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2006 NOV 14 A 8: 56

AZ CORP COMMISSION
DOCUMENT CONTROL

Transcript Exhibit(s)

Docket #(s): W - 03067A-06-0117

Arizona Corporation Commission
DOCKETED

NOV 14 2006

DOCKETED BY	
<i>AM</i>	<i>nr</i>

Exhibit #: A-1, S-1

Beaver Dam Water Company
P.O. Box 550
Beaver Dam, Arizona 86432

October 28, 2006

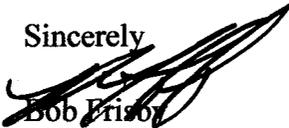
Docket Control
Arizona Corporation Commission
1200 W. Washington St.
Phoenix, Arizona 85007

RE: Beaver Dam Water Company - Application for an extension of its Certificate of
CC&N Docket No. W-0 36067A-0060117

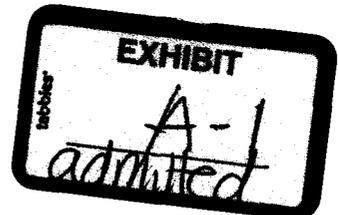
1. Area map depicting the Private Water Companies existing CC&N's
2. Area map depicting the Wind River Resources application to export water out of State of Arizona

Oct. 10, 2001 Virgin Valley Water District (VVWD) & Beaver Dam Water Comp (BDWC)
Nov. 15, 2001 Amendment between VVWD & BDWC
March 13, 2002 Docket W-0306A-01-0243
Aug 18, 2005 Final Plan VVWD & ADEQ
Sept. 11, 2006 ADEQ Approval of Water Distribution System DB-127
Oct. 17, 2006 VVWD Breach of Agreement - BDWC
Oct. 18, 2006 VVWD Water Agreement Apology
Oct. 26, 2006 VVWD Increase Rates
Oct. 24, 2006 Kelley Moss & Williams (Attorney BDWC) VVWD Final Plan
Las Vegas & Southern Nevada Water Authority Agreements with VVWD
March 15, 2005 Wind River Resources LLC Application AOWR
Pictures of a Subsurface near Beaver Dam & Phoenix Wells
1998 Mohave County Virgin River Area Plan
Sept. 8, 2006 Dixie Electric & Electric Meter Account
Jan. 30, 2006 Line Extension BDWC & scenic Enhancement (59 acres)
Sept. 18, 2006 Mohave County Board of Supervisors (Support)

Sincerely



Bob Frison
Beaver Dam Water Company



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3010

ORIGINAL OPEN MEETING AGENDA ITEM

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BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission

2002 MAR 12 A 11:50

WILLIAM A. MUNDELL
CHAIRMAN

DOCKETED

JIM IRVIN
COMMISSIONER

MAR 12 2002

AZ CORP COMMISSION
DOCUMENT CONTROL

MARC SPITZER
COMMISSIONER

DOCKETED BY [Signature]

IN THE MATTER OF THE APPLICATION
OF BEAVER DAM WATER COMPANY
TO EXTEND ITS CERTIFICATE OF
CONVENIENCE AND NECESSITY IN
MOHAVE COUNTY, ARIZONA

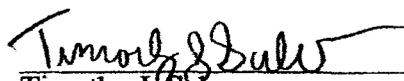
DOCKET NO. W-03067A-01-0343

MOTION TO AMEND
RECOMMENDED OPINION AND
ORDER

On March, 6, 2002, the Hearing Division's Recommended Opinion and Order in this matter was filed. The Recommended Opinion and Order recommends approval of an extension of Beaver Dam Water Company's ("Beaver Dam") Certificate of Convenience and Necessity ("CC&N") into the area currently certificated to Mesquite Farmstead Water Association ("Mesquite Farmstead"). Staff ("Staff") of the Utilities Division of the Arizona Corporation Commission ("Commission") hereby moves that the Hearing Division submit an amendment to its Recommended Opinion and Order recommending cancellation of the CC&N of Mesquite Farmstead. The Commission may take administrative notice of the Application ("Application") of Mesquite Farmstead in Docket Number W-02513A-94-0059. (A copy of this Application is attached as Exhibit 1 hereto). The attachments to the Application include a Certificate of Dissolution, indicating that Mesquite Farmstead is a now-defunct Nevada Corporation. The attachments to the Application also include a copy of 1993 Nevada Session Laws ch. 100 and Resolutions of Mesquite Farmstead's Board and Shareholders, which clearly demonstrate that under Nevada law, the Virgin Valley Water District ("Virgin Valley") is the successor to the liabilities and assets of Mesquite Farmstead. Virgin Valley has actively supported Beaver Dam's Application in this docket and representatives of Virgin Valley attended the hearing in this matter. Because the Application includes a request to extend Beaver Dam's CC&N into the CC&N area held by Mesquite Farmstead, Virgin Valley (as the successor-in-interest to Mesquite

1 Farmstead) has impliedly consented to the cancellation of the Mesquite Farmstead CC&N, since
2 only one entity may hold a water CC&N for any particular area. James P. Paul Water v. Arizona
3 Corp. Comm'n, 137 Ariz 426, 429, 671 P.2d 404 (1983). Moreover counsel for Virgin Valley
4 indicated to the undersigned that Virgin Valley has no objection to the cancellation of Mesquite
5 Farmstead's CC&N. Lastly, the Commission may take administrative notice that Mesquite
6 Farmstead has failed to file an annual report for a number of years and that Mesquite Farmstead
7 was included in the Order to Show cause issued in Decision 64090 for failure to file annual
8 reports.

9 RESPECTFULLY SUBMITTED this 12th day of March, 2002

11 
12 Timothy J. Sabo
13 Attorney, Legal Division
14 Arizona Corporation Commission
15 1200 West Washington Street
16 Phoenix, Arizona 85007
17 (602) 542-3402

15 The original and ten (10) copies of the
16 Foregoing were filed this 12th day of
17 March, 2002 with:

17 Docket Control
18 Arizona Corporation Commission
19 1200 West Washington Street
20 Phoenix, Arizona 85007

20 Copies of the foregoing were mailed/hand-delivered
21 this 12th day of March, 2002 to:

21 Bob Frisby
22 Beaver Dam Water Company
23 P.O. Box 550
24 Beaver Dam, Arizona 86432

24 George Benesch
25 Virgin Valley Water District
26 1025 Ridgeview Drive, Suite 400
27 P.O. Box 3498
28 Reno, Nevada 89505

27 Jamie Kelley
28 P.O. Box 20189
Bullhead, Arizona 86442

AGREEMENT

Virgin Valley Water District and Beaver Dam Water Company

Addressing divestiture of Arizona water service obligations and temporary source of supply and storage of water for service to a portion of Mojave County, Arizona

THIS AGREEMENT made as of this 10th day of October, 2001 (the "Agreement") is an agreement by and between VIRGIN VALLEY WATER DISTRICT, a Political Subdivision of the State of Nevada ("DISTRICT") and BEAVER DAM WATER COMPANY, an Arizona Domestic Corporation ("COMPANY") to provide a temporary source of supply and place for storage for potable water for water service to that area of Mojave County, Arizona, adjacent to the Nevada/Arizona boundary heretofore receiving potable water service from DISTRICT.

WITNESSETH

WHEREAS, the DISTRICT is presently serving potable water to some twenty-five plus services in Mojave County, Arizona;

WHEREAS, the DISTRICT is interested in divesting itself of any Arizona service obligation; and

WHEREAS, COMPANY is ready, willing and able to assume DISTRICT's Arizona service obligation and to expand its service area to include the area of Mojave County adjacent to the Arizona/Nevada boundary heretofore receiving potable water service from DISTRICT; and

WHEREAS, COMPANY will need a temporary source of potable water and storage until permanent infrastructure improvements in the form of a well and storage tank can be put into place; and

WHEREAS, DISTRICT is willing to provide such a temporary source of potable water and storage to COMPANY, as well as portions of hook-up fees from its Arizona customers that have been collected and earmarked for system improvements;

WHEREAS, approval of the State of Arizona, by and through its Corporation Commission, is required before this Agreement can become effective.

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

1. **Water Supply**

The DISTRICT shall provide, or cause to provide, COMPANY potable water and storage for that area of Mojave County heretofore receiving potable water from DISTRICT under its Nevada water rights and facilities of DISTRICT. It is understood and agreed that water provided under this Agreement is to be on a wholesale, acre-foot, basis, shall not be exported from the above described area of Mojave County and shall not exceed thirty (30) acre-feet annually.

2. **Cost of Water**

COMPANY shall pay DISTRICT the cost of pumping and chlorination as certified by DISTRICT plus a twenty five percent (25%) charge for storage for water consumed by the COMPANY within thirty (30) days of the date of invoicing. It is understood and agreed between COMPANY and DISTRICT that the combined cost of pumping and storage for at least the first year of this Agreement, and until other costs are certified, is One Hundred Dollars (\$100.00) per acre foot, broken down as follows: Seventy-Five Dollars (\$75.00) for pumping and chlorination; and Twenty-Five Dollars (\$25.00) for storage.

3. **Term**

The term of this Agreement shall be for Five (5) years from the date of approval of the Arizona Corporation Commission. After the expiration of the fourth year of the initial five (5) year period, COMPANY may request DISTRICT to enter into negotiations to continue the relationship and/or to continue providing wholesale water, storage or other matters contemplated in this Agreement. DISTRICT commits to negotiate in good faith with COMPANY for further assistance, but reserves the right to withhold extending any obligation set forth in this Agreement if COMPANY is not, *inter alia*, proceeding with due diligence to independently service the Mojave County service area identified in this Agreement.

4. **Assumption of Water Service Obligation**

DISTRICT hereby relinquishes its interest in all mains, meters, and other assets located in Arizona (except those identified in the first paragraph of Section 5) to COMPANY and COMPANY agrees to accept said mains, meters and other assets without warranty and to assume any and all future water service obligations of DISTRICT in that area of Mojave County, Arizona adjacent to the City of Mesquite, Nevada that was heretofore served with potable water by DISTRICT. COMPANY agrees to negotiate and enter into its own franchise agreement with Mojave County, Arizona and to commence such negotiations within sixty (60) days of the date of the Arizona Corporation Commission's approval of this Agreement.

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5. **State Line Metering, Technical Assistance and Storage**

DISTRICT agrees to provide, operate, maintain and test the necessary meters, valves, pressure regulating devices and meter boxes contemplated at the Nevada/Arizona state line under this Agreement. It is understood and agreed the subject meters, valves, pressure regulating devices and meter boxes will remain the property of DISTRICT, notwithstanding that they may physically be located in Arizona.

DISTRICT further agrees to provide COMPANY technical assistance in the location and drilling of wells and with other water purveying operations within the Mojave County service area identified in this Agreement. Reasonable technical assistance will be provided at no cost to COMPANY.

DISTRICT further agrees to provide COMPANY necessary storage on the following conditions: (a) DISTRICT will provide storage from its existing facilities only and it is understood and agreed that the construction of new storage facilities is not contemplated under this Agreement; and (b) water provided to COMPANY for fire emergencies will be replaced by COMPANY with a like amount of equivalent quality Arizona water within thirty (30) days or COMPANY will pay DISTRICT for the subject water as set forth in Section 2 of this Agreement.

6. **Fees Collected for System Improvements**

Within Sixty (60) days of the date of the Arizona Corporation Commission's approval of this Agreement, DISTRICT will release to COMPANY escrowed impact fees heretofore collected for Arizona system improvements in

the approximate amount of Eighty-Four Thousand Seven Hundred-Fifty Dollars (\$84,750.00). It is understood and agreed that these fees are to be utilized for well construction and water system infrastructure and in the event of default of this Agreement all fees must be repaid to DISTRICT with interest at the rate of two percent (2%) per month from the date of release. It is further understood and agreed that the State of Arizona and all individuals and entities presently receiving water service in Arizona from DISTRICT have an enforceable third party interest under this Agreement to ensure these funds are utilized for well construction and system infrastructure as provided for herein.

5. **Assignability**

The parties agree the above Agreement shall be assignable only with written approval of both parties and the Arizona Corporation Commission.

6. **Controlling Law**

Any dispute regarding this Agreement shall be decided according to the laws of the State of Nevada. If any part of this Agreement is declared to be unlawful, the remaining sections shall remain in effect.

7. **Amendment of Agreement**

This Agreement may only be amended by consent of both parties. Any amendments must be written and executed with the same formality as this Agreement.

8. **Entire Agreement**

This Agreement constitutes the entire Agreement between the parties and there are no representations, conditions, warranties or collateral agreements

(expressed or implied), statutory or otherwise, with respect to this Agreement other than is contained herein.

9. **Authority to Execute**

The parties hereto represent and warrant that the person executing this Agreement on behalf of each party has full power and authority to enter into this Agreement and that the parties are authorized by law to engage in cooperative action set forth herein.

10. **Review by Counsel, Attorneys Fees**

Each party and its counsel have reviewed this Agreement. The normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any amendments to it. Should it become necessary to file an action or to proceed with alternative dispute resolution to enforce provisions of this Agreement, the prevailing party is entitled to recover its costs and attorney's fees.

11. **Approval by Arizona; Execution**

This Agreement becomes effective when approved by the State of Arizona Corporation Commission and both originals are executed and dated by both

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parties, realizing that each entity, by necessity, must approve and execute the subject documents at different dates, times and places.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their officers thereunto duly authorized as of the date and year first written above.

BEAVER DAM WATER COMPANY

VIRGIN VALLEY WATER DISTRICT

By: *Robert Frisby*
Robert Frisby, Chairman

By: *Cecil Leavitt*
Cecil Leavitt, President

STATE OF NEVADA)
COUNTY OF CLARK)ss.

ATTEST:

On this 10th day of October, 2001, personally appeared before me, a Notary Public in and for said County and State, ROBERT FRISBY, who acknowledged to me that he executed the foregoing instrument in his capacity as Chairman of BEAVER DAM WATER COMPANY.

Robert Anderson
Robert Anderson, Secretary-Treasurer

Mary T. Johnson
Notary Public



APPROVED THIS ___ DAY OF _____, 2001
ARIZONA CORPORATION COMMISSION
UTILITY DIVISION

By: _____

**AMENDMENT TO
AGREEMENT
Virgin Valley Water District and Beaver Dam Water Company**

WHEREAS, the Agreement addressing divestiture of Arizona water service obligations and temporary source of supply and storage of water for service to a portion of Mojave County, Arizona, was entered into the 10th day of October, 2001, by and between VIRGIN VALLEY WATER DISTRICT, a Political Subdivision of the State of Nevada ("DISTRICT") and BEAVER DAM WATER COMPANY, an Arizona Domestic Corporation ("COMPANY");

WHEREAS, under Paragraph 1 of the October 10, 2001 Agreement, DISTRICT agreed to provide, or cause to provide, COMPANY with potable water and storage for that area of Mojave County heretofore receiving potable water from DISTRICT under its Nevada water rights and facilities of DISTRICT on a wholesale, acre-foot basis, not to exceed thirty (30) acre feet annually;

WHEREAS, it has been determined that thirty (30) acre feet annually is inadequate to address current and/or foreseeable needs of that area of Mojave County that is addressed in the October 10, 2001 Agreement and that ninety (90) acre feet annually would more adequately address this requirement;

WHEREAS, it is in the best interests of DISTRICT and COMPANY to have a buffer amount available to meet contingencies;

NOW, THEREFORE, IT IS AGREED that the limitation of thirty (30) acre feet annually as set forth in Paragraph 1 of the October 10, 2001 Agreement to be available as water supply on a wholesale basis shall be expanded to one hundred (100) acre feet annually. In all other respects, the October 10, 2001 Agreement remains unchanged.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to the October 10, 2001 Agreement to be executed by their officers thereunto duly authorized this 15 day of Nov, 2001.

BEAVER DAM WATER COMPANY

By: [Signature]
Robert Frisby, Chairman

VIRGIN VALLEY WATER DISTRICT

By: [Signature]
Cecil Leavitt, President

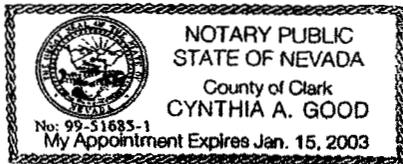
ATTEST:

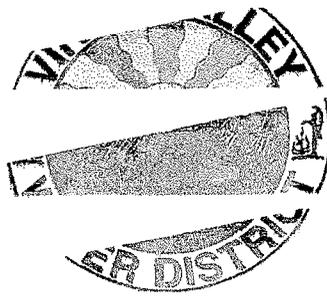
[Signature]
Robert Anderson, Secretary-Treasurer

STATE OF NEVADA)
COUNTY OF CLARK)ss.

On this 15 day of November, 2001, personally appeared before me, a Notary Public in and for said County and State, ROBERT FRISBY, who acknowledged to me that he executed the foregoing instrument in his capacity as Chairman of BEAVER DAM WATER COMPANY.

[Signature]
Notary Public





August 18, 2005

Mr. Michael Howeth
Arizona Dept. of Environmental Quality
1515 E. Cedar Avenue, Suite F
Flagstaff, AZ 86004

**RE: Fire Flow Protection and Emergency Domestic Service for
Beaver Dam Water Co.**

Dear Michael:

The Beaver Dam Water Company is currently under a contract with the Virgin Valley Water District. This contract is due for renewal in August of 2006. I do not foresee any changes to the contract in regards to providing fire protection and emergency domestic service for Beaver Dam until such time as they are prepared to provide their own.

Please feel free to call should you need further information regarding this matter.

Sincerely,

Michael Winters
General Manager, VVWD

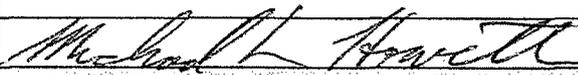
MW/mtj

C: Bob Frisby



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Certificate of Approval of Construction For a Water Distribution System

Applicant Information				ADEQ File Number	20060443	LTF ID	40786
Name	Beaver Dam Water Co. # 3			Project Name	Palms Well # 2		
Mail Address 1				Project Location	Senic		
Mail Address 2	P. O. Box 550						
City / State / Zip	Beaver Dam, AZ, 86432						
Project Type				Project Description			
<input checked="" type="checkbox"/>	Pressure Main	<input type="checkbox"/>	Storage Tank	Palms well # 2, (ADWR # 55-551856), and approximately 4000 L. F. of 10" diameter SDR-26 waterline, one blow-off valve assembly and related appurtenances.			
<input type="checkbox"/>	Hydro Tank	<input checked="" type="checkbox"/>	Other				
Facility Name	same			Facility Capacity			
Street Address 1							
Street Address 2							
City / State / Zip							
PWSID	08-127			Facility Capacity Affirmation By	Date		
County	Mohave						
Design Documents Approved	Date			Site Information			
Engineers Certificate of Completion	9/05/06			Location of Distribution System			
As-Built Site Plan				Township	40 N	Range	16 W
As-Built Drawings and Specifications	3/03/06			Section	33	Quarter Section	SE
Operations & Maintenance Plan				Latitude	36° 49' 22.7"		North
Response Letter				Longitude	114° 01' 23.3"		West
Other (Pressure / Leak test)	2/18/06						
Variations Granted							
 Michael L. Howeth, P.E.				Field Services Manager NRO		9/14/06 Date	

Cc: MCP&Z



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Certificate of Approval to Construct for a Water Distribution System

Applicant Information		ADEQ File Number	20050818	Place ID#: 112346	LTF No. 37891
Name	Beaver Dam Water Company		Project Name	Beaver Dam Water System #3	
Mail Address 1	P.O. Box 550		Project Location	Beaver Dam, AZ	
Mail Address 2					
City / State / Zip	Beaver Dam, AZ 86432				
Project Type			Project Description		
<input checked="" type="checkbox"/>	Pressure Main	<input type="checkbox"/>	Storage Tank		
<input type="checkbox"/>	Hydro Tank	<input type="checkbox"/>	Other		
Install approximately 4000 linear feet of 10" diameter Class 160 PVC water pipe, approximately 1630 linear feet of 6" diameter Class 160 PVC water pipe, 1 pressure reducing valve, 1 blow-off valve, new well pump, VFD drive, well improvements and related appruntenances.					
Facility Name		Beaver Dam Water Company		Facility Capacity	
Street Address 1		P.O. Box 550			
Street Address 2					
City / State / Zip		Beaver Dam, AZ 86432			
PWSID	08-127		Facility Capacity Affirmation By		Date
County	Mohave				
Design Documents Approved		Date	Site Information		
Application Date		10/06/2005	Location of Distribution System		
Site Plan		10/07/2005	Township	40 N	Range 16 W
Drawings and Specifications		10/06/2005	Section	32 & 33	Quarter Section
Operations & Maintenance Plan			Latitude	36° 49' 30.5" North	
Response Letter		11/04/2005	Longitude	114° 01' 28.0" West	
Other					

Approval to Construct (ATC) the above-described facilities as represented in approved plans documents on file with the Arizona Department of Environmental Quality is hereby given subject to the following provisions:
 The General Provision and Special Provision of the Water Distribution System appear on Pages 2 through 2

CERTIFICATE DISTRIBUTION
 Original Certificate
 Beaver Dam Water Company

Certificate Copy Only
 ADEQ/NRO Reading File
 ADEQ/NRO Construction File
 Mohave County
 Phylip J. Leslie, P.E.,
 Leslie and Associates, Inc.,
 444 South Main Street, Suite A-4,
 St. George, UT 84720

Stephen Owens, Director
 Arizona Department of Environmental Quality

By Kurt J. Harris 11-14-05
 Kurt J. Harris, P.E., Manager Date Approved
 Water Quality Design Review Unit
 Northern Regional Office



October 17, 2006

VIA FACSIMILE (928-347-5000)³
and FIRST CLASS MAIL

Mr. Bob Frisby, President
Beaver Dam Water Company
P.O. Box 550
Beaver Dam, Arizona 86432-0550

Re: Notice of Breach and Intent to Curtail Delivery of Wholesale Water

Dear Mr. Frisby:

On October 10, 2001, Beaver Dam Water Company entered into an Agreement with the Virgin Valley Water District for a temporary source of water and storage for service to a portion of Mojave County, Arizona adjacent to the Nevada/Arizona state line. The second sentence of Paragraph 1, page 2 of the subject Agreement reads:

It is understood and agreed that water provided under this Agreement is to be on a wholesale, acre-foot basis, shall not be exported from the above described area of Mojave County and shall not exceed thirty (30) acre-feet annually. (Emphasis added.)

In late 2001 or early 2002 the Virgin Valley Water District installed the appropriate meter or meters to monitor water being provided to Beaver Dam Water Company under the subject Agreement.

A review of meter reading records kept on a calendar year basis by the Virgin Valley Water District has revealed that Beaver Dam Water Company has exceeded the thirty (30) acre-foot limitation this year by some three (3) acre feet and accordingly is in breach of the subject Agreement. A review of historical usage for the year 2005 further revealed that Beaver Dam Water Company exceeded the thirty (30) acre-foot limitation by some twenty (20) acre-feet.

Please be advised that **effective Tuesday, October 31, 2006, the Virgin Valley Water District will cease the delivery of water under the subject Agreement.**

500 Riverside Road • Mesquite, Nevada 89027
(702) 346-5731 • (866) 857-3105 • Fax (702) 346-2596 • www.vvh2o.com

VIRGIN VALLEY WATER DISTRICT

Mr. Bob Frisby
October 17, 2006
Page 2

Based on your recent directives to the Virgin Valley Water District Board in two public meetings that Beaver Dam Water Company no longer needs Virgin Valley Water District water, it is not anticipated that this will be a problem. If continued service under the subject Agreement is desired, please be advised that: arrangements must be made with the undersigned **before October 31, 2006**; and that the price of water over and above thirty (30) acre feet per year is \$2.00 per thousand gallons.

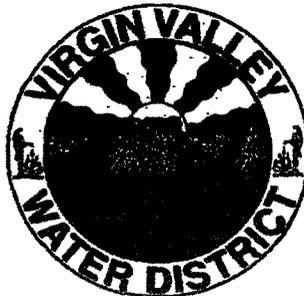
Your prompt attention to this matter is required.

Very truly yours,



Michael Winters
General Manager
Virgin Valley Water District

cc: Board
George Benesch
Arizona Corporations Commission
Arizona Department of Water Resources
Mojave County Supervisors



October 18, 2006

VIA FACSIMILE (928-347-5003)
and FIRST CLASS MAIL

Mr. Bob Frisby, President
Beaver Dam Water Company
P.O. Box 550
Beaver Dam, Arizona 86432-0550

RE: Water Agreement

Dear Bob:

Please accept my apologies for sending the letter of October 17, 2006. It appears that you were probably sent the original for signature and a copy was never returned for our files. The only agreement that I have is the original agreement for 30 acre-feet.

We would appreciate it if you could forward a copy of the amended agreement for our files.

Again, sorry for the mix up and please accept my apology and disregard the previous letter.

Sincerely,

Michael Winters
General Manager, VVWD

MW/mtj

C: Board
George Benesch
Arizona Corporations Commission
Arizona Department of Water Resources
Mojave County Supervisors

500 Riverside Road • Mesquite, Nevada 89027
(702) 346-5731 • (866) 857-3105 • Fax (702) 346-2596 • www.vvh2o.com

TELEPHONE
(775) 827-3100

LAW OFFICE OF
GEORGE N. BENESCH
190 W. HUFFAKER LANE, SUITE 408
RENO, NEVADA 89511

FAX
(775) 827-3020

October 26, 2006

VIA FACSIMILE

Mr. Bob Frisby, President
Beaver Dam Water Company
P.O. Box 550
Beaver Dam Arizona 89432

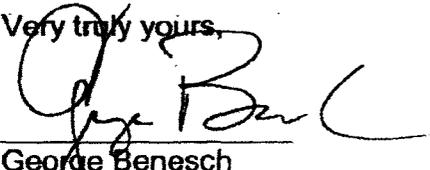
Dear Mr. Frisby

On October 18, 2006, you represented to Mike Winters that you had an Amendment to the Beaver Dam Water Company/ Virgin Valley Water District Agreement expanding the water duty from the 30 acre feet set forth in the original Agreement. By letter of the same date Mr. Winters requested a copy of the Amended Agreement. To date no such Amended Agreement has been provided.

In the absence of your providing the Water District an appropriately executed copy of the subject Amended Agreement, the District intends to proceed as if there is no such Amended Agreement in effect. Accordingly, if a copy of the subject Agreement is not provided to Mr. Winters on or before close of business on Thursday, November 2, 2006, the District renews its request for payment for all water received over and above 30 acre feet at the rate of \$2.00 per thousand as set forth in Mr. Winter's earlier letter.

Your prompt attention to this matter is requested and appreciated

Very truly yours,


George Benesch
General Counsel
Virgin Valley Water District

GNB/b

cc: Mike Winters

KELLEY, MOSS & WILLIAMS, P.L.L.C.

Jamie Kelley
Steven C. Moss
Rick A. Williams*
Kenneth Gregory

2031 Highway 95
P.O. Box 20189
Bullhead City, AZ 86439-0189
Telephone No. (928) 763-6969
Facsimile No. (928) 763-2181

*Certified Criminal Specialist
State Bar of Arizona

October 26, 2006

Michael Winters, G.M.
Virgin Valley Water District
500 Riverside Road
Mesquite, NV 89027

Re: 2001 Water Agreement

Dear Mr. Winters:

This letter is to follow up on issues concerning the Water Agreement dated October 10, 2001, and Amendment thereto dated November 15, 2001 ("Agreement"). Having tendered our comments to your faxed letter dated October 17, 2006 addressed to Beaver Dam Water Company, we commend your prompt remedial action embodied in your faxed letter dated October 18, 2006 addressed to Beaver Dam Water Company.

We understand the October 18, 2006 letter to rescind all matters set forth in the October 17, 2006 letter. If this understanding is incorrect in any way, please advise us immediately.

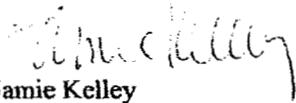
Of equal importance, however, is Beaver Dam Water Company's need for renewed assurance that Virgin Valley Water District will continue to provide emergency and fire protection water supply pursuant to the Agreement, with particular emphasis on Section 5 thereof. Beaver Dam Water Company has stressed their understanding that Virgin Valley Water District will continue to provide emergency and fire protection water supply, in reliance of your testimony at the evidentiary hearing before the Arizona Corporation Commission on January 14, 2002; the resultant order, Decision No. 64662 in Docket No. W-03067A-01-0343; and, your letter of August 18, 2006, addressed to the Arizona Department of Environmental Quality.

Our review of said sources lead us to a similar understanding: that Virgin Valley Water District is committed to and will continue to provide emergency and fire protection water supply, subject to Beaver Dam Water Company's obligation to replace any such water actually supplied within thirty (30) days or pay to Virgin Valley Water District the contract rate for such water during the term of the Agreement and at the standard commercial rate thereafter, until such time that Beaver Dam Water Company is prepared to provide its own emergency and fire protection water supply service. Again, if our understanding is in anyway not completely accurate, please advise us of the discrepancy in the understanding prior to November 15, 2006.

During this period of strained relations, we are primarily interested in amicably preserving the established and existing obligations and commitments set forth in the Agreement as clarified thereafter before both the Arizona Corporation Commission and the Arizona Department of Environmental Quality.

Very truly yours,

KELLEY, MOSS & WILLIAMS, P.L.L.C.



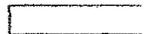
Jamie Kelley

cc: Bob Frisby, President
Beaver Dam Water Company
via electronic mail



Southern Nevada Water Authority

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CONSERVATION & REBATES DROUGHT & RESTRICTIONS LANDSCAPES DOING BUSINESS WATER QUALITY
 WATER RESOURCES

- Colorado River
- In-State Resources
 - Groundwater Development
 - Reclaimed Water
 - Surface Water Project**
 - Three Lakes Project
 - Frequent Questions
- IWPAC
- Las Vegas Groundwater
- Water Resource Plan

Drought Status



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Our next scheduled live broadcast: **SNWA Board Meeting on 11/16/2006 at 09:00 AM**

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Virgin and Muddy Rivers Surface Water Development Project

Print

SNWA has rights to surface water flows on both the Virgin River and Muddy River. The V Authority has applied to the federal Bureau of Land Management (BLM) for rights-of-way facilities and pipelines needed to divert the water to the Las Vegas Valley.

Virgin River

The Nevada State Engineer has granted SNWA rights to Virgin River surface water. SNWA can divert from the river up to 190,000 acre-feet of water annually. SNWA's water rights are not to exceed a long-term annual average diversion of 113,000 acre-feet per year. (An acre-foot is 325,851 gallons of water.)



The Virgin River winds its way to Lake Mead.

In 2000, SNWA entered into an agreement with the Virgin Valley Water District establishing provisions for sharing the river. This agreement ensures future municipal water supplies will exist for the Virgin Valley Water District.

SNWA agreed to limit the amount of Virgin River water it could purchase and transfer from the Virgin Valley to 5,000 acre-feet per year (in addition to its 113,000 acre-foot average annual diversion). The Water Authority also has agreements with the Virgin Valley Water District related to surface water rights acquired and outstanding groundwater applications.

Muddy River

The Water Authority also owns shares of the Muddy Valley Irrigation Company. SNWA may purchase approximately 7,000 acre-feet of Muddy River water from the Moapa Valley each year.

SNWA acquired these water rights under requests for proposals to the Muddy Valley Irrigation Company shareholders between 1997 and 2003 under separate agreements.

Basin States Agreement Impacts project

Due to an historic 2006 agreement among the seven states that share the Colorado River, the Water Authority has agreed to temporarily forego development of Virgin River water rights reserved under the Boulder Canyon Project Act (one of several documents that collectively govern the river).

However, SNWA will continue with necessary environmental studies associated with receiving water rights-of-way from the BLM.

Nevada still would be able to take Virgin River water granted prior to the Boulder Canyon Project Act. Those water rights can be withdrawn directly from Lake Mead without building a pipeline.

Documents from Wind River Resources, LLC application to ADWR

<u>DOCUMENT</u>	<u>PAGE #</u>
1. Letter from Mesquite City Manager to Virgin Valley Water District April 3, 2002	2
2. Wind River Resources, LLC Article of Organization May 17, 2004	3-5
3. Agreement between Wind River Resources and Virgin Valley Water District February 17, 2005	6-13
4. Wind River Application to Arizona Department of Water Resources March 15, 2005	14-26
5. Resolution to Establish Vista Verde Domestic Water Improvement District June 20, 2005	27-39
6. ADWR first Notice of Deficiency to Wind River Resources Application July 8, 2005	40-50
7. Wind River Resources Response to ADWR Notice of Deficiency September 1, 2005	51-61
8. David Rall's letter to ADWR regarding development and water in AZ September 6, 2005	62-63
9. ADWR Notice of Completeness October 12, 2005	64
10. ADWR letter to Bob Frisby, including AZ statute for water transfer October 25, 2005	65-67
11. Letter from Wind River attorney to ADWR March 22, 2006	68
12. ADWR response to Wind River attorney April 17, 2006	69-73
13. Wind River Resources additional information submitted to ADWR May 22, 2006	74-84

14. *Additional Copies*
15. *Projections*



Incorporated 1984
April 3, 2002

OFFICE OF THE CITY MANAGER

Bryan H. Montgomery, *City Manager*

Michael Winters, General Manager
VIRGIN VALLEY WATER DISTRICT
500 Riverside Road
Mesquite, NV 89027

RE: UPCOMING PROJECTS IN MESQUITE

Mike:

The purpose of this letter is to provide a quick update of proposed and upcoming projects in the City of Mesquite. As always, the City appreciates you and your Board's support of the accelerated, but appropriate, growth that the City promotes.

Within the next few months the City will be acquiring over 7,700 acres of land now managed by the Bureau of Land Management (see the attached map). This takedown is pursuant to the 1996 and 1999 Amendments to the Mesquite Lands Act that was originally approved by Congress in 1988. My staff and I commit to coordinate with you as this lands comes down and as it is eventually developed.

As noted on the attached map, approximately 2,560 additional acres will be made available to the City for a new commercial service airport. An FAA grant has funded the required studies to bring the airport to fruition and those studies are nearing completion. Actual construction of the airport is likely to being in late 2004.

Related to the new airport is a an exciting proposal called "Aeroquest." A well-organized group of developers and aviation professionals are proposing to host an air show on the scale of the one held in Paris, France. The Aeroquest principals feel that the Las Vegas area is ideal for hosting the 100,000+ visitors and that the new Mesquite Airport is conveniently located and designed for the project. The impact of the proposal on the economy of Mesquite cannot be understated and the development surrounding the project will certainly impact the Water District.

Thank you again for your service to the residents of Mesquite!

Respectfully,

A handwritten signature in black ink, appearing to read "Bryan H. Montgomery", written over a horizontal line.

Bryan H. Montgomery
City Manager

DO NOT PUBLISH THIS SECTION

ARTICLE 1
The company name must contain an ending which may be "limited liability company," "limited company," or the abbreviations "L.L.C.," "L.C.," "LLC" or "LC". If you are the holder or assignee of a tradename or trademark, attach Declaration of Tradename Holder form.

ARTICLE 2
May be in care of the statutory agent.

ARTICLE 3
The statutory agent must provide both a physical and mailing address. If statutory agent has P.O. Box, then they must provide a physical description of their street address/location. The agent must sign the Articles or provide a consent to acceptance of appointment.

ARTICLES 4
Complete this section only if you desire to select a date or occurrence when the company will dissolve. If perpetual duration is desired, leave this section blank.

ARTICLE 5.a
Check which management structure will be applicable to your company.

AZ. CORP. COMMISSION
FILED

MAY 17 2004

APPR. Kathleen Cavine
TERM _____
DATE 6.16.04
L-1133913-5

ARTICLES OF ORGANIZATION

OF

Wind River Resources, LLC
(An Arizona Limited Liability Company)

1. **Name.** The name of the limited liability company is:
Wind River Resources, LLC

2. **Registered Office.** The address of the registered office in Arizona is: _____
400 Old Pioneer Rd., Beaver Dam, AZ 86432
_____ located in the County of Mohave

3. **Statutory Agent.** (In Arizona) The name and address of the statutory agent of the company is: Erika VanAlstine
400 Old Pioneer Rd.
Beaver Dam, AZ 86432

4. **Dissolution.** The latest date, if any, on which the limited liability company must dissolve is N/A

- 5.a. **Management**
 Management of the limited liability company is vested in a manager or managers. The names and addresses of each person who is a manager AND each member who owns a twenty percent or greater interest in the capital or profits of the limited liability company are:
 Management of the limited liability company is reserved to the members. The names and addresses of each person who is a member are:

DO NOT PUBLISH THIS SECTION

5.b.

Name: Erika VanAlstine
 member manager member manager

Address: P.O. Box 8000, PMB 220
City, State, Zip: Mesquite, NV 89024

Name: _____
 member manager member manager

Address: _____
City, State, Zip: _____

ARTICLE 5.b.
Depending upon your selection in 5.a., provide the names and addresses of the managers and members of the organization. Check the applicable title for each person. A member managed company cannot contain a manager or manager.

EXECUTED this 27 day of April 2007.

[Signature] _____
[Signature]

Erika VanAlstine _____
[Print Name Here] [Print Name Here]

PHONE (928) 347-0101 FAX _____

The person(s) executing this document need not be member(s) of the company.

Your fax and phone number is optional.

The agent must consent to the appointment by executing the consent.

See A.R.S. §29-601 et seq. for more info.

Acceptance of Appointment By Statutory Agent

I, Erika VanAlstine, having been designated to act as Statutory Agent, hereby consent to act in that capacity until removed or resignation is submitted in accordance with the Arizona Revised Statutes.

[Signature]
Signature of Statutory Agent

Erika VanAlstine
[Print name]

[If signing on behalf of a company serving as statutory agent, print company name here]



STATE OF ARIZONA
CORPORATION COMMISSION

I hereby certify this to be a true
and complete copy of the document filed
in this office and admitted to record in
File No. 1-1133513-5


Executive Secretary

Dated: 6.29.04 By: Kathleen Caine

FIRST AMENDED AGREEMENT

Virgin Valley Water District and Wind River Resources, LLC

Addressing leasing of water from an Arizona ground water source and necessary facilities to pump and convey such water into Nevada

THIS AGREEMENT made as of this 17th day of February, 2005 (the "Agreement") is an agreement by and between VIRGIN VALLEY WATER DISTRICT, a political subdivision of the State of Nevada ("DISTRICT"), and WIND RIVER RESOURCES, LLC, an Arizona limited liability company ("COMPANY"), to provide ground water from an Arizona source for ultimate use by DISTRICT in and around its facilities in Clark County, Nevada, adjacent to the Nevada/Arizona boundary.

WITNESSETH

WHEREAS, COMPANY owns certain or controls certain rights to drill wells in and to an Arizona underground water source more specifically identified by registration numbers 55-204158 and 55-206125 ("Water Rights"); and

WHEREAS, COMPANY desires to lease Water Rights to DISTRICT and DISTRICT desires to lease Water Rights from COMPANY pursuant to the terms and conditions set forth herein; and

WHEREAS, it is understood that the approval of the states of Arizona and Nevada, by and through their respective water resources agencies, is required before this Agreement can become effective (the "Effective Date").

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

1. **Water Supply**

1.1 COMPANY will continue to use its best efforts to develop the drilling rights

it has claims to in and around the Mormon Wells area of Mojave County, Arizona, represented by, but not limited to, Arizona Water Resources registration numbers 55-204158 and 55-206125.

1.2 Subject to the provisions of paragraphs 1.1 and 1.3 and the available groundwater supply, COMPANY shall provide, or cause to provide, DISTRICT up to Fourteen Thousand (14,000) acre feet annually delivered to the Nevada/Arizona border to a point specified by DISTRICT in SW ¼ of Section 27, Township 11 South, Range 71 East MDB&M (the "Point of Delivery").

1.3 It is understood and agreed that with respect to water from the same source (over and above Fourteen Thousand (14,000) acre feet), which is not part of this Agreement, that COMPANY may utilize such water for a potable water source to one or more Mojave County water districts and any use of DISTRICT facilities and infrastructure in this regard is not within the scope of this Agreement.

2. Price of Water

2.1 For the initial Seven Thousand (7,000) acre feet, DISTRICT shall pay COMPANY as follows for the quantity of water delivered and measured at the Point of Delivery specified in paragraph 1.2 (the "Delivered Water"). DISTRICT shall pay COMPANY the rate of Two Hundred Dollars (\$200) per acre foot for the first ten (10) year increment of this Agreement. For the second ten (10) year increment of this Agreement, DISTRICT shall pay COMPANY the rate of Three Hundred Dollars (\$300) per acre foot. For the third increment of this Agreement, DISTRICT shall pay the rate of Four Hundred Dollars (\$400) per acre foot. For the remaining increment of this Agreement, DISTRICT shall pay COMPANY the rate of Four Hundred Dollars (\$400) per acre foot with an annual increase adjustment based on the

Consumer Price Index (CPI) set for the Salt Lake City Region.

2.2 Once the initial Seven Thousand (7,000) acre feet is allocated and committed under the provisions of Paragraph 2.1, with respect to the second increment of Seven Thousand (7,000) acre feet, DISTRICT shall pay COMPANY as follows: Four Hundred-Fifty Dollars (\$450.00) per acre foot for a period of ten (10) years; Five Hundred Dollars (\$500.00) per acre foot for the next ten (10) year period; and Five Hundred Dollars (\$500.00) per acre foot with an annual increase adjustment based on the CPI set for the Salt Lake City Region for the remaining duration of this (unrenewed) Agreement.

2.3 All price increases are subject to DISTRICT ratification prior to becoming effective, such ratification shall not be unreasonably withheld. Failure of DISTRICT to ratify price increases contemplated hereunder shall be considered sufficient grounds for COMPANY to pursue and undertake alternative markets for Water Rights.

3. Term

The term of this Agreement shall be for fifty (50) years from the Effective Date of this Agreement with options for DISTRICT to renew for two (2) additional twenty (20) year terms. Any negotiations related to exercising the renewal option shall commence on or before the expiration of the fortieth (40th) year after the effective date of this Agreement as set forth in paragraph 18 below.

4. Purchase Option

DISTRICT and COMPANY agree that DISTRICT would not have entered into this Agreement if it were unable to obtain the rights of first refusal to acquire Water Rights identified herein as partial consideration for this Agreement. Accordingly, DISTRICT shall be provided with prior notice of sale/purchase negotiations with third persons or entities not parties to this

Agreement and have rights of first refusal to acquire Water Rights in the volume utilized or contemplated to be utilized by DISTRICT under the same terms and conditions as they may be offered to such third persons or entities.

5. **Water Quality**

The quality of water delivered to DISTRICT hereunder shall be in compliance with requirements of the Federal Safe Water Drinking Act, as certified initially, and thereafter at least annually, by a Nevada certified laboratory. Of particular concern is arsenic, which may not exceed a combined concentration at the point of delivery sufficient to meet existing federal and state guidelines for water from a public drinking water purveyor.

6. **Well Field Design, Pumping and Conveyance to Nevada State Line**

6.1 COMPANY shall be solely responsible for well field design, operation and all direct and indirect costs of drilling of wells and transporting the Delivered Water to the Point of Delivery specified in Paragraph 1.

6.2 COMPANY shall be further solely responsible for any and all costs related to future changes in points of diversion, other regulatory requirements of Arizona, and/or the rehabilitation or redrilling of wells as may be necessary from time to time.

6.3 It is understood and agreed that the essence of this Agreement is that COMPANY shall be solely responsible for compliance with all Arizona regulatory requirements and Delivered Water reaching the Point of Delivery.

7. **Arizona Conveyance of Water Rights**

7.1 COMPANY shall design and engineer the conveyance lines in Arizona and shall be solely responsible for constructing and maintaining said lines as well as for obtaining any necessary Federal, State or local rights-of-way, special use permits or

easements. COMPANY shall be further responsible for initiating and obtaining necessary permits for the export of water from the Arizona Department of Water Resources.

7.2 In the event the Arizona export permit is denied by the Arizona Department of Water Resources, COMPANY shall have the sole discretion to determine whether to pursue a court appeal. In the event the Arizona export permit is ultimately denied, neither party shall have any further obligation or liabilities under this Agreement.

8. **Nevada Conveyance of Water Rights**

DISTRICT shall design and engineer the conveyance lines in Nevada and shall be solely responsible for constructing and maintaining said lines as well as obtaining any necessary Federal, State or local rights-of-way, special use permits or easements. DISTRICT shall be further responsible for initiating and obtaining necessary permits for the import of water from the Nevada Division of Water Resources.

9. **Cooperation**

The parties hereto agree to cooperate with each other and coordinate their activities to facilitate their respective duties hereunder.

10. **Assignability**

Neither party hereto may assign nor delegate the rights or duties under this Agreement without the express written consent of the other party, which consent is discretionary with that party, but will not be unreasonably withheld. This does not preclude the employment of subcontractors to perform various tasks contemplated hereunder in which case the party employing the subcontractor retains responsibility hereunder, nor does it preclude the ability to assign proceeds from the contract to lenders or investors.

////

11. Notices

Unless otherwise expressly provided herein, all notices required by this Agreement shall be in writing and may be served by personal delivery, fax or mailed by certified mail with return receipt requested, as follows:

To DISTRICT: Virgin Valley Water District
500 Riverside Road
Mesquite, NV 89027

With Copy To: George N. Benesch
General Counsel
190 West Huffaker Lane, Suite 408
Reno, NV 89511

To COMPANY: Wind River Resources, LLC
PO Box 8000 PMB 220
Mesquite, NV 89024

Either party may change its address by prior written notice to the other party.

12. Controlling Law

Any dispute regarding this Agreement shall be decided according to the laws of the State of Nevada. If any part of this Agreement is declared to be unlawful, the remaining sections shall remain in effect.

13. Amendment of Agreement

This Agreement may only be amended by consent of both parties. Any amendments must be written and executed with the same formality as this Agreement.

14. Severability

It is declared to be the intention of the parties that the sections, paragraphs, sentences, clauses and phrases of this Agreement are severable and if any phrase, clause, sentence, paragraph or section of this Agreement is declared unconstitutional or invalid by the valid and final judgment or decree of a court of competent jurisdiction, such unconstitutionality or

invalidity shall not effect any of the remaining phrases, clauses, sentences, paragraphs and sections of this Agreement.

15. **Entire Agreement**

This Agreement executed in duplicate originals constitutes the entire understanding of the parties and all prior negotiations and understandings are merged into this Agreement and there are no representations, conditions, warranties or collateral agreements (expressed or implied), statutory or otherwise, with respect to this Agreement other than is contained herein.

16. **Authority to Execute**

The parties hereto represent and warrant that the person executing this Agreement on behalf of each party has full power and authority to enter into this Agreement and that the parties are authorized by law to engage in cooperative action set forth herein.

17. **Review by Counsel, Attorneys Fees**

The parties acknowledge and agree that prior to entering into this Agreement appropriate legal advice and counsel was sought and that the parties made a voluntary informed business decision to enter into this Agreement in good faith. Each party and its counsel have reviewed this Agreement. The normal rules of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any amendments to it. Should it become necessary to file an action or to proceed with alternative dispute resolution to enforce provisions of this Agreement, the prevailing party is entitled to recover its costs and attorney's fees.

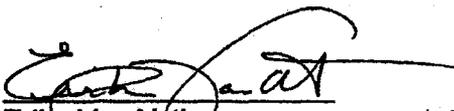
18. **Effective Upon Approval by Nevada and Arizona**

This Agreement supersedes or otherwise replaces the January 20, 2004 Agreement by and between DISTRICT and COMPANY and shall only become effective and enforceable

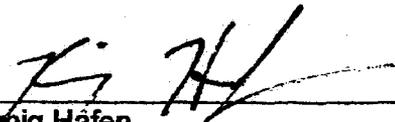
when the export and import of Water Rights is approved by the latter of the Arizona Department of Water Resources and Nevada Division of Water Resources, however it is acknowledged and agreed that DISTRICT's payment obligation hereunder shall not become effective until water is delivered into DISTRICT facilities constructed for the conveyance of the same.

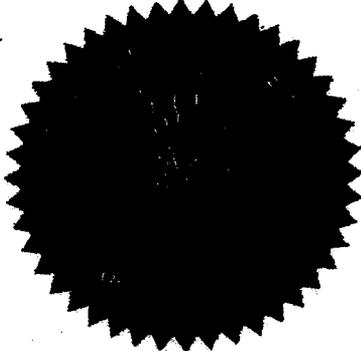
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers as of the date and year first written above.

