WAMTechnology
www.wamsys.co.za
CELEBRATING 20 YEARS EST. 1995

WAMTech Bulletin 01, Volume 4
03 January 2017

Water and Sanitation in the News

Drones: How They Can Change Your Water Operations

An eye in the sky offers a new dataset for treatment plant and pipeline infrastructure planning and decision making. As water and wastewater operations continue to upgrade, expand, and improve maintenance procedures, the new kid on the technology block can help.

Drones, also known as unmanned aircraft systems, are usually outfitted with camera systems that can be used for aerial photogrammetry. Photogrammetry is a form of photography that ties to preset data points on the ground. The visuals taken by a drone then align with the data points, enabling creation of 3D images and interactive models.

How can this help a waterline system operator, water or wastewater treatment plant, or pipeline installer?

The information collected from a drone can be used to create a comprehensive set of plans detailing a facility or underground utility system — if the utilities are in trenches and viewable from above. Over time, most water operations go through multiple stages of additions, add pipelines, or establish new phases of operations. Site information is contained in separate documents in multiple places, and perhaps only one or two of your staff who have worked with you for years know all of the ins and outs of your facility.

A drone can collect thousands of photographs of existing facilities and utilities being installed or updated, and skilled surveyors and data managers can combine those images into an interactive, visual map for use in all future planning needs. Your information is then easily accessible, contained in one place, and as thorough as possible. The map includes precise measurements. The photos and information collected can also be turned into an Orthoprint or 3D model for engineers to use in helping design upgrades to facilities or operations.

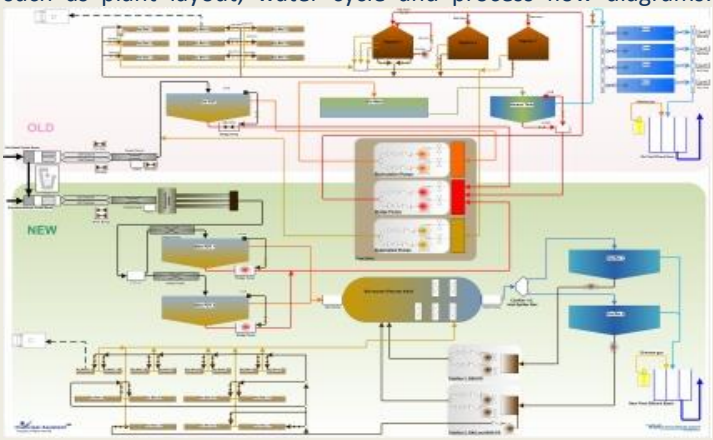
Drones can also be used for inspections during the construction process. Rather than budgeting dollars for an inspector to walk the pipeline every few days, a drone can fly over regularly, taking photos to inspect construction progress and integrity. If an issue is found and needs to be reported, high-definition photos taken by the drone can be included in the report. In some cases, when there are disagreements between a project owner and a contractor, a drone can collect real-time information to review and pinpoint material amounts or other discrepancies…

3D scan created by surveyors from drone images

A photo taken from a drone of a wastewater processing facility and nearby stream

Sources: Water Online, 19 December 2016

All WTWs and WWTWs are unique and in addition to implementing the Municipal Assistant™ system, **WAMTechnology** can conduct asset assessments and produce technical drawings such as plant layout, water cycle and process flow diagrams.



In doing so, WAMTech will provide custom made operational manuals and maintenance plans which would provide local water services authorities with a clear 'road map' of the best way to reach the 'destination' of clean drinking water and sustainable service delivery.

Contact Mike Nord: Tel: +27 (0)21 887 7161