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**City of Pompano Beach
UTILITIES TREATMENT PLANT**

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MEMORANDUM NO. 17 – 13

DATE: March 14, 2017

TO: Gregory Harrison, City Manager

VIA: A. Randolph Brown, Utilities Director *ARB*

C: Otis Thomas, General Services Director

FROM: Phil Hyer, Utilities Treatment Plants Superintendent *PH*

SUBJECT: Odyssey Work Authorization No. 1- Replacement of Carbon Dioxide System

The existing Water Plant carbon dioxide feed system was installed as part of the lime plant project in 1984. This system injects carbon dioxide gas into the water stream by way of bubblers (diffusers). This process lowers the pH of our lime softened treated water, to prevent calcium carbonate precipitation on our filters, and maintains the water pH below our 4 Log disinfection permit compliance limit.

A recent inspection of this system has revealed moisture in the insulation around the bulk tanks. This insulation is encapsulated in metal around the bulk tank vessels, which prevents a complete assessment of the actual bulk tank vessel corrosion issues. We have already been performing rust remediation maintenance on the ends of the tanks which are not insulated. In addition, the refrigeration units on these bulk tanks also have required increased maintenance costs due to the age of the system. Typical service life of a system of this type is thirty years.

Odyssey Manufacturing Co. Work Authorization No.1 will provide professional engineering, permitting, furnishing of equipment and installation services for a complete new carbon dioxide feed system at the Water Treatment Plant. This new system will also provide for a different chemical delivery technique which converts carbon dioxide gas to liquid carbonic acid. This will increase chemical feed efficiency and will result in lower chemical costs.

The services to be rendered pursuant to Work Authorization No. 1, are in accordance with Commission approved Resolution 2016-232 and the terms and conditions of the Service Agreement between the City of Pompano Beach and Odyssey Manufacturing Co. executed July 1st, 2016.

The cost expenditure for Work Authorization No. 1 is \$597,325. Utilities staff recommends and requests Commission approval of this Work Authorization. Funding for these services will be expensed to Utilities WTP Recarbonation Feed System Rehab CIP # 17-306 account.