WIND RIVER RESOURCES, LLC

By: 
Erika VanAlstine
Managing Member

VIRGIN VALLEY WATER DISTRICT

By: 
Craig Hafen
Chairman

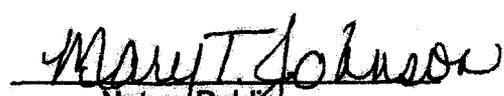


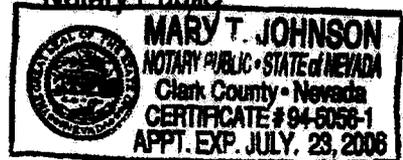
ATTEST:

Cecil Leavitt, Secretary-Treasurer

STATE OF NEVADA)
: ss.
COUNTY OF CLARK)

On this 18th day of ~~January~~ ^{February} (2005), 2005, personally appeared before me, a Notary Public in and for said County of CLARK and State of NEVADA, Erika VanAlstine, who acknowledged to me that she executed the foregoing instrument in her capacity as Managing Member of Wind River Resources, LLC.


Notary Public



WIND RIVER RESOURCES, LLC

350 N. Sandhill Blvd. #220 Mesquite, Nevada 89024

MAR 15 2005

Dear Ms. Logan:

Wind Rivers Resources, LLC, is interested in supplying water to the Lower Virgin River Basin in both Nevada and Arizona. The current supplier of water in the Nevada portion of the basin is the Virgin Valley Water District (VVWD) located in Mesquite, Nevada. VVWD's current demand is approximately 5,400 acre-feet annually. With projected growth anticipated to exceed 100,000 people by 2045 in the Nevada portion, the 11,500 acre-feet of allocated appropriation is insufficient to meet the demands. The Nevada portion of the basin is already fully appropriated making additional supplies to VVWD non-existent within the basin in Nevada. To exacerbate the situation even further, several of VVWD's wells already exceed safe drinking water standards for bromine, and several others exceed the new arsenic standards scheduled to take place in January 2006. As a result, VVWD is desperately searching for a sustainable supply of good quality groundwater to meet its projected demands and to also use to blend with their current supplies to meet the new safe drinking water standards.

The current demand in the Arizona portion of the Lower Virgin River Basin is around 3,000 acre-feet per year. The population in the Arizona portion is estimated to exceed 36,000 people by 2045. The primary aquifer underlying the Lower Virgin River Basin is the Muddy Creek Aquifer. The location of the best quality of water within that aquifer system is in the upper reaches of the Beaver Dam Wash in Arizona. As a result, Wind Rivers Resources has submitted the paperwork with the Mohave County Board of Supervisors to establish a Water Improvement District (WID) and has negotiated a contract with VVWD to operate and maintain the WID in the Arizona portion of the Lower Virgin River Basin. This will make VVWD the regional supplier of water to the entire Lower Virgin River Basin in both Nevada and Arizona.

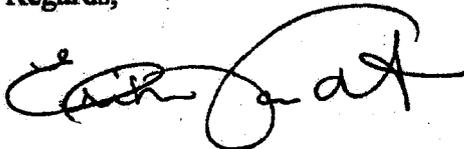
With the approval of this permit, Wind Rivers Resources anticipates extracting water from three wells yet to be constructed in the Mormon Wells area of Beaver Dam Wash in Arizona. The amount of water extracted will be phased in based on demand. The water will be transported to VVWD's system in Mesquite, Nevada where it will be blended, treated and delivered to municipal customers in both Nevada and Arizona. VVWD already delivers water to a private water company in Arizona and anticipates enlarging the current 10-inch line to accommodate the projected demands from the anticipated growth in Arizona. The maximum annual volume of water projected to be extracted in the Mormon Wells area of Beaver Dam Wash for this project is 14,000 acre-feet, of which a majority would ultimately return to Arizona after treatment based on projected growth rates for the Arizona portion of the basin.

Studies by the USGS, the Nevada Department of Conservation and Natural Resources, Southwest Geology and others have indicated the perennial yield of the Muddy Creek aquifer to be about 40,000 acre-feet annually. "Perennial Yield," is defined as the maximum amount of natural discharge that can be salvaged each year over the long-term by pumping without bringing about some undesired result. If VVWD were to pump its maximum allocation of 11,500 acre-feet, in addition to the maximum projected pumping from this project of 14,000, plus an additional 3,000 acre-feet from the current private domestic wells in the area, the total of 28,500 acre-feet (11,500 +14,000 + 3,000) will still be way under the estimated perennial yield of 40,000 acre-feet annually.

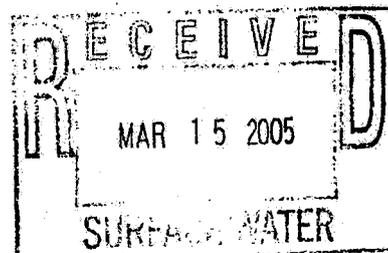
Groundwater impacts by pumping from the Mormon Wells area will be minimal if any to the existing wells in the Arizona portion of the basin for several reasons. The area identified for extraction is approximately six to seven miles upstream of the confluence of Beaver Dam Wash and the Virgin River where all of the private wells are currently located. Studies completed by the USGS in 1997 indicate the zone of influence generated by the projected water production would not reach the existing production wells. All current well owners also withdraw water from the upper alluvial Beaver Dam aquifer overlying the Muddy Creek Formation. The target depth for extraction of groundwater from Mormon Wells is within the underlying Muddy Creek formation below a confining layer. This confining layer minimizes the discharge of groundwater from the more transmissive zones of the Muddy Creek aquifer upward into the upper alluvial sediments of the overlying Beaver Dam Wash aquifer.

Thank you in advance for accepting this application and look forward to hearing from you. We would greatly appreciate you keeping us informed of the process. Please contact me at 702-347-5649.

Regards,



Wind River Resources, LLC
Erika VanAlstine
Principle

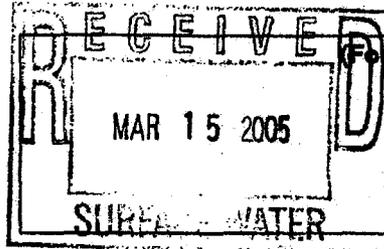


ARIZONA DEPARTMENT OF WATER RESOURCES

SURFACE WATER RIGHTS

**MAIL TO: P.O. BOX 458
PHOENIX, ARIZONA 85001-0458**

500 North Third Street
Phoenix, Arizona 85004-3921
Telephone (602) 417-2450
Fax (602) 417-2426



(For office use only)
Registry Number 33-96790
Date Filed: 3-15-2005

APPLICATION FOR PERMIT TO TRANSPORT WATER OUT OF STATE

1. Applicant Wind Rivers Resources LLC Telephone 702-345-2966
Address P.O. Box 8000 PMB 220, City Mesquite State NV Zip 89024
2. Name of statutory agent Erika Van Alstine Telephone 928-347-5649 or 702-345-2966
Address 400 Old Pioneer Rd City Beaver Dam State AZ Zip 86432
3. Type of Water: Surface Ground Mixed

4. Legal basis for acquiring the water to be transported: Groundwater outside of an Active Management Area

5. Proposed use (s) of water:
A. Domestic B. Municipal C. Irrigation D. Stockwatering E. Power
F. Mining G. Recreation H. Wildlife I. Groundwater Recharge J. Other

6. Quantity of water to be transported annually:
Table 1 presents the proposed volume of groundwater estimated to be utilized as a municipal source annually imported from Arizona. Estimates are based on projected demands and on the limited use of wells in Nevada anticipated to occur due to Arsenic levels. Withdrawals of groundwater from Beaver Dam Wash are anticipated to commence in 2006 and continue through 2046. The volume of ground water will be utilized from January 1 through December 31 for every year. Not all of the water will be utilized in Mesquite, Nevada. As the areas of Scenic, Littlefield, and Beaver Dam Arizona continue to develop, the water from Beaver Dam Wash will also be utilized to meet the demand in those areas as well. Tentative approval has already been granted by the Mohave County Board of Supervisors for the formation of a County Water District. Virgin Valley Water District has agreed to operate and maintain the water district making them the regional supplier of water for the entire Virgin River Groundwater Basin. By 2045 almost 70% of the water extracted from Beaver Dam Wash is anticipated for use in Arizona.

**Table 1.
Proposed Volume of Groundwater to be Exported to Virgin Valley Water District.**

Beneficial Use	Year	Volume of Groundwater (Acre-feet)	Specific Months of Use (if not for entire year)
Municipal	2006	800	January thru December
Municipal	2007	1,130	“““
Municipal	2008	1,570	“““
Municipal	2009	2,000	“““
Municipal	2010	2,450	“““
Municipal	2011	2,900	“““
Municipal	2012	3,350	“““

Beneficial Use	Year	Volume of Groundwater (Acre-feet)	Specific Months of Use (if not for entire year)
Municipal	2013	3,800	6666
Municipal	2014	4,300	6666
Municipal	2015	4,840	6699
Municipal	2016	5,330	6699
Municipal	2017	5,830	6699
Municipal	2018	6,330	6699
Municipal	2019	6,840	6699
Municipal	2020	7,000	6699
Municipal	2021	7,100	6699
Municipal	2022	7,200	6699
Municipal	2023	7,300	6699
Municipal	2024	7,400	6699
Municipal	2025	7,500	6699
Municipal	2026	7,600	6699
Municipal	2027	7,700	6699
Municipal	2028	7,800	6699
Municipal	2029	7,900	6699
Municipal	2030	8,000	6699
Municipal	2031	8,100	6699
Municipal	2032	8,300	6699
Municipal	2033	8,650	6699
Municipal	2034	9,050	6699
Municipal	2035	9,400	6699
Municipal	2036	9,730	6699
Municipal	2037	10,200	6699
Municipal	2038	10,700	6699
Municipal	2039	11,250	6699
Municipal	2040	11,800	6699
Municipal	2041	12,200	6699
Municipal	2042	12,600	6699
Municipal	2043	13,000	6699
Municipal	2044	13,450	6699
Municipal	2045	14,000	6699
Municipal	2046	14,000	6699
Municipal	2047	14,000	6699
Municipal	2048	14,000	6699
Municipal	2049	14,000	6699
Municipal	2050	14,000	6699
Municipal	2051	14,000	6699
Municipal	2052	14,000	6699
Municipal	2053	14,000	6699
Municipal	2054	14,000	6699
Municipal	2055	14,000	6699

RECEIVED
MAR 15 2005
SUNRISE WATER

7. Proposed duration of permit: 50 years.

8. Availability of alternative sources of water in the state of proposed use:

The only source of water currently available to Mesquite is groundwater from the Muddy Creek aquifer

Alternative sources of potable water are currently not available as the Nevada portion of the basin has been fully appropriated. (See accompanying documentation) Water from groundwater basins adjacent to the lower Virgin River basin within the state of Nevada are also not currently available. No water rights are available for importation from adjacent groundwater basins in the State of Nevada as the water has been fully appropriated by individual permit holders and jointly by Lincoln County and Vidler Water Company. Virgin Valley Water District (VVWD) is continuing its efforts to identify and secure additional water supplies, but thus far has been unsuccessful. Attached in Appendix A is a compilation of the water rights abstract from the Nevada State Engineer's office for ground water basins adjacent to the lower Virgin River Basin.

Surface water availability from the Virgin River in the vicinity of Mesquite is also limited. The current diversions in the Virgin River are located within the critical habitat of the Woundfin Minnow and the Virgin River Chub, which are Threatened and Endangered (T&E) species. Additional diversion in the vicinity of Mesquite from the Virgin River for municipal use is prohibited due to the potential impact on critical habitat. Any surface water from the Virgin River that may have been available is non-potable with an average total dissolved solids (TDS) concentration of 2,300 milligrams per liter (Metcalf, 1995). Virgin River water is a calcium sulfate dominated water (Brothers, etal 1993) that can only be treated to potable standards by membrane technologies. Nano-filtration or reverse osmosis are the possible methodologies to treat the surface water. Brine disposal, however, is currently not cost effective in non-costal areas.

9. Demand placed on applicant's supply in the state of proposed use: Based on information provided by the Nevada State Demographer, Mesquite, Nevada has grown from a population of 1,340 in 1986 to over 14,000 residences in 2002. The Nevada State Demographer estimates the population of Mesquite to be about 49,000 by 2020. Ground water is the only potable source of water available in the community. Current demand is approximately 5,400 acre-feet, with an approximate growth in water demand estimated to be between 3 and 5 percent annually. Approximately 11,500 acre-feet of ground water are currently permitted to VVWD for development in Mesquite, Nevada. Numerous wells within the Mesquite municipal supply system, however, exceed the new arsenic standards scheduled to go into effect in January 2006. The presence of arsenic in excess of the new standards further reduces the available supply to VVWD in Nevada without implementing expensive treatment processes.

Ground water from Muddy Creek aquifer in Beaver Dam Wash is of better quality and is in compliance with the new arsenic standard for the Safe Drinking Water Act. By mixing the groundwater from the Muddy Creek Formation in the Beaver Dam Wash with the existing water supply, the costs associated with constructing, operating and maintaining a treatment facility are eliminated.

VVWD currently delivers an average of 70 acre-feet of water annually into the, Littlefield and Beaver Dam areas of Arizona (See Table II). Developers within Mesquite have plans to develop more than 6,000 acres of land in the Beaver Dam/Littlefield area of Arizona at a density of 4.5 homes per acre over the next 40 years. As stated previously, VVWD has been approached by the developers and has agreed to supply the proposed development in Arizona with groundwater from the Muddy Creek Aquifer in Beaver Dam Wash. Paper work has already been filed with the Mohave County Board of Supervisors by Wind Rivers Resources, LLC for the formation of a County Water Improvement District, which will be operated and maintained by VVWD. The creation of a County Water Improvement District that is operated and maintained by VVWD will make VVWD the regional supplier of water to the entire Virgin River groundwater basin located within Arizona and Nevada. With the addition of this resource, a reliable supply of better quality water will be available to the residential and commercial customers served by VVWD in both Arizona and Mesquite, Nevada. At the projected build out of the 6,000 acres of developable lands in the Beaver Dam and Littlefield areas of Arizona by 2045, approximately 70% of the water pumped from Beaver Dam Wash is anticipated to be used in Arizona. (See Table III). Population projections for the areas within the Beaver Dam and Littlefield areas of Arizona were based on estimates provided by the developers, utilizing trends and projections supplied by the Nevada State Demographer for the Mesquite, Nevada area.

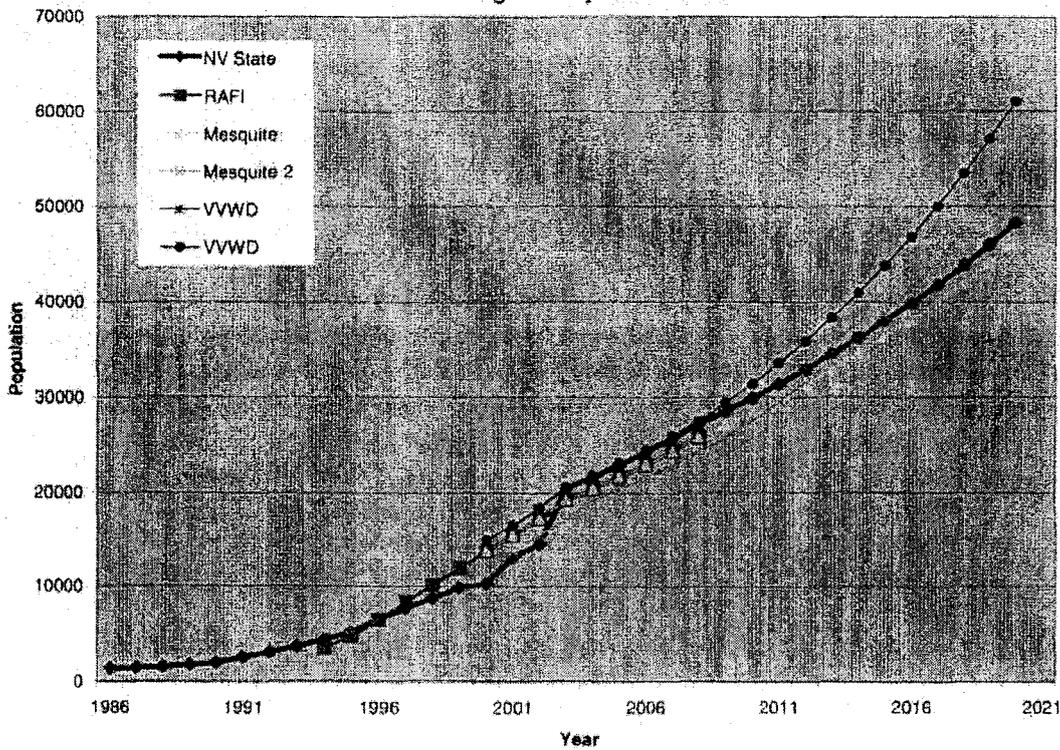
MAR 15 2005

Figure 1 from Ball (2002), illustrates the growth projections for Mesquite. The population projections are based on data from the Nevada State Demographer, City of Mesquite and consultants for VVWD. Data from the Nevada State Demographer are projected through 2020. Population projections versus projected potable water demands for the ground water are summarized in Table III. Population projection data beyond 2020 are extrapolated for 25 years at the growth rate of 3.0 percent per year.

Table II

Volume of Potable Water Exported by Virgin Valley Water District into Mojave County Arizona					
Year	2000	2001	2002	2003	2004
Annual Total in acre-feet	66	88	66	62	68

Figure 1: Population Projections in the Nevada Service Area of the Virgin Valley Water District



MAR 15 2005

As stated previously, the permitted water resources of VVWD are approximately 11,500 acre-feet per year (Nevada State Engineers database). Based on the population projections and water use in the service area of VVWD within Nevada, the existing permitted water is anticipated to support a population of 55,000 people. Table III presents the projected populations for the Mesquite, Nevada and Scenic and Beaver Dam, Arizona areas along with their projected water demands.

Table III
Population Projection and Potable Water Supply Projections for the VVWD Service Area Including the Proposed Area in Scenic Arizona

Year	Projected Population within Nevada	Projected Population in Scenic Arizona	Estimated Delivery of Water by VVWD from Nevada	Anticipated water to be Pumped from Beaver Dam Wash Arizona
2002	14,700	560	4,590	
2003	15,250	600	4,980	
2004	21,650	700	5,400	
2005	22,910	800	5,860	
2006	24,250	1,000	6,000	800
2007	25,670	1,220	6,000	1,130
2008	27,170	1,440	6,000	1,570
2009	28,500	1,880	6,000	2,000
2010	29,900	2,320	6,000	2,450
2011	31,360	2,980	6,000	2,900
2012	32,890	3,640	6,000	3,350
2013	34,510	4,520	6,000	3,800
2014	36,200	5,400	6,000	4,300
2015	37,970	6,280	6,000	4,840
2016	39,840	7,160	6,000	5,330
2017	41,800	8,040	6,000	5,830
2018	43,850	8,920	6,000	6,330
2019	46,000	9,800	6,000	6,840
2020	48,270	10,680	6,070	7,000
2021	49,710	11,680	6,100	7,100
2022	51,200	12,680	6,140	7,200
2023	52,740	13,680	6,200	7,300
2024	54,320	14,680	6,270	7,400
2025	55,950	15,680	6,360	7,500
2026	57,630	16,680	6,460	7,600
2027	59,360	17,680	6,570	7,700
2028	61,140	18,680	6,710	7,800
2029	62,980	19,680	6,870	7,900
2030	64,860	20,680	7,040	8,000
2031	66,810	21,680	7,240	8,100
2032	68,810	22,680	7,370	8,300
2033	70,890	23,680	7,380	8,650
2034	73,010	24,680	7,360	9,050
2035	75,200	25,680	7,430	9,400

MAR 15 2005

Year	Projected Population within Nevada	Projected Population in Scenic Arizona	Estimated Delivery of Water by VVWD from Nevada	Anticipated water to be Pumped from Beaver Dam Wash Arizona
2036	77,450	26,680	7,550	9,730
2037	79,780	27,680	7,570	10,200
2038	82,170	28,680	7,600	10,700
2039	84,630	29,680	7,630	11,250
2040	57,170	30,680	7,710	11,800
2041	89,790	31,680	7,990	12,200
2042	92,480	32,680	8,300	12,600
2043	95,260	33,680	8,730	13,000
2044	98,110	34,680	9,150	13,450
2045	101,060	36,000	9,600	14,000
2046	103,780	36,680	10,000	14,000
2047	106,580	37,680	10,400	14,000
2048	109,460	38,680	10,900	14,000
2049	112,420	39,680	11,400	14,000
2050	115,450	40,680	11,500	14,000
2051	118,570	41,680	11,500	14,000
2052	121,770	42,680	11,500	14,000
2053	125,060	43,680	11,500	14,000
2054	128,430	44,680	11,500	14,000
2055	131,900	45,680	11,500	14,000

10. Location of point of withdrawal or diversion: County Mohave

NW ¼ SW ¼ NE ¼, Section 12, Township 41 N N/S, Range 16 W E/W
NE ¼ SW ¼ NE ¼, Section 12, Township 41 N N/S, Range 16 W E/W

of the Gila and Salt River Base and Meridian, Mohave County, Arizona

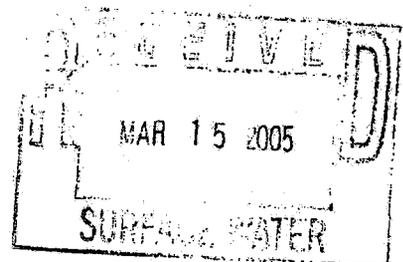
11. Location of place of beneficial use: County Clark County, Nevada and Mohave County, Arizona

Service area of Virgin Valley Water District in Nevada is 312 square miles within Clark County Nevada and a portion of Mojave County Arizona. With the creation of the County Water Improvement District within Mohave County, Arizona, VVWD will be responsible for delivering water to almost the entire lower Virgin River Valley. The specific locations are as follows:

In Nevada the place of beneficial use will be the following locations:

All of:

- Township 13 South, Range 68 East;
- Township 13 South, Range 69 East;
- Township 13 South, Range 70 East;
- Township 13 South, Range 71 East;
- Township 14 South, Range 68 East, excepting Section 7 and 18;
- Township 14 South, Range 69 East;



Township 14 South, Range 70 East;
Township 14 South, Range 71 East;
Township 15 South, Range 69 East; excepting Sections 5-8, 18, 19, 25-36;
Township 15 South, Range 70 East; excepting Sections 27-36
Township 13 South, Range 61 East; excepting Sections 27-34
Mount Diablo Base and Meridian, Clark County, Nevada

In Mohave County, Arizona the place of beneficial use will be the following:

All of:

Township 40 North, Range 16 West
Township 39 North, Range 16 West
Gila and Salt River Base and Meridian, Mojave County, Arizona

12. Description of transportation and beneficial use: Groundwater for municipal use is anticipated to be diverted via three production wells approximately 700 feet in depth, located in Section 12, Township 41 South, Range R16, West. Conveyance will be through a minimum twenty-four inch diameter pipeline that runs adjacent to the established Navajo power line utility corridor to the Nevada border, approximately 3 miles in length. At the intersection of the Nevada border and the Navajo utility corridor, the twenty-four inch diameter pipeline will run southward four miles, parallel to the Arizona-Nevada border until reaching Section 3, Township 12 South, Range 71 East. From this point the pipeline runs east into Section 2, Township 12 South, Range 71 East and connection to the established Virgin Valley Water District distribution system at VVWD Well No. 32. From the VVWD Well 32 site, the water is conveyed to a 40 acre-parcel located in Section 3, Township 12 South, Range 71 East, which contains six million gallons of water. From the Abbott reservoir complex water is conveyed four miles south into the service area of the Virgin Valley Water District. The pipeline route is illustrated on the plate titled Wind River Resources Point of Diversion and Distribution System Connection. Water will be supplied to Arizona via the existing Virgin Valley Water District distribution system. Currently, the distribution system into Arizona is via a ten-inch diameter pipeline that goes under I-15 adjacent to the Arizona border and then parallel to old highway 91. Another smaller pipeline conveys water along the Mesquite Irrigation Company canal to the Palms clubhouse. The service line diameters will be increased to meet the demands in Arizona as the population continues to grow. Figure 3-1 from the Virgin Valley Water District 2001 Water System Master Plan is included to illustrate pipeline configuration.

13. Additional comment or explanation: The following is a summary of the hydrologic setting and estimate of perennial yield for groundwater. See Accompanying "*Geology and Hydrology of the Lower Virgin River Valley in Nevada, Arizona, and Utah*," Dixon, G.L. and Katzer, T., 2002; "*Water-resources Appraisal of the Lower Virgin River Valley Area, Nevada, Arizona, and Utah*" Glancy and Van Denburgh, 1969; "*Hydrology and Water Quality of the Beaver Dam Wash Area*," Holmes, W. F., Pyper, G.E, USGS, 1997, and other studies and documentation for specific information corroborating claims of hydrologic impacts and groundwater availability for the area projected to be served by the proposed project.

The major source of surface water in the lower Virgin River basin is the Virgin River. The average flow of the river at the Littlefield gage is 180,000 (244 cfs) acre-feet per year. Base flow in the river is from the Littlefield Springs, which has a median low-flow for 30 consecutive days of about 60 cfs. This flow is exceeded about 95 percent of the time. The source of most water during low-flow periods is from the Littlefield Springs. About half of that water is from the lost river flow returning to the river and half to the groundwater discharge.

The other source of surface water is mountain front runoff, such as is found in Beaver Dam Wash and all ephemeral drainages. This volume of water is considerable, and is estimated to total at least 25,000 acre-feet annually. Some of this water infiltrates to the water table and becomes groundwater, some discharges directly to the river, and the remainder is lost to the system through ET.

Groundwater recharge occurs over much of the basin as a result of precipitation. The total precipitation on the basin is slightly over 1,000,000 acre-feet per year. The water resulting from precipitation that becomes groundwater recharge moves in the subsurface generally toward the Virgin River. The total amount of groundwater recharge for the lower Virgin River Valley is estimated to be 85,000 acre-feet annually.

The total recharge to the Muddy Creek Formation is estimated to be about 44,000 acre-feet per year. The sources of the total recharge are from stream infiltration along Beaver Dam Wash, from consolidated rocks, and infiltration of runoff at the mountain front.

M&I pumpage in 2004 in Mesquite and Bunkerville was estimated to be about 5,400 acre-feet. The wastewater resulting from M&I use was totally reused and consumed by golf course irrigation. There are a number of domestic wells in Arizona that are located in the Littlefield and lower Beaver Dam Wash area in Arizona. Pumpage in this area through 1990 was estimated at 6,000 afy, according to Black and Rascona (1991), which included a golf course and about 500 acres of actively irrigated farming in the lower reaches of Beaver Dam Wash. Virtually all of the farming has since gone out of production and the golf course was recently devastated by flooding. The USGS (Holmes, 1997) reported withdrawals from wells in the Beaver Dam Wash drainage area to be about 3,000 acre-feet per year. The property where the golf course used to be is now up for sale and no plans have been made to reconstruct the golf course according to the sales agent for the property owner. The numerous homes that were also devastated by recent flooding had no flood insurance and as a result the reconstruction of those homes is unlikely reducing the historical groundwater pumping further.

The available water supply for the lower Virgin River basin is a combination of ground and surface water. If groundwater is considered by itself, the yield is considered Perennial Yield and was defined by Glancy and Van Denburgh in 1969 "...as the maximum amount of natural discharge that can be salvaged each year over the long term by pumping without bringing about some undesired result".

One way of evaluating the perennial yield is to define the aquifer systems that transport groundwater recharge into the basin and assign an amount of water to the different systems. There are essentially two main aquifer systems, the Muddy Creek Formation and the underlying carbonate rock. There is an alluvial aquifer (Beaver Dam aquifer) overlying the Muddy Creek formation in the Beaver Dam Wash area and on the south side of the river in Arizona that is important locally, but was not considered a potential water supply for the purpose of defining perennial yield.

As previously stated, the total groundwater recharge for the lower Virgin River Valley is estimated at 85,000 acre-feet per year and of that amount, 62,000 acre-feet per year occurs upstream of the Littlefield gage with about half that amount discharging to the river. The remainder, about 32,000 acre-feet per year, of groundwater bypasses the Littlefield gage as it moves through the surrounding sediments and underlying carbonate rocks. The USGS (Holmes, 1997) estimated the amount of groundwater recharge to the Muddy Creek Formation from subsurface inflow via consolidated rocks and infiltration of runoff to be about 44,000 acre-feet per year. Most of the groundwater recharged upstream of the Narrows gage discharges to the river upstream of the Littlefield gage. Much of the water recharged in the Beaver Dam wash drainage bypasses the Littlefield gage in the Muddy Creek Formation. About 25 percent is estimated to discharge to the river upstream of the Littlefield gage.

The amount of recharge that occurs downstream of the Littlefield gage is 23,000 acre-feet per year. About 40 percent is from the Virgin Mountains south of the river, with the remaining 60 percent coming from north of the river.

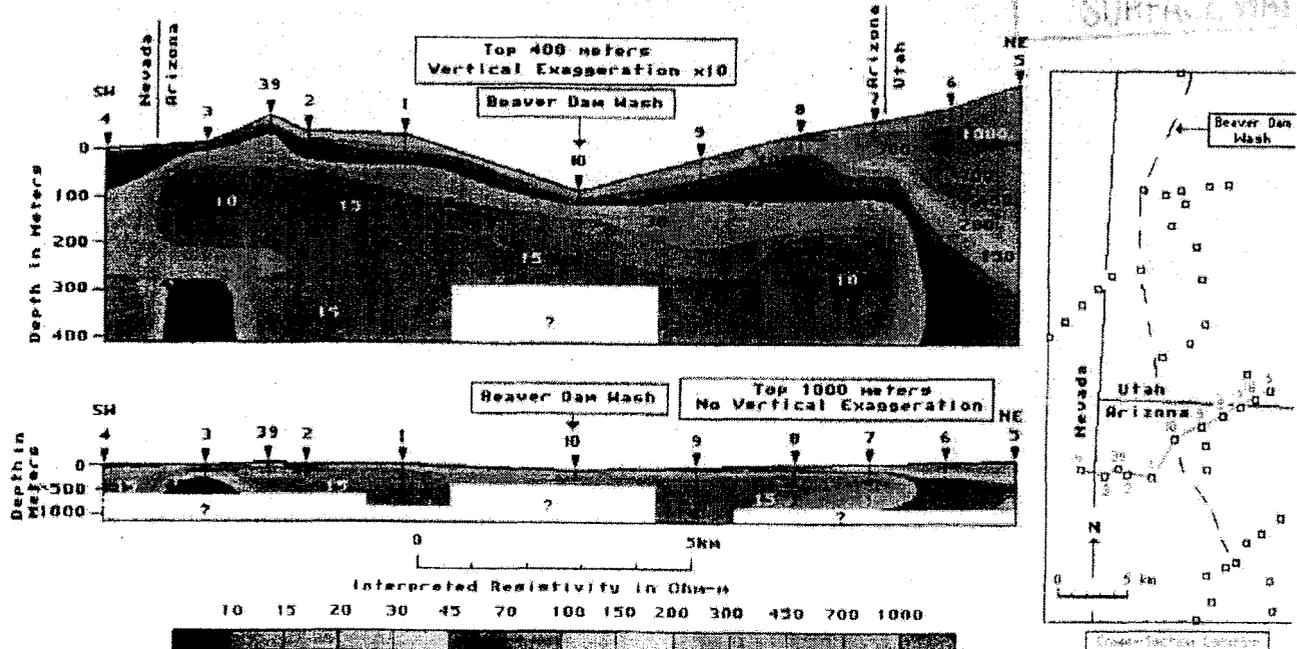
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MAR 15 2005

Thus with a total groundwater recharge downstream of the Littlefield gage estimated at 55,000 acre-feet per year (32,000 + 23,000), a reasonable perennial yield should be about 40,000 acre-feet per year from the Muddy Creek Formation, which would include the current pumping of about 9,000 acre-feet per year (5,400 acre-feet from the Mesquite area (Virgin Valley Water District, 2004) and about 3,000 acre-feet of pumping in the Beaver Dam Wash area of Arizona (Holmes, 1997)). This leaves a residual of about 15,000 acre-feet per year in deep-seated faults and carbonate rocks. Increasing the total annual pumping to 28,500 acre-feet (up to 14,000 acre-feet per year of pumping over the next 50 years from Mormon Wells plus the maximum 11,500 from VVWD and the estimated current pumping of 3,000 acre-feet per year in Beaver Dam Wash) is still well below the perennial yield of 40,000 acre-feet.

Groundwater impacts by pumping from the Mormon Wells area will be minimal if any to the existing wells in the areas of Beaver Dam and Littlefield for several reasons. The area identified for extraction is approximately six to seven miles upstream of the confluence of Beaver Dam Wash and the Virgin River where all of the private wells are currently located. Given the reported transmissivity value of 5000 ft²/day for the Muddy Creek aquifer by the USGS (Holmes, 1997), the zone of influence generated by the projected water production would not reach the existing production wells. All current well owners also withdraw water from the upper alluvial Beaver Dam aquifer overlying the Muddy Creek Formation. The target depth for extraction of groundwater from Mormon Wells is within the underlying Muddy Creek formation below a confining layer identified in recent drill hole data collected at Mormon Wells. This confining layer minimizes the discharge of groundwater from the more transmissive zones of the Muddy Creek aquifer upward into the upper alluvial sediments of the overlying Beaver Dam Wash aquifer.

A geophysical survey of the cross section compiled by Zohdy and others in 1994 is presented in the following figure. This cross section passes directly through the Mormon Wells area and delineates the upper alluvial Beaver Dam aquifer from the Muddy Creek aquifer. At Station 10 on the cross section, the bottom of the Beaver Dam aquifer occurs at 390 feet. As stated previously the targeted formation for groundwater extraction is the Muddy Creek aquifer, which is well below the upper alluvial Beaver Dam aquifer. The blue coloration in the figure delineates the Muddy Creek aquifer in the vicinity of Mormon Wells.

RECEIVED
MAR 15 2005
SURFACE WATER



14. REQUIRED ATTACHMENTS:

- Application Fee:** \$500.00 as authorized by Arizona Administrative Code Rule R12-15-151.
- U.S.G.S. Topographical Quadrangle map** or equivalents, or copies thereof, clearly showing the location of the point of withdrawal or diversion (In Arizona) and the place(s) of use (in other state).
- Hydrologic Studies:** These studies must be of sufficient magnitude and quality to allow the Department to determine the hydrologic impact on the area from which water will be transported.

By signing this application: 1) you represent that all of the information provided is true and accurate to the best of your knowledge and belief; 2) you submit to the jurisdiction of this state and agree to comply with all relevant provisions of the law of this state regarding transportation of water from this state; 3) you consent to on-site inspections by the Department of transportation facilities and the use of the water; 4) you agree to provide written periodic reports as required by the Director; and 5) you agree to provide written notification to the Department of any changes in use of the water transported from this state.

STATE OF ARIZONA

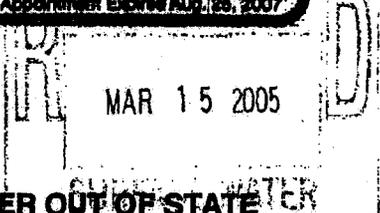
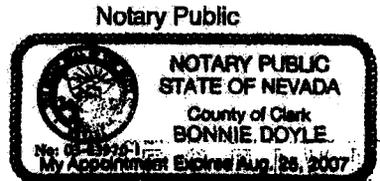
COUNTY OF Mohave



 Signature of Applicant

SUBSCRIBED AND SWORN to before me this 11th day of March, 2005.

My commission expires: Aug 25, 2007



INSTRUCTIONS

APPLICATION FOR PERMIT TO TRANSPORT WATER OUT OF STATE

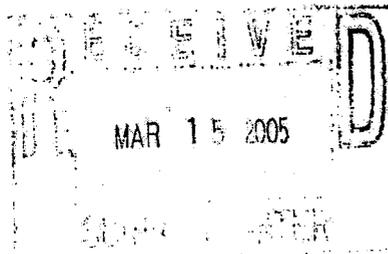
This as an application for a permit to transport water (surface or ground) from Arizona for beneficial use in another state pursuant to Arizona Revised Statutes §§45-292 and 45-293.

The following instructions are referenced by number to the questions or requests for information on the associated application form.

1. Complete name of applicant, current mailing address with zip code, and telephone number. If the applicant is a corporation or business, give the name of the authorizing agent.

2. Complete name of statutory agent within Arizona if different from applicant. This agent will receive all legal notices, correspondence, etc. associated with the application.
3. Indicate the type of water to be transported by marking the appropriate box.
4. Describe how the water will be/was acquired within Arizona. If the water is surface water, provide the registry numbers for all applicable water rights or claims. If it is groundwater, provide the applicable well numbers. If the water is to be acquired through an exchange agreement or other manner, please describe.
5. Circle all proposed beneficial uses of water. If a proposed use is not listed, please mark "other" and describe.
6. Provide specific quantities of water for all proposed uses. If the use will not be for the entire year, please indicate the months of use.
7. Provide the length of time for which a permit is being requested. This cannot exceed fifty (50) years, however, there is an option to renew.
8. Describe any alternative water sources that are being/have been considered in the state of proposed use.
9. Describe sources of current water supply and describe the current demands on that supply.
10. Provide the legal land description for the location of the proposed point(s) of withdrawal or diversion.
11. Provide the legal land description for the location of the proposed place of beneficial use.
11. Describe the proposed groundwater withdrawal, transport, return flow, exchange process (if applicable), and water use to be covered by the permit.

The applicant, or a representative of the applicant, must sign the application form and it must be notarized. *The application fee must be paid before the application can be accepted by the Department of Water Resources.* Fees are authorized by Arizona Administrative Code Rule R12-15-151.



7
BOS

RECORDED

2005068140 BK 5675 PG 969
OFFICIAL RECORDS OF MOHAVE COUNTY
JOAN MC CALL, MOHAVE COUNTY RECORDER
06/23/2005 07:31A PAGE 1 OF 7
MOHAVE COUNTY BOARD OF SUPERVISORS
RECORDING FEE 13.00

AZ DEPT OF WATER RESOURCES
SUPERVISORS

RESOLUTION NO. 2005-394

RESOLUTION ESTABLISHING THE VISTA VERDE DOMESTIC WATER IMPROVEMENT DISTRICT OF MOHAVE COUNTY

WHEREAS, real property owners filed a valid petition addressed to the Board of Supervisors ("Board") with the Clerk of the Board of Supervisors for the establishment of an Improvement District to be known as the VISTA VERDE DOMESTIC WATER IMPROVEMENT DISTRICT ("District") pursuant to Title 48, Chapter 6, Arizona Revised Statutes ("A.R.S."), as amended ("Improvement District Act");

WHEREAS, the Improvement District Act authorizes the Board by final order to grant the petitioners' request to establish the District boundaries, to designate land included therein, and to designate the District corporate name;

WHEREAS, the Board finds that petitioners are each and every real property owner qualified to petition for District formation and organization as shown by Exhibit A;

WHEREAS, because all real property owners within the District signed the petition, pursuant to A.R.S. Section 48-905(C), the Board may adopt this Resolution and summarily order District formation without any posting, publication, mailing, notice or hearing;

WHEREAS, the Board finds that all applicable District formation laws have been satisfied; and

WHEREAS, having heard all interested property owners on all matters relating to establishing the District, the Board finds that the District will benefit all land therein by acquiring and/or constructing improvements to supply water for domestic purposes, and therefore, will promote public convenience, necessity and welfare.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF MOHAVE COUNTY, ARIZONA, that:

1. The request of the petitioners is granted. An improvement district is hereby formed and organized, and shall exist pursuant to the Improvement District Act, under the name Vista Verde Domestic Water Improvement District, by which name it shall be known in all proceedings hereafter.
2. The District shall be a special purpose district and a municipal corporation for all applicable purposes. Except as otherwise provided in the Improvement District Act, the District shall be formed for, and shall have, all the purposes and powers of a domestic water improvement district provided in the Improvement District Act.

3. The District shall consist of all of the lands set forth on Exhibit B hereto ("Property"), and such lands shall be the basis for and subject to all taxes, assessments, tolls and charges levied by the District and the basis of the vote at all elections of the District. The Property includes certain lands to be used for District purposes.

4. The District shall have an elected Board of Directors consisting of three (3) members. The initial board members shall be as follows: David Rall, Forest Rall, and Cora Rall.

5. Copies of this Resolution shall be filed with the Mohave County Recorder, Mohave County Assessor, the Arizona Department of Revenue, and such other governmental agencies as are required or appropriate under applicable law. The Board and all other County officials are hereby authorized to execute all such documents and instruments and take all such actions as may be proper, necessary or appropriate in connection with this Resolution and the final organization and operation of the District.

6. The map of the Property referenced in Exhibit B is hereby approved as the official map designating the lands included in the boundaries of the District.

PASSED AND ADOPTED this 20 day of June 2005.

**BOARD OF SUPERVISORS OF
MOHAVE COUNTY, ARIZONA**

Tom Sockwell
Tom Sockwell, Chairman

ATTEST:

Barbara Bracken
Barbara Bracken, Clerk



RECORDED

DEPT OF WATER RESOURCES

EXHIBIT A

**COPY OF A RECORD SEARCH THAT SHOWS THE NAMES OF THE OWNERS
OF ALL PROPERTY IN THE PROPOSED DISTRICT**

OWNERS

Parcel 402-42-001

COPY OF SEARCH

See attached Property Status Inquiry.

INDEXED



Department Links

- Assessor Home
- Real Property Info
- Personal Property Info
- Tax Parcel Maps
- Other Maps
- Online Address Change
- Sale History
- Senior Valuation Freeze
- Department Directory

Quick Links

- Search
- Directory
- Calendar & Minutes
- Employment Links
- Bid Opportunities
- GIS
- Webstats
- Intranet (employees only)
- Web Email

Contact Us

Assessor Parcel Search

Data updated yesterday
 Enter Your Parcel Number with dashes (xxx-xx-xxxx)

Don't Know your Parcel Number?
 Search by Name Search by Address

ENTER PARCEL NO: 402-42-012

TAX YEAR: Current Year

PAGE 4 OF 7 BK. 5675 PG 972 FEE#2005068140

Parcel Information (Click for Tax Information)

Tax Year: 2005
 Parcel: (Click for Map) 402-42-012 Click for Improvement Information
 Site Address:
 Owner: SCENIC INVESTMENTS LLC
 Owner 2:
 Mailing Address: 190 E MESQUITE BLVD #A
 MESQUITE, NV 89024
 Tax Area: 0900
 Land Value: \$54,404.00
 Improvement Value: \$0.00
 Full Cash Value: \$54,404.00
 Assessed Full Cash Value: \$8,705.00
 Limited Value: \$48,309.00
 Assessed Limited Value: \$7,729.00
 Value Method: Land Market Model
 Exempt Amount: \$0.00
 Exemption Type:
 Use Code: 0004
 Property Use: VACANT LAND
 Class Code: Ag, Vacant Land or Non-profit
 Assessment Ratio: 16.00%

Last Sale Information (Click for more Sale Info)

Sale Price: 950000
 Sale Date: 7/1/2004
 Recorded Instr Type: SPECIAL WARRANTY DEED
 Book: 5412
 Page: 669

Legal Description Information (Click here for Survey Maps)

Parcel Size: 38.86 ACRES
 Township, Range and Section: 40N 16W 33
 Legal Description: NW4 SE4 LYING S OF SLY RW OLD HWY US 91 NOT INCLUDING COMM AT NE COR OF SE4 OF SEC 33; TH S89 DEG

04'56 W 1383.78' ALNG 1/4 SEC LN; TH S00 DEG 58'49 E 30.00'
TO THE TPOB; TH S00 DEG 58'49 E 135.62'; TH S84 DEG 23'20
W 128.90'; TH N05 DEG 41'28 W 146.88'; TH N89 DEG 04'56 E
140.53' TO POB CONT 38.86 ACRES 402-42-001 (402-42-012 &
013) 2004 TAX ROLL

 Printer Friendly Version

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Department of Information Technology
If you have questions regarding the site, please contact the webmaster.

PAGE 5 OF 7
PK 5675 PG 973 FEE#2005068140

DEPARTMENT OF WATER RESOURCES
CITY OF MOHAVE

PAGE 6 OF 7
BK 5675 PG 974 FEE#2005068140

EXHIBIT B

**LEGAL DESCRIPTION AND MAP REFERENCE OF THE LANDS TO BE
INCLUDED IN THE VISTA VERDE DOMESTIC WATER
IMPROVEMENT DISTRICT**

LEGAL DESCRIPTION

PARCEL NO. 1, as shown on Record of Survey Plat recorded February 6, 2004, in Book 25 of Records of Surveys, page 59, records of Mohave County, Arizona; situate in the Northwest quarter of the Southeast quarter (NW ¼ SE ¼) of Section 33, Township 40 North, Range 16 West of the Gila and Salt River Base and Meridian, Mohave County, Arizona.

MAP

See attached.

STATE OF ARIZONA
COUNTY OF MOHAVE

AGENCY OF WATER UTILITIES
SUNBELT WATER

BOOK 402

MAP 42

DATE 01/20/05
BY [Signature]

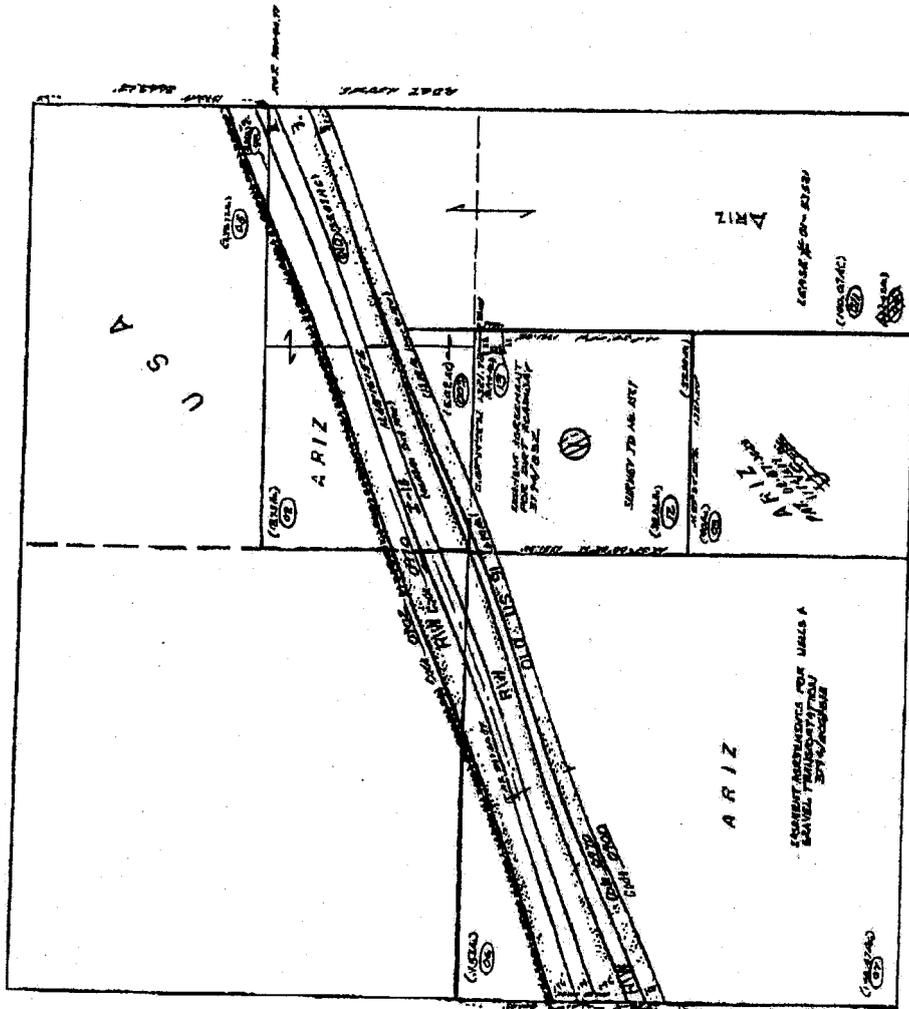
PAGE 7 OF 7
BK 5675 PG 975 FEE#2005068140

11. 09/07/2005 12:23
12. 9287530732
13. 09/07/2005 12:23



SCALE 1" = 600'

TOWNSHIP 40N RANGE 16W
SECTION 33



MOHAVE COUNTY ASSESSOR

40N-16W-33 APR 27, 2004

DEPARTMENT OF NATURAL RESOURCES
MURKIN WELLS

**Petition To Establish
Vista Verde Domestic Water Improvement District**

**TO: BOARD OF SUPERVISORS OF
MOJAVE COUNTY, ARIZONA**

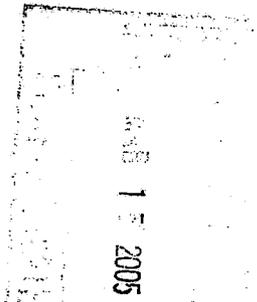
We the undersigned, being real property owners within the hereinafter proposed limits of the herein after described Improvement District hereby request the establishment of a Domestic Water Improvement District, and therefore, petition as follows:

1. The name of the proposed Water Improvement District is to be known as VISTA VERDE DOMESTIC WATER IMPROVEMENT DISTRICT.
2. That same is necessary to protect and benefit the owners in said district and to benefit and protect the public welfare. The district will be supplied water from Wind River Resources, LLC through Virgin Valley Water District.
3. That the public convenience, necessity and welfare will be promoted by the establishment of the district and the property to be included therein will be benefited.
4. The boundaries of the Improvement District are shown on the attached description and plat, Exhibits A and B.
5. The general outline of the proposed improvement is as follows:

To design, construct, and operate the domestic delivery system within the district, and provide water service to the property owners within the district to the extent that such a system is economically feasible. Any improvements will be reviewed to determine the specifications of construction and to further determine compliance with federal, state, and county laws, codes, regulations, ordinances, requirements, etc.

