

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities

DIVISION: 7310 / Wastewater Treatment Plant

PRIORITY: 1

REQUEST: Replace Digester Sludge Heater

ESTIMATED COST: \$75,000

TRADE-IN: N/A

JUSTIFICATION/COMMENTS:

Replace Digester Sludge Heater which was started July 20, 1995. Additional loading of the digesters have increased the usage of this unit. Maintenance activities associated with this piece of equipment have increased as this unit continues to age. Down time has increased due to the number and types of repairs that are needed on this equipment to keep it operating safely. Control adjustments are becoming more frequent due to the age of the equipment. The replacement will include installation of new boiler, new operational controls and associated equipment.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities
DIVISION: 7610 / Water Distribution
PRIORITY: 2

REQUEST: Replace Unit 223 - 2001
New Holland Backhoe
ESTIMATED COST: \$75,000
TRADE-IN: \$5,000

JUSTIFICATION/COMMENTS:

Unit 233 is a New Holland Back Hoe that was purchased in 2001 at a cost of \$49,210. This unit is used daily during regular work hours to install water main and also responds to after hour water main leaks. It is used 24/7. The unit currently has 4,982 operating hours, equivalent to 164,406 miles. The unit needs more repair each year to keep operational. To date the unit has been in the shop 250 hours at a cost of \$31,421 or 63.9% of the original purchase price. As per Central Maintenance Vehicle Replacement Guidelines, the unit scores 41.60, Condition IV, Needs Immediate Consideration. This unit needs to be replaced so that the Utility Department has reliable equipment to respond to water main leaks, continue essential pro-active maintenance programs that are targeted to replace water mains.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities

DIVISION: 7410 / Unit 260 Generator

PRIORITY: 3

REQUEST: Replace Unit 260 Spectrum Generator

ESTIMATED COST: \$85,000

TRADE-IN:

JUSTIFICATION/COMMENTS:

Replace Unit 260 Spectrum Generator was purchased 3/2/95 for \$71,609. This unit is used to restore electricity at sewage pump stations to continue pumping operations during prolonged periods when normal electrical service is interrupted. This unit helps to ensure sewage does not bypass out of the collection system, or back into homes throughout Lawrence when power outages due occur. This unit is scheduled for use every day of the year, 24 hours a day. This equipment needs to be replaced to continue with the reliability standards that KDHE has for pump station operations.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities

DIVISION: 7220 Kaw Water Treatment Plant

PRIORITY: 4

REQUEST: Replace Clarifier Drives 6A & 7A

ESTIMATED COST: \$120,000

TRADE-IN: N/A

JUSTIFICATION/COMMENTS:

The existing primary clarifier drives at the Kaw water treatment plant are a critical component of the treatment process. This equipment is more than twenty years old and has been repaired several times.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities

DIVISION: 7210 Clinton Water Treatment Plant

PRIORITY: 5

REQUEST: Replace Waste Sludge
Pumps 1 & 2

ESTIMATED COST: \$50,000

TRADE-IN: N/A

JUSTIFICATION/COMMENTS:

The sludge pumps for basin train one at the Clinton water treatment plant are the original equipment installed in 1980. These pumps move the lime sludge and solids as part of the water treatment process. Both pumps have been repaired several times and are a critical component of this system.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities
DIVISION: 7510 Water Quality
PRIORITY: 6

REQUEST: Ion Chromatograph
ESTIMATED COST: \$44,000
TRADE-IN: n/a

JUSTIFICATION/COMMENTS:

The new National Pollution Discharge Elimination System (NPDES) permit will require reduction of total phosphorous (TP) at the WWTP. The volatile fatty acids (VFAs) will have to be monitored on an increased basis at various stages of the waste stream. In order to provide prompt and accurate results for operation of the plant, an ion chromatograph is necessary to detect low levels of volatile fatty acids (VFAs). This instrument will also allow the laboratory to perform other analysis currently done by commercial laboratories such as nitrate, and fluoride. Having the capability of in-house process testing for VFAs allows for continuous monitoring and immediate analytical results in support of plant operations. Outsourcing the analysis to an out of state commercial laboratory will cost \$20,000, to \$25,000 per year with the draw back that the turn around time of samples results is about 10 business days.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities
DIVISION: 7510 Water Quality
PRIORITY: 7

REQUEST: Tecator semiautomated distillation
and titration unit
ESTIMATED COST: \$27,000
TRADE-IN:

JUSTIFICATION/COMMENTS:

The new National Pollution Discharge Elimination System (NPDES) permit will require reduction of total nitrogen (TN) at the WWTP. Total nitrogen is currently analyzed by the water quality laboratory once per month. Once the permit goes into effect, the analysis will increase to 4 to 5 times per week with an increase in man hours. A semi-automated distillation unit will speed up the process. Having the capability of in-house process and compliance testing for TN allows for continuous monitoring and immediate analytical results in support of plant operations and permit compliance. Outsourcing the analysis to a commercial laboratory will cost about \$20,000 per year with the drawback that the turn around time of samples results is about 10 business days.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities
DIVISION: 7510 Water Quality
PRIORITY: 8

