

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

IN THE MATTER OF APPLICATION )  
66873 FILED TO APPROPRIATE THE )  
PUBLIC WATERS OF AN UNDERGROUND )  
SOURCE WITHIN THE BEDELL FLAT )  
HYDROGRAPHIC BASIN (094), )  
WASHOE COUNTY, NEVADA. )

**RULING**

**#5429**

**GENERAL**

**I.**

Application 66873 was filed on October 16, 2000, by Intermountain Pipeline, LTD., to appropriate 1.5 cubic feet per second, not to exceed 1,000 acre-feet annually (afa), of underground water for municipal and domestic purposes. The proposed place of use to be serviced by this appropriation of water is extensive and is comprised of all of T.21N., R.19E., Section 36, T.21N., R.18E., Sections 1 through 12; inclusive, and 15 through 17; inclusive, T.20N., 19E., and Sections 1 and 12, T.20N., R.18E. with all of the lands described falling within the Mount Diablo Base and Meridian. The proposed point of diversion is described as being located within the SE¼ of Section 5, T.23N., R.19E., M.D.B.&M.<sup>1</sup>

**II.**

Title to Application 66873 was assigned into the name of Intermountain Water Supply, Ltd., in the records of the Office of the State Engineer on July 13, 2004.<sup>1</sup>

**III.**

Application 66873 was timely protested by Washoe County on the following grounds:<sup>1</sup>

There is no unappropriated water in the source of supply, and the proposed appropriation threatens to prove detrimental to the public interest.

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<sup>1</sup> File No. 66873, official records in the Office of the State Engineer.

This application proposes to appropriate 1.5cfs (1,000 acre-feet) annually of the ground water resources from the Bedell Flat Hydrographic Basin.

The United States Geological Survey, Reconnaissance Report No. 43, estimates the natural yield of this basin to be 300 acre-feet annually. Preliminary data from the Nevada Division of Water Resources indicates the total appropriation in the form of Water Rights Permits and Certificates to be about 25 acre-feet annually. Furthermore, Washoe County has reviewed and approved a number of parcel map applications which has resulted in the creation of approximately 130 parcels of land with the right to drill an individual domestic well, of which 34 have already done so.

Therefore, the total appropriations/allocations from ground water resources in Bedell Flat equals 287.6 acre-feet  $((130 \times 2.02) + 25af = 287.6 \text{ acre-feet})$ , which in theory will leave an unappropriated duty of 12.4 acre-feet remaining for new appropriations.

It should also be noted that a protested application in this basin is still pending a ruling by the Nevada State Engineer.

#### IV.

The approval of Application 66873 was also timely protested by the County of Lassen, California, on the following grounds:<sup>1</sup>

1. There is no unappropriated water in the proposed source.
2. Approval of the subject application will, on information and belief, have an impact on flows of Long Valley Creek and, accordingly, will adversely impact existing rights.
3. Approval of the subject application will, on information and belief, adversely impact existing water sources presently utilized by livestock and wildlife in the forms of springs and seeps.
4. Approval of the subject application is not in the public interest as numerous public entities, including Congress with the passage of P.L. 101-618, have determined that more viable sources

- are available to meet the municipal needs of the area that includes the proposed place of use.
- 5 Approval of the subject application is not in the public interest, because, on information and belief, pumping of this magnitude of groundwater when combined with existing rights will ultimately result in a water mining situation and long-term detrimental impact on the aquifer.

#### **FINDINGS OF FACT**

##### **I.**

When reviewing a protested water right application, the State Engineer may, in his discretion, hold hearings and require the filing of such evidence, as he may deem necessary to gain a full understanding of the water rights involved.<sup>2</sup> The State Engineer finds, in the instance of Application 66873, sufficient information is contained within the records of the Office of the State Engineer to proceed in the matter of Application 66873 and its associated protests without the benefit of a hearing.

##### **II.**

One of the initial steps in the water right permitting process is to identify the specific groundwater basin targeted for appropriation by the applicant. This is accomplished by transferring the description of the proposed well site stated upon the application to the groundwater basin maps depicting Nevada's 232 individual groundwater basins.<sup>3</sup> A similar exercise can also be used to determine the groundwater basin associated with the proposed place of use. By this means, it was determined by the staff of the Office of the State Engineer that the proposed point of diversion described by Application 66873 was located within the Bedell Flat Hydrographic Basin. Although it is referenced on the application, a similar review verified that the intended place of use is contained within the boundaries of the Lemmon Valley Hydrographic Basin.<sup>1</sup> The State

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<sup>2</sup> NRS § 533.365(3).

