

**Gallatin County Regional WW Study Phase 2**  
**20 Year Cost Analysis Model**  
**Group 1 Septic System Gravity Absorption System**

**Input Data**

Treatment System Total Cost (\$)	\$11,000
Treatment System Total Cost (\$/Gal-Day of Capacity)	\$48
Treatment System O&M Cost (\$ Annum /Gal of Capacity)	\$2.39
Collection System O&M Cost (\$ Annum/Mile)	NA
Treated Effluent Disposal Rate (Gal/Square Foot-Day)	NA
Disposal System Construction Cost (\$/Acre)	NA
Land Cost (\$/Acre)	\$10,000
Wastewater Production (Gal/Day-Person)	100
Residents Per Household	2.3
Collection System Percent Publically Financed	NA
Sub-Region Name	Group 1 System
Population	2.3

**Capital Cost Calculations--Treatment & Disposal**

Connections	1
Wastewater Flowrate (Gal/Day)	230
Land Required @ 5.2 Sq. Feet/Gallon of Capacity (Sq. Ft)	1,196
Land Required @ 5.2 Sq. Feet/Gallon for Spare Field (Sq. Ft)	1,196
Treatment System Cost	\$11,000
Contingency	\$3,300
Land Cost	\$549

Subtotal Treatment & Disposal	14,849
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**Capital Cost Calculations--Collection System**

Collection System Cost	NA
Financing Factor (See Inputs)	NA
Subtotal Publically Financed Collection	NA
Right of Way Acquisition @ 2%	NA

Subtotal Collection	\$0
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<b>Total of Possible Capital Costs</b>	<b>\$14,849</b>
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**Annualized Cost Estimate**

Grant Allowance	\$0
Debt or Loan	\$14,849
Reserve	NA
20 Year Loan Annual Interest @ 7%	\$1,381
Annual Treatment System O&M	\$550
Annual Collection System O&M	NA

Subtotal of Annual Costs	\$1,931
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**Gallatin County Regional WW Study Phase 2**  
**20 Year Cost Analysis Model**  
**Group 1 Septic System Pressure Dose Absorption System**

**Input Data**

Treatment System Total Cost (\$)	\$12,000
Treatment System Total Cost (\$/Gal-Day of Capacity)	\$52
Treatment System O&M Cost (\$ Annum /Gal of Capacity)	\$2.61
Collection System O&M Cost (\$ Annum/Mile)	NA
Treated Effluent Disposal Rate (Gal/Square Foot-Day)	NA
Disposal System Construction Cost (\$/Acre)	NA
Land Cost (\$/Acre)	\$10,000
Wastewater Production (Gal/Day-Person)	100
Residents Per Household	2.3
Collection System Percent Publically Financed	NA
Sub-Region Name	Group 1 System
Population	2.3

**Capital Cost Calculations--Treatment & Disposal**

Connections	1
Wastewater Flowrate (Gal/Day)	230
Land Required @ 5.2 Sq. Feet/Gallon of Capacity (Sq. Ft)	1,196
Land Required @ 5.2 Sq. Feet/Gallon for Spare Field (Sq. Ft)	1,196
Treatment System Cost	\$12,000
Contingency	\$3,600
Land Cost	\$549

Subtotal Treatment & Disposal	16,149
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**Capital Cost Calculations--Collection System**

Collection System Cost	NA
Financing Factor (See Inputs)	NA
Subtotal Publically Financed Collection	NA
Right of Way Acquisition @ 2%	NA

Subtotal Collection	\$0
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<b>Total of Possible Capital Costs</b>	<b>\$16,149</b>
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**Annualized Cost Estimate**

Grant Allowance	\$0
Debt or Loan	\$16,149
Reserve	NA
20 Year Loan Annual Interest @ 7%	\$1,502
Annual Treatment System O&M	\$600
Annual Collection System O&M	NA
Subtotal of Annual Costs	\$2,102



