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Public Meeting No. 3 | November 15, 2016

HDR Engineering- Coralynn Revis, Dan Harmon and Lizzy Adams

01 Bonner Milltown Community Council Introduction

02 Drivers For Study

03 Previous Meeting Summarized

04 Alternatives for Collection, Treatment and Disposal

01 Bonner Milltown Community Council Introduction

Sewer Feasibility Study

What are the benefits?

What are the costs?

What is <u>your</u> preference?

Bonner Milltown Community Council

Formed May, 2006 by vote of residents

The Council is advisory to the County Commissioners and has no independent authority

Service area is the same as Bonner School District

5 members with staggered 3yr terms, 1 or 2 elected each year

Meets at Bonner School, 7PM, second Monday every month

Why was the feasibility study started?

Landowners requested Council involvement

↓

Council requested County study

↓

Commissioners selected HDR engineering firm

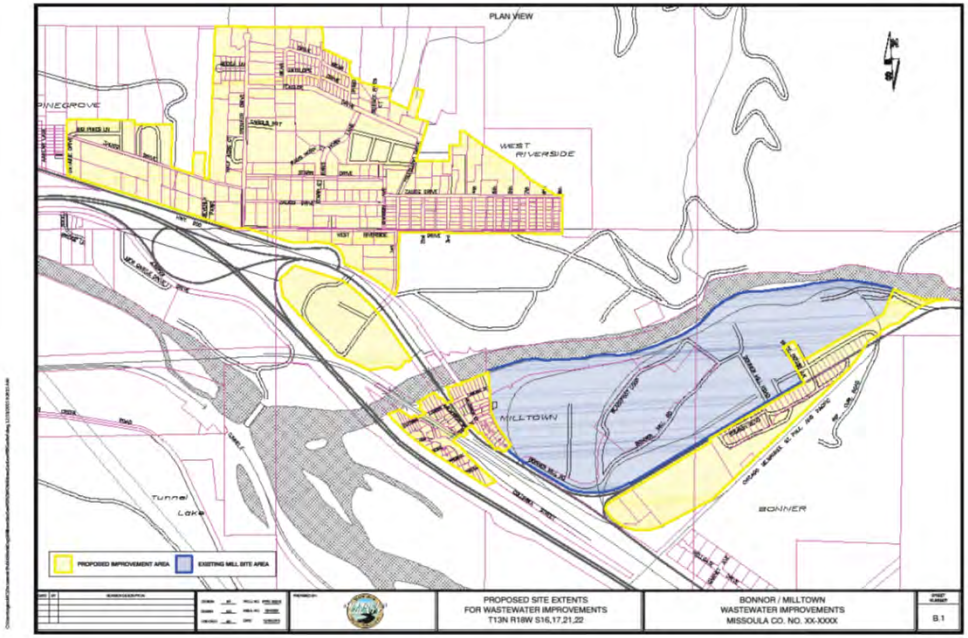
Please respect our meeting ground rules:

- Save questions/ comments for the end
- Silence Cell Phones
- Respect Others – Don’t Interrupt
- Raise Hand And Wait To Be Recognized Before Speaking
- Keep Comments On Business, Not Personal
- Limit Comments To 3 Minutes
- No Side Conversations – Need To Talk, Take It Outside

