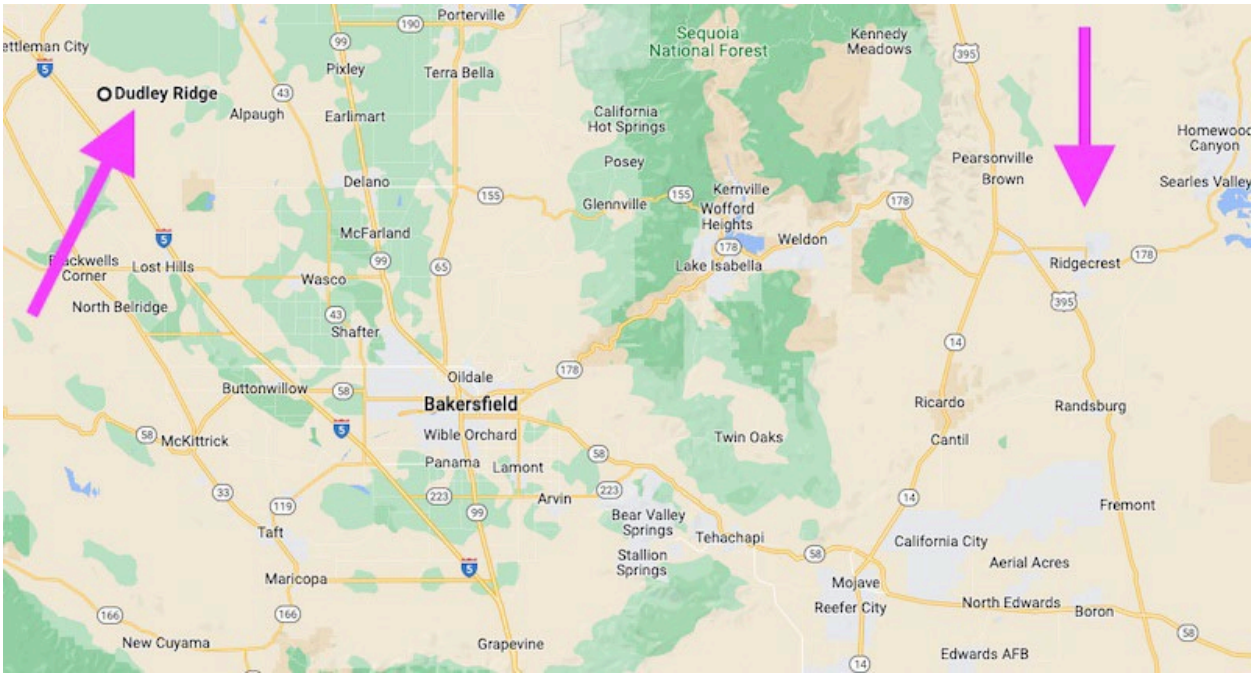
Desert groundwater agency mulls how to get water from San Joaquin Valley

Sjvwater.org, 12/17/22



Water purchased by the Indian Wells Valley Groundwater Authority from a seller in the Dudley Ridge Water District will have to travel across the San Joaquin Valley and over the Sierra Nevada mountains to reach its destination. SOURCE: Google maps

A high-desert groundwater agency in eastern Kern County that's in the midst of buying water from Kings County in the San Joaquin Valley, recently considered alternatives for how to actually get that water up and over the Sierra Nevada mountain range.

The Indian Wells Valley Groundwater Authority, which covers the Ridgecrest area, got updates on three potential pipeline alignments at its Dec. 14 meeting.

No decisions were made at the meeting but the clock is ticking for the board to use a $7.6 million grant from the state Department of Water Resources toward the pipeline study and alignment adoption.

Early estimates of the cost to build the pipeline are between $182.7 million and $177.1 million, depending on the alignment, according to the update by Provost & Pritchard Consulting Group engineer Jeff Davis.

The company studied three possible alignments for a pipe that would connect to an existing line owned by the Antelope Valley-East Kern Water Agency (AVEK) in California city, and run 50 miles north to the Indian Wells Valley.

The high desert valley is considered critically overdrafted with only 7,600-acre feet of natural water inflow every year, and 28,000-acre feet of annual demand. Some have called it “the most upside down” basin in the state. The state’s Sustainable Groundwater Management Act requires critically overdrafted basins be brought into balance by 2040.

In order to stem groundwater pumping, the authority instituted pumping allotments and steep pumping fees. It is using those fees to buy water rights, including 750-acre feet of State Water Project water from Jackson Ranch in the Dudley Ridge Water Storage District in Kings County.

Cost for that water is $8,500 per acre foot, or $6,396,000. Authority directors discussed the purchase during their closed session at the Dec. 14 meeting, but did not report taking any action on that item.

In anticipation of receiving that water, the authority has been in discussions with AVEK, a State Water Project contractor, to store the Dudley Ridge water on its behalf.

