



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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17 19 89, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now U.S. Fish and Wildlife Service  
Printed or typed name of protestant  
whose post office address is 1002 NE Holladay Street, Portland, OR 97232-4181  
Street No. or P.O. Box, City, State and Zip Code  
whose occupation is conservation, protection, and enhancement of fish, wildlife and their habitat,  
and protests the granting  
of Application Number 53991, filed on October 17, 19 89  
by Las Vegas Valley Water District  
Printed or typed name of applicant to appropriate the  
waters of Underground situated in Lincoln  
Underground or name of stream, lake, spring or other source  
County, State of Nevada, for the following reasons and on the following grounds, to wit:

See Attached

THEREFORE the protestant requests that the application be Denied  
(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed *Marvin L. Plenert*  
Agent or protestant  
Marvin L. Plenert, Regional Director  
Printed or typed name, if agent  
U.S. Fish and Wildlife Service  
Address 1002 NE Holladay St.  
Street No. or P.O. Box No.  
Portland, OR 97232-4181  
City, State and Zip Code No.

Subscribed and sworn to before me this 25th day of June 19 90

*Marilyn A. Holway*  
Notary Public

State of Oregon

County of Multnomah

*My Commission Expires 11/17/92*

\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE.  
ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

The U.S. Fish and Wildlife Service (Service) protests water right applications 53947 through 54036, 54038 through 54066, 54068 through 54092, 54105, and 54106, of which this protest is a part, which were filed by the Las Vegas Valley Water District (LVVWD). Granting the above applications would not be in the public interest and, in addition, would injure the Service's senior water rights.

The currently available information indicates that the impacts, both short and long term, which would result from withdrawal (extraction) of underground water as proposed by LVVWD, would adversely affect the water rights held by the Service and the water available to wildlife and plants in general.

The "underground source" of the water proposed to be appropriated by LVVWD will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including endangered and threatened species in the state of Nevada. These water resources are dependent on the ground water systems from which applicant proposes to tap.

The Service's mission is to conserve, protect, and enhance fish, wildlife, and their habitats for the continuing benefit of the American people. In southern Nevada, the Service manages four National Wildlife Refuges (NWR):

- Ash Meadows NWR. This refuge was established in June 1984 and comprises approximately 23,500 acres of spring-fed wetlands and alkaline desert uplands that provide habitat for numerous plants and animals found nowhere else in the world. Five species at the refuge are listed under the Endangered Species Act, and seven species are threatened. Twenty other species are candidates for listing.
- Desert National Wildlife Range. This refuge was established in 1936 and encompasses over 2,200 square miles. The most important objective is perpetuating the desert bighorn sheep and its habitat. Dependable, year-round water sources located throughout bighorn habitat enable the sheep to use all available habitat which reduces competition for food, cover, water, and space. The Corn Creek Spring ponds on the refuge are the home of the endangered Pahrump poolfish.
- Moapa NWR. This refuge was established in 1979 to secure habitat for the Moapa dace, an endangered minnow endemic to the headwaters of the Muddy River. Historically, the dace was common throughout the headwaters of the Muddy River but in the last decade populations have declined sharply due to habitat destruction and alterations and competition with introduced non-native species.

- Pahranaqat NWR. This refuge was established in 1964 to provide a stopping point for waterfowl and other migratory birds as they migrate south in the fall and back north in the early spring. These waterfowl are attracted by the refuge's 5,380 acres of marshes, open water, native grass meadows, and cultivated croplands. The refuge is the home of the endangered bald eagle and five candidate species.

These four southern Nevada refuges support migratory birds, endangered and threatened species, and other plant and wildlife species. Loss of sufficient water supply to the refuges would eliminate or degrade critical wildlife habitat and could eliminate some or all of the migratory birds, endangered and threatened species, and other wildlife the refuges have been established to protect. This would defeat the very purposes of the refuges and interfere with the Service's mandated responsibilities under the Migratory Bird Treaty Act, 16 U.S.C. § 703 et seq., (MBTA) and the Endangered Species Act (ESA) of 1973, 16 U.S.C. 1531 et seq., among other federal laws. Reducing the refuges' water supply through approval of the applications could also constitute violations of the ESA and MBTA.

In addition to the endangered and threatened species found on the refuges, endangered and threatened species are found at numerous other sites in southern Nevada. Significantly reducing water supplies at these locations would also adversely affect these species. The preamble to the Endangered Species Act states that endangered and threatened species of fish, wildlife and plants . . . "are of aesthetic, ecological, educational, historical, recreational and scientific value to the Nation and its people." Congress, through enactment of the Endangered Species Act, has clearly expressed a national public interest in preserving endangered and threatened plant and animal species.

The Service also has water rights for surface and ground water at each of the four southern Nevada National Wildlife Refuges. Approval of the applications would significantly reduce the water available at the refuges and injure the Service's water rights.

The Fish and Wildlife Service strongly urges the State Engineer to undertake a comprehensive study of the environmental impacts to southern Nevada that the withdrawing of approximately 860,000 acre-feet of water, the amount applied for by the Las Vegas Valley Water District, would have on the hydrologically connected basins in this area of the state prior to approving any of the applications.

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

IN THE MATTER OF APPLICATION NUMBER  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now JOSEPH C FOX JR  
Printed or typed name of protestant  
whose post office address is P.O. Box 276 - CALIENTE NV 89008  
Street No. or P.O. Box, City, State and Zip Code  
whose occupation is FIELD SERVICE REPRESENTATIVE and protests the granting  
of Application Number 53991 filed on October 17, 1989  
by Las Vegas Valley Water District  
Printed or typed name of applicant  
waters of Underground situated in Lincoln  
Underground or name of stream, lake, spring or other source

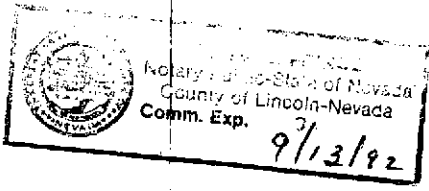
County, State of Nevada, for the following reasons and on the following grounds, to wit:

THE APPROPRIATION OF THIS WATER WHEN ADDED TO THE ALREADY  
~~STATED~~ APPROVED APPROPRIATIONS AND DEDICATED USERS IN THE  
182 BASIN WILL EXCEED THE ANNUAL RECHARGE AND SAFE YIELD  
OF THE BASIN. APPROPRIATION AND USE OF THIS MAGNITUDE WILL  
LOWER THE WATER TABLE AND DEGRADE THE QUALITY OF WATER  
FROM EXISTING WELLS AND WILL ADVERSELY AFFECT EXISTING  
RIGHTS ADVERSE TO THE PUBLIC INTEREST

THEREFORE the protestant requests that the application be Denied  
(Denied, issued subject to prior rights, etc., as the case may be)  
and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Joseph C Fox Jr  
Agent of protestant  
JOSEPH C FOX JR  
Printed or typed name, if agent  
Address P.O. Box 276  
Street No. or P.O. Box No.  
CALIENTE, NV 89008  
City, State and Zip Code No.

Subscribed and sworn to before me this 2nd day of July, 1990.



Mona D. Preme  
Notary Public  
State of Nevada  
County of Lincoln

\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE.  
ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

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

IN THE MATTER OF APPLICATION NUMBER 53991.

FILED BY Las Vegas Valley Water District,

ON October 17, 1989, TO APPROPRIATE THE

WATERS OF Underground Sources

} PROTEST

Comes now the County of White Pine and the City of Ely, State of Nevada

Printed or typed name of protestant

whose post office address is P. O. Box 1002, Ely, Nevada 89301

Street No. or P. O. Box, City, State and Zip Code

whose occupation is Political Subdivision, State of Nevada and protests the granting

of Application Number 53991, filed on October 17, 1989

by the Las Vegas Valley Water District to appropriate the

Printed or typed name of applicant

waters of Underground Sources situated in Lincoln

Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

See Attached

THEREFORE the protestant requests that the application be DENIED

(Denied, issued subject to prior appeals, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Dan L. Papez

Agent or protestant

Name Dan L. Papez, Agent

Printed or typed name, if agent

Address P. O. Box 240

Street No. or P. O. Box No.

Address Ely, Nevada 89301

City, State and Zip Code No.

Subscribed and sworn to before me this 5TH day of July, 1990.



Marie E. Kalleres  
Notary Public

State of Nevada

County of White Pine

## REASONS AND GROUNDS FOR PROTEST

The City of Ely and The Board of County Commissioners, White Pine County, State of Nevada, do hereby protest the above referenced application upon the following grounds:

1. Upon information and belief Protestant asserts that there is not sufficient unappropriated groundwater in the subject Basin to provide the water sought in the Instant Application and all other pending applications involving the utilization of surface and ground water from that Basin.
2. Upon information and belief Protestant asserts that the appropriation of this water when added to the already approved appropriations to dedicated users in the subject Basin will exceed the annual recharge and safe yield of the basin. Appropriation and use of this magnitude will lower the water table and degrade the quality of water from existing wells, cause negative hydraulic gradient influences, further cause other negative impacts and will adversely affect existing rights adverse to the public interest.
3. That the groundwater sought in the instant Application interferes with existing water rights in the subject basin.
4. The granting or approval of the instant Application would conflict with or tend to impair existing water rights in the subject Basin in that it would exceed the safe yield of the subject Basin and unreasonably lower the static water level and sanction water mining which is contrary to public policy in the State of Nevada.
5. That the appropriation of the water sought in the instant Application, when added to the other pending Applications and to the already approved appropriations and dedicated uses in the subject Basin, will lower the static water level in subject Basin, will adversely affect the quality of the remaining ground water and will further threaten springs, seeps and phreatophytes which provide water and habitat critical to the use and survival of wildlife, grazing livestock and other surface existing uses.

6. This Application is one of approximately 147 applications filed by the Las Vegas Valley Water District seeking a combined appropriation of approximately 860,000 acre feet of ground and surface water for municipal use in the Las Vegas Valley Artesian Basin. Diversion and export of such a quantity of water will deprive the county and area of origin of the water needed for its environment and economic well being and will unnecessarily destroy or damage environmental, ecological, scenic and recreational values that the State holds in trust for all its citizens.

7. The granting or approving of the subject Application in the absence of comprehensive planning, including but not limited to environmental impact considerations, socioeconomic impact considerations, and a water resource plan consideration for the general Las Vegas Valley area such as has been required by the Public Service Commission of private purveyors of water, is detrimental to the public welfare and interest.

8. The granting or approving of the subject Application in the absence of comprehensive water resource development planning, including but not limited to, environmental impacts, socioeconomic impact, and long term impacts on the water resource, threatens to prove detrimental to the public interest.

9. Granting or approval of the above-referenced Application would be detrimental to the public interest in that it individually and cumulatively with other applications of the water exploration project would:

- (1) Likely jeopardize the continued existence of endangered and threatened species recognized under the Endangered Species Act and related state statutes;
- (2) Prevent or interfere with the conservation and management of those threatened or endangered species;
- (3) Take or harm those endangered species; and
- (4) Interfere with the purpose for which the Federal lands are managed under Federal statutes including, but not limited to, the Federal Land Use Policy Act of 1976.

10. That the withdrawal of the ground water sought in this Application and/or in conjunction with withdrawal of groundwaters sought in other Applications in the subject Basin included in the water importation project will exceed the annual recharge and safe yield of the basin and will cause the loss of surface plant communities that provide forage and habitat for wildlife and forage for livestock, thus eliminating those uses of the basin.



11. That the granting of this Application together with the companion Applications filed as part of the water importation project will necessitate the Applicant to locate well sites, build road and power lines to each well site, causing surface disturbance and degradation of the environment, including loss of wildlife habitat, wildlife populations, and grazing lands for livestock.

12. The approval of the subject Application will sanction and enhance the willful waste of water allowed, if not encouraged, by the Las Vegas Valley Water District, and that such waste of water is contrary to public policy in the State of Nevada.

13. The subject Application seeks to develop the water resources of, and transport water across, lands of the United States under the jurisdiction of the United States Department of Interior, Bureau of Land Management. This application should be denied because the Las Vegas Valley Water District has not obtained or demonstrated that it can obtain right-of-way for water development on public lands and the transportation of water from the proposed point of diversion to the service area of the Las Vegas Valley Water District in Clark County, and therefore cannot show that the water will ever be placed in beneficial use.

14. The Application should be denied because it individually and cumulatively with other Applications of the water importation project will perpetuate and may increase the inefficient use of water and frustrate efforts of water demand management in the Las Vegas Valley Water District service area.

15. The Las Vegas Valley Water District lacks the financial capability of transporting water under the subject permit as a prerequisite to placing the water to beneficial use and accordingly, the subject Application should be denied.

16. The above-reference Application should be denied because the Application fails to adequately include the statutorily required information, to wit;

- (1) Description of proposed works;
- (2) The estimated cost of such works;
- (3) The estimated time required to construct the works and the estimated time required to complete the application of water to beneficial use; and
- (4) The approximate number of persons to be served and the approximate future requirement.

17. The subject Application should be denied because it individually and cumulatively with other Applications will exceed the safe yield of the subject Basin thereby adversely affect phreatophytes and create air contamination and air pollution in

violation of State and Federal Statutes, including but not limited to, the Clean Air Act and Chapter 445 of the Nevada Revised Statutes.

18. The Application cannot be granted because the applicant has failed to provide information to enable the State Engineer to guard the public interest properly. This Application and related applications associated with this major withdrawal of groundwater out of the basin cannot properly be determined without an independent, formal and publicly-reviewable assessment of:

- a. cumulative environmental and socioeconomic impacts of the proposed extractions;
- b. mitigation measures that will reduce such impacts of the proposed extractions;
- c. alternatives to the proposed extractions, including but not limited to, the alternatives of no extraction and mandatory and effective water conservation in the Las Vegas Valley Water District service area.

19. That this Application should be denied because the Applicant has failed to provide to Protestant relevant information regarding this Application and other Applications which comprise this project as required by N.R.S. 533.363. That the failure to provide such relevant information denies Protestant due process of law under Chapter 533, N.R.S., in that said relevant information may provide Protestant with further meaningful grounds of protest, and that Protestant may be forever barred from submitting such further grounds of protest because the protest period may run before Applicant provides such required information. That the failure of Applicant to provide such information denies Protestant with meaningful opportunity to submit protests to this Application and other Applications included in this project as allowed by Chapter 533, N.R.S.

20. The subject Application should be denied because the population projections upon which the water demand projections are based are unrealistic and ignore numerous constraints to growth, including traffic congestion, increase costs of infrastructure and services, degraded air quality, etc.

21. The subject Application should be denied because previous and current conservation programs instituted by the Las Vegas Water District are ineffective, public-relations oriented efforts that are unlikely to achieve substantial water savings. Public policy and public interest considerations should preclude the negative environmental and socioeconomic consequences of the proposed transfers on areas of origin when the potential water importer has failed to make a good-faith effort to efficiently use currently available supplies.

22. The subject Application should be denied because the enormous costs of the project likely will result in water rate increases of such a magnitude that demand will be substantially reduced, thereby rendering the water transfer unnecessary.

23. The granting or approval of the above-referenced Application would be detrimental to the public interest and is not made in good faith since it would allow the Las Vegas Valley Water District to lock up vital water resources for possible use sometime in the distant future beyond current planning horizons.

24. The subject Application should be denied because current and developing trends in housing, landscaping, national plumbing fixture stands, and demographic patterns all suggest that the simplistic water demand forecasts upon which the proposed transfers are based substantially overstate future water demand needs.

25. The subject Application should be denied because the enormous costs of the project likely will result in water rate increases of such a magnitude that demand will be substantially reduced, thereby rendering the transfers unnecessary.

26. The subject Application should be denied because the current per capita water consumption rate for the the Las Vegas Valley Water District currently is double that of similarly situated southwestern municipalities. This suggests enormous potential for more cost-effective supply alternatives, including demand management and effluent re-use, which avoid the negative impacts on rural areas of origin and have not been considered.

27. That the State Engineer has previously denied other groundwater Applications submitted by other Applicants in the subject basin, said Applications having been prior in time to the instant Application and those associated with the water importation project. That the grounds of denial for prior Applications should apply equally to the instant Application and if appropriate, should provide grounds to deny the instant Application.

28. Inasmuch as water extraction and the trans-basin conveyance project of this magnitude has never been considered by the State Engineer, it is therefore impossible to anticipate all potential adverse affects without further study. Accordingly, the Protestant reserves the right to amend the subject protest to include such issues as they develop as a result of further study.

29. The undersigned additionally incorporates by reference as though fully set forth herein and adopts as its own, each and every other protest to this Application and/or to any Application filed that is included in this project and filed pursuant to N.R.S. 533.365.

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now Wesley A. Holt  
Printed or typed name of protestant  
whose post office address is P.O. Box 307, Caliente, Nevada 89008  
Street No. or P.O. Box, City, State and Zip Code  
whose occupation is Merchant, and protests the granting  
of Application Number 53991, filed on October 17, 1989  
by Las Vegas Valley Water District  
Printed or typed name of applicant  
waters of Underground situated in Lincoln  
Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

This application is one of 105 applications filed by the Las Vegas Valley Water District seeking to appropriate 589,000 acre feet of ground water for municipal use within the service area of the District in Clark County. Diversion and export of such a quantity of water will, lower the static water level in 182 Basin, will adversely affect the quality of remaining ground water and will further threaten springs, seeds and phreatophytes which provide water and habitat critical to the survival of wildlife, grazing livestock and other surface area existing uses.

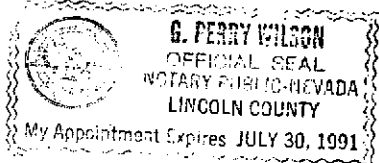
THEREFORE the protestant requests that the application be Denied  
(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Wesley A. Holt  
Agent or protestant  
Wesley A. Holt  
Printed or typed name, if agent  
Address P.O. Box 307  
Street No. or P.O. Box No.  
Caliente, Nevada 89008  
City, State and Zip Code No.

Subscribed and sworn to before me this 6th day of July 1989

[Signature]  
Notary Public  
State of Nevada  
County of Lincoln



\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

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

IN THE MATTER OF APPLICATION NUMBER 53991,  
FILED BY LAS VEGAS VALLEY WATER DISTRICT,  
ON MARCH 19, 1990, TO APPROPRIATE  
UNDERGROUND WATER IN LINCOLN COUNTY

PROTEST

The Moapa Band of Paiute Indians, P.O. Box 340, Moapa, NV 89025, a federally recognized Indian tribe, hereby protests the granting of Application Number 53991 filed on March 19, 1990, by the Las Vegas Valley Water District to appropriate underground water situated in Lincoln County, State of Nevada, on the grounds set forth in Exhibit A attached.

The protestant requests that the application be denied and that an order be entered for such relief as the State Engineer deems just and proper.

MOAPA BAND OF PAIUTE INDIANS

By: Marc Slonim  
Marc D. Slonim, Attorney  
ZIONTZ, CHESTNUT, VARNELL, BERLEY  
& SLONIM  
2101 Fourth Ave., Suite 1230  
Seattle, WA 98121  
(206) 448-1230

Subscribed and sworn to before me this 6th day of July, 1990.

Rose Leaman  
Notary Public  
State of Washington  
King County

OFFICIAL NOTARY PUBLIC  
NOTARY PUBLIC  
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EXHIBIT A

This application is one of 147 applications filed by the Las Vegas Valley Water District ("LVVWD") seeking to appropriate approximately 865,000 acre feet of water for municipal and domestic use. The Moapa Band of Paiute Indians protests this application on the following grounds:

1. No Authority. The application seeks a permit to extract and export ground water from federal lands on which LVVWD holds no interest. The State Engineer has no authority to issue a permit under these circumstances.
2. Application Deficient. The application is deficient under NRS 533.335 and 340 because it does not include:
  - a. an adequate description of the proposed works;
  - b. an adequate estimate of the costs of such works;
  - c. an adequate estimate of the time required to construct the works and to apply the water to beneficial use;
  - d. adequate approximations of the number of persons to be served and future requirements; and
  - e. the dimension of the proposed reservoirs and a description of the land to be submerged by the impounded waters.
3. Application Otherwise Incomplete. The application, by itself and in combination with the other LVVWD applications, raises enormous and unprecedented environmental and socio-economic issues. It would be detrimental to the public interest to approve the application before these issues are carefully considered. The application contains no information to enable such consideration. The State Engineer should exercise his authority under NRS 532.120, 165 and 170, NRS 533.350 and other applicable law to obtain the following additional information:
  - a. an independent assessment of the environmental and socio-economic impacts of the proposed extractions, associated structures and transportation systems, and uses, and alternatives thereto, prepared in accordance with standards similar to those for environmental impact statements under the National Environmental Policy Act and its implementing regulations; and
  - b. a water resource plan for the Las Vegas Valley area similar to the water resource plans required by the Public Service

Commission from private purveyors of water.