<sup>3</sup> Designated Groundwater Basins of Nevada 1:750 000, September 2003, official records in the Office of the State Engineer.

Engineer finds that this represents an interbasin transfer of underground water between two adjacent groundwater basins, both of which have been designated by the State Engineer.

### III.

The appropriation of water within the State of Nevada is controlled by the Nevada Revised Statutes (NRS) chapters 533 and 534 and the policies developed by the Office of the State Engineer. Under the provisions found under NRS § 533.370(4), before an application that requests a new appropriation of underground water can be considered for approval it must be determined, among other things, that there is unappropriated water available at the targeted source. The answer to the question of what amount of underground water is available for additional appropriation from the Bedell Flat Hydrographic Basin can be found in an analysis of the basin's recharge-discharge relationship.

Central to this equation is the concept of the perennial yield of the Bedell Flat Hydrographic Basin. The perennial yield of a groundwater reservoir may be defined as the maximum amount of ground water that can be salvaged each year over the long term without depleting the groundwater reservoir. Perennial yield is ultimately 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. Withdrawals of ground water 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.<sup>4</sup> The United States Geological Survey (USGS) estimates the

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<sup>4</sup> State Engineer's office, Water for Nevada, State of Nevada Water Planning Report No.3, p.13, Oct. 1971.

perennial yield of the Bedell Flat Hydrographic Basin to be approximately 300 afa.<sup>5</sup>

The Office of the State Engineer has for many years relied upon the USGS' estimates of perennial yield. These estimates are critical in determining the degree of regulation, which must be placed upon a groundwater basin's limited underground water resources. In several groundwater basins, the USGS has modified their initial reconnaissance level estimates of perennial yield through additional published studies, with the Office of the State Engineer accepting the revised numbers. At this time, the State Engineer finds that the perennial yield of the Bedell Flat Hydrographic Basin has not been modified by the USGS and remains at the original 300 afa level.

#### IV.

It is the applicant's contention that sufficient underground water is currently available from the Bedell Flat Hydrographic Basin to support the project that is to be developed under Application 66873. To support this position, the applicant provided the State Engineer with a report prepared by several private consulting firms.<sup>6</sup> Contained within this report is a revised estimate of the basin's perennial yield that ranges from 600 to 1,300 afa, which represents a 200% to 433% increase over the perennial yield estimate derived from Recon Report No. 43. The State Engineer finds that any consideration as to the merits of Application 66873 must also include an analysis of whether the information presented by the applicant

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<sup>5</sup> F. Rush & P. Glancy, Water Resources - Reconnaissance Series Report 43, Water Resources Appraisal of the Warm Springs-Lemmon Valley Area, Washoe County, Nevada. Nv. Dept. of Conservation and Natural Resources and U.S.G.S., p. 49, November 1967.

<sup>6</sup> Hydrology of Bedell Flat and Potential for Ground Water Development, Washoe County, Nevada, Prepared by Interflow Hydrology, Inc. and Cordilleran Hydrology, Inc. May 2003. This report has been incorporated into the information filed under water right Application 66873, which is an official record in the Office of the State Engineer.

justifies changing the perennial yield beyond the established 300 afa level.

**V.**

It is accepted that the amount of published information regarding the underground water resources of the Bedell Flat Hydrographic Basin, is limited and has not advanced far beyond the reconnaissance level. Unlike neighboring Dry Valley and Warm Springs, there are no on going studies being conducted on the federal or county level regarding a reassessment of the Bedell Flat groundwater budget. The lack of new data is not significantly altered by the applicant's report, which presents a new interpretation of existing data. Without a significant expansion of the pool of existing data, the State Engineer finds that there is no justification for doubling and replacing the accepted 300 afa perennial yield.

**VI.**

Although the State Engineer rejects the applicant's revised perennial yield, further consideration of the interbasin transfer can proceed using the 300 afa level as a starting point. An adjustment to this level must be made due to the fact that the groundwater basin is no longer in an undeveloped state. Increased pressure to develop this area has resulted in the creation of new residential parcels throughout the basin. By comparing the current Washoe County parcels maps with the Bedell Flat basin boundary map, it was determined that 159 residential parcels reside within the groundwater basin. The creation of these residential parcels represents both an addition and subtraction in the basins groundwater budget. Assuming that one parcel equates to one domestic well, the presence of 159 parcels represents a potential addition of 159 domestic wells to the Bedell Flat Hydrographic Basin.<sup>7</sup> It has been determined that

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<sup>7</sup> Review of Water Availability in Bedell Flat Area, December 02, 2003, filed within File No. 66873, official records in the Office of the State Engineer.

the average groundwater use from a domestic well in Carson City, Douglas County and Lyon County is 200 gallons per day per person and that the average parcel in Lemmon Valley contains 3.2 persons per household.<sup>8</sup> At these levels, the future domestic well demand within the subject area would equate to (159 residential lots) x (3.2 persons per lot) x (200 gallons used per day per person) x (365 days per year), which equals 114.3 acre-feet of water over the course of a year.

