

City of League City
New Program Request
Fiscal Year 2020

Department Name	Water Production	DIRECTOR Priority	20		
Name of Program	Satellite Imagery Leak System Analysis and Acoustic Detection	DEPARTMENT Priority	4		
Description of the new program(s) (include requirements and alternatives if not funded)					
<p>The proposed water detection analysis utilizes satellite technology that detects underground leaks through the analysis of micro spectral satellite imagery. The satellite identified targets are developed using specialized techniques of data collection and analysis. Raw microwave satellite images are received as the input, after which the Utilis team applies a propriety mathematical algorithm that prepares the data for analysis. The corrected microwave image is then analyzed, with treated water leaks identified. Normalized data is presented graphically with findings displayed on a GIS web-based application. A search area buffer zone radius around the target will be calculated. The acoustic leak detection team will utilize acoustic listening and correlation equipment to ascertain that a site contains an acoustic leak signature or digital correlation profile that matches the signature/profile typical of water escaping from a water network. The cost include four satellite scans and associated evaluations, performed over a one year period. Each scan provides further layer resolution to ultimately provide the most accurate data to eliminate unnecessary search areas.</p>					
Justification for the new program(s): (include any new/increased revenue and/or benefits of the new program)					
<p>This program provides data helps to identify background leaks that otherwise would go undetected for long periods of time, contributing to real Non Revenue Water Loss. As a water utility leak detection is considered one of several "Best Practices" in accordance to the Texas Water Development Board and will help reduce annual water loss and revenue for the City of League City. This relatively new applied technology is rapidly growing amongst water providers as is effectively narrows the search areas, thus significantly reducing the cost of acoustic leak detection methods. The City's water loss ranges from 9 percent to 14 percent historically. Loss above 15 percent is considered unacceptable, while most Cities target an acceptable range of 5-10 percent water loss.</p>					
Priorities and Goals: Describe how the new program(s) relates to your mission statement, priorities and goals.					
Reducing water loss is a very important component to a successful Water Conservation Program that is outlined in FY20 priorities and goals.					
Costs: Describe the costs associated with this new program(s).					
Example: Personnel, contractor(s) costs, supplies, training, equipment, facilities and utilities needed, maintenance, one-time set-up costs, etc.; (Attach any pricing/quotes obtained.)					
4 - Satellite scans and associated evaluation and reporting - \$155,000 20 days acoustic leak detection - \$32,000 Total - \$187,000					
Org, Object & Account Name (Example: 1400000-53050 Professional Services)	Requested Amount (whole #s only)		Total (Recurring + Non-Recurring)	Adopted (For Budget Office to complete)	
	Recurring	Non-Recurring		Recurring	Non-Recurring
10207300-53050 Professional Services		187,000	187,000		
			-		
			-		
			-		
			-		
Total	-	187,000	187,000	-	-
SIGNATURES				DATE	
Department Head Signature:				6/14/19	
Director Signature:				6-13-19	