**Gallatin County Regional WW Study Phase 2****20 Year Cost Analysis Model****Group 2 Intermittant Media Filter System****Input Data**

Treatment System Total Cost (\$)	\$20,000
Treatment System Total Cost (\$/Gal-Day of Capacity)	\$87
Treatment System O&M Cost (\$ Annum /Gal of Capacity)	\$4.35
Collection System O&M Cost (\$ Annum/Mile)	NA
Treated Effluent Disposal Rate (Gal/Square Foot-Day)	NA
Disposal System Construction Cost (\$/Acre)	NA
Land Cost (\$/Acre)	\$10,000
Wastewater Production (Gal/Day-Person)	100
Residents Per Household	2.3
Collection System Percent Publically Financed	NA
Sub-Region Name	Group 2 System
Population	2.3

**Capital Cost Calculations--Treatment & Disposal**

Connections	1
Wastewater Flowrate (Gal/Day)	230
Land Required @ 5.2 Sq. Feet/Gallon of Capacity (Sq. Ft)	1,196
Land Required @ 5.2 Sq. Feet/Gallon for Spare Field (Sq. Ft)	1,196
Treatment System Cost	\$20,000
Contingency	\$4,000
Land Cost	\$549
Subtotal Treatment & Disposal	24,549

**Capital Cost Calculations--Collection System**

Collection System Cost	NA
Financing Factor (See Inputs)	NA
Subtotal Publically Financed Collection	NA
Right of Way Acquisition @ 2%	NA
Subtotal Collection	\$0

<b>Total of Possible Capital Costs</b>	<b>\$24,549</b>
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**Annualized Cost Estimate**

Grant Allowance	\$0
Debt or Loan	\$24,549
Reserve	NA
20 Year Loan Annual Interest @ 7%	\$2,283
Annual Treatment System O&M	\$1,000
Annual Collection System O&M	NA
Subtotal of Annual Costs	\$3,283

**Gallatin County Regional WW Study Phase 2****20 Year Cost Analysis Model****Group 2 Recirculating Media Filter System****Input Data**

Treatment System Total Cost (\$)	\$28,500
Treatment System Total Cost (\$/Gal-Day of Capacity)	\$124
Treatment System O&M Cost (\$ Annum /Gal of Capacity)	\$6.20
Collection System O&M Cost (\$ Annum/Mile)	NA
Treated Effluent Disposal Rate (Gal/Square Foot-Day)	NA
Disposal System Construction Cost (\$/Acre)	NA
Land Cost (\$/Acre)	\$10,000
Wastewater Production (Gal/Day-Person)	100
Residents Per Household	2.3
Collection System Percent Publically Financed	NA
Sub-Region Name	Group 2 System
Population	2.3

**Capital Cost Calculations--Treatment & Disposal**

Connections	1
Wastewater Flowrate (Gal/Day)	230
Land Required @ 5.2 Sq. Feet/Gallon of Capacity (Sq. Ft)	1,196
Land Required @ 5.2 Sq. Feet/Gallon for Spare Field (Sq. Ft)	1,196
Treatment System Cost	\$28,500
Contingency	\$5,700
Land Cost	\$549

Subtotal Treatment & Disposal	34,749
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**Capital Cost Calculations--Collection System**

Collection System Cost	NA
Financing Factor (See Inputs)	NA
Subtotal Publically Financed Collection	NA
Right of Way Acquisition @ 2%	NA

Subtotal Collection	\$0
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<b>Total of Possible Capital Costs</b>	<b>\$34,749</b>
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**Annualized Cost Estimate**

Grant Allowance	\$0
Debt or Loan	\$34,749
Reserve	NA
20 Year Loan Annual Interest @ 7%	\$3,232
Annual Treatment System O&M	\$1,425
Annual Collection System O&M	NA

