

Request for Decision

Title	Sturgeon Valley Wastewater Odour Management Study
Proposed Motion	That Council approve funding for a Sturgeon Valley Wastewater Odour Management Study up to \$80,000 from Utility Operating Reserve 8.22.
Administrative Recommendation	Administration recommends that Council approve up to \$80,000 in funding from Utility Operating Reserve to complete a Sturgeon Valley Wastewater Odour Management Study that will mitigate excessive hydrogen sulphide odour and corrosion issues in Sturgeon Valley.
Previous Council Direction	None.
Report	<p><u>Background Information</u></p> <ul style="list-style-type: none"> • In September 2017, the Utility Services Department started receiving odour complaints near the community of River’s Gate. The complaints appeared to correspond with the commissioning of River’s Gate Lift Station. • At the time, it was difficult to isolate the odours, as typically, Utility Services receives odour complaints in the month of September regarding the Sturgeon Valley area, due to “river turnover”. • By December 2017, it was clear that odours were originating from the River’s Gate Lift Station. Upon further investigation, it was determined that the odour control unit in the lift station could not handle the excessive levels of hydrogen sulphide (H₂S) going through the collection system. • In January 2018, Associated Engineering was retained to investigate the source of the odour upstream of the lift station. • In February 2018, Associated Engineering conducted a wastewater sampling program in the wet well of the Bellerose and Sturgeon Valley lift stations, which saw air quality monitoring data in the lift station register H₂S in excess of >400 parts per million (ppm). • On February 28, 2018, Alberta Environment and Parks (AEP) contacted Utility Services indicating that complaints had been reported through their 24-hour Environmental Hotline. They requested the County investigate the cause of the odour and recommended that testing be conducted.

- On March 1, 2018, Utility Services setup two H₂S passive air samplers, one directly next to the lift station and the other at the entrance to River's Gate subdivision.
- The results from the H₂S passive samplers indicated there was the presence of H₂S at the lift station, but results were inconclusive that any exceedance took place under the Alberta Ambient Air Quality Objectives (2017). Further testing may be required.
- In late March 2018, it was decided to bypass a portion of the River's Gate Lift Station to provide temporary relief to residents in the area until a more comprehensive study could be implemented. Complaints dropped as a result.
- In April 2018, Utility Services contacted a vendor to trial a chemical pretreatment system to determine the effect hydrogen peroxide has on reducing the H₂S.
- A tote of hydrogen peroxide has been received and testing is underway.

Issues with Hydrogen Sulphide Gas

- H₂S is a common issue faced by wastewater utility providers, H₂S is formed from septic conditions during the collection and treatment of wastewater. The gas gives off a strong, pungent odour that resembles the smell of rotten eggs.
- H₂S is also notorious for corroding pipes, and other related infrastructure, resulting in the premature degradation and decreased lifespan of the collection system.
- The Canadian Centre for Occupational Health and Safety (CCOHS) indicates that a rotten egg smell can be detected around ~0.3ppm.
- Alberta Occupational Health & Safety's (OHS) Ceiling Exposure Limit (CEL) for H₂S is 15 ppm, while the Alberta OHS Immediately Dangerous to Life and Health (IDLH) limit is 100 ppm, we are far exceeding these thresholds.

Odour Issues near 127 Street & 195 Avenue / Valour Avenue

- The Alberta Capital Region Wastewater Commission (ACRWC) is also experiencing similar odour and corrosion issues along their sewer trunk line near 127 Street & 195 Avenue / Valour Avenue. This sewer trunk line accepts wastewater from St. Albert, Morinville and Sturgeon County.
- In response to the excessively high concentrations of H₂S in their "START Trunk Line", the ACRWC has requested each of the three-member municipalities (City of St. Albert, Town of Morinville and Sturgeon County) conduct an "Odour Management Plan" to address H₂S odour and excessive corrosion in their infrastructure.

