.4	19	11	Y	Y
4CHLORO2METHYLPHENOL		12.00	0.26	---	---	---	---	---	12	0.256		
1CHLORONAPHTHALENE	106489	64.00	1.44	---	---	---	---	---	64	1.44		
4CHLOROPHENOL		153.60	3.44	---	---	---	---	---	153.6	3.44		
2,4DICHLORO6METHYLPHENOL		17.60	0.38	---	---	---	---	---	17.6	0.384		
1,1DICHLOROPROPANE	142289	920.00	20.80	---	---	---	---	---	920	20.8		
1,3DICHLOROPROPANE		242.40	5.36	---	---	---	---	---	242.4	5.36		
2,3DINITROTOLUENE		13.60	0.30	---	---	---	---	---	13.6	0.296		
2,4DINITRO6METHYL PHENOL	7439896	9.60	0.21	---	---	---	---	---	9.6	0.208		
IRON	608935	No Criteria	800.00	---	1150	540	1428	1169	---	800		Y
pentachlorobenzene		10.40	0.22	---	---	---	---	---	10.4	0.224		
PENTACHLOROETHANE		289.60	6.40	---	---	---	---	---	289.6	6.4		
1,2,3,5tetrachlorobenzene	630206	256.80	5.68	---	---	---	---	---	256.8	5.68		
1,1,1,2TETRACHLOROETHANE	58902	784.00	17.60	---	---	---	---	---	784	17.6		
2,3,4,6TETRACHLOROPHENOL		5.60	0.13	---	---	---	---	---	5.6	0.128		
2,3,5,6TETRACHLOROPHENOL	95954	6.80	0.15	---	---	---	---	---	6.8	0.152		
2,4,5TRICHLOROPHENOL	88062	18.40	0.41	---	---	---	---	---	18.4	0.408		
2,4,6TRINITROPHENOL	1330207	3388.00	75.20	---	---	---	---	---	3388	75.2		
XYLENE		106.40	2.40	---	---	---	---	---	106.4	2.4		

PART II
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DEFINITIONS

GENERAL REQUIREMENTS

(a) Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Chapter 46-12 of the Rhode Island General Laws and the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- (1) The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (2) The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307 or 308 of the Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment of not more than 1 year, or both.
- (3) Chapter 46-12 of the Rhode Island General Laws provides that any person who violates a permit condition is subject to a civil penalty of not more than \$5,000 per day of such violation. Any person who willfully or negligently violates a permit condition is subject to a criminal penalty of not more than \$10,000 per day of such violation and imprisonment for not more than 30 days, or both. Any person who knowingly makes any false statement in connection with the permit is subject to a criminal penalty of not more than \$5,000 for each instance of violation or by imprisonment for not more than 30 days, or both.

(b) Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

(c) Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures, and, where applicable, compliance with DEM "Rules and Regulations Pertaining to the Operation and Maintenance of Wastewater Treatment Facilities" and "Rules and Regulations Pertaining to the Disposal and Utilization of Wastewater Treatment Facility Sludge." This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

(f) Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause, including but not limited to: (1) Violation of any terms or conditions of this permit; (2) Obtaining this permit by misrepresentation or failure to disclose all relevant facts; or (3) A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

(i) Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

- (4) Sample or monitor any substances or parameters at any location, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA or Rhode Island law.

(j) Monitoring and Records

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the discharge over the sampling and reporting period.
- (2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings from continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- (3) Records of monitoring information shall include:
 - (i) The date, exact place, and time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analyses were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.
- (4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 and applicable Rhode Island regulations, unless other test procedures have been specified in this permit.
- (5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall upon conviction, be punished by a fine of not more than \$10,000 per violation or by imprisonment for not more than 6 months per violation or by both. Chapter 46-12 of the Rhode Island General Laws also provides that such acts are subject to a fine of not more than \$5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.
- (6) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
- (7) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136, applicable State regulations, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(k) Signatory Requirement

All applications, reports, or information submitted to the Director shall be signed and certified in accordance with 250-RICR-150-10-1.12 of the Rhode Island Pollutant Discharge Elimination System (RIPDES) Regulations. Rhode Island General Laws, Chapter 46-12 provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.

(l) Reporting Requirements

- (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.
- (2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with the permit requirements.
- (3) Transfers. This permit is not transferable to any person except after written notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under State and Federal law.
- (4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (5) Twenty-four hour reporting. The permittee shall immediately report any noncompliance which may endanger health or the environment by calling DEM at (401) 222-4700 or (401) 222-3070 at night.

A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The following information must be reported immediately:

- (i) Any unanticipated bypass which causes a violation of any effluent limitation in the permit; or
- (ii) Any upset which causes a violation of any effluent limitation in the permit; or
- (iii) Any violation of a maximum daily discharge limitation for any of the pollutants specifically listed by the Director in the permit.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

- (6) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1), (2), and (5), of this section, at the time monitoring reports are submitted. The reports shall contain the information required in paragraph (1)(5) of the section.
- (7) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, they shall promptly submit such facts or information.

