SNWA Management Plan
Groundwater Development in Spring Valley

Presentation to the Office of the Nevada State Engineer

Prepared by

SOUTHERN NEVADA
WATER AUTHORITY

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LIST OF ACRONYMS AND ABBREVIATIONS

BOR	Bureau of Reclamation
DRI	Desert Research Institute
CRWC	Colorado River Water Consultants
JFA	Joint Funding Agreements
MCCP	Major Construction and Capital Plan
NDWR	Nevada Division of Water Resources
SNWA	Southern Nevada Water Authority
USGS	United States Geological Survey

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1.0 INTRODUCTION

The Southern Nevada Water Authority (SNWA) Management Plan is an essential guidance document for the responsible development of the SNWA's groundwater applications in Spring Valley. The SNWA's request to develop 91,224 acre feet of groundwater from Spring Valley through 19 applications is predicated on the need to have a diverse, reliable supply of water to meet the future water demands of Southern Nevada under both normal and drought conditions. The amount of the Spring Valley groundwater requested is based upon careful consideration of perennial yield information, basin water budgets, existing permits, potential impacts to existing water right holders, and environmental concerns and issues. Based on the water appropriation system in Nevada, the State Engineer has allowed the development of groundwater resources that are part of the perennial yield of a particular valley or hydrographic basin. For Spring Valley, the State Engineer has determined that 100,000 acre-feet is available as perennial yield (Scott et al., 1971) and has permitted a minor portion of that amount. Accordingly, Spring Valley represents a significant water resource within the SNWA water resource portfolio.

As the entity responsible for providing wholesale water supplies to a community of approximately 1.8 million people (more than 70 percent of Nevada's population), the SNWA has worked since its inception to acquire and develop a diverse portfolio of water resources. While Nevada's yearly allocation of Colorado River water is by far the largest source of water for southern Nevada, the SNWA and State of Nevada have worked diligently over the past 15 years to secure other rights to Colorado River water. As a result of these efforts, the SNWA has the right to surplus Colorado River water when available, as well as significant water resources banked in southern Nevada, California, and Arizona.

The recent consensus agreement filed by the seven Colorado River Basin states with the Secretary of Interior represents another significant step forward in Nevada's ability to utilize the Colorado River system to obtain and manage additional water supplies. The agreement recommends that the Bureau of Reclamation (BOR) establish policies to allow Nevada to get about 300,000 acre-feet of credits to Colorado River water for future use in return for Nevada's funding the construction of the Drop 2 reservoir in southern California. The agreement also requests that BOR develop policies to allow the SNWA to take pre-compact Virgin and Muddy River rights from Lake Mead. In addition, the SNWA is spearheading a study to evaluate all options (desalination, coal-bed methane, etc.) for augmentation of the Colorado River system with the goal of having such a project on-line by 2020. The Scope of Services for the Colorado River Long-Term Augmentation Plan of the Seven Basin States is attached to this document as Exhibit A .

While the additional resources and opportunities that the State of Nevada and SNWA have secured on the Colorado River are significant, the development of additional in-state water supplies is critical for

two reasons. First, the cooperative relationships that Nevada and the SNWA have forged with the other six states that share the Colorado River are premised upon Nevada's obligation to pursue the development of Nevada's in-state water resources to meet municipal demands, rather than relying exclusively upon the Colorado River at the expense of the people in the other six states. Second, as has been demonstrated by the historic drought on the Colorado River over the last six years, prudent municipal water management requires a water supply portfolio that is diverse not only in the sense that an agency has multiple mechanisms for taking water from a single source, but also in the sense that the agency has the capability to draw water supplies from distinct hydrologic sources. Only by achieving both types of diversification can water managers achieve the dual goals of providing a reliable municipal water supply and managing each resource within its portfolio in a sustainable fashion.

As the SNWA moves forward with the development of its in-state groundwater applications, it is important to view the development of these water supplies within the context of SNWA's overall resource capability. In years when the Colorado River has surplus water available, that surplus water will be utilized to meet Southern Nevada water demands, thus allowing the groundwater components of the SNWA portfolio to replenish themselves. An example of utilizing groundwater resources in this fashion can be seen in the Las Vegas Valley where the State Engineer allows in-lieu recharge of the native groundwater resources in years when other water is available from Lake Mead.