6. We request that the district have an elected board of directors consisting of 3 members. We request that an initial 3 member board be appointed pursuant to A.R.S. 48-1012(A) as follows:

- a. David Rall
- b. Forest Rall
- c. Cora Rall



These initial board members are qualified electors of the district as required by A.R.S.48-1012. The board members shall serve for the term specified in A.R.S. 48-1012(B) with three directors serving in the first class period. The first election shall be held on the day specified in A.R.S. 16-225(A) which follows the expiration of the initial term of directors of the second class and shall continue on that day thereafter unless otherwise provided by law.

PLEASE PRINT YOUR NAME, ADDRESS, AND PROPERTY INFORMATION. INDICATE THAT YOU ARE A PROPERTY OWNER AND SIGN ON THE SIGNATURE LINE. CO-OWNERS OR JOINT OWNERS SHOULD SIGN IN THE SAME BLOCK. IF ALL CO-OWNERS OR JOINT OWNERS OF THE PROPERTY DO NOT SIGN, PLEASE INDICATE THE PERCENTAGE OF THE PROPERTY OWNERSHIP HELD BY THE SIGNERS. ADDITIONAL BLOCKS ARE PROVIDED FOR ADDITIONAL PROPERTIES.

Name: DAVID RALL ^{PRESIDENT SEMI-ANNUAL MEETINGS} Owner: YES

Address: P.O. BOX 205 MESQUITE NV

Percent Owned: 100 %

Lot or Parcel Number

Lot: _____ Subdivision at book _____, Page _____ or

Assessor's Parcel Number: 402-42-001

Signature(s): *D. Rall* ^{president semi}
annual meetings



VISTA VERDE DOMESTIC WATER IMPROVEMENT DISTRICT
OF MOJAVE COUNTY, ARIZONA
CERTIFICATE OF PROPERTY OWNER
REGARDING PETITION FOR ESTABLISHMENT
A.R.S. 48-915

STATE OF ARIZONA)

COUNTY OF MOJAVE)

I, DAVID RALL, hereby certify:

That I am one of the petitioners who signed the foregoing Petition; that I am a property owner whose property is subject to this District formation and any assessment(s) for any improvement(s) contemplated thereafter as allowed by applicable laws; that the facts stated in the Petition are true; that I have examined the Petition and that the signatures thereto are, to the best of my knowledge, the genuine signatures of property owners contained within the limits of the proposed District.

Lot or parcel number

Lot _____ Subdivision at book _____, page _____.

Or

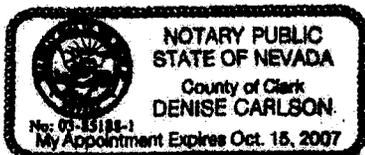
Assessor's Parcel number 402-42-001

[Signature]

Signature of Property Owner

Subscribed and sworn to me this 20 day of JANUARY, 2004.

(Seal and Expiration Date)



[Signature]
Notary Public

For each copy of the petition, one owner who signed that copy must fill in and sign this Certificate and have it notarized.

VISTA VERDE DOMESTIC WATER IMPROVEMENT DISTRICT
OF MOJAVE COUNTY, ARIZONA
CERTIFICATE OF PROPERTY OWNER
REGARDING PETITION FOR ESTABLISHMENT
A.R.S. 48-915

STATE OF ARIZONA)

COUNTY OF MOHAVE)

I, Forest A. Rall, hereby certify:

That I am one of the petitioners who signed the foregoing Petition; that I am a property owner whose property is subject to this District formation and any assessment(s) for any improvement(s) contemplated thereafter as allowed by applicable laws; that the facts stated in the Petition are true; that I have examined the Petition and that the signatures thereto are, to the best of my knowledge, the genuine signatures of property owners contained within the limits of the proposed District.

Lot or parcel number

Lot _____, Subdivision at book _____, page _____

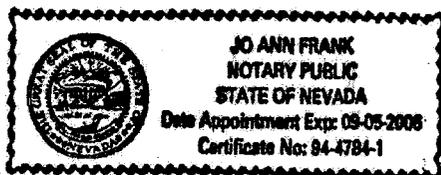
Or

Assessor's Parcel number 402-42-001

Forest A. Rall
Signature of Property Owner

Subscribed and sworn to me this 3/31 day of JAN., 2004.

(Seal and Expiration Date)



Jo Ann Frank
Notary Public

For each copy of the petition, one owner who signed that copy must fill in and sign this Certificate and have it notarized.

VISTA VERDE DOMESTIC WATER IMPROVEMENT DISTRICT
OF MOJAVE COUNTY, ARIZONA
CERTIFICATE OF PROPERTY OWNER
REGARDING SUFFICIENCY OF PETITION
FOR ESTABLISHMENT

STATE OF ARIZONA)

COUNTY OF MOJAVE)

I, DAVID RALL, being first duly sworn, on oath
depose and say:

That I am a property owner in the attached Petition whose property is within the proposed Improvement District and subject to the District formation and any assessment(s) for an improvement(s) contemplated thereafter as allowed by applicable laws; that I have examined the Petition or the several copies thereof and that the signatures thereto are, to the best of my knowledge, the genuine signatures of the owners of a majority of the land within the proposed District and that the statement in the Petitions are, to the best of my knowledge and belief, accurate and complete.

Lot or parcel number

Lot _____, Subdivision at book _____, page _____.

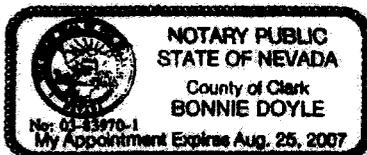
Or

Assessor's Parcel number 402 - 42 - 001

David Rall
Signature of Property Owner

Subscribed and sworn to me this 16th day of FEB., 2005

(Seal and Expiration Date)



Bonnie Doyle
Notary Public

When all the petitions are collected, one owner must fill in and sign this affidavit and have it notarized.

VISTA VERDE DOMESTIC WATER IMPROVEMENT DISTRICT
OF MOJAVE COUNTY, ARIZONA
CERTIFICATE OF PROPERTY OWNER
REGARDING PETITION FOR ESTABLISHMENT
A.R.S. 48-915

STATE OF ARIZONA)

COUNTY OF MOJAVE)

I, CORA RALL, hereby certify:

That I am one of the petitioners who signed the foregoing Petition; that I am a property owner whose property is subject to this District formation and any assessment(s) for any improvement(s) contemplated thereafter as allowed by applicable laws; that the facts stated in the Petition are true; that I have examined the Petition and that the signatures thereto are, to the best of my knowledge, the genuine signatures of property owners contained within the limits of the proposed District.

Lot or parcel number

Lot _____, Subdivision at book _____, page _____.

Or

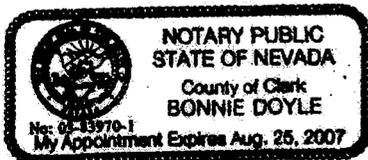
Assessor's Parcel number 402-42-001

Cora Rall

Signature of Property Owner

Subscribed and sworn to me this 16th day of FEB., 2005

(Seal and Expiration Date)



Bonnie Doyle
Notary Public

For each copy of the petition, one owner who signed that copy must fill in and sign this Certificate and have it notarized.

permits, easements and import permits with citation to legal authority that must be obtained by Wind River and VVWD.

c. Under ¶ 12 of the Agreement, any dispute regarding the Agreement is to be decided according to the laws of the State of Nevada. However, under ¶ 18, the Agreement does not become effective until the export application is approved by ADWR and the import application is approved by the Nevada Division of Water Resources. Under Arizona law, Wind River is required "to submit to the jurisdiction of this state for that purpose and shall comply with all relevant provisions of the law of this state." A.R.S. § 45-293(C). Please explain how Wind River proposes to resolve the conflict between the Agreement and Arizona law.

2. "Withdrawals of groundwater from Beaver Dam Wash are anticipated to commence in 2006 and continue through 2046." (Paragraph 6.)

a. Table 1 indicates that withdrawals will continue through 2055. Please clarify.

3. "Not all of the water will be utilized in Mesquite, Nevada. As the areas of Scenic, Littlefield, and Beaver Dam Arizona continue to develop, the water from Beaver Dam Wash will also be utilized to meet the demand in those areas as well." (Paragraph 6.)

a. Please provide the legal description (section, township, and range) of the proposed area to be developed in the Scenic area. Please explain the relationship of the development to Scenic Enterprises, whose president signed the petition to form a domestic water improvement district in Mohave County.

b. Please provide documentation that describes in detail how water from Beaver Dam Wash will be utilized to meet the demand in Scenic, Littlefield, and Beaver Dam, Arizona. ADWR reviewed the Agreement that was executed between Wind River and VVWD, but finds no reference to serving those areas in Arizona. In addition, the legal description of the place of use in paragraph 11 of the application does not include those areas.

c. Please provide documentation that establishes the water demands in Scenic, Littlefield, and Beaver Dam, Arizona for the term of the export permit.

4. "Tentative approval has already been granted by the Mohave County Board of Supervisors for the formation of a County Water District. Virgin Valley Water District has agreed to operate and maintain the water district making them the regional supplier of water for the entire Virgin River Groundwater Basin." (Paragraph 6.) "Paperwork has already been filed with the Mohave County Board of Supervisors by Wind Rivers Resources, LLC for the formation of a County Water Improvement District, which will be operated and maintained by VVWD. The creation of a County Water Improvement District that is operated and maintained by VVWD will make the VVWD the regional supplier of water to the entire Virgin River groundwater basin located within Arizona and Nevada." (Paragraph 9.)

a. ADWR assumes that the "formation of a County Water District" is a reference to the "Petition to Establish Vista Verde Domestic Water Improvement District in Mohave County," which was submitted with the application. Please provide documentation regarding Mohave County Board of Supervisors' action on the petition.

b. The petition was not filed by Wind River, but rather by an individual named David Rall, president of Scenic Enterprises. Please explain the relationship between Wind River and Mr. Rall, if any.

c. The petition indicates that the boundaries of the district "are shown on the attached description and plat, Exhibits A and B." These exhibits were not attached. Please provide copies of Exhibits A and B to the petition.

d. The petition and supporting certificates of property owners indicate that the initial board of directors will consist of three members, all of whom are co-owners of parcel number 402-42-001. Please explain how water will be distributed to and within this parcel. Are there future plans to subdivide parcel 402-42-001?

e. Please provide documentation that establishes that the VVWD has agreed to operate and maintain the water district and be a regional supplier of water for the entire Lower Virgin River Valley Basin. ADWR reviewed the Agreement that was executed between Wind River and VVWD and finds no such commitment from VVWD.

5. "By 2045, almost 70% of the water extracted from Beaver Dam Wash is anticipated for use in Arizona." (Paragraph 6.) "Developers within Mesquite have plans to develop more than 6,000 acres of land in the Beaver Dam/Littlefield area of Arizona at a density of 4.5 homes per acre over the next 40 years"...."At the projected build out of the 6,000 acres of developable lands in the Beaver Dam and Littlefield areas of Arizona by 2045, approximately 70% of the water pumped from Beaver Dam Wash is anticipated to be used in Arizona (See Table III)." (Paragraph 9.)

a. Please provide documentation that explains how 70% of the water will be used in Arizona. The information presented in Table III indicates that approximately 100,000 people in Nevada and 36,000 people in Arizona will be served by VVWD in 2045.

b. Please provide a map that indicates where the 6,000 acres of developed land will be located, and how they relate to the boundaries of the water improvement district. Does this area include Littlefield and the Beaver Dam Wash area?

c. Please provide documentation regarding the plans to develop the 6,000 acres of land.

6. "The only source of water currently available to Mesquite is groundwater from the Muddy Creek aquifer." (Paragraph 8.)

a. ADWR reviewed two documents submitted with the application, the "Nevada Division of Water Resources Water Rights Database, Special Hydrographic Abstract, February 16, 2005" and the compilation entitled "Total Amount of Surface and Ground Water for the Virgin Valley Water District." Both of these documents indicate that VVWD apparently holds surface water rights, some of which appear to be held jointly with Bunkerville. Please describe these supplies, explain why these surface water supplies are not available to VVWD, and provide documentation to support the explanation. Also, for the water rights database abstract, please explain the abbreviations used in the columns titled "Change of App" and "STAT."

b. The statement quoted above is contradicted by the 2002 report titled "Geology and Hydrology of the Lower Virgin River Valley in Nevada, Arizona, and Utah," which was included with the export application. At page 87, this report states that the "VVWD has about 2,300 AFY of surface water rights for Virgin River water..." Please explain the contradiction.

c. Please provide copies of VVWD's permits and certificates or other evidence of water rights.

7. **"Alternative sources of potable water are currently not available as the Nevada portion of the basin has been fully appropriated. (See accompanying documentation)" (Paragraph 8.)**

a. Neither the "Nevada Division of Water Resources Water Rights Database, Special Hydrographic Abstract, February 16, 2005" nor the compilation entitled "Total Amount of Surface and Ground Water for the Virgin Valley Water District," submitted with the application, establishes that the Nevada portion of the basin has been fully appropriated. Please provide documentation from the Nevada State Engineer or other appropriate state official regarding whether water may be appropriated within the Lower Virgin River Valley Basin area from the Muddy Creek Formation, which underlies the entire basin between Beaver Dam Wash and Mesquite.

b. On page 51 of the 1989 Nevada Department of Conservation and Natural Resources Report titled "Water Resources Appraisal of the Lower Virgin River Valley Area, Nevada, Arizona and Utah," submitted with the application, states: "Several of the springs in the Virgin Mountains south of Mesquite and Bunkerville furnished the municipal water supplies for these towns via long pipelines prior to development of the municipal well fields. The total flow of these springs is about 50 gpm." Please provide documentation that indicates whether these springs are still available for use by the VVWD.

c. On pages 96 and 97 of "Geology and Hydrology of the Lower Virgin River Valley in Nevada, Arizona, and Utah," the 2002 report concludes that within each groundwater target area in the basin, there "are numerous sites for ground-water wells that have an excellent potential to produce large quantities of good quality water." Please explain why these resources are not available to the VVWD.

d. On page 97, the same report also indicates that there may be opportunities to increase the recharge from ephemeral drainages that drain to the Virgin River to an additional 5,000 to 15,000 acre-feet per year over that which is occurring naturally. At Toquop Wash in Nevada, natural recharge is estimated at 5,000 acre-feet per year. Please explain why these resources are not available to the VVWD.

e. On page 98, the same report makes several recommendations in order to "increase the understanding of the ground- and surface- water system, which will allow water managers to more efficiently utilize the available water resources." These recommendations indicate that more data is required in order to understand the availability of water resources in the Lower Virgin River Valley Basin. Please provide documentation regarding whether any of these recommendations have been implemented. Please explain how the availability of water resources in Nevada for VVWD may be determined without this additional data.

8. **"Water from groundwater basins adjacent to the lower Virgin River basin within the state of Nevada are also not currently available. No water rights are available for importation from adjacent groundwater basins in the State of Nevada as the water has been fully appropriated by individual permit holders and jointly by Lincoln County and Vidler Water Company." (Paragraph 8.)**

a. The "Nevada Division of Water Resources Water Rights Database, Special Hydrographic Abstract, February 16, 2005," submitted with the application, only includes water rights for basin 222, and is of limited utility. See comment 7 above. Please provide documentation regarding adjacent groundwater basins, and in particular, the availability of supplies from the Muddy Creek Formation.

b. Please provide documentation that addresses the legal requirements for

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transporting water between groundwater basins within Nevada.

9. **"Surface water availability from the Virgin River in the vicinity of Mesquite is also limited. The current diversions in the Virgin River are located within the critical habitat of the Woundfin Minnow and the Virgin River Chub, which are Threatened and Endangered (T&E) species. Additional diversion in the vicinity of Mesquite from the Virgin River for municipal use is prohibited due to the potential impact on critical habitat." (Paragraph 8.)**

- a. Contrary to earlier representations, these statements indicate that surface water supplies are available, but limited. Please describe the surface water rights held by the VVWD. See comment 6 above.
- b. Please provide documentation regarding the location of VVWD's diversions from the Virgin River and the T&E critical habitat.
- c. Please provide documentation that establishes that additional diversions in the vicinity of Mesquite from the Virgin River for municipal use are prohibited due to the potential impact on critical habitat.

10. **"Any surface water from the Virgin River that may have been available is non-potable with an average total dissolved solids (TDS) concentration of 2,300 milligrams per liter (Metcalf, 1995). Virgin River water is a calcium sulfate dominated water (Brothers, etal [sic] 1993) that can only be treated to potable standards by membrane technologies. Nano-filtration or reverse osmosis are the possible methodologies to treat the surface water. Brine disposal, however, is currently not cost effective in non-coastal areas." (Paragraph 8.)**

- a. Please provide documentation that establishes the current Safe Drinking Water Standard for TDS and the costs associated with treating TDS water to meet that standard.
- b. Please provide documentation that includes the TDS levels for VVWD's current wells and at its points of diversion on the Virgin River. Please provide documentation that indicates whether this water is currently being treated for TDS.
- c. Please provide documentation regarding TDS levels from wells completed in the Muddy Creek Formation in the Beaver Dam Wash area. According to the USGS report titled "Hydrology and Water Quality of the Beaver Dam Wash Area, Washington County, Utah, Lincoln County, Nevada, and Mohave County, Arizona," submitted with the application, "groundwater discharging from wells and springs east of Beaver Dam Wash near the Virgin River ...is a calcium-magnesium-sulfate type with a dissolved-solids concentration generally greater than 1,500 mg/L (figs. 17 and 18). The water type and dissolved-solids concentration are similar to the type and dissolved-solids concentration of water from the Virgin River." Report, pages 41 and 43. Please explain how using groundwater from the Muddy Creek Formation in the Beaver Dam Wash area will comply with TDS standards.
- d. Regarding TDS concentrations in the Virgin River, the same USGS report states: "The annual minimum concentration of dissolved solids ranged from 370 to 1,270 mg/L, and the annual maximum concentration of dissolved solids ranged from 2,050 to 2,790 mg/L. The discharge-weighted average concentration of dissolved solids during 1948-87 was about 1,700 mg/L." This report is dated 1997, which is two years after the Metcalf report cited in the application. What is the study area for the Metcalf report, and over what period of time were data collected? Please provide a copy of the Metcalf report.

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11. **"Based on information provided by the Nevada State Demographer, Mesquite, Nevada has grown from a population of 1,340 in 1986 to over 14,000 residences in 2002. The Nevada State Demographer estimates the population of Mesquite to be about 49,000 by 2020."... "Population projections for the areas within the Beaver Dam and Littlefield areas of Arizona were based on estimates provided by the developers, utilizing trends and projections supplied by the Nevada State Demographer."... "The population projections are based on data from the Nevada State Demographer, City of Mesquite and consultants for VVWD. Data from the Nevada State Demographer are projected through 2020."... "Population projection data beyond 2020 are extrapolated for 25 years at the growth rate of 3.0 percent per year." (Paragraph 9.)**

- a. Please provide separate documentation from developers, the Nevada State Demographer, the City of Mesquite, and consultants for VVWD that includes population projection data for the term of the export permit.
- b. Please provide documentation to support extrapolating population projection data beyond 2020 at a growth rate of 3.0 percent per year for 25 years.

12. **"Ground water is the only potable source of water available in the community." (Paragraph 9.)**

- a. Please provide documentation that addresses whether surface water supplies could provide potable sources of water. See comments 6 and 7 above.

13. **"Current demand is approximately 5,400 acre-feet, with an approximate growth in water demand estimated to be between 3 and 5 percent annually." (Paragraph 9.)**

- a. Please provide documentation to support the "current" demand. What date and what population number were used to calculate "current" demand? Is the application relying on the 2001 Master Plan that was submitted with the application in which a 246 gpcd rate was used?
- b. Please provide documentation to support the estimate for the growth in water demand.

14. **"Approximately 11,500 acre-feet of ground water are currently permitted to VVWD for development in Mesquite, Nevada." (Paragraph 9.)**

- a. Please provide documentation to support this number. The compilation of water rights for VVWD that was attached to the application includes both surface water and groundwater, and the rights total approximately 11,000 acre-feet.

15. **"Numerous wells within the Mesquite municipal supply system, however, exceed the new arsenic standards scheduled to go into effect in January 2006. The presence of arsenic in excess of the new standards further reduces the available supply to VVWD in Nevada without implementing expensive treatment processes." (Paragraph 9.)**

- a. According to page 7-1 of the 2001 Master Plan, VVWD has six wells with arsenic levels of 6, 16, 19, 43, 80 and 86 µg/l. Except for the well with 86 µg/l levels (well #28), the water from these wells was blended to meet the current standards. The production capacity of the six wells ranged from 600 gpm to 1,700 gpm with a total of 7,550 gallons per minute (less 1,200 gpm for well #28). 2001 Master Plan, page 3-1. Is this data still

valid? The 2001 Master Plan indicates that other wells sites were proposed, but that the capacity of the proposed wells had not yet been established. 2001 Master Plan, page 35

1. Please provide documentation that indicates how many wells VVWD currently has, their arsenic levels and production capacities, and whether the water is blended from more than one well before distribution.

b. For each of VVWD's wells, please provide well completion data, aquifer test data, and geologic/lithologic logs.

16. "Ground water from Muddy Creek aquifer in Beaver Dam Wash is of better quality and is in compliance with the new arsenic standard for the Safe Drinking Water Act. By mixing the groundwater from the Muddy Creek Formation in the Beaver Dam Wash with the existing water supply, the costs associated with constructing, operating and maintaining a treatment facility are eliminated." (Paragraph 9.)

a. Please provide documentation to establish that Beaver Dam Wash groundwater is better in quality and will meet the new arsenic standard. At page 29, the 1997 USGS report submitted with the application stated: "Wells drilled recently near the city of Mesquite, Nevada, produce large amounts of ground water from the Muddy Creek Formation that is similar in chemical composition to ground water in Beaver Dam Wash." This statement is contrary to the representation made in the application.

b. Please provide documentation that explains how mixing groundwater from the Muddy Creek formation in the Beaver Dam Wash area with groundwater from VVWD's wells will eliminate treatment costs. See comment 10(a) above.

c. Please provide documentation that explains how the transportation of Beaver Dam Wash groundwater to the VVWD will be of sufficient quantity to be blended with groundwater from VVWD's production wells so that the new arsenic standard of 10 µg/l will be met. When deliveries begin, only 800 acre-feet will be transported to VVWD. The total production capacity of the six wells identified in the 2001 Master Plan was 7,550 gpm (less 1,200 gpm for well #28). How will this volume of water allow the arsenic levels in the VVWD wells to be met under the new standard? See comment 15 above.

17. "VVWD currently delivers an average of 70 acre-feet of water annually in the Littlefield and Beaver Dam areas of Arizona. (See Table II)." (Paragraph 9.)

a. Table II provides delivery information only for years 2000 through 2004, and does not indicate where or how deliveries are made, or the source of the information. Please provide documentation that indicates how much water has been delivered to the Littlefield and Beaver Dam Wash areas, or elsewhere within Arizona, by VVWD annually over the entire period of record, and by what means. Paragraph 12 of the application indicates that deliveries have only been made in areas parallel to old Highway 91.

b. Below Table II the application includes figure 1 which is labeled "Population Projections in the Nevada Service Area of the Virgin Valley Water District." The figure includes a legend and several point-line graphs. Please explain the legend and the source of the data used to construct the figure.

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18. "As stated previously, the permitted water resources of VVWD are approximately 11,500 acre-feet per year (Nevada State Engineers database). Based on the population projections and water use in the service area of VVWD within Nevada, the existing permitted water is anticipated to support a population of 55,000 people. Table III presents the projected populations for the Mesquite, Nevada and Scenic and Beaver Dam, Arizona areas along with their projected water demands." (Paragraph 9.)

- a. Please explain the next to the last column in Table III. The column is labeled "Estimated Delivery of Water by VVWD from Nevada." In year 2002, the estimated delivery is 4,590 (presumably acre-feet per year), and this number increases until it reaches 11,500 in 2050, which is the quantity of water for which VVWD has water rights, according to the application. What do the numbers in this column represent? If they represent the volume of water that will be delivered back to Arizona by VVWD, how were these volumes calculated? On what data were they based? Would the water returned to Arizona be water blended with VVWD's supplies? How will the VVWD satisfy the demands of the district in Nevada with water that meets Safe Drinking Water Standards if the VVWD returns 70% of the original volume of water back to Arizona? What documentation can be provided to establish that the VVWD will deliver water to locations within Arizona?
- b. Please provide documentation that demonstrates that VVWD's existing permitted water supplies are anticipated to support 55,000 people. Please provide documentation to establish how the VVWD will satisfy the water demands of 131,900 people projected for 2055.

19. "In Mohave County, Arizona the place of beneficial use will be the following: All of: Township 40 North, Range 16 West, Township 39 North, Range 16 West, Gila and Salt River Base and Meridian, Mojave County, Arizona." (Paragraph 11.)

- a. Contrary to other statements in the application, this general legal description does not include Littlefield and the Beaver Dam Wash area. Please submit a map that delineates the boundaries of the proposed area of beneficial use.

20. "Groundwater for municipal use is anticipated to be diverted via three production wells approximately 700 feet in depth, located in Section 12, Township 41 South [s/c], Range R [s/c] 16 West." (Paragraph 12.)

- a. Please clarify the location of these wells. There are two wells identified in the Agreement between Wind River and VVWD, and two wells depicted on the plate labeled "Wind River Resources Point of Diversion and Distribution System Connection." How do the wells described in the Agreement relate to the wells depicted on the map? Where will the third well be drilled?
- b. Wind River filed two notices of intent (NOIs) with ADWR for authority to drill the two wells described in the Agreement. Information submitted by Wind River with the NOIs indicates that these wells are located on lands that are not owned by Wind River. One of the wells is located on land owned by Sierra Del Sol LLC (President, David Rall). By document dated August 16, 2004, Wind River entered into a Ground Lease with Sierra Del Sol for a period of 12 years. Wind River also has an option to purchase the property which must be exercised between August 1, 2009 and August 31, 2009. Otherwise, the lease will terminate on July 31, 2016, and it appears that Sierra Del Sol would then own the wells. The other well is located on land owned by an individual

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named Jim Marsh. Wind River did not provide any documentation that establishes that it has a right to withdraw and transport water from the well on the Marsh property. Please explain under what legal authority Wind River will provide water from these wells to VVWD throughout the term of the export permit. Any change in ownership of wells being used for export purposes may be subject to the prior approval of the Director of ADWR.

c. Under paragraph 4 of the Agreement between VVWD and Wind River, VVWD has a right of first refusal in the event that Wind River decides to sell its water rights. If ADWR granted Wind River's application, any change in ownership of the water rights could require the prior approval of the Director of ADWR. Please explain whether and how this would affect the agreement with VVWD which does not become effective until it is approved by ADWR and the Nevada Division of Water Resources.

21. **"From the VVWD Well 32 site, the water is conveyed to a 40 acre-parcel located in Section 3, Township 12 South, Range 71 East, which contains six million gallons of water [sic]. From the Abbott reservoir complex water is conveyed four miles south into the service area of the Virgin Valley Water District." ... "Figure 3-1 from the Virgin Valley Water District 2001 Water System Master Plan is included to illustrate pipeline configuration." (Paragraph 12.)**

a. At the time that the 2001 Master Plan was completed, well #32 was proposed and construction of the two 3 million gallon reservoirs had begun. Please provide documentation regarding the status of these facilities and any other water facilities utilized by VVWD. Please provide documentation that updates the information in the 2001 Master Plan.

22. **"Water will be supplied to Arizona via the existing Virgin Valley Water District distribution system. Currently, the distribution system into Arizona is via a ten-inch diameter pipeline that goes under I-15 adjacent to the Arizona border and then parallel to old highway 91. Another smaller pipeline conveys water along the Mesquite Irrigation Company canal to the Palms clubhouse. The service line diameters will be increased to meet the demands in Arizona as the population continues to grow." (Paragraph 12.)**

a. Please provide a map that identifies the location of the pipelines into Arizona, the Mesquite Irrigation Company canal, and the Palms clubhouse.

b. After the property in Arizona is developed, are there plans to extend the VVWD further into Arizona? If so, please provide documentation of these plans including their nature and scope.

23. **"Groundwater impacts by pumping from the Mormon Wells area will be minimal if any to the existing wells in the areas of Beaver Dam and Littlefield for several reasons. The area identified for extraction is approximately six to seven miles upstream of the confluence of Beaver Dam Wash and the Virgin River where all of the private wells are currently located." ... "All current well owners also withdraw water from the upper alluvial Beaver Dam aquifer overlying the Muddy Creek Formation. The target depth for extraction of groundwater from Mormon Wells is within the underlying Muddy Creek formation below a confining layer identified in recent drill hole data collected at Mormon Wells." (Paragraph 13.)**

a. Although paragraph 13 of the application includes a description of the hydrology of the Lower Virgin River Valley Basin based on reports submitted with the application "and other studies and documentation," these reports are regional in nature, and do not

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specifically address the probable hydrologic impact on the area from which the water is proposed to be transported. Data collected from one well is not sufficient for this purpose. Please provide additional data from this area. Piezometer wells located upstream and downstream of the production well drilled in the Muddy Creek Formation and the alluvial aquifer may provide useful information.

b. For the recently drilled well, please provide well completion data, aquifer test data, and geologic/lithologic logs.

c. Regarding the regional hydrology, please provide documentation regarding the flow of groundwater in the Muddy Creek Formation across the Nevada/Arizona border. Would pumping water from the Muddy Creek Formation in the Beaver Dam Wash area affect the groundwater supplies available to Mesquite from the same formation?

d. Please provide documentation that identifies the existing wells in the Beaver Dam Wash area and the extent to which those wells are used to supply water to the Beaver Dam Wash area and Littlefield.

e. Please provide documentation that addresses potential long-term impacts (50 and 100 years) on the base flows in Beaver Dam Wash and the Virgin River as well as impacts on the Muddy Creek Formation from withdrawing water from the proposed wells.

f. Please provide documentation that addresses the impacts on other water rights in Beaver Dam Wash and the Virgin River, including applications for instream flows filed by the U.S. Bureau of Land Management.

g. Please provide data that addresses the possibility of subsidence from withdrawing water from the proposed wells in the Muddy Creek Formation at the Beaver Dam Wash site and any plans that will resolve damages due to expected subsidence. Pages 93 and 94 of the 2002 Hydrology and Geology report indicates that "the Muddy Creek Formation in the Virgin River Valley aquifer system is highly susceptible to subsidence" due to the "abundance of fine-grained sediments."

24. "A geophysical survey of the cross section compiled by Zohdy and others in 1994 is presented in the following figure. This cross section passes directly through the Mormon Wells area and delineates the upper alluvial Beaver Dam aquifer from the Muddy Creek aquifer. At Station 10 on the cross section, the bottom of the Beaver Dam aquifer occurs at 390 feet. As stated previously the targeted formation for groundwater extraction is the Muddy Creek aquifer, which is well below the upper alluvial Beaver Dam aquifer. The blue coloration in the figure delineates the Muddy Creek aquifer in the vicinity of Mormon Wells." (Paragraph 13.)

a. The figure in the application is from the 1994 USGS Open File Report titled "A Direct-Current Resistivity Survey of the Beaver Dam Wash Drainage in Southwest Utah, Southeast Nevada, and Northwest Arizona." At pages 22 and 23, the report describes what the resistivity survey may represent geologically and hydrogeologically. According to the report, the "blue coloration" on the figure that corresponds to the target depth of 700 feet for the proposed wells represents medium-low resistivity materials (15 to 30 ohm-m) that "probably represent silty sand layers with a significant amount of clay (50%?). Such materials are generally not very good aquifers, because of the possibility of high clay content." This resistivity survey does not support the proposed plan. Please explain.

b. Page 40 of the 1997 USGS report states: "Because of the low yield of wells completed in the Muddy Creek Formation in the Beaver Dam Wash area, it is unlikely that substantial amounts of ground water can be removed from storage." This statement does not support the proposed plan. Please explain.

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Notice of Deficiency Prepared by

Elizabeth V. Logan

Date Mailed

July 8, 2005

To obtain additional information or assistance in completing this application, contact the above referenced individual at (602) 417-2442 or toll free (within Arizona only) 1-800-352-8488.

Per Arizona Administrative Code Rule R12-15-401(2), an applicant shall supply missing information within sixty (60) days of the date of the first Notice of Deficiency. The sixty (60) days will not include any time that the application is under review by the Department. If the application is not completed within that time period, the Department may deem the application withdrawn. The applicant may submit a written request for additional time to make corrections to the application. **Therefore, if the information requested above is not received or a written request for additional time to make corrections to the application is not requested to the Department before September 5, 2005, this application will be deemed withdrawn. Fees will not be refunded.**

WIND RIVER RESOURCES, LLC

September 1, 2005

Ms. Elizabeth Logan
Arizona Department of Water Resources
500 North Third Street
Phoenix, Arizona 85004

Re: Application for Permit to Transport Water Out of State No. 33-96790

Dear Ms. Logan,

Attached you will find our response to your First Notice of Deficiency letter sent to us dated July 8, 2005. We have addressed all of your questions and provided as much documentation as we could gather in the time frame allotted that is available. We are still very interested in pursuing the obtainment of a permit to export water and hope after reviewing our submittal, you will deem our application to be complete. Thanks in advance for accepting our submittal and we look forward to working with you in the future as we go forward with the process.

Sincerely,



Erika Van Alstine
Managing Member
Wind River Resources LLC.

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AZ DEPT OF WATER RESOURCES
SURFACE WATER

Wind River Resources L.L.C.
Response to Notice of Deficiency Regarding Application for Permit to
Transport Water Out of State #No. 33-96790

1.
 - a. The contract with VVWD will not be the driver of the amount of water transported into Nevada. The amount of water pumped and delivered will be based upon the water demands of both the Arizona and Mesquite, Nevada.
 - b. See attached application and information from the Arizona State Land Department for obtaining right-of-way access across State Land. See attached information for obtaining right-of-way access across BLM lands. See NRS 533.515 Permit for appropriation of water or application to change point of diversion if point of diversion or portion of works is outside of state.
 - c. The intent of the agreement was not to circumvent the State of Arizona's authority to oversee the use or exportation of water from Arizona to Nevada. The intent of this statement was regarding actual business practices. Arizona has the authority over any water approved to be exported and if the agreement needs to be modified to reflect this, both Wind Rivers and VVWD are in agreement that the original language should be changed.
2.
 - a. The statement of "...in 2006 and continue through 2046," is incorrect and should have read 2006 and continue through 2055. Question 7 of your application requests a proposed duration for the permit and we stated we are seeking a permit for the 50 year maximum time period allotted by statute.
3.
 - a. The State leased and private lands in T40N R16W sections 32, 33, 34 and 36 (approximately 560 of private lands); All of T39N R16W sections 2, 11, 14, 15, 16, and 21 and the private lands within sections 3, 4, 5, 9, 10, 13, 17, and 22 (approximately 5,500 acres of private lands). It should be noted that VVWD's service area already covers T40N R16W sections 32, 33, and 34 and T39N 16 W sections 3, 4, and 5. VVWD also currently delivers water to an RV Park and the Palms golf course located in section T40 N R16 W section 32, and also delivers water to Beaver Dam Water Company, which has the CCN for those same six sections. See Accompanying Maps: "Virgin River Communities Area Plan Detail Land Use Diagram," and Aerial Map showing Land Ownership. Both are from Mohave County Planning and Zoning Department.
 - b. Wind Rivers LLC will pump up to a maximum of 14,000 acre-feet of water annually from the identified locations in Beaver Dam Wash described in the application and is prepared to provide an agreement to the State Department of Water Resources that the water demands within the areas identified in 3a above will be met prior to delivering water for use in Mesquite, Nevada. The location of the lands in Arizona were not identified in the application because they are not considered to be an exportation of water. See Wind Rivers Resources Letter of Agreement to the State of Arizona guaranteeing water demand of areas in Scenic Arizona will be met prior to any water being delivered for use in Nevada. A resolution indicating that VVWD will operate and maintain Vista Verde is scheduled to be adopted at the VVWD board meeting scheduled for October 2005.
 - c. There is no documentation that establishes the water demands for Scenic, Littlefield, or Beaver Dam areas. What we did is try to estimate where development is most likely to occur based on conversations with developers, land terrain, and geographic

locations. The lands we identified as being most likely to be developed are all of the private lands identified in 3a above. Coincidentally these lands are in close proximity to Mesquite, Nevada and are also the only area where little or no development has occurred. Based on the current land ownership map approximately 4500 to 5500 acres of the 6000 acres of private lands in the T39N R16W can be developed due to flood plain issues. About 560 acres of land can be developed in T40N R16W making the estimated total number of acres of land that can be developed around 5000 to 6000 acres. To this number we applied a housing density of 4.5 homes per acre, which was provided by Mr. David Rall, Real Estate Developer in the Mesquite and Scenic Areas (22,500 to 27,000 homes at build-out). We then applied the average people per household in Mesquite (2.18) to the total estimated number of homes that could be built based on current land ownership at build-out. This resulted in an estimated potential population at build-out of 49,050 to 58,860 people. We then applied a 150 gallons per capita per day usage rate to the range of population at build-out and estimated a total annual water demand of 8240 to 9590 acre-feet. Developers David Rall, and Mike Black own more than 1,200 acres in T39N R16 W sections 10, 11 and 14. They also own about 60 acres in T14N R16W sections 32 and 33. See Letter from David Rall summarizing the development of the Scenic area and his support for this export permit. Other letters of support for this project from developers are available on request.

4. a. See copy of document approving the creation of Vista Verde Domestic Water Improvement District by the Mohave County Board of Supervisors.
- b. Wind Rivers has an agreement with David Rall that authorizes us to drill one of the production wells on land currently owned by David Rall in the Beaver Dam Wash area. A copy of the agreement was submitted with the original application. David Rall is a Real Estate Broker/Developer in the Mesquite, Nevada and Scenic Arizona areas and also owns the 40 acres of land, which is the current service area of the Vista Verde Domestic Water Improvement District (Vista Verde). The application mistakenly identified Wind Rivers, LLC as the filer of the petition to create a County Water Improvement District, when in fact David Rall filed the petition.
- c. We are sure we sent Plats A&B with the application and can't seem to locate them anymore. The legal description for the location of Vista Verde is as follows and a map is included in with the order approving the formation of Vista Verde by Mohave County Board of Supervisors: Vista Verde is located in NW SE Section 33 T40N R16W and is currently 40 acres in size. Vista Verde is prepared to expand its boundaries as more development occurs. Expanding the current boundary of the District requires a petition be submitted to Mohave County Board of Supervisors. The petition must have the signatures of 51% of the total landowners of the new area for inclusion. A notice of public hearing is then published for the current and proposed areas and the Board either approves or disapproves.
- d. VVWD already supplies water to the RV Park and the Golf Course in the SW SW Section 32 T40N R16W. A proposed extension to the current pipeline would be installed in the right of way of Old Highway 91 where it intersects with the northwest corner of the 40 acres in Section 33. The developer of this property is David Rall and current plans are to develop 184 homes within the 40 acres. The water delivery infrastructure will be constructed during development of the lands, which is currently scheduled to begin in December 2005. The pipeline from VVWD would intersect the northwest corner of

section 33 where it would tie into the water utility lines constructed by David Rall. See copy of letter from David Rall

- e. A resolution indicating that VVWD will operate and maintain Vista Verde is scheduled to be adopted at the VVWD board meeting scheduled for October 2005.
5. a. In responses 3b and 3c above, it explains there is no formal documentation to confirm or verify the actual water demands of the area anticipated to be developed. However, it does provide an estimate of the potential demands at build-out in the Scenic area based on the assumptions stated. The estimated range of annual water demands at build-out for the lands identified to be developed in the Scenic Area are 8240 to 9590 acre-feet, which is approximately 60% to 70% of 14,000.
b. Please see map entitled "Virgin River Communities Area Plan Detail Land Use Diagram." The areas anticipated to be ultimately served by Vista Verde are listed in 3b above. The private lands in and around Beaver Dam and Littlefield are currently served water by three private water companies and most are already developed. As the remaining private lands develop in the Beaver Dam and Littlefield areas, Vista Verde will work with the private water companies to ensure an adequate water supply is available to meet any increase in demands.
c. See Letter from developers David Rall,
6. a. b. See Table of Surface Water Right Shares. VVWD has 82 shares of Bunkerville Irrigation Company, which is about 820 acre-feet of surface water rights. VVWD also has 333.5 shares of Mesquite Irrigation Company, which is about 2418 acre-feet of surface water rights for a total of 3238 acre-feet of surface water rights from the Virgin River. We did not include the surface water rights in the 11,500 acre-feet of groundwater rights because VVWD currently does not feel that they are economically feasible to use due to the high TDS of the water, which would require costly RO or nanofiltration treatment. Documentation of TDS content of the Virgin River was provided in the Dixon Katzer report and the Report 51 by Glancy and Van Denburgh previously submitted with the application. It is also documented in the Metcalf Report that is included with this response. "App" and "STAT" in the water rights abstract database document stands for Application and Status. The column titled App is the application number, which ultimately becomes the permit if issued. The status column indicates the current status, i.e. WDR= withdrawn; CAN = cancelled; DEN = denied; RFA= Ready for Action; CER= Certificated; RFP= Ready for Action Protested.
c. See Special Hydrographic Abstract dated 8/15/2005, Nevada Division of Water Resources, Water Rights Database.
7. a. Nevada attempts to appropriate ground water based on the principal of Perennial Yield, which is the amount of water annually recharged into the groundwater system. One of their principal sources of information used by the State Engineer's office for determining perennial yield in the Lower Virgin River Ground Water Basin is Report 51 by Glancy and Van Denburgh previously submitted with the application. On page 86 and 87 of this report it lists the other reports used by the State Engineer's office for determining perennial yield in the other basins within the State of Nevada. The formula used to calculate perennial yield is the Maxey Eakin formula. Based on this report, approximately 12,000 acre-feet of groundwater is the perennial yield of the Lower Virgin River Ground Water Basin, which includes the Nevada portion 3000 acre-feet and 9000 acre-feet of inflow from Utah. Perennial Yield is also defined in State of Nevada Water

Planning Report #3 entitled "Water for Nevada," October, 1971 included in this response. See Page 12 and 13 of Report #3. If the State Engineer's office did not attempt to maintain perennial yield in the 232 groundwater basins within Nevada, VVWD would have appropriated more water than it currently has. VVWD currently has more than 161,000 acre-feet of applications pending for the Lower Virgin River Ground Water Basin that will never be permitted or certificated and there are more than 240,000 acre-feet of ground water right applications, including VVWD's, pending in the Lower Virgin Ground Water Basin since 1990. See Integrated Water Resource Plan 2002 Table 4.1 previously submitted with the application.

b. No one at VVWD seemed to be aware of any springs in the area outside of the springs discharging into the Virgin River directly. According to Michael Johnson, Chief Hydrologist for VVWD who researched this question for us, the total flow of the springs identified in 1969 Nevada Department of Conservation and Natural Resources report titled "Water Resources Appraisal of the Lower Virgin River Valley Area, Nevada, Arizona, and Utah are intermittent at best and fluctuate with the seasons. For the last 10 years, the springs have flowed little if any consistently, which could be the result of the continuing drought conditions. Most spring flows are inconsistent in terms of their flows and even if you had a year in which the total spring discharge was a continuous 50 gpm that would only equal 80.65 acre-feet annually if they ran for 365 days. The spring flows are too inconsistent and sporadic to be considered as a reliable source of water and therefore are not utilized. Any of the springs identified in the report that have occasional discharges maintain very small riparian areas at best.

c. The sites identified in the 2002 report are available and VVWD has an aggressive groundwater development program. Some wells drilled since 2002 have been very productive with fair water quality while others have not been. The issue, however, is not about the identification and pursuit of the physical availability of groundwater in Nevada. The real issue is the fact that VVWD is limited in the amount of ground water they can pump by the total volume of ground water rights they have, which is about 11,500 acre-feet. As for the statement regarding good quality of water it is important to remember that during the 2001/2002 timeframe for completion of the study the arsenic standard was 50 ppb and not the 10 ppb, which will be the standard in January of 2006. Waters with an arsenic level of 10 to 49 ppb during the time of the study would have been considered good quality, whereas now they would be classified as poor quality.

d. Nevada does not have a program of issuing credits for storm water recharge. The 11,500 acre-feet is the maximum amount of ground water they can pump. Enhancing storm water recharge will not create credits or additional water that can then be appropriated.

e. The Dixon and Katzer 2002 report is one example of the continuing effort on the part of VVWD to understand the surface and groundwater system. VVWD also completed a study entitled "Impact Analysis of Water Resources Development in Tule Desert, Lincoln County, Nevada on Water Resources of the Lower Virgin River Valley, Clark County, Nevada. Katzer Dixon and Johnson conducted the study in 2002. A copy of the study can be provided upon request.

8. a. See Water For Nevada Report #3 Figure 5 provided for map of adjoining basins. The adjoining basins are Tule Desert Basin #221, and Clover Valley Basin #204. Tule Desert has a perennial yield of 1000 acre-feet and the State Engineer's office as has

issued permits for 2100 acre-feet of groundwater rights, which is more than the estimated perennial yield. Clover Valley has a perennial yield of 1000 acre-feet. Both basins are over appropriated. The State Engineer has issued 3677 acre-feet of ground water rights in Clover Valley. See Hydrographic Basin Summaries 1990-1992 included with response.

b. As stated previously in 7a above, the State of Nevada attempts to limit the groundwater appropriations in a basin to perennial yield and groundwater rights are not pertinent to the land. In other words if an individual has a certificated groundwater right it may be used by the individual owner anywhere they can put it to beneficial use. This is how Southern Nevada Water Authority anticipates pumping groundwater for use in Las Vegas from the northern borders of the State.

9. a. Spreadsheets from the State Engineer's Office identifying the water rights of VVWD were provided in 6c above. If actual copies are also needed, they can be provided upon request.

b. VVWD does not have a diversion on the Virgin River. The only two diversions on the Virgin River are owned by the Mesquite and Bunkerville Irrigation Companies. The critical Habitat designation on the Virgin River is from the Virgin River Gorge in Arizona down to Halfway Wash in Nevada.

c. Constructing an additional diversion within the designated critical habitat area to access VVWD's surface water would be met with opposition by the US Fish & Wildlife as well as the BLM. VVWD has considered constructing a diversion below Halfway Wash if the cost to treat the high TDS water of the Virgin River decreases with technology improvements.

10. a. See copies of U.S. Environmental Protection Agency "List of Drinking Water Contaminants and MCLs, page 13 of 13; 40 CFR Ch. (7-1-02 Edition) § 143.3 Secondary maximum contaminant levels, page 614; and Nevada State Health Division, Secondary Drinking Water Standards, NAC 44A.455. See Page 74 - 78 of Las Vegas Valley Shallow Groundwater treatment Study by Black and Veatch. Treatment costs in study ranged from \$1460 to \$1540 per acre-foot for RO and Nanofiltration. The full study is available upon request.

b. See copies of lab analysis for VVWD's wells included in response. VVWD does not currently have to treat its groundwater for TDS because it is below the 1000 ppm standard.

c. All wells are in the Muddy Creek Formation. See copies of lab analysis provided for 10b above for Muddy Creek in Nevada and see copy of BSK Analytical Laboratories analysis for well water in Muddy Creek in Beaver Dam also included.

d. Metcalf's study assessed the interactions between ground water and surface water in the Lower Virgin River, Arizona and Nevada. The Study reach started at the Virgin River Gorge in Arizona and terminated in Lake Mead in Nevada. All sampling was conducted in 1992 and 1993, but historical data was also taken into consideration. A copy of the report is included.

11. a. See population projections from developers, Clark County, private consultant for VVWD, and State Demographer.

b. The State Demographer population projections for Mesquite through 2020 originally found on the web could not be located. We did, however, identify a consultant's population projections through 2035 that were in the original Master Plan

previously submitted. We included a copy of the page in this response. The 3% growth rate was selected based upon the estimates taken by the State Demographer through 2020. It could be less it could be more.