REQUEST: Replace Spectrophotometer Unit
HACH DR 2010 with HACH DR 5000
ESTIMATED COST: \$7,000
TRADE-IN: n/a

JUSTIFICATION/COMMENTS:

DR 2010 is an older model which has been discontinued and therefore it is more difficult to find parts and services for the unit. DR 5000 is a newer model that will allow for a wider range of in house testing to access water quality and comply with state and federal regulations. Specifically, the DR 5000 will allow the laboratory the capability to test for ultra violet absorption of water (UV-254) to determine compliance with stage 1 drinking water regulations. This analysis is currently performed by a commercial laboratory in Indiana. This instrument will also allow the laboratory to monitor for total volatile fatty acids, and continue testing for COD, total phosphorous, and ortho-phosphate.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities
DIVISION: 7510 Water Quality
PRIORITY: 9

REQUEST: Agilent Gas Chromatography Mass Spectrometry
ESTIMATED COST: \$53,000
TRADE-IN: n/a

JUSTIFICATION/COMMENTS:

MIB (methylisoborneol) and Geosmin are organic compounds with a distinct earthy flavor and aroma, and are responsible for the unpleasant earthy taste and odor of the drinking water. A community like Lawrence that depends on surface water can periodically experience episodes of unpleasant-tasting water when a sharp drop in the population of MIB/geosmin producing bacteria releases geosmin into the local water supply. The water treatment facilities at Clinton and Kaw feed carbon in order to reduce or eliminate the presence of taste and odor. Currently water at Clinton is tested for MIB and geosmin by an out of state laboratory on a weekly basis with a turn around time of results of about 3 days at a cost of \$28,000 per year. Having the capability of in-house process testing for Geosmin/MIB allows for immediate response to taste and odor events by feeding carbon only as required and therefore improving the quality of the drinking water and customer satisfaction.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities
DIVISION: 7410/Collection System
PRIORITY: 10

REQUEST: Replace Unit 258 - 2003
Camel Vacuum/Jet Truck
ESTIMATED COST: \$500,000 (funded by \$125,000 set aside
per year for 4 years starting 2010)
TRADE-IN: \$25,000 to \$50,000 depending on
condition and hours in 2013

JUSTIFICATION/COMMENTS:

Unit 258 is a Camel Vacuum/Jet truck that was purchased in 2003 at a cost of \$225,000. This unit is a high velocity sewer cleaner and vacuum truck that is operated to maintain & clean the sanitary sewer mains. This unit is used to clean sewer lift station wet wells. It has been used at the WWTP to vacuum solids out of the secondary basins and at Actiflo. It is used for hydro-vacuum excavation to locate utilities and has been called in on standby trench collapse rescue for the Fire Department. This unit is used daily during regular work hours and also responds to all after hour customer service calls. It is used 24/7. Unit 258 is scheduled for replacement in 2013. The estimated cost for replacement is \$500,000. Beginning in 2010, funds will be placed in an equipment replacement fund in an amount of \$125,000 a year to help spread the cost over 4-year period.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities
DIVISION: 7310 Wastewater
PRIORITY: 11

REQUEST: Replace 2 Quick Connect grit screen
dumpsters
ESTIMATED COST: \$12,000
TRADE-IN: \$0

JUSTIFICATION/COMMENTS:

Two of the existing dumpsters in the grit screen room need replaced due to severe rust caused by the corrosive material stored in them.

CAPITAL OUTLAY REQUEST FORM

DEPARTMENT: Utilities
DIVISION: 7310 Wastewater
PRIORITY: 12

REQUEST: Roll-Off Dumpster
ESTIMATED COST: \$14,000
TRADE-IN: \$0

JUSTIFICATION/COMMENTS:

Existing roll-off dumpster needs to be replaced due to severe rust caused by the corrosive material stored in them.

Description	Cost		Trade In	Priority
Replace Digester Sludge Heater	\$75,000	Old E	N/A	1
Replace Unit 223 - 2001	\$75,000	Old E	\$5,000	2
7410 / Unit 260 Generator	\$85,000	Old E	\$0	3
Replace Clarifier Drives 6A & 7A	\$120,000	Old E	N/A	4
ReplaceWaste Sludge	\$50,000	Old E	N/A	5
Ion Chromatograph	\$44,000	New E	n/a	6
Tecator semiautomated distillation	\$27,000	New E	\$0	7
Replace Spectrophotometer Unit	\$7,000	Old E	n/a	8
Agilent Gas Chromatography Mass	\$53,000	New E	n/a	9
Replace Unit 258 - 2003	\$125,000	Truck	25,000	10
Replace 2 Quick Connect grit screen	\$12,000	Old E	\$0	11
Roll-Off Dumpster	\$14,000	Old E	\$0	12
	\$687,000		Total request	
	\$687,000		Net request	
	\$438,000	Old E		
	\$124,000	New E		
	\$125,000	Truck set aside		
	\$687,000			