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**REPORT TO GANGES SEWER LOCAL SERVICE COMMITTEE  
MEETING OF FRIDAY 14 AUGUST 2009**

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**SUBJECT      GANGES WASTEWATER TREATMENT PLANT ELECTRICAL SERVICE AND  
SYSTEM UPGRADE STATUS**

**PURPOSE**

To inform the Ganges Sewer Local Service Committee (GSLSC) of the status of the building expansion and electrical service upgrades capital project and immediate need of upgrades to the Ganges wastewater treatment plant to remain compliant with discharge regulations.

**BACKGROUND**

With several upgrades of the facility completed since first built, some changes made did not meet today's current codes, thereby posing potential safety risks to service personnel which constituted the need for the upgraded electrical works. The original project budget authorized by the GSLSC was \$125,000. At its 02 September 2008 meeting, the GSLSC approved additional funding to augment the capital budget a further \$62,500 to compensate for higher than expected tendered bids from electrical contractors. The additional funds created a budget of \$187,500 to complete the works to the Ganges wastewater treatment plant. The contracted electrical upgrade works were completed 28 April 2009 and all holdbacks have since been released to the contractor. The approved budget is fully spent.

The plant is still in need of upgrades which will be planned over the next five years to include components such as enhancement of the Supervisory Control and Data Acquisition (SCADA) system, enhancement of the existing ultraviolet (UV) system's electronic control panel, Zenon membrane cartridge, replacement upgrades to the Roto-Screen head works and replacement of the leaking underground pipes taking air to the plant's diffusers.

Recent effluent sampling has revealed increasing amounts of nitrogen and ammonia in the discharge waste stream, which needs to be resolved to meet the regulatory discharge allowable levels. The cause of the increasing ammonia is inadequate aeration due to aging diffusers. The UV lamps are also in need of replacement. Replacement of the 16 UV lamps, the air diffusers in the Zenon Membrane Reactor and 12 associated butterfly control valves will need to be done before the end of 2009 at an anticipated cost of approximately \$22,000.

**ALTERNATIVES**

1. That the GSLSC receive this report for information and authorize the transfer of \$22,000 from the capital reserve fund to undertake replacement of diffusers, valves and UV lamps as required to meet discharge regulations.
2. That the GSLSC receive this report for information and request further information of staff.

**FINANCIAL IMPLICATIONS**

There were some residual assets remaining in the capital fund from a previous project plus some interest earned, which was used to help finance the electrical upgrades. The GSLSC has also approved some spending (\$18,000) from the reserve fund for a new cover on the sludge thickener which is unlikely to be completed this year due to other time commitments, which has been placed in a capital reserve fund.

The immediate replacement works needed for the plant to remain compliant with the discharge permit will need to be supported from the Reserve Fund. Should there be an operations budget surplus at the end of the year, it will be transferred to the reserve fund to offset the costs. A \$50,000 budget from the Reserve Fund was approved by the GSLSC on 22 April 2009 to purchase additional Zenon membranes for the plant, which has not yet been spent. The committed \$18,000 for a cover for the sludge thickener has since been transferred to a capital account.

The current Reserve Fund available is \$109,701, which still includes the committee approved \$50,000 for replacement of membranes, tentatively leaving \$59,701 available. The \$18,000 for the sludge thickener cover was earlier transferred to the capital fund and remains unspent. The required \$22,000 for replacement of the diffusers, valves and lamps can be provided for without impacting taxes or fees. A proposed five year capital plan for long term upgrades will be presented to the GSLSC at the 2009 annual budget committee meeting.

**SUMMARY**

The GSLSC had initially approved a capital project for \$125,000 to complete works primarily necessary to protect the well being of service personnel working at the Ganges wastewater treatment plant. The completed works have been in excess of original budget as tender prices received from electrical contractors to complete the works were all considerably higher than anticipated. Additional approved funds increased the budget to \$187,500 which allowed the completion of the works to the Ganges wastewater treatment plant. The capital fund has been totally expended.

Immediate replacement of UV bulbs, air diffusers and 12 butterfly valves must be completed in order to remain compliant with sewer discharge regulations. Recent effluent sampling shows increasing levels of nitrogen and ammonia in the discharge waste stream. There are sufficient resources in the reserve fund to undertake the works before the end of 2009.

**RECOMMENDATION**

That the GSLSC receive this report for information and authorize the transfer of \$22,000 from the capital reserve fund to undertake replacement of diffusers, valves and UV lamps as required to meet discharge regulations.



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