4. Conflict with Existing Rights. The proposed use, by itself and in combination with those under the other LVVWD applications, conflicts with existing water rights, including but not limited to the prior and paramount rights of the Moapa Band of Paiute Indians to the waters of the Muddy River and to ground water underlying the Moapa Indian Reservation.

5. Other Legal Defects and Detriments to the Public Interest. The proposed use, by itself and in combination with those under the other LVVWD applications, is both unlawful and threatening to the public interest for the following reasons:

a. LVVWD holds no rights to enter upon the subject lands, extract the water, transport the water to its intended place of use (including proposed transportation across the Moapa Indian Reservation), or otherwise exercise the water rights it seeks. Moreover, LVVWD lacks the financial capability to construct the necessary works and transport the water to its intended place of use. Under these circumstances, it would disserve the public interest to grant LVVWD control (for decades or more) over the massive quantities of water covered by its applications. In addition, according such control to LVVWD would conflict with federal law and policy regarding the use or disposition of the federal lands covered by the applications.

b. Such use will exceed the annual recharge and safe yield of each basin and result in the permanent depletion or mining of ground water, the lowering of the water table and static water level, negative hydraulic gradient influences, and other adverse impacts on the location and quantity of water resources.

c. Such use will adversely affect water quality, and thus impair existing municipal and other uses.

d. Such use will degrade wetlands and riparian habitats, including these on public lands and in Death Valley National Monument, Great Basin National Park, Lake Mead National Recreation Area, and national wildlife refuge units.

e. Such use will damage wetlands, springs, seeps and phreatophytes which provide water and habitat for migratory species, other wildlife, grazing livestock, and other existing uses.

f. Such use will jeopardize the existence of endangered and threatened species, including but not limited to the desert tortoise, prevent or interfere with the conservation of such species, and take or harm such species.

g. Such use will impair environmental, scenic and recreational values that the State holds in trust for all of its citizens.

h. Such use will encourage waste and discourage reasonable conservation measures within LVVWD's service area.

i. Such use will lead to regional air pollution (particularly carbon monoxide and particulates) in violation of law.

6. Other Grounds. We incorporate by reference and adopt all other grounds set forth in every other protest filed with respect to this application. In addition, we reserve the right to amend this protest to assert additional grounds on the basis of new or as yet undisclosed information regarding these applications and the effects thereof.

STATE

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exhibit.a

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

IN THE MATTER OF APPLICATION NUMBER 53991

FILED BY the Las Vegas Valley Water District

ON October 17, 1989 TO APPROPRIATE THE

WATERS OF Underground

PROTEST

Comes now the County of Nye, State of Nevada, whose post office address is P.O. Box 1767, Tonopah, NV, 89049, whose occupation is Political Subdivision, State of Nevada, and protests the granting of Application Number 53991, filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate the waters of Underground situated in Lincoln County, State of Nevada, for the following reasons and on the following grounds, to wit:

See attached.

THEREFORE the protestant requests that the application be DENIED and that an order be entered for such relief as the State Engineer deems just and proper.

Signed

*Stephen T. Bradhurst*  
Stephen T. Bradhurst, Agent

Address: P.O. Box 1510, Reno, NV 89505

Subscribed and sworn to before me this 6th day of July, 1990.

*Sandra A. Hadlock*  
Notary Public

State of Nevada

County of Washoe



## REASONS AND GROUNDS FOR PROTEST BY NYE COUNTY

The Nye County Board of Commissioners, State of Nevada, does hereby protest the above-referenced Application for the following reasons and on the following grounds, to wit:

1. Upon information and belief protestant asserts that there is not sufficient unappropriated ground water in host water basin to provide the water sought in the above-referenced Application and all other pending applications involving the utilization of surface and ground water from the basin.
2. The appropriation of this water when added to the already approved appropriations and existing uses and water rights in host water basin will exceed the annual recharge and safe yield of the basin. Appropriation and use of this magnitude will lower the water table; degrade the quality of water from existing wells; cause negative hydraulic gradient influences; and threaten springs, seeps and phreatophytes which provide water and habitat that are critical to the survival of wildlife and grazing livestock.
3. The granting or approval of the above-referenced Application would unreasonably lower the water table and sanction water mining, which is contrary to Nevada law and public policy.
4. This Application is one of 146 applications filed by the Las Vegas Valley Water District seeking a combined appropriation of some 864,195 acre-feet of ground and surface water primarily for municipal use in Clark County. Diversion and export of such a quantity of water will deprive the area of origin of the water needed to protect and enhance its environment and economic well-being; and the diversion will unnecessarily destroy environmental, ecological, scenic and recreational values that the State holds in trust for all its citizens.
5. The granting or approval of the above-referenced Application in the absence of comprehensive water-resource development planning, including, but not limited to, environmental-impact considerations, socioeconomic-impact considerations, cost/benefit considerations, water-resource evaluation by an independent entity, and a water-resource plan for the Las Vegas Valley Water District (such as is required by the Public Service Commission of water purveyors) is detrimental to the public welfare and interest.
6. The granting or approval of the above-referenced Application would be detrimental to the public interest in that it, individually and together with other applications of the water importation project, would:
  - a. Likely jeopardize the continued existence of endangered and threatened species recognized under the federal Endangered Species Act and related state statutes;

- b. Prevent or interfere with the conservation of those threatened or endangered species;
  - c. Take or harm those endangered or threatened species; and
  - d. Interfere with the purpose for which the federal lands are managed under federal statutes including, but not limited to, the Federal Land Use Policy Act of 1976.
7. The granting or approval of the above-referenced Application will sanction and encourage the willful waste of water that has been allowed, if not encouraged, by the Las Vegas Valley Water District. Said waste of water is contrary to Nevada law and public policy.
8. The subject Application seeks to develop the water resources of, and transport water across, lands of the United States under the jurisdiction of the United States Department of Interior. This Application should be denied because the Las Vegas Valley Water District has not obtained or demonstrated that it can obtain the necessary legal interest (right-of-way) on said lands to extract, develop and transport water from the point of diversion to the point of use in the Las Vegas Valley Water District service area. Therefore, the Las Vegas Valley Water District cannot show that the water will ever be placed in beneficial use.
9. The Application should be denied because it individually and cumulatively with other applications of the water importation project will perpetuate and may increase the inefficient use of water in the Las Vegas Valley Water District service area and frustrate efforts at water-demand management in the Las Vegas Valley Water District service area.
10. The Las Vegas Valley Water District lacks the financial capability for developing and transporting water under the subject permit, which is a prerequisite to putting the water to beneficial use; and accordingly, the subject Application should be denied.
11. The above-referenced Application should be denied because it fails to adequately include the statutorily required information, to wit:
  - a. Description of proposed works;
  - b. The estimated cost of such works;
  - c. The estimated time required to construct the works and the estimated time required to complete the application of water to beneficial use;
  - d. The approximate number of persons to be served and the future requirement; and
  - e. The dimensions and location of proposed water-storage reservoirs, the capacity of the proposed reservoirs, and a description of the lands to be submerged by impounded waters.

12. The subject Application should be denied because it individually and cumulatively with other applications of the proposed project will exceed the safe yield of host water basin thereby adversely affecting phreatophytes and creating air contamination and air pollution in violation of State and Federal Statutes, including, but not limited to, the Clean Air Act and Chapter 445 of the Nevada Revised Statutes.
13. The Application cannot be granted because the applicant has failed to provide information to enable the State Engineer to properly safeguard the public interest. The adverse effects of this Application and related applications associated with the proposed water appropriation and transportation project (largest appropriation of ground water in the history of the State of Nevada) cannot properly be evaluated without an independent, formal and publicly reviewable assessment of the following:
  - a. The water resources of the proposed area of diversion and the cumulative effects of the proposed diversions;
  - b. Mitigation measures that will reduce the impacts of the proposed extraction; and
  - c. Alternatives to the proposed extraction, including, but not limited to, the alternatives of no extraction and aggressive implementation of all proven and cost-effective water-demand management strategies.
14. The above-referenced Application should be denied because the applicant has failed to provide the protestant relevant information regarding this Application and other applications which comprise the proposed importation project (works) as required by N.R.S. 533.363. The failure to provide such relevant information denies protestant due process of law under Chapter 533, N.R.S., in that said relevant information may provide protestant with further meaningful grounds of protest, and that protestant may be forever barred from submitting such further grounds of protest because the protest period may end before Applicant provides such required information. The failure of applicant to provide such information denies protestant the meaningful opportunity to submit protests to this Application and other applications associated with the water importation project as allowed by Chapter 533, N.R.S.
15. The subject Application should be denied because the population projections upon which the water-demand projections are based are unrealistic and ignore numerous constraints to growth, including traffic congestion, increased costs of infrastructure and services, degraded air quality, protection of rare and endangered species, etc.
16. The subject Application should be denied because previous and current conservation programs instituted by the Las Vegas Valley Water District are inefficient public-relations-oriented efforts that are unlikely to achieve substantial water savings. Public-policy and public-interest considerations should preclude the negative environmental and socioeconomic consequences of the proposed transfers on areas of origin when the potential water importer has failed to make a good-faith effort to efficiently use currently available supplies.

17. The subject Application should be denied because the enormous costs of the project likely will result in water-rate increases of such a magnitude that demand will be substantially reduced, thereby rendering the water transfer unnecessary.
18. The granting or approval of the above-referenced Application would be detrimental to the public interest and not made in good faith since it would allow the Las Vegas Valley Water District to lock up vital water resources for possible use sometime in the distant future beyond current planning horizons.
19. The subject Application should be denied because current and developing trends in housing, landscaping, national plumbing-fixture standards and demographic patterns all suggest that the simplistic water-demand forecasts upon which the proposed transfers are based substantially overstate future water-demand needs.
20. The subject Application should be denied because the current per capita water-consumption rate for the Las Vegas Valley Water District is double that of similarly situated southwestern municipalities. This suggests enormous potential for most cost-effective supply alternatives, including demand management and effluent re-use. These alternatives have not been seriously considered by the Las Vegas Valley Water District.
21. The above-referenced Application should be denied because the State Engineer has previously denied other applications for water from the host water basin, said applications having been prior in time to the instant Application and those applications associated with the water importation project. The grounds for denial (e.g., *applicant does not own or control the land on which the water is to be diverted, approval would be detrimental to the public welfare, etc.*) of the prior applications should apply equally to the instant Applicant and provide grounds to deny the instant Application.
22. The granting or approval of the above-referenced Application and the other applications associated with the water-importation project will most likely have a negative impact on Nevada's environment (see the report entitled *Las Vegas Water Importation Project Technology Assessment* by Baughman and Finson). Therefore, the subject Application should be denied by the State Engineer since it is the public policy of the State of Nevada, per Governor Bob Miller's January 25, 1990, State of the State Address, to protect Nevada's environment, even at the expense of growth (see page 11 of the Address).
23. The State Engineer is a member of the State of Nevada Environmental Commission (N.R.S. 445.451). This entity has the duty to prevent, abate and control air pollution in the State of Nevada, including Las Vegas Valley. Air pollution in Las Vegas Valley is so bad that the Valley has been classified a non-attainment area for national and state ambient air-quality standards for CO and PMIO. The Las Vegas Valley Water District applications for water from central, eastern and southern Nevada are for the purpose of securing water to encourage and support future growth in Las Vegas Valley. The State Engineer should deny the above-referenced Application and the other applications associated with the water-importation project since more water means more growth—therefore, more air

pollution. The State Engineer should be taking steps to ameliorate the air-quality problem in Las Vegas Valley, not exacerbate it. The State Engineer, along with the other members of the Environmental Commission, has the legal and moral responsibility to prevent air pollution in Las Vegas Valley. Therefore, the Commission should protest the subject application and the other applications associated with the growth-inducing project.

24. The above-referenced Application should be denied because economic activity in the area of the proposed point of diversion is water-dependent (e.g., grazing, recreation, etc.); and a reduction in the quantity and/or quality of water in the area would adversely impact said activity and the way of life of the area's residents.
25. The above-referenced Application and the other applications associated with the water-importation project should not be approved if said approval is influenced by the State Engineer's desire or need to ensure that there is sufficient water for those lots and condominium units created in Las Vegas Valley by subdivision maps. These maps were approved by the State Engineer, and he certified that there is sufficient water for the lots and units created by the maps. If there is not sufficient water for these lots and units, then Clark County water resources (e.g., water created by conservation, water saved by re-use, etc.) should be developed and assigned to the water-short lots and units.
26. On information and belief the Las Vegas Valley Water District applications to appropriate water from central, eastern and southern Nevada should be denied since the District has not shown a need for the water and the feasibility (technical and financial) of the water-importation project. The District's need for the water and the feasibility of the water-importation project should be components of a water-resource plan approved by the Public Service Commission of Nevada (see N.R.S. 704.020(2)(b)).
27. Las Vegas Valley Water District public statements and written material indicate that approximately 61 percent of the water rights sought by the District (via the 146 applications) are to be temporary water rights. But, the applications (146) state the water is to be used on a permanent basis. Therefore, the subject applications, including the above-referenced Application, should be denied because the public has been denied relevant information and due process.
28. The above-referenced Application and the other applications associated with the water-importation project should be denied since removing water from central, eastern and southern Nevada to Las Vegas Valley will adversely impact economic activity (current and future) of the water-losing area. Some of the economic impacts are as follows:
  - a. *Agriculture:* The combination of sunlight, water resources (ground water and geothermal sources), technology for intensified forms of agriculture, and growing markets (particularly in Las Vegas and Los Angeles) might create conditions for new agricultural development. A lack of water resources that can be developed would foreclose these additions to the economy of the region and the state:

- Fish farming using thermal springs
- Truck gardens or cotton crops
- Greenhouses for flowers or hydroponic vegetables, either alone or in conjunction with electric cogeneration plants.

In addition, the removal of ground water might damage the existing agricultural economy of the area by decreasing grazing available for cattle and sheep and decreasing crops like hay. Water rights are often gained by the purchase of agricultural land that has the water rights attached; then the purchaser takes the land out of agricultural production and removes the water to another, non-agricultural use. The three counties most affected by the granting of Las Vegas Valley Water District's applications—Nye, White Pine and Lincoln—had combined sales of cattle of over \$7,000,000 in 1987 and combined sales of other agricultural products of \$3,500,000 in the same year, according to the U.S. Department of Commerce. Removal of ground water could affect existing water sources for irrigating hay, and decrease forage available for cattle and sheep to the detriment of the agricultural segment of the economy of the three counties.

- b. *Power Generation and Transmission:* The removal of ground water could inhibit or preclude opportunities for power production, which generally uses water for cooling and in steam generation. The transmission lines developed to connect the White Pine and Thousand Springs Power Plants to the regional grid (with connection point in Henderson from White Pine), linked to electric-power-hungry markets in Las Vegas and southern California, might offer economic development potentials:
- Production of electric power from geothermal sources could be connected to the transmission line for sales in the region or outside the state
  - Electric generation from locally produced natural gas or oil, or from natural gas from the Kern River Pipeline, could also be connected to the grid
  - Costs of solar power are declining and, under certain circumstances, are similar to other power production. Nevada's climate and open spaces, combined with access to a transmission line, could make solar-power production attractive.

Just as importantly, solar-, geothermal- and thermal-power production could provide inexpensive power for new dispersed activities in the three counties that are not now close enough to the electric grid for economic tie-in.

- c. *Mineral Extraction:* Oil and natural gas offer major (though as yet highly uncertain) prospects. There is informed speculation that this area is the last major unexplored resource in the continental United States. Dwindling supplies elsewhere, in combination with reduction of imports, could produce important opportunities in Nevada. The development of other mineral resources is likely, and some could be of significant scale (e.g., Bond Gold), either as now, transported to linked industries, or as an attraction for co-location (see below).



Gold, however, is not the only mineral found in minable quantities and qualities in the region. Silver, molybdenum, and copper also are an important part of the economies of the three counties and so, to a lesser degree, is the extraction of mercury, fluorspar, calcium borate, zinc, lead and perlite. Each of these minerals is currently being produced in the region. As demand in the world changes for minerals, these and others may make important contributions to the region's and the state's economy. The effect on mining of removal of ground water from the region should be fully understood before the applications are approved.

- d. *Manufacturing:* Space-requiring industries (e.g., Aero-Jet, Southern California Aerospace, etc.), which are increasingly constrained in the Los Angeles metroplex, could choose locations in the Nevada desert, particularly if other infrastructure (rail, highways, electric power, water, etc.) were available. Those interested could include:
- Manufacturers requiring Nevada's clean air or large expanses of uninhabited land
  - Industry serving the U.S. Departments of Defense and Energy
  - Producers of gaming devices or photovoltaic equipment
  - Manufacturers dependent upon minerals extracted in Nevada, or serving those industries.
- e. *Tourism:* Though slow to develop, tourism and travel could increase between Interstate Highways 80 and 15. Development could include facilities such as attractions for those enjoying Nevada's laws on gaming, and health spas centered around thermal hot springs and Nevada's clean air and quiet, empty landscapes.

Geothermal wells deserve particular mention regarding tourism. The region has many documented geothermal sources with varying temperatures suitable for a variety of uses. It is widely believed that the extraction of ground water will decrease the flow of these springs before their potential is fully developed. The Japanese, for instance, especially enjoy thermal waters and often make them a part of their vacations as well as daily life; Europeans have flocked to health spas for centuries. It is possible that geothermal springs could be developed into a lucrative tourist attraction, but not if the ground water is so depleted that it reduces or eliminates geothermal sources.

Wildlife could also be adversely affected. The National Park Service, in a publication about outside threats to Death Valley, says that "Environmental impacts are probable to . . . Sunnyside/Kirch Wildlife Management Area, Railroad Valley wetlands areas, Key Pittman Wildlife Management Area, Pahrangat National Wildlife Refuge, and the Ash Meadows National Wildlife Refuge if the [LVVWD] applications are approved." Damage to or loss of wildlife areas could cause a decline in tourist visits to the region and prevent expansion.

An unpublished assessment of Las Vegas Valley Water District's project by Mike L. Baughman reports that the three counties "contained 275 [water-

related recreational] sites . . . estimated to support in excess of 700,000 resident recreation visitor days." Nevadans, as well as tourists from other areas, may mourn damage to these recreational sites.

f. *Concentration of Population:* The state of Nevada should consider the important public-policy issues concerning dispersal of population, which are an inherent, if unspoken, part of the debate on appropriation of the region's water. Some of those issues are:

- Whether foreclosure (because of insufficient water) of economic prospects outlined above preclude a more effectively and efficiently organized state of Nevada, from both an economic and a political point of view
- Whether a large (\$1.5 billion) investment in infrastructure in rural Nevada could be used to encourage a growth pattern different from and superior to the current concentration in Reno and Las Vegas
- Equity issues in the lack of representation of the state's rural population in state decision-making
- Beneficial use of sparsely populated land areas.

g. *Interrelationships:* Many of the economic potentials are interrelated to, and even dependent upon, each other:

- If sufficient water is unavailable for electric-power generation, not only is electric power not produced and sold, but dispersed manufacturing or development of tourist attractions will not occur.
- If the water table is lowered sufficiently to reduce or stop the flow of thermal springs, fish farming will not develop, and related industries such as manufacturing of packing materials or frozen-food packing plants will not be built
- Without sufficient water for growth in residential use, even industries that use little or no water may be unable to locate in central and eastern Nevada. Any impact assessment that projected increases in population would trigger a requirement for additional water resources, a requirement that could not be met.

When water that has remained underground for 10,000 years is removed at a rate that is (even temporarily) faster than it can be recharged, that action will change the future of Nevada unalterably. It is critical that the decision-making process that concerns exporting water from rural to urban counties fully addresses the complex nature of a region's economic potentials.

29. Inasmuch as a water extraction and transbasin conveyance project of this magnitude has never been considered by the State Engineer, it is therefore impossible to anticipate all potential adverse effects without further information and study. Accordingly, the protestant reserves the right to amend the subject protest to include such issues as they may develop as a result of further information and study.

30. The undersigned additionally incorporates by reference as though fully set forth herein and adopts as its own, each and every other protest to this Application and/or any application filed that is associated with the water-importation project and filed pursuant to N.R.S. 533.365.

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY LAS VEGAS VALLEY WATER DISTRICT  
ON OCTOBER 17, 1989, TO APPROPRIATE THE  
WATERS OF UNDERGROUND

PROTEST

Comes now Owen R. Williams, on behalf of the United States Department of the Interior, National Park Service, whose post office address is 301 S. Howes Street, Room 353, Fort Collins, Colorado, 80521, whose occupation is Chief, Water Rights Branch, Water Resources Division, National Park Service, and protests the granting of Application Number 53991, filed on October 17, 1989, by Las Vegas Valley Water District to appropriate the water of Underground Basin 182, DELAMAR VALLEY, situated in LINCOLN County, State of Nevada, for the following reasons and on the following grounds, to wit:

See Exhibits A through D attached.

THEREFORE the protestant requests that the application be denied (See Exhibit E, attached).

Signed *O R Williams*  
Agent or protestant

Owen R. Williams  
Printed or typed name, if agent

Address 301 South Howes St., Room 353  
Street No. or P.O. Box No.

