

## 5. COST ESTIMATES

A Summary of capital cost estimates is provided here and a detailed cost break down is provided in Appendix G.

### 5.1 Water Systems

**Table 5.1 Water Systems Cost Summary**

Development Phase	Population	Cost Option 1	Cost Option 2	Cost Option 3
2007	2,178	\$759,850	\$759,850	\$759,850
2012	2,650	\$9,466,210	\$9,466,210	\$9,466,210
2017	3,072	\$6,653,985	\$6,653,985	\$6,115,785
2027	4,128	\$3,079,765	\$3,079,765	\$3,079,765
2108 (Ultimate)	43,575	\$57,912,270	\$29,536,234	N/A
Total (20 years)		\$19,959,810	\$19,959,810	\$19,421,610
Total (Ultimate)		\$77,872,080	\$49,496,044	N/A

**Table 5.2 Optional Cost for the Town of Sexsmith**

Development Phase	Description	Cost
2007	100% Fire flow coverage Replace all smaller diameter pipes	<b>\$416,000</b>
2007	100% Fire hydrant coverage (Provide additional pipe work and hydrants)	<b>\$715,000</b>

## 5.2 Wastewater Collection System

**Table 5.3 Wastewater Collection System Cost Summary**

Development Phase	Population	Cost Option 1	Cost Option 2	Cost Option 3
2007	2,178	\$50,000	\$50,000	\$50,000
2012	2,650	\$16,868,493	\$14,330,410	\$5,918,968
2017	3,072	\$3,034,850	\$2,055,625	\$1,210,950
2027	4,128	\$5,066,555	\$3,385,428	\$2,632,939
2108 (Ultimate)	43,575	\$10,578,799	\$9,246,006	N/A
Total (20 years)		\$25,019,898	\$19,821,463	\$9,812,857
Total (Ultimate)		\$35,598,697	\$29,067,469	N/A

## 5.3 Wastewater Treatment System

Capital cost estimates are provided for the following four treatment options:

- Option 1            Conventional Lagoon Expansion
- Option 2            Aerated Lagoon Conversions
- Option 3            MBR plant
- Option 4            Regional Treatment System

Recommendation   Option 2 until 2027+ and review Option 4

Option 3 costs include the cost of installing an MBR plant at Sexsmith and constructing a pipeline from Sexsmith to Grande Prairie for discharging final effluent to the Wapiti River.

The recommended option is a hybrid option. In this option the existing lagoon is converted as an aerated lagoon until 2027 and then the regional system is implemented. The objective of this is to defer the capital investment required for implementing the regional system option. The option provides Aquatera and the Town, time to re-evaluate options based on revised population, flow and infiltration information.

Capital cost estimates for the four options are provided in the following:

**Table 5.4 Wastewater Treatment Cost Summary**

Year of Investment	Population	Option 1	Option 2	Option 3	Option 4	Recommended
2007	2,178	\$0	\$0	\$0	\$0	\$0
2012	2,650	\$5,309,871	\$1,960,000	\$44,898,000	\$42,000,000	\$1,960,000
2017	3,072	\$3,282,135	\$0	\$882,000	\$700,000	\$0
2027	4,128	\$8,243,968	\$4,075,275	\$1,344,000	\$700,000	N/A
(Ultimate)	43,575	\$215,672,042	\$125,938,840	\$36,960,000	\$28,000,000	N/A
Total (20 Years)		\$16,835,975	\$6,035,275	\$47,124,000	\$43,400,000	\$1,960,000
Total (Ultimate)		\$232,508,017	\$131,974,115	\$84,084,000	\$71,400,000	