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

IN THE MATTER OF APPLICATION NUMBER 54056,
FILED BY Las Vegas Valley Water District,
ON October 17, 1989, TO APPROPRIATE THE
WATERS OF an underground source

PROTEST

RECEIVED
JUL 12 1990
Div. of Water Resources
Branch Office - Las Vegas, NV

Comes now U.S. Department of the Interior, Bureau of Land Management
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 54056, filed on October 17, 19 89
by Las Vegas Valley Water District to appropriate the
Printed or typed name of applicant
waters of an underground source situated in Clark
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 or protestant
Ben F. Collins, District Manager
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 11th day of July 19 90

Carolyn J. Spoon
Notary Public
State of Nevada
County of Clark

NOTARY PUBLIC
STATE OF NEVADA
County of Clark
CAROLYN J. SPOON
My Appointment Expires Oct. 9, 1990

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

RECEIVED
JUL 12 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.

Coyote Springs Valley, in which this well is proposed, drains to the Muddy River Springs, the source of the Muddy River. The Moapa dace (Moapa coriacea), which has been listed as an endangered species, is endemic to the Muddy River and its source springs. In addition, the 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 most current information on the Coyote Springs Valley Basin (State of Nevada, Report 25) indicates that the Muddy River Springs are probably supplied from both precipitation recharge and regional, interbasin ground water flow within the carbonate aquifer. Generally, precipitation recharge occurs north of the springs with the primary contributor believed to be the Sheep Range along the west side of the valley. Water, within the carbonate system, is believed to be derived from movement between valleys and generally, flows in a southerly direction towards the Muddy River Springs.

The proposed well is located between the Muddy River Springs and the primary area of recharge, the Sheep Range. Although impacts to the spring sources may be minimal, under normal pumping of this single well, when its impact is added to the other four wells proposed within the same area and those wells pumping in adjacent basins, from which interbasin flow is received, a noticeable reduction in spring flow is a reasonable expectation. This well could intercept ground water that would otherwise discharge at the Muddy River Springs. This reduction in flow and possibly quality of the springs, could very well threaten the endangered and candidate species identified.

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 Muddy River and its source springs could result in a reduction of associated riparian vegetation which in turn may impact those endangered and candidate species previously discussed.

As a result of reductions in surface water and vegetation, wildlife can be expected to be adversely impacted. The degree to which phreatophyte dependent wildlife are impacted will depend on the extent of vegetation alteration or destruction. It is reasonable to expect a reduction in species diversity and numbers resulting from habitat degradation. 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 desert tortoise (Gopherus agassizii), listed as threatened under the Endangered Species Act, inhabits the location of the proposed well and can be expected to be adversely impacted if degradation of the existing vegetation occurs.

The proposed well is located within Wilderness Study Area NV-050-201 (Fish and Wildlife No.1). This area is currently under review for potential inclusion in the National Wilderness Preservation System. FLPMA requires the Secretary of the Interior to review areas of the public lands to determine wilderness characteristics and report to the President as to the suitability of each area. During the period of review and until Congress acts on the President's recommendations, these lands are managed as Wilderness Study Areas (WSAs) so as not to impair their suitability for preservation as wilderness, under the Interim Management Policy and Guidelines for Lands Under Wilderness Review (BLM Manual H-8550-1, p. 1). This policy is referred to as the Interim Management Policy (IMP).

Lands under wilderness review may not be disposed of through any means. New rights-of-way may be approved for temporary uses that satisfy the nonimpairment criteria. Rights-of-way under the temporary criteria would not be approved for uses that would extend after the President makes his recommendation to Congress, October 21, 1993, or which would impair the areas suitability for

wilderness. Approval of a right-of-way for drilling of the proposed well, would not satisfy the nonimpairment criteria and would not be temporary in nature, therefore, the BLM can not grant a right-of-way while the land is under wilderness review (H-8550-1, p.36-37). Granting of this water appropriation would place the Bureau in a position of having to deny an application for a right-of-way.

Within this basin, there are two (2) water sources, on public land, that could be impacted by the granting of this application. These sources include Jackass Spring and Perkins Well No.1. Both of these sources are located within the Arrow Canyon Allotment and contribute to the watering of 105 AUM's (Animal Unit Month) of cattle. Adverse impacts to these water sources, due to pumping of the proposed well, as well as the cumulative impact of multiple wells, could have a detrimental affect on BLM's ability to properly manage livestock.