12. a. VVWD does have surface water rights as stated in responses to both 6 and 7 above and an estimate of the current cost to treat the surface water to drinking water standards is included. See Pages 74-76 of the Las Vegas Valley Shallow Groundwater Treatment Study conducted by Black and Veatch for Southern Nevada Water Authority eluded to in 10a above.
13. a. The demand was not a calculated number. The 5,400 acre-feet was actual water delivered (demand) in 2004. The population was the estimated population of Mesquite, Nevada in 2004 as well. No, the application is not relying on the master plan submitted with the application for demand projections.
b. There is no documentation. The statement of "an approximate growth in water demand estimated to be between 3 and 5 percent" is nothing more than a general statement based on a population projection increase of about 3 percent or more as stated previously. Actual water demand increases based upon Table III in the application range from 4 to 5 percent through 2020 and then range from 1 to 3 percent through 2055. Again these are just estimates, which are sure to be different than the actual water demands.
14. a. The abstract provided was ground water only and it should have added up to be around 11,500 acre-feet.
15. a. YES the data is still valid
b. VVWD currently has 9 wells but only 8 are capable of pumping. The ninth is not yet complete. Well analysis data is included. Well #2 Arsenic 8 ppb, max discharge 400 gpm; Well #26 Arsenic 45 ppb, max discharge 700 gpm; Well # 27 Arsenic <10 ppb discharge 1700 gpm; Well # 28 Arsenic 79 max discharge 1000 gpm; Well # 29 Arsenic NA max discharge 700 gpm; Well # 30 arsenic 20 ppb 1000 gpm; Well # 31 arsenic NA max discharge 3000 gpm; Well 32 arsenic 59 max discharge 2500 gpm; Well #33 arsenic NA, max discharge 2500 gpm. Blending is performed on all water to meet the current arsenic standard of 50 ppb. See Arsenic Treatment Alternatives Evaluation Report by Bowen Collens & Assoc. for VVWD September 2002 included in the packet.
c. All well logs are on file with the Nevada State Engineers Office and were not available to us in the time frame required. If still needed we will do what we can to obtain them.
16. a. See BSK Analytical Laboratory Analysis of well water in Beaver Dam for well at Richardson Well site identified on large map of well locations included in this response.
b&c. VVWD will eventually have to employ some sort of treatment process as demand increases and new wells with arsenic levels greater than the new standard of 10 ppb are utilized. However, current demands are able to be met with blending and adding an additional source of water from Beaver Dam Wash that is below the new standard will provide more blending capability in the interim and hopefully the cost of treatment will decrease with greater advancements in technology. Also the total volume of water to be treated may be significantly less if blending is available. In other words the volume of water to be treated will be much less if blending can still be conducted. For example: Assume 50 percent of the water demand consists of water that has 5 ppb arsenic and the remaining 50 percent of the water supply contains 30 ppb arsenic. Blending the two

sources of water together results in a water supply that now contains 17.5 ppb arsenic. Treating 50 percent of the blended water with one of the technologies that removes all arsenic and blending the treated water with the blended makeup water that was at 17.5 ppb, results in water with an arsenic concentration of 8.75 ppb. Without a blending option, water with an average arsenic concentration of 30 ppb would require more than 70 percent of the water to be treated and blended with the makeup water in order to produce water with an arsenic level less than the new 10 ppb limit. Estimates of capital costs supplied to VVWD to treat for arsenic are \$12 million with an annual O&M of \$683,000. See Arsenic Treatment Alternatives Evaluation Report.

17.
 - a. VVWD delivers water via a 10 inch pipe to Beaver Dam Water Company in section 5 of T39N R16W, which is used to deliver water to an RV/mobile home park and to the Palms golf course club house. VVWD currently does not provide water to the Beaver Dam or Littlefield areas. Those areas are currently served water by private water companies.
 - b. The source of the data is VVWD and the explanation of the legend in the order that it is presented in the legend is as follows: NV State = Nevada State Demographer; RAFI = Robert A. Felden Inc. consultant; Mesquite = City of Mesquite High Range; Mesquite 2 = City of Mesquite Low Range; VVWD = VVWD Low Range; VVWD = VVWD High Range.
18.
 - a. The column entitled "Estimated Delivery of Water by VVWD from Nevada" is the estimated volume of water in acre-feet that we estimate VVWD will pump from its current well field in Nevada. Table III does not estimate how much water is anticipated to be delivered in Mesquite or the Scenic area. The table just presents a total volume of water that is estimated to be pumped to meet the demands of both Mesquite and the Scenic area. If you are looking for what the estimated demands for the Scenic Area might be we can do a simple calculation of multiplying the projected populations for Scenic starting in 2006 as presented in Table III and apply a 150 GPCD to the estimated population. Based on these assumptions the estimated demand in Scenic area in 2006 is 168 acre-feet and increases to 7675 acre-feet in 2055. All water returned to Arizona by VVWD would be blended and would meet Safe Drinking Water Standards, just as they currently do. No documentation currently exists, but a resolution agreeing to operate and maintain Vista Verde has been drafted and is scheduled to be acted on in October 2005 (See 4e above).
 - b. With the current 11,500 acre-feet of ground water available annually, VVWD can meet the water demands of a population of 55,000 people by maintaining a GPCD of about 187. They currently are around 250 gpcd and through more conservation and reuse they hope to lower it below 175. VVWD cannot meet the water demands of a projected population of 131,900 with its current 11,500 acre-feet of ground water allocation. Even adding the 2,300 acre-feet of surface water supplies and lowering their GPCD will only support a population of about 82,000. Without approval for this project, VVWD and Mesquite, Nevada will eventually have to stop growth or attempt to pipe water in from distant areas similar to what Southern Nevada Water Authority is doing for Las Vegas.
19.
 - a. This was an oversight on our part. It should have read the private lands in Township 40 North Range 16 West and the private lands in Township 39N Range 16 West. As for the private lands in Beaver Dam and Littlefield, their demands are currently met by three private water companies and as new development occurs in this area we will

entertain any proposal to either wholesale or retail water to these developments, but only if asked by the private water companies.

20. a. We made a mistake in the application on the location, but the plate provided identifies the location of the two wells to be drilled. Both wells will be located in T41N R16W section 12. Both wells on the plate are the same two wells identified in the agreement. A third and possibly fourth well were identified because we may eventually drill a third and possibly fourth well as backup. It would also be located in the same section. See included folding Map, which also identifies the Richards Well site.
- b. Jim Marsh is one of the partners of Wind Rivers Resources LLC
- c. If approval of the Director of the Arizona Department of Water Resources is required for a change in ownership of water rights, then this will take precedence over any agreements with VVWD in terms of first right of refusal. The intent is not to circumvent the Director's authority and if an amendment to the agreement with VVWD is needed we will seek that as a condition for approval of the permit from the Arizona Department of Water Resources.
21. a. Currently, the two 3 million gallon storage reservoirs are supplied by VVWD well # 33 producing at a rate of 2500 gpm from the Muddy Creek aquifer. VVWD #32 well is currently equipped with pump and will be fully operational December 1, 2005. (conversation with Michael Johnson, Chief Hydrologist of VVWD, September 2005.)
22. a. VVWD currently delivers water to the State line where it is then transferred via Beaver Dam Water Company's pipeline. No map of the pipeline routing in Arizona exists. VVWD formerly installed the pipe, but transferred the ownership of the pipe to Beaver Dam Water Company.
- b. There are no plans to extend VVWD further into Arizona. As Vista Verde expands it's service area, however, VVWD will oversee the operations, expansion and maintenance of that District.
23. a.b.c.e. & f In order to accomplish these questions a full size production well and two piezometer wells upstream and downstream would have to be constructed. As much as we would like to provide the documentation for this question, we feel that expending more than \$729,000 (see submitted cost estimate from International Environmental Solutions) to obtain the data without some sort of assurances that a permit, even with stipulations, would be granted seems somewhat unreasonable. We are willing to work with ADWR, and to accept a reduced quantity of water being exported if after all the testing is complete and there is evidence that the 14,000 acre-feet originally planned to be pumped would have an adverse impact on downstream well owners.
- D. See wells 55 query dated September 6, 2005 listing all wells in Beaver Dam and Littlefield Areas.
- G. There are no data that addresses the possibility of subsidence from withdrawing water from the proposed wells in the Muddy Creek Formation at the Beaver Dam Wash site and we don't anticipate subsidence to be an issue. VVWD is our only indicator and they are working with the Nevada Bureau of Mines and Geology in cooperation with Virginia Tech University utilizing InSAR images to evaluate and identify subsidence features and the related aquifer responses. At the present time, InSAR has identified little or no subsidence in the Mesquite area, despite groundwater pumping occurring for more than 45 years.

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24. a. Based on information provided by VVWD and their experience with drilling into the Muddy Creek formation, we feel confident that what we have stated is accurate. Until an actual production well is installed and the hydraulic parameters are established the predicted production rate is speculative. The USGS well installed in the 1997 USGS report is insufficient in diameter to fully establish the hydraulic properties of the Muddy Creek aquifer. The minimum well bore diameter should be 22 inches, with a 16 inch casing installed to facilitate installation of pumping equipment capable of producing between 1500 and 2000 gpm.
- b. Again we rely on the experience of VVWD who have had excellent success drilling wells that produce in excess of 1000 gpm range in the Muddy Creek Formation. See well discharge capacities stated in 15b above. Beaver Dam Wash is the largest structural liniment located within the 900 square mile lower Virgin River Basin. This structural liniment has the highest probability for yielding high capacity (greater than 1000 gpm) wells completed in the Muddy Creek Aquifer.

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SEP 01 1997

WIND RIVER RESOURCES, LLC

September 1, 2005

Arizona Department of Water Resources
500 North Third Street
Phoenix, Arizona 85004

Re: Application for Permit to Transport Water Out of State No. 33-96790

Dear Sirs,

Wind River Resources LLC agrees to develop and provide sufficient potable water to meet the water demands of the privately held lands in the following locations prior to delivering any water to Virgin Valley Water District for use in Nevada: T40N R16W sections 32, 33, 34 and 36 (approximately 560 of private lands); all of T39N R16W sections 2, 11, 14, 15, 16, and 21 and the private lands within sections 3, 4, 5, 9, 10, 13, 17, and 22 (approximately 5,500 acres of private lands). Development and delivery of water is contingent upon the willingness of the proposed or constructed developments on the private lands to accept delivery of potable water. It will be the responsibility of the developer to construct the infrastructure to the end-use customer. All water will be provided to the local users through the water system infrastructure provided by them and at a competitive price.

Sincerely,



Erika Van Alstine
Managing Member
Wind River Resources LLC.

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ARIZONA DEPARTMENT OF WATER RESOURCES
SURFACE WATER

Roadrunner Realty

P.O. Box 3660, Mesquite, NV 89024
Telephone 702-346-8000, FAX 702-346-8001

Water to Arizona

There are approximately 6,000 acres of undeveloped privately owned land in Arizona, adjoining Mesquite, Nevada. This land lies in Townships 39 & 40 N, Range 16 W. (see attached map). This land is ready for large-scale development, pending the establishment of a secure and adequate supply of potable water.

Approximately 560 acres of the above-mentioned undeveloped private lands lie in Township 40 N, Range 16 W, surrounded by approximately 700 acres of land owned by the State of Arizona. The vast majority of the Arizona land and private land lies along or near Interstate 15 and US Highway 91.

The remaining 5,500 acres of undeveloped private land lies in Township 39 N, Range 16 W. Most of this area is included in the Scenic Improvement District, which was formed in 1995 to finance a new bridge to cross the Virgin River and 10.5 miles of county highway to provide easy access to/from Mesquite, Nevada. The bridge and road project was completed in early 2003 at a cost of \$5.5 million.

There are presently 300 acres or so of land undergoing some stage of subdivision review by Mohave County. The 40 acre Vista Verde Subdivision is located in Township 40 N, Range 16 W, Section 33. The preliminary review of the subdivision is almost complete. There will be approximately 184 homes served by a private wastewater treatment plant. Rough grading should begin in December 2005. This is presently the only area included in the Vista Verde Water Improvement District.

The remaining 260 acres that is undergoing subdivision review are in Township 39 N, Range 16 W. All of this acreage is in the Scenic Improvement District. 110 adjoining acres lie in Sections 21 and 17. The remaining 150 acres lies in Sections 10, 11, and 14. The average housing density will be approximately 4.5 homes per acre.

In addition to the Vista Verde Water Improvement District, there are two other entities preparing to supply water to the Arizona developments near Mesquite. Bob Frisby (Beaver Dam Water Company, Inc) is attempting to find water to service Sections 21 and 17. Sections 21 and 17 were recently added to Frisby's CCN service area by the Arizona Corporation Commission. Virgin Valley Water District (VVWD) currently supplies water to Beaver Dam Water Company, Inc and Mr. Frisby has been negotiating with VVWD to secure additional water, but has not yet secured a source of water to supply the 110 acres in Sections 21 and 17. Mohave County has already approved the preliminary subdivision map for the 110 acres in Sections 21 and 17.

SEP 6 2005

AZ DEPT OF WATER RESOURCES
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Mike Black, myself and other major landowners have initiated the process to gain approval from the Arizona Corporation Commission to establish Sunrise Utilities for the purpose of supplying potable water and wastewater treatment services to 1,200 acres in Sections 10, 11, and 14. We expect the Arizona Corporation Commission (ACC) to grant these areas to Sunrise Utilities in a few weeks. Wells have been drilled and tested, and detail design work is complete. This detailed design information will be submitted to ADEQ as soon as ACC approval is obtained.

Please keep in mind that the above-mentioned water companies are viewed as a stopgap measure to get development started. All developers in the area would much prefer working with a financially strong entity with experienced personnel and established management systems to operate and maintain a large water company. Vista Verde Water Improvement District, Virgin Valley Water District and Wind Rivers, LLC are moving forward to establish such an entity.

Establishing the Vista Verde Water Improvement District to serve the Vista Verde Subdivision is only the first step in a series of steps to provide potable water to a much larger area. Developers in general will not want to be included in the Vista Verde Water District until they are assured that the Vista Verde Water District has a secure and adequate water supply. At this point, we cannot provide this assurance. Scenic Investments, LLC, owners of the Vista Verde Subdivision, believe the long-term benefits of establishing a secure and adequate water supply outweigh the short-term risks of delaying our first subdivision while the details of the relationship between Vista Verde Water Improvement District, VVWD, and Wind River, LLC are finalized.

As a real estate broker in both Arizona and Nevada, I am confident that the new housing sales will average 200 homes per year over the next five years. Beyond five years it becomes anyone's guess as to the accuracy of the projection.

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Sep 16 05

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Arizona Department of Water Resources
500 North Third Street
Phoenix, Arizona 85004

NOTICE OF COMPLETENESS

APPLICATION FOR PERMIT TO TRANSPORT WATER OUT OF STATE NO. 33-96790

Applicant Name	Wind River Resources, L.L.C.
Applicant Address	Attn: Erika Van Alstine P.O. Box 800 PMB 220 Mesquite, NV 89024

The applicant is hereby informed that per Arizona Revised Statute § 41-1074 (C) the above referenced application was deemed administratively complete on September 12, 2005.

This terminates the administrative completeness review time frame and initiates the substantive review time frame as described by Arizona Revised Statutes § 41-1072.

Per Arizona Revised Statutes § 41-1075, the Department may request additional information during the substantive review time frame.

Notice of Completeness Prepared by	Elizabeth V. Logan
Date Mailed	October 12, 2005

COPY

ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street, Phoenix, Arizona 85004

Telephone 602 417-2420

Fax 602 417-2415



Janet Napolitano
Governor

Herbert R. Guenther
Director

October 25, 2005

COPY

Bob Frisby
Beaver Dam Water Co.
P.O. Box 550
Littlefield, AZ 86432

RE: Water Export Application

Dear Mr. Frisby:

This confirms our telephone conversation of October 20, 2005. As we discussed, Wind River Resources, LLC recently filed an application to export water from the Beaver Dam Wash area in the Arizona Strip for use in Nevada. According to the application, some of the water will also be used in Arizona close to the Nevada border. The Arizona Department of Water Resources will determine whether the application should be granted or denied based on several statutory criteria. Enclosed are copies of the applicable statutes.

As indicated in the statutes, prior to a decision on the application, a hearing must be conducted in the area from which the water is proposed to be transported. The Department must provide published notice of the hearing, and any interested person may appear and give oral or written testimony on the issues involved. The Department will also maintain a list of persons who wish to be notified individually of the hearing date. As requested, you have been placed on this list. Under the Department's time frame rules, the decision process on Wind River's application may require over a year to complete.

If you have any further questions regarding the status of the Department's review of the Wind River application, please feel free to contact me or Liza Logan, Manager of the Water Management Support Section at 602.417.2450.

Sincerely,

Janet L. Ronald
Deputy Counsel

Enc.

c Liza Logan

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OCT 26 2005

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SURFACE WATER

Celebrating 25 Years

and judicial review of final decisions of the director under this section.

Added as § 45-405 by Laws 1977, Ch. 69, § 2. Amended by Laws 1979, Ch. 139, § 73, eff. April 24, 1979. Renumbered as § 45-275 and amended by Laws 1980, 4th S.S., Ch. 1, §§ 74, 78, eff. June 12, 1980. Amended by Laws 1998, Ch. 57, § 77.

§ 45-276. Statement of continuing use; revocation of certification

A. Once every five years, and at such other times as the director deems appropriate, the director shall require certificate holders to furnish a statement, under penalty of perjury, that the stockpond water is continuing to be used solely for watering livestock or wildlife, that the pond is not used primarily for fishing or the culturing of fish and that the stockpond has not been increased in capacity.

B. The director shall, after notice to the certificate holder and an opportunity for an administrative hearing, revoke any certification upon a finding that the water has ceased to be used solely for watering livestock or wildlife, that the pond is used primarily for fishing or the culturing of fish or that the stockpond has been increased in capacity.

C. Section 45-114, subsections A and B govern administrative proceedings, rehearing or review and judicial review of final decisions of the director under this section.

Added as § 45-406 by Laws 1977, Ch. 69, § 2. Amended by Laws 1979, Ch. 139, § 74, eff. April 24, 1979. Renumbered as § 45-276 and amended by Laws 1980, 4th S.S., Ch. 1, §§ 74, 79, eff. June 12, 1980. Amended by Laws 1998, Ch. 57, § 78.

ARTICLE 11. EXPORTATION OF WATER FROM THIS STATE

Article 11, Exportation of Water From This State, consisting of §§ 45-291 to 45-294, was added by Laws 1989, Ch. 168, § 3, effective Sept. 15, 1989.

§ 45-291. Definition of person

In this article, unless the context otherwise requires, "person" means an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and

laws of the United States, this state or any other state.

Added by Laws 1989, Ch. 168, § 3.

§ 45-292. Approval required to transport water out of state; application; criteria; hearing

A. A person may withdraw, or divert, and transport water from this state for a reasonable and beneficial use in another state if approved by the director pursuant to this article. A person shall not transport water from this state unless approved by the director, but this article does not apply to or prohibit transporting water from this state as required by interstate compact, federal law or international treaty.

B. An application to transport water from this state for use in another state shall be filed with the director and shall include:

- 1. The name and address of the applicant's statutory agent in this state for service of process and other legal notices.
2. The legal basis for acquiring the water to be transported.
3. The purpose for which the water will be used.
4. The annual amount of water in acre-feet for which the application is made.
5. The proposed duration of the permit, not to exceed fifty years with an option to renew.

6. Studies satisfactory to the director of the probable hydrologic impact on the area from which the water is proposed to be transported.

7. Any other information which the director may require.

C. The director shall approve or reject the application. If the director approves the application, the director may prescribe terms and conditions for the approval. In determining whether to approve the application the director shall consider:

- 1. Whether the proposed action would be consistent with conservation of water, including any applicable management goals and plans.
2. Potential harm to the public welfare of the citizens of this state.
3. The supply of water to this state and current and future water demands in this state in general and the proposed source area in particular.

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SURFACE WATER

4. The feasibility of intrastate transportation of the water that is the subject of the application to alleviate water shortages in this state.

5. The availability of alternative sources of water in the other state.

6. The demands placed on the applicant's supply in the other state.

7. Whether the proposed action is prohibited or affected by other law, including §§ 45-165 and 45-172 and chapter 2 of this title.

D. This article does not authorize and the director shall not approve transporting from this state water allocated to this state by federal law or interstate compact.

E. An administrative hearing shall be held on the application, and the director shall give notice of the hearing by publication once a week for three consecutive weeks in a newspaper of general circulation in the county or counties from which the applicant proposes to transport the water. The hearing shall be conducted in the area from which water is proposed to be transported. Any interested person, including the department, may appear and give oral or written testimony on all issues involved.

F. Section 45-114, subsections A and B govern administrative proceedings, rehearing or review and judicial review of final decisions of the director under this section.

Added by Laws 1989, Ch. 168, § 3. Amended by Laws 1998, Ch. 57, § 79.

§ 45-293. Compliance monitoring, reports and notices; jurisdiction

A. The director shall monitor compliance with the terms and conditions prescribed for transporting and using the water out of this state and shall revoke his approval for any material violation of the prescribed terms and conditions.

B. A person transporting water under this article shall provide:

1. Written continuing consent for the director or the director's agent to perform on-site inspections of the transportation facilities and the use of the water.

2. Written periodic reports as required by the director.

3. Written notification of any changes in use of water transported from this state.

C. By applying for approval to transport water from this state under this article, a person submits

to the jurisdiction of this state for that purpose and shall comply with all relevant provisions of the law of this state.

Added by Laws 1989, Ch. 168, § 3.

§ 45-294. Limited nonapplicability

Nothing in this article is intended to prescribe nor shall it be interpreted to prescribe the terms, conditions or rules for the transportation of water where the point of diversion or withdrawal and the point of use are both within the state of Arizona. Added by Laws 1989, Ch. 168, § 3.

§§ 45-301 to 45-310. Repealed by Laws 1980, Ch. 231, § 79 and Laws 1980, 4th S.S., Ch. 1, § 73, eff. June 12, 1980

ARTICLE 12. WATER CONSERVATION PLUMBING REQUIREMENTS

Article 12, Water Conservation Plumbing Requirements, consisting of §§ 45-311 to 45-320, was added by Laws 1992, Ch. 352, § 4.

§ 45-311. Definitions

In this article, unless the context otherwise requires:

1. "Commercial, industrial and public construction" means buildings used for commercial, industrial or public purposes, including restaurants, bars, nightclubs, public buildings, comfort stations, schools, gymnasias, factories, offices, athletic clubs, hotels and motels.

2. "Person" means an individual, public or private corporation, company, partnership, firm, association, society, estate or trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this state.

3. "Plumbing fixture" means a lavatory faucet, lavatory faucet replacement aerator, kitchen faucet, kitchen faucet replacement aerator, shower head, urinal, water closet, evaporative cooler or decorative fountain. Plumbing fixture does not include parts necessary for routine maintenance.

4. "PSI" means pounds per square inch of water pressure.

OCT 26 1992

DEPT OF WATER RESOURCES

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March 22, 2006

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Phoenix, Arizona 85012

Tom Whitmer
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: Application for Permit to Transport Water Out of State No. 33-96790

Dear Jan, Tom, and Liza:

This letter is to inform you that this law firm represents Wind River Resources, L.L.C. with respect to its Application for Permit to Transport Water Out of State No. 33-96790. Please direct copies of all correspondence and other communications regarding this matter to me or John Weldon at this office.

We look forward to working with you.

Sincerely,

Salmon, Lewis & Weldon, P.L.C.

RECEIVED

Maxine M. Becker

Maxine M. Becker

MAR 22 2006

MMB:ck

cc: Erika Van Alstine

John B. Weldon, Jr., Esq.

AZ DEPT OF WATER RESOURCES
SURFACE WATER

ARIZONA DEPARTMENT OF WATER RESOURCES

Surface Water Rights
3550 North Central Avenue, Phoenix, Arizona 85012
Telephone (602) 771-8500
Fax (602) 771-8689



JANET NAPOLITANO
GOVERNOR

HERB GUENTHER
DIRECTOR

April 17, 2006

COPY

Maxine M. Becker
Salmon, Lewis & Weldon, P.L.C.
2850 E. Camelback Rd., Suite 200
Phoenix, AZ 85016

RE: Application for Permit to Export Water Out of State No. 33-96790 filed by Wind River Resources, LLC – Request for Additional Information.

Dear Maxine:

By your letter of March 22, 2006, we understand that your firm represents Wind River Resources, LLC (Wind River) in the above-referenced matter and that all correspondence or other communications should be directed to you or John Weldon. We also understand that you recently reviewed the application file maintained by the Arizona Department of Water Resources (ADWR) and that you are aware of the actions that have taken place so far.

ADWR has completed its review of the additional information submitted by Wind River on September 1, 2005 in response to ADWR's First Notice of Deficiency. As provided by A.R.S. § 41-1075, ADWR has identified several matters for which additional information is required as part of ADWR's substantive review of Wind River's application. These matters are described below with reference to Wind River's numbers in its September 1, 2005 response.

Response 1.c. "...Arizona has authority over any water approved to be exported and if the agreement needs to be modified to reflect this, both Wind Rivers and VVWD are in agreement that the original language should be changed."

The language quoted above refers to the February 17, 2005 First Amended Agreement (Agreement) between Wind River and the Virgin Valley Water District (VVWD). Please note that VVWD will be required to provide a copy of an amendment to the Agreement that reflects the state of Arizona's jurisdiction under A.R.S. § 45-293(C), prior to the issuance of a permit.

Response 3.b. "...See Wind River Resources Letter of Agreement to the State of Arizona guaranteeing water demand of areas in Scenic Arizona will be met prior to any water being delivered for use in Nevada."

This sentence indicates that Wind River will deliver water to Arizona before it delivers water to the Virgin Valley Water District (VVWD). This is contrary to the Application that indicates that Wind River will first deliver water to Nevada where it will be blended with lower quality water and then delivered to locations in both Arizona and Nevada. See ¶¶ 9 and 12 of the Application, and ¶ 5 of the Agreement. Please explain. If Wind River intends to make deliveries within Arizona first, the Application needs to be amended to reflect this fact together with any other changes to the Application that will necessarily result. In addition, the amendment should reflect any corrections or other additions to the

application that are necessary, including those addressed in Wind River's response to the First Notice of Deficiency.

Response 3.b. cont. "A resolution indicating that VVWD will operate and maintain Vista Verde is scheduled to be adopted at the VVWD board meeting scheduled for October 2005."

Copy

- (i) Please provide a copy of the October 2005 VVWD resolution, and an explanation of the legal authority under which VVWD, a Nevada entity, will operate and maintain Vista Verde, which is a Domestic Water Improvement District in Mohave County, Arizona. Please note that VVWD may be required to provide a copy of an amendment to the Agreement to reflect VVWD's commitment to operate and maintain Vista Verde, prior to issuance of a permit.
- (ii) If the water is delivered to Arizona first, will the Agreement with VVWD change? How? Will VVWD continue to make water deliveries to Vista Verde and operate and maintain Vista Verde?
- (iii) If water is first exported by Wind River, and then delivered to Arizona by VVWD, will VVWD seek a water export permit under Nevada law to deliver water in Arizona? What data and other information will VVWD use to satisfy Nevada's requirements for obtaining a water export permit? How will the water quality of the water delivered back to Arizona by VVWD compare with the water quality of the water exported out of Arizona?

Response 3.c. "...This resulted in an estimated potential population at build-out of 49,050 to 58,860 people. We then applied a 150 gallons per capita per day usage rate to the range of population at build-out and estimated a total annual water demand of 8240 to 9590 acre-feet...."

Please explain the difference between these numbers and the numbers included in Table III of the application. What is meant by build-out and when will it occur? If the water is delivered to Arizona first, will the numbers in Table III change?

Response 4.b. "...David Rall is a Real Estate Broker/Developer in the Mesquite, Nevada and Scenic Arizona areas and also owns the 40 acres of land, which is the current service area of the Vista Verde Domestic Water Improvement District (Vista Verde)...."

The resolution establishing the Vista Verde Domestic Water Improvement District of Mohave County (Vista Verde) lists Scenic Investments LLC as the owner of parcel 402-42-001. Is this the same 40 acres referred to in the response? From the petition to establish Vista Verde, ADWR understands that David Rall is president of Scenic Investments LLC.

Response 4.d. "...The water delivery infrastructure will be constructed during development of the lands, which is currently scheduled to begin in December 2005...."

What is the status of construction of the water delivery infrastructure?

Response 5.b. "...As the remaining private lands develop in the Beaver Dam and Littlefield areas, Vista Verde will work with the private water companies to ensure an adequate water supply is available to meet any increase in demands."

Under the Application, Vista Verde will receive water deliveries from VVWD after the water exported from Beaver Dam Wash is blended with lower quality water in Nevada. Please explain how Vista Verde will be in a position to ensure that adequate water supplies will be available to meet increases in demand in the Beaver Dam and Littlefield areas. If Wind River makes deliveries to Arizona first, please describe how Vista Verde will work with private water companies to make water available for the Beaver Dam and Littlefield areas. Where will the pipeline be constructed?

Paragraph 7.a. "...Report 51 by Glancy and Van Denburgh... State of Nevada Water Planning Report #3 entitled 'Water for Nevada,' October 1971..."

Report 51 is dated 1969 and Report #3 is dated 1971. Please provide more recent information, if any, regarding perennial yield.

...See Integrated Water Resource Plan 2002 Table 4.1, previously submitted with the application." **Copy**

Please provide a copy of this document. It was not submitted with the Application.

Response 7.e. "...VVWD also completed a study entitled 'Impact Analysis of Water Resources Development in Tule Desert, Lincoln County, Nevada on Water Resources of the Lower Virgin River Valley, Clark County, Nevada...A copy of the study can be provided on request.'

Please provide a copy of the study referenced above.

Response 8.a. "See Water for Nevada Report #3 Figure 5 provided for map of adjoining basins...See Hydrographic Basin Summaries 1990-1992 included with response."

The response focuses on Tule Desert Basin #221 and Clover Valley Basin #204, which adjoin the Virgin River Valley Basin #222. What is the availability of water from other basins in Nevada? In Response 18.b., Wind River indicates that it may be possible "to pipe water in from distant areas similar to what Southern Nevada Water Authority is doing for Las Vegas." Also, please provide more current Hydrographic Basin Summaries, if any.

Response 9.b. "...VVWD does not have a diversion on the Virgin River. The only two diversions on the Virgin River are owned by the Mesquite and Bunkerville Irrigation Companies."

In paragraphs 6.a. and b. of Wind River's response, Wind River indicates that VVWD owns 82 shares in the Bunkerville Irrigation Company, and 333.5 shares in the Mesquite Irrigation Company. Please provide a map and legal description of the points of diversion on the Virgin River for each of these irrigation companies.

Response 9.c. "...VVWD has considered constructing a diversion below Halfway Wash if the cost to treat the high TDS water of the Virgin River decreases with technology improvements."

Please provide a map and legal description of possible diversion points below Halfway Wash. Would VVWD itself use these additional diversion points or the irrigation companies in which VVWD has shares?

Response 10.a. "...See Page 74 - 78 of Las Vegas Valley Shallow Groundwater treatment Study by Black and Veatch.... The full study is available upon request."

Please provide a copy of the full study.

Response 10.b. "See copies of lab analysis for VVWD's wells included in response...."

VVWD's wells are listed in response 15.b. Please provide lab analyses for well #s 30, 31, 32 and 33, which were not included with Wind River's response.

Response 10.c. "All wells are in the Muddy Creek Formation. See copies of lab analysis provided for 10b above for Muddy Creek in Nevada and see copy of BSK Analytical Laboratories analysis for well water in Muddy Creek in Beaver Dam also included."

ADWR received copies of lab analyses for well #s 2, 26, 27, 28 and 29. The lab analyses for these wells do not indicate the location of the wells, depth to water or whether the wells penetrate the Muddy Creek Formation. Please provide documentation containing this information for well #s 2, 26, 27 and 28. For well # 29, ADWR received a copy of a well log that provides the necessary information.

Response 13.a. "The demand was not a calculated number. The 5,400 acre-feet was actually water delivered (demand) in 2004. The population was the estimated population of Mesquite, Nevada in 2004 as well..."

Please provide documentation that supports the amount of water delivered and the population of Mesquite in 2004.

Response 15.b. "VVWD currently has 9 wells but only 8 are capable of pumping. The ninth is not yet complete. Well analysis data is included..."

Please provide the arsenic levels for wells #s 28 and 29, which were not included in the lab analyses.

Response 15.c. "All well logs are on file with the Nevada State Engineers Office and were not available to us in the time frame required. If still needed we will do what we can to obtain them."

With Wind River's 09/01/05 response, ADWR received copies of 10 Well Drillers' Reports that were filed in Nevada. Some, but not all, of these reports also contain a VVWD well identification number. ADWR has Well Driller's Reports for VVWD well #s 29, 30, 31, 32, 32A and 33. Please identify the VVWD wells that are associated with log nos. 60155, 45152, 44611, and 35222.

Response 16.b. & c. "...However, current demands are able to be met with blending and adding an additional source of water from Beaver Dam Wash that is below the new standard will provide more blending capability in the interim..."

What data and information will Wind River use to satisfy Nevada's legal requirements, if any, in order to import water into Nevada?

Response 17.b. "The source of the data is VVWD and the explanation of the legend in the order that it is presented in the legend is as follows: NV State = Nevada State Demographer; RAFI = Robert A. Felden Inc. consultant; Mesquite = City of Mesquite High Range; Mesquite 2 = City of Mesquite Low Range; VVWD = VVWD Low Range; VVWD = VVWD High Range."

What is the date and source of the information included in the legend? How were these projections determined? What is meant by "high range" and "low range?" It appears from the Application that the consultant was retained by VVWD. Please provide a copy of the consultant's report, if any.

Response 20.c. "If approval of the Director of the Arizona Department of Water Resources is required for a change in ownership of water rights, then this will take precedence over any agreement with VVWD in terms of first right of refusal. The intent is not to circumvent the Director's authority and if an amendment to the agreement with VVWD is needed we will seek that as a condition for approval of the permit from the Arizona Department of Water Resources."

Please note that VVWD may be required to provide a copy of an amendment to the Agreement that reflects that VVWD's right of first refusal is subject to approval by the Director of ADWR, prior to issuance of the permit.

Response 21.a. "...VVWD #32 well is currently equipped with pump and will be fully operational December 1, 2005..."

What is the status of VVWD well #32?

Response 23.a.b.c.e. & f. "...As much as we would like to provide the documentation for this question, we feel that expending more than \$729,000 (see submitted cost estimate from International Environmental Solutions) to obtain the data without some sort of assurances that a permit, even with stipulations, would be granted seems somewhat unreasonable. We are willing to work with ADWR, and

to accept a reduced quantity of water being exported if after all the testing is complete and there is evidence that the 14,000 acre-feet originally planned to be pumped would have an adverse impact on downstream well owners."

In the First Notice of Deficiency, ADWR requested additional data regarding the probable hydrologic impact on the area from which the water is proposed to be transported. Under A.R.S. § 45-292.B.6, studies containing this information "shall" be included in Wind River's Application. Please provide additional information, if any, regarding probable hydrologic impacts on the area from which the water is proposed to be transported.

ADWR notes that the Wind River has not responded to First Notice of Deficiency ¶ 23.b. in which ADWR requested well completion data, aquifer test data, and geologic/lithologic logs concerning "recent drill hole data collected at Mormon Wells." See ¶ 13 of the Application. Please provide the requested information.

ADWR notes that Wind River has not responded to First Notice of Deficiency ¶ 23.c. in which ADWR requested documentation regarding the flow of groundwater in the Muddy Creek Formation across the Nevada/Arizona border. ADWR also asked whether pumping water from the Muddy Creek Formation in the Beaver Dam Wash area would affect the groundwater supplies available to Mesquite from the same formation. Please provide the requested information.

Response 24.a. "Based on information provided by VVWD and their experience with drilling into the Muddy Creek formation, we feel confident that what we have stated is accurate...."

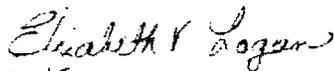
This is not responsive to the First Notice of Deficiency ¶ 24.a. in which ADWR requested an explanation of how the resistivity survey in the 1994 USGS Open File Report supports the proposed plan. Please provide the requested information.

Response 24.b. "Again we rely on the experience of VVWD who have had excellent success drilling wells that produce in excess of 1000 gpm range in the Muddy Creek Formation...."

This is not responsive to the First Notice of Deficiency ¶ 24.b. in which ADWR requested an explanation of how page 40 of the 1997 USGS Report supports the proposed plan. Please provide the requested information.

Please provide the above requested information on or before June 17, 2006. Please contact me before this deadline if additional time is required. If you have any additional questions, please feel free to call me at (602) 771-8500. The Department's substantive review time frame is suspended until all of the requested information is provided.

Sincerely,



Elizabeth V. Logan, Manager
Water Management Support Section

cc: Janet Ronald
Scott Deeny

WIND RIVER RESOURCES, llc

May 18, 2006

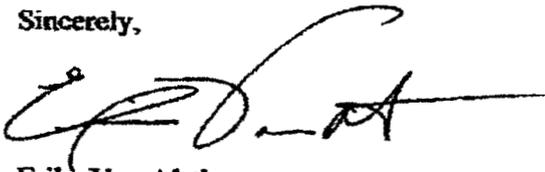
Arizona Department of Water Resources
3550 North Central Avenue
Phoenix, Arizona 85012

Re: Application for Permit to Transport Water Out of State No. 33-96790

Dear Sirs,

Upon receiving a permit from the Arizona Department of Water Resources to export water to Mesquite, Nevada, Wind River Resources LLC agrees to develop and guarantee the availability of sufficient potable water to meet the water demands of the privately held lands in the following locations in Arizona: T40N R16W sections 32, 33, 34 and 36 (approximately 560 acres of private lands); all of T39N R16W sections 2, 11, 14, 15, 16, and 21 and the private lands within sections 3, 4, 5, 9, 10, 13, 17, and 22 (approximately 5,500 acres of private lands). Development and delivery of water is contingent upon the willingness of the proposed or constructed developments on the private lands to accept delivery of potable water. It will be the responsibility of the developer to construct the infrastructure to the end-use customer. All water will be provided to the local users through the water system infrastructure provided by them and at a competitive price.

Sincerely,



Erika Van Alstine
Managing Member
Wind River Resources LLC.

MAY 25 2006

WIND RIVER RESOURCES, LLC

May 22, 2006

Arizona Department of Water Resources
3550 North Central Avenue
Phoenix, AZ 85012

Re: Application for Permit to Transport Water Out of State No. 33-96790

Dear Ms. Logan,

As our application was deemed sufficient, I have enclosed the requested data pertaining to the Letter of Additional Information as received by Wind River Resources, LLC from Arizona Dept. of Water Resources.

Please notify me as soon as possible with the information regarding the hearing as I will need to prepare and schedule time of availability. I am glad to move this project forward as I see it to be beneficial for our combined communities.

Thank You,



Erika VanAlstine
Managing Member
Wind River Resources, LLC
(970) 375-6332

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AZ DEPT OF WATER RESOURCES
SURFACE WATER

Wind River Resources L.L.C.
Response to Request for Additional Information Regarding Application for
Permit to Transport Water Out of State #No. 33-96790

- 3b. The quickest and most economical way of delivering water from Beaver Dam Wash to Scenic, Arizona is the way we described in the Application and therefore this is the preferred alternative. Under this scenario, water would be delivered for use to both Mesquite and Scenic simultaneously. In the response to the Notice of Deficiency, we attempted to alleviate any of the concerns we perceived the State Department of Water Resources (DWR) might have, such as water quality and insufficient supplies to Arizona. Our response to the Notice of Deficiency included a Letter of Agreement dated September 1, 2005 offering to meet the water demands of the privately held lands in Scenic Arizona prior to delivering any water to Virgin Valley Water District for use in Nevada. In rereading this letter, it is now apparent how the contradiction between the Letter and the Application could be perceived. The intent of the letter was to offer a guarantee to DWR that Wind River would ensure that priority would be given to water deliveries in Arizona. We have modified the letter to reflect our intent and have included a copy in the packet of submittals for your review. Unless DWR stipulates as a requirement for gaining approval of a permit that water designated for delivery in Arizona be kept separate from water exported to Mesquite, the preferred alternative for transporting and delivering water from this proposed project is the one described in the application. At this time it is not necessary to change the application and as stated previously, response 3b was an offer to mitigate any concerns.

VVWD's service area already encompasses part of the Scenic, Arizona area, which would allow them to operate and maintain the area within their service area even if it is within Arizona. Until such time that a legal solution authorizing VVWD to operate completely within the Arizona portion of the Lower Virgin River basin can be implemented, Vista Verde will operate and maintain its water delivery system with engineering and technical support from VVWD. VVWD will operate and maintain the infrastructure within its service area both in Nevada and Arizona. Vista Verde would operate and maintain the infrastructure from this point to their end use customers. An IGA between VVWD and Vista Verde has been suggested as a solution for allowing VVWD to operate and maintain Vista Verde. VVWD's attorney is evaluating this option. It has also been suggested to seek Mohave County or Arizona Legislative authority to create a VVWD Arizona entity. A number of options are currently being discussed and VVWD has indicated its desire to operate and maintain Vista Verde if and when a solution can be determined.

We do not see how our agreement with VVWD will be impacted by a stipulation to make deliveries to Arizona a priority. As stated previously, VVWD will operate and maintain the infrastructure within its service area, which includes part of Scenic, Arizona and will make deliveries to Vista Verde.

VVWD will not seek an export permit for water delivered to Arizona. Although it is still not clear as to whether or not an import permit is legally required, VVWD will file an

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SURFACE WATER DIVISION

application to import water from Arizona with the Nevada State Engineer. In their application to import water from Arizona to Mesquite, the point of diversion (POD), beneficial use, and place of use will be identified. The POD will be the legal description of the location of the proposed wells at Mormon Wells. The designated beneficial use will be Municipal, which is the highest and best use of the water in the existing service area of VVWD. The identified place of use will be the legal description of the Mesquite service area and the specific developable lands within Arizona previously identified and submitted. This is how VVWD is currently able to export water from Nevada to Arizona, because the lands within the VVWD service area that are located in Arizona were designated as being part of the place of use for all of their certificated water rights.

There are three criteria for approving the importation of water that must be considered by the State Engineer: 1) is there water available for diversion, 2) is the diversion detrimental to the senior water right holders (in the lower Virgin River Basin portion of Nevada, VVWD is virtually the only water right holder), and 3) is the diversion in the public interest.

The State Engineer does not have to hold a hearing but may directly issue a ruling on the application to either approve or deny the application. The decision to hold a hearing is based on an evaluation by the State Engineer of any protests that might be submitted.

As stated previously, VVWD has been exporting water from Nevada to Arizona for many years without an export permit and with the full knowledge and approval of the State Engineer. Since an export permit will not be needed, no data or information will be required to satisfy Nevada's requirements for obtaining a water export permit. The only information that will be submitted to the Nevada State Engineer is the information submitted by VVWD as part of the import permit approval process (location of POD, identification of beneficial use, legal description of the place of use). There is no way to know how the water quality of the water delivered by VVWD back to Arizona is going to compare with the water being pumped unless the water being delivered is isolated and not blended with any other source. If the water is not blended with any other source, the quality of water being pumped and the quality of the water being delivered will be the same. If the water is first blended with VVWD water prior to being delivered to Arizona as proposed, the quality of water being delivered will meet all EPA Safe Drinking Water Standards. The actual difference in the quality of the water pumped from Beaver Dam Wash and any blended water that would be delivered back to Arizona is not known. In order to know this we would have to know the actual quality of the water being pumped from the Mormon Wells area of Beaver Dam Wash. We would also have to know the quality of the VVWD water that the pumped water from Beaver Dam Wash would be blended with. Then we would have to know the ratio of blended waters in order to make an actual comparison between the qualities of the two sources of waters. The only fact that is known at this time is the quality of the water of all of the VVWD wells, which also varies according to the well. The other two factors are not fully known and therefore we cannot address this question other than to reiterate that the quality of any blended water to Arizona will meet all EPA Safe Drinking Water Standards.

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SURFACE WATER

- 3.c Both Table III of the application and 3c of the Deficiency Response identify 6,000 acres as the estimated maximum number of acres that can be developed. The discrepancy comes in the population projection where the Deficiency Response provides an estimated population range of 49,050 to 58,060 at build-out while the application presents an estimated population of 45,680. As stated in the application, the "population projections for the areas within the Beaver Dam, Scenic and Littlefield areas of Arizona were based on estimates provided by the developers, utilizing trends and projections supplied by the Nevada State Demographer for the Mesquite, Nevada area." The Deficiency Response is purely a mathematical calculation of applying 4.5 houses per acre and 2.18 people per household to 5,000 and 6,000 acres. In the application, we applied a maximum increase in population of 1,000 people annually from years 2020 to 2055. This maximum annual increase in population came as a result of discussions with developers. The one sentence that should be corrected in the application would be in the third paragraph second to the last sentence under question # 9. The anticipated build-out of the 6,000 acres of developable land is expected to occur in 2058 rather than 2045 as the application currently states. The sentence should read: "At the projected build-out of the 6,000 acres of developable lands in the Beaver Dam and Littlefield areas of Arizona by 2058, approximately 70% of the water pumped from Beaver Dam Wash is anticipated to be used in Arizona. (See Table III)." Build-out would be defined as all of the lands capable of being developed have been completely developed. Since the application is only for 50 years, Table III stopped at 2055.
- 4b. Yes. Parcel 402-42-001 is the same 40 acres referred to in the response.
- 4d. Construction of the subdivision and the delivery infrastructure has been delayed pending a decision on the permit to export water.
- 5b. As stated in 3b above, all water whether blended or not as originally proposed in the application will meet safe drinking water standards as required by EPA. However, due to the quality concerns expressed in the Notice of Deficiency regarding the blending of Beaver Dam water, Wind River offered as a solution to make deliveries to Arizona prior to delivering any water for use in Mesquite. This would require the engineering and construction of additional piping in order to ensure that water to Arizona would not be blended with VVWD if required. The preferred alternative is the one presented in the application, which proposes to blend the water and deliver water simultaneously to both Mesquite and the Arizona developments. Wind River has provided a written agreement to DWR as part of this submittal to develop and guarantee the availability of sufficient potable water to meet the water demands of the developable lands within Arizona.

With the approval of the permit, VVWD and Wind River working through Vista Verde will be in a position to develop and make available the water to meet the projected demands within the Mesquite, Beaver Dam, Littlefield and Scenic areas. Wind River and Vista Verde have the financial capability to assist in the development of the transmission infrastructure to supply the water to the developable lands within Arizona. Additionally, Vista Verde will have access to VVWD's technical **Report** in the engineering and

MAY 25 2006

construction of infrastructure that private water companies typically do not have access to or the capability to finance these types of activities.

Vista Verde working in concert with Wind River and VVWD has and will continue to work with the private water companies in the Beaver Dam, Littlefield and Scenic areas to make available to them water at wholesale for their customers. VVWD as presented in the application, has been exporting water from Nevada to Arizona for many years and had established an impact fee associated with the exported water with the idea of drilling a well within Arizona. VVWD recently turned over the impacts fees to Beaver Dam Water Company as part of an agreement to have Beaver Dam Water Company provide the service previously provided by VVWD. This is an example of the longstanding relationship between VVWD and the private water company that exists. Vista Verde, which is operated by two of the largest developers in Scenic also have a long-standing relationship with the private water companies. Preliminary discussions between Wind River, VVWD, and Vista Verde have been taking place to develop a plan to meet the water demands of the developable lands in Arizona. Upon approval of the permit the private water companies and developers would be brought into the discussions to ensure the water demands of the entire area are met.

The only pipeline routing currently completed is the one supplied in the application. If separation of water is a criterion for approval of the permit, additional pipeline routings will have to be developed. Infrastructure plans in Arizona will also have to be completed working in concert with the Wind River, VVWD, Vista Verde, private water companies and developers based on projected need.

- 7a. The only other study we are aware of that addresses perennial yield is the "*Geology and Hydrology of the Lower Virgin River Valley in Nevada, Arizona, and Utah*," Dixon, G.L. and Katzer, T., 2002; previously submitted.
- 7e. A copy of the "*Impact Analysis of Water Resources Development in Tule Desert, Lincoln County, Nevada on Water Resources of the Lower Virgin River Valley, Clark County*" Nevada, 2002, Provided

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SURFACE WATER

8a.