02 Drivers for Study

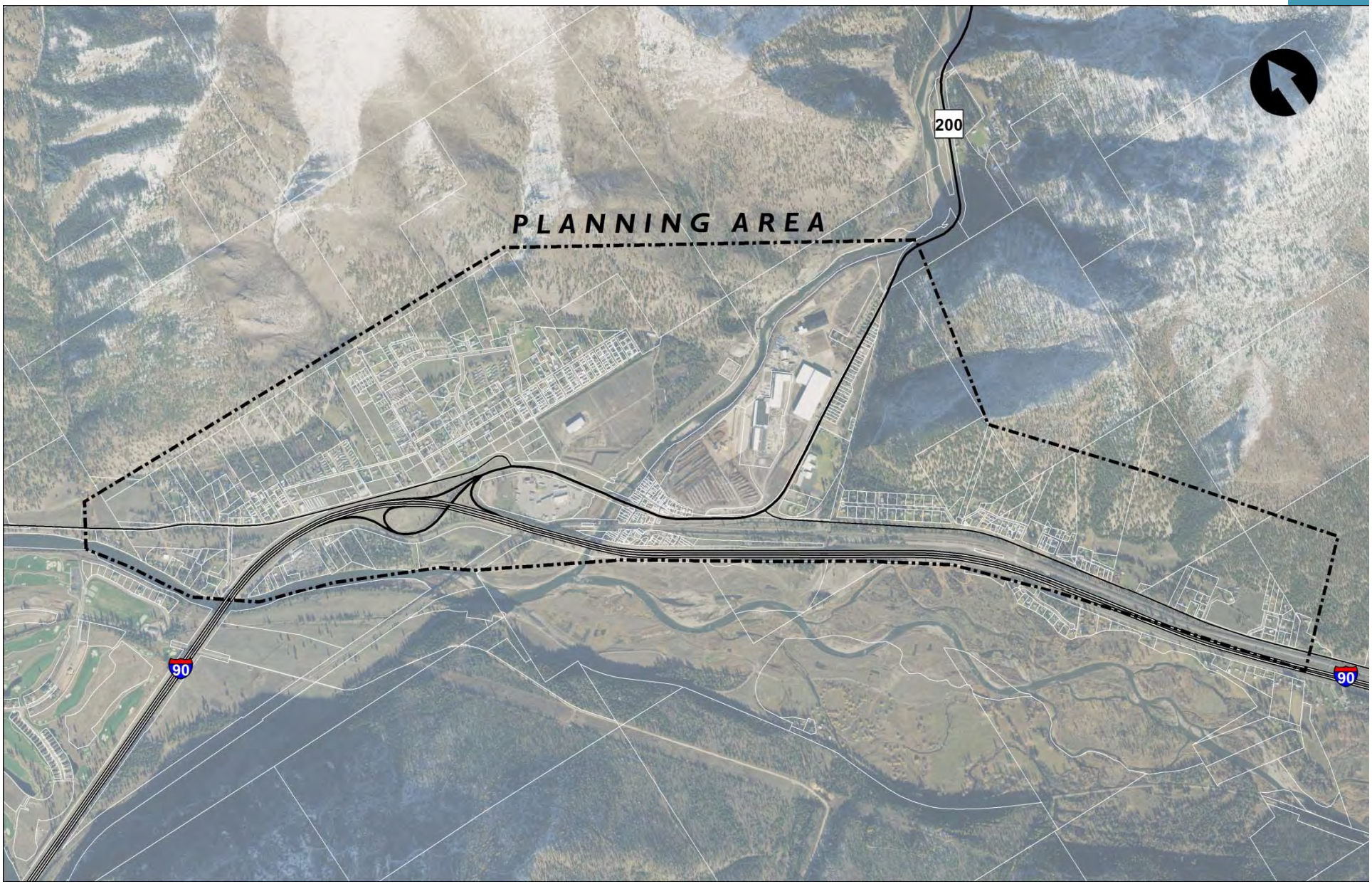
Drivers

- Area undergoing development pressure
- Limited options without public sewer
- Areas of high density septic/wells
- Potential limitations associated with replacement of individual septic systems
- Slightly elevated Nitrates
- Last remaining area addressed in the VNRP to protect Missoula Valley Aquifer
- Ranked 4th in the Evaluation of Unsewered Areas in Missoula, Montana" prepared by the Missoula Valley Water Quality District Environmental Health Division, Missoula City-County Health Department (March 1996



Project includes analysis of community needs and evaluation of alternatives for wastewater collection and treatment

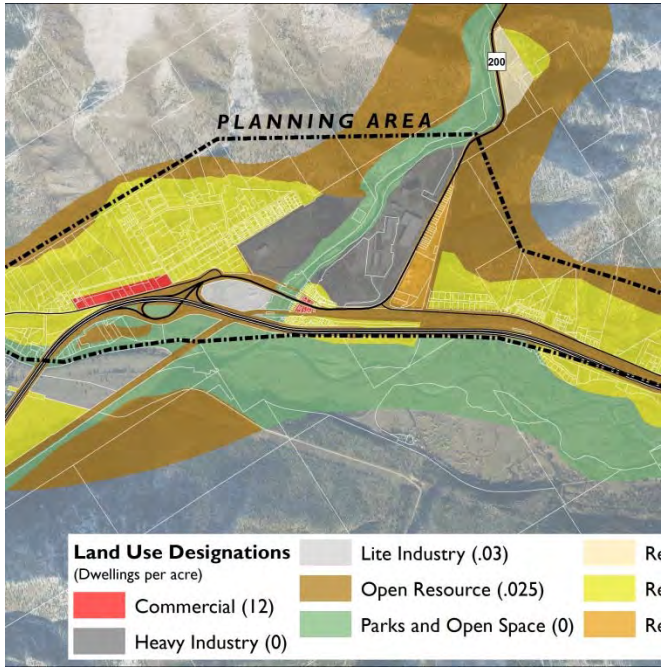
Planning Area

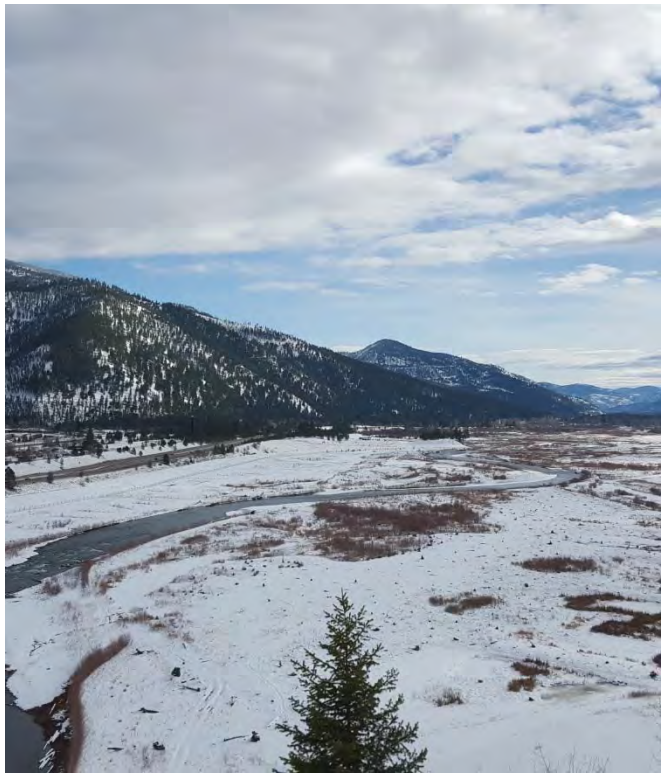


03 Previous Meetings Summarized

Review of Public Meetings No. 1 and 2

- Established study area
- Reviewed existing population
- Reviewed zoning and land use data
- Established Alternatives
  - No Action
  - Connect to City of Missoula System
  - Single centralized WWTP
  - Multiple clustered, community wastewater systems