Fort Collins, CO 80521  
City, State and Zip Code No.

Subscribed and sworn to before me this 5<sup>th</sup> day of July, 1990.

*Joseph A. Campbell*  
Notary Public

State of Colorado

County of Larimer

My Commission expires 3/10/91

OK  
JW

IN THE MATTER OF APPLICATION 53991

EXHIBIT A

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

- I. The mission of the National Park Service (NPS) may be paraphrased from 16 U.S.C. 1, as conserving scenery, natural and historic objects, and wildlife, and providing for enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations. The public interest will not be served if water and water-related resources in the nationally important Death Valley National Monument (Death Valley NM) and Lake Mead National Recreation Area (Lake Mead NRA) are diminished or impaired as a result of the appropriation proposed by this application.
- II. Death Valley NM was created by Presidential Proclamation in 1933 to preserve unusual features of scenic, scientific, and educational interest. The proclamation gives warning to unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument. Springs and water-related resources are important features of the Monument. The NPS is entitled to Federal reserved water rights for reserved lands within Death Valley NM. The priority dates for these reserved rights are the dates when the lands were reserved and are senior to the appropriation sought by this application. These rights have not been judicially quantified.
- A. In the eastern part of the Monument, Grapevine, Keane Wonder, Nevares, Texas, Travertine and Saratoga Springs provide water for park facilities, domestic use, public campgrounds, resorts, vegetation, wildlife, public enjoyment, scenic value and other related needs. Nevares, Texas, and Travertine Springs collectively discharge about 2,000 gallons per minute (about 3,200 acre-feet per year) and are critical for domestic and commercial use.

Public visitation to Death Valley NM for the past 5 years is approximately as follows:

1985	-	601,000
1986	-	611,000
1987	-	693,000
1988	-	721,000
1989	-	692,000

The Monument supplies water for visitors from the above-named springs. For example, during 1988, water from these springs supported approximately 275,000 overnight campers in Death Valley NM campgrounds, 98,000 people at resorts within the Monument,

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EXHIBIT A (Continued)

Protest by Owen R. Williams, on behalf of  
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200 NPS employees and families (at the height of the season), 410 resort employees, a population of 50 Native Americans, and 32 other residents.

- B. The springs mentioned above, in addition to more than 350 others in Death Valley NM, support vegetation and critical wildlife habitat. For example, two species of snails, which are candidates for threatened or endangered species listing, are found within Death Valley NM and live at certain springs. The Badwater snail (Assiminea infima) is found at Travertine and Nevares Springs and the Amargosa tryonia snail (Tryonia variegata) occurs at Saratoga Springs. Six other species of snails are endemic to Death Valley springs and are not found outside the Monument.

Desert bighorn sheep are also dependent upon the springs in Death Valley NM. Approximately 25 herds concentrate around Monument springs during the summer, rarely straying more than two miles away.

If approved, the appropriation and diversion proposed by this application will eventually reduce or eliminate the flows from springs at Death Valley NM which are discharge areas for regional ground-water flow systems. The NPS's senior appropriative and Federal reserved water rights, water resources, and water-related resource attributes will thus be impaired. Such impacts are not in the public interest.

- III. A unique and endangered species of pupfish exists in a pool at Devil's Hole, a detached unit of Death Valley NM in Nevada. Ground-water withdrawals near the unit previously caused a decline in the water level of the pool, exposing a rock shelf vital to the spawning of the pupfish (Dudley and Larson, 1976). Subsequently, the U.S. Supreme Court (later refined by the U.S. District Court) determined that a Federal reserved water right exists at Devil's Hole for the purpose of maintaining a water level sufficient to inundate the shelf on which the pupfish spawns (Cappaert v. United States, 1976). In addition, the Endangered Species Act and its amendments impose obligations on Federal agencies to conserve endangered species such as the Devil's Hole pupfish. The appropriation and diversion proposed by this application will, eventually, cause the water level at Devil's Hole to fall, thereby impairing the senior Federal reserved water right for Devil's Hole.
- IV. Lake Mead NRA was established in 1964 to be administered for "...general purposes of public recreation, benefit, and use, and in a manner that

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EXHIBIT A (Continued)

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will preserve, develop, and enhance, so far as practicable, the recreation potential, and in a manner that will preserve the scenic, historic, scientific, and other important features of the area...". Springs and water-related resource attributes are important features of the National Recreation Area. The NPS is entitled to Federal reserved water rights for reserved lands within Lake Mead NRA. The priority dates for these reserved rights are the dates when the lands were reserved and are senior to the appropriation sought by the Las Vegas Valley Water District (LVVWD). These rights have not been judicially quantified.

- A. Numerous springs provide water for vegetation and wildlife habitat and create an environment that many visitors use and enjoy. Most springs are not fed by water from Lake Mead, and will be affected by up-gradient diversions.

Springs include Blue Point, Rogers, Corral, Kelsey's and Tassi Springs, and other smaller, unnamed springs. Visitation to Blue Point and Rogers Springs has been estimated at 5,000 visitors/year for each spring.

Desert bighorn sheep are also dependent upon the springs in Lake Mead NRA. A herd of approximately 150 use springs in the northern part of the National Recreation Area, while a herd of nearly 400 sheep use springs in the southern part.

- B. Thermal springs are found within Lake Mead NRA. Two of the larger and more frequented--Boy Scout and Nevada Hot Springs--have water temperatures of about 127°F throughout the year. Several smaller thermal springs of recreational and scientific interest also exist within Lake Mead NRA boundaries.
- C. The Muddy River, which originates from large discharge springs located northeast of Moapa, Nevada, flows into Lake Mead NRA at the north end of the lake's Overton Arm. The State of Nevada, Department of Wildlife, is leasing a portion of Lake Mead NRA adjoining the Muddy River for the purposes of the Overton Wildlife Management Area. This area supports a variety of waterfowl and vegetation.

If approved, the appropriation and diversion proposed by this application will eventually reduce or eliminate the flows of springs (including thermal springs) and the Muddy River within Lake Mead NRA

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which are discharge areas for regional ground-water flow systems. The NPS's senior water rights, water resources, and water-related resource attributes would thus be impaired. Such impacts are not in the public interest.

- V. Lake Mead NRA has Nevada State appropriative water rights for the following, which will be impaired by the appropriation and diversion proposed by this application.

<u>Name</u>	<u>Point of Diversion</u>	<u>Certificate Number</u>
Kelsey's Springs	SW1/4 NW1/4, Sec 20, T16S, R68E MDBM	296
Rogers Spring	SE1/4 SE1/4, Sec 12, T18S, R67E MDBM	4476
Muddy Creek (River)	NW1/4 SE1/4, Sec 19, T16S, R68E MDBM	5126

- VI. The diversion proposed by this application is located in the carbonate-rock province of Nevada. The carbonate-rock province is typified by complex interbasin regional flow systems that include both basin-fill and carbonate-rock aquifers (Harrill, et al., 1988, Sheet 1). Ground water flows along complex pathways through basin-fill aquifers, carbonate-rock aquifers, or both, from one basin to another. Ground-water flow system boundaries, and thus interbasin ground-water flows, are poorly defined for most of the carbonate-rock province (Harrill, et al., 1988, Sheet 1). The proposed diversion is expected to reduce interbasin flows and modify the direction of ground-water movement in adjoining hydraulically connected basins, reduce or eliminate spring and stream flows, and cause land subsidence and fissuring.

A central corridor of the carbonate-rock aquifers in southern Nevada (Dettinger, 1989) occurs within the carbonate-rock province. The corridor consists of a north-south "block" of thick, laterally continuous carbonate rocks and probably contains the principal conduits for regional ground-water flow from east-central Nevada into southern Nevada, with flow ultimately discharging through springs at Ash Meadows (including Devil's Hole), Death Valley, and Lake Mead (Dettinger, 1989, p. 13). Parts of east-central Nevada are a recharge area for the central corridor of the carbonate-rock and basin-fill aquifers in southern Nevada (Dettinger, 1989; Mifflin, 1988).

The major ground-water flow systems of southern and east-central Nevada described by Harrill, et al. (1988, Sheets 1 and 2) include Death Valley, Penoyer Valley, Railroad Valley, Newark Valley, and Colorado.



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These ground-water flow systems are within or tributary to the central corridor. The Death Valley flow system of Harrill, et al. (1988), includes the Ash Meadows flow system described by Winograd and Thordarson (1975). The Ash Meadows flow system discharges from springs at Ash Meadows and Death Valley NM and maintains the water level of Devil's Hole. The Colorado flow system of Harrill, et al. (1988) includes the White River flow system described by Eakin (1966). Winograd and Thordarson (1975) indicate that ground water flows from the White River flow system to the Ash Meadows flow system, ultimately discharging from springs at Ash Meadows and Death Valley, and maintaining water levels at Devil's Hole. Harrill, et al. (1988, Sheet 2) also show areas where ground water is transmitted from one flow system to another. Essington (1990) discusses several of the major flow systems mentioned above and their relationships to the water resources of Death Valley NM. The White River flow system discharges from the Muddy River springs and springs at Lake Mead NRA (See Eakin, 1966; Harrill, et al., 1988, Sheet 2; Dettinger, 1989, Figure 6).

The diversion proposed by this application is located within a basin which may be part of the central corridor, the recharge area for the central corridor and/or other parts of regional ground-water flow systems which discharge in the Ash Meadows, Death Valley and Lake Mead areas (Harrill, et al., 1988, Sheet 1, Figure 5; and Sheet 2). Thus, the diversion is expected to reduce the flow from springs at Death Valley NM and Lake Mead NRA and/or cause the water level at Devil's Hole to decline.

Some zones within the central corridor are highly transmissive, and act as large-scale drains which ultimately transmit much of the flow that discharges from large springs such as those at Ash Meadows, Death Valley NM and Lake Mead NRA. It has been hypothesized (Dettinger, 1989, p. 16) that the highly transmissive zones may stay highly transmissive only if large volumes of water continue to flow through them. Otherwise, openings in the rocks gradually fill with minerals and the rocks resolidify. The appropriation and diversion proposed by this application is expected to reduce the volume and velocity of ground water flowing through the drains which could begin the process of closing connected fractures and solution cavities, substantially impairing the capacity of the aquifer to transmit water.

Available scientific literature is not adequate to reasonably assure that the ground-water appropriation and diversion proposed by this application will not impact the senior water rights, water resources and

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water-related resources of Death Valley NM and Lake Mead NRA, and thereby impair the senior NPS water rights. Scientific literature indicates that Devil's Hole, and springs within Death Valley NM and Lake Mead NRA are hydraulically connected to regional ground-water flow systems and can be affected by an up-gradient ground-water diversion.

- VII. Besides this application, the LVVWD has submitted 1 additional applications to appropriate ground water in Basin 182, DELAMAR VALLEY (Exhibit B).
- A. Diversions proposed by these applications, if developed, would be about 11591 acre-feet per year (Exhibit C and D).
  - B. As of December 1988, committed diversions of 120 acre-feet per year and an estimated perennial yield of 1000 acre-feet per year were reported for Basin 182, DELAMAR VALLEY (Nevada Department of Conservation and Natural Resources, 1988; Exhibit C).
  - C. The sum of the committed diversions and the diversions proposed by the LVVWD applications in this basin exceeds the estimated recharge of 1000 acre feet per year by 10711 acre-feet per year (Exhibit D) and the estimated perennial yield by 10711 acre-feet per year (Exhibit C).

A substantial overdraft of ground-water resources is expected to occur. The overdraft will cause ground-water levels to decline, alter the directions of ground-water flow, dry up playas, reduce or eliminate spring flows, and cause land subsidence and fissuring. The cumulative effects of these diversions in this basin are expected to cause impacts at Death Valley NM and Lake Mead NRA more quickly and/or to a greater degree than diversions under this application alone and thereby impair the senior NPS water rights. The diversions proposed by LVVWD in this basin exceed the water available for appropriation. The impacts described above are not in the public interest.

- VIII. It should be noted also, that the LVVWD has submitted a total of 102 applications which propose the appropriation of 824 cubic feet per second (596690 acre-feet per year) of ground water from the central corridor of the carbonate-rock aquifer or a basin hydraulically connected to the central corridor (Exhibit B). The diversions proposed by LVVWD in these basins exceed the water available for appropriation. The cumulative effects of these diversions is expected to cause the

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impacts described in VII. above to appear more quickly and/or to a greater degree than diversions within the subject ground-water basin, or under this application alone. This conclusion is supported by the following.

- A. Harrill, et al. (1988, sheet 2) have estimated an annual ground-water recharge of 221400 acre-feet for basins with proposed diversions as listed in Exhibit B (Exhibit D).
  - B. The cumulative diversion proposed by these applications, when developed, will be approximately 596960 acre-feet per year (Exhibit D). This diversion rate exceeds the estimated cumulative recharge rate in the basins by 375560 acre-feet per year. A substantial overdraft of ground-water resources will occur as a result.
  - C. As of December 1988, the latest available estimate of committed diversions and perennial yield were 203884 and 343750 acre-feet per year, respectively, for these basins (Nevada Department of Conservation and Natural Resources, 1988; Exhibit C).
  - D. The sum of the committed diversions and the diversion rate proposed by these applications exceeds the estimated perennial yield by 457094 acre-feet per year (Exhibit C) and the estimated recharge rate in the basins by 579444 acre-feet per year (Exhibit D).
- IX. In this application, the points of discharge for return flow (treated effluent) have not been specified. The possibility exists that the return flow may be discharged into a hydrologic basin other than the basin of origin. This being the case, depletions to springs in Death Valley NM and Lake Mead NRA and a drop in the water level at Devil's Hole would occur more quickly and in greater magnitude than if treated effluent were returned to the basin of origin.
- X. According to NRS 533.060, "Rights to the use of water shall be limited and restricted to so much thereof as may be necessary, when reasonably and economically used for irrigation and other beneficial purposes..." Further, NRS 533.070 states that "The quantity of water from either a surface or underground source which may hereafter be appropriated in this state shall be limited to such water as shall reasonably be required for the beneficial use to be served." Implicit in these statements is a prohibition against waste and unreasonable use of water. It is unclear whether the quantity of water contemplated by this

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the United States Department of the Interior,  
National Park Service

application, individually and in combination with applications 53947 through 54036, 54038 through 54066, 54068 through 54076, 54105, and 54106 by the LVVWD, is necessary and is an amount reasonably required for municipal and domestic purposes. Past open and notorious practices would indicate otherwise.

- XI. The application does not clearly indicate the place of use, the description of proposed works, estimated cost of works, number and type of units to be served or annual consumptive use. Nor, as described in X. above, is it clear that the appropriation sought is necessary and is in an amount reasonably required for the beneficial uses applied for. Therefore, the application is defective and should be summarily rejected by the State Engineer.
- XII. In sum, the NPS protests the granting of Application Number 53991, submitted by the LVVWD to appropriate and divert ground water, on the following grounds.
- A. The public interest will not be served if water and water-related resources in the nationally important Death Valley NM including Devil's Hole, and Lake Mead NRA, are diminished or impaired as a result of the diversion proposed by this application.
  - B. The diversion proposed by this application will reduce or eliminate the flows of springs in Death Valley NM which are discharge areas for regional ground-water flow systems, thereby impairing the senior NPS water rights.
  - C. The diversion proposed by this application will cause the water level at Devil's Hole to fall, thereby impairing the senior Federal reserved water right for Devil's Hole.
  - D. If approved, the appropriation and diversion proposed by this application will eventually reduce or eliminate the flows of springs and the Muddy River within Lake Mead NRA which are discharge areas for regional ground-water flow systems. The NPS's senior water rights, water resources, and water-related resource attributes would thus be impaired. Such impacts are not in the public interest.
  - E. Lake Mead NRA has Nevada State appropriative water rights for Kelsey's Springs, Roger's Spring, and Muddy Creek (River) which

IN THE MATTER OF APPLICATION 53991

EXHIBIT A (Continued)

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

will be impaired by the appropriation and diversion proposed by this application.

- F. Available scientific literature is not adequate to reasonably assure that the ground-water appropriation and diversion proposed by this application will not impact the senior water rights of Death Valley NM and Lake Mead NRA. The State Engineer will, therefore, be unable to make a determination that injury will not be manifest upon other water users, including the NPS.
- G. The cumulative effects of the diversion proposed by this application and other applications within this basin (Exhibit B) will impair the senior water rights of Death Valley NM and Lake Mead NRA more quickly and/or to a greater degree than the diversion under this application alone. The diversions proposed by LVVWD in this basin exceed the water available for appropriation.
- H. The cumulative effects of the diversion proposed by this application and other applications within the regional ground-water flow systems (Exhibit B) will impair the senior water rights of Death Valley NM and Lake Mead NRA more quickly and/or to a greater degree than diversions in the subject ground-water basin or under this application alone. The diversions proposed by LVVWD in these basins exceed the water available for appropriation.
- I. Depletions to regional ground-water flow systems, and hence springs in Death Valley NM and Lake Mead NRA, and a drop in the water level at Devil's Hole will occur more quickly and/or in greater magnitude if return flow (or treated effluent) is not discharged in the basin of origin.
- J. It is unclear whether the quantity of water claimed by this application, individually and in combination with applications 53947 through 54036, 54038 through 54066, 54068 through 54076, 54105, and 54106 is necessary and is an amount reasonably required for municipal and domestic purposes.
- K. The application does not clearly indicate the place of use, the description of proposed works, estimated cost of works, number and type of units to be served, or annual consumptive use. Nor is it clear that the diversion sought is necessary and in an amount reasonably required for the beneficial uses applied for.

IN THE MATTER OF APPLICATION 53991

EXHIBIT A (Continued)

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

Therefore, the application is defective and should be summarily  
rejected by the State Engineer.

XIII. The NPS reserves the right to amend this exhibit as more information  
becomes available.

IN THE MATTER OF APPLICATION 53991

EXHIBIT B

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

The following applications were submitted by the Las Vegas Valley Water District for appropriations in basins within the central corridor, the recharge area for the central corridor, and/or other parts of the regional flow system (Nevada Division of Water Resources, 1990).