The SNWA will continue to develop and participate in projects that will augment the Colorado River and allow more flexibility in the river's use, while simultaneously pursuing programs such as weather modification for the hydrographic basins in eastern and central Nevada. Because it is impossible to predict what resources will be available to meet future needs, the only way to effectively manage groundwater development projects is through a monitoring and management plan. In this way, groundwater supplies can be utilized when needed, but only to the extent impacts from such utilization fall within the limits defined in the management plan.

2.0 COMPONENTS OF THE MANAGEMENT PLAN

The SNWA Management Plan represents a commitment by the SNWA to define basin characteristics to better understand the hydrogeologic conditions of the basin and to develop the predictive capabilities of modeling tools. One of the responsibilities discussed in this Plan is to identify potential unreasonable impacts from pumping and to respond to those potential impacts. Another responsibility is to enhance the interaction of the surface water and groundwater.

Although computer models are typically utilized as estimating tools to help identify potential unreasonable impacts, the certainty of any output results from computer models is limited to available data. When data in a hydrographic basin is sparse or unavailable, generalizations and assumptions must be used as estimates for these basin characteristics. These generalizations and assumptions must then be validated through the collection of data from pump tests, monitoring and additional hydrogeologic studies.

In addition to refining the hydrogeologic parameters of the basin, this comprehensive Management Plan addresses the importance and recognition of surface water interaction with both phreatophytes and groundwater and further defines a commitment by SNWA to enhance that interaction to address potential development impacts.

The SNWA will accomplish this through the following five components:

1. Monitoring, Testing and Exploratory Well Development Program
2. Monitoring Network / Hydrogeologic Studies
3. Groundwater Augmentation- Phreatophyte / Maintenance Programs
4. Potential Water-Related Effects Analysis- Groundwater Model Development
5. Groundwater Development Plan

The following is a brief description of each component:

1. Monitoring, Testing, and Exploratory Well Development Program

   The SNWA Major Construction and Capital Plan (MCCP) has allocated $38 million to fund a program to drill, test and monitor wells in support of the SNWA's in-state water resource development activities. The wells will gather needed information to site well fields and further refine computer models for future evaluation of potential impacts. Once drilled, these wells will be tested to help assess aquifer characteristics such as storage parameters and hydraulic conductivity. Further, these wells will be used long term to monitor groundwater elevations and potential fluctuations in the basins. The following schedule is currently expected:

Spring Valley South - Four Sites

Site Identification	Complete 08/2006
Permitting	Complete 11/2006
Drilling and Pump Test	Complete 07/2007

Spring Valley North - Three Sites

Site Identification	Complete 12/2006
Permitting	Complete 03/2007
Drilling and Pump Test	Complete 03/2008

2. Monitoring Network/Hydrologic Studies

   a. Existing Monitoring and Studies – Streams, Springs, Wells, Precipitation Stations and Evapotranspiration – The SNWA currently monitors (or funds the monitoring of) numerous springs, streams, wells and precipitation stations in Spring Valley. The SNWA also funds evapotranspiration studies in the same area. Ongoing, long-term data collection is a tremendous asset to help identify basin characteristics, including perennial stream flows, depth to groundwater and groundwater source or origin. Additionally, the SNWA provides funding to the United States Geological Survey (USGS) and Nevada Division of Water Resources (NDWR) for the monitoring of certain other springs, streams and wells. A list of these monitoring and study sites for Spring Valley is attached as Exhibit B.

   b. Augmented Monitoring Network – In addition to the sites mentioned and those identified in the Exploratory Well Development Program, the existing monitoring network may be expanded based upon input from local, state and federal agencies.

   c. Hydrogeologic Studies – The SNWA is currently involved in a study of phreatophyte water use within Spring Valley and the surrounding valleys. Additionally, the SNWA is working with the USGS on defining geophysical surveys of Spring Valley to help ascertain additional geologic data. The SNWA will continue to fund further hydrogeologic studies that expand on existing studies, in order to better understand the relative impact of pumping on existing water rights and phreatophytes.