Subtotal of Annual Costs	\$4,657
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<b>Gallatin County Regional WW Study Phase 2</b> <b>20 Year Cost Analysis Model</b> <b>Group 3 RMF + Methonol Addition System</b>	
<b>Input Data</b>	
Treatment System Total Cost (\$)	\$35,000
Treatment System Total Cost (\$/Gal-Day of Capacity)	\$152
Treatment System O&M Cost (\$ Annum /Gal of Capacity)	\$7.61
Collection System O&M Cost (\$ Annum/Mile)	NA
Treated Effluent Disposal Rate (Gal/Square Foot-Day)	NA
Disposal System Construction Cost (\$/Acre)	NA
Land Cost (\$/Acre)	\$10,000
Wastewater Production (Gal/Day-Person)	100
Residents Per Household	2.3
Collection System Percent Publically Financed	NA
Sub-Region Name	Group 3 System
Population	2.3
<b>Capital Cost Calculations--Treatment &amp; Disposal</b>	
Connections	1
Wastewater Flowrate (Gal/Day)	230
Land Required @ 5.2 Sq. Feet/Gallon of Capacity (Sq. Ft)	1,196
Land Required @ 5.2 Sq. Feet/Gallon for Spare Field (Sq. Ft)	1,196
Treatment System Cost	\$35,000
Contingency	\$3,500
Land Cost	\$549
Subtotal Treatment & Disposal	39,049
<b>Capital Cost Calculations--Collection System</b>	
Collection System Cost	NA
Financing Factor (See Inputs)	NA
Subtotal Publically Financed Collection	NA
Right of Way Acquisition @ 2%	NA
Subtotal Collection	\$0
<b>Total of Possible Capital Costs</b>	<b>\$39,049</b>
<b>Annualized Cost Estimate</b>	
Grant Allowance	\$0
Debt or Loan	\$39,049
Reserve	NA
20 Year Loan Annual Interest @ 7%	\$3,632
Annual Treatment System O&M	\$1,750
Annual Collection System O&M	NA
Subtotal of Annual Costs	\$5,382

<b>Gallatin County Regional WW Study Phase 2</b> <b>20 Year Cost Analysis Model</b> <b>Group 3 RMF + Methonol Addition + Ulatravollet Light/Peroxide</b>	
<b>Input Data</b>	
Treatment System Total Cost (\$)	\$50,000
Treatment System Total Cost (\$/Gal-Day of Capacity)	\$217
Treatment System O&M Cost (\$ Annum /Gal of Capacity)	\$10.87
Collection System O&M Cost (\$ Annum/Mile)	NA
Treated Effluent Disposal Rate (Gal/Square Foot-Day)	NA
Disposal System Construction Cost (\$/Acre)	NA
Land Cost (\$/Acre)	\$10,000
Wastewater Production (Gal/Day-Person)	100
Residents Per Household	2.3
Collection System Percent Publically Financed	NA
Sub-Region Name	Group 3 System
Population	2.3
<b>Capital Cost Calculations--Treatment &amp; Disposal</b>	
Connections	1
Wastewater Flowrate (Gal/Day)	230
Land Required @ 5.2 Sq. Feet/Gallon of Capacity (Sq. Ft)	1,196
Land Required @ 5.2 Sq. Feet/Gallon for Spare Field (Sq. Ft)	1,196
Treatment System Cost	\$50,000
Contingency	\$5,000
Land Cost	\$549
Subtotal Treatment & Disposal	55,549
<b>Capital Cost Calculations--Collection System</b>	
Collection System Cost	NA
Financing Factor (See Inputs)	NA
Subtotal Publically Financed Collection	NA
Right of Way Acquisition @ 2%	NA
Subtotal Collection	\$0
<b>Total of Possible Capital Costs</b>	<b>\$55,549</b>
<b>Annualized Cost Estimate</b>	
Grant Allowance	\$0
Debt or Loan	\$55,549
Reserve	NA
20 Year Loan Annual Interest @ 7%	\$5,166
Annual Treatment System O&M	\$2,500
Annual Collection System O&M	NA
Subtotal of Annual Costs	\$7,666