Appli- cation no.	Basin no.	Basin Name	Proposed diversion rate, ft <sup>3</sup> /s
54060	168	THREE LAKES VALLEY (NORTHERN PART)	6
54061	168	THREE LAKES VALLEY (NORTHERN PART)	10
54068	168	THREE LAKES VALLEY (NORTHERN PART)	6
54069	168	THREE LAKES VALLEY (NORTHERN PART)	10
53947	169A	TICKAPOO VALLEY (NORTHERN PART)	6
53948	169A	TICKAPOO VALLEY (NORTHERN PART)	10
53949	169A	TICKAPOO VALLEY (NORTHERN PART)	10
53950	169B	TICKAPOO VALLEY (SOUTHERN PART)	6
53951	169B	TICKAPOO VALLEY (SOUTHERN PART)	10
53952	169B	TICKAPOO VALLEY (SOUTHERN PART)	10
54062	211	THREE LAKES VALLEY (SOUTHERN PART)	6
54063	211	THREE LAKES VALLEY (SOUTHERN PART)	6
54064	211	THREE LAKES VALLEY (SOUTHERN PART)	10
54065	211	THREE LAKES VALLEY (SOUTHERN PART)	10
54066	211	THREE LAKES VALLEY (SOUTHERN PART)	10
54106	211	THREE LAKES VALLEY (SOUTHERN PART)	10
53953	170	PENOYER VALLEY	6
53954	170	PENOYER VALLEY	10
53955	170	PENOYER VALLEY	10
53956	171	COAL VALLEY	6
53957	171	COAL VALLEY	6
53958	171	COAL VALLEY	10
53959	171	COAL VALLEY	10
53960	172	GARDEN VALLEY	6
53961	172	GARDEN VALLEY	6
53962	172	GARDEN VALLEY	6
53963	172	GARDEN VALLEY	10
53964	172	GARDEN VALLEY	10
53981	173A	RAILROAD VALLEY (SOUTHERN PART)	6
53982	173A	RAILROAD VALLEY (SOUTHERN PART)	6
53983	173A	RAILROAD VALLEY (SOUTHERN PART)	10
53984	156	HOT CREEK VALLEY	10

IN THE MATTER OF APPLICATION 53991

EXHIBIT B (Continued)

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

Appli- cation no.	Basin no.	Basin Name	Proposed diversion rate, ft <sup>3</sup> /s
53965	173B	RAILROAD VALLEY (NORTHERN PART)	6
53966	173B	RAILROAD VALLEY (NORTHERN PART)	6
53967	173B	RAILROAD VALLEY (NORTHERN PART)	6
53968	173B	RAILROAD VALLEY (NORTHERN PART)	6
53969	173B	RAILROAD VALLEY (NORTHERN PART)	6
53970	173B	RAILROAD VALLEY (NORTHERN PART)	6
53971	173B	RAILROAD VALLEY (NORTHERN PART)	6
53972	173B	RAILROAD VALLEY (NORTHERN PART)	6
53973	173B	RAILROAD VALLEY (NORTHERN PART)	6
53974	173B	RAILROAD VALLEY (NORTHERN PART)	6
53975	173B	RAILROAD VALLEY (NORTHERN PART)	10
53976	173B	RAILROAD VALLEY (NORTHERN PART)	10
53977	173B	RAILROAD VALLEY (NORTHERN PART)	10
53978	173B	RAILROAD VALLEY (NORTHERN PART)	10
53979	173B	RAILROAD VALLEY (NORTHERN PART)	10
53980	173B	RAILROAD VALLEY (NORTHERN PART)	10
53985	173B	RAILROAD VALLEY (NORTHERN PART)	6
53986	173B	RAILROAD VALLEY (NORTHERN PART)	6
53998	174	JAKES VALLEY	6
53999	174	JAKES VALLEY	6
54000	174	JAKES VALLEY	6
54001	174	JAKES VALLEY	10
54002	174	JAKES VALLEY	10
53987	180	CAVE VALLEY	6
53988	180	CAVE VALLEY	10
53989	181	DRY LAKE VALLEY	6
53990	181	DRY LAKE VALLEY	10
53991	182	DELAMAR VALLEY	6
53992	182	DELAMAR VALLEY	10
53993	183	LAKE VALLEY	6
53994	183	LAKE VALLEY	6
53995	183	LAKE VALLEY	6
53996	183	LAKE VALLEY	10
53997	183	LAKE VALLEY	10
54038	207	WHITE RIVER VALLEY	6
54039	207	WHITE RIVER VALLEY	6
54040	207	WHITE RIVER VALLEY	6



IN THE MATTER OF APPLICATION 53991

EXHIBIT B (Continued)

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

Appli- cation no.	Basin no.	Basin Name	Proposed diversion rate, ft <sup>3</sup> /s
54041	207	WHITE RIVER VALLEY	10
54042	207	WHITE RIVER VALLEY	10
54031	202	PATTERSON VALLEY	6
54032	202	PATTERSON VALLEY	6
54033	202	PATTERSON VALLEY	10
54034	202	PATTERSON VALLEY	10
54035	205	LOWER MEADOW VALLEY WASH	6
54105	205	LOWER MEADOW VALLEY WASH	10
54043	208	PAHROC VALLEY	6
54044	208	PAHROC VALLEY	6
54045	208	PAHROC VALLEY	10
54046	208	PAHROC VALLEY	10
54047	208	PAHROC VALLEY	10
54048	208	PAHROC VALLEY	10
54049	208	PAHROC VALLEY	10
54050	209	PAHRANAGAT VALLEY	6
54051	209	PAHRANAGAT VALLEY	6
54052	209	PAHRANAGAT VALLEY	6
54053	209	PAHRANAGAT VALLEY	10
54054	209	PAHRANAGAT VALLEY	10
54055	210	COYOTE SPRINGS VALLEY	6
54056	210	COYOTE SPRINGS VALLEY	6
54057	210	COYOTE SPRINGS VALLEY	6
54058	210	COYOTE SPRINGS VALLEY	10
54059	210	COYOTE SPRINGS VALLEY	10
54070	212	LAS VEGAS VALLEY	10
54071	212	LAS VEGAS VALLEY	10
54072	212	LAS VEGAS VALLEY	10
54073	216	GARNET VALLEY	10
54074	217	HIDDEN VALLEY (NORTH)	10
54075	218	CALIFORNIA WASH	10
54076	218	CALIFORNIA WASH	10
54036	220	LOWER MOAPA VALLEY	10
Total			824

IN THE MATTER OF APPLICATION 53991

EXHIBIT C

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

Committed diversions, perennial yields, and available and proposed diversions for basins within the central corridor, the recharge area for the central corridor, and/or other parts of regional flow systems (Nevada Division of Water Resources, 1990; Nevada Department of Conservation and Natural Resources, 1988).

Basin No.	Basin Name	Committed Diversions, A-ft/yr	Estimated Perennial Yield, A-ft/yr	Available Diversion, A-ft/yr	No. of LVVWD Applications	Proposed LVVWD Diversion Rate, A-ft/yr	Available Diversion Less Proposed Diversion, A-ft/yr
156	HOT CREEK VALLEY	1890	5500	3610	1	7245	-3635
168	THREE LAKES VALLEY (NORTHERN PART)	0	4000	4000	4	23183	-19183
169A	TICKAPOO VALLEY (NORTHERN PART)	0	2600	2600	3	18836	-16236
169B	TICKAPOO VALLEY (SOUTHERN PART)	0	3400	3400	3	18836	-15436
170	PENOYER VALLEY	5670	4000	-1670	3	18836	-20506
171	COAL VALLEY	45	6000	5955	4	23183	-17228
172	GARDEN VALLEY	377	6000	5623	5	27530	-21907
173A	RAILROAD VALLEY (SOUTHERN PART)	5188	2800	-2388	3	15938	-18326
173B	RAILROAD VALLEY (NORTHERN PART)	24575	75000	50425	18	95629	-45204
174	JAKES VALLEY	32	12000	11968	5	27530	-15562
180	CAVE VALLEY	31	14000	13969	2	11591	2378
181	DRY LAKE VALLEY	175	2500	2325	2	11591	-9266
182	DELAMAR VALLEY	120	1000	880	2	11591	-10711
183	LAKE VALLEY	22656	12000	-10656	5	27530	-38186
202	PATTERSON VALLEY	1216	4500	3284	4	23183	-19899
205	LOWER MEADOW VALLEY WASH	22915	5000	-17915	2	11591	-29506
207	WHITE RIVER VALLEY	21183	37000	15817	5	27530	-11713
208	PAHROC VALLEY	19	2000	1981	7	44917	-42936
209	PAHRANAGAT VALLEY	6678	25000	18322	5	27530	-9208
210	COYOTE SPRINGS VALLEY	0	18000	18000	5	27530	-9530
211	THREE LAKES VALLEY (SOUTHERN PART)	256	5000	4744	6	37672	-32928
212	LAS VEGAS VALLEY	81773	25000	-56773	3	21734	-78507
216	GARNET VALLEY	1651	400	-1251	1	7245	-8496
217	HIDDEN VALLEY (NORTH)	18	50	32	1	7245	-7213
218	CALIFORNIA WASH	510	36000	35490	2	14489	21001
220	LOWER MOAPA VALLEY	6906	35000	28094	1	7245	20849
Totals		203884	343750	139866	102	596960	-457094

IN THE MATTER OF APPLICATION 53991

EXHIBIT D

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

Committed diversions and recharge rates for basins within the central corridor, the recharge area for the central corridor, and/or other parts of the regional flow systems (Nevada Division of Water Resources, 1990; Harrill, et al., 1988; and Nevada Department of Conservation and Natural Resources, 1988).

Basin No.	Basin Name	Committed Diversions, A-ft/yr	Proposed LVVWD Diversions, A-ft/yr	Total Diversion, A-ft/yr	Estimated Recharge Rate, A-ft/yr	Recharge Less Total Diversion, A-ft/yr
156	HOT CREEK VALLEY	1890	7245	9135	7000	-2135
168	THREE LAKES VALLEY (NORTHERN PART)	0	23183	23183	2000	-21183
169A	TICKAPOO VALLEY (NORTHERN PART)	0	18836	18836	2600	-16236
169B	TICKAPOO VALLEY (SOUTHERN PART)	0	18836	18836	3400	-15436
170	PENOYER VALLEY	5670	18836	24506	4300	-20206
171	COAL VALLEY	45	23183	23228	2000	-21228
172	GARDEN VALLEY	377	27530	27907	10000	-17907
173A	RAILROAD VALLEY (SOUTHERN PART)	5188	15938	21126	5500	-15626
173B	RAILROAD VALLEY (NORTHERN PART)	24575	95629	120204	46000	-74204
174	JAKES VALLEY	32	27530	27562	17000	-10562
180	CAVE VALLEY	31	11591	11622	14000	2378
181	DRY LAKE VALLEY	175	11591	11766	5000	-6766
182	DELAMAR VALLEY	120	11591	11711	1000	-10711
183	LAKE VALLEY	22656	27530	50186	13000	-37186
202	PATTERSON VALLEY	1216	23183	24399	6000	-18399
205	LOWER MEADOW VALLEY WASH	22915	11591	34506	1500	-33006
207	WHITE RIVER VALLEY	21183	27530	48713	38000	-10713
208	PAHROC VALLEY	19	44917	44936	2200	-42736
209	PAHRANAGAT VALLEY	6678	27530	34208	1800	-32408
210	COYOTE SPRINGS VALLEY	0	27530	27530	2100	-25430
211	THREE LAKES VALLEY (SOUTHERN PART)	256	37672	37928	6000	-31928
212	LAS VEGAS VALLEY	81773	21734	103507	30000	-73507
216	GARNET VALLEY	1651	7245	8896	400	-8496
217	HIDDEN VALLEY (NORTH)	18	7245	7263	400	-6863
218	CALIFORNIA WASH	510	14489	14999	100	-14899
220	LOWER MOAPA VALLEY	6906	7245	14151	100	-14051
Totals		203884	596960	800844	221400	-579444

IN THE MATTER OF APPLICATION 53991

EXHIBIT E

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

The National Park Service (NPS) requests that the application be denied. Further, none of the information which follows should be construed to indicate that the NPS asks for anything less than denial of the application.

If the application is approved, the NPS requests the following.

- I. The NPS does not wish to impede any legitimate ground-water development in the State of Nevada, which will not impair the water resources and water-related attributes of Death Valley National Monument (Death Valley NM) and Lake Mead National Recreation Area (Lake Mead NRA). However, available scientific literature (Eakin, 1966; Mifflin, 1988; Winograd and Thordarson, 1975; Harrill et al., 1988; Dettinger, 1989; and Essington, 1990) indicates that major ground-water flow systems transmit ground water to Death Valley NM and Lake Mead NRA.

Based on this information, the NPS, requests that the State Engineer establish the following ground-water basins as one designated ground-water basin.

<u>Basin No.</u>	<u>Basin Name</u>
157	KAWICH VALLEY
158A	EMIGRANT VALLEY (GROOM LAKE VALLEY)
158B	EMIGRANT VALLEY (PAPOOSE LAKE VALLEY)
159	YUCCA FLAT
160	FRENCHMAN FLAT
161	INDIAN SPRINGS VALLEY
162	PAHRUMP VALLEY
168	THREE LAKES VALLEY (NORTHERN PART)
169A	TICKAPOO VALLEY (NORTHERN PART)
169B	TICKAPOO VALLEY (SOUTHERN PART)
173A	RAILROAD VALLEY (SOUTHERN PART)
211	THREE LAKES VALLEY (SOUTHERN PART)
225	MERCURY VALLEY
226	ROCK VALLEY
227A	FORTYMILE CANYON (JACKSON FLATS)
227B	FORTYMILE CANYON (BUCKBOARD MESA)
230	AMARGOSA DESERT
150	LITTLE FISH LAKE VALLEY
155C	LITTLE SMOKY VALLEY (SOUTHERN PART)
156	HOT CREEK VALLEY
173B	RAILROAD VALLEY (NORTHERN PART)

IN THE MATTER OF APPLICATION 53991

EXHIBIT E (Continued)

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

<u>Basin No.</u>	<u>Basin Name</u>
170	PENOYER VALLEY
171	COAL VALLEY
172	GARDEN VALLEY
174	JAKES VALLEY
175	LONG VALLEY
180	CAVE VALLEY
181	DRY LAKE VALLEY
182	DELAMAR VALLEY
183	LAKE VALLEY
198	DRY VALLEY
199	ROSE VALLEY
200	EAGLE VALLEY
201	SPRING VALLEY
202	PATTERSON VALLEY
203	PANACA VALLEY
204	CLOVER VALLEY
205	LOWER MEADOW VALLEY WASH
206	KANE SPRINGS VALLEY
207	WHITE RIVER VALLEY
208	PAHROC VALLEY
209	PAHRANAGAT VALLEY
210	COYOTE SPRINGS VALLEY
212	LAS VEGAS VALLEY
215	BLACK MOUNTAINS AREA
216	GARNET VALLEY
217	HIDDEN VALLEY (NORTH)
218	CALIFORNIA WASH
219	MUDDY RIVER SPRINGS AREA
220	LOWER MOAPA VALLEY
154	NEWARK VALLEY
155A	LITTLE SMOKY VALLEY (NORTHERN PART)
155B	LITTLE SMOKY VALLEY (CENTRAL PART)

The designation would assist in protecting the interests of the NPS, the Las Vegas Valley Water District (LVVWD), the people of the United States, and the people of the State of Nevada. If this request is denied, the NPS requests that the State Engineer establish the above-mentioned basins as separate designated ground-water basins.

IN THE MATTER OF APPLICATION 53991

EXHIBIT E (Continued)

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

- II. The NPS further requests that, if the application is approved, the permit be conditioned by the following.
- A. The LVVWD shall conduct a scientific ground-water investigation of basin-fill, volcanic, and carbonate-rock aquifers in east-central and southern Nevada to determine the hydrologic relationship between Basin 182, DELAMAR VALLEY, and the water resources of Death Valley NM and Lake Mead NRA.
  - B. The LVVWD shall establish and operate a long-term monitoring program designed to detect any potential impacts to the water resources of Death Valley NM and Lake Mead NRA, directly or indirectly incident to the appropriation sought by the application.
  - C. The LVVWD plans for monitoring and investigating ground-water resources shall be subject to the approval of the NPS and the State Engineer and shall include quality assurance protocol acceptable to the above-mentioned parties.
  - D. The LVVWD shall quarterly, or at another mutually acceptable frequency, provide all data collected and analyses completed to the NPS and the State Engineer.
  - E. The LVVWD shall cease pumping ground water, or reduce the level of pumping to the no impact level, in the event that analyses by the NPS or the State Engineer create a reasonable expectation that the senior water rights of Death Valley NM and/or Lake Mead NRA will be impaired by pumping under the permit issued under this application.
- III. The NPS reserves the right to amend this exhibit as more information becomes available.

IN THE MATTER OF APPLICATION 53991

REFERENCES CITED

Protest by Owen R. Williams, on behalf of  
the United States Department of the Interior,  
National Park Service

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- Dettinger, M.D., 1989. Distribution of carbonate-rock aquifers in southern Nevada and the potential for their development, Summary of Findings, 1985-88: Program for the Study and Testing of Carbonate-Rock Aquifers in Eastern and Southern Nevada Summary Report No. 1, 37 p.
- Dudley, W.W., Jr., and J.D. Larson, 1976. Effect of irrigation pumping on desert pupfish habitats in Ash Meadows, Nye County, Nevada: U.S. Geological Survey Professional Paper 927, 52 p.
- Eakin, T.E., 1966. A regional interbasin ground-water system in the White River Area, southeastern Nevada. Nevada Department of Conservation and Natural Resources. Water Resources Bulletin No. 33, Reprinted from: Water Resources Research, Vol 2, No. 2, pp 251-271, 1966.
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- Mifflin, M.D., 1988. Region 5, Great Basin, in Back, W., Rosenhein, J.S., and P.R. Seaber, eds. Hydrogeology. The Geology of North America, v. O-2. Geological Society of America, Boulder, CO.
- Nevada Division of Water Resources, 1990. Abstract of Filings of Las Vegas Valley Water District, dated May 9, 1990.
- Nevada Department of Conservation and Natural Resources, 1988. Hydrographic Basin Statistical Summary, Ground Water Basins 001-232: unpublished report, Division of Water Resources and Water Planning, Carson City, Nevada.
- Winograd, I.J., and W. Thordarson, 1975. Hydrogeologic and hydrogeochemical framework, southern-central Great Basin, Nevada-California, with special reference to the Nevada Test Site. U.S. Geological Survey Professional Paper 712-C, 119 p.

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

IN THE MATTER OF APPLICATION NUMBER.....

FILED BY Las Vegas Valley Water District

ON October 17, 1989, TO APPROPRIATE THE

WATERS OF Underground

PROTEST

Comes now FRANK R. WHEELER

Printed or typed name of protestant

whose post office address is 3139 CASHILL BLVD RENO, NEV 89509-5015

Street No. or P.O. Box, City, State and Zip Code

whose occupation is MENTAL HEALTH TECH, STATE OF NEV, and protests the granting

of Application Number 53991, filed on October 17, 1989

by Las Vegas Valley Water District

Printed or typed name of applicant

to appropriate the

waters of Underground

Underground or name of stream, lake, spring or other source

situated in Lincoln

County, State of Nevada, for the following reasons and on the following grounds, to wit:

*The appropriation of this water when added to the already approved appropriations of designated users in 202 Basin will exceed the overall recharge or safe yield of the basin appropriation and use of this magnitude will lower the water table and degrade the quality of water from existing wells. Cause negative hydraulic gradient influences further cause other negative impacts and will adversely affect existing rights of the adverse to the Public <sup>FW</sup> interest*

THEREFORE the protestant requests that the application be Denied

(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Frank R. Wheeler

Agent or protestant

3139 CASHILL BLVD FRANK R. WHEELER

Printed or typed name, if agent

Address RENO, NEV 89509-5015

Street No. or P.O. Box No.

City, State and Zip Code No.

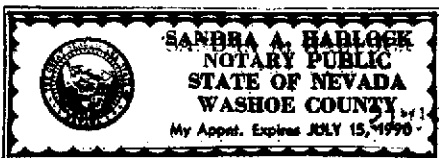
Subscribed and sworn to before me this 2 day of July, 1990.

Sandra A. Harlock

Notary Public

State of Nevada

County of Washoe



30 11 -2 11 89  
\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.



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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now GEORGE T. ROWE

Printed or typed name of protestant

whose post office address is POST OFFICE BOX 63, CALIENTE, NEVADA 89008-0063

Street No. or P.O. Box, City, State and Zip Code

whose occupation is POSTMASTER

and protests the granting of Application Number 53991, filed on October 17, 1989

by Las Vegas Valley Water District

Printed or typed name of applicant

waters of Underground

Underground or name of stream, lake, spring or other source

situated in Lincoln

County, State of Nevada, for the following reasons and on the following grounds, to wit:

THIS APPLICATION IS ONE OF 146 APPLICATIONS FILED BY THE LAS VEGAS VALLEY WATER DISTRICT SEEKING A COMBINED APPROPRIATION OF SOME 864,195 ACRE FEET OF GROUND AND SURFACE WATER PRIMARILY FOR MUNICIPAL USE IN CLARK COUNTY. DIVERSION AND EXPORT OF SUCH A QUANTITY OF WATER WILL DEPRIVE THE AREA OF ORIGIN OF THE WATER NEEDED TO PROTECT AND ENHANCE ITS ENVIRONMENT AND ECONOMIC WELL BEING, AND THE DIVERSION WILL UNNECESSARILY DESTROY ENVIRONMENTAL, ECOLOGICAL, SCENIC AND RECREATIONAL VALUES THAT THE STATE HOLDS IN TRUST FOR ALL ITS CITIZENS. ALSO THE APPROPRIATION OF THIS WATER FOR USE IN DISTANT CLARK COUNTY WOULD ELIMINATE ANY GROWTH OR DEVELOPMENT IN THIS AREA:

THEREFORE the protestant requests that the application be Denied

(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed

George T. Rowe  
GEORGE T. ROWE

Agent or protestant

POST OFFICE BOX 63

Printed or typed name, if agent

Address CALIENTE, NEVADA 89008-0063

Street No. or P.O. Box No.

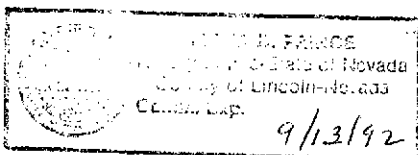
City, State and Zip Code No.

Subscribed and sworn to before me this 6th day of August, 1990

Mona D. Dennis  
Notary Public

State of Nevada

County of Lincoln



518 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

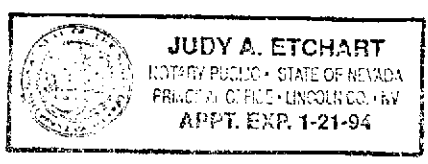
Comes now Wess D. Meckam  
whose post office address is P.O. Box 205 - Pioche, NV 89043  
whose occupation is RETIRED, and protests the granting  
of Application Number 53991, filed on October 17, 1989  
by Las Vegas Valley Water District  
waters of Underground situated in Lincoln  
County, State of Nevada, for the following reasons and on the following grounds, to wit:

This application is one of 144 applications filed by the Las Vegas Valley Water District seeking a combined appropriation of some 860,000 acre feet of ground and surface water for municipal use in the Las Vegas Valley Artesian Basin. Diversion and export of such a quantity of water will deprive the county and area of origin of the water needed for its environment and economic well being and will unnecessarily destroy environmental, ecological, scenic and recreational values that the State holds in trust for all its citizens.

THEREFORE the protestant requests that the application be Denied  
(Denied, issued subject to prior rights, etc., as the case may be)  
and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Wess D. Meckam  
Agent or protestant  
Wess D. Meckam  
Printed or typed name, if agent  
Address P.O. Box 205  
Street No. or P.O. Box No.  
Pioche NV 89043  
City, State and Zip Code No.