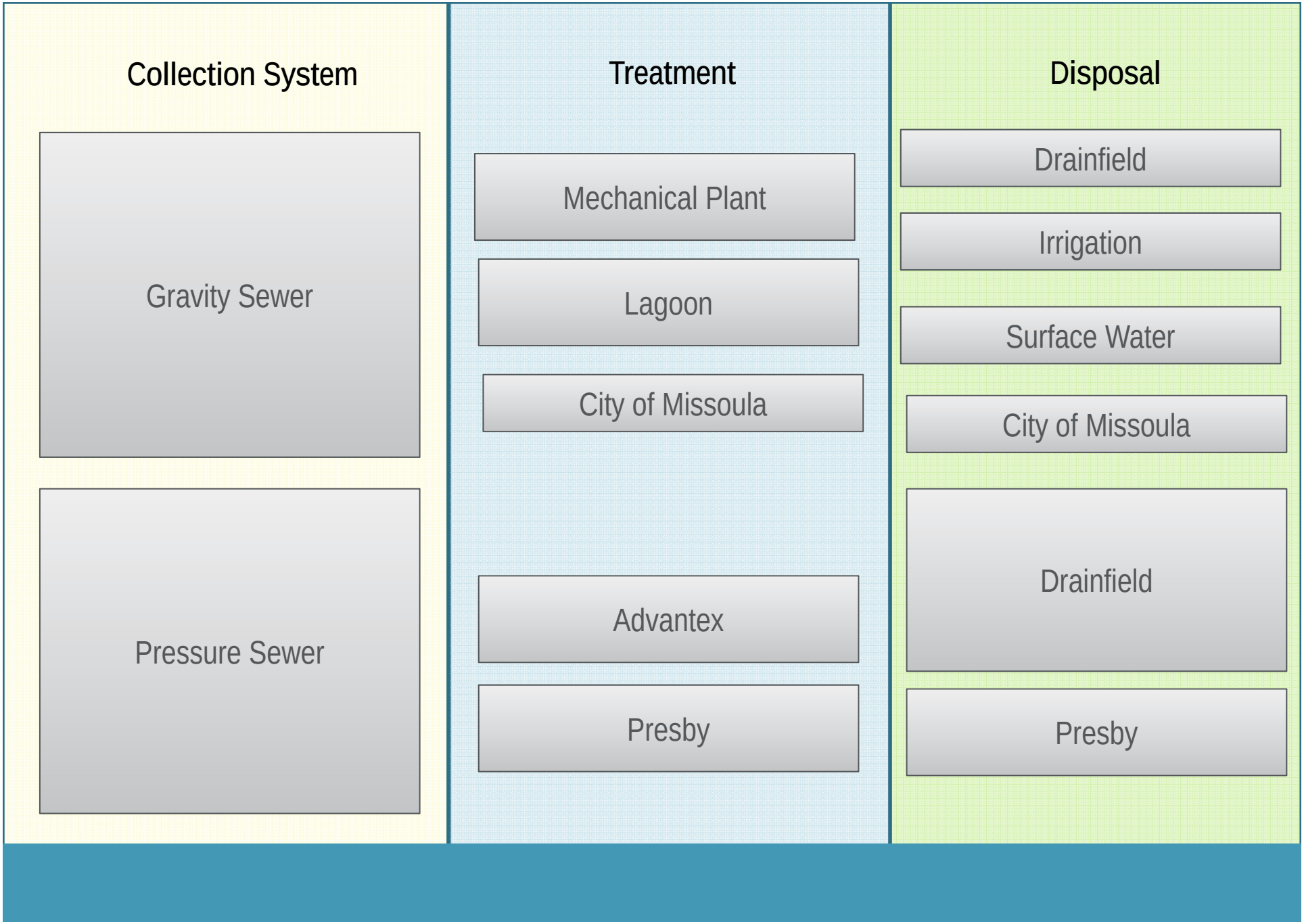


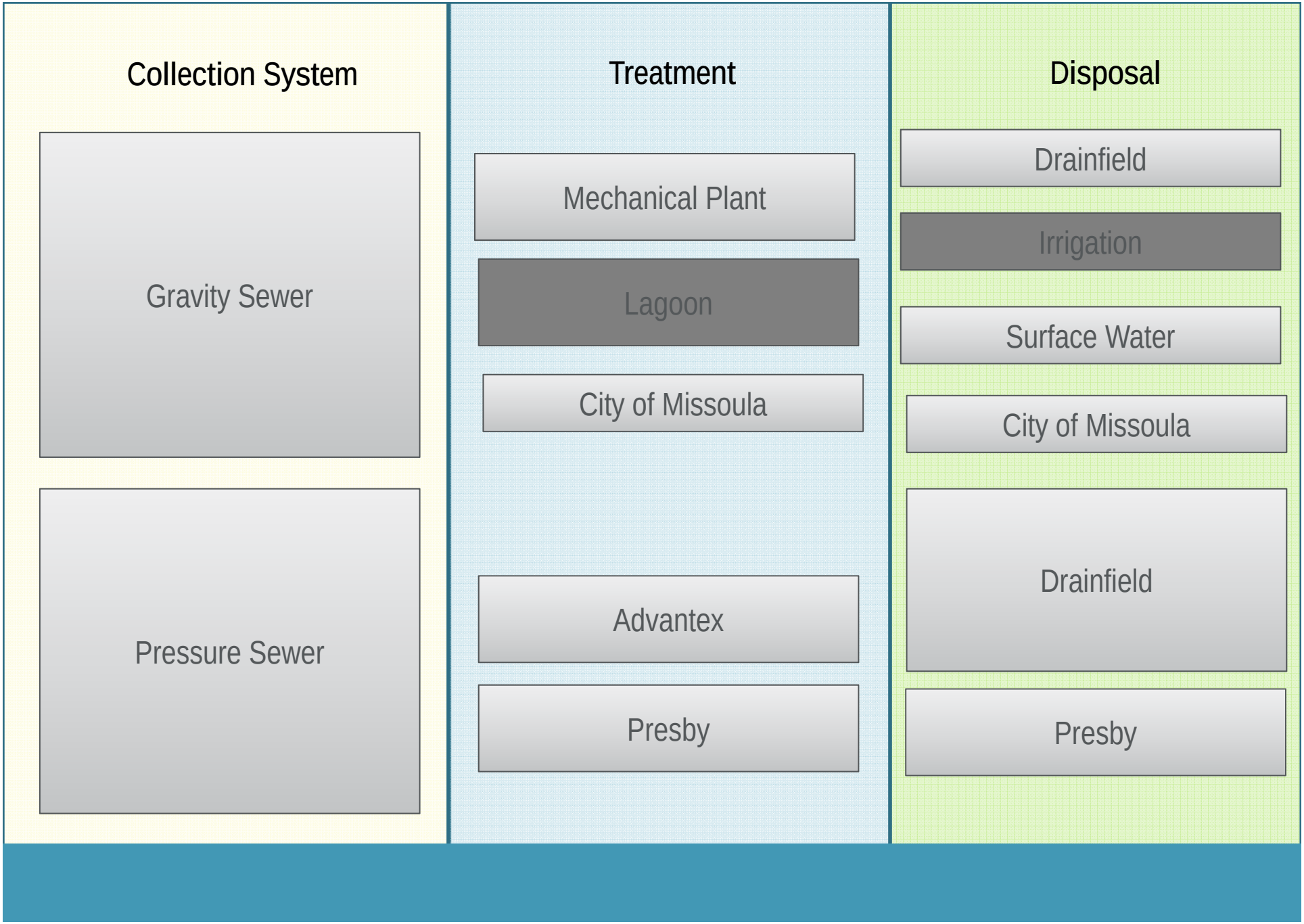
04 Alternatives for Collection, Treatment and Disposal

Wastewater Collection

Two General Options for Treating Wastewater

1. Systems that Collect Solids
   a) Conventional Gravity
2. Systems that don't Collect Solids
   a) Septic Tank Effluent Pump (STEP) Systems w/ Low Pressure Force Mains
   b) Small Diameter Variable Grade Sewers
   c) Maintenance of Septic Tanks Req'd


