



December 3, 2013

TO: David Parrish, Assistant City Manager

FROM: Kenney McDowell, PE, Deputy Director
Steve Drew, Director

SUBJECT: T.Z. Osborne Plant Improvement Plan

Background:

Earlier this year, the North Carolina General Assembly adopted changes to the Jordan Lake Nutrient Management Strategy. This strategy is more commonly known and subsequently referred to here as the Jordan Lake Rules. With these changes, the City has received additional time to fully comply with the nitrogen removal requirements at the wastewater treatment plants. As long as the City has received a State issued "Authorization to Construct" letter by 2019, the City will have until 2021 to comply.

This City compliance extension for wastewater treatment is the third extension since the rules were proposed in draft form. State and Federal regulatory agencies have reviewed this latest extension and developed a revised schedule for meeting Rule requirements. As such, the eminent renewal of our operating National Pollution Discharge Elimination System Permit (A State issued Federally Delegated Permit) is anticipated to have language in it requiring yearly activities that move this program forward. City staff's recommendation for current action takes these facts and history into account.

Issuance of the original draft Rules coupled with the City's foreseeable obligation to comply resulted in the City authorizing an evaluation study in 2006. A consulting team, working with City staff, explored a number of alternatives and developed associated financial evaluations of these alternatives. A key consideration in the study was to explore how long North Buffalo Plant could continue to maintain compliance under these draft rules and other foreseeable future rules. One study conclusion was that North Buffalo Plant's available land to expand combined with its existing design were nearing functional obsolescence. Thusly, the study's conclusion was that the most effective long term solution for compliance was the decommissioning of the North Buffalo Plant on White Street concurrent with the upgrading of the T.Z. Osborne Plant on Huffine Mill Road. This recommended decommissioning of North Buffalo was also identified as an improvement to the community given its closer proximity to residences and commercial areas as compared to the T.Z. Osborne Plant. City staff has been working to implement this one plant recommendation ever since while continuing to support the City's position of seeking additional compliance time.

Project Status:

In accordance with this one plant plan, City staff has deferred all non critical expenditures (approximately \$11.6 million) at the North Buffalo Plant while directing efforts to complete engineering and permitting activities for approximately \$100 million worth of construction contracts. These proposed projects have been shown in the Capital Improvement Plan for the last several years and appeared as a highlight of the annual budget presentation.

Now, with the most recent legislative extension, City staff has directed the configuration of the proposed construction into four contract packages to be competitively bid. Proposed for this coming year, package one will decommission the North Buffalo Plant and provide additional storage for wastewater that will be transferred to the T.Z. Osborne Plant (\$8.4 million). Also this coming year, package two will upgrade the hydraulic capacity at the T.Z. Osborne Plant to allow the City to maintain full permitted capacity for future growth (\$31 million). Later in the coming year, package three will upgrade the filter process at the T.Z. Osborne Plant which is also necessary to maintain future growth capacity (\$18.4 million). Package four is placed further out for bidding (2018) and represents specific upgrades required for nitrogen removal to comply with Jordan Rules (\$29.4 million). Should the Jordan Rules change or additional rules come into effect such as the anticipated ammonia and metal rules, staff anticipates that package four would be the comprehensive avenue towards compliance. Council's successful support of efforts to delay these requirements and associated construction package represents a significant deferred expenditure for wastewater treatment upgrades.

Recommendation:

City staff recommends that we proceed now with this four phase approach to upgrade the T.Z. Osborne Plant while decommissioning the North Buffalo Plant. This will allow the T.Z. Osborne Plant to be best prepared to meet any future permit needs while deferring the specific upgrades related to Jordan Rules. With Council's support of this recommendation, City staff will proceed to bring the following cost estimated items forward this coming year. Final construction related engineering services contract at \$4.9 million, package one at \$8.4 million, package two at \$31 million and package three at \$18.4 million. Package four will be deferred to 2018 and modified as necessary based on Jordan developments and other rules. The end result will be one modern plant fully upgraded to meet future needs for the City's growth while eliminating our oldest plant and a portion of its associated operating costs. This decreased operating cost will partially offset the needed debt service to fund the new construction upgrades.

HKM/hkm