Subscribed and sworn to before me this 1<sup>st</sup> day of August, 1990



Judy A. Etchart  
Notary Public  
State of Nevada  
County of Lincoln

**\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17 19 89, TO APPROPRIATE THE  
WATERS OF Lincoln County

PROTEST

Comes now Rosemary Maxwell

Printed or typed name of protestant

whose post office address is P.O. Box 254, Caliente, NV 89008

Street No. or P.O. Box, City, State and Zip Code

whose occupation is Housewife

, and protests the granting

of Application Number 53991, filed on October 17

19 89

by Las Vegas Valley Water District

Printed or typed name of applicant

to appropriate the

waters of underground

Underground or name of stream, lake, spring or other source

situated in Lincoln County

County, State of Nevada, for the following reasons and on the following grounds, to wit:

The approval of the subject application will sanction and enhance the willful waste  
of water allowed, if not encouraged by the Las Vegas Valley Water District.

THEREFORE the protestant requests that the application be Denied

(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Rosemary Maxwell  
Agent or protestant

Printed or typed name, if agent

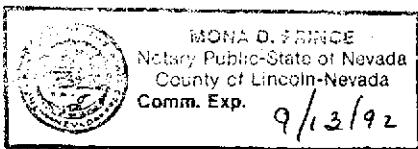
Address P.O. Box 254

Street No. or P.O. Box No.

Caliente, NV 89008

City, State and Zip Code No.

Subscribed and sworn to before me this 25th day of July 19 90



Mona D. Prince  
Notary Public

State of Nevada

County of Lincoln

\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE.  
ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

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

IN THE MATTER OF APPLICATION NUMBER 53991, FILED BY Las Vegas Valley Water District, ON October 17 19 89, TO APPROPRIATE THE WATERS OF an underground source

RECEIVED

JUL 20 1990

PROTEST

Div. of Water Resources Branch Office - Las Vegas, NV

Comes now U.S. Department of the Interior

Printed or typed name of protestant

whose post office address is 4765 Vegas Drive, P.O. Box 26569, Las Vegas, Nevada 89126

Street No. or P.O. Box, City, State and Zip Code

whose occupation is Land Management Agency, and protests the granting

of Application Number 53991, filed on October 17, 1989

by Las Vegas Valley Water District

Printed or typed name of applicant

to appropriate the waters of an underground source situated in Lincoln

Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

SEE ATTACHED SHEET

THEREFORE the protestant requests that the application be Denied

(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed

Ben F. Collins

Agent for protestant BEN F. COLLINS

Printed or typed name, if agent

Address 4765 Vegas Drive, P.O. Box 26569

Street No. or P.O. Box No.

Las Vegas, Nevada 89126

City, State and Zip Code No.

Subscribed and sworn to before me this 20th day of July 19 90



NOTARY PUBLIC STATE OF NEVADA County of Clark CAROLYN J. SPOON

My Appointment Expires Oct. 9, 1990

Carolyn J. Spoon

Notary Public

State of Nevada

County of Clark

RECEIVED

JUL 20 1990

Div. of Water Resources  
Branch Office - Las Vegas, NV

The U.S. Department of the Interior, Bureau of Land Management protests the granting of the subject application for the following reasons and on the following grounds, to wit:

BLM is directed to implement water rights policy by: 1) "cooperating with the State Governments under the umbrella of State Law to protect water uses identified for public land management purposes", and 2) "to comply with the applicable state laws except as specifically mandated by Congress". The purposes mandated by Congress are defined by the Federal Land Management Policy Act (FLPMA) and includes "multiple use" which is defined as "... the management of public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people". Uses associated with multiple use include but are not limited to "recreation, range, wildlife, minerals, watershed and fish...". The Wild Horse and Burro Act, FLPMA, and the National Environmental Policy Act also recognize free wild horses and burros as resource uses under BLM management responsibility. Any application to the State Engineer of Nevada for a water permit, on BLM land, that interferes with the capability of the agency to provide water for the afore stated uses, within the legislated responsibilities of the agency, will be protested.

The Endangered Species Act requires all Federal departments and agencies to utilize their authorities to conserve species listed by the Secretary of the Interior or Secretary of Commerce as threatened or endangered. It further requires Federal agencies to ensure that the continued existence of listed species is not jeopardized and that designated critical habitat of listed species is not destroyed or adversely modified.

Delamar Valley, in which this proposed well is located, is one of three hydrographic basins contributing ground water to Pahranaagat Valley.

Pahranaagat Valley is inhabited by the Bald Eagle (Haliaeetus leucocephalus) which is listed as endangered under the Endangered Species Act. Also, candidates for listing include the Long-billed curlew (Numenius americanus), White-faced ibis (Plegadis chihi), Pahranaagat speckled dace (Rhinichthys osculus velifer), Pahranaagat Valley montane vole (Microtus montanus fucosus), Pahranaagat pebblesnail (Fluminicola merriami).

Pahranaagat Valley, in turn, supplies surface and ground water flow to the Muddy River. The Moapa dace (Moapa coriacea), which has been listed as an endangered species, is endemic to the Muddy River and its spring sources. In addition, the Long-billed curlew, White-faced ibis, Moapa White River springfish (Crenichthys baileyi moapae), Moapa roundtail chub (Gila robusta ssp.), Moapa speckled dace (Rhinichthys osculus moape), Moapa pebblesnail (Fluminicola avernalis), and the Moapa warm spring riffle beetle (Stenelmis calida moapa), which have been identified as candidate species for listing, inhabit the springs

and river.

The Delamar Hydrographic Basin (No.182) has an annual ground water recharge of 6,000 acre-feet. The proposed well will extract 4,344 acre-feet per year and when added to the other well proposed, in the same basin, the total figure increases to 11,584 acre-feet, almost twice the annual recharge. This magnitude of withdrawal will not only impact Delamar Valley but, will also impact Pahrnagat Valley. The latter currently receives 6,000 acre-feet of ground water annually from Delamar Valley. Pumping at the proposed rate will result in the loss of interbasin flow thereby, adversely impacting the endangered and candidate species identified in Pahrnagat Valley and ultimately the Muddy River Springs Area.

By Executive Order 11990 (Protection of Wetlands) federal agencies are directed to take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial value of wetlands in carrying out programs affecting land use. An adverse impact on the stream, lakes and contributing springs in Pahrnagat Valley, as well as, the Muddy River Springs Area could result in a reduction of associated riparian vegetation which, in turn, may impact those endangered and candidate species previously discussed.

Within this basin, there are 13 springs and 1 well, located on public land, that could possibly be impacted by the granting of this application and, the other proposed well within the Delamar Basin. These water sources contribute to the watering of 14,351 AUMs (Animal Unit Month) of cattle, 852 AUMs of deer and 648 AUMs of wild horses. Adverse impacts to these water sources could have a detrimental affect on BLM's ability to properly manage livestock grazing, wildlife habitat and wild horses. The name and location of the 14 wells and springs, currently known to be located on the public lands, are listed below.

<u>Source Name</u>	<u>Location</u>			
	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Subsection</u>
Twin Springs	5S.	62E.	34	NE¼ SW¼
Lamb Spring	5S.	62E.	34	SW¼ SE¼
Grassy Spring	5S.	64E.	2	NW¼ SW¼
Cottonwood Spring	5S.	65E.	6	SW¼ SE¼
Robinson Seep	5S.	65E.	18	NE¼ NE¼
Abandoned Spring	5S.	65E.	20	SW¼ NE¼
Coyote Spring	5S.	65E.	20	SE¼ NW¼
Blyth Spring	6S.	65E.	3	NW¼ SW¼
Tunnel Spring #1	6S.	65E.	20	NE¼ NE¼
Tunnel Spring #2	6S.	65E.	20	SE¼ NE¼
Horn Creek Spring	6S.	65E.	20	SE¼ SE¼
Tunnel Spring #3	6S.	65E.	21	NW¼ SW¼
Stewart Well	7S.	64E.	12	NW¼ SE¼
Jumbo Spring	7S.	64E.	24	NW¼ SW¼

By Executive Order 11990 (Protection of Wetlands), federal agencies are directed to take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial value of wetlands in carrying out programs affecting land use. An adverse impact on the flow of the springs listed could result in a reduction of associated riparian vegetation.

Lowering of the ground water table is a reasonable expectation considering the volume of water planned for withdrawal. This, in turn, could result in a reduction of vegetation dependent on the subsurface water supply. The degree to which phreatophyte dependent wildlife are impacted, will depend on the extent of vegetation alteration or destruction. A reduction in species diversity and numbers, resulting from habitat degradation, can be expected. In the event of the total destruction of a vegetative community or water supply, elimination of species from the affected area is a possibility. The proposed temporary mining of ground water further increases the probability of lowering the water table, perhaps to a level from which dependent vegetation can not recover.

Currently, there is insufficient information to ascertain the actual impacts to the various resources for which the BLM has management responsibility. Neither the Nevada State Engineer nor the Las Vegas Valley Water District has prepared an analysis of all anticipated impacts associated with the Water Districts filings. Until sufficient data is gathered and analysis performed, the extent of the impacts resulting from the pumping of this well, as well as, the cumulative impacts of pumping multiple wells can not be realized.

Because of the impacts discussed above and those not identifiable at this time, due to insufficient information and analysis, the BLM protests the granting of this water appropriation.

The Bureau is currently preparing notices of Public Water Reserves (PWR) within the area of protest. These notices will be based only on the needs appropriate under PWR 107 and, will be sent to the State Engineer over the next several months prior to adjudication.

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

IN THE MATTER OF APPLICATION NUMBER 53991  
 FILED BY Las Vegas Valley Water District  
 ON October 17, 1989, TO APPROPRIATE THE  
 WATERS OF Underground

RECEIVED

PROTEST

JUL 13 1990

Division of Water Resources  
 Bureau Office - Las Vegas, NV

Comes now John M. Wadsworth

Printed or typed name of protestant

whose post office address is P.O. Box 256; Panaca, NV; 89042

Street No. or P.O. Box, City, State and Zip Code

whose occupation is farmer/miner

and protests the granting of Application Number 53991, filed on October 17, 1989

by Las Vegas Valley Water District

Printed or typed name of applicant

to appropriate the waters of Underground

Underground or name of stream, lake, spring or other source

situated in Lincoln

County, State of Nevada, for the following reasons and on the following grounds, to wit:

The appropriation of this water when added to the already approved appropriations and dedicated users in the Area will exceed the annual recharge and safe yield. Appropriation and use of this magnitude will, lower the water table and degrade the quality of water from existing wells, cause negative hydraulic gradient influences, further cause other negative impacts and will adversely affect existing rights adverse to the public interest. The Panaca Big Spring undoubtedly comes from deep aquifers and this appropriation would very likely be detrimental to that very beneficial water source.

THEREFORE the protestant requests that the application be Denied

(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Margaret A. Wadsworth

Agent or protestant

Margaret A. Wadsworth

Printed or typed name, if agent

Address P.O. Box 256

Street No. or P.O. Box No.

Panaca, NV 89042

City, State and Zip Code No.

Subscribed and sworn to before me this 10<sup>TH</sup> day of July, 1990.

Gail D. Armstrong

Notary Public

State of NEVADA

County of Lincoln



NOTARY PUBLIC  
 STATE OF NEVADA  
 County of Lincoln  
 Gail D. Armstrong

My Appointment Expires Sept. 25, 1992

Dec 4, 1993

**\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**



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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now STANLEY L. WALLIS  
Printed or typed name of protestant  
whose post office address is P.O. Box 54 Caliente No 89008  
Street No. or P.O. Box, City, State and Zip Code  
whose occupation is Auto Mechanic, and protests the granting  
of Application Number 53991, filed on October 17, 1989  
by Las Vegas Valley Water District  
Printed or typed name of applicant  
waters of Underground situated in Lincoln  
Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

*the appropriation of this water when added to the already approved appropriations and decreed uses in the 202 Basin will exceed the annual recharge and safe yield of the basin. Appropriation and use of this unguaranteed will lower the water table and degrade the quality of water from existing wells cause negative hydraulic gradient influences, further cause other negative impacts and will adversely affect existing rights adverse to the public interest*

THEREFORE the protestant requests that the application be Denied

(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed

*Stanley L. Wallis*  
Agent or protestant

Address

P.O. Box 54  
Street No. or P.O. Box No.  
Caliente Nev 89008  
City, State and Zip Code No.

Subscribed and sworn to before me this 12 day of July, 1990

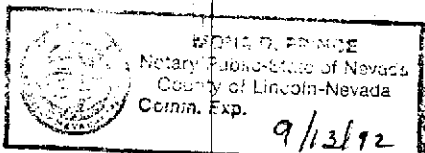
*Mona D. Prince*  
Notary Public

State of

Nevada

County of

Lincoln



**\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now Helen Barton  
Printed or typed name of protestant  
whose post office address is P.O. Box 116 Caliente NV 89008  
Street No. or P.O. Box, City, State and Zip Code  
whose occupation is Retired Nurse, and protests the granting  
of Application Number 53991, filed on October 17, 1989  
by Las Vegas Valley Water District  
Printed or typed name of applicant  
waters of Underground situated in Lincoln  
Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

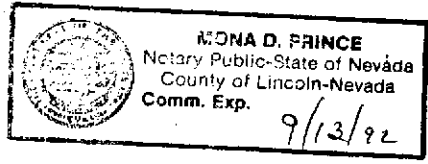
The approval of the subject application will sanction and encourage the willful waste of water allowed, if not encouraged by the Las Vegas Valley Water District.

THEREFORE the protestant requests that the application be Denied  
(Denied, issued subject to prior rights, etc., as the case may be)  
and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Helen Barton  
Agent or protestant

Printed or typed name, if agent  
Address P.O. Box 116  
Street No. or P.O. Box No.  
Caliente NV 89008  
City, State and Zip Code No.

Subscribed and sworn to before me this 12th day of July, 1990  
Mona D. Prince  
Notary Public



State of Nevada  
County of Lincoln

**\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now MARLON LAWRENCE  
Printed or typed name of protestant  
whose post office address is PO Box 274 CALENTE NV 89006  
Street No. or P.O. Box, City, State and Zip Code  
whose occupation is RETAIL STORE OWNER, and protests the granting  
of Application Number 53991, filed on October 17, 1989  
by Las Vegas Valley Water District  
Printed or typed name of applicant  
waters of Underground situated in Lincoln  
Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

The approval of the subject application will  
sanction and enhance the willful waste of water  
allowed, if not encouraged by the Las Vegas Valley  
Water District

THEREFORE the protestant requests that the application be Denied  
(Denied, issued subject to prior rights, etc., as the case may be)  
and that an order be entered for such relief as the State Engineer deems just and proper.

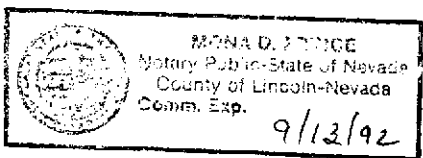
Signed Marlon Lawrence  
Agent or protestant

Printed or typed name, if agent  
Address PO Box 274  
Street No. or P.O. Box No.  
Caliente NV 89006  
City, State and Zip Code No.

Subscribed and sworn to before me this 11th day of July, 1990

Mona D. Prine  
Notary Public

State of Nevada  
County of Lincoln



**510 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST RECEIVED

JUL 11 1990

Div. of Water Resources  
Branch Office - Las Vegas, NV

Comes now LINCOLN COUNTY, NEVADA, By and Through the Board of County Commissioners  
whose post office address is P.O. Box 90, Pioche, Nevada 89043  
whose occupation is Government of Lincoln County and Subdivision, and protests the grant  
of Application Number 53991, filed on October 17, 1989  
by Las Vegas Valley Water District to appropriate  
waters of Underground - Basin # 182-1A situated in Lincoln  
County, State of Nevada, for the following reasons and on the following grounds, to wit:

See Attached EXHIBIT "1"

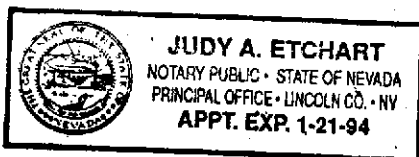
THEREFORE the protestant requests that the application be Denied  
and that an order be entered for such relief as the State Engineer deems just and proper.

ATTEST:

Corrine Walker  
CORRINE WALKER  
Lincoln County Clerk

Signed BOARD OF LINCOLN COUNTY COMMISSIONERS  
Edward E Wright Agent of protestant  
VICE CHAIRMAN KEITH WHIPPLE, Chairman  
Address P.O. Box 90  
Pioche, Nevada 89043  
City, State and Zip Code No.

Subscribed and sworn to before me this 10<sup>th</sup> day of July, 1990.



Judy A. Etchart  
Notary Public  
State of NEVADA  
County of LINCOLN

110 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE.  
ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

EXHIBIT "1"

1. This application should be denied on the basis that rights to the use of the public waters of the State of Nevada are restricted to so much water as may be necessary, when reasonably and economically used for beneficial purposes. Las Vegas Valley Water District has allowed the water to be used for waste and purposes other than reasonable and economic beneficial use.
2. The Statutes of Nevada provide the beneficial use shall be the basis, the measure and the limit of the right to the use of water in this State. Actual consumption is the measure of beneficial use and water that is wasted is not put to such use. This applicaiton should be denied based on the long history of applicant allowing water to be wasted.
3. This application should be denied because the State Engineer is restricted to allowing only that quantity of water to a user which shall reasonably be required for the beneficial use to be served. The State Engineer must, therefore, make his determinations of quantity based on all water now available to applicant and requested in all applications of record.
4. This application should be denied unless the applicant can clearly and with scientific certainty demonstrate that vested rights shall not be impaired or affected.
5. This application is one of 147 applications filed by the Las Vegas Valley Water District seeking a combined appropriation of some 860,000 acre feet of ground and surface water for municipal use in the Las Vegas Valley Artesian Basin. Diversion and export of such a quantity of water will deprive the county and area of origin of the water needed for its environment and economic well being and will unnecessarily destroy environmental, ecological, scenic and recreational values that the State hold in trust for all its citizens.
6. The granting or approving of the subject application in the absence of comprehensive planning, including but not limited to environmental impact considerations, socioeconomic impact considerations, and a water resource plan consideration for the general Las Vegas Valley area such as has been required by the Public Service Commission of private purveyors of water, is detrimental to the public welfare and interest.
7. The granting or approving of the subject application in the absence of comprehensive water resource development planning, including but not limited to, environmental impacts, socioeconomic impacts, and long term impacts on the water resource, threatens to prove detrimental to the public interest.

8. The granting or approval of the above-referenced application would conflict with or tend to impair all existing rights the source of which is the deep carbonate aquifer of eastern Nevada because it would exceed the safe yield of the subject aquifer, lower the pressure within the aquifer which accounts for hundred of seeps, springs and artesian water sources such as Panaca Big springs, Crystal Springs, etc. (Special mention of these two does not limit the reference), would lower the static water level and would sanction water mining.

9. Granting or approval of the above-referenced Application would be detrimental to the public interest in that it individually and cumulatively with other applications of the water exploration project would:

(1) Likely jeopardize the continued existence of endangered and threatened species recognized under the Endangered Species Act and related state statutes;

(2) Prevent or interfere with the conservation of those threatened or endangered species;

(3) Take or harm those endangered species; and

(4) Interfere with the purpose for which the Federal lands are managed under Federal statutes including, but not limited to, the Federal Land Use Policy Act of 1976.

10. The approval of the subject application will sanction and enhance the willful waste of water allowed, if not encouraged, by the Las Vegas Valley Water District.

11. The subject Application seeks to develop the water resources of, and transport water across, lands of the United States under the jurisdiction of the United States Department of Interior, Bureau of Land Management. This application should be denied because the Las Vegas Valley Water District has not obtained right-of-way for water development on public lands and the transportation of water from the proposed point of diversion to the service area of the Las Vegas Valley Water District in Clark County.

12. The Application should be denied because it individually and cumulatively will increase the waste of water and lack of effective conservation efforts in the Las Vegas Valley Water District service area.

13. The Las Vegas Valley Water District lacks the financial capability of transporting water under the subject permit as a prerequisite to putting the water to beneficial use and accordingly, the subject Application should be denied.

14. The above-referenced Application should be denied because the application fails to include the statutorily required:

- (1) Description of proposed works;
- (2) The estimated cost of such works;
- (3) The estimated time required to construct the works and the estimated time required to complete the application of water to beneficial use; and
- (4) The approximate number of persons to be served and the approximate future requirement.

15. The subject application should be denied because it individually and cumulatively with other Applications will exceed the safe yield of the 181-1A Basin thereby adversely affecting phreatophytes and create air contamination and air pollution in violation of State and Federal Statutes, including but not limited to, the Clean Air Act and Chapter 445 of the Nevada Revised Statutes.

