

City of Portsmouth

Department of Public Works



MEMORANDUM

TO: John Bohenko, City Manager

FROM: Peter Rice, P.E., Director of Public Works
Brian Goetz, Deputy Director of Public Works
Suzanne Woodland, Deputy City Attorney
Terry Desmarais, P.E., City Engineer

DATE: May 12, 2015

SUBJECT: Recommendation on Wastewater Treatment Options
Pease Wastewater Option Evaluation

In 2005, the Environmental Protection Agency (EPA), which is responsible for issuing permits for the discharge of wastewater, determined that it was necessary under federal law for the City of Portsmouth to upgrade its Peirce Island Wastewater Treatment Facility (WWTF). The City began this process with the Wastewater Master Plan. At the end of the Master Plan process, the only option acceptable to the EPA was for the City to proceed with an upgrade of the Peirce Island WWTF to meet secondary treatment standards, the process and schedule for which was later incorporated into a Consent Decree. This project was anticipated to cost the City between \$35 million and \$45 million.

During the course of technology piloting and preliminary design, the scope of the Peirce Island WWTF Upgrade changed to include a larger size facility and a higher level of treatment to meet EPA and the Department of Environmental Services (DES) regulatory requirements. These changes resulted in increased costs of the Peirce Island WWTF Upgrade to \$80 million. In addition to increased costs, the City had concerns over regulatory uncertainties on bypass and blending and received a request from Exeter and Stratham to treat their wastewater at the Pease WWTF. City staff identified these concerns for the City Council and outlined options for moving forward: (1) upgrade the Peirce Island WWTF (current path per the Consent Decree) or (2) take all of the City's wastewater and treat it at a new facility at the existing Pease WWTF location. The City Council directed the City Manager to evaluate the feasibility and costs of the Pease WWTF approach in November 2014 ("Pease Wastewater Option Evaluation").

The City tasked the engineering consulting firm ARCADIS to complete the Pease Wastewater Option Evaluation. ARCADIS had recently completed the value engineering for the Peirce Island WWTF upgrade. The first phase of the work was to develop site plans for the existing Pease WWTF site. These site plans were presented to the City Council in January 2015 and

showed that a facility could be constructed at the Pease WWTF to treat all of the City's current and projected future wastewater flows and potential regional wastewater flow. The next phase of the work looked at how to pump wastewater from the downtown Portsmouth to the Pease WWTF location and how to discharge the treated wastewater back to the Piscataqua River. The consultant developed capital and 20-year life cycle costs for the options. City staff presented the results of the evaluation to the City Council on April 27, 2015.

The focus of the presentation was on the impacts, costs and risks associated with the two options. Both of these options will have substantial impacts on the City during and after construction. Upgrading the Peirce Island WWTF will require a lot of construction traffic through the downtown while upgrading the Pease WWTF will require a lot of utility construction in downtown streets. The capital costs for both options are significant. Upgrading the two existing treatment facilities is estimated to cost \$90.1 million in the near term. For the Pease option, the cost to construct all the necessary pipelines (through the downtown) that convey the wastewater to the new Pease WWTF and then back to a new Deer Street outfall was estimated to cost an additional \$41.3 million or \$131.4 million. These costs would be approximately \$6.5 million more or \$137.9 million if the Deer Street outfall was not approved by the DES and had to be extended to Peirce Island. While both options have risks associated with design, implementation and future regulatory requirements, the details of the Pease WWTF option are much less defined than those of upgrading the Peirce Island WWTF and the Pease WWTF individually.

After carefully evaluating the City's options and weighing the important considerations, staff recommends that the City Council reaffirm their vote of April 8, 2013 to move forward with upgrading the existing Peirce Island WWTF. The full report from ARCADIS will be posted to the City's wastewater web site once finalized. City staff will be available to discuss this recommendation and other questions at the May 18, 2015 City Council meeting. City staff will continue to work with Exeter and Stratham to discuss the option of treating their wastewater at the Pease WWTF location.

Recommended motion: Move to reaffirm the City Council's vote of April 8, 2013 to move forward with the Peirce Island Wastewater Treatment Facility upgrade.