Hydrographic Basin	Basin Name	Annual Yield AFA	Active Annual Duty AFA	Pending Water Rights Applications AFA
203	Panaca Valley	9,000	30,201	10
204	Clover Valley	1,000	3,787	0
205	Lower Meadow Valley Wash	5,000	23,398	3,138
206	Kane Springs Valley	0	0	0
221	Tule Desert	1,000	2,104	0
222	Virgin River Valley	3,600	12,378	185,340

See Hydrographic Basin Summaries By Application Status for each of the six basins identified. Copies Provided

The five basins listed in addition to basin 222 are the closest basins in proximity to basin 222. The distance to the five closest basins ranges from 30 to 80 miles from Mesquite, Nevada. All six basins are over appropriated making the likelihood of obtaining additional water from these basins highly unlikely if not impossible. Any water that may be physically available in basins beyond the six listed is considered to be financially unavailable due to the extremely high cost of constructing the required infrastructure to transport any physically available water to Mesquite, Nevada. In 2002, VVWD estimated the cost of constructing a pipeline approximately 33 miles to be about \$73,500,000, which did not include the cost of purchasing the water, environmental compliance, documentation or permitting. The current cost of acquiring groundwater if and when it becomes available in Nevada ranges from a low of \$6,000 to as high as \$15,000 per acre-foot. *See copy of cost estimate submitted by VVWD at the May 14, 2002 hearing before the Nevada State Engineer.* The hearing was to rule on an application to acquire 14,000 acre-feet of groundwater from the Tule Desert Basin by Vidler Water Company. As part of the process for obtaining a water right in Nevada, the applicant must demonstrate they have the financial capability to put the water to beneficial use. VVWD developed the cost estimate as part of their case contesting the application. The Nevada State Engineer ultimately issued a 2,100 acre-feet water right to Vidler Water Company, which was insufficient to meet the projected demands (14,000 acre-feet per year) of the intended end-user (a proposed power plant, Toquop Energy/LCLA Development). The 2,100 acre-feet have since been sold to Poquot Water Company.

MAY 25 2006

- 9b. See Accompanying Map and GPS coordinates for the two diversions. DEPARTMENT OF WATER RESOURCES SURFACE WATER
- 9c. In our response to the Notice of Deficiency we stated "...VVWD has considered constructing a diversion below Halfway Wash if the cost to treat the high TDS water of the Virgin River decreases with technology improvements." The consideration of this proposal was contingent upon Southern Nevada Water Authority (SNWA) partnering with VVWD due to the extremely high costs associated with the construction of a diversion and treatment plant. SNWA has since decided not to pursue this proposal due to costs and will

seek to obtain their pre-1928 Virgin River Rights from Lake Mead instead. Without SNWA's participation, VVWD is unable to fund a project of this financial magnitude and therefore this proposed option is no longer considered to be feasible.

- 10a. Copy of "Las Vegas Valley Shallow Groundwater Treatment Study" Black & Veatch, August 2004, Provided
- 10b. See Copies of Laboratory Analysis Provided for Wells 2, 26, 27, 28, 29, 30, 31, 32, and 33
- 10c. See Copies of Well Logs Provided for Wells 26, 27, 28, 29, 30, 31, 32a, and 33
- 13a. See Copies of Population Estimates from Nevada State Demographer and City of Mesquite provided. Copies of Table of Water Deliveries from Virgin Valley Water District Provided. Also Table of Annual Water Deliveries by VVWD from 1982 to 2005 Provided
- 15b. See Copies of Laboratory Analysis Provided in 10b.
- 15c. Well Log No.# 60155 is Well No.# 28; Well Log No.# 45152 is Well No. #27; Well Log No.# 44611 is Well No.# 26; and Well Log No.# 35222 is Well No.# 2
- 16b&c No Water Quality data is required as part of the process to import water.
- 17b. The high range and low range implies what percentage annual growth was used in order to calculate a range of population estimates from 2008 to 2020. Robert A. Fielden, Inc. (RAFI, 1994) projected the City of Mesquite's population to the year 2008, applying a 15% annual growth rate from 1999 to 2000, a 12% annual growth rate from 2000 to 2003, and a 6% annual growth rate from 2003 to 2008. WATERRESOURCE's Consulting Engineers population projections starts with RAFI's 2008 population estimate and utilizes a 5% annual growth rate to the year 2020 for a low range estimate, and a 7% annual growth rate for a high range estimate. The same procedure was then applied to the Bunkerville, Riverside Drive and Arizona areas served by VVWD to obtain a high and low population projection range for the VVWD service area. For the Bunkerville, Riverside Drive and Arizona areas, different annual percentage growth rates for the high and low range were applied. See "Integrated Water Resource Plan 2002", pages 5-5 to 5-10, Water Resources Consulting Engineers, copy provided.
- 21a. Well #32 is fully equipped with the exception of the electrical power hookup. The pump is currently planned to be fully operational by the end of June 2006. Verbal communication with Michael Johnson, Chief Hydrologist for VVWD on April 28, 2002.
23. All studies pertaining to the hydrology and potential hydrologic impacts for this proposed project have been included in the two previous submittals. Studies such as Glancy and Van Denburgh, 1969, and Dixon and Katzer, 2002 identify perennial yields, annual recharge, system yield, available yield, ranges of transmissivity, groundwater flowpaths and other parameters that provide insights into probable hydrologic impacts on the area from which the water is proposed to be transported. Dixon and Katzer, 2002 attempts to address

MAY 25 2006

potential impacts that may occur as a result of pumping from the Muddy Creek Formation, but not specifically in the area of the proposed well field site. No specific study has been conducted that specifically identifies probable impacts on the area from which water is proposed to be transported.

We have made every effort to obtain well completion data, aquifer test data, and geologic/lithologic logs concerning the drill hole data collected at Mormon Wells and have yet to find any data of any sort from this drill hole. We are continuing to look, but right now no one seems to know if or where that data exists.

The Dixon and Katzer, 2002 study previously submitted identified groundwater elevations and general ground water flow direction between Nevada and Arizona. VVWD has successfully completed high capacity production wells with production rates from 2,500 to 3,000 gallons per minute (gpm) and from depths between 2,000 to 3,300 feet in areas where the faulted Muddy Creek formation is faulted. No well or series of wells currently exist in the Mormon Wells area capable of pumping the volume of water proposed for this project (30-inch diameter borehole with 20-inch diameter casing). To predict or evaluate what if any potential impacts might occur to the VVWD wells from pumping in the Mormon Wells area, we need to know the hydrologic parameters from the proposed well site. Since no production well currently exists in the Mormon Wells area to provide us with that information, we will use existing hydrologic parameters from VVWD production wells that are completed in the Muddy Creek formation to determine potential impacts.

Burby in 2006 calculated a transmissivity of 1400 Meter² per day, which converts to 15,000 feet² per day (ft²/d) and a storativity of 0.001 for VVWD Well No. 31, which is a confined aquifer system from the Muddy Creek. By utilizing the transmissivity of 15,000 ft²/d from the Copper-Jacob method and a storativity of 0.001, with an average pumping rate of 8680 gpm (14,000 acre-feet/year) over a 100 year period and solving the Theis equation, a theoretical impact can be established. See *Three-Dimensional Deformation and Strain Induced by Municipal Pumping, Part I: Analysis of field data*. Journal of Hydrology, volume 319 p. 123-142; Burbey, T., J., Warner, S., A., Blewitt, G., Bell, J., W., and Hill, E., 2006, copy provided.

We have included a copy of a table that presents what the potential drawdown might be as a result of pumping at Mormon Wells at distances from 5,000 to 35,000 feet away from Mormon Wells. The potential additional drawdown in VVWD Well No. 33, which is located approximately 6.6 miles southwest might be an additional 61 feet from current conditions. This would be a minimal impact as the pump is set at a depth of 1,100 feet and the current pumping water level in 2006 is 557 feet. The Theis equation predicts that the pumping water level would be approximately 618 feet, which leaves 482 feet of water above the pump bowls after 100 years.

- 24a. Station 10 associated with cross section B to B' in Beaver Dam Wash (Holmes, 1997) indicates normal faulting in the vicinity of Mormon Wells. Numerous fault zones are identified in the Beaver Wash from station 10 to station 4 along the published cross section. Specifically a graben is inferred in the cross section from station 10 to station 2 on cross

MAY 26 2006

AZ DEPT OF WATER RESOURCES
SURFACE WATER

value of about 5000 ft²/d." This well is located in Arizona within Beaver Dam Wash and was drilled to a depth of 630 feet. This well is also located approximately three to four miles downstream from the proposed Wind River well field site. The well with the lowest transmissivity value of 10 ft²/d located at (C-41-19, 8cdc) was drilled to a depth of 979 feet and is located in Utah about 12 miles upstream of the proposed Wind River well site. The well located in Utah is also not located within Beaver Dam Wash, but rather it is located approximately one mile east of Beaver Dam Wash up on the fan. All wells with diameters capable of producing significant discharges within Beaver Dam Wash have rated discharge capacities ranging from 350 gpm to 1,100 gpm and generally produce from the younger Quaternary gravels. (see USGS Open File Report 96-493, 1991-95; *Selected Hydrologic Data for the Beaver Dam Wash Area, Washington County, Utah, Lincoln County, Nevada, and Mohave County, Arizona; copy included*).

As stated in response 24a above, numerous fault zones are present in the Beaver Dam Wash. The fault zones tend to create secondary permeability in the Muddy Creek formation and typically increase the production volume of a well. Until an actual production well of sufficient diameter and depth is installed the aquifer parameters of the Muddy Creek cannot be inferred.

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ARIZONA WATER RESOURCES
NO. 111-11111

Table B.3 - Low Population Projection
Virgin Valley Water District

U.S. Census Bureau, population of Mesquite was 1,871 in 1990
Mesquite Planning, current population of Mesquite is 13,854 (July 1999)

MESQUITE	BUNKERVILLE	RIVERSIDE DRIVE	ARIZONA	LOW TOTAL
Year	Population	Population	Population	Population
1970	674			
1975	808			
1980	922			
1983	1100 NV Library/Archives			
1984	1110			
1985	1270			
1986	1340			
1987	1420			
1988	1510			
1989	1740			
1990	1960			
1991	2070			
1992	2170 NV Demographer			
1993	3270			
1994	3850			
1995	5710			
1996	8310			
1997	10600			
1998	12070	120		
1999	13550	124 Project 3%	68 Project 3%	14628
2000	13700 RAFI	913	70	14810
2001	15344	941	72	16488
2002	17185	969	74	18363
2003	19248	998	77	20462
2004	20402	1028	79	21652
2005	21627	1059	81	22915
2006	22924	1091	84	24231
2007	24300	1123	86	25666
2008	25758	1157	89	27165
2009	27046 Projection 5%	1192	91	28495
2010	28398	1228	94	29891
2011	29818	1264	97	31355
2012	31309	1302	100	32893
2013	32874	1341	103	34505
2014	34518	1382	106	36199
2015	36244	1423	109	37974
2016	38056	1466	112	39838
2017	39959	1510	116	41795
2018	41957	1555	119	43848
2019	44055	1602	123	46003
2020	46258	1650	127	48265

Table B.4 - High Population Projection
Virgin Valley Water District

U.S. Census Bureau, population of Mesquite was 1,871 in 1990
Mesquite Planning, current population of Mesquite is 13,854 (July 1999)

Year	MESQUITE Population	BUNKERVILLE Population				RIVERSIDE DRIVE Population				ARIZONA Population				HIGH TOTAL Population																			
		1996	1997	1998	1999	1998	1999	2000	2001	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
1970	674																																
1975	808																																
1980	922																																
1983	1100 NV Library/Archives																																
1984	1110																																
1985	1270																																
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1989	1740																																
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1991	2070																																
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1996	8310																																
1997	10600																																
1998	12070																																
1999	13550																																
2000	13700 RAFI																																
2001	15344																																
2002	17185																																
2003	19248																																
2004	20402																																
2005	21627																																
2006	22924																																
2007	24300																																
2008	25738																																
2009	27561 Projection 7%																																
2010	29490																																
2011	31555																																
2012	33763																																
2013	36127																																
2014	38656																																
2015	41362																																
2016	44257																																
2017	47355																																
2018	50670																																
2019	54217																																
2020	58012																																

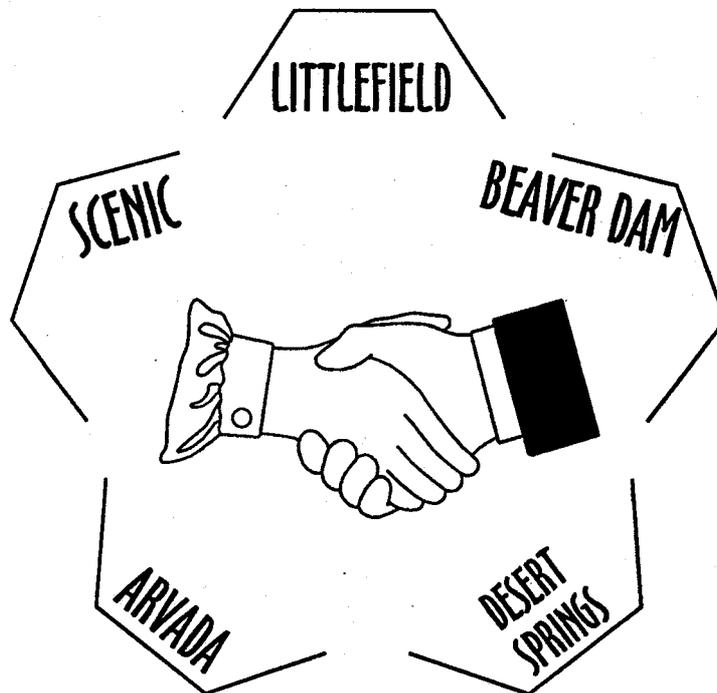
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**THE VIRGIN RIVER
COMMUNITIES**



AREA PLAN

Adopted May 4, 1998 by the Mohave County Board of Supervisors

AREA PLAN OUTLINE

Acknowledgement
Area Plan Outline
Table of Illustrations
Vicinity Map

The Virgin River Communities Area Plan

Executive Summary	1
Development of the Area plan	2
What is the Area Plan?	2
How was the Area Plan developed?	3
What does the Area Plan contain?	4
How should the Area Plan be used?	6
Current Inventory	7
Context of the Area Plan	7
Area History	7
Location	8
Climate	8
Natural Resources	9
1. Introduction	9
2. Geology	9
3. Air Quality	10
4. Scenic Values	10
5. Water Quality and Quantity	11
6. Vegetation	11
7. Livestock	12
8. Wildlife	13
Statistical Information	13
1. Land Ownership and Uses	13
2. Population	14
3. Housing	15
Utilities, Infrastructure and Services	15
1. Water Service	15
2. Sewer Service	16
3. Other Services	16
Public Facilities and Services	17
Transportation	18
Local Economy	19
Trends and Challenges	19

COMMUNITY DEVELOPMENT

Community Development.....22
 Statement of Purpose22
 Natural Resources.....24
 Introduction24
 Riparian and Habitat Areas.....25
 Air and Water Resource Values26
 Water Quality and Quantity.....29
 Hillside Protection33
 Virgin River34
 Routes and Vistas35
 Community Area Environment36
 Endangered Species and Habitats37
 Energy Conservation38
 Noise Levels41
 Community.....43
 Land Uses.....48
 Area Plan Land Use Map52
 Residential Land Uses.....53
 Residential Housing Development57
 Commercial & Industrial Land Uses60
 Neighborhood Commercial60
 General Commercial61
 Commercial-Industrial61
 Public Lands and State Trust Lands.....64
 Economic Development.....66
 Public Infrastructure, Solid Waste & Flood Control-Drainage69
 Transportation.....76
 Public Facilities, Safety & Support Services.....83
 Public Schools, Playgrounds & Libraries.....86
 Parks and Recreation87

Appendix

Map 1 Area Plan and Land Use Map of the Virgin River Communities (In Map
 Pocket inside Back Cover)
 Map 2 Map of the Virgin River Communities Area Plan
 Legend For the Land Use Maps
 District Land Use Map Division Locator
 District Land Use Maps

Table of Illustrations

Table 1 – Special Status Animal Species	39
Resource Area Map #1 – Desert Tortoise Habitat.....	40
Table 2 – Land Use Category Descriptions for the Virgin River Communities	50
Table 3 – Residential Planning Area Types for the Virgin River Communities.....	55
Table 4 – Urban, Suburban and Rural Area Development.....	55
Resource Area Map #2 – Flood Hazard Areas	75
Resource Area Map #3 – Transportation Related Improvements (Loop Road)	78
Appendix.....	89

THE VIRGIN RIVER COMMUNITIES AREA PLAN

EXECUTIVE SUMMARY

This Area Plan focuses on the growth of the Virgin River Communities through the year 2020. These communities include Scenic, Arvada, Littlefield and the Beaver Dam and Desert Springs areas. They intend to form a single incorporated city in the next five to ten years, with a projected population reaching 25,000 or more by 2020. Until this is accomplished, the Area Plan will ensure that growth in the area is consistent with the communities' shared vision of the future.

Key goals of the Virgin River communities, as set forth in the Area Plan, are as follows:

- 1. Ensure a stable economy through managed growth and orderly economic development.**

The communities will establish a self-supporting tax base by promoting managed growth and the orderly development of commercial and light-industrial uses without sacrificing the character of the area, the quality of the environment or irreplaceable natural resources. This process will help to establish a stable economy and provide job opportunities.

- 2. Promote "core" development in each community that facilitates the expansion and linkage of public services and infrastructure at minimal cost.**

The communities will promote orderly development around "core" areas to facilitate the expansion of public services and infrastructure at a minimal cost. Orderly development around core areas will also ensure that each community's public services can eventually be linked with those of the other communities in a cohesive system.

3. Encourage adequate and affordable housing.

The communities will encourage the development of adequate and affordable housing for families of all income levels. Lower-cost housing alternatives will attract new residents. Some of those new residents will provide part of the labor force to support economic development.

4. Protect the environment.

The communities recognize that protecting the environment is important to preserving their quality of life and attracting new growth. They believe that preserving the natural environment, scenic vistas and clean air and water can be accomplished while promoting growth and development.

5. Conserve natural resources.

The communities will encourage growth and economic development that is compatible with the natural resources of the area. They believe that growth and development can be accommodated while protecting the Virgin River and its tributaries, ensuring that the aquifer is recharged at an acceptable rate, conserving unique plants and species, and preserving scenic and cultural values and recreational opportunities.

6. Maintain a high quality of life and community values.

The communities will maintain their quality of life and community values by ensuring that the area retains its open spaces and community character. Careful planning between developers and residents through community development review committees will help their new city to emerge without encountering the problems associated with uncontrolled growth in other areas of the West.

7. Ensure that planning remains responsive to the people.

The communities will rely on the Area Plan for guidance in managing growth and development. They will also continue to seek community input through public forums such as annual meetings of the Area Plan Review Committee. This will ensure that the Plan remains a flexible tool that is responsive to the needs and wishes of the people.

DEVELOPMENT OF THE AREA PLAN

1. What is the Area Plan and how will it help achieve the communities' goals?

An area plan is more specific than a general plan. The Mohave County General Plan was adopted in 1995 and serves as a guide for the development of Mohave County as a whole.

An Area Plan is the product of residents of a particular area who address local land use and development issues. Like the General Plan, an Area Plan contains goals and policies but these are created by the local residents and are more narrowly focused than those in the General Plan are. An Area Plan also provides a closer look at the area and its history, geography, economy, environment, natural resources, demographics and other characteristics as they relate to the area and its residents.

This Area Plan was developed in close cooperation with area residents. It includes goals and policies that the residents wish to see implemented as they work together toward the incorporation of a city in the next five to ten years. These goals and policies will ensure that growth and development proceed in a way that is predictable and reflects the aspirations of the residents. They will also assist developers in planning projects that are likely to meet with community approval and support.

2. How was the Area Plan developed?

The Area Plan is the result of the combined efforts of the residents of the Virgin River communities, Mohave County officials and several federal and state agencies (notably the Bureau of Land Management and State Land Department).

The process began with a series of community workshops and public meetings during the period from July 1995 to June 1996. An Area Plan Committee, with members representing all communities in the area, was appointed to analyze the public comments and begin the task of constructing the Area Plan. The Committee determined that the Plan should describe the goals and policies of the communities until incorporation as a city and as far ahead as 25 years.

The various sections of the Area Plan evolved out of the community workshops. The Committee provided information as to what currently exists in the communities and what the Committee members thought the area should look like in the future. The residents were then asked to fine-tune the Committee's vision of the future and identify goals and policies to achieve it.

The residents who attended the workshops were first asked to consider broad questions such as the following:

- What constitutes "the area" for purposes of the Area Plan? What is its overall character? What does it look like today?
- What do people want their individual communities and the area as a whole to look like in the future?
- What infrastructure will be necessary to achieve the vision of the future?

- What level of priority should be placed on maintaining the quality of the environment?
- How do the people want to manage the inevitable growth? What effect will the continued development of Mesquite, Nevada have on this area?
- What are the most important transportation issues?
- What kind of commercial and residential development should be encouraged?
- What kind of public services do the people need or want now? How will this change as the area grows?

When the residents were satisfied with their responses, they used them to help define goals, policies and implementation strategies. After several meetings between Mohave County staff, Committee members and residents, the residents submitted their proposal to the Mohave County Planning and Zoning Commission and Board of Supervisors for review and official adoption as the Area Plan.

From these efforts came an Area Land Use Map to serve as a master guide to development. The Map designates specific land uses that are linked to the goals and policies set forth in the Area Plan.

3. What does the Area Plan contain?

The Area Plan has two parts:

- **Part I is entitled “Community Inventory”.** It describes what currently exists in the communities in terms of population, housing, property ownership and land uses, economic development, utilities, public facilities, transportation, natural resources and environment.
- **Part II is the meat of the Plan and is entitled “Community Development”.** It sets forth the goals and policies that the communities wish to see accomplished between now and the next 25 years. The goals and policies give direction for the development of the communities. Goals describe a status that the residents intend to accomplish within a specified time period. Policies describe the methods to attain these goals, as well as an anticipated level of action.

Key subjects of the goals and policies include:

- Natural Resources
- Land Uses (including Housing Development)

- Commercial-Industrial Economic Development
- Infrastructure
- Public Facilities
- Transportation

Natural Resources goals and policies concern the communities' desire to protect the environment while encouraging orderly growth and development. The communities believe that growth and development can be accomplished while protecting and conserving air and water quality, scenic values and plant and animal habitats. Developers will be expected to coordinate with federal, state and local agencies to adhere to criteria for maintaining air and water quality, preserving hillsides and scenic values, completing environmental studies, conserving energy and reducing noise for their projects.

Land Use goals and policies assign a general category of use to all land in the area. These categories are localized versions of those found in the General Plan (Urban, Suburban and Rural Development Area designations). The goals and policies also identify key areas for new commercial and residential development. Those goals and policies will aid the communities in developing patterns that facilitate the expansion and eventual linkage of public services and infrastructure.

Housing Development goals and policies describe the desired varieties, densities and locales of housing projects in order to promote infill and the orderly development of infrastructure, as well as to provide affordable housing for families of all income levels.

Commercial-Industrial Economic Development goals and policies focus on commercial and industrial land uses in each community as the foundation for creating employment opportunities and achieving a stable economy. The orderly development of "core" commercial and industrial areas will help achieve linkage with other land uses and infrastructure as the area evolves toward a single incorporated city.

Infrastructure goals and policies describe how the water, wastewater, solid waste and flood control/drainage systems should be developed. They also address the relationship between the planning and funding of public utilities and extensions. Adequate infrastructure is key to ensuring stable growth and improved quality of life.

Public Facilities goals and policies address those facilities that provide essential services or simply make a community a better place to live. These include parks, playgrounds, libraries, schools, government offices, public safety and medical facilities. The goals and policies discuss the role of residential and commercial development in creating and meeting the need for such facilities, as well as the cost savings that may be achieved if the communities join together in providing them.

Transportation goals and policies focus on the development and maintenance of streets, roads, bridges and the interstate highway system, which will largely determine the pace of development in the communities. These goals and policies are critical to both residential and commercial development (particularly the proposed interstate highway commercial-industrial corridor).

4. How should the Area Plan be used?

The Area Plan is designed to be a flexible template for community development. It is not a set of laws or regulations. It is more like a "guidebook" or "instruction manual" for achieving the type of growth and economic development that the residents desire, while maintaining the flexibility to accommodate different ways of achieving these results.

The Area Plan provides specific directions for land use and development in the individual communities, all of whom intend eventually to join together as a single incorporated city. The Plan also recognizes that each community has its own unique "character" and level of economic development, and that growth and development may not occur at the same pace within each community. Therefore, the Plan provides for the Area Plan Review Committee to meet at least annually to obtain public comments, review the Plan to see if the goals and policies are being met, and update the Plan as necessary (by proposing official amendments) so the desired goals may be achieved through those methods that seem to be the most appropriate and feasible at any given time. This process will ensure that the communities retain a large measure of control over their own future.

Developers may use the Area Plan to locate projects and anticipate infrastructure requirements. They will know that those projects that are consistent with the Plan are likely to receive community approval and support.

Current Inventory

CONTEXT OF THE AREA PLAN

The following puts the Area Plan in context by providing general background information on the communities.

1. Area History

The first known residents of the Virgin River area were paleo-Indian, archaic and prehistoric ceramic cultures of scientifically undecided affiliations who lived in the area around 8,000 B.C. One of the first named peoples, the Shoshone, lived in the area around 700 A.D. The Anasazi appeared about 1200 and remained until at least 1400. The Paiutes are believed to have arrived around 1600. This was followed by two centuries during which these tribes and others intermingled, making it difficult to distinguish one culture from another.

The first Caucasians arrived in the 1830's and 1840's. After gold was discovered in California, many travelers passed through in search of precious metals and beaver pelts. Although some of these travelers settled in the Virgin River area, most died from the primitive and hazardous conditions, leaving few permanent residents.

The first true settlements in the Virgin River area were remote Mormon enclaves. These began around 1867 and were located at or near the present community of Beaver Dam. They may be the oldest continuously inhabited Euro-American farming settlements in Mohave County, and perhaps in all of Arizona. Most of the residents eventually moved over to the Littlefield area because of the frequent flooding that occurred in the Beaver Dam location.

Major floods washed away many farms and homes. The Virgin River and its tributaries posed a constant threat, especially during the crop-planting season when one flood could wipe out an entire year's crop. Because of this, farmers moved to higher bench lands and irrigated their crops by lifting river water to the fields. The Bureau of Reclamation attempted flood control along the Virgin River, but these projects were abandoned due to problems with water diversion and upstream storage.

Ranching and farming continued in the area on only a minor scale until about 1900. Cattle and sheep ranching and farming then became the major industries.

In the 1930's, the Beaver Dam Lodge was constructed, bringing tourism to the Virgin River area. Electric service was available from the lodge for Littlefield homes, but only temporarily. Electric power finally came to Littlefield in 1959. By that time, however, the population was in decline. At its peak, Littlefield had nearly 100 residents. By 1952, the population was only 52; in 1974, only 32 people remained.

Key changes in the last decade include an increase in winter visitors, recreational users and residents who work in the growing Mesquite, Nevada area. This has helped increase the population to its current level of about 1,500 people.

2. Location

The Virgin River communities are located around the Virgin River and its tributaries in the part of the state known as the Arizona Strip. The Virgin River area is located in the northwest corner of Arizona, north of the Grand Canyon. The communities are bordered by Nevada to the west, public lands to the north toward Utah, the Virgin and Beaver Dam Mountains to the east and public lands to the south.

The residents have defined the boundaries of their Area Plan to include the communities of Arvada, Scenic, Littlefield, Beaver Dam, Desert Springs and lands adjacent to these communities. These lands extend to the Nevada border on the west, about two miles to the north of the Virgin River, the area up to the entrance of the Paiute Wilderness Area in the mountains to the east and an area two to six miles south of the Virgin River. The mountains to the east (Beaver Dam Mountains and Virgin Mountains) limit further eastward development of communities.

The communities are situated in the midst of several large tracts of public land managed by the Bureau of Land Management or State of Arizona. These public lands include several designated riparian areas, as well as habitat for numerous endangered species.

3. Climate

Summers are very hot with desert floor temperatures averaging 100 degrees or more during the day from June through September. The mean July temperature is around 83 degrees.

Winters are mild with little precipitation other than normal winter rains in January and February. The mean January temperature is 30 to 35 degrees. Winter temperatures average in the 50s and 60s during the day, dropping to the low 30s at night.

Average annual rainfall is generally less than 5 inches. About 70% comes from the winter rains. The remainder comes from rapidly developing thunderstorms in the summer. For the rest of the year, the average day is clear and dry. Annual run-off is less than .1 inch.

Winds are moderate to high, averaging 15 mph or more. The area is a meeting point for cyclic weather patterns coming from the northwest and off the equator.

The climate as described is for the communities themselves, which are at approximately 2,000 feet above sea level. The elevation rises from 2,000 feet to 4,000 feet up the sides of the mountain pavilions, and the Virgin River Mountains to the east rise to 8,000 feet. This abrupt change in altitude affects storm and wind tracking, pulling moisture away from the communities.

NATURAL RESOURCES

1. Introduction

As defined, a "natural resource" comes from the earth, such as wood, minerals or water. As used here, the term also includes such items as scenic vistas and air quality since they also affect the quality of life and economy of the Virgin River area.

Numerous natural resources are located in the area, but there have been few attempts to exploit them until recently. These resources include the Virgin River and its tributaries, extensive vegetation, some mineral deposits, soil that is suitable for agriculture and ranching, scenic vistas, recreational opportunities and a desirable climate.

The Virgin River has been determined to be eligible for inclusion in the Wild and Scenic Rivers system. Suitability will be determined as part of a three-state effort. BLM lands along the Virgin River are designated as the Virgin River Area of Critical Environmental Concern (ACEC), and are managed for riparian and aquatic values.

Since the area is sparsely populated, most of the natural resources remain untapped. Until recently, the local economy has been tied to agriculture and sheep and cattle ranching. These make use of water and natural vegetation, but the intensity of use has been low. There have also been occasional attempts at mining, but there is no commercial mining operation in the area.

The following divisions describe various natural resources in the area and their current level of usage.

2. Geology

The geology is similar to that of other high desert areas in the West. Most of the area contains sedimentary deposits from ancient times when seas covered the land. The Virgin and Beaver Dam Mountains are a combination of the three basic rock forms, referred to by geologists as Precambrian igneous, metamorphic and sedimentary.

The Virgin River, a tributary of the Colorado River, drains the entire area. Between mountains and river are pavilions and terraces made up of the three basic rock forms (becoming more sandy near the river valley). There are also wide terrace-like features along major drainage ways leading to the river. In the vicinity of the river are sediments that include gravel, sand, silt, clay, gypsum and salt. These sediments are common in desert area alluvial and fluvial fan deposits, which are those areas where previous water flow has fanned out from a gorge or narrow passage onto a flatter plain, or where one stream enters another. Soils include the three basic rock forms ground to fine sand, gravelly sandy loam, ancient sea sedimentary deposits and river wash on and in the tributaries.

Minerals include salt deposits that have been classified as potentially valuable for mining. Tests suggest that there may also be uranium in the area. Other minerals of potentially high value include placer gold as well as pipes of precious and base metal deposits, possibly containing rare earth elements. Of lesser commercial value are small deposits of tungsten, copper, silver, lead and zinc in the Virgin Mountains area. High quality, well-sorted gravel deposits exist along both the Beaver Dam Wash and the Virgin River and are of possible commercial value.

3. Air Quality

The air quality remains quite high due to the low population and absence of heavy industry. Most air contamination is in the form of dust from vehicles traveling down the dirt roads that make up most of the transportation system, construction projects and agriculture. The prevailing westerly winds bring additional dust and particles from nearby Las Vegas. Sources of emissions exist in the form of airborne particles and smoke from wildfire burning, and small amounts from area fire management programs. Even with these disturbances the air quality remains high with only occasional hazy days caused by an accumulation of particulates, and dust and smog (which is usually higher on windy days)

4. Scenic Values

Scenic values are enhanced by the high air quality. These values are subjective, but they do help attract tourists to the area and add to the quality of life for residents. They include the spectacular mountains, rivers and desert vegetation. The Mohave County General Plan designates Interstate 15 in the area as a Scenic Corridor.

Wooded plateaus do not exist in the area, but there are vertical walled canyons, broad valleys and mountain peaks of volcanic origin. The lower areas are characterized by consolidated sedimentary rock carved by steep-walled areas of drainage.

The Bureau of Land Management assigns the Virgin River area a medium visual quality rating and recognizes the Virgin River Gorge as a scenic byway. The BLM also monitors activities that could have an adverse long-term impact on scenic values.

5. Water Quality and Quantity

Water sources include the Virgin River and its tributaries, springs, wells, seeps, small playas, perennial stream systems, potholes, stock ponds and the Virgin River aquifer. Use of water from the river and tributaries is controlled by the Bureau of Reclamation and is allocated as a part of the Colorado River system.

Natural springs exist in the Virgin River area, but they seldom flow more than a few hundred feet before drying up. This source is used mostly for livestock watering.

The groundwater table in the Virgin River basin runs as deep as 2,500 feet below the surface. There are a few perched groundwater tables that are believed to be recharged from runoff of washes. There is little information available on the location of these small water tables or their potential uses.

Most non-irrigated agriculture relies on surface water run-off, and that type of farming is generally located near the Virgin River area and its floodplain. In the area as a whole, about 3,000 acre-feet of water from the river and wells is used to irrigate some 1,400 acres of land. Dispersed agriculture used approximately 1,100 acre-feet of groundwater when assessed by the Arizona Department of Water Resources in 1990. A variety of small mining operations use an undetermined amount of water.

The water quality standards for human consumption typically include sediment load, turbidity, PH balance, trace metals, total dissolved solids (TDS) and bacterial levels. Springs in the area are only tested for consumption by livestock. TDS levels normally increase with the distance from the recharge area and are generally low in permeable aquifers. Water obtained from deep wells is very good, meeting state potable water requirements. Shallow groundwater is generally high in TDS and alkalinity. It often does not meet state standards for human consumption but is generally acceptable for livestock and wildlife.

The Virgin River basin runs approximately from above Zion National Park in Utah to just short of Lake Mead in Nevada. The Virgin River flows through the basin from the northeast to the southwest. Beaver Dam Wash Creek is the river's largest tributary in Arizona. Numerous springs located upstream from the Littlefield area help maintain the river's base flow. Historical data indicate that water levels in the Virgin River basin are generally stable. Wells near the river test high in TDS, sulfate, sodium and calcium. Wells near Beaver Dam Wash have better quality water.

6. Vegetation

The Virgin River area and the Strip area in general form a transition zone between the Mohave Desert and the Great Basin Desert. The area is typical desert and most of it is public land under BLM management. There is very little development on the public lands.

They are used mostly for lease grazing, recreation and the protection of riparian areas and endangered/threatened species habitat. Therefore, most native vegetation remains undisturbed.

There are two primary types of vegetation in the area: riparian vegetation along the Virgin River and Beaver Dam Wash, and upland vegetation covers the remainder of the area. Riparian vegetation is mostly introduced salt cedar (also known as tamarisk) with some cottonwoods and willows. The upland vegetation is typical of the northern Mohave Desert, with creosote bush, white bursage, Virgin Thistle, range ratany, Joshua trees, snakeweed, blackbrush and several species of cacti. There is a spring bloom of desert grasses and wildflowers in years of good rainfall. An exotic grass, red brome (also called foxtail), has become established in the area and is the primary fuel for wildfires.

The area has two plant species listed on the Arizona Game and Fish Department's "special status" species list, the Virgin Thistle and the Beaver Dam Scurf Pea. The Beaver Dam breadroot occurs in the area and has been designated as a "sensitive" species by the BLM.

Riparian areas, areas of natural plant growth along watercourses, account for less than 1% of the area but are among the most important ecosystems. The BLM designates two priority riparian areas: the Virgin River and the Beaver Dam Wash. The Virgin River Riparian Area provides a habitat for the rare thistle, *Cirsium virginensis*, which has been found at one of the springs in the corridor. The riparian areas also protect the endangered Woundfin Minnow.

The Virgin River is partially within the Paiute and Beaver Dam Mountains Wilderness Area and partially within the Virgin River Gorge Scenic Withdrawal area. Those areas described prohibit entry for agricultural, mining and other activities. The threat of habitat modification exists within those areas and it comes from the effects of water diversion, channelization, road construction, urban growth and recreational uses outside the withdrawn area boundaries.

7. Livestock

Most of the land in the area is arid rangelands that have been grazed by domestic sheep and cattle since the arrival of the earliest pioneers. Within the planning area there are six grazing allotments:

- **Cedar Wash**
- **Littlefield Community**
- **Mormon Well**
- **Beaver Dam Slope**
- **Highway**
- **Mesquite Community**

Within the planning area there are 6,969 AUMs (Animal Unit Month, which is the amount of forage necessary to sustain one cow for one month) authorized by BLM. Most of these are cow-calf operations that move to higher elevation pastures during the summer. Recent decisions by BLM have restricted grazing in the desert to the period October 15 to March 15 of each year to protect the desert tortoise. An area between the Nevada border and Scenic is not allotted by BLM.

8. Wildlife

The U.S. Fish and Wildlife Service has listed the desert tortoise as a threatened species and designated critical habitat in the planning area. BLM is proposing to manage public lands in the area for recovery of this species.

BLM has designated the 20,800-acre Beaver Dam Slope ACEC north of the Virgin River and I-15 to protect habitat for desert tortoises. Additional designations may be made as part of the desert tortoise recovery plan.

The Service lists two fish species in the Virgin River, the woundfin minnow and the Virgin River chub. The Virgin River spinedace, a sensitive species, also inhabits the river. The river may contain relict leopard frogs, a federally listed amphibian species.

The bald eagle, peregrine falcon and southwestern willow flycatcher are federally listed bird species that may be present in the area. The chuckwalla and banded Gila monster are two species of lizard in the area that are sensitive species.

The area is good for hunting. It is considered a first-rate mule deer hunting ground. Other game animals of note include bighorn sheep, quail and dove.

All of the above have a specific effect on any development nearby. Future community development will be required to account for federal and state regulatory factors concerning flora and fauna in the area in any future development, growth pattern, or land use. Projects will have to be designed to accommodate regulated species or go around them.

STATISTICAL INFORMATION

1. Land Ownership and Uses

The area covered by the Area Plan is about 70 square miles (44,800 acres), extending from the Nevada border eastward to the entrance of the Virgin River Gorge and from eight miles south of the Interstate 15 northward ten miles toward the Utah border.

Approximately 75% of the land is under federal or state ownership, while only 25% (19 square miles, 12,500 acres) is privately owned. The federal government is the largest single landowner. BLM-managed public lands include Congressionally designated wilderness areas, areas of critical environmental concern, a wild and scenic river study area, and other multiple use lands. There are also 6,560 acres of Arizona State Trust land.

The total area, including the communities, encompasses about 180 square miles. The Area Plan boundaries include far less territory because the communities would only be able to support a fraction of the total area, even at full build-out. It will take over 30 years to develop and infill just those areas within a few miles of the outlying communities. The upper limit of feasible development and land use influence is probably 30 to 35 square miles due to the terrain and distance from an aquifer, as well as the limited availability of public lands.

There are five distinct communities in the Area Plan area. The southwestern area comprises the communities of Scenic and Arvada. Most land in these communities is zoned for low-density residential purposes. To the north along Interstate 15 is a manufactured home subdivision, a new recreational vehicle park and a private golf course. A few small farms are located near the river, from Littlefield to the Nevada border to the west.

At the junction of Mohave County Highway 91 and Interstate 15 are the communities of Littlefield and Beaver Dam. The land in these communities is zoned primarily for single-family residential purposes, ranch houses, manufactured homes and recreational vehicle (RV) parks. There are several business properties along County Highway 91 including a store, a golf course resort and an RV park. Several properties along County Highway 91 are zoned commercial, and are in the process of development. There are also state and federal properties, as well as leased land for a new school and a new Mohave County facility. The current school is located in Littlefield.

At the eastern portion is the community of Desert Springs, which is characterized by single-family residences and manufactured homes. The fire department building and several small commercially zoned properties are located along the frontage road; these are in the early stages of development.

The current land use category applicable to the entire area is rural. The area lacks land use densities and core commercial developments that would justify any designation as urban or suburban as detailed in the General Plan, and there are few transportation routes to support such a classification.

2. Population

The full-time resident population is approximately 900, with 600 more part-time residents. This estimate is based on the existing 738 residential electric meters, as well as water and sewer hook-ups. The 1990 census counted only 92 people in the combined Virgin River communities, an obvious error in enumeration. There are currently about 150 children enrolled in the local school from kindergarten to eighth grade. Students in 9th through 12th grade attend school in Mesquite. Assuming that grades 9-12 include about one-fourth of all children attending school from the communities, the total number of school age children should be about 200.

Also assuming that an average household contains 2.4 people (as estimated by various government agencies), the population must be at least 740 full-time residents. This number only includes full-time households with children and does not include any part-time residents (who may live in the area for up to seven months a year).

A recent expansion of the casino business in Mesquite has created a need for labor. The influx of workers to the casinos has caused a rapid increase in the communities' population, putting pressure on public services, the school, the housing market and the environment.

The communities expect the population to double within two to three years as a result of the influx of new workers, and the increase in tourists, retirees and winter visitors. The population expansion forecast was determined by the Area Plan Committee members while evaluating current housing shortages in the communities.

3. Housing

Existing housing units in each community are spread out, which gives the communities their rural, open space character. Such housing consists of frame homes, manufactured homes and recreational vehicles. The total number of dwellings is unknown due to the mobility of RVs. There are about 100 standard built single-family homes, with most of those located in Scenic and Arvada.

There are 14 RV parks with a total of about 950 spaces. Most RV parks are small and the majority are located in the Beaver Dam area. The largest RV park, north of Arvada on County Highway 91, is designed for 347 units.

Manufactured homes (including mobile homes) make up the remaining housing and most of those are on separate parcels rather than in parks. Residential units are generally in older subdivisions with lot sizes of one acre or more.

UTILITIES, INFRASTRUCTURE AND SERVICES

1. Water Service

There are presently five state-approved water companies serving the area. One is the Beaver Dam Water Company, which serves the Beaver Dam area, Littlefield Heights and a portion of the Virgin Acres subdivision. Another is the Littlefield Water Company, which serves the Littlefield community area. A third, the Shadow Ridge Water Company, will begin water and sewer service in the Scenic area in the near future, as will the Virgin Mountain Utilities Company which will begin operations in the Beaver Dam area. The fifth, Biasi Water Company, operates in the Beaver Dam area as well. There are several other small water providers who do not have State permits to provide water. Serving four units or more requires a state permit but those

small providers are serving small clusters of dwellings located long distances from franchised water companies and water system lines.

There is a need for future development of water systems in the area to delete unauthorized water services and combine dwellings into a system approved by state law. Current authorized water franchises will eventually expand service areas to accommodate existing and future development.

There is a potential for other water companies to process water permit applications. One is planned to serve an area between the Beaver Dam area and Desert Springs, which will be developed as a commercial-residential planned community. There has also been interest in forming a community-wide water-sewer utilities company utilizing existing franchised companies or other interested service providers.

2. Sewer Service

Most properties, residential and commercial alike, are on individual septic systems. Mohave County records from August of 1993 to the present show 223 permits for residential systems and 10 permits for commercial systems. Some of the commercial permits are for RV parks, where there is only one permit for all the spaces. There are approximately 50 other dwellings that have no septic permits, but do have land use documents. Many other dwellings had private individual septic systems before Mohave County began issuing permits, and some dwellings have no permits, but nevertheless have a disposal system of some sort.

3. Other Services

Telephone service is provided by the Rio Virgin Telephone Company of Mesquite. The main feed is via a new fiber optic cable that will accommodate the anticipated increase in population over the next several years. Cable television is not available at this time.

Electrical service is provided by Dixie Escalante Rural Electric Association. There are 738 residential and 92 commercial hookups according to DEREAs records as of May 1996.

There is no natural gas service at this time. All gas usage is by privately owned or rented propane tanks.

There is only one solid waste collection station, located just off Mohave County Highway 91 on the Arizona Department of Transportation site in the Beaver Dam area. The pick-up station is operated by Mohave County, but may soon close since a private collection service has begun operation in the area. Other solid waste disposal is by individual drop-off at the landfill facility in Mesquite for a fee.

PUBLIC FACILITIES AND SERVICES

1. General Government

The communities are served by two deputies of the Mohave County Sheriff's Office, although there is no permanent substation. The area is also routinely patrolled by the Arizona Department of Public Safety, as well as officers of the Bureau of Land Management and the state and federal agencies responsible for fish and game.

The Littlefield/Beaver Dam Volunteer Fire Station is located in Desert Springs. It serves the general area, but service to Arvada and Scenic is limited because of the river. A new fire equipment building is being planned for construction in the vicinity of the proposed new school and county sites on County Highway 91, in the Beaver Dam community.

The local volunteer fire department has no trained emergency medical technicians and no ambulance service, but a small clinic for area medical services operated by a social services agency is located in the current fire station building located in the Desert Springs community. The nearest full-service medical facilities are located in Mesquite, or St. George, Utah, 30 miles to the north on Interstate 15.

Although there are no public or private parks, there are several recreational facilities, including two golf courses (one north of Arvada off Interstate 15 and one off County Highway 91 at the Beaver Dam Resort and Golf Course). In addition, a riding stable, shooting range, and rodeo-type arena exist in the community area.

Government facilities are minimal. There is an ADOT materials and equipment storage yard along County Highway 91 in the Beaver Dam area. A new Mohave County facility to serve as a base for the deputy sheriffs, a zoning and sanitation inspector, and visiting officials, is currently located on leased public property next to the ADOT facility and the proposed new school site. The purpose of the facility is to issue zoning and septic permits, and to link county services to the area.

2. Schools

Only one school exists in the community area, and it is severely overcrowded. It provides education for grades kindergarten through eighth grade totaling about 150 current students. High school students attend the Mesquite, Nevada High School. A new school is proposed to be built on a BLM leased parcel next to the ADOT facility. It will serve all grade levels.

TRANSPORTATION

The main transportation corridor, Interstate 15, connects the Virgin River area with Las Vegas, Mesquite, and St. George, Utah. There are two interchanges off Interstate 15 serving the area. Neither interchange (nor the frontage road) is designed for high-density residential and commercial vehicular traffic. In Desert Springs, access to the opposite side of Interstate 15 is by way of tunnel under the highway, and the frontage roads double back on one side to access the tunnel. The interchange at Desert Springs is considered a farm equipment exit by the Arizona Department of Transportation.

The secondary transportation corridor is Mohave County Highway 91, which serves as a frontage road along Interstate 15 from the Nevada side. It turns north at Littlefield after passing underneath the highway, and then proceeds into Utah. This road provides access to all the properties south of Interstate 15 down to the river and eastward to the point where it turns north at Littlefield. It then serves as the major arterial and access for all properties northward from Littlefield through the Beaver Dam area to the state line.

Elbow Canyon Road is the third transportation corridor in the area. It is an extension of a Nevada county road that crosses into Arizona and winds eastward into Elbow Canyon in the Virgin Mountains. Although a dirt road, Elbow Canyon Road is the arterial that serves the entire area south of the Virgin River, including Scenic and Arvada, and it bears the entire load of traffic for these communities. Most residences in Scenic front on or near this road.

An improvement district has been approved that includes the Scenic-Arvada area. One of the first tasks proposed for the district is to construct a new road through the communities from Elbow Canyon Road to County Highway 91, which fronts on Interstate 15, by crossing over the Virgin River via a proposed new bridge. This route will connect Scenic and Arvada to the rest of the communities, and will open the area up to development. It will eliminate the need for area residents in Scenic and Arvada to drive into Nevada and Mesquite in order to reach the rest of the communities, and shorten access to the Interstate.

There are no other bridges that cross the Virgin River to connect the communities and form a looped transportation corridor. The only existing bridge over the river is the Interstate 15 bridge. It crosses just before the farm road exit at Desert Springs. The frontage road at Desert Springs serves to connect the area for access.

The communities are physically separated from each other by Interstate 15 and the river. As a result, they tend to operate independently of each other. Within each community are various local streets and roads connecting properties to one of the three arterials. Few of these are paved or designed to handle collector traffic.

LOCAL ECONOMY

The area comprises rural outlying communities with few local employers. Most residents must work in Mesquite or St. George. Existing businesses include a few small commercial establishments, two golf courses, a general store, RV parks and some home-based occupations and cottage industries.

The Area Plan Review Committee estimates that about one in four adult residents is employed. Because there are no local labor statistics, occupational categories must be estimated on the basis of statistics for Mesquite.

The fact that most residents work and shop in Mesquite or St. George has a detrimental effect on the local economy. For the most part, income does not come from, or stay in, the area. The vast majority of necessary and discretionary purchases are made elsewhere. The local economy is almost entirely dependent on the economy of the larger and more economically developed neighboring cities.

If Mesquite were farther away, the communities would probably remain slow-growing retirement havens with residents commuting to one of the neighboring cities for work, entertainment and necessary services. Because Mesquite is literally next door, the rapid growth of its casinos puts pressure on the entire area. Mesquite itself does not have any affordable housing projects for the increasing labor force and proposes none. Therefore, Mesquite workers must search for a place to live. Much attention is being focused on the communities as possible locations for new housing. For the moment, the workers must make do with what is available, which is often limited to rental space in the RV parks.