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.

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July 13, 2001

EXHIBIT 24
FOR:
☐ STATE OF NEVADA
☒ PROTESTANT
☒ APPLICANT
☐ _____ OTHER
DATE 7-16-01

Hugh Ricci, P.E.
Nevada State Engineer
Division of Water Resources
123 W. Nye Lane, Suite 246
Carson City, NV 89706-0818

Dear Mr. Ricci:

Attached is a Stipulation between three of the U.S. Department of the Interior protestants (Bureau of Land Management, Fish and Wildlife Service, and National Park Service) and the applicants Las Vegas Valley Water District and Southern Nevada Water Authority concerning the resolution of the protests filed by the above-named protestants to Application Nos. 54055-54059 to withdraw groundwater from the Coyote Spring Valley hydrographic basin. This Stipulation contemplates the incorporation of its Exhibit "A" (Monitoring, Management, and Mitigation Plan for Existing and Future Permitted Groundwater Development in Coyote Spring Valley) into the terms and conditions of any permit issued by you pursuant to the subject applications.

Therefore, pursuant to paragraph 5 of the Stipulation, we request that you provide us a written response to this letter stating whether you will include the above-referenced Exhibit A as part of any permit terms and conditions issued pursuant to the subject applications, including any modifications you deem necessary. In the event that you are unable to respond to this request prior to the start of the administrative hearing on the subject applications, we request that you address our request for incorporation of Exhibit A **prior** to the consideration of any pending motions or the start of the hearing.

Thank you in advance for your timely consideration.

Sincerely,

Stephen R. Palmer
Assistant Regional Solicitor
Attorney for DOI Protestants

Ross E. De Lipkau
Marshall, Hill, Cassas, and De Lipkau
Attorney for Las Vegas Valley Water District and
Southern Nevada Water Authority

c: Karen Peterson, Esq.
Richard Berley, Esq.

# STIPULATION FOR DISMISSAL OF PROTESTS

This Stipulation is made and entered into between the Las Vegas Valley Water District ("LVVWD") and the Southern Nevada Water Authority ("SNWA") and the United States Department of the Interior, Bureau of Land Management, National Park Service, and United States Fish and Wildlife Service (collectively the "Federal Bureaus").

## RECITALS

A. Currently there are approximately 16,300 total acre-feet per year (afy) of permitted groundwater rights in the Coyote Spring Valley. Of this amount, SNWA has permitted rights to 7,500 afy. SNWA has developed a monitoring plan and submitted it to the State Engineer in anticipation of developing such water rights. SNWA intends to develop these rights as generally described in the draft Coyote Spring Valley Ground Water Development Plan (April 26, 2000 version). The Plan is in draft form while details as to facilities and funding are worked out with the Moapa Valley Water District. LVVWD, SNWA, and Moapa Valley Water District have entered into an agreement to jointly develop certain water rights in the Area of Interest defined below.

B. There are a number of existing monitoring programs required by the Nevada State Engineer currently in place for various areas in Coyote Spring Valley and the Muddy Springs area. If mutually agreed-upon, the monitoring requirements outlined in the Monitoring, Management, and Mitigation Plan, attached hereto as "Exhibit A", may someday incorporate these existing plans.

C. On October 17, 1989, LVVWD filed Applications 54055-54059, inclusive (the "Applications") for a combined maximum duty of approximately 27,512 acre-feet per year, with the Nevada State Engineer's Office. LVVWD/SNWA intend to pump existing and future groundwater rights with concurrent monitoring, modeling, and hydrogeologic investigations. However, the timing and quantities/volumes of this pumping cannot be determined at this time, because water availability, potential adverse impacts, future population growth and resulting water demand in the Las Vegas region, Moapa Valley and the I-15 corridor are not known at this time.

