

**TO:** City Council  
**FROM:** Doug Monn, Public Works Director  
**SUBJECT:** Replacement of Sewer Video Inspection System  
**DATE:** October 21, 2014

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**NEEDS:** For the City Council to consider purchase of a replacement sewer video inspection system.

**FACTS:**

1. The City owns and maintains 140 miles of sanitary sewers.
2. Wastewater Collections staff regularly use a small robotic tractor and camera to inspect the inside of sewers. The camera transmits video to a van equipped with a computer and specialized software that assists the operator with conducting the inspection and organizing the video inspection data.
3. This video inspection system has saved the City hundreds of thousands of dollars since it was purchased in 2008, by identifying problems in sewers that could lead to sewage spills, and facilitating point repairs instead of replacement of entire sewer segments, thus reducing capital costs and prolonging the life of existing sewers.
4. The City's robotic tractor and camera by Aries is beyond its useful life (5-years) and requires frequent repairs. The cost of these repairs has been \$26,900, or about one-third the cost of new unit. Time spent out of service has increased.
5. Staff solicited technical information and cost quotes for a replacement tractor and camera from four manufacturers: Aries, Cues, EnviroSight, and Pearpoint.
6. Based on demonstrations received by City staff, only the Aries Pathfinder and EnviroSight Rovver X are set up for municipal sewers and are built rugged enough for daily use. The Aries Pathfinder has a 5-year useful life. The EnviroSight Rovver X has a 7-year useful life. According to other municipalities, the EnviroSight unit is more dependable and has a lower rate of repair than the Aries unit.
7. The Aries Pathfinder costs \$78,004. With anticipated annual repairs, the annual cost of ownership (capital cost plus maintenance) of the Aries Pathfinder would be \$20,700.
8. The EnviroSight Rovver X costs \$83,020. With anticipated annual repairs, the annual cost of ownership of the EnviroSight Rovver X would be \$14,200.
9. The Aries Pathfinder is capable of inspecting sewers up to only 18 inches diameter with sewage flow. The City has 6.7 miles of sewers greater than 18

inches diameter. The Envirosight Rovver X can raise and lower its camera, so is capable of inspecting these larger diameter sewers.

10. The City's existing sewer video inspection software by WinCam does not integrate with the City's maintenance work order software, no longer receives adequate technical support, and is due for an update or replacement. City staff searched for alternative software.
11. ITpipes integrates well with the City's maintenance work order software and has a better level of service and technical support than WinCam, so staff negotiated with ITpipes for replacement software.
12. The cost of ITpipes is \$12,720. This includes software, transition of existing inspection data, configuration, and a new computer on which to run the software.

**ANALYSIS &  
CONCLUSION:**

The up-front cost of the Envirosight Rovver X is slightly more than the Aries Pathfinder. However, the Envirosight unit has a longer useful life. The cost of ownership of the Envirosight Rovver X would be less than the Aeries Pathfinder (see Fiscal Impact below).

The City's existing Aries system has been unreliable in recent years, and service by Aeries has been poor. Repairs to the Aries unit in the last 5.5 years have cost more \$26,900, or one third the cost of the unit. Other municipalities report it is good quality and does not require frequent repairs. The Envirosight Rovver X can inspect a wider range of sewer sizes.

Purchase of the Envirosight Rovver X, along with ITpipes, appears most suitable for replacement of the City's video inspection system. The system will be installed within the existing van, which has enough remaining useful life to match the replacement video inspection system.

**POLICY**

**REFERENCE:** Sewer System Management Plan

**FISCAL**

**IMPACT:**

As shown in the following schedule, the life cycle cost and annual cost of ownership of the Envirosight Rovver X is estimated to be less than the Aries Pathfinder.

System	Life Cycle Cost (capital cost + maintenance)	Useful Life	Annual Cost of Ownership
Envirosight Rovver X	\$99,600	7 years	\$14,200
Aries Pathfinder	\$103,700	5 years	\$20,700

The proposed expenditure of \$95,740 will not have an adverse impact on the Sewer Enterprise Fund. The Sewer Enterprise Fund has a budget for regular replacement of collection system maintenance equipment.

**OPTIONS:**

- a. Adopt Resolution No. 14-XX, to allocate \$83,020 of Sewer Enterprise Funds for purchase of the EnviroSight Rover X sewer inspection tractor and camera, and \$12,720 of Sewer Enterprise Funds for purchase of ITpipes video inspection management software; or
- b. Amend, modify or reject the above option.

**ATTACHMENT:** Resolution No. 14-XX

RESOLUTION NO. 14-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EL PASO DE ROBLES  
TO PURCHASE A REPLACEMENT SEWER VIDEO INSPECTION SYSTEM

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WHEREAS, City maintenance staff regularly use a robotic tractor (“crawler”) and camera to inspect the inside of sanitary sewers. The camera transmits video to a van equipped with a computer and specialized software that assists the operator with conducting the inspection and organizing the video inspection data.

WHEREAS, the City’s robotic tractor and camera by Aries is beyond its useful life (5-years) and has required frequent repairs in recent years. The cost of these repairs has escalated and time spent out of service has increased.

WHEREAS, staff solicited technical information and cost quotes for a replacement tractor and camera from four manufacturers: Aries, Cues, Envirosight, and Pearpoint.

WHEREAS, only the Aries Pathfinder and Envirosight Rovver X are set up for municipal sewers and are built rugged enough for daily use. The Aries Pathfinder has a 5-year useful life. The Envirosight Rovver X has a 7-year useful life.

WHEREAS, the Aries Pathfinder costs \$78,004. The Envirosight Rovver X costs \$83,020. The Envirosight Rovver X has a longer useful life, so the annual cost of ownership is less.

WHEREAS, the City’s inspection system software by WinCam no longer receives adequate technical support, and is due for an update or replacement. Staff searched for alternative suppliers and found ITpipes to be the only suitable replacement for WinCam.

WHEREAS, staff negotiated with ITpipes for replacement software. The cost of ITpipes is \$12,720. This includes software, transition of existing inspection data, configuration, and a new computer on which to run the software.

NOW, THEREFORE, BE IT RESOLVED AS FOLLOWS:

SECTION 1. The City Council hereby approves allocation of \$83,020 of Sewer Enterprise Funds from Budget No. 6013501-54540 for purchase of the Envirosight Rovver X sewer inspection tractor and camera, and \$12,720 of Sewer Enterprise Funds from Budget No. 6013501-52126 for purchase of ITpipes video inspection management software.

PASSED AND ADOPTED by the City Council of the City of El Paso de Robles this 21<sup>st</sup> day of October 2014, by the following votes:

AYES:  
NOES:  
ABSENT:  
ABSTAIN:

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Duane Picanco, Mayor

ATTEST:

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Caryn Jackson, Deputy City Clerk