3. Groundwater Augmentation – Phreatophyte/Maintenance Programs

   a. Groundwater Augmentation - A key to managing the water resources in Spring Valley is to ensure that surface runoff continues to successfully enter the groundwater system through the natural grassland areas and irrigated fields. The SNWA will take the necessary steps toward augmenting the natural recharge system in Spring Valley to increase the infiltration to the groundwater system of mountain front surface water run-off, estimated to be 35,000 to 65,000 acre-feet annually, that is identified as surface water evapotranspiration and surface water evaporation at the playa in Spring Valley, by intercepting this flow and

developing a system to enhance the capability for additional recharge into the groundwater system. The SNWA will work with the appropriate parties for the possible approval of an appropriate recharge recovery program and to develop such facilities that will increase the quantity of water reaching the groundwater system. The SNWA may also acquire surface water rights in addition to existing surface water run-off to aid this accomplishment.

b. Phreatophyte Maintenance – State water law acknowledges that development of water resources occurs by exchanging the phreatophytic water use to another use. To ensure its groundwater development program does not unreasonably affect phreatophytic communities, if necessary the SNWA will disperse pumping. SNWA may also develop current surface waters, that are available from the mountain front runoff, or may acquire surface water rights to help maintain phreatophytes.

4. Potential Water-Related Effects Analysis – Groundwater Model Development

a. Computer models are increasingly being used to improve understanding of groundwater systems and to simulate the response of these systems to water development activities. These models may be used as tools to guide the implementation of an over-arching monitoring and management plan. While such tools are potentially important, it should be emphasized that their predictive capability is limited by the quantity and quality of the data available to construct and calibrate them. Models are most valuable to water managers when new baseline information from data collection programs, exploration programs, and development activities (for example, aquifer stresses from pumping or diversion from springs or streams) is continually added to them as the information becomes available.

b. A first step in creating a model is the development of a conceptual model, by estimating the recharge, stream flow, groundwater flow and discharge (evapotranspiration and/or inter-basin flow) components of the system. The conceptual model is then input into a numerical model that is calibrated to observed hydrologic system conditions. Typically, the model is first calibrated to predevelopment (steady-state) conditions.

c. The next step is to further calibrate the model by creation of a transient model to simulate effects (reduction of groundwater levels or stream flow) from pumping groundwater or diverting surface flow. If a model does not accurately simulate steady-state conditions or the conditions resulting from historical changes to the system, then it is not an appropriate tool to predict future impacts.

d. In many cases, the hydrographic basins in Nevada have very limited data to develop models that may be used as appropriate tools to simulate impacts over time. In many basins, the amount of baseline data available to develop a conceptual model is limited. In even more cases, some baseline data exist for creation of a conceptual model; however, very little or no groundwater pumping or stream flow diversion has occurred. In these situations, the development of transient models is not possible. A steady-state model can

be developed into a transient model, but the utility of this type of model to predict potential future conditions with no calibration to historical responses must be qualified.

e. Spring Valley has some baseline data in the form of groundwater level and stream-flow measurements, but very limited to no information on pumping and stream diversions. In essence, Spring Valley is very close to being in a steady-state condition. Streams flow toward the center of the valley or the playa and recharge the ground-water system and feed grassland areas, reaching the playa and evaporating. Some of this flow has been diverted for irrigation over the last 50 to 75 years; however, the change in evapotranspiration between the irrigated lands and the naturally watered grassland is probably very minor. Some groundwater pumping has occurred in Spring Valley, mainly in late summer to supplement surface flow. The growing season begins in late April to May and ends in October or November, limiting the information available to that of the pumping season. Records of the volume of water pumped, stream flows, or stream flow diverted are very limited.

f. Therefore, it needs to be recognized that any numerical model developed for Spring Valley is in its infancy as a tool to simulate potential future impacts. The current numerical model will be further developed and calibrated as water resource development activities generate additional data.

g. To facilitate the predictive capabilities and confidence of all parties involved, the SNWA will develop a numerical groundwater model of Spring Valley with input from all interested parties (local, state and federal), including the Office of the State Engineer.

5. Groundwater Development Plan

a. Existing Points of Development – The SNWA will develop the existing points of diversion as described in the SNWA's application as filed with the State Engineer. Concurrent with the development of these sites will be continual monitoring of those streams, springs and wells previously identified and others necessary to help evaluate potential impacts to development. Additionally, the data from the development of these sites, along with the data from exploratory well development and further hydrogeologic investigations, will provide the basis for the development of a numerical groundwater model.

b. Future Points of Diversion – As is customary in municipal water supply development, the SNWA may add additional points of diversion to this development plan in the future. These additional points of diversion may be considered in the event that potential adverse drawdowns occur based upon actual measured drawdown data correlated to a calibrated groundwater model as described above. Additionally, data may indicate more efficient pumping scenarios that could help alleviate operational costs, or identify scenarios that may be defined as beneficial for other uses, such as providing guzzlers or dispersing groundwater drawdowns more efficiently.