D. The Federal Bureaus filed timely protests to the granting of water rights under LVVWD's Applications pursuant to the Federal Bureaus' responsibility to protect the state and federal water rights and other water-dependent resources, including the endangered Moapa Dace, of the Federal Bureaus ("federal rights and resources") in the Area of Interest, defined as Coyote Spring Valley, Muddy Springs Area, Hidden Valley (North), Garnet Valley, California Wash, Black Mountains Area, Kane Springs Valley, Lower Meadow Valley Wash, Tule Desert and Lower Moapa Valley. The Federal Bureaus are required by law to manage, protect and preserve federal rights and resources that fall under their jurisdiction. A number of these federal rights and resources occur within or in the vicinity of the Area of Interest.

E. The Federal Bureaus assert that groundwater withdrawals from Coyote Spring Valley pose a risk of adversely impacting federal rights and resources and are desirous of working in a cooperative manner with the LVVWD/SNWA to protect these resources. Additionally, the Secretary of the Interior is required to monitor the conditions and habitat of species listed pursuant to the Endangered Species Act that could be affected by

withdrawals of groundwater from lands underlain by the regional carbonate aquifer which is the proposed source of water under the applications and other existing rights of LVVWD and SNWA and take appropriate action, in conjunction with the Nevada State Engineer, to address any impacts from such withdrawal. See Public Law 100-275, Section 6 (March 31, 1988).

F. The parties acknowledge that pursuant to NRS 534.110(4) each right to appropriate groundwater in the State of Nevada carries with it the right to make a reasonable lowering of the static water level at the appropriator's point of diversion and that pursuant to NRS 534.110(5) the State Engineer may allow, at his discretion, the water level to be lowered at the point of diversion of a prior appropriator so long as the rights of holders of existing appropriations can be satisfied under such express conditions.

G. The State Engineer has set an administrative hearing on the protests of the Federal Bureaus and other protestants commencing July 16, 2001.

H. The parties acknowledge that other entities and individuals have lodged protests to the Applications, but such additional protestants are not parties to or in any way bound or prejudiced by this Stipulation.

I. The parties agree that the preferred conceptual approach for protecting federal rights and resources from unreasonable adverse impacts from ground water pumping in the Area of Interest is through the use of monitoring, management and mitigation of groundwater pumping. The common goal of the parties is to manage the development of the carbonate aquifer as a water resource without causing unreasonable adverse impacts to the federal rights and resources. Groundwater and the effects of pumping need to be properly monitored and managed to avoid adverse impacts to the Area of Interest. There is a need

to conduct studies of the aquifer's response to pumping stresses through incremental development of reasonable quantities of groundwater accompanied by the monitoring, management and mitigation plan as set forth in Exhibit A to this Stipulation. The parties have determined that it is in their best interests to cooperate in the collection of additional hydrologic and hydrogeologic information about the carbonate aquifer system within the Area of Interest.

J. The parties desire to resolve the issues raised by the protests according to the terms and conditions contained herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties do agree as follows:

1. The Federal Bureaus hereby expressly agree to withdraw their protests to the Applications and agree that the State Engineer may rule on the Applications based upon the terms and conditions set forth herein. It is expressly understood that this Stipulation is binding only upon the parties hereto and their successors, transferees and assigns, and shall not bind or seek to bind or prejudice any other parties or protestants, including the United States as trustee on behalf of the Moapa Band of Paiute Indians or any other Indian tribe.

2. The parties agree to implement the Monitoring, Management and Mitigation plan, attached hereto "Exhibit A', which is expressly incorporated into this Stipulation as if set forth in full herein.

3. This Stipulation does not waive any authorities of the Federal Bureaus or the United States, including any other agency or bureau not specified in this Stipulation, nor relieves

LVVWD/SNWA from complying with any federal laws, including, but not limited to, the National Environmental Policy Act, the Endangered Species Act, the Federal Land Policy and Management Act, and any and all rules and regulations thereunder. It is the expressed intention of the parties that by entering into this Stipulation, the Federal Bureaus and the United States are waiving no legal rights of any kind.

4. The parties expressly acknowledge that the Nevada State Engineer has, pursuant to both statutory and case law, broad authority to administer groundwater resources in the State of Nevada and, furthermore, that nothing contained in this Stipulation shall be construed as waiving or in any manner diminishing such authority.

