

IN THE MATTER OF APPLICATIONS )  
34739, 34740, 34741, 34742, 34743, )  
34744 AND 34745 FILED TO )  
APPROPRIATE THE WATERS OF AN )  
UNDERGROUND SOURCE IN RHODES SALT )  
MARSH, MINERAL COUNTY, NEVADA. )

RULING

GENERAL

Application 34739 was filed on December 20, 1977, by Victor Force, II, to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the E1/2 NE1/4 Section 2 and W1/2 NW1/4 Section 28, T.5N., R.35E., M.D.B.&M. The point of diversion is described as being within the SW1/4 NW1/4 Section 28, T.5N., R.35E., M.D.B.&M.<sup>1</sup>

Application 34740 was filed on December 20, 1977, by Frank J. Freitas to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the SW1/4 Section 28, T.5N., R.35E., M.D.B.&M. The point of diversion is described as being within the SW1/4 SW1/4 Section 28, T.5N., R.35E., M.D.B.&M.<sup>1</sup>

Application 34741 was filed on December 20, 1977, by Rita Freitas to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the SE1/4 Section 29, T.5N., R.35E., M.D.B.&M. The point of diversion is described as being within the SE1/4 SE1/4 Section 29, T.5N., R.35E., M.D.B.&M.<sup>1</sup>

Application 34742 was filed on December 20, 1977, by Doreen F. Freitas to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the NW1/4 Section 33, T.5N., R.35E., M.D.B.&M. The point of diversion is described as being within the NW1/4 NW1/4 Section 33, T.5N., R.35E., M.D.B.&M.<sup>1</sup>

Application 34743 was filed on December 20, 1977, by Sandra L. Freitas to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the NE1/4 Section 32, T.5N., R.35E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 32, T.5N., R.35E., M.D.B.&M.<sup>1</sup>

Application 34744 was filed on December 20, 1977, by Frank Jurado to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the NE1/4 Section 33, T.5N., R.35E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 33, T.5N., R.35E., M.D.B.&M.<sup>1</sup>

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<sup>1</sup> Public record in the office of the State Engineer under Applications 34739, 34740, 34741, 34742, 34743, 34744 and 34745.

Application 34745 was filed on December 20, 1977, by Tony Jurado to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the N1/2 S1/2 Section 33, T.5N., R.35E., M.D.B.&M. The point of diversion is described as being within the NW1/4 SW1/4 Section 33, T.5N., R.35E., M.D.B.&M.<sup>1</sup>

II.

Water Resources-Reconnaissance Series Report 52 titled "Water-Resources Appraisal of the Columbus Salt Marsh - Soda Spring Valley Area, Mineral and Esmeralda Counties, Nevada", was prepared cooperatively by the Geological Survey, U.S. Department of the Interior and State of Nevada, Department of Conservation and Natural Resources.<sup>2</sup>

FINDINGS

I.

The preliminary estimate of perennial yield for Rhodes Salt Marsh is 1,000 acre-feet per annum.<sup>3</sup> The estimated average annual recharge from precipitation is 500 acre-feet annually.<sup>4</sup> The estimated ground water inflow to Rhodes Salt Marsh is 100 acre-feet annually from Garfield Flat.<sup>5</sup>

II.

Information available to the State Engineer indicates that Applications 34739 through 34745, inclusive, were filed in support of Carey Act applications.<sup>6</sup>

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<sup>2</sup> Water Resources-Reconnaissance Series Report 52, Water-Resources Appraisal of the Columbus Salt Marsh-Soda Spring Valley Area, Mineral and Esmeralda Counties, Nevada, by A.S. VanDenburgh and Patrick A. Glancy.

<sup>3</sup> Water Resources-Reconnaissance Series Report 52, p. 2.

<sup>4</sup> Water Resources-Reconnaissance Series Report 52, p. 21.

<sup>5</sup> Water Resources-Reconnaissance Series Report 52, p. 23.

