



City of Beaumont Recycled Water Reuse Strategy Analysis Findings

March 15, 2022

Hunt Thornton
Resource Strategies



Introductions

2

City of Beaumont

- City Council
 - Lloyd White, Mayor
 - Julio Martinez III, Mayor Pro Tem
 - David Fenn, Councilmember
 - Mike Lara, Councilmember
 - Rey SJ Santos, Councilmember
- Todd Parton, City Manager
- Kristine Day, Asst City Manager
- Jennifer Ustation, Finance Director
- Thaxton VanBelle, General Manager of Utilities
- Jeff Hart, Director of Public Works – City Engineer

SBEMP

- City Attorney's Office
 - John Pinkney
 - Peg Battersby

Consultant Team

- Hunt Thornton Resource Strategies
 - John Thornton, Water Resource Consultant
- Todd Groundwater
 - Sally McCraven, Senior Hydrogeologist
- Larry Walker Associates
 - Denise Conners, Associate Engineer

Recycled Water Reuse Goals

3

- **MAXIMIZE** production and beneficial use of City's recycled water in the Beaumont Basin
- **OFFSET** some of the need for imported water
- **MINIMIZE** the City's long-term state-imposed liability as the producer of recycled water
- **ENCOURAGE** and support sustainable development



Presentation Overview

4

- Recycled Water Reuse Options Developed
- Analysis of Options and Preferred Option
- What's Next

Indirect Potable Reuse (IPR)
in Spreading Basins



Recycled Water Reuse Project Options

5

Option 1

- Tertiary treatment
- City constructed, owned, and operated conveyance (new pipeline and new pump station)
- Recharge in existing spreading grounds for indirect potable reuse (IPR)
- No direct irrigation or other non-potable uses (NPR) from pipeline
- City and BCVWD co-permittees for IPR

New City Pipeline and Pump Station



Recharge in Spreading Grounds

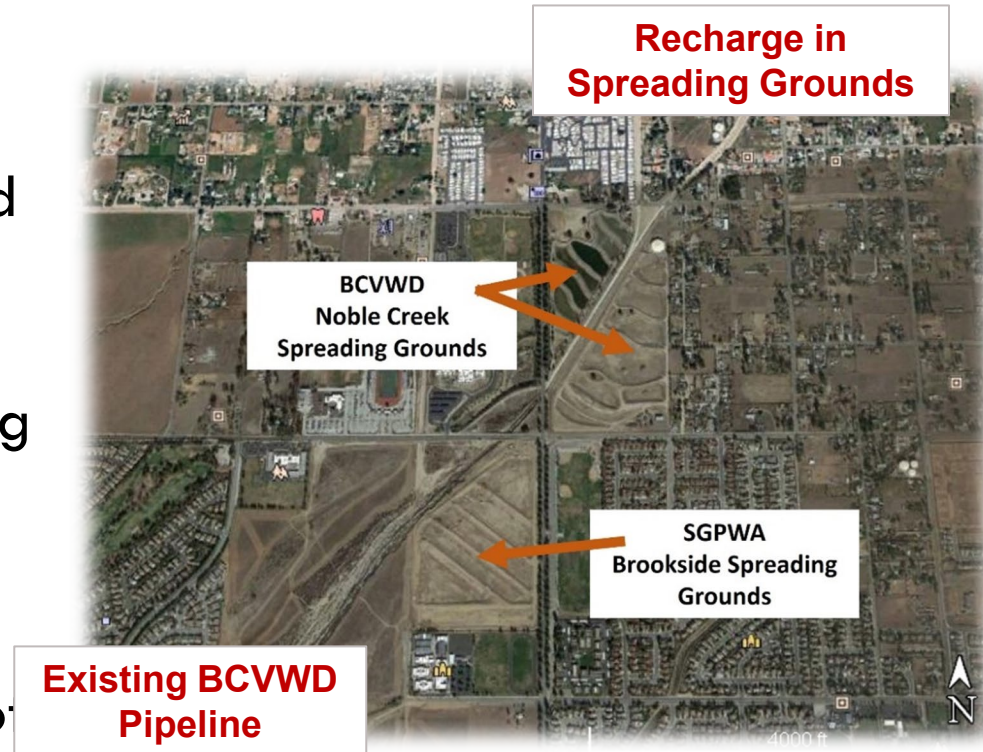


Recycled Water Reuse Project Options

6

Option 2

- Tertiary treatment
- BCVWD owned and operated conveyance (existing pipeline and new pump station)
- Recharge in existing spreading grounds for IPR
- No direct irrigation or other NPR from pipeline (disconnection and rerouting of existing irrigation connections)
- City and BCVWD co-permittees for IPR



Recycled Water Project Options

7

Option 3

- Full Advanced Treatment (FAT) including all pathogen reduction at the WWTP
- BCVWD owned and operated conveyance (existing pipeline and new pump station)
- Recharge in existing spreading grounds for IPR and irrigation/ other NPR from pipeline at BCVWD discretion
- BCVWD sole permittee for recycled water reuse

FAT is the highest quality Title 22 recycled water



Recycled Water Project Options

8

Option 4

- Tertiary treatment
- BCVWD owned and operated conveyance (existing pipeline and new pump station)
- Recharge in existing spreading grounds for IPR and irrigation/ other NPR from pipeline
- BCVWD and City co-permittees for IPR, City sole permittee for NPR