5. The parties agree that a copy of this Stipulation shall be submitted to the Nevada State Engineer prior to the commencement of the administrative proceedings scheduled to begin on July 16, 2001. At that time, the parties shall request, either in writing, or on the record at the beginning of the scheduled proceeding, that the State Engineer include Exhibit A of this Stipulation as part of the permit terms and conditions, in the event that he grants Applications 54055, 54056, 54057, 54058, and 54059, in total or in part. In addition, the parties will request that the State Engineer state in writing, prior to the hearing, that he will incorporate Exhibit A of the Stipulation into the permit terms in the event that he grants Applications 54055, 54056, 54057, 54058, and 54059, in total or in part. A copy of the proposed request letter to the State Engineer is attached to this Stipulation as Exhibit "B" and is made a part hereof. If the State Engineer does so state, then the Federal Bureaus, at their option, may attend the hearing, but will present no issues or statements that are adverse to the interests of the LVVWD/SNWA.

6. Notices. If notice is required to be sent by the parties, the addresses are as follows:

If to Federal Bureaus:

District Manager
Las Vegas Field Office
Bureau of Land Management
4765 W. Vegas Drive
Las Vegas, NV 89108-2135

Supervisor
Nevada Field Office
Fish and Wildlife Service
1340 Financial Blvd., #234
Reno, NV 89502

Branch Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

If to LVVWD/SNWA:

General Manager
Las Vegas Valley Water District
1001 S. Valley View Boulevard
Las Vegas, NV 89153

General Manager
Southern Nevada Water Authority
1001 S. Valley View Boulevard
Las Vegas, NV 89153

7. Assigning. Any party hereto may transfer or assign its interest in the water rights here involved. Any and all transferees and assignees shall be bound by the terms and conditions of this Stipulation. As a condition to any such transfer or assignment, the transferee and/or

assignee shall execute a stipulation expressly stating it is bound to all of the terms and conditions of this Stipulation.

8. Choice of Law. This Stipulation shall be governed in accordance with the laws of the State of Nevada to the extent not inconsistent with federal law.

9. Copies of all correspondence between and data gathered by the parties pertinent to the Area of Interest shall be submitted to the State Engineer. It is the intention of the parties hereto that the State Engineer shall be kept informed of all activities in the same fashion as are the parties hereto.

10. By entering into this Stipulation, the Federal Bureaus do not become a party to any proceeding other than the protest proceeding referenced above or waive its immunity from suit or consent to or acknowledge the jurisdiction of any court or tribunal. Nothing in the Stipulation shall effect any federal reserved water rights of the Federal Bureaus or the United States on behalf of any Indian Tribe and the Federal Bureaus by entering into this Stipulation do not waive or prejudice any such rights. The Federal Bureaus reserve all legal rights, of any kind, it possesses pursuant to or derived from Executive Orders, acts of Congress, judicial decisions, or regulations promulgated pursuant thereto. Neither party waives its rights to seek relief in any appropriate forum of its choice not expressly prohibited by this Stipulation.

11. Any commitment of funding by the Federal Bureaus or the LVVWD/SNWA in this Stipulation or otherwise is subject to appropriations by Congress or the governing bodies of the LVVWD/SNWA as appropriate.

12. This Stipulation may be amended by mutual agreement of the parties.

13. This Stipulation sets forth the entire agreement of the parties and supercedes all prior discussions, negotiations, understandings or agreements. No alteration or variation of this Stipulation shall be valid or binding unless contained in an amendment in accordance with paragraph 12.

14. The terms and conditions of this Stipulation shall be binding upon and inure to the benefit of the parties hereto and their respective personal representatives, successors, transferees and assigns.

15. This Stipulation will become effective as between the parties upon all parties signing this Stipulation. The parties may execute this Stipulation in two or more counterparts, which shall, in the aggregate, be signed by all parties, each counterpart shall be deemed an original as against any party who has signed it.

16. Other entities may become parties to this Stipulation by mutual assent of the parties.

IN WITNESS WHEREOF, the parties have executed this Stipulation as of the dates written below.