TRENDS AND CHALLENGES

These growth pressures have put a sudden strain on public services in the communities. In particular, the influx of workers and their families has greatly increased the number of children attending the only school, which is now severely overcrowded. There is no room for grades 9 through 12, and these students must attend school in Mesquite. However, the Mesquite school system itself is overburdened, and officials have stated that Mesquite schools will no longer take Arizona students. The deadline for acceptance of any more Arizona students has passed. The community school district was forced to scramble to find a suitable location for a new school, as well as the funds to build it. A location has been leased from the BLM on County Highway 91 in the Beaver Dam area, and funds have been obtained from various sources to construct a modular school in the near future.

Nevertheless, this may prove to be only a stopgap measure if growth continues at the anticipated rate. The situation is reaching the critical stage, as it is becoming increasingly difficult to pay for the school, buses, teachers, overhead and other expenses with a virtually non-existent tax base.

There is increasing pressure to provide more law enforcement, fire protection and other services. Additions to population, housing construction, and new commercial operations have and will increasingly place a greater burden on existing public safety agencies. There is a current need to provide more law enforcement personnel, fire fighters and equipment, and a staffed ambulance service. The anticipated growth in both people and housing will soon overrun the ability of public safety agencies to maintain even minimal levels of service.

Other common services that will need to be provided that do not currently exist includes parks, recreational facilities, libraries, and on-site staffed government offices. At this time, the current population cannot support nor does it have an urgent need for these services. Without a tax base to support these services, they will never be provided. The development of a viable tax base is required, therefore, to provide the foundation for development of services and facilities as they become necessary.

One of the key goals in this Area Plan is to foster the development of a tax-based economy so that the communities can become independent and self-sustaining. Several new subdivisions and small commercial projects are already being planned. These projects will help provide a foundation for development of the core areas. Once a commercial-industrial base is established, the influence of the Mesquite economy will lessen.

Larger commercial and industrial projects must wait for certain issues to be resolved before they can be developed. For example, the best location for commercial and industrial development is along the major transportation corridors, particularly Interstate 15. Most land along Interstate 15 between the Nevada state line and Littlefield is under BLM management. Access to these properties from the highway is very limited, with no exit until the Littlefield interchange some eight miles east of the Nevada state line. There is no access at all between the properties on either side in this area. Currently, access from one side of the highway to the other is via small tunnels off poorly developed frontage roads in the Desert Springs area and County Highway 91 in Littlefield. Any attempt at commercial and industrial development along transportation corridors will have to address such issues of accessibility.

Three things must occur to bring commercial-industrial development to fruition. First, at least one more interchange must be constructed somewhere between Littlefield and the Nevada state line. Second, developers must negotiate with the BLM for the sale and lease, or exchange, of sufficient property for commercial development along Interstate 15, and with the Arizona State Trust land for sale or lease of area State Trust properties. Third, issues of infrastructure development (such as water lines, wastewater collection lines and treatment, roads, and electricity), and the availability of water sources must be resolved.

There are other problems to be solved, of course, but they are of lesser priority. Once the key requirements are met, the next challenge will be the establishment of access roads to those properties being developed, as well as connections to collectors and arterials. In effect, it will be necessary to loop a road system that connects the communities and provides area-wide access for commercial and industrial developments and the residential developments necessary to support them.

The communities wish to resolve their economic problems by planning for growth among themselves. Necessary community development must occur to alleviate the problems and build a stable economy. They intend to develop a viable commercial and industrial establishment, and create new and affordable housing for all income levels. The communities will eventually stand on their own economic base. Community growth will make dependency on the Mesquite economy less relevant. These problems – or challenges – are formidable, but the communities are committed to meeting them through a cooperative effort. Being more self-sufficient, the transition to incorporation will be an easier step. This Area Plan will facilitate that effort.

VIRGIN RIVER COMMUNITIES AREA PLAN COMMUNITY DEVELOPMENT

STATEMENT OF PURPOSE

In this section, goals and policies describe what the citizens of the Virgin River Communities wish to see accomplished in the next 20 years to develop their community and obtain a desired quality of life. The Area Plan Committee held public meetings with the citizens of the communities, and as a result, decisions were made concerning the type of community they have now and what they would like their community to look like in the future.

These goals and policies represent the current and future development direction of the communities as determined by the residents of the Virgin River communities.

They cover the following topics:

- Natural Resources
- Hillside Protection
- Virgin River
- Community
- Land Uses, Generally
 - Area Plan Land Use Map
- Residential Land Uses
 - Residential Areas
 - Housing Development
- Non-Residential Land Uses
 - Neighborhood Commercial
 - General Commercial
 - Industrial Uses
- Public Lands
- Economic Development
- Public Infrastructure, Solid Waste and Flood Control-Drainage
- Transportation
- Public Facilities, Safety and Support Services
- Public Schools, Playgrounds and Libraries
- Parks and Recreation

Within the framework of this Area Plan and its goals and policies, references are made to the words “encourage, discuss, negotiate, provide” and others for the implementation of goals and policies. It is the resolution of the Virgin River communities to work together to implement this Area Plan and its goals and policies. The foundation for discussion and action will be initially provided through the Area plan Committee and scheduled public meetings remain in existence to promote and defend the Area plan, and to speak for the communities on its behalf, and to work closely with developers and governmental agencies to ensure the implementation of the Area Plan.

Community Involvement

To help implement the Plan, the Virgin River Communities Area Plan Committee should continue to exist. This committee should include at least ten members with representation from each community. The Committee should meet at least bi-annually to consider current and proposed projects and their evaluation by the standards of the Plan. Developers will be invited to these meetings to discuss their projects in association with the Area Plan, and the Committee will serve as a source and liaison to governmental agencies for resources and information.

The Committee may form subcommittees with additional members of the communities to meet with developers and the county to consider various aspects of the Plan, provide information, analyze projects and help educate the public about the goals and policies of the Plan. The Area Plan Committee should annually evaluate what has occurred in the past year and what is being planned in the future, in comparison with the goals and policies of the Plan to ensure positive direction and fulfillment of Plan strategies. The initial implementation of the Area Plan will occur upon approval by the Mohave County Board of Supervisors.

NATURAL RESOURCES

Introduction



The Virgin River community area contains many natural resource values including the Virgin River and its tributaries, the panoramic scenery and vistas, high air and water quality, riverside riparian areas and habitats for many wildlife and several endangered species.

The growing communities will benefit from the preservation and maintenance of the areas' natural environment and attractiveness, particularly as an attraction to winter visitors and tourists. The area contains rolling hillsides and river tributary cliffs that provide habitats for various plant and animal life. These values and scenic vistas provide a pleasing aesthetic quality to the area that is attractive to visitors and potential residents.

Physical Characteristics

The communities are located in an area of natural scenic attraction. The green belt formed by the Virgin River and its tributaries is in stark contrast to the natural desert terrain. Mountain vistas surround the area. The climate is a typical desert with little precipitation and rare snowfall, and the air quality is good.

The river forms the drainage basin for the area. It splits the community in half with pavilions rising from the riverbanks stretching to surrounding mountains. The Beaver Dam Wash divides one-half of the community into quarters. The river and tributaries contain diverse vegetation. Immediately upon leaving the waterways, the terrain turns to desert scrub rising in elevation until the land becomes hills and mountains. Some mountains in the Virgin River Mountain group are 8,000 feet high. The average elevation at the river is 2,000 feet above sea level.

Physical Area Values

The scenic and climatic values provide a draw for increased tourism and recreation and attraction of retirees from colder climates. The warm, dry climate lends itself to commercial relocation and development, which would help create a tax base and provide job opportunities. Large parcels of land are available for commercial and residential construction. The river provides a potential for recreational possibilities. The area is considered a good place for hunting. All the elements exist for attainment of a quality lifestyle in the community area.

Riparian and Habitat Areas

Because the area is part of the Mojave Desert fringe area, annual rainfall is only about 7 to 8 inches. Most rain falls on distant mountains and drains across the community area resulting in groundwater basin recharge. The remaining water flows to the river and tributaries. The water flow creates the development of riparian areas, or those places related to location along waterflows and banks tributaries.

Without the water, the plant life along the banks could not thrive. The Virgin River and its tributaries create a green belt of riparian areas, which lure animal life to live, construct habitats and procreate. These riparian areas and animal habitats are tenuous in a desert setting. Without the river and its tributaries, all riparian plant life and animal habitats would disappear from the area.

The river and tributaries are fed by rainfall runoff from hundreds of miles away in other states. In drier years, the streams, plant life and animal habitats in the area thin out dramatically. The river and tributaries are aided by natural springs in the area from the Virgin River Gorge to the Nevada state line. Animal habitats in the area flourish best around these natural waters.

Plant life along waterways is more varied than in the surrounding desert. The plant life and available water has provided sustenance for animal life not ordinarily found in a waterless desert. The animal habitats in the Virgin River area include several bird, tortoise, fish and land animal species that are considered endangered, or nearly so. Any abrupt changes, additions or deletions in the climate, available water, terrain or rivers immediately have an impact on plant and animal life.

Because some species and habitats are endangered, any development near them must be handled with sensitivity. Future development in the hillside, cliff and runoff areas must be carefully constructed so as not to disturb or change riparian areas and animal habitats. This development must also guard against erosion that could create hazards to recharge areas and sensitive, endangered species habitats.

Much of the community area involving riparian areas and habitats is public lands administered by the Bureau of Land Management. The communities wish to trade, lease or purchase some of the public land for residential and commercial development. This development will aid in providing a tax base for self-support. Because the public lands contain riparian areas and animal habitats, development of these parcels will have to be carefully planned to avoid disturbance or destruction of the green belt and species. If parcels are leased, traded or purchased for development, the conditions will include development planning in cooperation with federal and state regulations concerning the preservation and/or protection of existing riparian areas, species and habitats.

The communities are in favor of supporting a friendly environment with native plants, wildlife and habitats. The communities will urge and support development that is compatible with the natural community.

Potential Negative Aspects for Growth

Any development has the potential to affect air quality, scenic values, ground resources and the balance of land uses in the communities. Development must be carefully planned to protect local resource values to reduce the effects on terrain, hillsides, drainage ways, water sources, animal habitats and riparian areas.

Values of clean air, water and scenery can be disrupted by overdevelopment or uncontrolled aggressive construction. Commercial-industrial development should be limited by size and type to protect the environment and the community quality of life and character.

Increased regulation by the federal government on public lands may have a negative effect on community growth. Encroachment near protected areas and habitats will be limited. Parcels of land may not be available for sale, lease or purchase, creating gaps in the community that will affect infrastructure system development. "Areas of Critical Environmental Concern" will be managed to conserve natural resources and will not be available for exchange or purchase. ACEC designations on public-owned lands will not affect development on adjacent private lands.

Habitats of the desert tortoise existing in the area will affect the location of new development and developers will have to formulate a plan of operation to eliminate impacts on sensitive habitats. Activities may be limited by season as determined by the Bureau of Land Management or U.S. Fish and Wildlife Service.

Air and Water Resource Values

The communities have determined that air and water resources in the area should be carefully integrated into any development. These resources should blend in with growth such that it augments the natural character of the community.

Air Quality

The air quality is of major concern for a community whose growth is planned to encompass 50,000 or more people in 25 years. Currently, there are no programs of regular air quality monitoring in this area. Monitoring programs are enacted only when air quality deteriorates noticeably, or is reported by a governmental agency. Thereafter, state and federal programs of monitoring will occur on a consistent basis. At this time, the primary problem of eroding air quality occurs mostly from airborne particles released by federal burn programs, agricultural uses, construction, dirt roads and particulate drift from metropolitan areas west of the communities. Most air pollution in the area occurs from vehicle use and dirt roads.

The communities must carefully design commercial-industrial growth to preserve air quality. The communities intend to attract those businesses that are non-polluting and will not degrade air quality.

The federal government now has strict air quality standards, and it is likely those standards will be more stringent in the future. The time to monitor air quality is during development and before air standards are violated. All development will affect air quality in some way, and declining air quality deters growth. Dust raised during construction and from increased traffic on dirt roads, automobile emissions, increased wood burning and other factors will disturb the air quality.

The communities will monitor air quality by the following methods:

- encouraging "clean" commercial-industrial development
- proper location of land uses that are adequately served by roads
- orienting specific types of development to blend in with the environment
- monitoring of dust raised during construction
- adherence to federal and state air quality regulations
- encouraging the infill of vacant property
- ensuring an adequate roadway system, including providing paving where appropriate

Values of Air Quality

The values of having clean air are both environmental and economic. Clean air improves the quality of life and reduces exposure to various health risks. Unpolluted air and scenic vistas attract a variety of visitors, from photographers and environmentalists to hunters and astronomers. Pristine scenic vistas provide an attraction for potential new residents, tourists and businesses. A substantial attraction in this area is the healthy lifestyle and the panoramic views.

Potential Constraints for Air Quality

The area is poised for rapid growth and development. Growth usually decreases air quality from construction, increased activity on dirt roads and increases in population. Any reduction in air quality would have a negative impact on the area reducing the appeal to new residents, winter visitors and tourists.

Range management practices include controlled burn projects by the Bureau of Land Management. The Bureau of Land Management is responsible to manage wildfires occurring on adjacent and intermingled public lands. BLM fire control usually manages wildfires at 10-acres or less in this area to protect watershed values, native vegetation and sensitive wildlife, including the desert tortoise.

Aside from burning, commercial-industrial uses and development along the Interstate 15 corridor from the Nevada state line to Littlefield, and other areas, would increase traffic densities resulting in increased vehicle emissions. Resulting population increases will add to the overall effect. At this time, blowing dust and vehicle traffic dust on unimproved roads are the biggest contributors affecting air quality in the communities.

GOAL 1: Maintain the current high air quality of the Virgin River Communities

Policy 1 A: Encourage commercial-industrial development that is of a non-polluting type.

Policy 1 B: Limit businesses with pollution potential, such as fuel depots and truck complexes, to the commercial-industrial corridor alongside Interstate 15, which is designated for light-industrial development in the Area Plan.

Policy 1 C: Encourage builders to limit dust emissions from housing development by following state and federal guidelines for air quality during construction and to maintain on-site dust control by managing grading and earth moving.

Policy 1 D: Maintain natural landscaping and re-plant native species in developments, and discourage the planting of vegetation not indigenous to the area.

Policy 1 E: Encourage the Arizona Department of Environmental Quality to monitor mining activities to ensure adherence to state and federal air quality standards and to aid in the development of standards for mining and gravel operations to reduce emissions.

Policy 1 F: Mohave County should adopt road and surfacing construction standards to reduce dust generation.

Implementation

AQ1 Encourage the county to work with ADEQ to initiate air quality monitoring at control sites in the community area.

AQ2 Encourage the county to adopt dust management standards for construction sites with emphasis on projects with a high potential for dust generation.

AQ3 Help the county promote construction and surfacing standards for public roads to minimize traffic-related dust generation.

AQ4 Support the county in the requirement of submittal and approval of environmental assessments for major projects with potential significant air pollutant discharges, such as manufacturing and industrial developments and large housing projects.

Water Quality and Quantity

Water availability is a determining factor for any growth and quality of life. This essential resource must be available for future residential and commercial development. The lack of sufficient potable water to support development will severely limit the potential for growth and self-determination.

Water is used in the communities for domestic use, irrigation and some recreation. The major surface water sources are the Virgin River and Beaver Dam Wash Creek. The remaining sources are groundwater wells that tap the Virgin River Basin aquifer. Because of limited rainfall, the groundwater recharge may not be enough to support future populations. Finding new water resources will be imperative to future development and to maintaining or improving the quality of life. The Arizona Department of Water Resources should be encouraged to advise the communities on methods to find water sources and to protect existing water sources and aid in conservation measures.

Besides potable water for drinking, clean water is needed for livestock, agricultural purposes, hunting and fishing, recreation and tourism. Some commercial mining processes need potable water for their operations, and sufficient quantities of water should be available to attract those types of industries to the area.

Availability

Adequate quantities of potable water are necessary to maintain present populations and for any growth or development of the communities, including tourism and winter visitors. Available water and allocations are sufficient and clean for the purposes of the current population. Most underground water sources in the area are free of particulates and contaminants. Spring waters at the source are also good, but once the flows have traveled a few feet away they are not, as they are contaminated by salt and other pollutants on the ground. Good water quality in the area is partially due to lack of commercial-industrial development in the area. Other than current studies by the Arizona Department of Water Resources, few hydrology evaluation programs have ever been undertaken in the area. Hydrology engineers consider the Virgin River basin as one of the largest potential sources of underground water in the entire Strip.

Potential Constraints for Water Availability

Little information is available concerning water availability in quantities large enough to support a tax base sufficient to support population growth much more than existing numbers and additional information requires test wells and studies. Limited amounts of clean water in adequate supply will slow or delay growth for the area including commercial and housing development. Further, this could also delay capital investments for industrial development.

The overuse of current groundwater supplies could deter further development until other sources are found and developed. The potential exists for possible pollution of current sources from septic fields and lack of treatment systems.

Concerns have also been expressed that some development interests in Nevada would withdraw groundwater in the Littlefield area and transport it to water users in Mesquite, Nevada. The State of Arizona is presently cooperating with Nevada and Utah in providing studies of the water resources of the area, especially the Virgin River. An interstate agreement may be necessary to allocate the resources of the Virgin River since increased development is expected to extend into this area from St. George, Utah and Mesquite, Nevada.

Goal 2: Maintain water quality, and monitor water sources and availability.

Policy 2 A: Encourage the planning and construction of projects to ensure the protection of the Virgin River Basin aquifer, the Virgin River and its tributaries from pollution.

Policy 2 B: Ensure that all development is provided with an assured potable water supply free of contamination from wastewater, runoff, or commercial-industrial pollution.

Policy 2 C: Require that development projects be designed to provide sufficient amounts of clean, potable water to complete and use the development. Projects should have hydrology studies completed by their engineers to determine adequate water availability in the area and the effects of water withdrawal on the environment and the communities.

Policy 2 D: Commercial-industrial uses that require little or no water in their processes will be encouraged to locate in the area.

Policy 2 E: Aquifer hydrology studies should be encouraged to provide analyses of water availability to support new commercial and residential projects.

Implementation

WQ1 Support the county to maintaining contact with the ADWR and ADEQ to monitor development projects that may have an effect on the Virgin River Basin aquifer, the river and its tributaries.

WQ2 Support efforts by local franchised water companies to expand their lines of service to provide an assured potable water supply.

Goal 3: Completion of hydrology studies by developers to determine water sources for projects.

Policy 3 A: Hydrology studies for projects should be performed where appropriate to insure adequate water is available for development. Such studies should provide the information necessary for availability of water resources in the development area. The effects of withdrawal from the aquifer on the environment and community at large for any new project should be observed by the Arizona Department of Water Resources. The delivery of safe, dependable water resources without pollution to consumers and end uses of the development shall be ensured. Hydrology studies shall be forwarded to the Arizona Department of Water Resources for evaluation.

Implementation

WQ3 Encourage the county to require developers to provide hydrology studies to determine water availability and protection of area water resources.

Goal 4: Ensure that water supplies meet the growth of the area.

Policy 4 A: Developments should be designed based on available hydrology reports that can address the effects of long-term water withdrawal from the aquifer. Projects should be designed to supply the water needs of every lot, and ensure any proposed land use is not only consistent with the Area Plan Land Use Map, but that those uses are compatible with current adjacent uses and available water supplies. The projects should take into account potential land densities for future uses, the availability of water for now and future development and the provision of alternate water resources to meet current and future demands.

Policy 4 B: To help decrease development costs and provide the foundation for the development and connection of infrastructure in the communities, on-going adjacent developments should work together to organize their water systems and join them together where possible. This activity would help create webs of water distribution to aid in the formation of water districts. These could then join or connect to present water companies and other developments where feasible to form an interconnected system for the community.

Policy 4 C: New developments will provide adequate potable water for each new commercial and residential use, and ensure that the use is non-polluting and does not deplete available water resources.

Policy 4 D: Ensure that appropriate levels of water service are provided to projects that are consistent with the proposed growth of the communities and current uses.

Policy 4 E: Ensure that each project that has a water service system will receive adequate water supplies that are potable, and that there will be sufficient storage capacity for fire and emergencies. Those systems should have an adequate distribution and transmission supply to serve the proposed development and future development phases that will attach to it.

Implementation

WQ5 Support efforts by utility companies to increase service areas and join together to form area-wide water provision systems.

WQ6 Encourage the county to require project developments ensure adequate water supplies, adherence to ADWR requirements and design projects based on current hydrology reports that provide assurance of water supply.

Goal 5: Ensure the use of surface water resources for recreation and other purposes while protecting them from pollution.

Policy 5 A: The communities will promote any adjacent development to the Virgin River and its tributaries to include provisions for recreational purposes where feasible. Such developments that use surface waters for recreation will protect those water sources from pollution, wastefulness and misuse as detailed by federal regulations.

Policy 5 B: Encourage water conservation of surface water resources in the communities for any development uses. Ensure enough water is available for recreation uses, and follow federal and state regulations and guidelines to protect the aquifer and surface waters from runoff and other pollution.

Policy 5 C: Encourage coordination between water suppliers and improved communication between source providers and government regulatory agencies to maintain water quality and quantities for commercial, residential and recreational uses.

Implementation

WQ7 Support cooperation between the community, county and other governmental agencies to provide recreational water uses and conservation measures.

Goal 6: Protect ground and surface water from contamination.

Policy 6 A: Mohave County, in cooperation with the residents of the Virgin River Communities, will encourage developments (those that produce surface and groundwater

discharges such as septic systems, fertilizers, pesticides and development runoff) to work in cooperation with local and state agencies to protect surface and groundwater sources. The County and developers will work in cooperation with federal and state government agencies to monitor potential surface and groundwater contamination from projects under development. The community land developers will ensure their projects comply with federal and state agency water regulations.

Hillside Protection

Part of the Virgin River Communities is located among rolling hills, some with slopes exceeding 15 percent. Washes and arroyos abound between the hills, especially near the Virgin River and its tributary system. Although rainfall amounts to only a few inches per year in this desert area, the runoff is rapid and destructive. Any new development near or on hillsides, runoff areas or floodplains will be subject to potential damage. As a corollary, development itself can reduce the stability of hillsides by changing drainage patterns or reducing vegetation that holds sandy hillsides together. For either occurrence, it will be necessary to carefully plan hillside development to ensure the stability of the area, environmental concerns and downhill property.

Goal 7: Ensure the protection and stability of hillsides during development.

Policy 7 A: Ensure that projects that involve hillside slopes greater than 15 % to be sensitive to environmental concerns and the development will adhere to regulations of Mohave County hillside development.

Policy 7 B: Ensure that hillside projects protect downhill adjoining properties from runoff and drainage problems, and to stabilize slopes against future degradation.

Policy 7 C: Hillside development should be designed to adapt to the terrain.

Policy 7 D: Encourage hillside developments that eliminate excessive grading and physical changes that can affect the environment, such as endangered species and habitats, terrain, contours, and drainage.

Policy 7 E: Hillside developments should be arranged to take advantage of slopes, using designs that include clustering and open spaces, and use natural landscaping as buffers.

Policy 7 F: Encourage the county to require developers and landowners to plan hillside developments to meet state and county requirements, and address environmental concerns, such as the accommodation of any riparian areas and endangered or threatened animal/plant habitats.

Policy 7 G: Developers and landowners will be encouraged to plan hillside development that minimizes grading needed for construction of buildings, roads and utilities. Any hillside development should be designed so that the hillside integrity will be the same or improve upon the original natural state.

Implementation

HD1 Encourage the county to adopt regulations and guidelines for hillside developments, including maximum densities, the use of clustering and design alternatives.

HD2 Encourage the county to adopt regulations and guidelines for developments by specifying maximum grade changes, minimal slope stabilization requirements for building construction, roads and utilities, and minimize the impacts of development on the natural drainage and terrain.

Virgin River

The Virgin River is a contributing tributary to the Colorado River system draining into Lake Mead. It is imperative that the river basin remain unpolluted for many reasons. One is to ensure that the Colorado River and Lake Mead be as pollution free as possible to protect the ecosystem affecting the western states along the river. Another reason shows that if the Virgin River Basin is polluted, that pollution will endanger or destroy the tenuous ecosystem that now exists along the river, including endangered species and their habitats. Pollution of the Virgin River Basin would make it impossible for the communities to exist, let alone grow. It is necessary, therefore, to ensure protection of the river system before development and growth occurs.

Goal 8: Protect the Virgin River and its tributaries and riparian areas.

Policy 8 A: Encourage projects that provide for environmental protection measures, such as drainage and bank protection, to avoid river pollution and ensure that riparian areas are not destroyed.

Policy 8 B: Encourage developments that are designed to protect downside properties from runoff that could lead to pollution of the river from washed out septic systems.

Policy 8 C: Projects should be encouraged to circumvent protected areas, or provide an arrangement of development that does not interfere with riparian areas or provide for the replacement and regeneration of protected plant species.

Policy 8 D: Encourage developers to take note of the past history of flooding in the area and locate projects away from the potential for flooding. Engineering plans on projects should provide for the placement of projects out of the floodplain or ensure mitigation measures to protect both the development and the tributaries from pollution or destruction.

Policy 8 E: Encourage developers to routinely coordinate with the Bureau of Reclamation and the Army Corps of Engineers for design compatibility with regulations and the assurance of environmental protection when developments are planned near the tributaries and riparian areas.

Policy 8 F: Encourage development that includes recreational provisions and land uses around the river area, and promote recreational uses that can co-exist with the Virgin River and its tributaries without endangering the river and its greenbelt.

Implementation

I1 Mohave County should work with other governmental agencies in identifying and protecting the Virgin River basin sensitive areas and provide guidelines for developers.

I2 The County should regulate environmentally sensitive areas for development and encourage innovative designs and mitigation measures.

I3 The County should encourage development proposals that preserve and enhance identified endangered species and habitat areas.

Routes and Vistas

Scenic routes and vistas provide pleasing views of natural and manmade settings. They provide a major incentive for people to move to the area and live. It is important that the preservation of scenic routes and vistas be ensured so that future visitors and residents will be able to enjoy the same panoramas that exist today and to help maintain the qualities of life for all who come to live here.

Goal 9: Preserve, protect and enhance scenic routes and vistas when planning for new developments.

Policy 9 A: Developments should include plans to ensure the integrity of scenic values, vistas and routes within the communities.

Policy 9 B: Developments should blend with the natural terrain to preserve scenic views that enhance the quality of community character and attractiveness. Such developments should be attractive to visitors and potential buyers of homes and commercial properties.

Policy 9 C: Projects should promote and protect the overall scenic view of the whole area to enhance land values and the quality of life.

Implementation

RV1 Encourage the county to develop design guidelines for preserving and enhancing scenic routes and vistas. Guidelines should ensure that development activities do not reduce the aesthetic value of scenic routes and vistas.

RV2 Encourage the county to use zoning and other regulations to protect valuable scenic resources from inappropriate land uses.

RV3 Encourage developments to incorporate scenic viewpoints to increase the enjoyment of scenic resources.

Community Area Environment

Goal 10: Preserve and protect the natural community area environment when developing any property.

Policy 10 A: Encourage developments in the communities to address preservation of the natural environment involving air, land, water and plant quality on projects that could change environmental characteristics. Developments that do make changes will be subject to mitigation measures that could include accommodation of federal and state environmental requirements and guidelines. Planning of projects should be accomplished so that the project will not affect endangered species, create erosion, or disturb wetlands, habitats and misuse public lands. The use of innovative project design, with measures to protect and preserve the environment, will be encouraged.

Policy 10 b: Community development near public lands will be designed not to disturb protected areas, species and habitats.

Endangered Species and Habitats

The Virgin Rivers community area is home to several threatened and endangered plant and animal species. Most of these species and their habitats are located on public lands surrounding and in-between the communities. Any future development within, or which expands the community area, will begin to encroach upon endangered species and habitats on public lands. Much of the public lands between the communities are planned for tax base development and eventual connection and joining of the communities together. In particular, transportation needs will have one of the greater impacts on the area. The Mohave County General Plan states that habitat conservation plans have not been adopted for protected species and any development that disturbs habitat of endangered species can be declared a "taking" of the species by federal agencies resulting in project delays, mitigation procedures, fines and other penalties. Therefore, it will be necessary for any development in the Virgin River communities to carefully plan projects that will not disturb protected plants and animals and their habitats, and to provide for mitigation management and procedures that have been approved by any relevant federal agency.

Protected animal and plant species in and around the Virgin River Communities are listed on Table 1 (page 39) and Natural Resource Map number 1 (page 40) for reference. There are four species listed on the federal endangered list, including the bald eagle and Virgin River chub. The desert tortoise, widespread in the community area, is listed on the federal threatened species list.

Goal 11: Preserve and protect endangered species and habitats determined to be in project development areas.

Policy 11 A: Encourage developments that include plans to preserve and protect officially recognized endangered species and their habitats in the project area from undue disruption, disturbance or destruction. Project designs will be encouraged that can ease and/or mitigate any problems of on-site species and habitats, or those on adjacent properties or federal/state preserves.

Policy 11 B: Project properties, which have endangered species and habitats located on them, should be designed so that those areas are used as preserves or open space, away from traffic and community interference. Development should be moved away from known adjacent habitats where feasible, or designed to moderate or mitigate disturbance and disruption.

Policy 11 C: Any project design that could have the potential to cause disruption, disturbance or potential destruction of protected species and habitats located on the site or adjacent to it should work in cooperation with appropriate agencies to ensure inclusion of mitigation measures.

Implementation

ES1 All proposed projects should be checked by the county to ensure that plans have been submitted to appropriate governmental agencies for review of environmental concerns.

Energy Conservation

The Virgin River Communities adjoin two deserts and energy demands are high. Increased growth will consume more energy from available sources for transportation, lighting, heating and cooling and operation of machinery and equipment. New developments will, therefore, be encouraged to use energy efficient construction and consumption and conserve energy requirements where possible. This will include the promotion of alternate energy sources such as solar and wind power. The communities are blessed with 300 plus days of sunshine each year and constant mild winds, providing the two major sources for alternative energy provision.

Special Status Animal Species Occurring in the Arizona Strip

Common Name	Scientific Name	St/Fed Status
Arizona Southwestern Toad	<i>Bufo microscaphus microscaphus</i>	NL/F2
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SE/FE
California Leaf-Nosed Bat	<i>Macrotus californicus</i>	SC/F2
Chuckwalla	<i>Sauromalus obesus obesus</i>	NL/F2
Common Black Hawk	<i>Buteogallus anthracinus</i>	SC/NL
Desert Springsnail	<i>Pyrgulopsis deserta</i>	ST
Desert Tortoise	<i>Xerobates (Gopherus) agassizii</i>	FT/SC
Ferruginous Hawk	<i>Buteo regalis</i>	ST/F2
Flannelmouth Sucker	<i>Catostomus latipinnis</i>	ST
Northern Goshawk	<i>Accipiter gentilis</i>	SC/F2
Peregrine Falcon	<i>Falco peregrinus anatum</i>	SC/FE
Relict Leopard Frog	<i>Rana onca</i>	SX/F2
Snowy Egret	<i>Egretta thula</i>	ST/NL
Southwestern Willow Flycatcher	<i>Empidonax trailii extimus</i>	SE/F2
Spotted Bat	<i>Euderma maculatum</i>	SC/F2
Virgin River Chub	<i>Gila robusta seminuda</i>	SE/FE
Virgin River Spinedace	<i>Lepidomedia mollispinis mollispinis</i>	SE/F2
Western Yellow-Billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	ST
White-Faced Ibis	<i>Plegadis chihi</i>	NL/F2
Woundfin Minnow	<i>Plagopterus argentissimus</i>	SE/FE

State Abbreviations:

SE = Endangered
 ST = Threatened
 SC = Candidate
 SX = Extinct
 NL = Not Listed

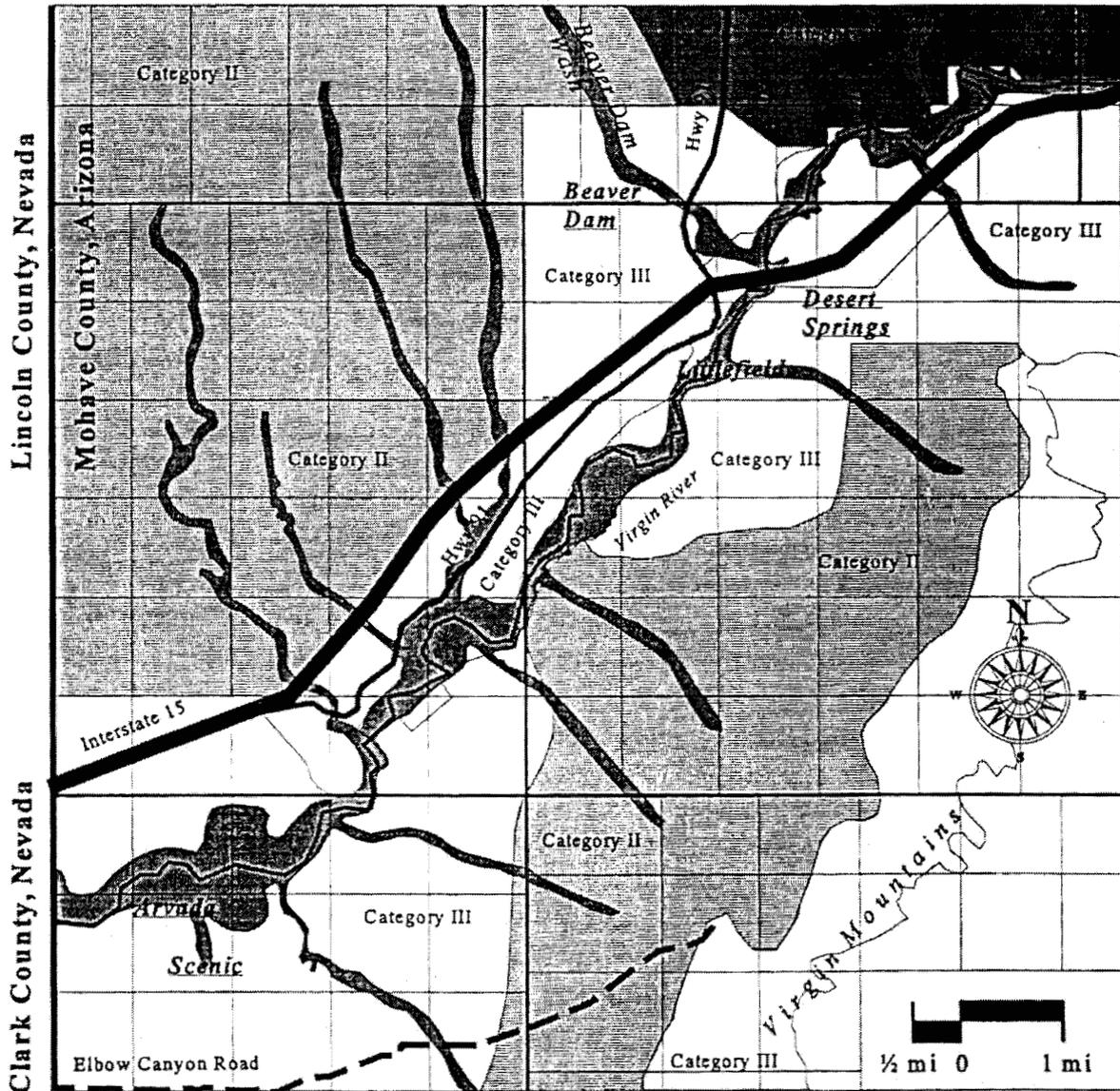
Federal Abbreviations:

FE = Endangered
 FT = Threatened
 F2 = Candidate, Cat. 2

TABLE 1

Categories of Desert Tortoise Habitat

Source: Shivwits Resource Area Implementation Plan, BLM, June, 1992.



Resource Area Map # 1

Goal 12: Promote energy conservation in new development

Policy 12 A: Developments in the communities should include plans that aid in the preservation of energy, such as inclusion of insulation and the use of low energy devices. Where possible, developers should use alternate or supportive energy resources that promote energy savings.

Policy 12 B: Housing types and styles should be chosen to blend in with the environment, taking consideration of the warmer climate and make use of the sun for energy savings where possible. Houses should make use of available energy-saving devices where possible. Designs should blend so not to impact scenic values.

Implementation

E1 Encourage developers and public utilities to take advantage of solar and wind energy opportunities in designing projects.

E2 Encourage the county to disseminate information and provide contacts to developers to obtain information from governmental agencies on energy consumption reduction, alternative energy resources and cost effective energy methods.

Noise Levels

Noise affects the quality of life, and as the communities grow, noise will have a negative impact and create adverse effects on the physical and mental well being of the people and their enjoyment of the environment. Noise levels and sensitivity to noise varies widely, but the effects are real and significant. Traffic, construction and industry are normally the largest noise sources. Careful planning of projects, checked by the county, should separate noise generation sources from noise sensitive areas.

Goal 13: Minimize noise levels in project construction and end uses after completion.

Policy 13 A: Encourage developments in the communities to ensure that noise levels during construction of any project are reduced, and that such development will not disturb adjacent property owners.

Policy 13 B: Project facilities, buildings, and dwellings should be designed such that their end use noise levels and types will not disturb sensitive land uses, habitats and adjacent property owners.

Policy 13 C: Finished development noise levels should not exceed noise standards of the General Plan for Mohave County.

Policy 13 D: For projects that have approved higher noise level end uses, such as specific types of commercial-industrial uses, landscaping and other buffering methods should be included in the design and construction.

Policy 13 E: Compatible or similar land uses that emit comparable noise emissions should be planned to locate in those areas designed to accommodate higher levels. Planning should ensure that projects are not located adjacent to incompatible uses, or those with lower noise levels.

Implementation

N1 The County should review development plans and encourage design features and measures for noise abatement.

N2 The County should review development plans for adherence to the General Plan standards for noise abatement.

COMMUNITY

From the public meetings on the Area Plan, strategies for community development and growth were discussed. Some of those community desires follow.

First, several quotes are taken from "Area Development and Marketing Strategy For the Land Within the Arizona Strip", a report by Gary Clapp of Mohave Engineering Associates for the Area Plan Committee. The quotes represent some of the motivation for development of the Virgin River Communities Area Plan and its direction as compiled by the residents:

"The object (of this Area Plan) is to provide for and to promote orderly growth in the area... to provide an environment that allows for the compatibility between various land uses... to enhance the general living and working conditions for present and future residents."

In more detail, the Committee has stated the following area philosophy (in no particular order):

- A well-designed community should fit well with its surroundings.
- Analysis of future community needs based on projected growth and commercial industry establishment is a priority for the Communities.
- Transportation and infrastructure issues are of immediate concern.
- Education of children is primary and new schools must be built.
- A community that wants to grow must attract business and industry.
- Proper placement of residential housing and commercial-industrial uses are critical.
- Recreational facilities must be included in community development
- Spiritual needs should be included as a part of any community growth.
- Facilities such as public safety, health and medical care, and a sanitary landfill are necessary if a community is going to grow.

The communities wish to incorporate all of the above attributes in strategies that will lead to the development of the community area and its eventual incorporation.

Goal 14: **Include low density tracts of one acre or greater farthest away from Community core areas to encourage a ranch style or more wide-open atmosphere on the perimeters of the communities.**

Policy 14 A: Promotion of a less intense development density pattern in those outlying portions of each community that wish to encourage larger lots for a more wide-open lifestyle than the inner core developments of the communities.

Goal 15: Promotion and development of the communities in an orderly fashion.

Policy 15 A: The communities will achieve the above goal by monitoring and encouraging cooperation between developers, government agencies and civic organization, to consider:

- A. analysis of natural resources
- B. existing land uses
- C. population and economic characteristics
- D. community character and design
- E. existing and planned facilities and services
- F. development trends
- G. alternatives for development
- H. definition of specific policies to achieve goals
- I. ensured public participation in the development process and public hearings to resolve issues, evaluate results and provide direction for the communities.

Policy 15 B: The design of each development will compatible with the community in which it is located. The development should provide continuity of the land use pattern and the quality of life of the community.

Goal 16: Provide opportunities for growth and development of the area while improving the quality of life.

Policy 16 A: The communities will promote and encourage commercial and residential development in the area by presenting their Area Plan as a guide.

Policy 16 B: Encourage development that will promote the current community lifestyle while building on its quality.

Policy 16 C: Plan for the location of various land use types, densities and uses, including locations for residential and non-residential development areas to fit growth through the year 2020. This planning should involve use of the following techniques and items:

- The Area Plan Land Use Map
- Negotiation between communities and developers
- Trade, lease, sale and purchase of land from the BLM, State of Arizona
- Market driven choice
- Flexibility of developments within the communities
- Growth patterns as shown on the maps
- Environmental concerns
- Scenic values
- The diversification of the economic base to provide continuity for growth
- Match land uses to areas of availability of infrastructure

Policy 16 D: Promote diversification of land types densities and uses of the Area Plan Land Use Map. Land use densities will include up to 25 units per acre in residential development. Commercial densities will be determined by their type of use and where they fit within the confines of the geography and land availability.

Policy 16 E: Avoid incompatible land uses and activities that would result in a negative impact on the growth, character and environment of the communities.

Policy 16 F: Ensure compatibility of adjacent land uses for coordination and extensions of services, styles, densities and uses

Policy 16 G: Blend developments between different uses by placing common use elements between them, such as:

1. schools
2. parks
3. recreational areas
4. open space
5. landscaping
6. retention of environmentally sensitive areas

Policy 16 H: The communities will review development proposals from time to time at scheduled public meetings to aid developers with the following:

1. help resolve incompatible land uses
2. retain versatility and flexibility in developments
3. follow community character
4. limit environmental impact
5. ensure resident security, land values and safety
6. ensure the efficient provision and connection of infrastructure

Policy 16 I: Periodically poll the citizens of the communities to decide:

- what kind of goods and services they would like to have in their communities
- what kind of businesses they would like to see developed
- how they would like to update the area plan and land use map
- what methods should be used to attract new business to the communities and aid in the cooperation of land use development between land owners and developers

Goal 17: Provide areas of transition from rural to suburban and suburban to urban densities

Policy 17 A: Encourage development that will fit into the existing community, and help to upgrade it, including:

1. utility development
2. road construction
3. matching densities to the Land Use Map
4. service upgrade, such as public facilities
5. a variety of housing types and styles
6. overall compatibility and transition between uses

Policy 17 B: Encourage development designs that accommodate different adjacent land uses by locating like elements of each land use together to form a transition pattern between them.

Policy 17 C: Ensure development is consistent with the Area Plan.

Goal 18: Help the community define areas for urban and suburban development.

Policy 18 A: On the Area Plan Land Use Map, define areas of potential urban and suburban growth, and petition to change the General Plan to show those areas as Urban and Suburban Development Areas.

Policy 18 B: Encourage development to locate in both Urban and Suburban Development Areas, which is consistent with proposed densities for each area, and to help provide a transition between levels of uses.

Policy 18 C: Development plans should provide design flexibility in higher density areas (such as clustering). Designs should address issues such as:

- site lay out
- circulation and access
- infrastructure and facilities
- landscaping
- energy conservation in construction methods
- scenic vistas
- environmental concerns (retention of natural site characteristics)

Goal 19: Develop a method of transition between existing land uses and those provided for in the Area Plan.

Policy 19 A: Encourage developments to be compatible with existing uses and styles of that area. When they are not, development proposals will be encouraged to be designed so they will blend like elements where feasible of each adjacent use to provide a transition.

Policy 19 B: Encourage the alignment of similar and common elements of land uses together to provide a smooth transfer between the two uses to keep from creating a sudden impact of two divergent uses. Projects should add transitional uses such as recreation and open areas, landscaping, and similar densities and designs.

Policy 19 C: To ensure orderly development of the communities, proposals will adhere to Mohave County development standards and regulations, the General Plan and the Area Plan.

Policy 19 D: Ensure that development proposals are compatible with infrastructure, transportation systems, densities, environment, terrain, community character and other elements.

Policy 19 E: Ensure that development proposals provide for the levels of services as defined in the General Plan and development regulations.

Policy 19 F: Promote the expansion and remodeling of existing services to provide a transition to connect to new development.



LAND USES

The community character is partially defined by current land use patterns. As growth occurs and land uses change, the appearance of the community will change. It is the intent of the communities' Area Plan to help plan growth patterns by promoting land uses compatible with the current lifestyles in the area.

Community lifestyle interspersed with growth patterns and development will shape how the community grows. The area residents would like their area to grow in harmony with any new development, and mid with the communities character.

The communities define their area to include approximately thirty-six square miles. The communities are small and unconnected. Within that area, various new developments will occur in clusters around existing communities. Current land uses consist of small clusters of residential dwellings, a few commercial businesses and a vast amount of public lands. Residential and commercial projects will demand infrastructure, transportation and other public facilities that do not currently exist or are currently inadequate.

Low-density development will be more costly to construct and service. Once residential-commercial development begins and the area starts to fill, costs may drop for development as the community becomes more interconnected and the tax base broadens. Development will create new roads where required. Water and sewer lines will be installed in defined districts and these infrastructures will eventually join with each other to form a system.

When owners of undeveloped land determine the uses for their lands, those uses will, in many ways, determine local characteristics and lifestyles. Some of those characteristics may have to be revised to address concerns of availability of infrastructure, access, public lands, distance between available services, the property owners' desires for use of their lands and their ability to provide the costs of development. All of these concerns will need to be addressed to conform to the Area Plan, the County General Plan and development regulations.

The residents of the communities have expressed desires for specific land use development patterns for the area. Included are the following land uses:

- Residential (of various types and patterns)
- Commercial (from neighborhood to general purposes)
- Light industrial (those that create no pollution and are low-water using)
- Public facilities, Recreation and open spaces

The communities understand that land uses will vary from community to community and that infill with residential, commercial and light industrial projects will be slow and probably be located in clusters near community core areas. The communities hope that in the future these clusters of development will join and expand to connect the communities and services together. The Area Plan will be able to help in the realization of this process.

Table 2, which follows, defines the various land use categories for residential and non-residential uses for development of the communities.

LAND USE CATEGORY DESCRIPTIONS FOR THE VIRGIN RIVER COMMUNITIES

Code	Residential Designations	Typical ¹ Densities	Maximum Densities	Policy Intent ²
LDR	Low Density Residential	1 DU/Acre	5 DU/Acre	Single family dwellings on larger parcels in a rural, agricultural or environmentally sensitive setting.
MDR	Medium Density Residential	5-9 DU/Acre	12 DU/Acre	Single family dwellings mixed with low density apartments, duplexes, cluster developments and mobile home parks.
HDR	High Density Residential	12-15 DU/Acre	25 DU/Acre	Inclusion of all types of residential developments and types, including mobile home and RV parks.
	Non-Residential Designations			
NC	Neighborhood Commercial	N/A	N/A	Small scale retail and service establishments meeting the needs of residents within any particular neighborhood.
GC	General Commercial	N/A	N/A	Higher intensity retail, office, and service businesses meeting community or regional needs.
LI	Light Industrial	N/A	N/A	Includes low intensity manufacturing and warehousing that produce no toxic discharges, high level noise, fumes or hazards; are low water usage and environmentally friendly.
	Public Land			
N/A	Facilities & Institutions	N/A	N/A	Includes schools, public safety stations, libraries, hospitals and clinics and other public buildings.
N/A	Parks	N/A	N/A	Public-owned parks and open spaces
N/A	Land	N/A	N/A	Public-owned lands not designated for parks or open spaces.

Notes:

N/A= Not Applicable

1= Typical densities are those most likely to be developed.

2= Policy intent indicates the primary uses anticipated in each category.

Table 2

Goal 20: Develop a commercial core retail, tourist and cultural activity area in each community to serve as an economic base for future growth.

Policy 20 A: Each community should identify opportunities and plan for the gradual development of a central complex of commercial and retail businesses, tourist facilities and cultural activities along major corridors (according to the land use map) to give the community a central focus. Core developments should be planned to begin in the near future and reach completion in ten years.

Goal 21: Provide for a balanced mix of residential land use types according to the Area Plan Land Use Map.

Policy 21 A: Locate residential land uses as depicted on the land use map to ensure that each community achieves development and growth that include the different residential densities.

Policy 21 B: Encourage the incorporation of different types of residential uses to provide a choice and help infill gaps between uses.

Goal 22: Conform to the General and Area Plan.

Policy 22 A: Provide for the analysis of development projects for compliance with the General Plan and the Area Plan through review by the county and the Area Plan Committee in cooperation with developers.

