



# St. Johns River

## Water Management District

Ann B. Shortelle, Ph.D., Executive Director

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DATE: January 25, 2021

TO: Prospective Respondents

FROM: Leslie Fancella, Contract Specialist

SUBJECT: Addendum #2 to Request for Qualifications #36425, Characterization of Runoff Water Quality From Watersheds Receiving Wastewater Residuals Applications

As a result of inquiries, the following information is being provided.

**QUESTION: Does SJRWMD want a measurement of NH<sub>3</sub>, or NH<sub>4</sub>? Finding the concentration NH<sub>4</sub> requires a calculation based on the NH<sub>3</sub> concentration.**

**ANSWER:** The District lab is currently using “SM 22nd Edition – 4500G-NH<sub>3</sub> G” for our ammonia method. The analyte name we use to report the data is either “NH<sub>4</sub>-T” (unfiltered) or “NH<sub>4</sub>-D” (filtered). This is a legacy from EPA Methods used for these analyses specifically stated which STORET Numbers to use when reporting the values. So the idea of reporting ammonia as "Ammonium as N" came from the STORET Number listed in the Ammonia EPA Method. Thus, reporting ammonia values as Ammonium is based on the EPA Method used long ago.

NH<sub>3</sub> and NH<sub>4</sub> in solution exist in equilibrium ( $\text{NH}_3 + \text{H}^+ \leftrightarrow \text{NH}_4^+$ ). Low pH, e.g. preservation, shifts the equilibrium toward NH<sub>4</sub><sup>+</sup>. During our analysis, the pH is raised to > 11 shifting the equilibrium almost completely toward NH<sub>3</sub>, which reacts with the hypochlorite. So this test does not differentiate between NH<sub>3</sub> and NH<sub>4</sub><sup>+</sup>. In this case, it all reacts the same. The current Standard Methods 4500- NH<sub>3</sub> and EPA Method 350.1 both say to “Report results in mg NH<sub>3</sub> -N/L.” However, since the method of analysis includes both NH<sub>3</sub> + NH<sub>4</sub><sup>+</sup>, and is reported in units of “as N”, no calculation should be necessary unless they are using a method that can distinguish between the amount of ionized and unionized forms as they existed in the original sample.

**NOTE: The RFQ Opening remains 2:00 p.m., February 10, 2021.**

Please acknowledge receipt of this Addendum on the SUBMITTAL FORM provided in the RFQ package.

If you have any questions, please call me at (386) 643-1980 or e-mail [lfancella@sjrwmd.com](mailto:lfancella@sjrwmd.com).

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