From there, the authority is hoping to extend the AVEK pipeline from California City on one of three alignments laid out by Davis.

Davis categorized the alignments as east, west and central. He recommended the authority move forward with the central alignment, but emphasized the east alignment was also viable.

“Either one I think is defendable,” Davis said. “Either one is constructible. Either one is permittable.”

The central alignment starts at Redwood Boulevard in California City and runs north toward Redrock Randsburg Road where it turns northeast. It passes beneath Highway 395, then runs parallel to the highway to China Lake Boulevard. It would pass beneath the boulevard to an existing or new water tank.

The east alignment emerges from 20 Mule Team Parkway and moves east to Highway 395. It passes beneath 395 and runs parallel to the highway to China Lake Boulevard, where it would also pass beneath the boulevard.

“They’re almost equal,” Davis said of the pros and cons of the two alignments.

The central alignment would disturb only a small section of tortoise habitat and has lower operational costs. But it would run near an earthquake fault, need 10 new miles of power lines and require a permit from State Parks as it skirts Red Rock Canyon State Park, Davis said.

The east alignment would have lower capital costs but higher operational costs as it has to cross two mountain ranges as opposed to one per the central alignment. The east line would also disturb about eight miles of tortoise habitat, Davis said.

He estimated that the central alignment would carry a $182.7 million price tag, while the east alignment would cost $177.1 million.

“Even though we don’t have every single little detail, we have, I think, the guts of what we need to make decisions,” Davis said.

Next steps, he said, are for the authority to move forward with a request for proposals for design services. Then Provost & Pritchard will complete a final report, conduct a drone survey of the preferred alternative, carry out an economic analysis of pipe size and pump stations and determine power availability and right of way information.

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California's water conundrum hinges on Delta

Calmatters.org, 12/20/22

Arial view of Sacramento River and San Joaquin River Delta. Photo by Bill Dally via iStock

The most important piece of California's water puzzle is the Sacramento-San Joaquin Delta, the 1,100-square-mile estuary where the state's two most important rivers meet.

The Sacramento and San Joaquin rivers drain a watershed of mountains and hills that stretches about 400 miles from Mount Shasta, near the Oregon border, to the Sierra southeast of Fresno. After meandering through the dozens of channels and sloughs of the Delta, their combined waters flow into San Francisco Bay and thence to the Pacific Ocean – minus whatever has been diverted into cities and farms along the way.

And that's the rub.

For decades, in political and legal forums, there's been a great debate over how much water can be taken from the two rivers, their many tributaries and the Delta itself without destroying its natural function as habitat for fish and other wildlife.

Environmental groups and state water quality authorities, occasionally backed up by federal court decrees, contend that too much is being diverted, particularly by farmers. But the latter say that the water is needed to maintain California's largest-in-the-nation agricultural industry.

For years, the state Water Resources Control Board has been on the verge of mandating sharp cuts in the diversions by raising Delta water quality standards. However, it has delayed what could be a high-stakes showdown over water rights, many of which stretch back more than a century, in hopes that satisfactory “voluntary agreements” could be reached.

Last week, a new chapter in the saga opened when environmental justice groups and Indian tribes filed a civil rights complaint with the federal Environmental Protection Agency against the board. It alleges that failure to issue those water quality standards gives preference to agricultural interests and violates the federal Clean Water Act.

Last spring, the same coalition submitted a 169-page petition to the water board, demanding that it issue new Delta water standards, but the board denied it, saying that updating was already underway.

The semi-permanent drought that’s plagued California adds urgency to the debate over the Delta because it reduces the overall supply of water to be divvied up among the various demands. Farmers and cities have experienced sharp cutbacks in deliveries from the federal and state canals that pump water from the Delta’s southern edge. Farmers also face new restrictions on how much they can draw from depleted underground aquifers to offset reductions in surface water.

The Public Policy Institute of California has estimated that the looming restriction on tapping underground water supplies alone will require at least 500,000 acres of farmland to be taken out of production. Permanent reductions in surface water that would result from higher water quality standards in the Delta would cause more farmland to be fallowed.

As the water quality clash plays itself out, another conflict over the Delta’s future looms – whether to bore a tunnel that would transport some Sacramento River water to the head of the California Aqueduct near Tracy, bypassing the Delta altogether. In one form or another, what’s now called the “Delta conveyance” has kicked around for six decades, first as a “peripheral canal,” later as twin tunnels and, since Gavin Newsom became governor, a single tunnel.

Advocates say such a bypass would solve some Delta water flow problems while providing more reliability in supplying water to Southern California , a central point of the environmental impact report issued by the Department of Water Resources a few months ago. However, critics contend that it would undercut efforts to increase flows through the Delta by reducing upstream diversions.

As the drought continues, how – or when – these intertwined Delta issues will be resolved remains the biggest mystery of California’s water supply conundrum.