Collection System
Treatment
Disposal
Gravity Sewer
Pressure Sewer
Mechanical Plant
Lagoon
City of Missoula
Advantex
Presby
Drainfield
Irrigation
Surface Water
City of Missoula
Drainfield
Presby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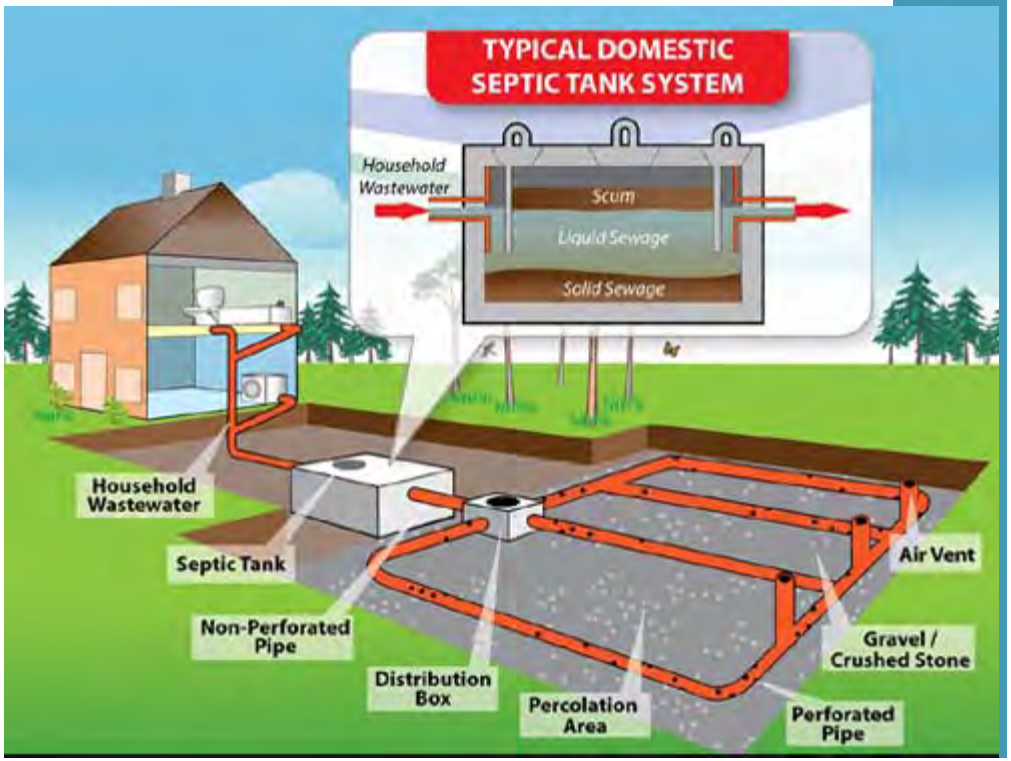
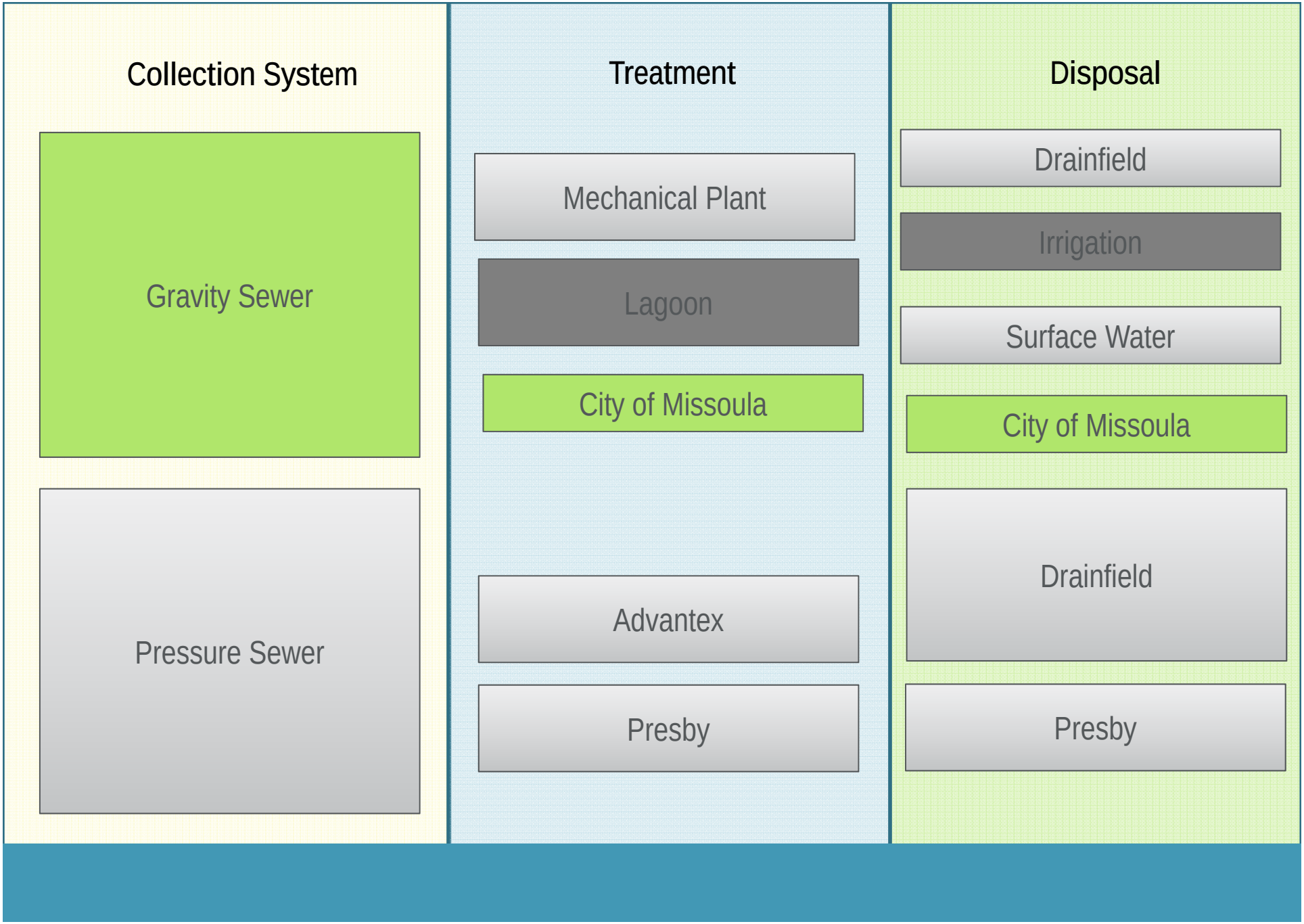
Total Capital Cost	$ 0 – Unknown
20-Year O&M	$ TBD
20-Year Present Worth	$ 0

1. No Action

- Evaluated as “status quo”
- Evidence of groundwater impact (~2.5 mg/L Nitrate)
- Does not exceed drinking water standard (10 mg/L Nitrate)
- Limits increased use on properties
- Failures and improvements up to individual landowner
- 100’ well separation
- Difficulty financing property sale
- *Deed Restrictions*