<sup>6</sup> Public record in the office of the State Engineer under Applications 34739, 34740, 34741, 34742, 34743, 34744 and 34745.

III.

Development of ground water in the Rhodes Salt Marsh area has been limited because of poor water quality.<sup>7</sup> Permits and certificates of appropriation have been issued under existing rights for approximately 165 acre-feet of ground water annually from the Rhodes Salt Marsh ground water basin.<sup>8</sup>

IV.

Should additional water be allowed for appropriation under new applications and subsequent development of ground water pursuant thereto detrimentally affect prior ground water rights, the State Engineer is required by law to order withdrawals be restricted to conform to priority rights.<sup>9</sup>

V.

The approval of Applications 34739 through 34745, inclusive, would authorize the additional withdrawal of 4480 acre-feet of ground water which would substantially exceed the perennial yield of the ground water basin.<sup>10</sup> The estimated perennial yield of the Rhodes Salt Marsh area is lost through the natural process of evapotranspiration. The perennial yield of a ground water reservoir may be defined as the maximum amount of water of adequate quality that can be withdrawn and consumed economically each year for an indefinite period. If perennial yield is exceeded on a continual basis, water levels will decline until adverse conditions develop including but not limited to:

- a. cones of depression,
- b. declining water tables,
- c. increased economic pumping lifts,
- d. reversal of ground water gradients which may cause migration of poor quality water into good quality zones,
- e. land subsidence,
- f. decreased flows at surface discharge areas (springs, seeps, etc.),
- g. water quality deterioration.

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<sup>7</sup> Water Resources-Reconnaissance Series Report 52, p. 1, p.39.

<sup>8</sup> Rhodes Salt Marsh Abstract of existing rights, public record in the office of the State Engineer.

<sup>9</sup> NRS 534.110.

<sup>10</sup> Water Resources-Reconnaissance Series Report 52.

These conditions are well documented in several ground water basins in the State of Nevada where withdrawals have exceeded recharge or perennial yield.<sup>11</sup>

VI.

Of the 13 valleys studied in Report 52, Columbus and Rhodes Salt Marsh Valleys had the ground water that was least suitable for domestic and agricultural uses.<sup>12</sup> Table 11 shows that most of the samples taken in Rhodes Salt Marsh Valley are unsuitable for domestic and agricultural uses.<sup>12</sup>

VII.

The proposed places of use of Applications 34739 through 34745, inclusive, are in areas where the soils are designated as Class C at best or Class E at worst.<sup>13</sup> Class C soils are "soils that have severe limitations that reduce choice of crops or require special conservation practices or both". Class E soils are "soils having properties that preclude their use for irrigated agriculture".

CONCLUSIONS

I.

The State Engineer has jurisdiction in this matter.<sup>14</sup>

II.

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

1. the proposed use adversely affects existing rights,
2. there is no unappropriated water in the source,
3. the proposed use threatens to prove detrimental to the public welfare.<sup>15</sup>

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<sup>11</sup> See Appendix of References.

<sup>12</sup> Water Resources-Reconnaissance Series Report 52.

<sup>13</sup> Nevada State Water Plan, "Irrigable Soils of Nevada", Records of the State Engineer's Office, 1973.

<sup>14</sup> NRS Chapters 533 and 534.

<sup>15</sup> NRS 533.370.

III.

Hydrologic, water quality and soils information available to the State Engineer is sufficient to conclude that the perennial yield of water, soil conditions and the large amounts of water to be withdrawn under the proposed applications would substantially contribute to adverse conditions in a ground water basin where water of suitable quantity and chemical quality for agriculture and domestic use is severely limited.

RULING

Applications 34379 through 34745, inclusive, are hereby denied on the grounds that their granting would substantially exceed the perennial yield of the ground water basin and contribute to adverse conditions and, therefore, the granting would not be in the public interest.

Respectfully submitted



Peter G. Morros  
State Engineer

PGM/KN/bl

Dated this 8th day of  
AUGUST, 1984.

APPENDIX OF REFERENCES

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