3.0 CONCLUSION

As the additional data described above becomes available, a calibrated model will be developed under the direction of interested local, state and federal parties. This model, in combination with management tools such as groundwater augmentation and phreatophytic maintenance, will be used in SNWA's overall management plan to ensure that the development of this resource as part of SNWA's larger resource portfolio takes place in a responsible and sustainable manner.

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4.0 REFERENCES

Scott, B.R., Smales, T.J., Rush, F.E., and Van Denburgh, A.S., 1971, Water for Nevada: Report 3 Nevada's Water Resources, State of Nevada Department of Conservation and Natural Resources, 87 p.

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Exhibit A

Scope of Services
Colorado River Long-Term Augmentation Plan of the Seven Basin States

A.1.0 INTRODUCTION

The Seven Basin States ("States") have agreed to evaluate a full range of options for augmenting the water supplies available from the Colorado River. The States have retained Colorado River Water Consultants (CRWC) to assist in the initial planning efforts, which include but are not limited to the following general assignments:

- Evaluation of the major options for augmenting the River's supply. Each evaluation is to include an analysis of costs, environmental consequences of the proposed option and overall feasibility.

- Preparation of a summary report on the results of the evaluation.

The CRWC's role in this assignment is to bring (1) the technical resources and (2) the team's collective experience gained on similar projects around the world and to provide a technical assessment of the identified options. The States will supplement the technical evaluation with legal, administrative, or institutional considerations and may authorize additional examination of the options.

The Scope of Work is a process to allow identification of all potential alternatives for augmenting Colorado River supplies (Task Series 100, 200, 300, and 400), screening and ranking the options (Task Series 500 and 600), and then developing detail on the final options (Task Series 700 and 800).

A.2.0 SCOPE OF WORK

Task Series 100 - Project Initiation and Management

a. Define or Frame the Objective. CRWC will provide a definition of the problem and desired outcomes that can be used to define the work processes, options considered, and decision processes through the course of the project. This problem definition will be reviewed by the Technical Committee for concurrence or revision.

b. Charter the Team. Based on anticipated options to be considered and communications required with the Technical Committee, the Bureau of Reclamation, and other affected parties, CRWC will define the roles and responsibilities of the project team. This will include early identification of needs for data collection and review, technical assessment of options, communications, and report preparation. A list of project contacts will be set up and distributed.

This list will include the Technical Committee and appropriate staff of State water agencies, the SNWA, the Bureau of Reclamation, and the CRWC team.

c. Define the Data Collection Process. The agencies to be contacted and other sources of information will be identified and the means and protocols of data collection will be defined. For the States and USBR, this will include personal visits. The format of reports summarizing options derived from the data collection efforts will also be defined.

d. Define the Evaluation Methodology. The methodology for evaluating various augmentation options will be described. This will include a uniform process for developing comparable cost estimates for all identified options, inclusion of "unlisted items", "engineering/design costs", and "contingency" allowances for each alternative based upon the quality of the available source information. Also to be included will be a subjective assessment of the reliability and completeness of information compiled for each option.

e. Establish the Communication Processes. An internet-based electronic medium for distribution of project materials will be established. A password system will be created to control access to the site. Among the project materials to be placed on the site will be meeting agenda, meeting minutes, project status reports, and reports on any technical option.

f. Plan Project Meetings. A schedule for project meetings will be established. This will include data collection meetings with State, Federal, or local water agencies as well as regular project meetings with the Technical Committee. Three meetings will be held with the Technical Committee. The first meeting will be to review the long list of options developed through all of the data collection, meetings with State and Federal agencies, and CRWC brainstorming. The second meeting will be to screen and rank the conceptual options with the Technical Committee. The third meeting will be to present the draft report to the Technical Committee and obtain their comments. Budgets for these meetings are included for Task Series 400, 600, and 800.

g. Plan Project Conference Calls. A schedule for project conference calls will be established. These will be held on dates approximately halfway between the Technical Committee meetings. The purpose of these conference calls will be to review progress and project materials as well as to raise such items and issues to the Technical Committee requiring guidance and approval from the Committee.