To this amount must be added the 77.1 acre-feet of underground water that currently is permitted for annual appropriation under active water right permits and certificates issued by the Office of the State Engineer. From a basin wide approach, the addition of this number to the future domestic well demand produces a total basin wide appropriation of 191.4 afa. The State Engineer finds that the existing committed water use and the future domestic well demand in the Bedell Flat Hydrographic Basin is 191.4 afa.

#### **VII.**

The influence that the creation of 159 residential parcels has on the water resources of the Bedell Flat Hydrographic Basin is not limited to the discharge side of the water budget equation. The development of a residential parcel would also require the construction of a septic tank system. It is estimated that each domestic well returns 200 gallons per day of water to the groundwater basin through the parcel's septic system. Taking this into account, at peak development, the 159 parcels would return 35.6 acre-feet of water to the groundwater basin on an annual basis. By adding this secondary recharge to the 300 acre-feet perennial yield, the State Engineer finds that the amount of available underground water contained within the Bedell Flat Hydrographic Basin is increased to 335.6 acre-feet.

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<sup>8</sup> State Engineer's Ruling No. 5132, official records in the Office of the State Engineer.

**VIII.**

It should be noted at this point that there are currently no active water right permits or certificates for irrigation purposes within the subject groundwater basin; therefore, the State Engineer finds that there is no secondary recharge component that can be attributed to the irrigation of developed land.<sup>9</sup>

**IX.**

The 335.6 afa level represents the safe yield of the Bedell Flat Hydrographic Basin. The safe yield is defined as the amount of water, which can be withdrawn from a supply, source, or an aquifer over a period of years without causing eventual depletion or contamination of the supply.<sup>10</sup> To determine the amount of underground water, which is available for transfer under Application 66873, the committed resource and future domestic well demand must be deducted from the basin's estimated safe yield. Accordingly, for Bedell Flat, subtracting 191.4 afa from 335.6 afa leaves 144.2 afa water available for transfer to the Lemmon Valley area, as proposed under Application 66873. The State Engineer finds that any transfer of underground water from the Bedell Flat Hydrographic Basin cannot exceed 144.2 acre-feet annually.

**X.**

The Nevada Revised Statutes require the State Engineer to consider the following points when an interbasin transfer of water is proposed by a water right application:<sup>11</sup>

- A. Whether the applicant has justified the need to import water from another basin;

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<sup>9</sup> Nevada Division of Water Resources Hydrographic Basin Summary, Bedell Flat Area, February 27, 2004, official records in the Office of the State Engineer.

<sup>10</sup> Water Words Dictionary, Nevada Division of Water Planning, Department of Conservation and Natural Resources, August 1999.

<sup>11</sup> NRS § 533.370(5).

- B. If the State Engineer determines that a plan for conservation of water is advisable for the basin into which the water is to be imported, whether the applicant has demonstrated that such a plan has been adopted and is being effectively carried out;
- C. Whether the proposed action is environmentally sound as it relates to the basin from which the water is exported;
- D. Whether the proposed action is an appropriate long-term use which will not unduly limit the future growth and development in the basin from which the water is exported; and
- E. Any other factor the State Engineer determines to be relevant.

Examining this criterion point by point the State Engineer makes the following findings:

- A. The State Engineer has established a policy of consistently denying water right applications, which request additional appropriations of water from the Lemmon Valley Hydrographic Basin. This position is due to the fact that the basin's underground water resources are inadequate to meet the demands of existing water rights, much less new appropriations of water. The State Engineer finds that there is a need for additional water within the proposed place of use.
- B. The proposed place of use is contained within the boundaries of Washoe County and as such, is subject to its water conservation programs and requirements.
- C. The negative effects of appropriating a level of groundwater, which surpasses the basin's safe yield, have been stated within this ruling. The State Engineer finds that maintaining a level of appropriation, which is below the basin's safe yield, will prevent these negative effects from occurring.