UNITED STATES DEPARTMENT OF THE INTERIOR

Date: 7-19-01

BUREAU OF LAND MANAGEMENT

By Robert V. Abbey

Title: State Director, NV

Date: _____

FISH AND WILDLIFE SERVICE

Date: JUL 1 8 2001

FISH AND WILDLIFE SERVICE

By Mary Ellen Mueller

Title: Acting Manager CA/NV Operations Office

Date: 7/13/01

NATIONAL PARK SERVICE

By _____

Title: Superintendent of Lake Mead National Recreation Area

Date: 7/13/01

NATIONAL PARK SERVICE

By

Title: Regional Director, Pacific West Region

Date: July 12, 2001

LAS VEGAS VALLEY WATER DISTRICT

By _____
Patricia Mulroy

Title: General Manager

ATTEST:

Lori Grossman

Date: July 12, 2001

SOUTHERN NEVADA WATER AUTHORITY

By _____

~~Patricia~~ Mulroy

Title: General Manager

ATTEST:

Lori D. Grossman

# EXHIBIT A

## MONITORING, MANAGEMENT AND MITIGATION PLAN FOR EXISTING AND FUTURE PERMITTED GROUNDWATER DEVELOPMENT IN COYOTE SPRING VALLEY (BASIN 210)

The purpose of this plan is to describe LVVWD/SNWA's and the Federal Bureaus' obligations in the Area of Interest regarding monitoring, management and mitigation of SNWA's current groundwater rights and, if granted by the Nevada State Engineer, LVVWD's groundwater rights in Coyote Spring Valley. It also describes the format and scope of a Technical Review Panel (herein after referred to as TRP).

### 1. Monitoring Requirements

*A. Production Wells*

- LVVWD/SNWA will ensure that all LVVWD/SNWA production wells in Coyote Spring Valley are metered continuously for discharge. Water level data will be collected continuously as is feasible.

*B. Monitoring Wells*

- LVVWD/SNWA, in consultation with the TRP (see description in following section), will locate and construct dedicated monitoring wells near production well fields. These wells will be defined as "near production" monitor wells. LVVWD/SNWA, when performing initial aquifer tests in recently drilled production wells, will utilize nearby observation wells to determine aquifer characteristics.

- LVVWD/SNWA will continuously monitor water levels in all LVVWD/SNWA "near production" monitoring wells.

- LVVWD/SNWA, in consultation with the TRP will locate and drill a single, dedicated carbonate rock aquifer monitoring well approximately half-way between the production wells in Coyote Spring Valley (Hydrographic Area 210) and the principal spring discharge area in Muddy River Springs Area (Hydrographic Area 219). LVVWD/SNWA will ensure that water levels in this "midway" monitor well are measured continuously. Barometric pressure at this location will also be measured continuously.

- LVVWD/SNWA, in cooperation with Sierra Pacific (formerly Nevada Power Company), USGS, and the State Engineer, will ensure that water levels in existing, carbonate monitor wells EH-5b, EH-4, and CSV-2 will be monitored continuously.

- LVVWD/SNWA, after the completion of the elevation-control survey (see paragraph 1D), will examine available information in consultation with the TRP to (1) determine if the information is sufficient to describe the vertical hydraulic gradient between the regional carbonate aquifer, the alluvial aquifer, and spring heads in the Muddy River Springs area, and (2) characterize ground-water and surface-water interactions in the area. If LVVWD/SNWA in consultation with the TRP determines that information is insufficient to

describe the vertical hydraulic gradient, then LVVWD/SNWA will construct at least one well in the area to determine the vertical hydraulic gradient. Well design and location(s) will be based on consultation with the TRP. LVVWD/SNWA in consultation with the TRP will determine if water levels in the well(s) will be monitored continuously.

*C. Streamflow and Spring flow*

- LVVWD/SNWA will equip and maintain two continuous surface water measurement sites at locations selected in consultation with the TRP in the Muddy Springs Area. These sites would be in addition to surface water gaging stations 09415900 Muddy Springs at LDS Farm near Moapa, 09415910 Pederson Spring near Moapa, and 09415920 Warm Springs West near Moapa, which LVVWD/SNWA currently funds in cooperation with NDWR and USGS.

- LVVWD/SNWA, in cooperation with the Moapa Valley Water District, will equip and maintain continuous flow measurement devices located at Moapa Valley Water District's Jones Spring (Apcar) and Baldwin Spring pumping stations to determine total spring discharge.

- United States Fish and Wildlife Service (USFWS) will equip and maintain continuous temperature monitoring at Pederson Springs, and a continuous surface water measurement site at Plummer (Iverson) Spring.