Task Series 200 - Review Reports and Documents

a. Initially Identify Document Sources. A draft listing of potential document sources will be prepared and reviewed with project management designated by the SNWA. This listing will include State agencies, major water supply utilities, the Bureau of Reclamation, other Federal agencies, universities, and other water supply entities as appropriate. The SNWA representatives will then contact the Technical Committee to review and approve various sources of information within the Seven States.

b. Contact Document Sources and Collect Reports. The various sources of information identified will be contacted and the reports and other information collected for review. To the extent personal visits are required to obtain this information, members of the CRWC staff possessing the needed expertise will be assigned from the closest regional office.

c. Review Reports and Other Information. The collected information will be reviewed to determine all potential long-range augmentation strategies that have been previously identified. The options from each source will be summarized in a consistent format.

d. Prepare Summary of Options Identified. The options identified from previous studies and other sources of information will be summarized in a consistent format and categorized into augmentation categories. A summary white paper or report will be prepared.

Task Series 300 - Receive Inputs From States and Federal Agencies on Options and Evaluation Methodology

a. Identify Agencies for Personal Meetings. Each member of the Technical Committee will be contacted to insure that personal meetings are scheduled with appropriate persons and agencies in each State. This will allow preparation of schedules of meetings in each State. In addition, the Bureau of Reclamation will be contacted to schedule meetings with appropriate Federal agencies.

b. Hold Meetings With Designated Agencies. Meetings with designated agencies in each State will be held to insure that all appropriate input on options is obtained. Two trips to each State will be held as part of this process. In addition, up to three meetings will be held with the Bureau of Reclamation or other Federal agencies.

c. Update Identified Options and Evaluation Methodology. The summary of identified options developed in Task Series 200 (d) above will be updated to reflect any additional information obtained through meetings held in each State.

Task Series 400 - Prepare Summary Description of Options

a. Provide Specialist Review of Options. A meeting of the leading technical specialists from the CRWC team will be convened for the purpose of identifying new options or combinations of options that were not previously explicitly identified. This process will particularly relate to the application of new or improved technologies that would lead to new options. The list of options for consideration will be revised to include any options identified through this process.

b. Revise the Option Summary Information. The format of information required to summarize each option as defined in Task Series 100 will be revised to reflect new information and criteria obtained in the process of obtaining information and identifying options. The summary information for options will include data on project location, size, previous sponsoring agency, cost, environmental considerations, technical aspects, and potential water supply yield.

c. Meet With Technical Committee to Review Options. A meeting will be held with the Technical Committee to review and provide comments on the options discovered through review of background reports, meeting with State and Federal agencies, and the meeting of CRWC technical specialists. At this meeting, the Technical Committee may choose to eliminate some options from further consideration and analysis.

Task Series 500 - Develop Conceptual Feasibility of Options

a. Identify Gaps in Option Information. The information available for each of the options identified will be reviewed to determine if all necessary information to allow objective review of the option has been collected. Gaps in the required information will be identified as well as steps required to address the gaps.

b. Collect Information to Fill Gaps. Upon approval by the SNWA, the required information will be collected to fill gaps on assessment of options. This information may relate to technical feasibility, environmental considerations and permits, and costs of the options.

c. Summarize Options. A summary of options in a consistent format will be prepared to allow subsequent screening by the Technical Committee.

Task Series 600 - Screen Conceptual Options With Technical Committee

a. Draft Screening and Ranking Criteria. Criteria for screening and ranking options will be drafted and presented to the Technical Committee for comment. Once comments are received from the Technical Committee, the screening and ranking criteria will be revised for application in the process.

b. Screen and Rank Options. In conjunction with the Technical Committee, the conceptual options will be screened and ranked to arrive at the list of selected options. This may involve the use of a formal decision-support system if beneficial in the process. As part of the screening process, some options may be combined or modified to create superior options.

c. Summarize Selected Options. The options selected for development of detail will be summarized in a consistent format for tracking purposes.

Task Series 700 - Develop Detail of Selected Options

a. Develop Detail on Technical Aspects of Selected Options. For each of the selected options, detail on the technical aspects of project implementation will be developed. This will include such aspects as location, size, configuration, and process elements.

b. Develop Detail on Environmental Aspects of Selected Options. For each of the selected options, detail on the environmental aspects of project implementation will be developed. This will included such aspects as positive and negative environmental impacts, evaluation of impacts on threatened or endangered species, permits required, and potential means of mitigating impacts.

c. Develop Detail on Costs of Selected Options. For each of the selected options, detail on costs of project implementation will be developed. This will include costs of land acquisition, construction of facilities, mitigation of impacts, ongoing operational costs, unlisted items, engineering/design costs, and contingencies.