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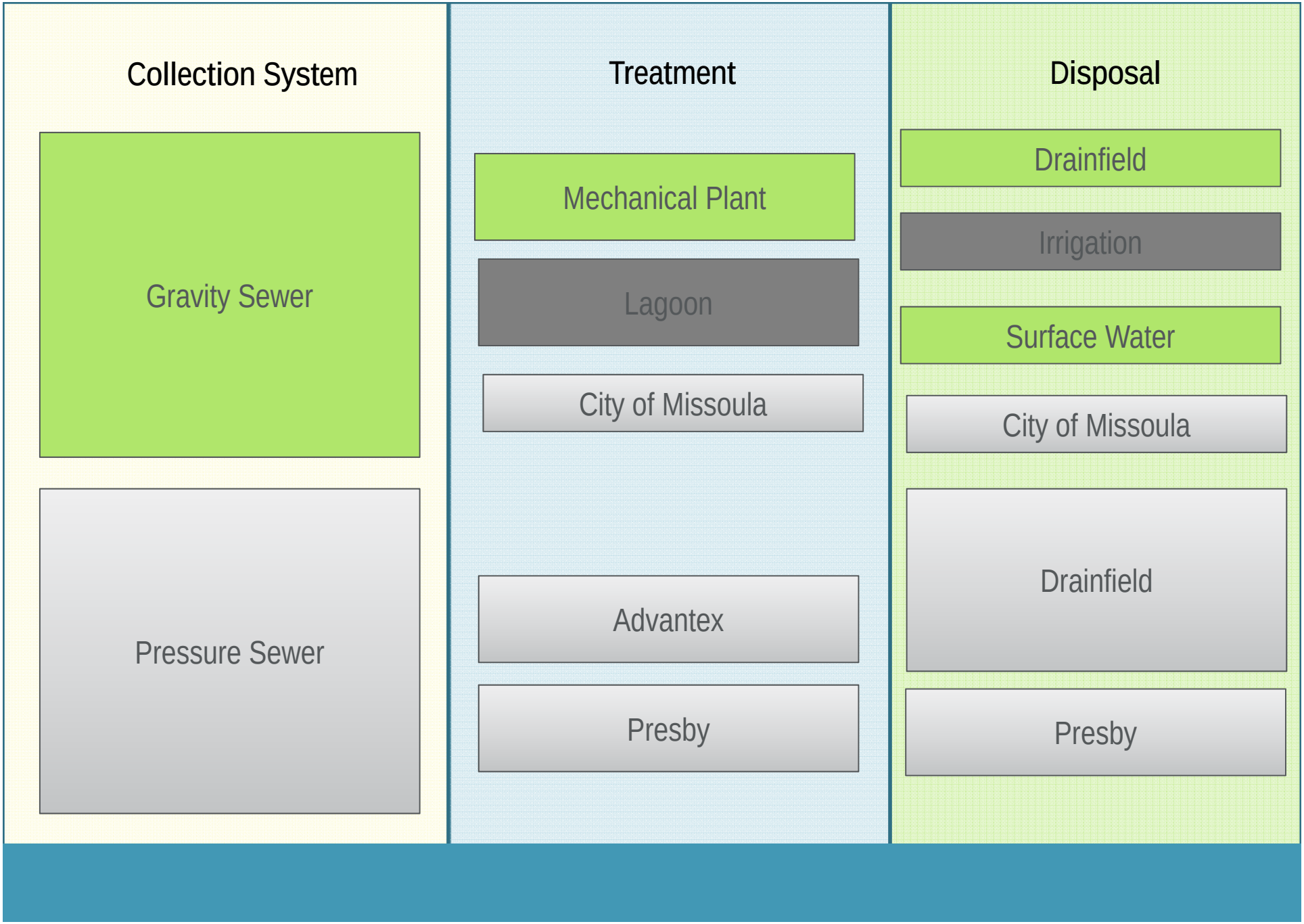
2. Sewer to East Missoula

- Gravity Collection System
- Forcemain and Pump Stations
- Capital cost plus
  - Missoula Sewer Development Fee
- O&M
- Issue of annexation or Service Agreement

