

# Effluent Disposal Alternatives Evaluation

Los Olivos Community Services District

12/14/2022

# Conceptual evaluation of disposal alternatives for Los Olivos Wastewater Reclamation Program Project (LOWRPP)

## Disposal Alternatives

- Percolation Ponds
- Percolation Chambers
- Shallow Aquifer Injection Wells
- Alamo Pintado Creek Outfall
- Recycled Water<sup>1</sup>

## Evaluation Criteria

- Permitting Requirements
- Effluent Quality
- Social Considerations
- Footprint
- Water Resource Benefits
- Feasibility/Complexity/Reliability
- Monitoring Requirements
- Capital Costs
- Operations and Maintenance Costs

<sup>1</sup>Not included in the scoring and ranking, but recommended as a complement to primary disposal method

# Percolation Ponds



Lower permitting, effluent quantity and monitoring requirements



Lower capital and operations & maintenance costs



Moderate footprint requirement



Higher social considerations (e.g. aesthetics, odor potential)



Moderate water resource benefits



Limited complexity

# Percolation Chambers



Lower permitting,  
effluent quantity  
and monitoring  
requirements



Lower capital and  
operations &  
maintenance costs



Highest footprint  
requirement



Low social  
considerations (e.g.  
aesthetics, odor  
potential)



Moderate water  
resource benefits



Moderate  
complexity



# Broderson Disposal Site (Los Osos)

# Shallow Aquifer Injection Wells



High permitting, effluent quantity and monitoring requirements



High capital and operations & maintenance costs<sup>1</sup>



Low footprint requirement



Low social considerations (e.g. aesthetics, odor potential)



Higher water resource benefits



High level of complexity

<sup>1</sup>Advanced Treatment requirements and reverse osmosis concentrate disposal significantly increase costs associated with this alternative

# Alamo Pintado Creek Outfall



Higher permitting,  
effluent quantity  
and monitoring  
requirements



Higher capital and  
operations &  
maintenance costs



Lower footprint  
requirement



Lower social  
considerations (e.g.  
aesthetics, odor  
potential)



Moderate water  
resource benefits



Moderate  
complexity

# Recycled Water

- Partial Disposal via Recycled Water
  - Significant advantages due to potential to reduce salt monitoring and mitigation requirements
  - District evaluating recycled water opportunities in Recycled Water Master Plan
- Full Disposal via Recycled Water
  - Challenging because system reliant upon irrigation demand
    - Requires users to take water regardless of need for water



# Effluent Disposal Ranking

Disposal Alternative	Effluent Disposal Alternative	Permitting Requirements	Effluent Quality	Social Considerations	Footprint	Water Resource Benefits	Feasibility/Complexity/Reliability	Monitoring Requirements	Capital Cost	Operations & Maintenance Cost	Total Score	Ranking
Percolation ponds	An open, graded impoundment that is designed to dispose of treated effluent via percolation	5	5	2	2	3	4	4	5	4	34	1
Percolation chambers	Buried impoundments, either above or below ground surface that is designed to dispose of treated effluent via percolation	5	5	4	1	3	3	4	4	4	33	2
Shallow aquifer injection wells	Shallow aquifer injection wells (<100-150 feet deep) that inject treated effluent into the saturated portion of the upper aquifer	1	1	5	5	4	1	1	1	1	20	4
Alamo Pintado Creek outfall	Discharge outlet to Alamo Pintado Creek for disposal of treated effluent	2	2	3	4	3	2	2	3	2	23	3

# Recommendations

- Percolation ponds or chambers, combined with recycled water, are the recommended disposal alternative
  - Perform percolation study at potential LOWRPP sites
  - Consult with a manufacturer and RWQCB regarding wastewater application rates
- Evaluation potential climate change impacts on LOWRPP