16. The application cannot be granted because the applicant has failed to provide information to enable the State Engineer to grant the public interest properly. This application and related applications associated with this major withdrawal out in the basin transfer project cannot properly be determined without an independent, formal and publicly-reviewable assessment of:

- a. cumulative impacts of the proposed extractions;
- b. mitigation measures that will reduce the impacts of the proposed extractions;
- c. alternatives to the proposed extractions, including but not limited to, the alternatives of no extraction and mandatory and effective water conservation in the LVVWD service area.

17. The undersigned additionally incorporates by reference as though fully set forth herein and adopts as its own, each and every other protest to the aforementioned applications filed pursuant to NRS 533.365.

18. Inasmuch as a water extraction and trans basin conveyance project of this magnitude has never been considered by the State Engineer, it is therefore impossible to anticipate all potential adverse affects without further study. Accordingly, the protestant reserves the right to amend the subject protest to include such issues as they develop as a result of further study.

ADDENDUM 1

By ruling #3398 dated November 20, 1986, In the Matter of Additionally Applications 49333 and 49334, by ruling #3173 dated April 15, 1985 In the Matter of Application 48075, and similar rulings to which reference is made, the Nevada State Engineer adopted as policy that applicants furnish data concerning water conservation measures and amount of water to be recycled. Unless the same is demanded of and furnished by the applicant herein an unconstitutional unequal application of law and public policy will have occurred. This application should be denied for failure to furnish the information or at least held in abeyance until the information is furnished.



EXHIBIT "1A"

This applicaiton is in Lake Valley Nevada. By decision dated September 10, 1981, the State Engineer denied applications No. 38520, 38525, 38569, 40363 and 43592. The Decision in part reads:

". . . The estimated annual recharge of the ground water reservoir in Lake Vally is 13,000 acre-feet.

". . . The total amount of water currently appropriated in Lake Valley is 24,173 acre-feet per year.

". . . Pumpage in excess of 12,000 acre-feet will eventually result in storage depletion from principal aquifiers, substantial water level declines, and land subsidence.

Should additional water be allowed for appropriation . . . (it would) detrimentally affect prior ground water rights, the State Engineer is required by law to order withdrawals (of water) be restricted to conform with priority rights."

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17 19.89, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now County of Inyo, California

Printed or typed name of protestant

whose post office address is P.O. Box M, Independence, California 93526

Street No. or P.O. Box, City, State and Zip Code

whose occupation is Political Subdivision, State of California, and protests the granting

of Application Number 53991, filed on October 17, 1989

by Las Vegas Valley Water District to appropriate the

Printed or typed name of applicant

waters of underground situated in Lincoln

Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

See attached.

THEREFORE the protestant requests that the application be Denied

(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed

Gregory L. James

Agent or protestant

Gregory L. James, Inyo County Counsel (Agent)

Printed or typed name, if agent

Address P.O. Box M

Street No. or P.O. Box No.

Independence, California 93526

City, State and Zip Code No.

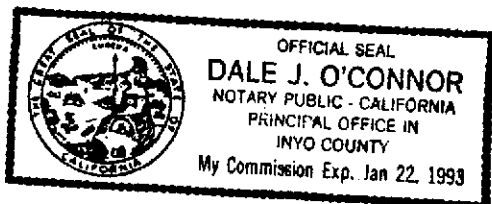
Subscribed and sworn to before me this 10th day of July, 1990.

Dale J. O'Connor

Notary Public

State of California

County of Inyo



**\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**

## REASONS AND GROUNDS FOR PROTEST BY INYO COUNTY

The County of Inyo, State of California, protests the granting of the above referenced Application for the following reasons and on the following grounds:

1. If this Application is granted, the appropriation and diversion under this permit will eventually reduce or eliminate the flows in springs, and the supplies of groundwater, in several areas and communities (including Death Valley National Monument) in eastern Inyo County which are dependent upon recharge from regional carbonate rock aquifers.

The diversion proposed by this Application is located in the carbonate rock province of Nevada. The carbonate rock province is typified by complex interbasin regional flow systems that include both basin-fill and carbonate rock aquifers, or both, from basin to another. Groundwater flow system boundaries, and thus interbasin groundwater flows, are poorly defined for most of the carbonate rock province (Harrill, et al., 1988). The proposed diversion is expected to reduce interbasin flows and modify the direction of groundwater movement in adjoining hydraulically connected basins, reduce or eliminate spring and stream flows, and cause land subsidence and fissuring.

A central corridor of the carbonate rock aquifers in southern Nevada (Dettinger, 1989) occurs within the carbonate rock province. The corridor consists of a north-south "block" of thick, laterally continuous carbonate rocks and probably contains the principal conduits for regional groundwater flow from east-central Nevada into southern Nevada, with flow ultimately discharging through regional springs in Inyo County, California, including Death Valley, Death Valley Junction, Shoshone, Tecopa, Tecopa Hot Springs, China Ranch, and Charleston View. (Dettinger, 1989, p.13).

Parts of east-central Nevada are a recharge area for the central corridor of the carbonate rock and valley fill aquifers in southern Nevada (Dettinger, 1989, Mifflin, 1988). The appropriation and diversion proposed by this application is located within a basin which may be part of the central corridor, the recharge area for the central corridor, and/or other parts of the regional flow system which discharge groundwater within the boundaries of Inyo County, California (Harrill, et al.). Thus, the diversion is expected to reduce the flow from springs and reduce the availability of groundwater in Inyo County, California, including Death Valley

National Monument, Death Valley Junction, Shoshone, Tecopa, Tecopa Hot Springs, China Ranch, Charleston View, and other areas.

Some zones within the central corridor are highly transmissive, and act as large-scale drains which ultimately conduct much of the flow that discharges at large regional springs such as those in Inyo County, California. It has been hypothesized (Dettinger, 1989, p.16) that the highly transmissive zones may stay highly transmissive only if large volumes of water continue to flow through them. Otherwise, openings in the rocks gradually fill with minerals and the rocks resolidify. The appropriation and diversion proposed by this application is expected to reduce the volume and velocity of groundwater flowing through the drains which could begin the process of closing connected fractures and solution cavities, substantially impairing the capacity of the aquifer to transmit water.

Available scientific literature indicates that a large area of east-central and southern Nevada is part of a regional groundwater flow system that discharges through springs and maintains groundwater supplies in Inyo County, California. This literature indicates that springs and groundwater supplies in eastern Inyo County, California are hydrologically connected to a regional carbonate rock aquifer that can be affected by groundwater pumping (an upgradient groundwater diversion).

Exhibit A lists eighty-one (81) applications by the Las Vegas Valley Water District that may impair the water resources of eastern Inyo County, California. (Essington, 1990). These 81 applications are located within or west of the White River Flow System and north of the Pahranaagat Shear Zone--an area identified in available scientific literature as critical to the groundwater resources of eastern Inyo County, California. Accordingly, Inyo County has protested each of these 81 applications.

2. Upon information and belief protestant asserts that there is not sufficient unappropriated groundwater in host water basin to provide the water sought in the above-referenced Application and all other pending applications involving the utilization of surface and groundwater from the basin.
3. The appropriation of this water when added to the already approved appropriations and existing uses and water rights in host water basin will exceed the annual recharge and safe yield of the basin. Appropriation and use of this magnitude

will lower the water table, degrade the quality of water from existing wells, cause negative hydraulic gradient influences, and threaten springs, seeps and phreatophytes which provide water and habitat that are critical to the survival of wildlife and grazing livestock.

4. The granting or approval of the above-referenced Application would unreasonably lower the water table and sanction water mining, which is contrary to Nevada law and public policy.
5. This Application is one of 146 applications filed by the Las Vegas Valley Water District seeking a combined appropriation of some 864,195 acre feet of ground and surface water primarily for municipal use in Clark County. Diversion and export of such a quantity of water will deprive many areas of the water needed to protect and enhance their environment and well being, and the diversion will unnecessarily destroy environmental, ecological, scenic, and recreational values.
6. The granting or approval of the above-referenced Application in the absence of comprehensive water resource development planning, including, but not limited to, environmental impact considerations, socioeconomic impact considerations, cost/benefit considerations, water resource evaluation by an independent entity, and a water resource plan for the Las Vegas Valley Water District (such as is required by the Nevada Public Service Commission of water purveyors) is detrimental to the public welfare and interest.
7. The granting or approval of the above-referenced Application would be detrimental to the public interest in that it, individually and together with other applications of the water importation project, would:
  - a. Likely jeopardize the continued existence of endangered and threatened species recognized under the federal Endangered Species Act and related state statutes;
  - b. Prevent or interfere with the conservation of those threatened or endangered species;
  - c. Take or harm those endangered or threatened species; and
  - d. Interfere with the purpose for which the federal lands are managed under federal statutes including, but not limited to, the Federal Land Use Policy Act of 1976.
8. The granting or approval of the above-referenced Application will sanction and encourage the willful waste of water that

has been allowed, if not encouraged, by the Las Vegas Valley Water District. Said waste of water is contrary to Nevada law and public policy.

9. The subject Application seeks to develop the water resources of, and transport water across, lands of the United States under the jurisdiction of the United States Department of Interior. This Application should be denied because the Las Vegas Valley water District has not obtained or demonstrated that it can obtain the necessary legal interest (right-of-way) on said lands to extract, develop, and transport water from the point of diversion to the point of use in the Las Vegas Valley Water District service area. Therefore, the Las Vegas Valley Water District cannot show that the water will ever be placed in beneficial use.
10. The Application should be denied because it individually and cumulatively with other applications of the water importation project will perpetuate and may increase the inefficient use of water in the Las Vegas Valley Water District service area.
11. The Las Vegas Valley Water District lacks the financial capability for developing and transporting water under the subject permit, which is a prerequisite to putting the water to beneficial use, and accordingly, the subject Application should be denied.
12. The above-referenced Application should be denied because it fails to adequately include the statutorily required information, it wit:
  - a. Description of proposed works;
  - b. The estimated cost of such works;
  - c. The estimated time required to construct the works and the estimated time required to complete the application of water to beneficial use;
  - d. The approximate number of persons to be served and the future requirement; and
  - e. The dimensions and location of proposed water storage reservoirs, the capacity of the proposed reservoirs, and a description of the lands to be submerged by impounded waters.
13. The subject Application should be denied because it individually and cumulatively with other applications of the

proposed project will exceed the safe yield of host water basin, thereby adversely affecting phreatophytes and creating air contamination and air pollution in violation of State and Federal Statutes, including, but not limited to, the Clean Air Act and Chapter 445 of the Nevada Revised Statutes.

14. The Application cannot be granted because the applicant has failed to provide information to enable the State Engineer to properly safeguard the public interest. The adverse effects of this Application and related applications associated with the proposed water appropriation and transportation project (largest appropriation of groundwater in the history of the State of Nevada) cannot properly be evaluated without an independent, formal, and publicly reviewable assessment of the following:
  - a. The water resources of the proposed area of diversion and the cumulative effects of the proposed diversions;
  - b. Mitigation measures that will reduce the impacts of the proposed extraction; and
  - c. Alternatives to the proposed extraction, including, but not limited to, the alternatives of no extraction and aggressive implementation of all proven and cost effective water demand management strategies.
15. The above-referenced Application should be denied because the applicant has failed to provide the protestant relevant information regarding this Application and other applications which comprise the proposed importation project (works) as required by N.R.S. 533.363. The failure to provide such relevant information denies protestant due process of law under Chapter 533, N.R.S., in that said relevant information may provide protestant with further meaningful grounds of protest, and that protestant may be forever barred from submitting such further grounds of protest because the protest period may end before applicant provides such required information. The failure of applicant to provide such information denies protestant the meaningful opportunity to submit protests to this Application and other applications associated with the water importation project as allowed by Chapter 533, N.R.S.
16. The subject Application should be denied because the population projections upon which the water demand projections are based are unrealistic and ignore numerous constraints to growth, including traffic congestion, increased costs of infrastructure and services, degraded air quality, protection

of rare and endangered species, etc.

17. The subject Application should be denied because previous and current conservation programs instituted by the Las Vegas Valley Water District are inefficient efforts that are unlikely to achieve substantial water savings. Public policy and public interest considerations should preclude the negative environmental and socioeconomic consequences of the proposed transfers when the potential water importer has failed to make a good faith effort to efficiently use currently available supplies.
18. The subject Application should be denied because the enormous costs of the project will result in water rate increases of such a magnitude that demand will be substantially reduced, thereby rendering the water transfer unnecessary.
19. The granting or approval of the above-referenced Application would be detrimental to the public interest and not made in good faith since it would allow the Las Vegas Valley Water District to lock up vital water resources for possible use sometime in the distant future beyond current planning horizons.
20. The subject Application should be denied because current and developing trends in housing, landscaping, national plumbing fixture standards, and demographic patterns all suggest that the simplistic water demand forecasts upon which the proposed transfers are based substantially overstate future water demand needs.
21. The subject Application should be denied because the current per capita water consumption rate for the Las Vegas Valley Water District is double that of similarly situated southwestern municipalities. This suggests enormous potential for most cost effective supply alternatives, including demand management and effluent re-use. These alternatives have not been seriously considered by the Las Vegas Valley Water District.
22. The above-referenced Application should be denied because the State Engineer has previously denied other applications for water from the host water basin, said applications having been prior in time to the instant Application, and those applications associated with the water importation project. The grounds for denial (e.g., applicant does not own or control the land on which the water is to be diverted, approval would be detrimental to the public welfare, etc.) of the prior applications should apply equally to the instant



Applicant and provide grounds to deny the instant Application.

23. Las Vegas Valley Water District public statements and written material indicate that approximately 61 percent of the water rights sought by the District (via the 146 applications) are to be temporary water rights. But, the applications (146) state the water is to be used on a permanent basis. Therefore, the subject applications, including the above-referenced Application, should be denied because the public has been denied relevant information and due process.
24. Inasmuch as a water extraction and transbasin conveyance project of this magnitude has never been considered by the State Engineer, it is therefore impossible to anticipate all potential adverse effects without further information and study. Accordingly, the protestant reserves the right to amend the subject protest to include such issues as they may develop as a result of further information and study.
25. The undersigned additionally incorporates by reference as though fully set forth herein and adopts as its own, each and every other protest to this Application and/or any application filed that is associated with the water importation project and filed pursuant to N.R.S. 533.365.

EXHIBIT A

Permit	Map Sheet	Permit	Map Sheet
53947	Caliente	53988	Lund
53948	Caliente	53990	Caliente
53949	Caliente	53991	Caliente
53950	Las Vegas	53992	Caliente
53951	Las Vegas	53998	Ely
53952	Caliente	55399	Ely
53953	Caliente	54000	Ely
53954	Caliente	54001	Ely
53955	Caliente	54002	Ely
53056	Lund	54038	Lund
53957	Caliente	54039	Lund
53958	Lund	54040	Lund
53959	Caliente	54041	Lund
53960	Caliente	54042	Lund
53961	Lund	54043	Lund
53962	Lund	54044	Lund
53963	Caliente	54045	Caliente
53964	Lund	54046	Caliente
53965	Lund	54047	Caliente
53966	Lund	54048	Lund
53967	Lund	54049	Caliente
53968	Lund	54050	Caliente
53969	Lund	54051	Caliente
53970	Lund	54052	Caliente
53971	Lund	54053	Caliente
53972	Lund	54054	Caliente
53973	Lund	54060	Las Vegas
53974	Lund	54061	Las Vegas
53975	Lund	54062	Las Vegas
53976	Lund	54063	Las Vegas
53977	Lund	54064	Las Vegas
53978	Lund	54065	Las Vegas
53979	Lund	54066	Las Vegas
53980	Lund	54067	Ely
53981	Goldfield	54068	Las Vegas
53982	Goldfield	54069	Las Vegas
53983	Goldfield	54070	Las Vegas
53984	Goldfield	54071	Las Vegas
53985	Lund	54072	Las Vegas
53986	Lund	54106	Las Vegas
53987	Lund		

#### REFERENCES CITED

- Dettinger, M. D., 1989. Distribution of carbonate rock aquifers in southern Nevada and the potential for their development, Summary of Findings, 1985-88: Program for the Study and Testing of Carbonate Rock Aquifers in Eastern and Southern Nevada Summary Report No. 1, 37 p.
- Essington, G. M., 1990. Death Valley National Monument, Outside Threats, Regional Hydrology Issues. National Park Service, 38 p.
- Harrill, J. R., Gates, J. S., and Thomas, J. M., 1988. Major groundwater flow systems in the Great Basin region of Nevada, Utah, and adjacent states: U. S. Geological Survey Hydrologic Investigations Atlas HA-694-C, 2 sheets.
- Mifflin, M. D., 1988. Region 5, Great Basin, in Back, W., Rosenhein, J. S., and Seaber, P. R., eds. Hydrogeology. The Geology of North America, v. 0-2, Geological Society of America, Boulder, CO.

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY LAS VEGAS VALLEY WATER DISTRICT  
ON OCT. 17, 1989, TO APPROPRIATE THE  
WATERS OF LINCOLN COUNTY

PROTEST

Comes now GLENN VAN ROECKEL  
Printed or typed name of protestant  
whose post office address is P.O. Box 281, CALIENTE, NEV. 89008  
Street No. or P.O. Box, City, State and Zip Code  
whose occupation is DIRECTOR OF COMMUNITY DEVELOPMENT, and protests the granting  
of Application Number 53991, filed on OCT. 17, 1989  
by THE LAS VEGAS VALLEY WATER DISTRICT  
Printed or typed name of applicant to appropriate the  
waters of UNDERGROUND situated in LINCOLN COUNTY  
Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

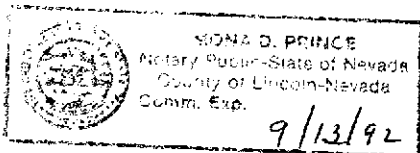
THE GRANTING OR APPROVAL OF THE ABOVE-REFERENCED APPLICATION  
WOULD BE DETRIMENTAL TO THE PUBLIC INTEREST AND NOT MADE  
IN GOOD FAITH SINCE IT WOULD ALLOW THE LAS VEGAS VALLEY WATER  
DISTRICT TO LOCK UP VITAL WATER RESOURCES FOR POSSIBLE USE  
SOMETIME IN THE DISTANT FUTURE BEYOND CURRENT  
PLANNING HORIZONS.

THEREFORE the protestant requests that the application be DENIED  
(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed [Signature]  
Agent or protestant  
GLENN VAN ROECKEL  
Printed or typed name, if agent  
Address P.O. Box 281  
Street No. or P.O. Box No.  
CALIENTE, NEV. 89008  
City, State and Zip Code No.

Subscribed and sworn to before me this 10th day of July, 1990  
[Signature]  
Notary Public



State of Nevada  
County of Lincoln

**\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now Pahrangat Valley Joint Services Board; Ms. Verna Hansen, Board Chairwoman  
whose post office address is Post Office Box 450, Alamo, Nevada 89001  
whose occupation is Board Chairwoman, and protests the granting  
of Application Number 53991, filed on October 17, 1989,  
by Las Vegas Valley Water District to appropriate the  
waters of Underground situated in Lincoln

County, State of Nevada, for the following reasons and on the following grounds, to wit:

- SEE ATTACHED -

THEREFORE the protestant requests that the application be Denied

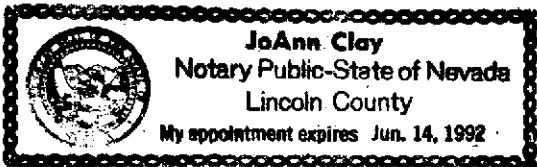
(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper:

Signed Verna Hansen  
Agent or protestant  
Ms. Verna Hansen, Board Chairwoman  
Address Post Office Box 450  
Alamo, Nevada 89001

Subscribed and sworn to before me this 11<sup>th</sup> day of July 1989

JoAnn Clay  
Notary Public  
State of Nevada  
County of Lincoln



\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

Draft  
Protest of Las Vegas Valley  
Water District Application Number 53991  
to Appropriate the  
Ground Waters of Delmar Valley  
Hydrographic Area #182

Prepared for:

The Pahranaagat Valley Joint Services Board  
Post Office Box 450  
Alamo, Nevada 89001

Prepared by:

Sweetwater Consulting Services  
Post Office Box 223  
Carson City, Nevada 89702

July 1990

## Introduction

On behalf of the Pahranaagat Valley Joint Services Board (PVJSB) the following protest has been prepared regarding the Las Vegas Valley Water District (LVVWD) application to appropriate the waters of the Delmar Valley Hydrographic Area #182 (LVVWD Application Number 53991, filed October 17, 1989). PVJSB is deeply concerned with the LVVWD applications, the potential for impacts to Pahranaagat Valley ground and surface waters, area residents, agricultural operations and the associated socioeconomic and environmental impacts such appropriations would potentially create.