Policy 22 B: Ensure that consideration is given in the planning of projects that are compatible with the following factors:

- A. Terrain and slope
- B. Floodplain location
- C. Natural topography and vegetation
- D. Provision of setbacks
- E. Access and traffic circulation according to current standards
- F. Project and current community design and attributes
- G. Infrastructure availability or provisions

Policy 22 C: For non-residential development proposals, evaluation and approval of those projects should include the following, in addition to the above factors:

- the types of land uses proposed
- their compatibility with surrounding land uses
- the impact on the environment
- the impact on the community for economic development, jobs and services

The Area Plan Land Use Map

The Area Plan Land Use Map shows the land use patterns determined by the Area Plan Committee with assistance from the landowners. The purpose of the map is to show land uses for a community in the year 2020. It is intended as a guide for development and is flexible enough to allow adjustment. It gives a desired level of land uses that provide a balance in the communities. Land will be devoted to various uses that incorporate public lands, scenic vistas, environmentally sensitive areas and commercial-residential uses in a balanced proportion to promote attainment of an exceptional quality of life for the expected population.

Occasional evaluations of the land use map and analysis of current and previous development will be undertaken by the Area Plan Committee to determine progress and provide for updates. The Land Use Map will be versatile allowing for mixed textures, multiple uses and designs for the various community landscapes. These updates will give developers the opportunity to integrate their development patterns into the community landscapes.

The Land Use Map divides the vicinity into "community development areas" as well as residential uses. These areas generally show expected locales for commercial-industrial development. Commercial-industrial uses should be mixed with buffers, such as public facilities, parks and open areas and designated high-density housing. This provides the transition to medium density residential land uses. Neighborhood commercial, schools and other public facilities will support and intermix within all residential areas. Furthest from high density areas and located adjacent to the outer areas of medium density uses will be the least dense land uses, such as "ranch style" living and larger residential parcels of one acre or more.

The Land Use Map shows specific areas along I-15, Elbow Canyon Road and Highway 91 for high use commercial-industrial purposes. These areas were specifically chosen by the Area Plan Committee for commercial-industrial development uses without residential land uses in between which might interfere with commercial infill.

The Area Plan Land Use Map and local diagrams are delineations of intent. The nature and direction of the map diagrams are meant to provide the direction of development of each area, while allowing enough flexibility for growth and change. The local element maps (drawn on a larger scale than the Area Plan map) are to be found in the Maps section at the end of the Plan. They identify the same land uses and locations as the Area Plan Land Use Map, but are more convenient to read at a larger scale

The Area Plan Land Use Map has been specifically detailed by residents and landowners as an informed direction for development of properties in the community area. The map will also help to locate projects to be developed in relationship with each other and the community.

Goal 23: Adopt an Area Plan Land Use Map showing land use patterns and densities that promote a balanced mix of land uses in each community.

Policy 23 A: Develop and approve an Area Plan Land Use Map to guide community development.

Policy 23 B: Use the Area Plan Land Use Map as a specific local guide for development of the area, along with the General Plan.

Policy 23 C: Use the map to help coordinate the development of various land use types in the communities, and to infill the area with uses that are compatible and complement each other.

Policy 23 D: Use the map to depict land use placements to provide the connection between current and new uses to form a transition between the uses.

Policy 23 E: Use the map to protect existing residential areas from non-compatible land uses and traffic.

Policy 23 F: Ensure that development is compatible with the environment.

Residential Land Uses

Three major residential land use categories are proposed in the Area Plan: high, medium and low densities in Urban and Suburban designations. The Mohave County General Plan states that “outlying communities will be permitted to continue growing at existing intensities, with uses which are consistent with, or will enhance, the existing character of the community.” This includes the outlying communities of the Virgin River communities. Although the Area Plan proposes three levels of density for development, existing styles and densities will be allowed to develop in the manner and character now existing by landowners in specific areas. With that in mind, the full six categories of the General Plan will be found throughout the communities, including areas that are currently rural in nature and have intentions to stay that way and areas moving toward suburban and urban lifestyles. The Area Plan Land Use Map details patterns of development, growth and areas of consistent existing character. Within those categories will be found the various types of housing styles, including:

- Stand-alone frame houses
- Single-family residential subdivisions
- Mobile home subdivisions
- Mobile home parks
- Planned unit developments
- Multi-family units (apartments, condominiums, townhouses and multiplex)

The communities plan to mix new residential uses among existing residential areas to infill the area and link the communities together.

The Area Plan matches the General Plan in density designations. The term high-density residential means 12 to 25 dwelling units per acre. Medium-density residential consists of 5 to 12 dwelling units per acre and low-density residential densities include 1 to 5 units per acre. The Scenic-Arvada communities have determined limits of 12 to 16 units per acre maximum, whereas the rest of the communities will maintain the 12 to 25 dwelling units per acre designation.

High-density residential uses are planned to be located near, or adjacent to, commercial-industrial areas and intermixed between major transportation corridors. The density range includes single-family housing to multi-family uses and mobile home parks. These higher density areas will provide the opportunity to mix uses that can also incorporate neighborhood commercial and retail space in planned unit developments. Such development styles will blend into the commercial areas that are adjacent to them. Proposed subdivisions in higher density uses will probably be required to develop infrastructure systems.

Medium density residential properties are designated to be adjacent to the higher-density residential districts, and intermixed with neighborhood commercial, schools and other public facilities. Neighborhood commercial and varied public uses would be located along collectors leading to arterials. These densities serve from five to twelve dwellings per acre.

In medium density areas adjacent to higher-density designations, multi-family uses such as townhomes, duplex styles, and parks, recreation and open areas may be used as transition buffers, along with some neighborhood commercial infill.

Lower density residential uses are planned for the outlying portions of the communities. They are intended to foster the desire for larger parcels for ranch-style housing and open spaces. These areas are farthest away from the high density residential areas, and commercial businesses and services. Tables 3 and 4 to follow show graphically the residential planning types and urban, suburban and rural area development types that will be found in the communities.

Residential Planning Area Types for the Virgin River Communities				
Area Type	Intent	Residential Densities	Other Land Uses	Service Provision
(LDR-low density residential)	Lower density areas	Density is 1-5 DU/Acre Lot sizes are 1/5 acre to 1 acre	Small neighborhood commercial uses serving local needs	Few urban or suburban type services or facilities provided
(MDR-medium density residential)	Well-developed small lot subdivisions	Density is 5 to 12 DU/Acre Lot sizes are 1/5 acre to 6,000 square feet	All residential uses including multi-family, mobile home and RV parks	Paved streets, infrastructure, neighborhood commercial, public facilities
(HDR-high density residential)	Well-defined small lot subdivisions; highest intensity residential uses	Density is 12 to 25 DU/Acre Lot sizes are 6,000 square feet and larger	All residential high density land uses	Paved streets, interconnected infrastructure, public facilities, parks, playgrounds, neighborhood commercial uses

Table 3

Urban, Suburban and Rural Area Developments				
Area Type	Intent	Densities	Land Uses	Services
Urban	Highest density area land uses	Average densities are 2-5 DU/Acre with individual areas up to 25 DU/Acre	All non-residential land uses may develop here in appropriate locations	Urban Services and facilities are required for development
Suburban	Medium density area land uses	Average densities are between 1 and 0.2 DU/Acre Lot sizes are between 1 and 5 acres	All non-residential land uses may develop here except industrial uses	Most urban services and facilities, but some septic. Some areas may require full urban services
Rural	Low density area land uses	Average densities are 0.2 DU/Acre or less. Lot sizes are 5 acres or larger	Residential land uses with some neighborhood commercial uses	Rural ranch-style living with few facilities and services

Table 4

Residential Areas

The communities have determined that approximately twenty square miles of the total thirty-six square mile community area is available for residential development in the next twenty-five years. This acreage is dispersed among and between the five communities. Each community has locales available for high, medium and low density housing.

Goal 24: Develop high, medium and low density residential construction according to the Area Plan Land Use Map.

Policy 24 A: Provide approximately 20 square miles of property among and between the five communities designated for residential development over the next 25 years.

Policy 24 B: Make available approximately 2,300 acres of property throughout the communities for high-density residential development use.

Policy 24 C: Provide about 4,500 acres of property throughout the communities for medium density residential development uses.

Policy 24 D: Set aside approximately 5,700 acres for low density residential property development throughout the communities.

The above policy figures provide illustration of the amount of property available for development. It is unlikely that all the property will be developed in the manner stated, but it is the communities' recognition that enough land exists in all categories to provide a choice and location for development in each community.

Goal 25: Provide for specific residential densities.

Policy 25 A: Develop high density residential housing from 12 to 25 units per acre.

Policy 25 B: Develop medium density residential housing from 5 to 12 units per acre.

Policy 25 C: Develop low density residential housing from 1 to 5 units per acre.

Goal 26: Provide for the transition between residential uses.

Policy 26 A: Promote the use of transitional uses between dissimilar uses, such as buffering and landscaping.

Policy 26 B: Promote the use of open space, environmentally protected areas and recreational uses between dissimilar residential densities.

Policy 26 C: Encourage projects to combine like elements of different residential uses to form a transition from one use to another.

Policy 26 D: Promote the design of collector streets and arterials in projects to provide a buffer in between unlike uses.

Goal 27: Develop projects compatible with existing residential land uses.

Policy 27 A: Promote residential development projects that will be consistent with existing uses in each community.

Policy 27 B: Encourage housing projects that will infill current residential areas with similar housing types styles and densities.

Policy 27 C: Encourage the development of housing projects that include a variety of housing density types in each community, such as single-family and multi-family uses, and promote their location in those density areas designated on the Land Use Map.

Residential Housing Development



Availability of housing types and prices is a key issue for the communities. The communities support the development of additional housing for future population growth. This should include a diversity of housing types and styles, including affordable housing for low to moderate income families.

The communities face growth pressure from the influx of winter visitors, part-time residents and retirees that are taking advantage of the southwestern climate and rural lifestyle. In addition, the growth in the casino industry has increased the labor force. Developments should include several types of housing projects for all income levels so buyers may have a choice of housing styles, sizes and prices.

The Mohave County General Plan states an annual income of \$27,000 is needed to afford a median-priced home in the county. Renters will need an income of at least \$16,000 to afford the median rent in the county.

To ensure an adequate supply of affordable housing, community developers will need to construct various types housing and styles with a choice of prices for all income levels. Developers should take advantage where possible to reduce costs for land and infrastructure, such as developing in an area that currently has services, including water and sewer lines.

The communities can enlist the aid of the county in assisting first-time home buyers, single parents and the elderly through the support of alternative living arrangements as detailed in the General Plan. The Area Plan Land Use Map provides for flexibility in the development of different housing types and styles.

The choice of particular housing type is as varied as individual needs and desires. Residents with special needs, such as the elderly or handicapped, may be limited to units with particular design features or locations that include provisions for less mobile persons, or the physically disabled and aged. Resident needs may also include those housing types that provide for safety and easier access.

Goal 28: Promote the development of affordable housing types and styles in the communities.

Policy 28 A: Encourage a variety of residential use types and densities, including single-family, multi-family, apartments, condominiums and townhouses to provide a choice of affordable housing.

Policy 28 B: Ensure that a variety of affordable housing is available in each community.

Policy 28 C: Ensure that affordable housing projects are integrated within all housing development areas and are not segregated to form low-income housing islands.

Policy 28 D: The Virgin River Communities approve and promote the Fair Housing Act of 1964 and amendments.

Goal 29: Meet the current and future housing needs of the Virgin River Communities.

Policy 29 A: Housing needs will be provided through retention of existing adequate dwellings and the construction of various types and styles of affordable housing units that match the land use densities as shown on the Land Use Map.

Policy 29 B: Developers should use the Land Use Map residential density designations as a guide to provide enough housing projects to meet the needs of a growing population. That should include all types and styles of housing to support any income level, including provisions for vacant and seasonal units to ensure market flexibility.

Policy 29 C: Future housing development should infill existing available properties and proposed planned areas that already have public or private infrastructure and facilities.

Policy 29 D: Encourage a range of affordable housing alternatives, including conventional single-family homes, town homes, manufactured housing, multi-family dwellings, patio homes and special developments.

Policy 29 E: Encourage the provision of affordable housing to satisfy the area labor force needs.

Policy 29 F: The communities support development of affordable housing by identifying locations for development that will adapt different housing types and densities that appear most affordable.

Policy 29 G: Flexibility and innovation in housing development, construction and arrangement will be promoted to increase land use efficiency, protect the environment and provide for the various types and styles.

Policy 29 H: Provide for higher density housing developments up to approved limits:

- which meet the needs of future housing demands
- are compatible with surrounding uses
- where adequate infrastructure is available

Policy 29 I: Encourage Mohave County to adopt development incentives for development projects that include housing for seniors, affordable housing for low and very low income households and housing for persons with special needs.

Goal 30: Develop various residential housing types to provide a choice.

Policy 30 A: Promote housing growth that provides a balanced mix of densities in each classification.

Policy 30 B: Promote housing projects that provide a choice of types of housing.

Policy 30 C: Plan to develop sufficient numbers of housing projects to meet the high, medium and low density residential development requirements of each community.

Goal 31: Provide for special developments for single-family housing projects allowing for cluster developments or lot sizes less than the minimum to make better use of the land from a geometric standard and design.

Policy 31 A: Where special development zoning is approved, to help create additional open space, protect sensitive lands, provide diversity in the development, provide quality affordable housing and improve on the development's design elements

Implementation

H1 Encourage the county to implement and enforce the General Plan Housing Implementation measures as applies to the Virgin River communities.

COMMERCIAL AND INDUSTRIAL LAND USES

The communities are interested in commercial and industrial development types that will help expand the local economy and which are compatible with an area that envisions a rural lifestyle.

Three major non-residential land use categories have been identified by the communities: neighborhood commercial, general commercial and light industrial. Types of businesses and locations have been chosen to help maintain the integrity and lifestyles of current and future residents. The classifications establish specific uses and development standards.

These types include commercial-industrial businesses that do not produce environmental pollution and use limited amounts of water. Commercial-industrial development should be constructed to be compatible with the terrain. The community residents desire those uses that are:

- low profile in visibility
- are not crowded together
- are clean and create little noise
- are environmentally friendly
- generate minimal trips

Local neighborhood commercial business uses are expected to be like those normally seen in urban neighborhoods. The residents desire that those uses be designed to blend into the residential landscapes. This kind of commercial infill will help provide a buffer or division between higher and lower density residential uses and help retain residential atmospheres for residents while providing some basic services at the local level. Commercial types are defined as follows.

Neighborhood Commercial

Neighborhood commercial uses are those uses meeting the needs of the residents residing in the neighborhoods in which they exist. Low yield economic base commercial developments in the neighborhoods are useful. They can easily be set into residential areas and provide links between neighborhoods and services essential to adjacent residential communities. The community residents prefer that the density and use intensity of commercial business would be on a scale smaller than seen in urban strip malls and should include uses such as:

1. professional offices for doctors, dentists and medical clinics
2. local grocery and retail stores and service stations
3. restaurants and bakeries
4. lawyers, architects and engineers
5. laundromats, drycleaners and similar uses
6. convenience stores

The area residents want these uses to be placed at collector corners and occasionally along major roads and streets in low to medium density residential areas. Some cluster type units are proposed at intersections next to higher density uses. Commercial locations should be limited in number along collector streets and major roads until higher residential density areas are reached.

General Commercial

The communities have determined that this land use should be developed along major transportation corridors. Existing corridors include Interstate 15, County Highway 91 and Elbow Canyon Road. Properties proposed for general commercial uses are those adjacent to Interstate 15, BLM and state lease, trade, or sale properties, areas along state and county roads, and current commercial areas, such as golf courses and recreation areas. General commercial uses include greater intensities than neighborhood classifications, but lower than industrial purposes. Typical general commercial uses include:

1. department stores, chain stores, mini malls
2. truck stops, fuel depots, auto repair, maintenance shops
3. hotels and motels, multistory office buildings
4. fast food restaurants, hospitals, community colleges, business schools

It is expected that various public facilities, such as parks, schools and fire stations will be interspersed among the general commercial uses.

Densities will be limited by available access to Interstate 15 and frontage road capacities. The communities are promoting the construction of two interchange ramps on Interstate 15 and the upgrade of frontage roads (see **Transportation** section) to support commercial development along transportation corridors. Improved access is vital to supporting fully developed commercial areas. An improvement district is already being formed to include a new bridge, road and area road upgrades. Time frames for completion will be dependent upon funding sources and their funding and construction schedules.

Commercial-Industrial Uses

Commercial-industrial mixed uses will be placed on State Trust land or on BLM trade, lease or purchase properties close to the Nevada state border, and along Interstate 15 to the Littlefield exit, approximately eight miles. This will include properties on either side of the expressway, and between Interstate 15 and County Highway 91 where feasible. The communities have determined that the types of commercial-industrial uses anticipated for these areas include:

- ancillary services to Nevada casinos including: hotels, parks, recreational facilities and golf course resorts

- light manufacturing, such as electronic assembly, plastics, electrical equipment
- industrial storage, warehouses and yards, wholesale and support facilities

The communities desire no industrial uses that result in toxic discharges and/or high water use, noise, fumes or hazards.

The range of industrial uses desired by the residents is narrow. This will help ensure some measure of control over environmental concerns, infrastructure development and protection of scenic values, while creating the necessary economic base for development of schools, public safety facilities, roads and infrastructure.

The communities do not support development of heavy industrial manufacturing within the community area. However, mining is a common industrial use in the western states and its development in close proximity to the communities is possible. Although the communities will have some control of area development through the implementation of the General Plan and Area Plan, such constraints will have a limited effect on the control of heavy industrial uses on surrounding public lands.

Goal 32: Provide for a balanced mix of non-residential land use types and development.

Policy 32 A: Encourage new commercial development in areas designated for that purpose in the Area Plan and which are consistent with the future growth needs of the communities.

Policy 32 B: Ensure that commercial and industrial developments comply with County design and development standards.

Policy 32 C: Encourage commercial-industrial projects that incorporate natural features of the site, use native vegetation for landscaping, use alternative energy sources and are non-polluting.

Policy 32 D: Promote non-residential design standards and characteristics that are compatible with the neighborhoods where projects will be built.

Policy 32 E: General commercial and light industrial projects will be encouraged to locate in areas designated in the land use plan for those purposes, including:

- along both sides of the Interstate 15 highway
- adjacent to County rights-of-way
- alongside Elbow Canyon Road and other designated roads
- on BLM and State Trust trade, purchase or lease where available

Policy 32 F: Non-residential designs should promote the use of alternate development patterns along major arterials to provide commercial-industrial complexes separated by lesser intense uses such as public facilities.

Goal 33: Provide commercial-industrial development to support economic growth throughout the Virgin River Communities.

Policy 33 A: Encourage developers to negotiate with the BLM to rent, lease, trade or purchase property along Interstate 15 from the Nevada state line to Littlefield for the development of commercial-industrial projects.

Policy 33 B: Encourage developers of commercial-industrial projects to consider developing properties along County Highway 91 right-of-way, Elbow Canyon Road and other logical transportation corridors.

Policy 33 C: Provide for the development of neighborhood and general commercial projects within each community to provide a central core commercial development area.

Policy 33 D: Undertake neighborhood and general commercial development projects between the various residential density types to provide infill, buffering, alternative living styles and proximity to residential uses.

Policy 33 E: Provide for the infill and interconnection of commercial and residential developments.

Policy 33 F: Encourage developers to locate adjacent to available infrastructure, such as improved roads and water and sewer lines where practicable.

Policy 33 G: Encourage developers to provide "neighborhood serving" commercial uses in established "centers" to enhance community identity and accessibility.

PUBLIC LANDS AND STATE TRUST LANDS

Public land management and uses are buffered from local community authority. Nevertheless, the area residents wish to see nearby public lands purchased, traded or leased to provide economic development for the area. Public lands in the area include federal lands (such as Bureau of Land Management) and State Trust lands, adjacent to current private property. These lands make up approximately sixteen percent of the total area of the communities. The availability of BLM land for trade, sale or lease for commercial-industrial uses, and State Trust properties would compliment the community development and foster the economic tax base support essential to the growth of the area.

Federal and state land managers can expect to be approached by developers for the sale, trade or lease of properties that will provide the bulk of the commercial-industrial land use in the communities. Care should be taken to exclude areas set aside by the agencies for the protection of endangered species and habitats.

Inclusion of speculative land uses of public lands and state properties on the Land Use Map is a risk, as there is no guarantee that any of these properties will be available for development but it is the desire of the communities to obtain the use of certain public and state properties to develop commercial-industrial projects. Once these areas are developed, they will help infill the community area and provide links of interconnected services.

The public lands needed for community development are shown on the Land Use Map. Use of additional public lands may be pursued in the future where the infilling of the communities is deemed appropriate.

Goal 34: Procure public lands for commercial-industrial development.

Policy 34 A: Identify federal public lands for sale, lease or purchase to develop commercial, industrial, residential, public facility and other uses according to the Land Use Map.

Policy 34 B: Encourage developers to plan for commercial-industrial projects on nearby public lands.

Policy 34 C: Encourage developers to negotiate for the sale, lease, trade or purchase of public lands for the development of commercial-industrial projects as shown on the Land Use Map.

Policy 34 D: Cooperate and coordinate with developers and public agencies when developing public trade, lease or purchase properties to help protect and preserve those public lands not anticipated to be considered for community development.

Goal 35: Negotiate for the sale or use of Arizona State Trust lands.

Policy 35 A: Encourage developers to purchase or lease State Trust lands to develop commercial-industrial and residential uses as shown on the Area Plan Land Use Map.

Policy 35 B: The communities will negotiate with the State of Arizona for the purchase or lease of state lands in the community area to promote the development of schools, public facilities and recreation purposes, and as buffers between commercial-industrial uses and residential areas.

ECONOMIC DEVELOPMENT



A diverse and viable economic development strategy is needed to promote growth and diversification of the communities. Commercial-industrial projects need to be developed in each community area. Each area should be promoted as a place to locate business and industry. This in turn will provide employment opportunities within the communities allowing them to grow and expand. The promotion of local business diversity should be on going, diverse and aggressive.

The communities provide an opportune area for economic development. The busy Interstate 15 corridor connects several states together and is a major transportation arterial for commerce between California and eastern states. Properties along this road would provide superior locations for diverse commercial-industrial development. Most of the area is virtually undisturbed, and it is conducive to planning strategies for commercial development where there is no predetermined land use pattern that may pose conflicts.

One new and one improved access point along Interstate 15 in the community area would open up the entire area for development. A new interchange one mile east of the Nevada state line on Interstate 15 would open up all the properties along the expressway for commercial-industrial development. Adjacent properties could then be developed for residential construction as a land use for labor support and infill of infrastructure.

A second access to Interstate 15 should be the modernization of the current equipment exit at the Desert Springs community to open up that area for economic development. Another bridge over the Virgin River north of the interchange would help connect Desert Springs to the Beaver Dam-Littlefield communities providing economic development opportunities all the way from Desert Springs to the proposed new interchange east of the Nevada state line.

Once access points have been established for the area, negotiation can begin for the use of public lands along and near the interstate highway for various activities and uses. Along with commercial-industrial development alongside the freeway, the access points would open up the area for residential development and recreational possibilities.

The climate, wide-open spaces and rural atmosphere provide an incentive for business industry and recreation to relocate to this area to help provide an economic base. Interstate 15 provides the prime arterial route for interstate commerce and transportation from local industry that would be literally located next to it. This type of growth would also support economic development to entice winter visitors, tourists, part-time residents and retirees to come to the area. Commercial development would provide jobs for a community labor force to give the area a measure of economic independence.

An improvement district is currently proposed in the Scenic-Arvada area to bridge the Virgin River and provide the first arterial link from County Highway 91 to Elbow Canyon Road. At this time, residents in the area must drive to Mesquite, Nevada, in order to access the Interstate and

come back into the community area. The new improvement district road will open the area for development and access to Interstate 15.

Positive Aspects

The main focus must remain on development of local business and industry to create jobs and an economic base to build an independent community. The communities support any effort to attract viable, clean commercial-industrial development and jobs that will expand local employment opportunities. Jobs will create the need for further housing development and increase the economic base allowing for incremental growth.

Economic development is critical to change the area from a small community to a growing city. Commercial development will provide the diversity to lessen dependence upon Mesquite's casino industry as the single dominant area economic factor. Secondary and ancillary support businesses will augment primary commercial-industrial development, and expand job and market opportunities that will benefit community labor and provide an economic base.

The communities can also build from the influence of the gaming industry and non-gaming tourism. Development of active recreational, commercial and industrial land uses is essential in developing the necessary economic base to retain visitors and tourists and turn them into part and full-time residents.

Sources of minerals and mining exploration exist throughout the whole community area. Some mineral development would have a potential economic boost for the community. Current mining uses in the communities' area are underdeveloped at this time. Resources for development in the Virgin River area include uranium, salt, sand and gravel deposits, and some precious metals.

Active exploration programs have been undertaken to search for deposits. The U.S. Department of the Interior's Resource Management Plan for the Shivwits resource area has designated 1,374,600 acres for mineral entry in the entire Strip Area. Deposits of economically viable uranium have been found east of the communities' area. Some mining processes would make sand and gravel available as building materials for development projects.

New reclamation stipulations from government regulations have been added to exploration and development costs. Such restrictions raise costs associated with mineral extraction and this may deter mining development in the region.

Potential Constraints

One possible constraint could be the lack of capital for investment in new tourism, recreation and related industries such as motels, shops, golf courses and restaurants. Another

is the potential for an increase in pollution due to development and increased vehicular activity. Increases in the number of visitors affect the few current services available. Many area residents may not derive any financial benefit from tourism and may resent the increased congestion and impacts caused by visitors. This would negatively affect tourism and sales in the area.

Goal 36: Establish an environmentally responsible and diverse economic base.

Policy 36 A: Coordinate with county, state, federal agencies and private business to attract, retain, and expand commercial-industrial uses in the area to create a viable and diverse economic base for the growth of the communities.

Policy 36 B: Encourage the location and/or relocation of industrial and commercial business into land use areas designed for those purposes.

Policy 36 C: Encourage and foster economic development efforts aimed at attracting a broad range of tourist activities and recreational uses.

Policy 36 D: Encourage and support economic development that will provide long-term employment.

Policy 36 E: Coordinate with the state, Mohave County, the Mohave County Economic Development Authority, and other agencies to help attract diverse industry to the area, and to provide jobs.

Policy 36 F: Local and state economic development agencies will be asked to aid in the promotion of agreements that help expedite commercial development and relocation.

Policy 36 G: The communities will cooperate with local and state economic development agencies to obtain information on business trends, labor force development processes and other economic development aids to help the community increase their economic base.

Policy 36 H: The communities will begin efforts to locate an economic development office or agency in the area to aid in community development.

Policy 36 I: The communities will apply for funding of economic development projects from federal and state programs and other private sources that will help the communities look for information and assistance in attracting business and industry to move to the communities.

Policy 36 J: The communities will seek resources to be used in economic development and will investigate the use of the Mohave County Economic Development Authority, federal and state grants, and the Mohave County Community Development office for economic trends, and availability of funds and grants for cooperative programs and development opportunities.

PUBLIC INFRASTRUCTURE, SOLID WASTE & FLOOD CONTROL-DRAINAGE

The communities currently have virtually no public infrastructure, solid waste facilities or flood control and drainage procedures. This is due to the rural character of the area, the diverse nature of the terrain, the Virgin River and Beaver Dam Wash that isolates each community, the lack of a significant economic base, and a small population. Those factors together would seem to preclude the need for a sophisticated public infrastructure system. Current services are at or beyond capacity to serve the people. There are five small water franchises attempting to serve isolated areas with no plans to coordinate systems together. Wastewater removal still depends on septic systems. Any development of any size will probably be required by the ADEQ to provide a treatment plant of some sort. The environmental protection regulations for the Virgin River basin are making it more difficult to develop residential properties on septic systems and commercial-industrial development will be required to construct treatment systems.

The Virgin River communities are on the verge of an explosion of development and population increase. Economic factors in Mesquite have created pressures on the communities for the provision of housing, water and sewer service and flood control. An increased labor force is searching for affordable housing and services and is putting great pressure on the communities to provide those amenities. The area has become popular for tourists and winter visitors, adding more pressure. The public school has been over capacity for several years. There are proposed residential and commercial developments in all five communities. It is now imperative that measures be taken immediately to improve public infrastructure, solid waste removal and flood control.

Current franchises must take the lead by upgrading services and service areas and expansion of lines to new development. Central water treatment facilities should be planned in cooperation between existing water franchises to collect wastewater from the same areas where water is provided.

Street and infrastructure systems should be coordinated among developments to make the most efficient use of resources and cost effectiveness. Community infrastructure loops will evolve from adjoining developments to form collective service areas and wastewater package treatment plants or lagoon systems. Infilling between developments and loops will help connect services to franchised providers together for area-wide water service and wastewater collection systems. These will grow steadily over the years with continuous interconnecting of utility services until entire districts and, eventually, all five communities are interconnected.

As the communities grow, the availability of adequate water supplies will be essential for development and quality of living. The demands of proposed higher density land uses will require more water sources and a centralized water delivery system to meet daily requirements and fire fighting needs.

Outlying lower density designated residential areas may be developed using their own water and sewer sources. One dwelling unit per acre and larger developments will probably

maintain individual water and sewer services until communities grow together to form utility districts in the future. Depending on lot size and location, some areas may always be on individual septic and well site service.

Goal 37: Expansion and connection of infrastructure to meet the needs of a growing community.

Policy 37 A: Encourage cooperation among developers in planning projects to promote interconnection of existing services with new development to expand service systems. Projects that are designed to be islands of independent, unconnected lines should be discouraged because they do not help to infill gaps in service areas.

Policy 37 B: Plan for the development and maintenance of water, wastewater, and solid waste master plans for each community and work toward joining all the communities together to form an area-wide service with public and/or private providers.

Policy 37 C: Plan for infrastructure development in harmony with Mohave County General Plan goals 39, 40, 41 and 42, which follow:

Goal 39: To plan for facilities to meet the needs of Mohave County's growing population.

Goal 40: To encourage new development to locate within or adjacent to urban areas and suburban areas, where public facilities can be provided in a timely manner and a sense of community can be created or enhanced.

Goal 41: To ensure that public facilities are designed and phased to adequately meet the demands from new development.

Goal 42: To establish an equitable system for funding the costs of new public infrastructure.

Policy 37 D: Encourage the use of the Area Plan Land Use Map to determine the locations of potential infrastructure facilities.

Water and Sewer

Goal 38: Join the communities into a single, systemized public utility district, including water and sewer.

Policy 38 A: Plan the development of adjacent residential and business projects to connect public utilities together where feasible.

Policy 38 B: Connect adjoining areas to form regional service districts for water and wastewater provision.

Policy 38 C: Connect the different regional service districts for water and wastewater service together whenever feasible to form a single area-wide provider.

Policy 38 D: Work to join together area-wide services among all the communities into a single utility system that provides water and wastewater services to all residents and businesses in the Virgin river communities within twenty years.

Goal 39: Adequate water supply systems in all developments to meet the daily and emergency needs of the area.

Policy 39 A: Ensure the provision of adequate water supplies to current planned developments, residents and future development.

Policy 39 B: Provide water service in all developments that satisfy the minimum requirements of the Arizona Department of Water Resources and the Department of Environmental Quality.

Policy 39 C: Discourage the development of "dry" subdivisions within land use areas of less than one dwelling unit for five acres in density to promote continuity in utility districts being set up.

Wastewater Facilities

Goal 40: Ensure adequate wastewater collection and disposal systems to meet the demands

Policy 40 A: Provide for the installation of central wastewater systems where feasible in planned and proposed developments.

Policy 40 B: Development projects should be discouraged from using septic fields where possible to protect the environment and prevent pollution of the Virgin River systems and tributaries. Developments should be encouraged to connect wastewater systems together to eventually form an area-wide collection system.

Policy 40 C: Rural developments of up to 3.3 units per acre may be served by onsite treatment where connection to an existing system is not feasible or possible.

Policy 40 D: The Area Plan Committee will work with land owners and developers in encouraging meetings and dialog with public and private utility service providers to develop and place collection systems within the communities.

Solid Waste Provisions

The communities currently only have one transfer point to drop off refuse to be picked up and removed to the Mesquite landfill. This solid waste drop point is located on County Highway 91 in the Beaver Dam community area. Otherwise, residents must take their solid waste to the landfill site themselves or contract with a service provider from Mesquite.

The necessity to find and locate an adequate solid waste collection and landfill facility has become critical for the communities. It is one of the most significant and sensitive issues facing the environment. Essential services do not exist at this time. Any growth at all will put increasing pressure on the environment and the communities to resolve the issue. To ensure adequate service the communities and appropriate governmental agencies must plan for a suitable site for disposition of solid waste as soon as possible. Regulations for new landfill sites have become increasingly stringent regarding their construction, use and closure.

The need for solid waste removal requires the establishment of guidelines to ensure that the development of a landfill site is environmentally sound, is adequate to serve current and future needs and is accessible to residents.

Landfills are usually county owned and privately operated in Mohave County. The communities must organize their steps for the provision of waste disposal services with the county and help find an appropriate site. Careful planning must be done to ensure site feasibility and that costs of operation do not make the site impossible to use. The communities recognize these problems and the county will be approached to take steps to develop a cost-effective collection system and landfill site through cooperation between users and providers.

Goal 41: Development of a regional solid waste landfill site and a community-wide solid waste collection system.

Policy 41 A: Plan development projects shall include a provider for the collection of solid waste and proper disposal.

Policy 41 B: Ensure that developments have sufficient solid waste removal services for the present and future.

Policy 41 C: Encourage the formation of a unified system of collecting solid waste through a cooperative system or private provider for all the communities.

Policy 41 D: Plan for the future location of an adequate landfill site that is feasible, accessible, environmentally sound, cost efficient and affordable for community residents and commercial businesses.

Policy 41 E: Plan for the future curbside pick-up and recycling of reusable resources.

Flood Control and Drainage

The communities lie near and within a river and tributary system in the middle of a desert landscape. The occurrence of storm water runoff in the area is due to a few annual episodic storms but historically these storms have been destructive to land and personal property in the communities. No runoff controls exist in or around the area to limit damage from flash flooding of the low-lying portions of the communities. If the communities expect to grow and provide a secure area for new residents, some control of the Virgin River and its tributaries will be necessary including flood drainage patterns from storm events.

The community residents agree flood control measures should be started on the Beaver Dam Wash. Once completed, flood control devices should also provide recreational opportunities for residents and visitors. The communities need to work closely with the Bureau of Reclamation and the Army Corps of Engineers (who have jurisdictional authority over the river and tributaries, flooding and allocation and recharge of waters), to plan and work closely for the eventual construction of a flood control dam on the Beaver Dam Wash, which would also provide an area for recreational activities.

A location about one to three miles northwest of the Beaver Dam community, on BLM or Arizona State Trust property, is recommended. Therefore, discussions with appropriate federal and state agencies to plan for a dam and improvements and to provide for recreational facilities for the area should be started as soon as possible. These discussions will include the possibilities for funding, operating and maintaining the facilities.

Commercial and residential developments will need to provide drainage control measures to protect the development, upstream and downstream existing development, and ensure historical flows are equalized on either side of a new project.

Goal 42: Cooperate with federal and state agencies to help develop a flood control dam on BLM OR Arizona State Trust land along Beaver Dam Wash Creek.

Policy 42 A: Coordinate with the BLM and other appropriate agencies to determine a location for a dam and associated recreational facilities on the Beaver Dam Wash Creek.

Policy 42 B: Cooperate with federal, state and local governments in planning for the project and site selection.

Policy 42C: Work with appropriate federal and state agencies, legislators and elected officials to obtain appropriations and funding sources to construct the project.

Goal 43: Eliminate flooding and drainage problems along the Virgin River and its tributaries.

Policy 43 A: Encourage developers to coordinate their projects with appropriate federal, state and local agencies on flood control and drainage issues.

Policy 43 A: Encourage developers to coordinate their projects with appropriate federal, state and local agencies on flood control and drainage issues.

Policy 43 B: Require drainage and flood control studies for all new development projects in any floodplain.

Policy 43 C: Require that new developments be designed to ensure that increased runoff will be appropriately diverted and downstream properties will not be adversely affected by runoff and drainage flows.

Policy 43 D: Require that any new project comply with FEMA and County floodplain and drainage regulations.

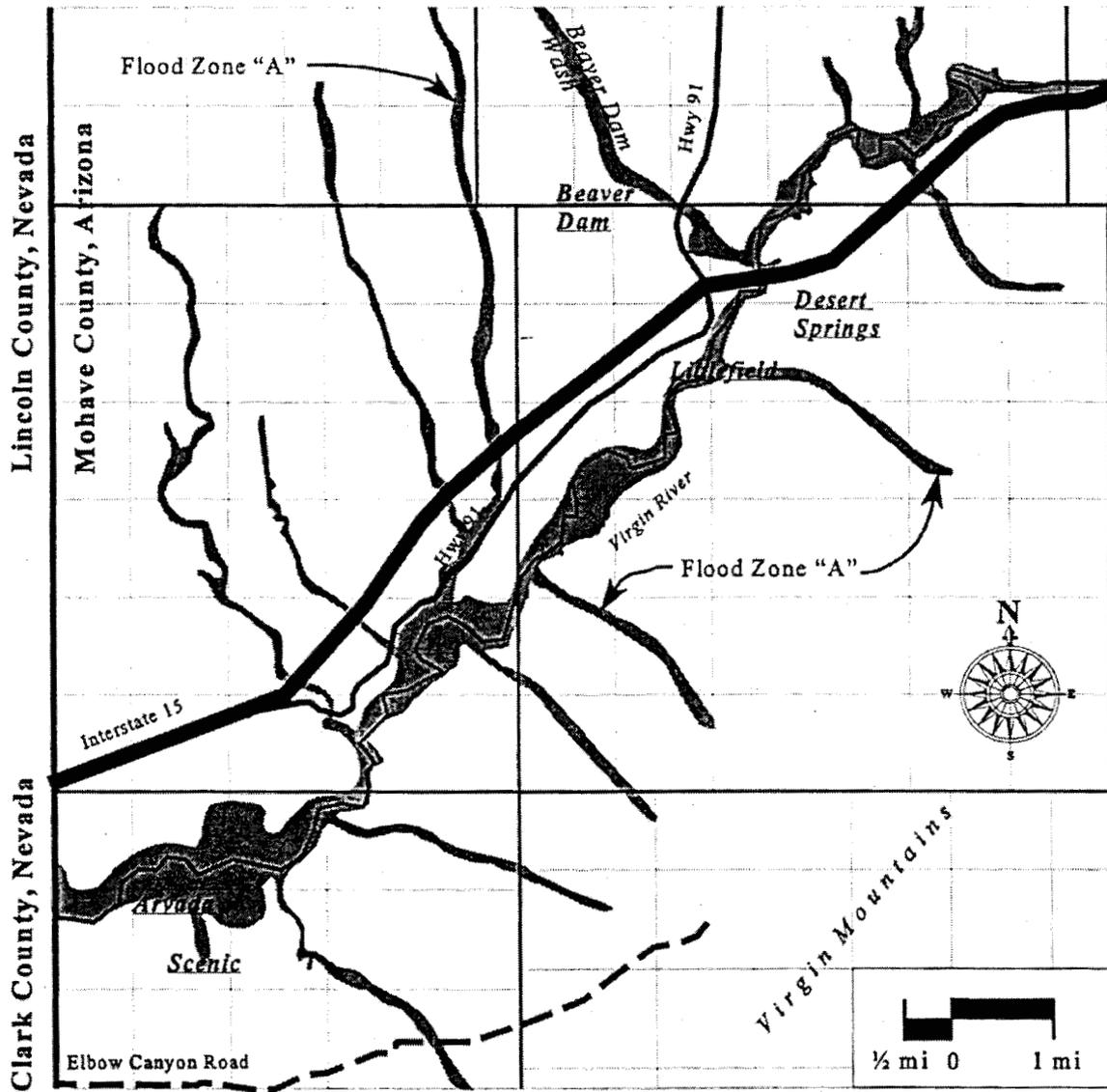
Policy 43 E: Monitor changes in the floodplains caused by natural forces or development

Policy 43 F: Promote coordination with government agencies to fund, improve, and maintain drainage improvements involving floodplains and controlled drainage areas of public lands that could affect the community area.

Resource Area Map number two on the next page describes the location of the Virgin River and its local tributaries and their influence on areas of potential flood hazard within the community area.

Flood Hazard Areas of the Virgin River

Source: FEMA Community Panels 040058-0025B and 040058-0200B, 3/82



Resource Area Map # 2

TRANSPORTATION



Access to the Virgin River Communities has become a bottleneck. Until improvements to the three arterials in the area are made and frontage roads are constructed with proper access to Interstate 15, growth in the communities will be virtually non-existent. Only two of the three arterials are paved. With two minor exceptions, every other road in the communities is dirt. No road network joins the communities together. Scenic and Arvada can only be accessed by driving into Nevada and returning to Arizona on a county dirt road. The resolution of a transportation network is primary to the communities, or they will remain unconnected rural outposts.

Current economic and physical pressures on the communities demand road improvements and the construction of new roads. The increase in labor population, tourists and winter visitors, and the promotion of residential and commercial projects in all five communities requires the development of an intercommunity road network. Simple access to properties for development does not exist.

Growth has already overloaded the existing access ways to the communities. Community school buses must maneuver on and off Interstate 15 through substandard access ways and traverse dirt roads to pick up students.

Planning must begin now to implement a program of road paving and new construction to join the communities together for development. An improvement district is being formed in the Scenic-Arvada communities to build a bridge over the Virgin River and pave a road from Elbow Canyon road to County Highway 91. This will become the first link in a community loop and will open up those communities for commercial-industrial and residential development. Each new commercial or residential development must plan for the construction and paving of access roads to their projects and link up with current paved roads.

Economic issues and physical realities have now forced attention on the necessity for upgrading and developing a workable community access system. Up to now, the necessity for upgrading transportation corridors has not been a priority. Pressures on the communities have arisen due to:

- abrupt increases in the labor force supporting Nevada gaming
- rapid increase in retirees moving into the area
- part-time residents of six months or more from northern winter states
- substantial increase in tourism due to the Nevada gaming industry and more recreational activities being constructed in the area

The three major arterials provide the basic access to the communities but are underdeveloped. The Interstate needs two new/upgraded interchanges in the community area, Highway 91 needs refinishing and widening and Elbow Canyon Road needs paving and accessibility. The biggest

problem is access to the major arterials from all five communities, and between properties within each community. A new interchange needs to be constructed on the Interstate to open access to the whole western area of the communities. Until then, the communities are isolated from each other.

Major priorities include the joining of the communities together in a modern looped road and bridge system to serve as arterials and collectors for the eventual development and infill of the communities as they grow. Another priority is to build new interchanges on Interstate 15. A third is to construct bridges across the Virgin River to connect with the interchanges and open the areas for development. Still other priorities include development and upgrading of interior roads and streets in each community.

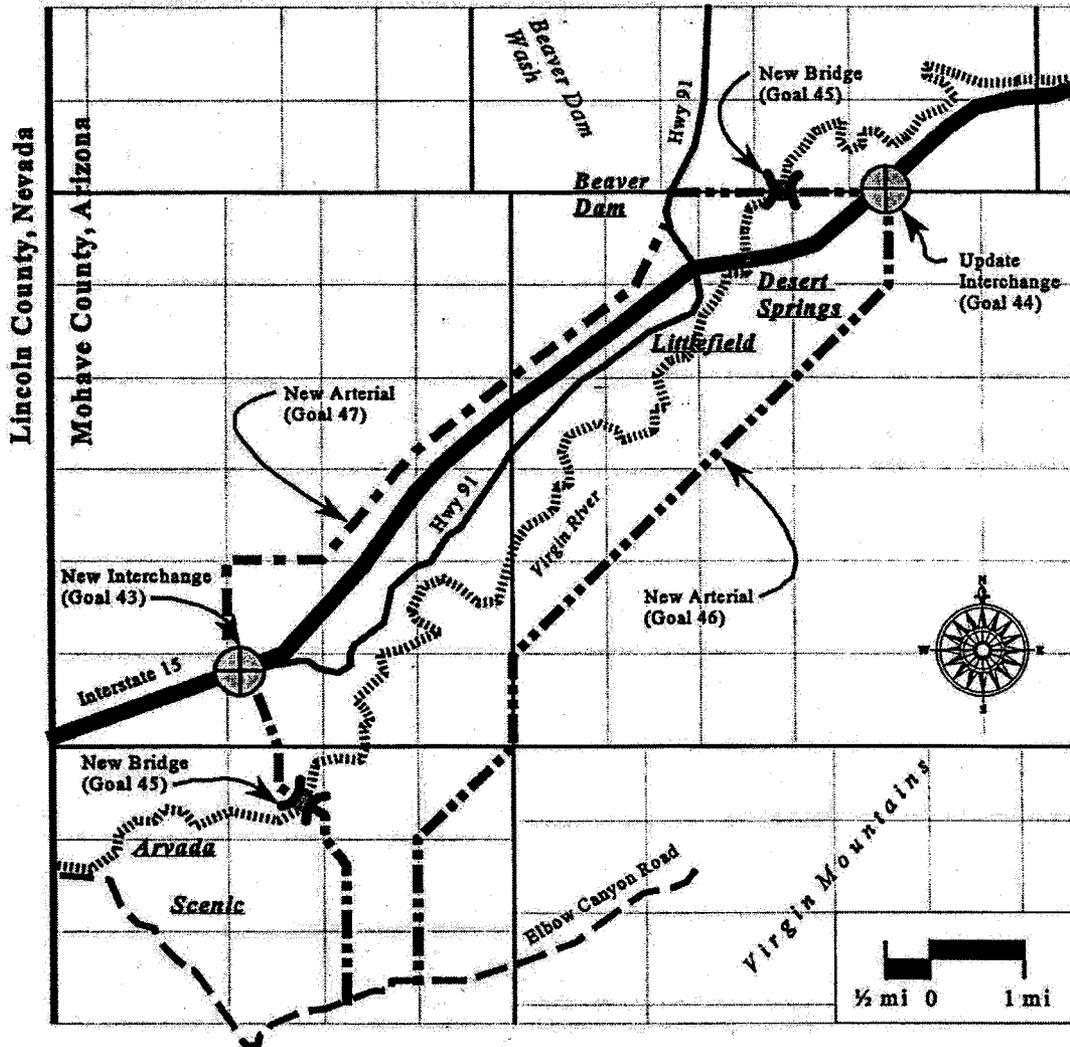
One concept for a proposed loop road would begin at a new Interstate 15 interchange about one mile east of the Nevada state line or the location where the proposed improvement district road from Scenic and Arvada would terminate on County Highway 91.

The loop would then continue east through Scenic on Elbow Canyon Road, then head northeast on a proposed alignment across public property to the Desert Springs community. From Desert Springs, the road would cross under another improved interchange at the Interstate 15 Farm Road Exit to Desert Springs and turn west to cross over another new bridge across the Virgin River eventually connecting with County Highway 91 in Beaver Dam. From there, the road would be constructed from Highway 91 westward through more public land, north of the interstate, and end at the first interchange on I-15, closing the loop.

The proposed loop alignment and major arterials in the community area can be visualized by turning to Resource Area Map number 3, which follows.

Transportation Related Improvements

Proposed Virgin River Communities Loop Road, Bridges & Interchange projects



Resource Area Map # 3

The looping arterial will link all the communities together. This connection will provide the main transportation distribution arterial for all collector and local streets to be constructed in all the communities, which means accessibility for development of all properties. This road will provide the necessary internal transportation circuit independent of Interstate 15. Connections for commercial, residential, school buses and all other traffic will be able to access any of the five communities without getting on the interstate highway.

The communities realize such a loop development is a huge undertaking and it will take planning and cooperation from federal, state and local agencies, relevant legislators and elected

officials. A search for available funds and appropriations will be necessary and may involve the State Legislature.

Two minor local paved streets exist; the rest are dirt roads. Presently no access is available from one side of the Virgin River to the other unless the river is forded. The communities are not interconnected by any road other than the Interstate and most of County Highway 91. Except for the Interstate, only County Highway 91 connects at least two of the communities. Access from the Interstate on the two exits is limited to minor frontage roads incapable of addressing heavy traffic.

Short-term project priorities include the Scenic-Arvada improvement district, upgrading current arterials, paving Elbow Canyon Road, construction and improvement of frontage roads along Interstate 15 and lobbying for a new interchange at the improvement district junction.

It is essential that planning and dialog begin now to resolve issues and to aid new development and growth. Funding of road and bridge projects may involve federal, state and local governments, improvement districts, private resources, grants, the influence of the Western Area Council of Governments, federal, state, and local agencies, legislators and other sources.

Goal 44: Plan, construct and maintain an efficient road transportation system adequate to meet the needs of community development.

Policy 44 A: Developers will need to discuss and assess current transportation problems, needs and design for new roads and features with county public works offices and ADOT to address fitting their projects into the road network obtaining legal access and road alignments.

Policy 44 B: Project developers will need to obtain access roads and rights-of-way as required by county development requirements and dedications, and design projects to match rights-of-way, connector streets, collector streets and arterials to developing properties.