D. A portion of the underground water resources of the Bedell Flat Hydrographic Basin has been dedicated to service future domestic well demand. This will allow the continued development of the residential lots that currently exist. It must be remembered that the area representing the Bedell Flat Hydrographic Basin is very limited and represents one of the states smallest groundwater basins. The State Engineer finds that future commercial growth and development within the basin is already limited by the basins modest size and predominance of residential lots, and that the exportation of water at or below the safe yield level would not be the deciding factor in limiting future growth.

**XI.**

Similarly, the individual protests of Washoe and Lassen County can be addressed, beginning with the former;

Washoe County's examination of the Bedell Flat area estimated that 12.4 afa of water is available for appropriation from the groundwater basin. This analysis estimates the number of residential parcels to be (130) and credits each parcel with a domestic well demand of 2.02 acre-feet, which equates to 262.6 afa. The level of committed resources under existing permits and certificates was, at the time of the protests, assigned a level of 25 afa, which when added to the future domestic well demand produces a combined basin wide appropriation of 287.6 afa. Washoe County's assessment did not consider any secondary recharge through septic systems and may have assigned the wrong unit (afa) to the committed resource, which is identified on the State Engineers database as 25.12 million gallons annually (mga) or 77.08 afa. The State Engineer disagrees with the analysis performed by Washoe County and finds that its estimate of available water understates the available resource.

Washoe County's protest also includes a statement that a senior protested application has yet to be addressed by the State Engineer. This is apparently a reference to Application 56541, which was denied on May 29, 2003, by State Engineer's Ruling No. 5249. This application, which requested a new appropriation of underground water from the Bedell Flat Hydrographic Basin, was denied on the grounds that the project proposed under the application no longer existed. This denial by the State Engineer was timely appealed and the State Engineer's decision was affirmed by the Second Judicial District Court. The State Engineer finds that the legal challenges to his denial of Application 56541 are concluded; therefore, this protest issue is moot. The State Engineer also finds that other than this issue, the protest lodged by Washoe County can be overruled.

### **XII.**

Lassen County's protest contends that there is no unappropriated water at the source, the approval of the application would affect the basin's surface water sources and would threaten to prove detrimental to the public interest. Additionally, this protest alleges that there are more viable sources of water available and the magnitude of the proposed pumpage would result in a mining of the groundwater.

The question regarding the level of unappropriated water has been previously addressed and answered in this ruling. Whether more viable sources exist to service the Lemmon Valley area remains to be seen. The project described under the subject application will provide at best, 144.2 afa of underground water to the Lemmon Valley area; therefore, further development of this area, if desired, will require additional sources of water. In regard to the issue of water mining, this scenario will be avoided by limiting the annual duty appropriated to the 135.6 acre-foot level. The State Engineer

finds that the protest issues set forth within Lassen County's protest to Application 66873 can be overruled.

### CONCLUSIONS

#### I.

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.<sup>12</sup>

#### II.

The State Engineer is prohibited by law from granting an application to appropriate the public waters where:<sup>13</sup>

- A. there is no unappropriated water at the proposed source;
- B. the proposed use or change conflicts with existing rights;
- C. the proposed use or change conflicts with protectible interests in existing domestic wells as set forth in NRS § 533.024; or
- D. the proposed use or change threatens to prove detrimental to the public interest.

#### III.

Taking into account the committed groundwater resource and future domestic well demand, the State Engineer concludes that 144.2 afa of underground water is available for appropriation under any permit derived from Application 66873.

#### IV.

The State Engineer concludes that the approval of Application 66873 will not conflict with the three existing water rights, which are located within the Bedell Flat Hydrographic Basin.

#### V.

The State Engineer has determined that 191.4 afa of underground water must remain within the Bedell Flat Hydrographic Basin to meet the needs of existing and future domestic wells and current appropriations. The State Engineer

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<sup>12</sup> NRS chapters 533 and 534.

<sup>13</sup> NRS § 533.370(4).

concludes that the approval of Application 66873 will not be contrary to the provisions found under NRS 533.024.

**VI.**

The State Engineer concludes that the approval of a water right permit, which has met all the statutory requirements, would not threaten to prove detrimental to the public interest.

**RULING**

The respective protests to Application 66873 are overruled and Application 66873 is approved at an annual duty of 144.2 afa subject to existing water rights, and the payment of the statutory permit fee.

Respectfully Submitted,



HUGH RICCI, P.E.  
State Engineer

HR/MB/jm

Dated this 14th day  
of October 2004.