Total Capital Cost	$ 30.4 M
Collection System	$ 24.7 M
Forcemain	$ 4 M
Connection Fee	$ 1.7 M
20-Year O&M	$ 3 M
20-Year Present Worth	$ 33.4 M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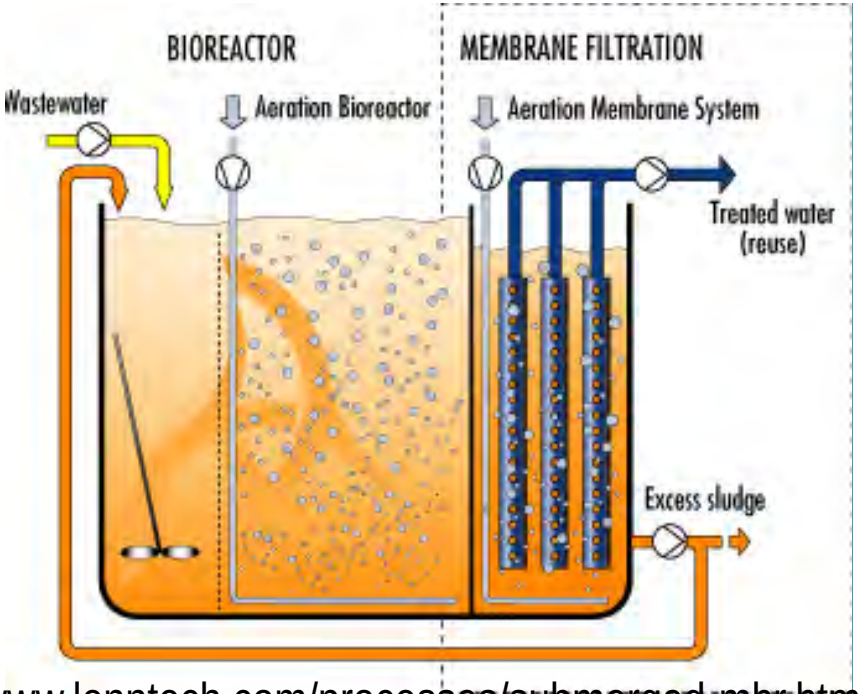
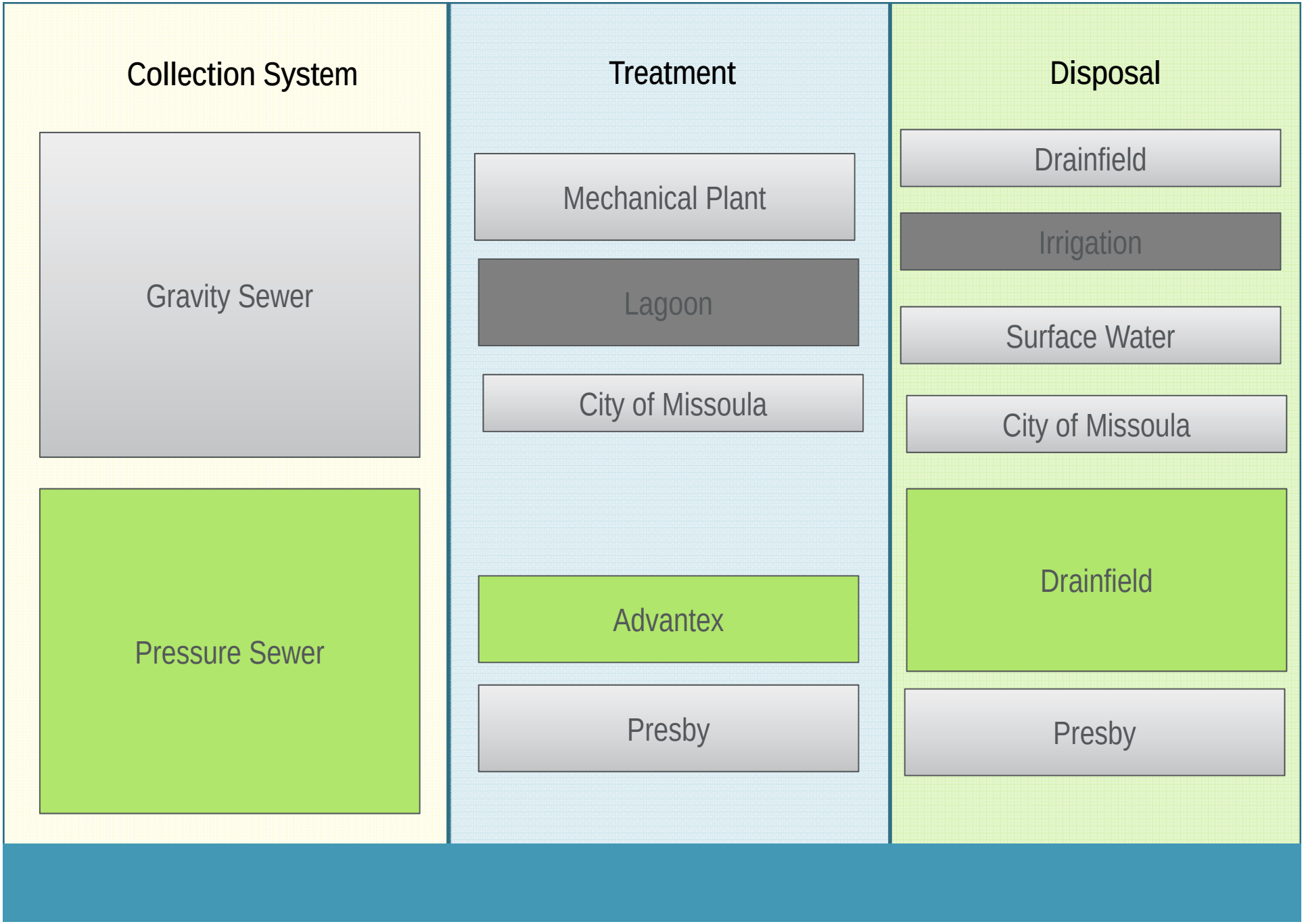
3. Centralized Wastewater Treatment Facility

Total Capital Cost	$ 30.4 M
Collection System	$ 24.7 M
MBR, I/P Beds	$ 5.7 M
20-Year O&M	$ 2.4 M
20-Year Present Worth	$ 32.8 M

- A Membrane Bioreactor
  - Treated to a higher level than septic tank
- Groundwater discharge
  - Location of infiltration beds
  - Land application rates
  - Area needed is 3-5 acres
- Surface water discharge
  - Possible use of MPDES discharge permit to Blackfoot River from the Bonner Property Development
  - Only a portion of the flow