Pahranaagat Valley is home to approximately 1,100 residents, including the Town of Alamo and numerous agricultural operations. PVJSB is comprised of the following Pahranaagat Valley service providers: the Pahranaagat Valley Volunteer Fire Department Board; the Pahranaagat Valley Ambulance Board; the Alamo Town Board; the Pahranaagat Valley Power District; the Town of Alamo Water and Sewer Board; and the Lincoln County/Pahranaagat Valley Deputy Sheriff's Department. The PVJSB service area includes a resident population of approximately 1,100 persons, commercial and industrial businesses, the Alamo elementary, middle and high school facilities, community park and recreation facilities and numerous farms and ranches located throughout the Pahranaagat Valley. Though currently small in size compared to many rural Nevada service areas, growth is occurring throughout the valley. Community growth is being driven by the tremendous growth of Las Vegas Valley. New residents are seeking a more rural and higher quality of life than is available in the Las Vegas Valley. Additionally, the potential for even greater growth in the Pahranaagat Valley is very good with the proposed industrial development projects in Coyote Springs Valley immediately south of town, the proposed siting of the Nuclear Waste Repository by the Department of Energy at Yucca Mountain, and proposed Department of Defense projects on the Nellis Bombing Range and the Nevada Test Site.

The entire White River drainage, including Pahranaagat Valley, provides unique outdoor recreation resources to area residents and visitors alike. Additionally, the White River drainage provides wildlife habitat to numerous wildlife species including several threatened and endangered wildlife species. Located within the Pahranaagat Valley is a U.S. Fish and Wildlife Refuge, the "Pahranaagat National Wildlife Refuge," and numerous Bureau of Land Management and State of Nevada recreation areas. Las Vegas Valley residents are the primary visitors to the area, as water based recreation is a very limited resource in southern Nevada. Outdoor recreationalists contribute to the area economy through retail purchases and overnight accommodations.

Water resources is truly the key to the future of the Pahranaagat Valley, Lincoln County and all of rural southern Nevada. Adequate water resources is necessary to provide for future growth, the agricultural operations of the valley, and area recreation and wildlife resources.

This protest attempts to identify the numerous potential impacts associated with this LVVWD application; the need for additional information and data regarding Pahrnagat Valley water resources; and the need for conducting a comprehensive environmental impact analysis, including project development alternatives, before any decision is made regarding the application. A full and complete public hearing process must also be conducted and incorporated into the decision process.

### Potential Impacts

The following potential impacts have been identified which may be associated with the LVVWD Application Number 53991 to appropriate the waters of the Delmar Valley. The need for a comprehensive third-party environmental impact analysis is paramount. Additional site-specific research and data gathering activities may also be required before an adequate impact analysis can be conducted.

### Water Resources

The Pahrnagat Valley falls within the basin and range physiography, as does most of Nevada. Basin and range topography greatly effects precipitation patterns, water flows and water locations. Not only are surface flows affected but also groundwater flows are influenced by the basin and range topography (Eakin, 1963). This is particularly significant in the Pahrnagat Valley where surface spring discharges total approximately 25,000 acre feet per year (AFY) (NDWR, 1990), and annual recharge from precipitation may be as high as 1,800 AFY (Eakin, 1963), or as low as 1,000 AFY (NDWR, 1990). This situation is complicated by the fact that the Nevada Division of Water Resources's (NDWR) own data is both conflicting and outdated (NDWR, 1990). A detailed research analysis is necessary to determine if the water resources of the Pahrnagat Valley are part of a much larger groundwater regime. At least one study has shown that the majority of the spring water discharge originates in adjacent valleys (Eakin, 1963).

Within Pahrnagat Valley unique water resources including Ash, Hiko and Crystal Springs support diverse ecosystems. These warm water springs support vegetation and fishery resources including federally listed Threatened and Endangered species (see wildlife section). Considerable effort on a national level has been expended to protect and preserve these unique water resources. The potential for adverse impacts to Ash, Hiko and Crystal Springs and their surrounding ecosystems from LVVWD proposed pumpage and the water exportation project must be fully analyzed. Drawdown from pumping could possibly forever change these fragile ecosystems.

The location of LVVWD Application Number 53991 is located near Pahrnagat Valley and PVJSB wells serving the Town of Alamo. Should LVVWD be allowed to pump groundwater in this location drawdown may occur in PVJSB wells, in other Pahrnagat Valley wells and Delmar Valley. This could result in wells having to be drilled



deeper or even moved to maintain production. Water quality could be degraded. All of this would cause considerable hardship and additional expense to the PVJSB.

Groundwater supply and demand for Pahrnagat Valley is contained in Table 1. As can be seen, an excess of 17,526 AFY over perennial yield currently exists on record (NDWR, 1988). However the accuracy of this estimate is questionable. Accurate pumping and flow records have not been maintained and/or are not available throughout the Pahrnagat Valley. Wells exist, which are being pumped, but are not on record with NDWR. Accurate consumptions records are also not available within the Pahrnagat Valley. Extensive riparian vegetation throughout the Pahrnagat Valley consumes large amounts of water but little is known about actual consumption amounts. The need for a comprehensive analysis of the existing conditions of Pahrnagat Valley water resources is paramount before any decision is made regarding the LVVWD applications.

Table 1

Groundwater Supply and Demand  
Pahrnagat Valley, Nevada  
Basin Number 209

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Estimated Groundwater Perennial Yield:	25,000 AFY
Estimated Recharge:	1,000 AFY
Granted or Applied Water Rights:	7,477 AFY
Excess or Shortage:	+17,526 AFY

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Source: Nevada Division of Water Resources, 1988.

Current water uses in the Pahrnagat Valley are primarily municipal, ranching, agricultural, wildlife and culinary. Granting LVVWD Application Number 53991 would preclude increased usage by any of the current users over existing rights, as LVVWD is filing on all unappropriated water. There would be no water available for expanding existing uses, or for new users. Community growth in Alamo could be severely curtailed or made prohibitively expensive. Numerous impacts are possible which must be addressed and analyzed prior to any action on the LVVWD applications.

## Vegetation Resources

Potential impacts to the vegetation resources of the Pahranaagat Valley include surface disruption from construction, and interference with the hydrologic cycle. A lowered water table would have tremendous impacts on the vegetative resources of the valley. The valley provides important wildlife habitat including the only greenbelt and wetlands within the entire region. Loss of this vegetation would result in critical loss of diversity of both plant and wildlife species. The aesthetics of the region are greatly enhanced by the existing diversity of the ecosystems. Loss of vegetation would also impact the outdoor recreation resources currently enjoyed by so many Las Vegas Valley residents. This could also chain react into economic impacts to the local economy.

## Wildlife Resources

Pahranaagat Valley provides habitat for a wide variety of wildlife including mule deer, jackrabbits, cottontails, rodents, coyotes, mountain lions, badgers and grey foxes. The Pahranaagat National Wildlife Refuge, comprised of approximately 5,380 acres of marshes, open water and native grass meadows provide critical habitat for a variety of birds and mammals. Waterfowl, characterized by pintails, teal, mallards and redheads, and shorebirds, including great blue herons and egrets, are found throughout the refuge and the Pahranaagat Valley (USF&WS, 1990).

Several fisheries also exist in the valley comprised of rainbow trout, white crappie, large mouth bass, speckled dace and channel catfish. The region's most popular fisheries are located within the Pahranaagat Valley and are enjoyed by thousands of visitors annually.

Several threatened and endangered (T&E) animal species are known to occur in the valley. These include the desert tortoise - Gopherus agassizi, bald eagle - Haliaeetus leucocephalus, and the banded gila monster - Heloderma suspectum. Protected aquatic species include the Pahranaagat roundtail chub - Gila robusta jordan and the White River springfish - Crenichthys baileyi grandis (USF&WS, 1990).

The LVVWD Application Number 53991 has the potential to significantly impact wildlife resources including T&E species and protected aquatic species in the Pahranaagat Valley. A full and comprehensive analysis is necessary to identify impacts to wildlife species before action is taken by NDWR.

## Visual/Aesthetic Resources

Should this LVVWD application be approved, significant impacts to the Pahranaagat Valley visual and aesthetic resources is possible. A "de-greening" of the valley would forever change the scenic beauty of the area. Construction improvements (pipelines, pump stations, etc.) would degrade the existing views both from the

community of Alamo and U.S. Highway 93. Visual/aesthetic resources must be included and analyzed before action is taken by NDWR.

### Recreation Resources

The Pahrnanagat Valley provides diverse outdoor recreation opportunities to southern Nevada residents and visitors alike. Outdoor recreation participants also contribute significantly to the local economy through gasoline and retail purchases and overnight accommodations. Outdoor recreation visitor days are climbing steadily throughout the Pahrnanagat Valley, and Lincoln County as a whole. There is a potential to degrade the water related recreation resources of the Pahrnanagat Valley should LVVWD be allowed to appropriate said waters. The potential to impact existing wetlands, open waters, and marsh areas would directly impact hunting, fishing, bird watching, and other existing outdoor recreation opportunities. This would chain react and impact the local economy in lost revenues, depressing the fragile Lincoln County economic base.

### Alamo/Pahrnanagat Valley Region

Several impacts to the Alamo/Pahrnanagat Valley Region have been identified in previous discussions, (i.e. vegetation, wildlife, water, etc.). Other impacts to the existing environment will greatly affect the future of the valley. A detailed analysis is necessary regarding impacts from exportation of water from Delmar Valley and the Alamo/Pahrnanagat Valley. For example, the Town of Alamo water system currently faces severe deficiencies in both water quantity and quality. It is currently unknown if there is sufficient water resources to correct the system and to provide for future growth. Proposed "water mining" of the Pahrnanagat Valley by the LVVWD could severely impact the existing community water system both now and in the future. If all available water is exported from the valley, sufficient water resources to support local development and growth from mining or industrial uses may be unavailable. Population reductions and corresponding economic impacts could also result should the existing agricultural employment base, the mainstay of the local economy, be reduced by LVVWD pumpage. The loss of the Pahrnanagat Valley's water resources could forever impact the ability to attract future industrial development to the area and place the valley in a downward economic spiral.

Of an equal concern is the unique identity and character of the Pahrnanagat Valley which has developed since the area's early settlement. A major disruption of the existing community cohesiveness, which could result in extensive social problems, is possible should LVVWD be successful in its water exportation plan. The family-oriented structure of the Mormon Church, the years of stability and basic rural philosophies of families working together could all unravel. The loss of agricultural based employment due to environmental degradation, dislocation and out-migration could forever change the valley's quality of life, stability and rural

character. Social impacts could be greater than the environmental impacts associated with LVVWD's proposed exportation project. A full analysis must be conducted before action is taken by NDWR.

### Conclusion

The LVVWD Application Number 53991 to appropriate the waters of the Delmar Valley Hydrographic Area #182 has the potential to impact numerous unique natural resources, the socioeconomics of the region, the residents of the Pahranaagat Valley and the Town of Alamo, listed T&E flora and fauna and the future of the entire region. This is a major water importation project, comparable to Los Angeles Water and Power's water importation project from Owen's Valley and Mono Basin during the early 1900's. The ramifications of approval of LVVWD Application Number 53991 would result in by far the greatest irreversible and irretrievable commitment of resources of any project ever proposed in the State of Nevada. A project of this magnitude requires extensive analysis based upon accurate and current data. Poor information and lack of data raise serious concerns regarding Pahranaagat Valley water resources, the specifics of the proposed LVVWD water importation project, associated development impacts, and monetary costs to the rate payers. A fair and impartial decision regarding this LVVWD application and the issues is not possible without further study and detailed analysis.

Therefore, we respectfully request, on behalf of the Pahranaagat Valley Joint Services Board, that LVVWD Application Number 53991 be denied pending the completion of the following items and request that any future decision be based upon an unbiased, third-party impact analysis. We request that:

- \* NDWR commissions a comprehensive research analysis to fully identify the existing state of Delmar Valley Hydrographic Area #182 and Pahranaagat Valley Hydrographic Area #209 water resources including: water quantity - surface and ground; basin inflow and outflow; annual recharge; perennial yield; water rights; water consumption and pumpage; and water quality - surface and ground.
- \* LVVWD and NDWR conduct a third-party comprehensive environmental impact analysis, including project development alternatives, based upon the most current data and information available.
- \* The fragile ecosystems of Ash, Hiko and Crystal Springs, which support federally listed T&E species, be fully analyzed regarding potential impacts from LVVWD's Application Number 53991 and proposed water exportation project.

- \* Full public hearings be conducted, including hearings to be held in the Town of Alamo to provide for public input and comment on said LVVWD application.
- \* Because of the magnitude of potential impacts associated with the LVVWD application and water importation project, impacts to the social and economic environments of the Pahranaagat Valley be fully analyzed.
- \* Full disclosure of the proposed project's development and maintenance cost be made.
- \* Under NDWR guidance, LVVWD establishes an open and clear mechanism for public information regarding the water importation project and the associated impacts of the proposed project.

The Pahranaagat Valley Joint Services Board appreciates the opportunity to protest said LVVWD Application Number 53991 per Nevada Revised Statutes and reserves the right to amend said protest at some point in the future should new data and information become available.

#### LITERATURE CITED

(Eakin, 1963)

Eakin, Thomas E. 1963. Groundwater Resources, Reconnaissance Series - Report 21 - Groundwater Appraisal of Pahrnagat and Pahroc Valleys - Lincoln and Nye Counties, Nevada. USGS.

(NDWR, 1990)

Nevada Division of Water Resources. 1990. Personal Communication.

(USF&WS, 1990)

U.S. Fish and Wildlife Service. 1990. Pahrnagat National Wildlife Refuge. Personal Communication.

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

IN THE MATTER OF APPLICATION NUMBER 53991,  
FILED BY Las Vegas Valley Water District,  
ON October 17 1989, TO APPROPRIATE THE  
WATERS OF Underground

PROTEST

Comes now The Town of Alamo Water and Sewer Board; Ms. Roberta Hess, Board Member  
Printed or typed name of protestant

whose post office address is Post Office Box 376, Alamo, Nevada 89001  
Street No. or P.O. Box, City, State and Zip Code

whose occupation is Board Member, and protests the granting

of Application Number 53991, filed on October 17, 1989.

by Las Vegas Valley Water District to appropriate the  
Printed or typed name of applicant

waters of Underground situated in Lincoln  
Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

- SEE ATTACHED -

THEREFORE the protestant requests that the application be Denied  
(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Roberta Hess  
Agent or protestant

Ms. Roberta Hess, Board Member  
Printed or typed name, if agent

Address Post Office Box 376  
Street No. or P.O. Box No.

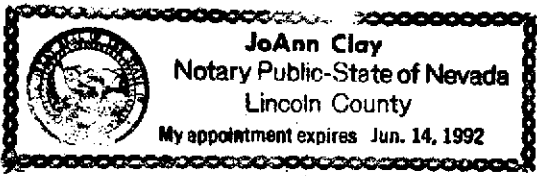
Alamo, Nevada 89001  
City, State and Zip Code No.

Subscribed and sworn to before me this 11<sup>th</sup> day of July 1990

JoAnn Clay  
Notary Public

State of Nevada

County of Lincoln



**\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**

Draft  
Protest of Las Vegas Valley  
Water District Application Number 53991  
to Appropriate the  
Ground Waters of Delmar Valley  
Hydrographic Area #182

Prepared for:

The Town of Alamo  
Water and Sewer Board  
Post Office Box 376  
Alamo, Nevada 89001

Prepared by:

Sweetwater Consulting Services  
Post Office Box 223  
Carson City, Nevada 89702

July 1990



## Introduction

On behalf of the Town of Alamo Water and Sewer Board (AWSB) the following protest has been prepared regarding the Las Vegas Valley Water District (LVVWD) application to appropriate the waters of the Delmar Valley Hydrographic Area #209 (LVVWD Application Number 53991, filed October 17, 1989). AWSB is deeply concerned with the LVVWD applications, the potential for impacts to Pahrnagat Valley ground and surface waters, area residents, agricultural operations and the associated socioeconomic and environmental impacts such appropriations would potentially create.

Pahrnagat Valley is home to approximately 1,100 residents, including the Town of Alamo and numerous agricultural operations. AWSB administers water system and sewer disposal services to the residents of Alamo. The Alamo Water and Sewer District (AWSB) service area includes a resident population of approximately 525 persons, commercial and industrial businesses, the Alamo elementary, middle and high school facilities, community park and recreation facilities and several outlying farms and ranches. Though currently small in size compared to many rural Nevada communities, growth is occurring throughout the area. Community growth is being driven by the tremendous growth of Las Vegas Valley. New residents are seeking a more rural and higher quality of life than is available in the Las Vegas Valley. Additionally, the potential for even greater growth in the Pahrnagat Valley is very good with the proposed industrial development projects in Coyote Springs Valley immediately south of town, the proposed siting of the Nuclear Waste Repository by the Department of Energy at Yucca Mountain, and proposed Department of Defense projects on the Nellis Bombing Range and the Nevada Test Site.

The entire White River drainage, including Pahrnagat Valley, provides unique outdoor recreation resources to area residents and visitors alike. Additionally, the White River drainage provides wildlife habitat to numerous wildlife species including several threatened and endangered wildlife species. Located within the Pahrnagat Valley is a U.S. Fish and Wildlife Refuge, the "Pahrnagat National Wildlife Refuge," and numerous Bureau of Land Management and State of Nevada recreation areas. Las Vegas Valley residents are the primary visitors to the area, as water based recreation is a very limited resource in southern Nevada. Outdoor recreationalists contribute to the area economy through retail purchases and overnight accommodations.

Water resources is truly the key to the future of the Pahrnagat Valley, Lincoln County and all of rural southern Nevada. Adequate water resources is necessary to provide for future growth, the agricultural operations of the valley, and area recreation and wildlife resources.

This protest attempts to identify the numerous potential impacts associated with this LVVWD application; the need for additional information and data regarding Pahrnagat Valley water resources;

and the need for conducting a comprehensive environmental impact analysis, including project development alternatives, before any decision is made regarding the application. A full and complete public hearing process must also be conducted and incorporated into the decision process.

### Potential Impacts

The following potential impacts have been identified which may be associated with the LVVWD Application Number 53991 to appropriate the waters of the Delmar Valley. The need for a comprehensive third-party environmental impact analysis is paramount. Additional site-specific research and data gathering activities may also be required before an adequate impact analysis can be conducted.

### Water Resources

The Pahrnagat Valley falls within the basin and range physiography, as does most of Nevada. Basin and range topography greatly effects precipitation patterns, water flows and water locations. Not only are surface flows affected but also groundwater flows are influenced by the basin and range topography (Eakin, 1963). This is particularly significant in the Pahrnagat Valley where surface spring discharges total approximately 25,000 acre feet per year (AFY) (NDWR, 1990), and annual recharge from precipitation may be as high as 1,800 AFY (Eakin, 1963), or as low as 1,000 AFY (NDWR, 1990). This situation is complicated by the fact that the Nevada Division of Water Resources's (NDWR) own data is both conflicting and outdated (NDWR, 1990). A detailed research analysis is necessary to determine if the water resources of the Pahrnagat Valley are part of a much larger groundwater regime. At least one study has shown that the majority of the spring water discharge originates in adjacent valleys (Eakin, 1963).

Within Pahrnagat Valley unique water resources including Ash, Hiko and Crystal Springs support diverse ecosystems. These warm water springs support vegetation and fishery resources including federally listed Threatened and Endangered species (see wildlife section). Considerable effort on a national level has been expended to protect and preserve these unique water resources. The potential for adverse impacts to Ash, Hiko and Crystal Springs and their surrounding ecosystems from LVVWD proposed pumpage and the water exportation project must be fully analyzed. Drawdown from pumping could possibly forever change these fragile ecosystems.

The location of LVVWD Application Number 53991 is located near Pahrnagat Valley and ASWD wells serving the Town of Alamo. Should LVVWD be allowed to pump groundwater in this location drawdown may occur in ASWD wells, in other Pahrnagat Valley wells and in Delmar Valley. This could result in wells having to be drilled deeper or even moved to maintain production. Water quality could be degraded. All of this would cause considerable hardship and additional expense to the Town of Alamo.

Groundwater supply and demand for Pahrnagat Valley is contained in Table 1. As can be seen, an excess of 17,526 AFY over perennial yield currently exists on record (NDWR, 1988). However the accuracy of this estimate is questionable. Accurate pumping and flow records have not been maintained and/or are not available throughout the Pahrnagat Valley. Wells exist, which are being pumped, but are not on record with NDWR. Accurate consumptions records are also not available within the AWSO. Extensive riparian vegetation throughout the Pahrnagat Valley consumes large amounts of water but little is known about actual consumption amounts. The need for a comprehensive analysis of the existing conditions of Pahrnagat Valley water resources is paramount before any decision is made regarding the LVVWD applications.

Table 1

Groundwater Supply and Demand  
Pahrnagat Valley, Nevada  
Basin Number 209

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Estimated Groundwater Perennial Yield:	25,000 AFY
Estimated Recharge:	1,000 AFY
Granted or Applied Water Rights:	7,477 AFY
Excess or Shortage:	+17,526 AFY

---

Source: Nevada Division of Water Resources, 1988.

