



CITY OF ORLANDO

March 31, 2015

To: David M. Billingsley, Chief Procurement Officer
Through: Richard M. Howard, PE, Director of Public Works
From: Vic Godlewski, PE, Wastewater Division Manager

A handwritten signature in black ink, likely belonging to Vic Godlewski.

Subject: Sole Source Procurement of Class A Biosolids Treatment Process & Equipment from Schwing Bioset

David, the Wastewater Division is requesting your approval to move forward with sole sourcing Schwing Bioset to provide a Class A process and equipment to treat biosolids at the City's Conserv II Water Reclamation Facility (WRF). Class A biosolids treatment achieves Class B vector reduction and provides significant reduction of pathogens. Land application of Class A biosolids is less restrictive allowing more efficient use of the land application sites.

We are faced with two fundamental issues at the Conserv II WRF:

- The anaerobic digestion system has been in service beyond its service life and is in need of major rehabilitation work. This process can only produce Class B biosolids as presently configured. The estimated costs of the rehabilitative work have ranged from \$5 million to \$14 million.
- Land application of biosolids is becoming increasingly unreliable due to rising water tables. We have had a very wet year which has precluded land application in most of our fields. We have had to resort to other more expensive methods like landfill disposal and transport to a regional management facility (RMF).

Capital costs were projected to range from \$14 million to over \$30 million, to upgrade the existing anaerobic digestion system to a Class A digestion process. The capital costs depend on the required treatment capacity, degree of side stream treatment and energy recovery features. The Wastewater Division concluded that a large investment in anaerobic digestion is not advisable at this time. There is research being conducted on emerging biosolids treatment alternatives including anaerobic digestion that could improve the financial feasibility of treatment and energy production.

As an alternative, the Division decided to study proven biosolids treatment technologies that could be implemented at a modest capital cost and provide reliable service over a 5 to 10 year period. This approach would allow the market place time to develop technologies that the City could consider for future implementation.

The Wastewater Division investigated several processes and documented the results in a study entitled "Biosolids Treatment and Disposal Strategy-Conserv II" dated June 26, 2014. During this in-house study, an upgrade to the anaerobic digestion system coupled with land application of biosolids was evaluated. This alternative represented the investment the

City would minimally have to make to continue the present course of producing and disposing of Class B biosolids. City staff estimated a present worth cost over 10 years of \$17.7 million for this option. Using Schwing Bioset, the estimated present worth was estimated at \$14.9 million. In addition to being more cost effective, the Schwing Bioset approach provides the following benefits:

- Produces Class A biosolids at the WRF with potential post treatment to a Class AA product or a commercial fertilizer
- Potentially eliminates reliance on land application
- The process can be implemented relatively quickly (approximately 12 months)

The City engaged the engineering firm of Black and Veatch (B&V) to conduct a peer review of the Division's evaluation and they published a report titled "Conserv II Water Reclamation Facility Review of Biosolids Treatment and Disposal Strategy" dated January 21, 2015. B&V refined the cost estimates but they did not detect any major flaws in the Division's analysis. Their estimated present worth cost for maintaining Class B treatment was \$17.8 million and their estimated present worth cost for Bioset ranged from \$14.4 million to \$18.3 million depending on the quality of the biosolids that are being fed into the process. Based on the Division's experience we expect that the lower end of the cost range will be achievable.

The B&V report has not changed the Division's conclusions regarding the biosolids strategy that we wish to implement at the Conserv II WRF. The proprietary system offered by Schwing Bioset will accomplish the following:

- At a lower cost, the Division will be able to upgrade treatment from Class B to Class A
- When coupled with post treatment conditioning, the Class A biosolids can be transformed to a commercial fertilizer totally eliminating the Division's reliance on land application
- Capital costs are low
- The process can be implemented quickly to restore biosolids treatment reliability to the facility

The Division is requesting your approval for procurement of the Bioset process and equipment from Schwing Bioset. For your information, the studies that were conducted by the Division and by Black & Veatch are attached. Please let me know if you require any additional information.

C: Richard M. Howard, PE, Director of Public Works
Paul Deuel, Assistant Wastewater Division Manager
Kristie Fries, PE, Project Manager