

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

IN THE MATTER OF APPLICATIONS 60407)
THROUGH 60410 FILED TO APPROPRIATE THE)
PUBLIC WATER FROM AN UNDERGROUND)
SOURCE WITHIN THE CARSON DESERT)
GROUNDWATER BASIN (101) CHURCHILL)
COUNTY, NEVADA)

RULING

4273

GENERAL

I.

Application 60407 was filed on August 26, 1994, by Michael A. and Claudia Casey to appropriate 0.09 cubic feet per second (cfs) of water from the underground waters of the Carson Desert Groundwater Basin, Churchill County, Nevada, for quasi-municipal and domestic purposes for use within NE $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 20, T.19N., R.28E., M.D.B.& M. The point of diversion is described as being located within the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 20, T.19N., R.28.E, M.D.B.&M.¹

II.

Application 60408 was filed on August 26, 1994, by Michael A. and Claudia Casey to appropriate 0.09 cfs of water from the underground waters of the Carson Desert Groundwater Basin, Churchill County, Nevada, for quasi-municipal and domestic purposes for use within NE $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 20, T.19N., R.28E., M.D.B.& M. The point of diversion is described as being located within the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 20, T.19N., R.28.E, M.D.B.&M.²

III.

Application 60409 was filed on August 26, 1994, by Michael A. and Claudia Casey to appropriate 0.09 cfs of water from the

¹ File No. 60407, official records of the Office of the State Engineer.

² File No. 60408, official records of the Office of the State Engineer.

underground waters of the Carson Desert Groundwater Basin, Churchill County, Nevada, for quasi-municipal and domestic purposes for use within NE $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 20, T.19N., R.28E., M.D.B. & M. The point of diversion is described as being located within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 20, T.19N., R.28.E, M.D.B.&M.³

IV.

Application 60410 was filed on August 26, 1994, by Michael A. and Claudia Casey to appropriate 0.09 cfs of water from the underground waters of the Carson Desert Groundwater Basin, Churchill County, Nevada, for quasi-municipal and domestic purposes for use within NE $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 20, T.19N., R.28E., M.D.B. & M. The point of diversion is described as being located within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 20, T.19N., R.28.E, M.D.B.&M.⁴

V.

The State Engineer initially described and designated the Carson Desert Groundwater Basin on July 6, 1978, under the provisions of NRS 534.030, as a basin in need of additional administration.⁵ On October 4, 1978, the State Engineer subsequently ordered that all applications filed to appropriate groundwater for irrigation of additional land within the Carson Desert Groundwater Basin would be denied.⁶ On August 22, 1995, the State Engineer further ordered, with a few exceptions, that applications filed to appropriate water from the Carson Desert Groundwater Basin would be denied on the basis that the groundwater basin has the potential of being overdrafted causing water level

³ File No. 60409, official records of the Office of the State Engineer.

⁴ File No. 60410, official records of the Office of the State Engineer.

⁵ State Engineer's Order No. 716, dated July 6, 1978, official records in the Office of the State Engineer.

⁶ State Engineer's Order No. 722, dated October 4, 1978, official records in the Office of the State Engineer.

declines, degradation of water quality and possible interference with the surface flow of the Carson River and distribution system in the Newlands project.⁷

The proposed points of diversion under Applications 60407 through 60410 are located within the boundaries of the designated Carson Desert Groundwater Basin.

FINDINGS OF FACT

I.

The perennial yield of a hydrologic basin is the maximum amount of water of usable chemical quality that can be consumed economically each year for an indefinite period of time. The perennial yield cannot exceed the natural replenishment to an area indefinitely, and ultimately is limited to the maximum amount of natural recharge that can be salvaged for beneficial use. If the perennial yield is continually exceeded groundwater levels will decline until the groundwater reservoir is depleted. Withdrawals of groundwater in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, land subsidence and possible reversal of groundwater gradients which could result in significant changes in the recharge-discharge relationship.