Irrigation Reuse



Recharge in Spreading Grounds



Existing BCVWD Pipeline

Analysis of Options

9

- **Sustainability and Basin Storage Credit**

- Maximizing groundwater basin recharge is more desirable than using recycled water for irrigation and other NPR (Options 1, 2, 3)

- **Facility Ownership and Liability**

- Use of recycled water for irrigation and other NPR leads to high regulatory compliance liability for City (Option 4)
- City's regulatory compliance liability is minimized if FAT recycled water is produced (Option 3)

Analysis of Options

10

● Regulatory Considerations

- Options that maximize groundwater basin recharge will have the most regulatory agency support (Options 1, 2, 3)
- Recharge using FAT recycled water will improve groundwater quality and will have the most regulatory agency support (Option 3)

● Costs

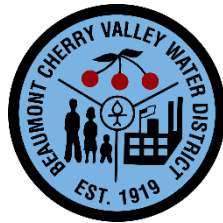
- Cost to construct a new conveyance system is high (Option 1)
- Cost to disconnect and reconnect irrigation systems is high (Option 2)
- Cost to produce FAT recycled water is high but offset by eliminating need to purchase SWP diluent water (Option 3)

Analysis of Options

11

Stakeholder Issues

- Identify stakeholders and stakeholder concerns
- Develop consensus among BCVWD, SGPWA, Watermaster, regulatory agencies, and other stakeholders



SAN GORGONIO PASS
WATER AGENCY
• Established 1961 •

**Beaumont
Watermaster**

Collaborating For Success



The
Public

Well
Owners

Others?

Option 3 is Preferred

12

- Increases sustainability and storage credits by recharging a high volume of recycled water
- Limits City liability to when FAT recycled water leaves the WWTP
- Improves groundwater quality and ensures higher level of regulatory acceptance
- Reduces costs by using existing BCVWD conveyance system
- Reduces costs by eliminating need to purchase SWP diluent water



**Many Agencies
Use the Term
“Purified Water”
instead of FAT**



**Recharge in
Spreading Grounds**

What's Next

13

- City Council
 - Review and accept Report
 - Select preferred option
 - Provide direction to City Council representatives
- BCVWD
 - Participate in PowerPoint presentation
 - Participate in 2 x 2 meetings
 - Negotiate MOU

What's Next

14

- **SGPWA**
 - Participate in PowerPoint presentation
 - Confirm support for City/BCVWD direction
- **SARWQCB and DDW**
 - Participate in PowerPoint presentation
 - Confirm support for City/BCVWD direction
 - Identify next steps

What's Next

15

- Implementation
 - Develop funding plan
 - Conduct studies
 - Upgrade WWTP (Option 3)
 - Prepare DDW Engineering Report
 - Obtain operating permit(s)

Questions and Answers

16



Needed Studies

17

- Groundwater modeling to determine travel times, underflow, mounding, monitoring well siting, etc.
- Identification of all potable wells and establish Zone of Controlled Drinking Water Well Construction
- Adopt ordinance/MOU to prevent installation of new potable wells in Zone of Controlled Drinking Water Well Construction
- Develop groundwater monitoring and reporting plan
- Conduct groundwater monitoring and water quality characterization
- Conduct soil aquifer treatment study, if needed

Needed Studies

18

- Prepare design reports for WWTP upgrades to FAT, if needed
- Develop methodology to track diluent water volume if needed
- Prepare Title 22 Engineering Report for IPR
- Develop General Operations Plan
- Prepare Operations Optimization Plan
- Adopt City and BCVWD ordinances/regulations for irrigation and other NPR
- Prepare pump station design reports
- Update WWTP Source Control Plan
- Conduct CEQA/NEPA studies

List of Acronyms

- BCVWD – Beaumont Cherry Valley Water District
- City – City of Beaumont
- CEQA/NEPA – California Environmental Quality Act/National Environmental Policy Act
- DDW – State Water Resources Control Board Division of Drinking Water
- FAT – full advanced treatment of recycled water
- IPR – indirect potable reuse (e.g., recycled water recharge to groundwater via surface spreading or subsurface injection)
- LWA – Larry Walker Associates
- MOU – memorandum of understanding
- NPR – non-potable reuse (e.g., recycled water reuse for irrigation, industrial, construction uses, etc.)
- SARWQCB – Santa Ana Regional Water Quality Control Board
- SGPWA – San Geronio Pass Water Agency
- SWP – State Water Project imported water
- Title 22 – California Code of Regulations containing recycled water regulations
- WWTP - Beaumont Wastewater Treatment Plant

Options Summary

Option	Uses		Conveyance and Liability Responsibility	Level of Treatment	
	Recharge in the Spreading Grounds	Irrigation and other Non-Potable Uses		Tertiary with 50% RO	FAT
1	X		New pump station and pipeline constructed and operated by the City. City and BCVWD likely co-permittees with associated liabilities.	X	
2	X		New pump station constructed by BCVWD and disconnection of all existing irrigation connections on the existing non-potable pipeline to spreading grounds. City and BCVWD likely co-permittees with associated liabilities.	X	
3	X	At BCVWD's discretion	New pump station constructed by BCVWD and use of BCVWD's existing conveyance pipeline to spreading grounds. City responsible for recycled water production only. BCVWD sole permittee responsible and liable for violations for indirect potable and non-potable reuse once recycled water leaves the WWTP.		X
4	X	X	New pump station constructed by BCVWD and use of BCVWD's existing conveyance system for non-potable reuse and delivery to spreading grounds. City solely responsible and liable for non-potable reuse. City and BCVWD responsible and liable for indirect potable use.	X	