

## Professional Services Agreement Bioassay

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**SCOPE OF SERVICES**

The City of Merced Wastewater Treatment Facility is requesting proposals for analytical testing and services for Acute and Chronic Three Species Bioassay analyses as required by the State of California Regional Water Quality Control Board NPDES Permit No. CA0079219. The contract start and end dates will be for the term of July, 1 2016 through June 30, 2019. All testing will be performed by laboratories appropriately certified by the State of California Department of Health Services, Environmental Laboratory Accreditation Program (ELAP).

The following is a summary of the analytical requirements:

Twelve (12) NPDES 96-hour static Acute Bioassay samples using larval fathead minnows (*Pimephales promelas*). The methods used in conducting these tests shall follow the guidelines established by the EPA manual "*Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*". Please see NPDES permit requirements for Acute Bioassay (Attachment A).

Four (4) Three Species Chronic Toxicity tests incorporating a 100% effluent and one control. As required by the SIP all chronic toxicity test shall be conducted with concurrent testing with a reference toxicant and shall be report with the Chronic Toxicity test results. The methods used in conducting these tests shall follow the guidelines established by the EPA manual "*Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*" (EPA 600/4-91-002, or latest edition). Please see NPDES permit requirements for Three Species Chronic Toxicity (Attachment B).

These Chronic Toxicity Evaluations consists of performing the EPA's freshwater "three species" short-term chronic toxicity tests:

- 96-hour algal continuous growth test with the green algae *Selenastrum capricornutum*;
- three-brood (7-day) survival and reproduction test with the crustacean *Ceriodaphnia dubia*;
- 7-day survival and growth test with the larval fathead minnows (*Pimephales promelas*).

All analytical reports must be reliable and acceptable to appropriate regulatory agencies. Sample results must be received within twenty (20) calendar days. Communicate all test results, toxic or not, to wastewater treatment plant staff as definitive information is available (i.e., typically upon completion of statistical analyses).

The analyzing laboratory is to maintain in full force and effect, at its own cost and expense, insurance coverage as specified in pages 4 and 5 of the standard City contract.

The contracted laboratory, when requested, will provide technical / analytical communication to the California Regional Water Quality Control Board on behalf of the City of Merced.

The contracted laboratory shall provide sample transportation, exercise diligent sample handling, and proper chain of custody protocols to ensure a representative sample arrives at the laboratory.

The contracted laboratory shall provide appropriate sample containers and Chain-of-Custody forms as required in advance of sampling events.

Upon request, the laboratory must develop a TRE (Toxicity Reduction Evaluation) and TIE (Toxicity Identification Evaluation). The laboratory must, if necessary, be capable of performing the appropriate follow-up tests in response to TRE / TIE triggers.