(m) Bypass

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

- (1) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (2) and (3) of this section.
- (2) Notice.
 - (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
 - (ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in 250-RICR-150-10-1.14(R) of the RIPDES Regulations.
- (3) Prohibition of bypass.
 - (i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, where "severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production;
 - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (C) The permittee submitted notices as required under paragraph (2) of this section.

- (ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (3)(i) of this section.

(n) Upset

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

- (1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (2) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (2) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (a) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (b) The permitted facility was at the time being properly operated;
 - (c) The permittee submitted notice of the upset as required in 250-RICR-150-10-1.14(R) of the RIPDES Regulations; and
 - (d) The permittee complied with any remedial measures required under 250-RICR-150-10-1.14(E) of the RIPDES Regulations.
- (3) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(o) Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. Discharges which cause a violation of water quality standards are prohibited. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different or increased discharges of pollutants must be reported by submission of a new NPDES application at least 180 days prior to commencement of such discharges, or if such changes will not violate the effluent limitations specified in this permit, by notice, in writing, to the Director of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by the permit constitutes a violation.

(p) Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner consistent with applicable Federal and State laws and regulations including, but not limited to the CWA and the Federal Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq., Rhode Island General Laws, Chapters 46-12, 23-19.1 and regulations promulgated thereunder.

(q) Power Failures

In order to maintain compliance with the effluent limitation and prohibitions of this permit, the permittee shall either:

In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or if such alternative power source is not in existence, and no date for its implementation appears in Part I,

Halt reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

(r) Availability of Reports

Except for data determined to be confidential under paragraph (w) below, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the DEM, 291 Promenade Street, Providence, Rhode Island. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA and under Section 46-12-14 of the Rhode Island General Laws.

(s) State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law.

(t) Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, and local laws and regulations.

(u) Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

(v) Reopener Clause

The Director reserves the right to make appropriate revisions to this permit in order to incorporate any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA or State law. In accordance with 250-RICR-150-10-1.16 and 250-RICR-150-10-1.24 of the RIPDES Regulations, if any effluent standard or prohibition, or water quality standard is promulgated under the CWA or under State law which is more stringent than any limitation on the pollutant in the permit, or controls a pollutant not limited in the permit, then the Director may promptly reopen the permit and modify or revoke and reissue the permit to conform to the applicable standard.

(w) Confidentiality of Information

(1) Any information submitted to DEM pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, DEM may make the information available to the public without further notice.

(2) Claims of confidentiality for the following information will be denied:

- (i) The name and address of any permit applicant or permittee;
- (ii) Permit applications, permits and any attachments thereto; and
- (iii) NPDES effluent data.

(x) Best Management Practices

The permittee shall adopt Best Management Practices (BMP) to control or abate the discharge of toxic pollutants and hazardous substances associated with or ancillary to the industrial manufacturing or treatment process and the Director may request the submission of a BMP plan where the Director determines that a permittee's practices may contribute significant amounts of such pollutants to waters of the State.

(y) Right of Appeal

Within thirty (30) days of receipt of notice of a final permit decision, the permittee or any interested person may submit a request to the Director for an adjudicatory hearing to reconsider or contest that decision. The request for a hearing must conform to the requirements of 250-RICR-150-10-1.50 of the RIPDES Regulations.

DEFINITIONS

1. For purposes of this permit, those definitions contained in the RIPDES Regulations and the Rhode Island Pretreatment Regulations shall apply.
2. The following abbreviations, when used, are defined below.

cu. M/day or M ³ /day	cubic meters per day
mg/l	milligrams per liter
ug/l	micrograms per liter
lbs/day	pounds per day
kg/day	kilograms per day
Temp. °C	temperature in degrees Centigrade
Temp. °F	temperature in degrees Fahrenheit
Turb.	turbidity measured by the Nephelometric Method (NTU)
TNFR or TSS	total nonfilterable residue or total suspended solids
DO	dissolved oxygen
BOD	five-day biochemical oxygen demand unless otherwise specified
TKN	total Kjeldahl nitrogen as nitrogen
Total N	total nitrogen
NH ₃ -N	ammonia nitrogen as nitrogen
Total P	total phosphorus
COD	chemical oxygen demand
TOC	total organic carbon
Surfactant	surface-active agent
pH	a measure of the hydrogen ion concentration
PCB	polychlorinated biphenyl
CFS	cubic feet per second
MGD	million gallons per day
Oil & Grease	Freon extractable material
Total Coliform	total coliform bacteria
Fecal Coliform	total fecal coliform bacteria
ml/l	milliliter(s) per liter
NO ₃ -N	nitrate nitrogen as nitrogen
NO ₂ -N	nitrite nitrogen as nitrogen
NO ₃ -NO ₂	combined nitrate and nitrite nitrogen as nitrogen
Cl ₂	total residual chlorine