The Sturgeon Valley Odour Management Study

- The Consultant will be required to conduct a study that examines the following:

	<ul style="list-style-type: none"> a. Conduct air quality and wastewater sampling at all Sturgeon Valley lift stations; b. Conduct pilot testing of a chemical injection system in the lift stations emitting excessive H₂S concentrations; and c. Report findings of the chemical injection system trial. <p><u>External Communication</u></p> <p>Information inserts were attached in February 2018 utility bills. The insert provided raises awareness around maintaining and managing odours from private septic tank systems.</p> <p><u>Relevant Policy/Legislation/Practices:</u></p> <ul style="list-style-type: none"> • Bylaw 1408/18 Sanitary Sewer Bylaw • ACRWC Bylaw “Quality of Wastewater” No. 8 • Alberta Environment and Parks’ Alberta Air Quality Objectives (2017)
<p>Implication of Administrative Recommendation</p>	<p><u>Strategic Alignment:</u></p> <p>Respect the Natural Environment - Sturgeon County will continue to comply with Provincial and Federal regulations and legislation.</p> <p>Maintain and Enhance Strong Communities – Funding an odour management study would aim to positively improve the impact on residents’ quality of life.</p> <p>Strong Local Governance and Regional Leadership – Funding an odour management study will promote fiscal stability and sustainability, as the study will provide ways to prevent corrosion-related issues within the County’s wastewater infrastructure</p> <p><u>Organizational:</u></p> <ul style="list-style-type: none"> • Administration is required to prepare an Odour Management Action Plan to the ACRWC, as well as the possibility of being required to provide one to Alberta Environment and Parks. <p><u>Financial:</u></p> <ul style="list-style-type: none"> • Requesting funds up to \$80,000 to complete a wastewater odour management study for Sturgeon Valley. • The odour management study will provide capital infrastructure costs and annual operating costs for the 2019 Budget. • With the cancelling of the Truck Fill Topload Increase Project of \$80,000 from Utility Reserve, if Council approves the study, there would no decrease in Utility Reserves.
<p>Alternatives Considered</p>	<p>The County could not pursue an odour management study.</p>

Implications of Alternatives	<u>Strategic Alignment:</u> Not pursuing an odour management study does not align with the Strategic Focus Areas. <u>Organizational:</u> <ul style="list-style-type: none">Administration would be required to look at other options, which would prolong odour issues in Sturgeon Valley and continue to be a major safety concern to Utility Services staff and Sturgeon County residents. <u>Financial:</u> <ul style="list-style-type: none">None.
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Follow up Action	1. Report back to Council with findings from the study.
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Attachment(s)	None.
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Report Reviewed by:	 Jeff Yanew, Manager, Utility Services  Frank Besinger, Interim General Manager, Municipal Services  Bill Minnes, CAO – County Commissioner
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Strategic Alignment Checklist

Vision: Sturgeon County: a diverse, active community that pioneers opportunities and promotes initiative while embracing rural lifestyles.

Mission: Provide quality, cost effective services and infrastructure to meet the diverse needs of the Sturgeon County community, while improving competitiveness and sustainability.

Focus Areas	Not consistent	N/A	Consistent
Strong Local Governance and Regional Leadership			
<i>We promote consistent and accountable leadership through collaborative and transparent processes (Strategic Plan, pg. 27 MDP)</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Consistent with neighborhood role (see MDP), master plans, policies</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Considers fiscal stability and sustainability</i> 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <i>Has a positive impact on regional and sub-regional cooperation</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Respect the Natural Environment			
<i>We acknowledge the importance of a healthy environment and will minimize and monitor our impact on ecosystems (Strategic Plan, pg. 27 MDP)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <i>Compliance with Provincial and Federal regulations and/or legislation</i> 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <i>Ensure effective environmental risk management</i> 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Community Identity & Spirit			
<i>We will build upon our strengths, where together we will create an inclusive, caring community (Strategic Plan, (Strategic Plan, pg. 27 MDP)</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Promotes and/or enhances residents' identification with Sturgeon County</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Enhances service provision through community partnerships</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Supports Sturgeon County's cultural history</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Planned Growth and Prosperity			
<i>We encourage varied and integrated enterprises that enhance our strong economic base, while balancing the needs of the community and natural environment. (Strategic Plan, pg. 27 MDP)</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Does the proposal align with the Integrated Regional Growth Strategy (map/policies) pg. 26 MDP</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Considers cumulative costs and long-term funding implications</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Targets growth around current or planned infrastructure</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Maintain and Enhance Strong Communities			
<i>We are committed to a safe, secure community, where our residents are respected and provided with access to opportunities. (Strategic Plan, pg. 27 MDP)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <i>Positive impact on residents' quality of life</i> 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <i>Supports and promotes volunteer efforts</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Provides programs and services that are accessible to all residents</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Operational Excellence			
<i>We have the organizational capability to deliver consistent and defined levels of service to all stakeholders in a professional, efficient, and cost effective manner</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Staff have the knowledge, skills and capability to perform their jobs</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Streamlines operational processes and policies</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Promotes engagement and professional interaction with stakeholders</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <i>Considers a cost-structure which allows Sturgeon County to remain competitive within a regional, national and global context</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>