- National Park Service in cooperation with USGS will equip and maintain continuous surface water measurement sites at Rogers Spring and Blue Point Spring.

*D. Elevation Control*

- LVVWD/SNWA will conduct a detailed elevation survey of LVVWD/SNWA wells in the Muddy Springs Area. LVVWD/SNWA in consultation with the TRP, will develop and implement a plan to determine elevation above sea level of all major spring orifices and monitoring and production wells as is feasible in the Muddy Springs Area and the Rogers and Blue Point spring complex. The TRP will determine where elevation data already exists, the accuracy of existing information, and the need for additional information.

*E. Quality of Data*

- The parties will make measurements and collect data according to USGS standard protocol

*F. Water Quality*

- LVVWD/SNWA will collect and analyze water quality samples for major ions twice annually at two surface water measurement sites at locations selected in consultation with the TRP in the Muddy Springs Area. Duplicate samples will be collected and analyzed at the two sites to ensure proper analyses.

- LVVWD/SNWA will collect and analyze water quality samples that regionally represent different water quality types at well locations determined in consultation with the TRP. Samples will be analyzed for major ions, trace elements and the stable isotopes of hydrogen and oxygen. Samples will be collected semi-annually for one and a half years, beginning

during initial aquifer testing of production wells. Long-term water quality sampling will be conducted every five years thereafter.

*G. Reporting*

- LVVWD/SNWA will manage an internet database in cooperation with the USGS, the Federal Bureaus, the State Engineer, Moapa Valley Water District, and other entities as feasible based on cooperation to collect and compile data (e.g. water levels, surface water flows, water quality, and ground-water pumpage) for the Area of Interest.

- All data collected by any party under or as described in this plan shall be fully and cooperatively shared among the parties.

- Data shall be posted to the internet site within 90 days of its collection by LVVWD/SNWA. LVVWD/SNWA will use its best efforts to post data to the internet site within 30 days of its submission to the LVVWD/SNWA if collected by other parties, or in the case of water quality data, within 90 days of laboratory results.

## 2. Management Requirements

*A. Goal*

- The common goal of the parties is to manage the development of the carbonate aquifer as a water resource without resulting in unreasonable adverse impacts to the state and federal water rights and water resources of the Federal Bureaus. Additionally, decisions must be based on the best scientific information available and the parties will collaborate on technical data collection and analysis.

*B. Symposium*

- LVVWD/SNWA, in cooperation with the Federal Bureaus and other members of the Technical Review Panel, will hold a public symposium at least every two years to solicit information on monitoring, modeling, and mitigation.

*C. Technical Review Panel*

- The parties will create and convene a TRP by February 1, 2002. Membership will include LVVWD, SNWA, Moapa Valley Water District, FWS, NPS, and BLM. The parties mutually agree to invite a representative of the State Engineer's Office to participate as the chair of the TRP. The parties may mutually agree to invite other entities to participate in the TRP as appropriate.

- The purpose of the TRP is to:

*1)* provide a forum for scientific/technical review
*2)* disseminate data to the public through an internet site
*3)* share information regarding modeling efforts and model results
*4)* identify needs for additional data collection and scientific investigations
*5)* hold a meeting at least every two years to share and discuss relevant data and to form recommendations about monitoring, modeling, and mitigation

## 3. Mitigation Requirements

- LVVWD/SNWA will mitigate unreasonable adverse impacts either as agreed upon by the parties or after the State Engineer determines whether there are unreasonable adverse impacts due to LVVWD/SNWA pumping. LVVWD/SNWA will take the necessary steps to ensure that mitigation actions are feasible. Mitigation measures will include one or more of the following:

    - Geographic redistribution of pumpage;
    - Reduction or cessation in pumpage;
    - Restoration/modification of existing habitat;
    - Establishment of new habitat;
    - Augmentation of water resources with pumped groundwater;
    - Other measures as agreed to by the parties and/or required by the State Engineer, to the extent not inconsistent with this agreement

## 4. Modification of the Plan

- The parties acknowledge that the State Engineer has the authority to modify this plan, and any party shall have the right to petition the State Engineer to modify this plan upon 90 days written notice to the other parties; provided, however, that no such petitions may be filed within 2 years of the first meeting of Technical Review Panel. Any party may submit written comments to the State Engineer regarding the merits of any such petition for modification.