

ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT

1. SUSTAINABILITY GOAL

The shortfall identified below is based upon projected water supplies over the implementation period(s). Rosedale has developed projects which generate over 27,000 AF of new water which will provide a balanced water supply for the Rosedale District by 2020. The Whiteland area will be balanced by 2040.

Sustainable Yield

District

Native Yield	= 0.15 AF/Acre	= 6,268 AF
Precipitation	= 0.48 AF/Acre	= 19,854 AF
Project Water		= 70,315 AF
Demand (ITRC)		= 102,782 AF
Balance		= - 6,345 AF

White Land

Native Yield	= 0.15 AF/Acre	= 1,022 AF
Precipitation	= 0.48 AF/Acre	= 2,784 AF
Project Water		= 2,165 AF
Demand (ITRC)		= 10,307 AF
Balance		= - 4,335 AF

2. PROJECTS, MANAGEMENT ACTIONS & GLIDE PATH

2020 Projects.

It is estimated that approximately **5,000 AFY** of additional supply could be developed by 2020 by the **West Basin Improvements** (60 acres) and **Stockdale East** (200 acres) recharge expansion projects. Total capital costs are approximately \$13.2M and annual O&M costs are approximately \$386,000. Total annualized cost is \$1,341,000 or \$268/AF (plus water cost).

2025 Projects.

It is estimated that approximately **11,500 AFY** could be on-line by 2025 through the implementation of **Recharge Pilot Projects**, **James Groundwater Storage Project**, and the **Onyx Project**. Total capital costs are approximately \$38.8M and annual O&M costs are approximately \$753,000. Total annualized cost is \$3,223,000 or \$280/AF (plus water cost for direct recharge projects).

2030 Projects.

It is estimated that another potential **10,000 AFY** is in development and could be on-line by 2030 through the implementation of the **Kern Fan Project**. Total capital costs are approximately \$45M and annual O&M costs are approximately \$1,350,000. Total annualized cost is \$4,700,000 or \$468/AF (plus water cost).

2035 Projects.

It is estimated that another potential **1,000 AFY** is in project development and could be on-line by 2035 (**Western Rosedale In-Lieu Service Area**). Total capital cost was approximately \$5,100,000 and annual O&M costs are approximately \$152,000. Total annualized cost is \$526,000 or \$467/AF (plus water cost)

2020 Management Actions.

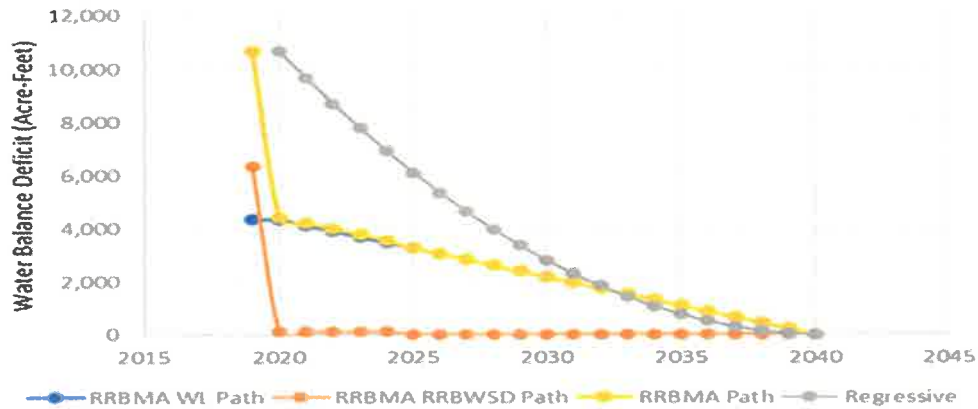
It is estimated that the **RRBWL demand reductions** will result in approximately 217 AFY of demand reduction starting in 2020. This approach would result in an imbalance reduction of **2,167 AFY** by 2030. **3rd party recharge and storage program** will result in approximately **1,250 AFY** of new supplies for the RRBMA starting in 2020.

2025 Management Actions.

It is estimated that the District demand reduction **Water Charge** could result in approximately **4,000 AFY** starting by 2025.

Glide Path

“The RRBMA has a projected a potential long-term water supply deficiency of about 10,680 AFY. The RRBMA seeks to eliminate that shortage over the next 20 years in a regressive fashion (aggressive in first 10 years) by a combination of projects and water management actions.



3. MINIMUM THRESHOLDS & MEASURABLE OBJECTIVES

Levels

Measurable Objective Depth = 148-248 ft. Minimum Threshold Depth = 256-329 ft. Basis is the deepest levels experienced in 2012-2016 Drought.

“To the extent that further water level declines are experienced, additional reinvestment in groundwater facilities would be required and additional energy costs would be incurred, which would be deemed an undesirable result. Financial impact of a threshold scenarios of 0, 25, 50, 75, and 100 ft deeper than 2016 levels (\$0M, \$372M, \$640M, \$661M, \$675M)

Quality

“The measurable objective will be any applicable beneficial use COC value that is less than the MCL and a value increase less than 10% of the 2015-2020 value. An Undesirable Result will exist if any applicable beneficial use COC value that is greater than the current MCL and value increase of greater than 10% from the 2015-2020 value.”