Task Series 800 - Prepare Reports and Documentation

a. Draft Summary Report. A report summarizing the project activities will be prepared. The summary report will be prepared in a format suitable for a non-technical audience. The length of the summary report will be approximately 25 to 30 pages. The major focus of the report will be to summarize the technical details of the selected projects in a consistent format so that the Technical Committee and other interested parties will have a single source of information on the options available for implementation. For ease of reference, a separately bound appendix to the report will contain the evaluation of each individual option. Twenty copies of the draft report and appendix will be prepared.

b. Present Draft Report to Technical Committee and Obtain Review Comments. The draft report will be summarized in a presentation to the Technical Committee and copies distributed by SNWA to the Technical Committee for review.

c. Revise and Distribute Final Summary Report. Once review comments are received from the Technical Committee, the report will be revised and copies of the final report will be distributed to the Technical Committee and other interested parties. Fifty copies of the Summary Report and Appendices will be prepared and furnished to SNWA for distribution. In addition, fifty CDs containing the summary report and appendices will also be furnished to SNWA. This task will also include preparation of presentation materials that can be used by the Technical Committee or others in presenting the results of the report to agencies, legislative bodies, or special interest groups as necessary.

Task Series 900 - Conduct Follow-On Support Activities (As Requested)

a. For any of the options, the SNWA or the Technical Committee may wish CRWC to perform follow-on activities to obtain additional information useful in determining whether to move forward with implementation of an option or the optimal process to follow in implementation. The Team will be available to carry on such activities that are requested by the Technical Committee and are beneficial to the Seven States in augmenting the supply from the Colorado River. It is envisioned that such tasks will be carried out on a task order basis.

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Exhibit B

Current Spring Valley Monitoring Sites

The following table lists streams, springs, wells and other data sources being monitored in Spring Valley and the organization responsible for collecting the data. Sites may have more than one agency responsible for collecting data.

- SNWA - Identifies data collected by SNWA.
- JFA - Identifies data collected through Joint Funding Agreements between the NDWR, SNWA, and the USGS.
- DRI - Identifies data collected by Desert Research Institute (DRI) through a Professional Services Agreement with SNWA.

Surface Water Site Name	Agency/Agencies
Stage Canyon	SNWA
Siegel Creek	SNWA
Silver Creek	SNWA
North Creek	SNWA
Frenchman Creek	SNWA
Muncy Creek	SNWA
Kalamazoo Creek	JFA, SNWA
Kalamazoo Spring	SNWA, DRI, JFA
Piermont Creek	SNWA
Garden Creek	SNWA
Bassett Creek	JFA, SNWA
Little Negro Creek	SNWA
Odgers Creek	JFA, SNWA
Mc Coy Creek	JFA, SNWA
Taft Creek	JFA, SNWA
Stephens Creek	SNWA
Cleve Creek near Ely, NV	JFA, SNWA
Bastian Creek	JFA, SNWA
Eight Mile Creek	SNWA
Negro Creek	SNWA
Swallow Canyon NV	SNWA
Willard Creek	JFA, SNWA
Dry Canyon and Williams Canyon	JFA, SNWA
Cooper Canyon	JFA, SNWA
Willow Spring	SNWA
North Millick Spring	SNWA
South Millick Spring	SNWA
South Bastian Spring	SNWA
Willard Springs	SNWA
Layton Spring	SNWA
North Spring	SNWA
The Cedars	SNWA
Swallow Springs	SNWA

Well ID	Agency/Agencies
383351114180201	JFA, SNWA
383704114225001	JFA, SNWA
384403114272301	JFA, SNWA
384310114261401	JFA, SNWA
384745114224401	JFA
390803114251001	JFA, SNWA
391224114293601	JFA, SNWA
391308114245101	JFA, SNWA
392703114230501	JFA, SNWA
393059114221501	JFA, SNWA
393729114265401	JFA
393442114231801	JFA
393729114265401	SNWA
393442114231801	SNWA
184 N20 E66 13AB	SNWA
184 N14 E67 16DD Queen City	SNWA
390330114264401	SNWA
184 N12 E67 20BD	SNWA
384849114330701	SNWA
384254114252801	SNWA
384216114260001	SNWA
184N10 E68 30DD John's Wash Well	JFA, SNWA
383707114231202	SNWA

High Altitude Precipitation Sites	Agency/Agencies
Unnamed Peak NW of Mt. Moriah	JFA
Cave Mountain	JFA
Mt. Washington	JFA

ET Sites	Agency/Agencies
ET-Site 1	DRI-PSA
ET-Site 2	DRI-PSA
ET-Site 3	DRI-PSA