The United States Geological Survey estimates that the perennial yield of the Carson Desert Groundwater Basin is 2,500 acre-feet annually,⁸ excluding any recharge obtained from secondary surface water irrigation. The recharge experienced from surface water irrigation and related delivery systems is declining due to more efficient irrigation practices and improvements to the delivery system.

⁷ State Engineer's Order No. 1116, dated August 22, 1995, official records in the Office of the State Engineer.

⁸ Nowlin, Jon, GROUND-WATER QUALITY IN NEVADA - A PROPOSED MONITORING PROGRAM, Open File Report 78-768, U.S.G.S., p. 195.

Existing permits and certificates of record at the State Engineer's Office for groundwater withdrawal within the Carson Desert Groundwater Basin exceed 18,000 acre-feet annually.⁹ The State Engineer finds that the quantity of water already appropriated from the Carson Desert Groundwater Basin exceeds the perennial yield.

II.

The approval of Applications 60407 through 60410 would further increase pumpage from the already over-appropriated groundwater basin. The State Engineer finds that the approval of Applications 60407 through 60410 would conflict with the many existing rights in the basin.

III.

Recent studies of the hydrogeology of the Carson Desert Groundwater Basin delineate three alluvial aquifers and a basalt aquifer in the Fallon area of the Carson Desert. The basalt aquifer is identified as the main source of water for Fallon's municipal wells.¹⁰ The groundwater in the Carson Desert varies greatly in quality, and in many places does not comply with drinking water standards established by the State of Nevada.¹¹ Studies show that a potential exists for unpotable water from other aquifers to migrate into the basalt aquifer.¹² The future use of the basalt aquifer for the Town of Fallon water supply could be limited if this occurs.¹³ The State Engineer finds that the

⁹ Hydrographic Basin Abstract, official records in the Office of the State Engineer.

¹⁰ United States Dept. of Interior, U.S. Geological Survey, HYDROGEOLOGY AND POTENTIAL EFFECTS OF CHANGES IN WATER USE, CARSON DESERT AGRICULTURAL AREA, CHURCHILL COUNTY, NEVADA, Open File Report 93-463, U.S.G.S., p. 32, 45.

¹¹ Id. at 37 - 54.

¹² Id. at 41 - 45.

¹³ Id. at 50.

additional pumping of the groundwater as proposed in Applications 60407 through 60410 would increase the potential for unpotable water to contaminate the water supply for the Town of Fallon. The State Engineer further finds that the approval of Applications 60407 through 60410 threatens to prove detrimental to the public interest.

CONCLUSIONS OF LAW

I.

The State Engineer has jurisdiction over the parties and the subject matter of this action.¹⁴

II.

The State Engineer is prohibited by law from granting a permit where:

- A. There is no unappropriated water at the proposed source, or
- B. The proposed use conflicts with existing rights, or
- C. The proposed use threatens to prove detrimental to the public interest.¹⁵

III.

The State Engineer concludes that to grant permits for Applications 60407 through 60410 in a basin where the quantity of water under existing appropriations exceeds the perennial yield would conflict with existing rights and be detrimental to the public interest.

IV.

The State Engineer concludes that the approval of Applications 60407 through 60410 would increase the risk of infiltration of poor quality water into the municipal water supply. The State Engineer further concludes that the approval of Applications 60407 through 60410 is not in the public interest.

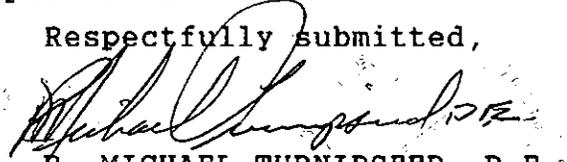
¹⁴ NRS Chapters 533-534.

¹⁵ NRS 533.370.

RULING

Applications 60407 through 60410 are hereby denied on the basis that granting the applications would interfere with existing rights and be detrimental to the public interest.

Respectfully submitted,


R. MICHAEL TURNIPSEED, P.E.
State Engineer

RMT/SJT/ab

Dated this 29th day of
December, 1995.