Current water uses in the Pahrnagat Valley are primarily municipal, ranching, agricultural, wildlife and culinary. Granting LVVWD Application Number 53991 would preclude increased usage by any of the current users over existing rights, as LVVWD is filing on all unappropriated water. There would be no water available for expanding existing uses, or for new users. Community growth in Alamo could be severely curtailed or made prohibitively expensive. Numerous impacts are possible which must be addressed and analyzed prior to any action on the LVVWD applications.

#### Vegetation Resources

Potential impacts to the vegetation resources of the Pahrnagat Valley include surface disruption from construction, and interference with the hydrologic cycle. A lowered water table would have tremendous impacts on the vegetative resources of the valley. The valley provides important wildlife habitat including the only greenbelt and wetlands within the entire region. Loss of

this vegetation would result in critical loss of diversity of both plant and wildlife species. The aesthetics of the region are greatly enhanced by the existing diversity of the ecosystems. Loss of vegetation would also impact the outdoor recreation resources currently enjoyed by so many Las Vegas Valley residents. This could also chain react into economic impacts to the local economy.

### Wildlife Resources

Pahranagat Valley provides habitat for a wide variety of wildlife including mule deer, jackrabbits, cottontails, rodents, coyotes, mountain lions, badgers and grey foxes. The Pahranagat National Wildlife Refuge, comprised of approximately 5,380 acres of marshes, open water and native grass meadows provide critical habitat for a variety of birds and mammals. Waterfowl, characterized by pintails, teal, mallards and redheads, and shorebirds, including great blue herons and egrets, are found throughout the refuge and the Pahranagat Valley (USF&WS, 1990).

Several fisheries also exist in the valley comprised of rainbow trout, white crappie, large mouth bass, speckled dace and channel catfish. The region's most popular fisheries are located within the Pahranagat Valley and are enjoyed by thousands of visitors annually.

Several threatened and endangered (T&E) animal species are known to occur in the valley. These include the desert tortoise - Gopherus agassizi, bald eagle - Haliaeetus leucocephalus, and the banded gila monster - Heloderma suspectum. Protected aquatic species include the Pahranagat roundtail chub - Gila robusta jordan and the White River springfish - Crenichthys baileyi grandis (USF&WS, 1990).

The LVVWD Application Number 53991 has the potential to significantly impact wildlife resources including T&E species and protected aquatic species in the Pahranagat Valley. A full and comprehensive analysis is necessary to identify impacts to wildlife species before action is taken by NDWR.

### Visual/Aesthetic Resources

Should this LVVWD application be approved, significant impacts to the Pahranagat Valley visual and aesthetic resources is possible. A "de-greening" of the valley would forever change the scenic beauty of the area. Construction improvements (pipelines, pump stations, etc.) would degrade the existing views both from the community of Alamo and U.S. Highway 93. Visual/aesthetic resources must be included and analyzed before action is taken by NDWR.

### Recreation Resources

The Pahranagat Valley provides diverse outdoor recreation opportunities to southern Nevada residents and visitors alike. Outdoor recreation participants also contribute significantly to

the local economy through gasoline and retail purchases and overnight accommodations. Outdoor recreation visitor days are climbing steadily throughout the Pahrnagat Valley, and Lincoln County as a whole. There is a potential to degrade the water related recreation resources of the Pahrnagat Valley should LVVWD be allowed to appropriate said waters. The potential to impact existing wetlands, open waters, and marsh areas would directly impact hunting, fishing, bird watching, and other existing outdoor recreation opportunities. This would chain react and impact the local economy in lost revenues, depressing the fragile Lincoln County economic base.

### Alamo/Pahrnagat Valley Region

Several impacts to the Alamo/Pahrnagat Valley Region have been identified in previous discussions, (i.e. vegetation, wildlife, water, etc.). Other impacts to the existing environment will greatly affect the future of the valley. A detailed analysis is necessary regarding impacts from exportation of water from Delmar Valley and the Alamo/Pahrnagat Valley. For example, the Town of Alamo water system currently faces severe deficiencies in both water quantity and quality. It is currently unknown if there is sufficient water resources to correct the system and to provide for future growth. Proposed "water mining" of the Pahrnagat Valley by the LVVWD could severely impact the existing community water system both now and in the future. If all available water is exported from the valley, sufficient water resources to support local development and growth from mining or industrial uses may be unavailable. Population reductions and corresponding economic impacts could also result should the existing agricultural employment base, the mainstay of the local economy, be reduced by LVVWD pumpage. The loss of the Pahrnagat Valley's water resources could forever impact the ability to attract future industrial development to the area and place the valley in a downward economic spiral.

Of an equal concern is the unique identity and character of the Pahrnagat Valley which has developed since the area's early settlement. A major disruption of the existing community cohesiveness, which could result in extensive social problems, is possible should LVVWD be successful in its water exportation plan. The family-oriented structure of the Mormon Church, the years of stability and basic rural philosophies of families working together could all unravel. The loss of agricultural based employment due to environmental degradation, dislocation and out-migration could forever change the valley's quality of life, stability and rural character. Social impacts could be greater than the environmental impacts associated with LVVWD's proposed exportation project. A full analysis must be conducted before action is taken by NDWR.

### Conclusion

The LVVWD Application Number 53991 to appropriate the waters of the Delmar Valley Hydrographic Area #182 has the potential to impact

numerous unique natural resources, the socioeconomics of the region, the residents of the Pahranaagat Valley and the Town of Alamo, listed T&E flora and fauna and the future of the entire region. This is a major water importation project, comparable to Los Angeles Water and Power's water importation project from Owen's Valley and Mono Basin during the early 1900's. The ramifications of approval of LVVWD Application Number 53991 would result in by far the greatest irreversible and irretrievable commitment of resources of any project ever proposed in the State of Nevada. A project of this magnitude requires extensive analysis based upon accurate and current data. Poor information and lack of data raise serious concerns regarding Pahranaagat Valley water resources, the specifics of the proposed LVVWD water importation project, associated development impacts, and monetary costs to the rate payers. A fair and impartial decision regarding this LVVWD application and the issues is not possible without further study and detailed analysis.

Therefore, we respectfully request, on behalf of the Alamo Water and Sewer Board, that LVVWD Application Number 53991 be denied pending the completion of the following items and request that any future decision be based upon an unbiased, third-party impact analysis. We request that:

- \* NDWR commissions a comprehensive research analysis to fully identify the existing state of Delmar Valley Hydrographic Area #182 Pahranaagat Valley Hydrographic Area #209 water resources including: water quantity - surface and ground; basin inflow and outflow; annual recharge; perennial yield; water rights; water consumption and pumpage; and water quality - surface and ground.
- \* LVVWD and NDWR conduct a third-party comprehensive environmental impact analysis, including project development alternatives, based upon the most current data and information available.
- \* The fragile ecosystems of Ash, Hiko and Crystal Springs, which support federally listed T&E species, be fully analyzed regarding potential impacts from LVVWD's Application Number 53991 and proposed water exportation project.
- \* Full public hearings be conducted, including hearings to be held in the Town of Alamo to provide for public input and comment on said LVVWD application.
- \* Because of the magnitude of potential impacts associated with the LVVWD application and water importation project, impacts to the social and economic environments of the Pahranaagat Valley be fully analyzed.
- \* Full disclosure of the proposed project's development and

maintenance cost be made.

- \* Under NDWR guidance, LVVWD establishes an open and clear mechanism for public information regarding the water importation project and the associated impacts of the proposed project.

The Alamo Water and Sewer Board appreciates the opportunity to protest said LVVWD Application Number 53991 per Nevada Revised Statutes and reserves the right to amend said protest at some point in the future should new data and information become available.

#### LITERATURE CITED

(Eakin, 1963)

Eakin, Thomas E. 1963. Groundwater Resources, Reconnaissance Series - Report 21 - Groundwater Appraisal of Pahrnagat and Pahroc Valleys - Lincoln and Nye Counties, Nevada. USGS.

(NDWR, 1990)

Nevada Division of Water Resources. 1990. Personal Communication.

(USF&WS, 1990)

U.S. Fish and Wildlife Service. 1990. Pahrnagat National Wildlife Refuge. Personal Communication.



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

In the Matter of Application Number 53991, Filed by the Las Vegas Valley Water District on October 17, 1989, to appropriate the waters of Lincoln County.

PROTEST

Comes now THE CITY OF CALIENTE whose post office address is POST OFFICE BOX 158, CALIENTE, NEVADA 89008 whose occupation is MUNICIPALITY/WATER PURVEYOR, and protest the granting of Application Number 53991, filed on October 17, 1989 by the Las Vegas Valley Water District to appropriate the waters of underground situated in Lincoln County, State of Nevada, for the following reasons and on the following grounds, to wit:

(See Attachment)

THEREFORE the protestant requests that the application be DENIED and that an order be entered for such relief as the State Engineer deems just and proper.

Signed

George T. Rowe  
George T. Rowe, Mayor

Address

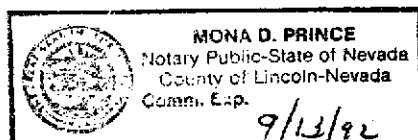
P.O. Box 158  
Caliente, Nevada 89008

Subscribed and sworn to before me this 9th day of

July, 1990.

Mona D. Prince

State of Nevada  
County of Lincoln



APPLICATION NO. 53991

LIST OF REASONS TO PROTEST THE LAS VEGAS VALLEY WATER DISTRICT  
APPLICATIONS TO APPROPRIATE GROUND AND SURFACE WATER FROM  
CENTRAL, EASTERN AND SOUTHERN NEVADA

1. This Application is one of 145 applications filed by the Las Vegas Valley Water District seeking to appropriate 804,195 acre feet of ground water primarily for municipal use within Clark County. Diversion and export of such quantity of water will: lower the static water level in Delamar Valley Basin; adversely affect the quality of remaining ground water; and further threaten springs, seeps and phreatophytes which provide water and habitat critical to the survival of wildlife and grazing livestock.
2. The appropriation of this water when added to the already approved appropriations and existing uses in the Delamar Valley Basin will exceed the annual recharge and safe yield of the basin. Appropriation and use of this magnitude will: lower the static water level and degrade the quality of water from existing wells and cause negative hydraulic gradient influences as well as other negative impacts.
3. This Application is one of 146 applications filed by the Las Vegas Valley Water District seeking a combined appropriation of some 864,195 acre feet of ground and surface water primarily for municipal use in Clark County. Diversion and export of such a quantity of water will deprive the area of origin of the water needed to protect and enhance its environment and economic well being, and the diversion will unnecessarily destroy environmental, ecological, scenic and recreational values that the State holds in trust for all its citizens.
4. The granting or approving of the subject Application in the absence of comprehensive planning, including but not limited to environmental impact considerations, cost considerations, socioeconomic impact considerations, and a water resource plan (such as is required by the Public Service Commission of private purveyors of water) for the Las Vegas Valley Water District Service area is detrimental to the public welfare and interest.
5. The granting or approval of the above-referenced Application would conflict with or tend to impair existing rights in the Delamar Valley Basin because if granted it would exceed the safe yield of the subject basin and unreasonably lower the static water level and sanction water mining.
6. The granting or approval of the above referenced Application would be detrimental to the public interest in that it, individually and together with the other applications of the water importation project, would:
  - (a) Likely jeopardize the continued existence of endangered

and threatened species recognized under the federal Endangered Species Act and related state statutes;

(b) Prevent or interfere with the conservation of those threatened or endangered species;

(c) Take or harm those endangered or threatened species; and

(d) Interfere with the purpose for which the federal lands are managed under federal statutes including, but not limited to, the Federal Land Use Policy Act of 1976.

7. The approval of the subject application will sanction and encourage the willful waste of water that has been allowed, if not encouraged, by the Las Vegas Valley Water District.

8. The subject Application seeks to develop and transport water resources on and across lands of the United States under the jurisdiction of the United States Department of Interior, Bureau of Land Management. This application should be denied because the Las Vegas Valley Water District has not obtained necessary legal interest (e.g., right-of-way) in the federal land such that the applicant may extract, develop and transport water resources from the proposed point of diversion to the proposed place of use.

9. The Application should be denied because it individually and cumulatively with other applications of the water importation project will perpetuate and may increase the inefficient use of water in the Las Vegas Valley Water District service area and frustrate efforts at water demand management in the Las Vegas Valley Water District service area.

10. The Las Vegas Valley Water District lacks the financial capability for developing and transporting water under the subject permit which is a prerequisite to putting the water to beneficial use.

11. The above-referenced Application should be denied because it fails to include the statutorily required:

(a) Description of the place of use;

(b) Description of the proposed works;

(c) The estimated cost of such works; and

(d) The estimated time required to put the subject water to beneficial use.

12. The subject Application should be denied because it individually and cumulatively with other applications of the proposed project will exceed the safe yield of the Delamar Valley Basin thereby adversely affecting phreatophytes and creating air contamination and air pollution in violation of State and Federal

Statutes, including but not limited to, the Clean Air Act and Chapter 445 of the Nevada Revised Statutes.

13. The Application cannot be granted because the applicant has failed to provide information to enable the State Engineer to safeguard the public interest properly. The adverse effects of this Application and related applications associated with the proposed water appropriation and transportation project (largest appropriation of ground water in the history of the State of Nevada) cannot properly be evaluated without an independent, formal and publicly-reviewable assessment of:

- (a) cumulative impacts of the proposed extraction;
- (b) mitigation measures that will reduce the impacts of the proposed extraction;
- (c) alternatives to the proposed extraction, including but not limited to, the alternatives of no extraction and aggressive implementation of all proven and cost-effective water demand management strategies.

14. The subject application should be denied because the population projects upon which the water demand projections are based are unrealistic and ignore numerous constraints to growth, including traffic congestion, increased costs of infrastructure and services, degraded air quality, etc.

15. The subject application should be denied because previous and current conservation programs instituted by the Las Vegas Valley Water District are ineffective public-relations oriented efforts that are unlikely to achieve substantial water savings. Public policy and public interest considerations should preclude the negative environmental and socio-economic consequences of the proposed transfers on areas of origin when the potential water importer has failed to make a good-faith effort to efficiently use currently available supplies.

16. The subject Application should be denied because the enormous costs of the project will result in water rate increases of such magnitude that demand will be substantially reduced, thereby rendering the water transfer unnecessary.

17. The granting or approval of the above-referenced Application would be detrimental to the public interest and not made in good faith since it would allow the Las Vegas Valley Water District to lock up vital water resources for possible use sometime in the distant future beyond current planning horizons.

18. The subject Application should be denied because current and developing trends in housing, landscaping, national plumbing fixture standards and demographic patterns all suggest that the simplistic water demand forecasts upon which the proposed transfers are based substantially overstate future water demand needs.

19. The subject application should be denied because the current per capita water consumption rate for the Las Vegas Valley Water District is double that of similarly situated southwestern municipalities. This suggests enormous potential for more cost-effective supply alternatives, including demand management and effluent re-use. These alternatives have not been seriously considered by the Las Vegas Valley Water District.

20. Inasmuch as a water extraction and transbasin conveyance project of this magnitude has never been considered by the State Engineer, it is therefore impossible to anticipate all potential adverse affects without further information and study. Accordingly, the protestant reserves the right to amend the subject protest to include such issues as they may develop as a result of further information and study.

21. The undersigned additionally incorporates by reference as though fully set forth herein and adopts as its own, each and every other protest to the subject application filed pursuant to NRS 533.365.

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

IN THE MATTER OF APPLICATION NUMBER 53991  
FILED BY Las Vegas Valley Water District  
ON October 17, 1989, TO APPROPRIATE THE  
WATERS OF 182-1A, DELAMAR VAL. LIN NV

PROTEST

RECEIVED

JUL 05 1990

Div. of Water Resources  
Branch Office - Las Vegas, NV

Comes now The Unincorporated Town of Pahrump  
Printed or typed name of protestant

whose post office address is P.O. Box 3140, Pahrump, Nevada, 89041  
Street No. or P.O. Box, Cty, State and Zip Code

whose occupation is holds the trust for the people of Pahrump, and protests the granting

of Application Number 53991, filed on October 17, 1989

by Las Vegas Valley Water District to appropriate the  
Printed or typed name of applicant

waters of BASIN NO. 182-1A, Delamar Valley situated in LINCOLN COUNTY  
Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

(SEE ADDENDUM)

THEREFORE the protestant requests that the application be DENIED  
(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Marvin Veneman  
Agent or protestant

Marvin Veneman, Town Board Chairman  
Printed or typed name, if agent

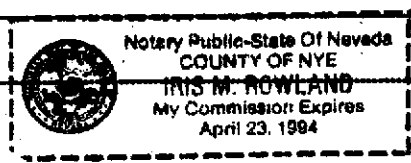
Address P.O. Box 3140  
Street No. or P.O. Box No.  
Pahrump, Nevada 89041  
City, State and Zip Code No.

Subscribed and sworn to before me this 29 day of June 1990

Iris M Rowland  
Notary Public

State of \_\_\_\_\_

County of \_\_\_\_\_



**\$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.**

"ADDENDUM"

THE UNINCORPORATED TOWN OF PAHRUMP  
PROTEST THE AFOREMENTIONED APPLICATION  
FOR THE FOLLOWING REASONS AND ON THE  
FOLLOWING GROUNDS, TO WIT:

1. This Application is one of 146 applications filed by the Las Vegas Valley Water District seeking a combined appropriation of some 864,195 acre feet of ground and surface water primarily for municipal use in Clark County. Diversion and export of such a quantity of water will deprive the area of origin of the water needed to protect and enhance its environment and economic well being, and the diversion will unnecessarily destroy environmental, ecological, scenic and recreational values that the State holds in trust for all its citizens.
2. The granting or approving of the subject Application in the absence of comprehensive planning, including but not limited to environmental impact considerations, cost considerations, socioeconomic impact considerations, and a water resource plan (such as is required by the Public Service Commission of private purveyors of water) for the Las Vegas Valley Water District Service area is detrimental to the public welfare in interest.
3. The approval of the subject application will sanction and encourage the willful waste of water that has been allowed, if not encouraged, by the Las Vegas Valley Water District.
4. The subject Application seeks to develop and transport water resources on and across lands of the United States under the jurisdiction of the United States Department of Interior, Bureau of Land Management. This Application should be denied because the Las Vegas Valley Water District has not obtained the necessary legal interest (e.g., right-of-way) in the federal land such that the applicant may extract, develop and transport water resources from the proposed point of diversion to the proposed place of use.
5. The Application should be denied because it individually and comulatively with other applications of the water importation project will perpetuate and may increase the inefficient use of water in the Las Vegas Valley Water District service area and frustrate efforts at water demand management in the Las Vegas Valley Water District service area.
6. The Las Vegas Valley Water District lacks the financial capability for developing and transporting water under the subject permit which is a prerequisite to putting the water to beneficial use.
7. The above-referenced Application should be denied because it fails to include the statutory required:
  - (a) Description of the place of use;
  - (b) Description of the proposed works;
  - (c) The estimated costs of such works; and
  - (d) The estimated time required to put the subject water to beneficial use.
8. The Application cannot be granted because the applicant has failed to provide information to enable the State Engineer to safeguard the public interest properly. The adverse effects of this Application and related applications associated with the proposed water appropriation and transportation project (largest appropriation of ground water in the history of the State of Nevada) cannot properly be evaluated without an in-

dependent, formal and publicly-reviewable assessment of:

- (a) cumulative impacts of the proposed extraction;
- (b) mitigation measures that will reduce the impacts of the proposed extraction;
- (b) alternatives to the proposed extraction, including but not limited to, the alternatives of no extraction and aggressive implementation of all proven and cost-effective water demand management strategies.

9. The subject Application should be denied because the population projections upon which the water demand projections are based are unrealistic and ignore numerous constraints to infrastructure and services, degraded air quality, etc.

10. The granting of approval of the above-referenced Application would be detrimental to the public interest and not made in good faith since it would allow the Las Vegas Valley Water District to lock up vital water resources for possible use sometime in the distant future beyond current planning horizons.

11. The subject Application should be denied because current and developing trends in housing, landscaping, national plumbing fixture standards and demographic patterns all suggest that the simplistic water demand forecasts upon which the proposed transfers are based substantially overstate future water demand needs.

12. Inasmuch as a water extraction and transbasin conveyance project of this magnitude has never been considered by the State Engineer, it is therefore impossible to anticipate all potential adverse effects without further information and study. Accordingly, the protestant reserves the right to amend the subject protest to include such issues as they may develop as a result of further information and study.

13. We, the Town of Pahrump know first hand the economic hardship caused by over appropriation of water. Currently the growth of the Pahrump Valley is threatened because of technical over allocation of water. If the Las Vegas Valley Water District is allowed to obtain all remaining available water rights in the various water basins as they have requested, then all these areas will be growth stunted at their current levels. We protect the acquisitions that the Las Vegas Valley Water District has requested. The current request would destroy the economic and growth potential of each basin affected.

14. The undersigned additionally incorporates by reference as though fully set forth herein and adopts as its own, each and every other protest to the subject Application filed pursuant to NSR 533.365.