http://www.lenntech.com/processes/submerged-mbr.htm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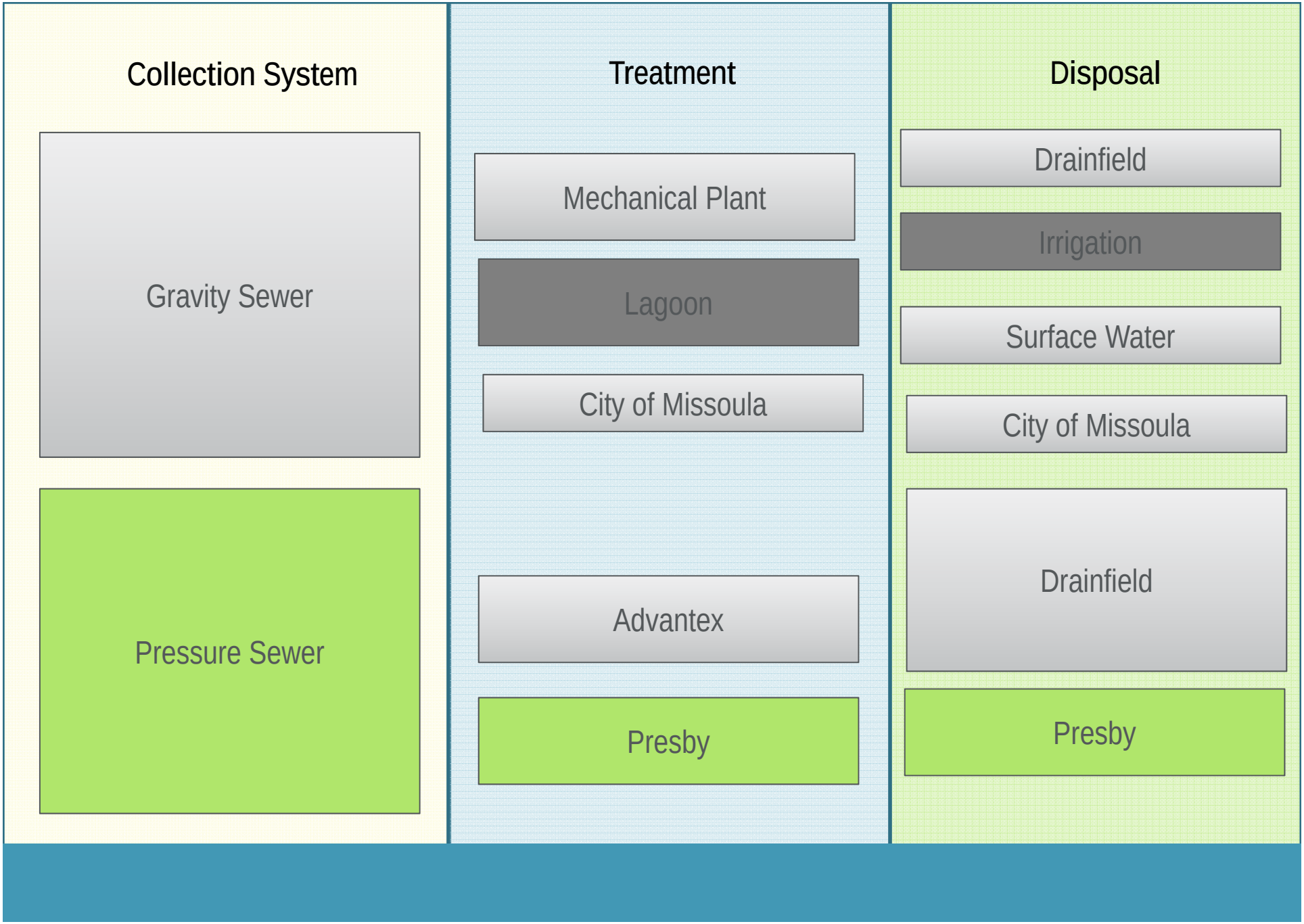
Presby

4a. Multiple Community Cluster system

Total Capital Cost	$ 28.6 M
Collection System	$ 16 M
Advantex	$ 12.6 M
20-Year O&M	$ 5.5 M
20-Year Present Worth	$ 34.1 M

- Location To Be Determined
- Utilize a less-complicated system
- High O&M for pumping effluent and maintaining private tanks
- Drainfield disposal
- Treat to Level II helps determine drainfield area
  - ~6 acres required+6 acres replacement
- Assumed one on each side of the River, but
- Can serve smaller clusters

Advantex System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4b. Multiple Community Cluster system

Total Capital Cost	$ 25.1 M
Collection System	$ 15.97 M
Presby, Drainfield	$ 9.09 M
20-Year O&M	$ 5.4 M
20-Year PW	$ 30.5 M

- Presby, Passive Aerobic Treatment
- Utilize a less-complicated system
- Require Variance from DEQ
- High O&M for pumping effluent and maintaining private tanks
- Drainfield/Treatment
  - 7 acres
- Can serve smaller clusters or individual systems

Potential Funding Sources

- Treasure State Endowment Program (TSEP)
- Renewable Resource Grant and Loan Program (RRGL)
- State Revolving Fund Loan Program
- USDA Rural Development Grant and Loan Program
- WRDA
- STAG
- CDBG

United States Department of Agriculture
Rural Development

Loan Terms
70% of Capital
2.25% Interest
40 Years
30% Grant

	Forcemain to East Missoula	Membrane Bioreactor	Advantex	Presby
Capital	30.4 M	30.4 M	28.6 M	25.1 M
70% to Finance	21.3 M	21.3 M	20.0 M	17.5 M

Monthly Cost Comparison Per EDU (Equivalent Dwelling Unit)

Monthly Cost	Forcemain to East Missoula	Membrane Bioreactor	Advantex	Presby
Loan	$ 62.29	$ 62.29	$ 58.59	$ 51.39
O&M	$ 14.75	$ 13.49	$ 41.58	$ 41.02
Total	$ 77.04	$ 75.78	$ 100.17	$ 92.41

Community Input Alternative Screening Process

Weighted Value on these Criteria

- Capital Cost
- O&M Cost
- Water Quality
- Constructability
- Independence from City of Missoula

Finalizing the Study

- Incorporate Community Input from criteria ranking
  - http://www.missoulacounty.us/government/public-works/public-works
  - Amy Rose email address: arose@missoulacounty.us
- Finalize feasibility study with a recommendation
- Public Meeting #4
  - December 6, 2016
  - Present final report and recommendations
- No future plans for moving forward beyond this study
  - Up to the Community

If you would like to be included on the Community Council's e-mail notification list, please put your name and address on one of the forms available on the tables.

Thank you for attending and participating!

The fourth and final public meeting for the sewer feasibility study will be December 6, 6PM, Bonner School

Bonner Milltown Community Council web page, including minutes and Agendas: http://www.missoulacounty.us/community/community-councils/bonner-milltown-community-council

QUESTIONS?