Policy 44 C: Ensure that commercial development access does not come through residential areas and local streets. Access to commercial development should be from collectors, arterials or thoroughfares as designated on the Land Use Map.

Policy 44 D: The communities, through the Area Plan Committee and public hearings, will study and design the necessary access ways, rights-of-way, road and bridge locations, and connections with new streets and roads to create a major arterial loop to connect the communities. The target date for completion should be by the year 2010.

Policy 44 E: The communities will take necessary steps to start development of the "loop road". A community task force should be appointed to investigate the planning process necessary to obtain alignment and rights-of-way to complete the road. The task force should determine which federal, state and local government agencies would need to be involved. The task force will make inquiries of federal, state and locally elected (and agency) officials to begin the dialog for planning for the loop. Federal, state and local resources will be researched to begin the process for funding and phasing the project.

Policy 44 F: Developers intending to locate new projects in the Virgin River Communities should be encouraged to design collector roads and arterials to eventually connect to the loop road for better traffic circulation.

Policy 44 G: The communities, in discussion with developers and county officials, should determine which parts of the loop road would be addressed for completion first. The first parts should access the current major arterials and core community areas and properties along rights-of-way. Those segments aligned to cross totally undeveloped public lands would naturally be developed last.

Goal 45: Build a new interchange on Interstate 15 to match the road junction of the Scenic-Arvada improvement district and bridge crossing.

Policy 45 A: Coordinate with federal, state and local governments, and private and public agencies to fund and construct a new interchange on Interstate 15 to match the Scenic-Arvada improvement district road alignment. Dialog should begin now, with placement of the project on the State's five-year construction plan as soon as possible.

Goal 46: Upgrade the interchange at the Desert Springs area equipment exit.

Policy 46 A: Coordinate with federal, state, and local governments, and public-private entities to fund and construct an improved interchange on Interstate 15 at the Desert Springs equipment exit. This interchange will provide the eastern connection of the proposed "loop road". This project should commence as soon as possible with placement of the project on the State's five-year construction plan for completion.

Goal 47: Construct two new bridges across the Virgin River.

Policy 47 A: Build a new bridge over the Virgin River just south of the new proposed interchange on Interstate 15, to be funded by a local improvement district or other method to connect the communities of Scenic and Arvada to Highway 91. The bridge should be completed with the time frame of the improvement district plan.

Policy 47 B: Establish a new bridge over the Virgin River near the interchange improvement on Interstate 15 in the Desert Springs area. This bridge, along with a road, will connect Desert Springs with the communities of Littlefield and Beaver Dam. Connected to an improved interchange, this project will provide the eastern link to the community road loop. The project should commence as soon as possible, and be funded by an improvement district or other method.

Policy 47 C: Hold public meetings between the communities and federal-state agencies to determine the exact locations for new bridges.

Goal 48: Construct an arterial road to connect the communities of Scenic-Arvada and Desert Springs.

Policy 48 A: Build a new arterial road off Elbow Canyon Road that connects the Scenic-Arvada communities with the Desert Springs community. The residents, through public meetings, will determine the alignment of the road, in alliance with developers and the Land Use Map, for the best way to develop residential and commercial properties.

Policy 48 B: Coordinate with federal, state and local government agencies, legislators and elected officials for funding and construction of road segments to serve new development. A general improvement district is an alternative. This project should start as soon as possible and be finished in ten years.

Goal 49: Construct an arterial road to connect the communities of Beaver Dam-Littlefield to the proposed Interstate 15 interchange at the Scenic-Arvada road junction.

Policy 49 A: Construct an arterial road from the proposed new Interstate 15 interchange, one mile east of the state line, to the Littlefield/Beaver Dam communities to form the northwestern part of the community loop, within the next 20 years.

Policy 49 B: Determine the location of the road for the best alignment for community development and to connect the communities.

This will involve BLM trade, lease or sale lands and state trust lands for commercial-industrial-residential development in the area for the next 20 years. The road segments should be constructed as determined by proposed development of adjacent properties. Methods for funding should include improvements districts, grants, federal-state funds, and/or legislative action.

Goal 50: Promote compatibility between roadway improvements, land use patterns and natural features.

Policy 50 A: Ensure road and street construction for any new development is according to Mohave County road construction standards.

Policy 50 B: Ensure that public road improvements and rights-of-way are adequate to serve planned land uses.

Policy 50 C: Require traffic impact analyses for major residential and commercial developments.

Policy 50 D: Encourage the location of land uses and the design of roadways that serve the communities adequately and efficiently and minimize impacts on adjacent properties.

Policy 50 E: Ensure paving of on and off-site roadways, entry ways, parking lots and driveways for new commercial or residential development projects that are next to, or connect to, a current paved access road.

Policy 50 F: Ensure paved roads, driveways, parking lots, and entry ways within any proposed new residential project whose lot sizes average less than one acre, and on commercial parcels three acres or larger, or any commercial site accessed by a paved roadway.

Policy 50 G: Developers should work together to promote the interconnecting of roads, infrastructure development and expansion to join development projects together.

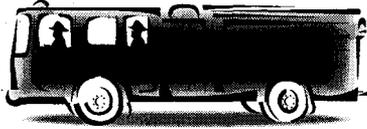
Policy 50 H: Promote coordination between landowners, developers, federal, state, and local agencies, and public-private funding resources to plan and fund roads and on-off site improvements.

Goal 51: Encourage alternative transportation modes for future development.

Policy 51 A: Promote community assessment and studies of future needs for alternate means of transportation, including public transit, bicycle paths, and trails.

Policy 51 B: Encourage developers to consider alternate forms of transportation when planning their projects, and to connect to any alternate system currently in existence, where practical.

PUBLIC FACILITIES, SAFETY AND SUPPORT SERVICES



Police, fire, ambulance protection, and medical facilities are essential for ensuring the health, safety and welfare of the communities, and maintaining the quality of life necessary for growth. At this time, the five communities have a volunteer fire department with one building and two engines, a one-person staffed county office and two deputy sheriffs for protection. There are no medical facilities, hospitals, ambulance service, public safety or governmental offices.

Until the last several years, the low population and growth could not justify increases in public services. The communities are now under great pressure to provide more services. Street and road development should include accessibility factors for public safety vehicles, and the accessibility to all sectors of the community. The design of new development affects the costs of fire protection and police service. One of the major factors is the availability of water for fire fighting. The communities and county should work closely with the area fire district to establish appropriate levels of service and standards, including equipment needs, staffing, supplies and response times for all proposed development and future needs of the community. A new firehouse project is currently being planned for location in the Beaver Dam community.

With the help of public safety officials, the communities should establish appropriate levels of public safety services and facilities that are needed now and for the future. Services and facility availability should increase as the population increases. The communities advocate the early development of a local government office staffed with enough permanent personnel to handle the current and near future proposed development projects. The facility should include enough space, staff, and equipment to house public safety officers, planning and zoning, environmental health, a public works engineer and road department personnel.

A small county facility is currently being developed to house the Sheriff's deputies, a permit staff position, and space for visiting county staff from Kingman.

The communities must now go to Mesquite for medical professional and hospital needs. Ambulance service is based in Mesquite. The current and near future population projection of the communities strongly implies the need for medical professionals and services within the communities themselves. Office space for visiting or permanently located professionals and clinics should be developed immediately. Professionals will be asked to come from other areas several times a week to provide necessary medical services until fulltime services are located permanently in the area. Currently, a small medical clinic with visiting professionals is located in the Desert Springs area in a small office in the firehouse building.

Goal 52: Promote the development of adequate public safety facilities as the community grows.

Policy 52 A: Public meetings between the communities and public officials will be held to determine the amount of expansion and improvement of public safety services. This will be based on a schedule that includes the current population and forecasts for population increases in the future.

Policy 52 B: Apply Mohave County's addressing-numbering program to every development so every parcel has a unique address and road name for 911 emergency responses and for delivery of services and goods.

Policy 52 C: Monitor growth of development in the area and investigate (in cooperation with Mohave County and interested agencies) the necessity for adding emergency medical response personnel and equipment to the fire department, or the need to hire a provider of ambulance service for the community as the need arises.

Policy 52 D: All new developments should have all-weather (emergency vehicle accessibility) crossings and roads as part of the approval process.

Goal 53: Ensure adequate levels of police, fire and ambulance service for the communities as they grow.

Policy 53 A: Coordinate with County and State public safety officials to determine the levels of service necessary for police, fire and ambulance service.

Policy 53 B: The residents desire that the level of service for police protection should be about five officers for every 2,000 people in the community area. Discussion between the communities and public officials will determine the appropriate number of officers.

Policy 53 C: The county should encourage and assist the area fire district in developing standards for levels of service appropriate to the growth and development of the communities.

Goal 54: Construct a main fire station headquarters to serve the Virgin River Communities.

Policy 54 A: Encourage state and local officials and agencies and the fire district to determine a proper area location for a fire district headquarters that will be centrally located and accessible to the whole community area.

Policy 54 B: Negotiate with the State or BLM to provide the property to construct a fire district headquarters.

Policy 54 C: Negotiate with federal, state and local agencies and funding sources to help provide funds necessary to construct a fire district headquarters in the area.

Policy 54 D: Construct a main fire station headquarters manned with sufficient equipment and volunteer and/or full-time fire personnel to serve the immediate and future needs of the communities for the next ten years.

Policy 54 E: Development of residential and commercial-industrial projects in the Virgin River Communities shall comply with the Uniform Fire Code among others.

Goal 55: Construct a second fire-fighting equipment station within the community area as a back-up facility.

Policy 55 A: Encourage state and local officials and the fire district to develop a second fire-fighting equipment station as back-up facility for two alarm fires.

Policy 55 B: Encourage the county and fire district to negotiate with the State or BLM to provide a site to construct the back-up facility.

Policy 55 C: Encourage the county and fire district to negotiate with proper agencies to locate and provide funding to construct the back-up facility.

Policy 55 D: Construct a back-up fire-fighting equipment station, strategically located, with appropriate engines, fire-fighting equipment and volunteers, to serve the fire-fighting needs of the communities.

Goal 56: Provide for the medical needs of the communities.

Policy 56 A: Ensure development of sufficient medical services and office space for future growth, including doctors, dentists, clinics, veterinarian and other medical services.

Policy 56 B: Encourage development of medical services and businesses in each community areas where appropriate.

Policy 56 C: Encourage developers and landowners to include medically related land uses in their commercial developments.

Policy 56 D: Promote the active recruitment of licensed professionals to provide services.

Implementation

PF1 Encourage the county to implement and enforce the public facilities implementation measures of the General Plan that apply to the Virgin River Community area.

Public Schools, Playgrounds And Libraries



There is an existing need for new schools, playgrounds and libraries. The current population has placed an overburden on the one existing school system. Senior grades are commuted to Mesquite. The school district is under pressure to provide adequate facilities and teachers. Serious consequences are predicted for the school district and students if steps are not taken to alleviate the problem. A new school and site is being negotiated for construction as soon as possible. This school should facilitate all grade levels. It is likely that the new school will also become inadequate in the near future requiring the construction of a second school, because the school age population continues to grow.

The community also needs library services and playgrounds to serve the students. There are currently no libraries in the community area. The only playground is located at the current school site in the Littlefield community. The closest library and playgrounds are in Mesquite, Nevada.

State trust land is available in each community area that could be used for public facility construction. In addition, the Bureau of Land Management has a policy of providing public land for the development of public facilities.

The communities need a library to support the school system. At least one playground is necessary to serve the children in the area.

As each community population grows where they require their own individual school, the communities will need to form a community-wide school district with a central high school and satellite middle and elementary schools located in the various areas.

Goal 57: Provide for the development of public schools, playgrounds and libraries for the communities.

Policy 57 A: Coordinate with the Arizona State Department of Education, BLM and other agencies to acquire state trust lands, or BLM public lands, for the development of new schools, playgrounds and libraries.

Policy 57 B: In cooperation with state education agencies and the Mohave County library, establish a full-service public library, centrally located to serve the public school system and the general community. Sources of funding should be researched by the communities in cooperation with county officials, and should include any federal and state grants, the state Department of Education and other sources. Construction of a library should begin when funding becomes available.

Policy 57 C: Establish new playgrounds with equipment to serve each community school by including them in plans for new school development.

Policy 57 D: Encourage developers to set aside parcels to be used as neighborhood playgrounds in large housing developments.

PARKS AND RECREATION

Parks and recreational facilities provide important benefits to the community. Along with active and passive recreation for residents, such facilities are an incentive for visitors and tourists to stop and vacation in the community. Both indoor and outdoor activities help shape the design and character of a community by providing a focal point for community activities, school events and meeting places. Available facilities aid in the economic development effort by contributing to the desired quality of life. Revenues may be generated to improve facilities and promote new programs.

Some recreation exists within the communities. With the exception of hunting, all local facilities are privately owned. Included are two golf courses, horse riding, and a shooting range. The Virgin River and its tributaries have not been developed for recreational purposes. Enough tourism, winter visitors and resident population exists to justify construction of new physical facilities in the area.

Residential or commercial projects should be studied and planned for the best and logical placement of parks and recreation, and for those facilities that are the most convenient to the greater number of users.

A current need exists for more recreational activities, facilities and locations. Tourism is rising in the area, due in part to the casino industry in Nevada. Increases in winter visitors and retirees have sparked demand for more recreational activities. Additions to the labor force in the area have also put increased pressure on existing recreational sources, thereby increasing the demand for more recreational activities and facilities.

The location and construction of a flood-control dam on the Beaver Dam Wash creek upstream from the Beaver Dam community will create the potential for development of a wide variety of recreational activities. Once completed the dam, having created a lake, would provide opportunity for fishing, boating activities, camping, hiking and other recreational uses. It would also open the area for tourism development including development of recreational vehicle camps and cabins.

Goal 58: Develop parks and recreational activities to serve the community area.

Policy 58 A: Construct a playground at each new school.

Policy 58 B: Encourage developer planning and cooperation in the construction of open spaces, parks and recreational areas within their proposals.

Policy 58 C: Use the approved Area Plan Land Use Map as a guide for development and location of recreational areas within their proposals.

Policy 58 D: Encourage commercial developers to plan for and add recreational facilities and sites to commercial projects, such as hotels and golf courses, to attract visitors and tourism.

Policy 58 E: Work closely with landowners and developers, and state and county agencies, to obtain funding for and development of recreational facilities, parks and playgrounds.

Goal 59: Identify changing community recreation and facility needs.

Policy 59 A: Identify, through public meetings chaired by the Area Plan Review Committee, recreational desires of the communities and areas that would be logical for recreational facilities. Define those that would enhance the community area as a desirable place to live and as a tourist attraction.

Policy 59 B: Future recreational facilities in the area should include the following:

- Golf course
- Swimming pools
- Baseball-softball-soccer fields
- Tennis and basketball courts
- Horse trails, hiking, target shooting, hunting
- Jogging trails and bicycle trails
- Senior citizen low impact activities
- A community building facility for indoor activities such as crafts, classes, meeting rooms, and games
- Target ranges, skating rinks, theaters and other recreational activities

APPENDIX

- Map 1: Area Plan Land Use Map (in pocket, inside back cover)
- Map 2: Private & Public Land Ownership in the Virgin River
Community Area
- Legend: Of symbols used on the land use maps
- District Map Locator Grid

Area Plan Land Use District Maps

- A1: Scenic, Arvada & State Line Vicinity
- A2: Eastern Scenic & Elbow Canyon Road Area
- A3: Lower Scenic Area
- A4: Lower Eastern Scenic Area

- B1: A Portion of Township 41N Range 16W
- B2: A Portion of Interstate 15, T41N, R16W, Sec13, T40N,
R16W, Sec23 & 24
- B3: A Portion of the Arvada Area and Interstate 15
- B4: Interstate 15 Area from Arvada to Littlefield

- C1: Littlefield-Beaver Dam Area
- C2: Desert Springs Area
- C3: Upper Interstate 15 Area
- C4: Far Eastern Desert Springs Area

- D1: Upper County Highway 91 Area
- D2: Upper Area East of Highway 91
- D3: Upper Beaver Dam/Virgin Acres Area
- D4: Upper Desert Springs Area

- E1 Upper Beaver Dam Wash and Creek Area

ACKNOWLEDGEMENT

The successful completion of this Area Plan would not have been possible with the collective good will, determination and input of the people of the Virgin River Communities whose unstinting effort created this document.

The Virgin River Communities Ad Hoc Area Plan Development Committee spearheaded the development of the Area Plan and put in many hours of their volunteer time to complete something they believe in. Their future.

Members of this committee changed as the need and desire required, and included at least the following people:

David Heath, Chairman

Andy Mitchell (Beaver Dam)

Carl Preston (Scenic)

Nadine Peterson (Littlefield)

Ed Davis (Arvada)

G Robert Frisby (Beaver Dam)

Craig Williams (Desert Springs)

Melvin Hughes (Scenic)

Verl Frehner (Scenic)

Bill Wall (Beaver Dam)

Vaun Bethers, St. George, Utah (Dixie Escalante Rural Electric Association)

Tom Stoddard (Beaver Dam area)

Mohave County Planning and Zoning Commission

Members of the Virgin River Communities who participated in the process to bring their Area Plan into reality included:

Mark Otten	Julia Hunt	Marilyn Heath
Judy Harms	Nathan Heath	Gladys Hall
John Hughes	Vicki Hughes	Kelby Hughes
Alson Hughes	Verla Cole	Robert Cole
Bill Wall	Barbara Ellingford	George Cropper
Gary Clapp	David Giebink	Yvonne Johnson
Mel Johnson	John Stanton	Mary Mitchell
Matthew Monson	Brent Reber	Burdett Reber
Melvin Reynolds	Lynda Edwards	DeForest Rall
Al Monson	Millie Vigoren	Gary Vigoren
Perry Smith	Larry Fitzgerald	George Lane
Judy Lane	Bernice Evans	Joyce Hamilton
Joe Hamilton	David Smith	Alene Penick
Jesse Penick	Bryan Madsen	Louise Robertson
Larry Reber	Richard Maefer	Rem Univer
C E Rathke	Howard Quinn	Pat Keogh
Myrna Quinn	L J Christensen	Maxine Peterson
Norma Alford	Richard Alford	Debra Giangregorio
Angelo Giangregorio	Steve Layton	Thelma Davis
Mervin Peterson	Tony Moerman	Rena Moerman
Sharon Bell	Earl Pierson	Mabel Mitchell
Andrew Mitchell	Susan Baird	Andrew Baird
Betty Houston	F D Houston	Paul Mullinger
Gary Clapp		

.....and about two dozen others who didn't leave their names.

Mohave County Officials and Staff who participated include:

District 1 Supervisor Carol Anderson
District 2 Supervisor Buster Johnson
District 3 Supervisor Jim Zaborsky
Christine Ballard, Director of Planning and zoning
K C Easley, Planning Manager
Steve White, Planner II
Kevin Davidson, Planner I
Joyce McCluskey, Planner I
Mary Ann Green, Planning Section Secretary
Sam Standerfer, former Mohave County Supervisor from District I

NE-74-500-05
Beryl, UT 84714-5197
435-439-5311
Fax: 435-439-5352



145 West Brigham Rd.
St. George, UT 84790
435-673-3297
Fax: 435-673-3315

September 6, 2006

The Power of Community

Arizona Department of Water Resources
Surface Water Rights
PO Box 458
Phoenix AZ 85001-0458

To Whom it May Concern:

Dixie Escalante Electric is the electric distribution cooperative that provides electric service to the Beaver Dam, Littlefield, and Scenic areas of North Western Arizona. It has come to our attention that an application (Registry # 33-96790) has been filed to transport water out of the State of Arizona. As a part of the filing, the recipient of the exported water has agreed to supply water to a portion of Arizona. Unfortunately the agreement does not include water supply for a major portion of the area that will be negatively impacted if the application is granted.

For your information, Dixie Escalante serves 1,624 Residential meters and 1,914 total meters in the impacted area. Growth in this area has been over 10 percent a year as evidenced by the following information:

2001 – 1,083 residential meters and 1,244 total meters.
2002 – 1,150 residential meters and 1,325 total meters.
2003 – 1,291 residential meters and 1,468 total meters.
2004 – 1,412 residential meters and 1,586 total meters.
2005 – 1,599 residential meters and 1,801 total meters.

In addition, Dixie Escalante estimates its growth in total customers to reach 2,500 by the year 2010, 3,700 by the year 2015 and 5,400 by the year 2020.

We strongly recommend that the Department of Water Resources not allow the application to be approved. This water resource is and will be necessary to fulfill the needs of the growing population in Arizona.

Sincerely,

DIXIE ESCALANTE ELECTRIC


R. Leon Bowler, General Manager

WATER FACILITIES EXTENSION AGREEMENT

This Agreement is made this January 30 2006, by and between BEAVER DAM WATER COMPANY INC. ("Company") and Scenic Investment LLC ("Developer").

RECITALS:

A. Developer desires that water utility service be extended to and for its residential Real estate development located in the general vicinity of Township 40 North Range 16 West of Mohave County near the town of Mesquite NV / Scenic AZ. A Legal description for the Development is attached hereto as Map 30 Beaver Dam Water Docket W-3067-04-445 (Application for Extension) Exhibit "A" and incorporated herein by this reference. The Development is located within the Company's Certificate of Convenience and Necessity ("CC&N").

B. Company is a public service corporation as defined in Article XV, Section 2 of The Arizona Constitution which owns and operates water utility facilities and holds a CC&N from the Arizona Corporation Commission ("Commission") granting Company the Exclusive right to provide water utility service within unincorporated portions of Mohave County, Arizona.

C. Subject to the terms and conditions set forth hereinafter, Company is willing to provide water utility service to the Development in accordance with relevant law, including the rules and regulations of the Commission on the condition that Developer fully and timely perform the obligations and satisfy the conditions and requirements set forth below.

COVENANTS AND AGREEMENTS:

NOW, THEREFORE, in consideration of the following covenants and agreements, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

Construction of Facilities. Developer agrees to participate as follows:

1. Pay the cost to up size 4,000 Feet of Class 200 PVC water mainline to 10" and Upgrade Variable Frequency Drive Controller to handle and additional 200 homes (see attached ADEQ Approval 11/14/05)

NOW, THEREFORE, in consideration of the following covenants and agreements, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. **Construction of Facilities.** Company currently has well capacity necessary to provide water utility service for 200 Home within Development. The Beaver Dam Water system #3 has approved plans as generally depicted on the map attached hereto as Exhibit "B," and have been designed and constructed to the Development in a manner which allows the provision of safe and reliable water service to the development therein. Subject to the terms and conditions set forth herein.

2. **Construction Standards and Requirements.** The construction and insulation of the Facilities shall be in conformance with the applicable regulations of the Arizona Department of Environmental Quality ("ADEQ"), the Commission, and any other governmental authority having jurisdiction thereover.

3. **Easements.** Developer shall be responsible for obtaining all necessary easements and rights-of-way for the construction and installation, and subsequent operation, maintenance and repair of the Facilities within the said Development. Such easements and rights-of-way shall be of adequate size, location, and configuration so as to allow Company ready access to the Facilities for maintenance and repairs and other activities necessary to provide safe and reliable water utility service. All easements and rights-of-way shall be free of physical encroachments, encumbrances or other obstacles. Company shall have no responsibility to obtain or secure on Developer's behalf any such easements or rights-of-way.

4. **Refunds of Advances.** Company shall refund annually to Developer an amount equal to ten percent (10%) of the gross annual revenues received by Company from the, provision of water utility service to each bona fide customer within the Development. Such refunds shall be paid by Company on or before the first day of August, commencing in the first calendar year following the calendar year in which title to the Facilities is completed by Company and continuing thereafter in each succeeding calendar year for a total of ten (10) years. No interest shall accrue or be payable on the amounts to be refunded hereunder, and any unpaid balance remaining at the end of such ten year period non-refundable. In no event shall the total amount of the refunds paid by Company hereunder exceed the total amount of all advances made by Developer hereunder.

5. **Company's Obligation to Serve.** Subject to the condition that Developer fully perform its obligations under this Agreement, Company shall provide water utility service to the Development in accordance with Company's tariffs and schedule of rates and

charges for service, the rules and regulations of the Commission and other regulatory authorities and requirements.

6. **Notice.** All notices and other written communications required hereunder

shall be sent to the parties as follows:

COMPANY:

Beaver Dam Water Company Inc.
Attn: Bob Frisby
P.O. Box 550
Beaver Dam, AZ 86432

DEVELOPER:

Scenic Investment LLC
190 East Mesquite Blvd, Suite A
Mesquite, NV 89024

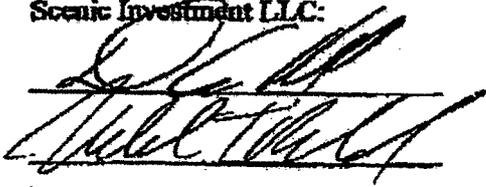
7. **Time is of the Essence.** Time is and shall be of the essence of this Agreement, Developers agrees to deposit with the Company \$80,000.00 on or before January 20, 2006

8. **Indemnification: Risk of Loss.** Developer shall indemnify and hold Company harmless for, from and against any and all claims, demands and other liabilities and expenses (including attorneys' fees and other costs of litigation) arising out of or otherwise relating to Developer's failure to comply with any of the terms and conditions contained herein. Company shall indemnify and hold harmless Developer from and against all claims, demands, and other liabilities and expenses (including attorneys' fees and other costs of litigation) arising out of or otherwise relating to Company's failure to comply with any of terms and conditions contained herein.

9. Successors and Assigned. This Agreement may be assigned by either of the parties provided that the assignee agrees in writing to be bound by and fully perform all of the assignor's duties and obligations hereunder. This Agreement and all terms and conditions contained herein shall be binding upon and shall inure to the benefit of the successors and assigns of the parties.

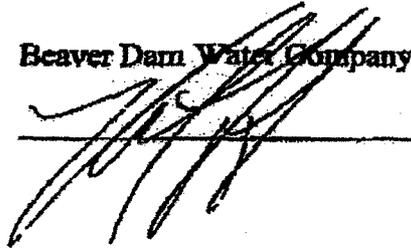
DEVELOPER:

Scenic Investment LLC:



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Beaver Dam Water Company



A handwritten signature in black ink is written over a horizontal line. Below the line, there is another horizontal line.

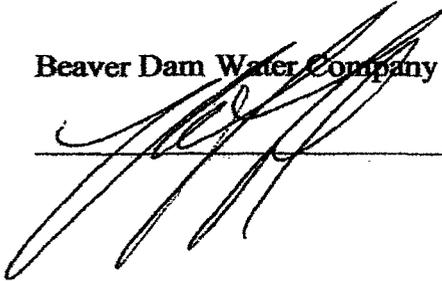
9. **Successors and Assigned.** This Agreement may be assigned by either of the parties provided that the assignee agrees in writing to be bound by and fully perform all of the assignor's duties and obligations hereunder. This Agreement and all terms and conditions contained herein shall be binding upon and shall inure to the benefit of the successors and assigns of the parties.

DEVELOPER:

Scenic Investment LLC:



Beaver Dam Water Company



Date Approved

4-5-06

Decision No.:

Director of Utilities

Arizona Corporation Commission

By: Bradley H. Marton

There being no further public input, Chairman Byers closed the Public Hearing.

Motion was made by Chairman Byers, seconded by Supervisor Johnson, and unanimously carried to refer this item to Planning and Zoning for a Public Hearing.

ITEM 42: Chairman Byers opened the Public Hearing regarding the adoption of BOS Resolution No. 2006-545 – Establishing and setting boundaries and declaring the Delta City Improvement District formed.

There being no public input, Chairman Byers closed the Public Hearing.

Motion was made by Supervisor Sockwell, seconded by Supervisor Johnson, and unanimously carried to adopt BOS Resolution No. 2006-545, as stated.

ITEM 43: The meeting continued with the item regarding the adoption of BOS Resolution No. 2006-543 – Partial relinquishment of the County's reversionary interest in Kingman Unified School District's property located at 515 W. Beale Street, Kingman, Arizona, for the purpose of allowing the City of Kingman to construct a fire station.

Chairman Byers advised that the School District cleaned up the property, and they are trying to work out a deal with the City to build a fire department and a police annex on a portion of the property.

Motion was made by Chairman Byers, and seconded by Supervisor Sockwell to table the item for thirty days, in order to allow the Kingman Unified School District time to come back with environmental information, and a survey.

Clerk Bracken advised that the item will be tabled until the November 6, 2006, BOS Meeting.

Motion carried unanimously.

ITEM 44: The meeting continued with the item regarding directing Staff to investigate an application filed with the Arizona Department of Water Resources for the diversion of 14,000 acre feet of water from the Beaver Dam Wash in Arizona to Mesquite, Nevada.

Supervisor Johnson advised that Item 46 deals with the same issue, and Mr. Riley was present for a presentation.

Chairman Byers advised that he met with some of the residents of Beaver Dam, and they are on fire over this issue, thinking the City of Mesquite is trying to steal their water. He stated that if this is the truth, the County needs to do all they can to stop them.

Jack Riley, Manager for Great American Land, L.L.C., advised that the application to divert water from Arizona to Nevada is for the sole benefit of a few people who live in Nevada, and, if approved, will greatly injure the property owners and residents of Arizona. He advised that water will be taken in such quantity that existing wells may go dry. He stated that if this

application is approved, and precedent set, other landowners contiguous in Lincoln County, Mesquite, and Las Vegas will apply for additional Arizona water diversion for their benefit, and Arizona's detriment. He stated that Beaver Dam and Littlefield could become ghost towns; there is nothing positive for the citizens, taxpayers, and property owners. He advised that the application provides for Virgin Valley Water District to receive the clean, pure water of Beaver Dam and mix it with Mesquite's arsenic contaminated water; contaminated eight to ten times the amount allowed by law. He stated that after mixing the water, they will return some to Arizona; they are going to pump their treated sewage water back into our clean aquifers. He stated that retirees are looking for a safe and friendly place to live, and that's Beaver Dam, if water is available. He stated that they have a vision for their 2,000 acres in Beaver Dam; a beautiful planned community with a golf course, and amenities for all to enjoy. He advised that Great American Land has retained the services of two prominent attorneys, one a real estate litigator, and the other an Arizona water rights specialist. He stated that they need the Board's help to defeat this application, and they are offering the services of their attorneys to work with Mohave County's legal team and staff to coordinate the defense of this threat. He stated that on September 8, 2006, after they began their protest, he received a letter from Wind River Resources, the applicant, offering 10,000 acre feet of water to their 2,000 acres, and an invitation for him to attend a private meeting with four individuals who have large property holdings in Mesquite and Lincoln County to "discuss water issues for Arizona and Nevada." He stated that on September 13, 2006, a "will-serve" letter was executed and sent to him, promising 10,000 acre feet per year for his property. He stated that this is an obvious attempt to neutralize their opposition to the application. He stated that Great American Land has no intention of doing business with the people in Nevada who want to take our water. He advised that they have a "will-serve" letter from Beaver Dam Water Company, signed by Bob Frisby, a man of integrity. He advised that Mr. Frisby could have sold water to Nevada, and chose to say no.

In response to Supervisor Johnson, Mr. Riley advised that they were told the hearing is in the first quarter of 2007. He stated that they have requested that ADWR have preliminary hearings in Beaver Dam so the people can be informed as to what is happening. He stated that this application has been quietly moved, and no one in Beaver Dam was aware of it, until Great American Land found out about it a few weeks ago. He stated that if this precedent is set, all of Mohave County water is at risk.

Chairman Byers advised that it is an incomplete application. He stated that Representative Nancy McClain jumped up to the plate to obtain information, and advised him that no hearing has been set.

Bob Frisby, Beaver Dam Water Company, thanked Chairman Byers for his immediate attention to this matter. He stated that the disturbing part of the application is that, as a purveyor of water in Beaver Dam, he wrote a letter to the Department of Water Resources on October 25, 2005, asking them to notice and post him regarding this issue. He stated that he heard nothing, and if it hadn't been for his conversations with Mr. Riley, and subsequent calls they made, they would not have known about this. He submitted a copy of the Notice of Completeness from the Department of Water Resources for the administrative process for the application.

Chairman Byers advised that he was told the application is not complete.

Mr. Frisby stated that they will provide the County with as much information as they can to help investigate this application.

Mr. Frisby advised that Virgin Valley Water District is a political subdivision of the State of Nevada. He advised that Virgin Valley Water District has agreed to pay a group of people that own forty acres in Beaver Dam six million dollars per year for 14,000 acre feet, on a fifty year contract. He advised that this contract was completed and signed January 15, 2005. He advised that after the contract was completed, the application was submitted by this group. He advised that there is no reason this group should benefit six million dollars a year over any other of the 10,000 private property owners in the area. He stated that every property owner can file the same application with the Department of Water Resources to transfer this water out of state. He advised that Wind River Resources has an agreement to pipe water to the City of Mesquite, via the agreement made with Virgin Valley Water District. He advised that under State Statute, Arizona citizens should receive benefit of the transfer; therefore, the group decided to transfer the water back to Arizona. He advised that the Vista Verde Improvement District was formed in 2005, comprised of 39 acres. He advised that the group devised a method for transferring the water, and they will become the regional purveyor of water for Arizona and Nevada. He stated that, in his opinion, this is not a good idea. He advised that Vista Verde Subdivision owners signed a line extension agreement with Beaver Dam Water Company to serve the 39 acres. He advised that we now have an entity that is going to buy water from his company, for an improvement district the Board approved. He requested that the County Attorney look into revoking the Vista Verde Improvement District, because it has no infrastructure.

Mr. Frisby advised that he moved here because he loves the area, and wants to develop it. He stated that he put together a private water company, and is in good standing with the Arizona Department of Environmental Quality and the Arizona Corporation Commission. He stated that the application presented puts him out of business. He advised that Beaver Dam Water Company has retained legal counsel, and will do anything they can do to help the County. He advised that there have been three applications for diversions of water out of the State of Arizona, and they have all been turned down. He advised that they never knew of this application, and they are fortunate to have found out it is in the review process now. He advised that there are 1,800 pages of information, and they will have three weeks to review the information, which is not a fair process.

Maureen George, General Counsel for Mohave County Water Authority, expressed their concern regarding the application. She stated that the Authority was formed so there could be a regional approach to surface water issues, primarily the Colorado River, and to protect existing resources. She stated that it is very important that the County step up and join with Mr. Riley and Mr. Frisby in stubbing this matter. She stated that one of the concerns is the way the Arizona Department of Water handles this; the application goes on for years, and then you have three weeks to show up to the meeting and object. She stated that more time should be requested, and if that is denied, then it is incumbent to object to the application, because it is clear it will be detrimental to Mohave County. She advised that the Mohave County Water Authority will file its own objection, and will be more than happy to work with the County and the other parties in objecting to this application.

Chairman Byers stated that he did not see any problem getting together with everyone and sending a letter of objection to the Department of Water Resources.

Susan Bayer, Golden Valley resident, stated that, in her opinion, southern Nevada is wasteful of natural resources, and has been overbuilt by developers. She stated that Mohave County will be punished for the over-development, and it is time to tell Nevada "no" to grabbing the water from Arizona.

Nancy Lee, Golden Valley resident, stated that she is concerned about the water, and questioned why the County paid in excess of \$100,000 to the USGS to expedite their study.

Chairman Byers advised that this item is not about the USGS study, it is about Beaver Dam, and her comments need to be directed to that issue.

Motion was made by Chairman Byers, and seconded by Supervisor Sockwell to direct staff and the County Attorney's Office to get together with Mr. Riley, Mr. Frisby, and Ms. George to see what can be done regarding the application filed with the Arizona Department of Water Resources for the diversion of 14,000 acre feet of water from the Beaver Dam Wash in Arizona to Mesquite, Nevada.

In response to Supervisor Johnson, Mr. Frisby advised that the hearing will be the first quarter of 2007, and they will have three weeks preparation time from the first notification. He questioned where the notification will go.

Manager Walker advised that it will probably be noticed in the Capitol Times.

Chairman Byers stated that the County will "stay on top of it."

Manager Walker questioned if the Board is requesting staff to enter a letter of objection to the process, along with Mohave County Water Authority, with whatever assistance is needed from the people in Beaver Dam.

Chairman Byers concurred, stating that he would also like all documentation received to be public record.

Motion carried unanimously.

ITEM 46: The presentation by Jack Riley regarding the transfer of Mohave County, Arizona, water rights to the State of Nevada was given during Item 44.

No action was taken on this item.

ITEM 47: Motion was made by Supervisor Johnson, and seconded by Supervisor Sockwell to discuss the item regarding directing Staff to develop area plans for Oatman and Chloride.

ORIGINAL

MEMORANDUM

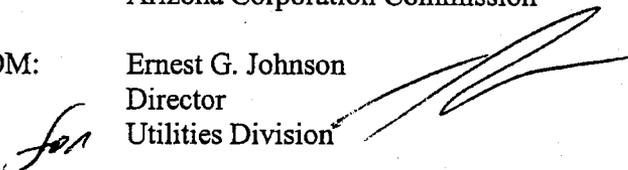
30

TO: Docket Control
Arizona Corporation Commission

Arizona Corporation Commission
DOCKETED

SEP 22 2006

FROM: Ernest G. Johnson
Director
Utilities Division



DOCKETED BY	<i>NP</i>
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Date: September 22, 2006

RE: STAFF REPORT FOR THE APPLICATION OF BEAVER DAM WATER COMPANY, INC. FOR AN EXTENSION OF ITS CERTIFICATE OF CONVENIENCE AND NECESSITY (DOCKET NO. W-03067A-06-0117)

Attached is the Staff Report for Beaver Dam Water Company, Inc. for an extension of its existing Certificate of Convenience and Necessity for water service. Staff recommends the Commission issue an Order Preliminary in this matter.

EGJ:LAJ:tdp

Originator: Linda A. Jaress

RECEIVED
2006 SEP 22 P 3:18
AZ CORP COMMISSION
DOCUMENT CONTROL

EXHIBIT
51
admitted

Service List for: Beaver Dam Water Company, Inc.
Docket No. W-03067A-06-0117

Mr. Bob Frisby
Beaver Dam Water Company
Post Office Box 307
Beaver Dam, Arizona 86432

Mr. Christopher C. Kempley
Chief, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Mr. Ernest G. Johnson
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Ms. Lyn Farmer
Chief, Hearing Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

STAFF REPORT
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

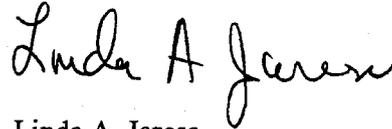
BEAVER DAM WATER COMPANY, INC.
DOCKET NO. W-03067A-06-0117

APPLICATION FOR EXTENSION
OF EXISTING CERTIFICATE OF
CONVENIENCE AND NECESSITY

SEPTEMBER 22, 2006

STAFF ACKNOWLEDGMENT

The Staff Report for Beaver Dam Water Company, Inc., Docket No. W-03067A-06-0117, was prepared by the Staff members listed below. Linda Jaress reviewed and analyzed the application. Jian Liu performed the engineering and technical analysis.



Linda A. Jaress
Executive Consultant III



Jian Liu
Utilities Engineer

EXECUTIVE SUMMARY
BEAVER DAM WATER COMPANY, INC.
W-03067A-06-0117

On March 1, 2006, Beaver Dam Water Company, Inc. ("Beaver Dam" or "the Company") filed an application for an extension of its Certificates of Convenience and Necessity ("CC&N") to provide water services in portions of Mohave County, Arizona. Beaver Dam serves approximately 287 customers and is located in the far northwest corner of Arizona, less than 10 miles from both the Nevada and Utah borders.

Beaver Dam expects an additional 505 connections for the proposed CC&N extension at the end of five years, resulting in a projected total customer base of approximately 762 at the end of five years. Based on the existing well production and storage capacities, the water systems combined can serve approximately 1,000 service connections.

Staff recommends the Commission issue an Order Preliminary due to the water adequacy issue.

Staff recommends that Beaver Dam be required to file with Docket Control, as a compliance item in this docket, a copy of the Approval To Construct ("ATC") for the water facilities needed to service the area within two years of the effective date of the order preliminary in this proceeding.

Staff also recommends that the Company file, within two years from the issuance of an Order Preliminary, documentation from Arizona Department of Water Resources ("ADWR") that there is adequate water to serve the extension area.

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
WATER SYSTEM.....	1
SYSTEM CAPACITY	1
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (“ADEQ”).....	1
ARIZONA DEPARTMENT OF WATER RESOURCES (“ADWR”)	2
ARIZONA CORPORATION COMMISSION COMPLIANCE.....	2
FRANCHISE.....	2
RECOMMENDATIONS.....	2

ATTACHMENT(S)

ENGINEERING REPORT	A
ENGINEERING MAP.....	B

Introduction

On March 1, 2006, Beaver Dam Water Company, Inc. ("Beaver Dam" or "the Company") filed an application for an extension of its Certificates of Convenience and Necessity ("CC&N") to provide water services in portions of Mohave County, Arizona. Beaver Dam serves approximately 287 customers and is located in the far northwest corner of Arizona, less than 10 miles from both the Nevada and Utah borders. The legal description and a map of the location of the Company are attached as Exhibit 1.

Beaver Dam filed requests for service from Mr. Allen Stewart of Construction Design Group, Inc. for a subdivision at Hamilton Ranch and from Blair Adamson of Bowler Realty for another subdivision of 75 lots. Beaver Dam, for the year ending December 31, 2006, experienced a net loss of \$13,880 on assets of \$795,008.

Water System

Beaver Dam operates three water systems. Systems #1 and #2, which have been consolidated, serve an area in the vicinity of the community of Littlefield. This system is comprised of three wells which, in total, produce 436 gallons per minute ("GPM"), three storage tanks with a total capacity of totaling 194,000 gallons and a distribution system serving 257 connections.

The other system is a distribution system which distributes water received from the Virgin Valley Water District ("VVWD") located in Mesquite, Nevada, through a master-meter. This system serves 30 customers. Both systems are described in more detail in Staff's Engineering Report attached as Exhibit 2.

System Capacity

Beaver Dam expects an additional 505 connections for the proposed CC&N extension at the end of five years, resulting in a projected total customer base of approximately 762 at the end of five years. Based on the existing well production and storage capacities, the water systems combined can serve approximately 1,000 service connections. Staff concludes that the existing systems have adequate production and storage capacity to serve the existing and proposed CC&N extension area within a conventional five year planning period.

Arizona Department of Environmental Quality ("ADEQ")

ADEQ has determined that Systems 1 and 2 are currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Beaver Dam has not yet acquired the ADEQ Certificate of Approval to Construct ("ATC") for facilities needed to serve the requested area. Staff recommends that Beaver Dam be required to file with Docket Control, as a compliance item in this docket, a copy of the ATC for

the water facilities needed to service the area within two years of the effective date of the order in this proceeding.

Beaver Dam reported that the arsenic levels in the water source for System 1 was undetectable and for System 2, 6 micrograms per liter ("µg/l"). Based on these arsenic concentrations, Systems #1 and #2 are in compliance with the new arsenic standard.

Arizona Department of Water Resources ("ADWR")

Beaver Dam is not located in any Active Management Area ("AMA") and not subject to AMA reporting and conservation requirements. The Company does not have a Certificate of Assured Water Supply or any other document from ADWR indicating there is sufficient water available to serve the proposed development. Although the Company is located outside an AMA and developers are not required to show the availability of an assured water supply to sell lots, Staff believes it is in the public interest for the Company to show evidence that sufficient water supply exists to supply the proposed extension area.

The Company has filed documentation from September 30, 1987 from ADWR that indicated "the water supply will be capable of meeting the subdivision's projected demand for at least 100 years, as required by law." The Company also filed another document from ADWR dated October 6, 2003, confirming the statement of water adequacy issued in 1987 and indicating that Beaver Dam Resort had an adequate water supply. However, Staff is not certain that these documents apply to the proposed extension area or that ADWR would have the same opinion today. Therefore, Staff recommends the Commission issue an Order Preliminary in this case.

Staff recommends that the Company file, within two years from the Order Preliminary, documentation from ADWR that there is adequate water to serve the extension area whether in the form of another letter or a Physical Availability Determination.

Arizona Corporation Commission Compliance

According to the Utilities Division Compliance Section, the Company has no outstanding compliance issues.

Franchise

The Company provided its Franchise agreement with Mohave County which covers the proposed service territory.

Recommendations

Staff recommends the Commission issue an Order Preliminary.

Beaver Dam Water Company, Inc.
Docket No. W-03067A-06-0117
Page 3

Staff recommends that Beaver Dam be required to file with Docket Control, as a compliance item in this docket, a copy of the ATC for the water facilities needed to service the area within two years of the effective date of the order preliminary in this proceeding.

Staff also recommends that the Company file, within two years from the issuance of an Order Preliminary, documentation from ADWR that there is adequate water to serve the extension area.

MEMORANDUM

DATE: September 15, 2006

TO: Linda Jaress
Executive Consultant III

FROM: Jian W. Liu
Utilities Engineer

RE: Beaver Dam Water Company, Inc.
Docket No. W-03067A-06-0117 (CC&N Extension)

Introduction

Beaver Dam Water Company, Inc. ("Beaver Dam" or "the Company") has filed an application for a Certificate of Convenience and Necessity ("CC&N") extension. The Company is located in the extreme northwest corner of the state in Mohave County. The requested extension area is located near the community of Littlefield.

Beaver Dam is requesting to extend its certificated area by approximately 141 acres. The requested area will be served by the Beaver Dam Systems #1 and #2 which were recently interconnected to create one combined system.¹ Beaver Dam is proposing to construct plant facilities to the requested areas using main extension agreements ("MXAs").

Existing System Descriptions

Beaver Dam has three water systems. Systems #1 and #2 which as previously indicated were recently combined, serve an area in the vicinity of the community of Littlefield. System #3, the third system, serves an area near Mesquite, Nevada and the Arizona/Nevada state line. The Arizona Department of Environmental Quality ("ADEQ") assigns a Public Water System Identification ("PWS-ID") Number to each system it regulates. The PWS ID numbers and brief system descriptions are:

1. System #1, PWS #08-311 and System #2, PWS #08-006: Located near Littlefield, Arizona in Mohave County. The water systems combined have three wells producing 436 gallons per minute ("GPM"), three storage tanks totaling 194,000 gallons (a 50,000 gallon storage tank, a 44,000 gallon storage tank, and a 100,000 gallon storage tank) and a distribution system serving 257 connections.

¹ Approval of the interconnection of Systems #1 and #2 by the Arizona Department of Environmental Quality is pending.

2. System #3, PWS #08-093: Located near Mesquite, Nevada and the Arizona/Nevada state line. This system is a consecutive water system to the Virgin Valley Water District ("VVWD") in Mesquite, Nevada. The VVWD provides the source supply through a 12-inch by 6-inch compound master-meter² to the System #3 distribution system which serves 30 connections.

Capacity

Systems #1 and #2

Beaver Dam has predicted an additional 505 connections for the proposed CC&N extension at the end of five years, resulting in a projected total customer base of approximately 762 at the end of five years.

Based on the existing well production and storage capacities, the water systems combined can serve approximately 1,000 service connections. Staff concludes that the existing systems have adequate production and storage capacity to serve the existing and proposed CC&N extension area within a conventional five year planning period.

ADEQ Compliance

Compliance Status for Beaver Dam Systems

System #1, PWS-ID No. 08-311, and System #2, PWS-ID No. 08-006, have no deficiencies and ADEQ has determined that these Systems are currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.³

System #3, PWS #08-093, is a consecutive water system and currently has no ADEQ monitoring or reporting requirements (As August 2006).

Certificate of Approval to Construct ("ATC")

The ADEQ ATC for facilities needed to serve the requested area has not been submitted to Staff by Beaver Dam. If this application is approved, Staff recommends that Beaver Dam be required to file with Docket Control, as a compliance item in this docket, a copy of the ATC for the water facilities needed to service the area within two years of the effective date of the order in this proceeding.

² The estimated flow rate for this meter is 3,000 GPM.

³ ADEQ compliance Report dated Nov. 21, 2005.

Arsenic

The U.S. Environmental Protection Agency ("EPA") has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 micrograms per liter (" $\mu\text{g}/\text{l}$ ") to $10\mu\text{g}/\text{l}$. Beaver Dam indicated the arsenic levels for its source supplies for System #1 was not detected, System #2 was reported to be $6\mu\text{g}/\text{l}$. Based on these arsenic concentrations, Systems #1 and #2 are in compliance with the new arsenic MCL.

Arizona Department of Water Resources ("ADWR") Compliance

Compliance Status

Beaver Dam is not located in any Active Management Area ("AMA") and not subject to AMA reporting and conservation requirements.

Letter of Adequate Water Supply

Staff recommends that the Company docket, as a compliance item in this docket, within two years of the effective date of an order in this proceeding, a copy the developer's Letter of Adequate Water Supply for the requested area.

Arizona Corporation Commission ("ACC") Compliance

According to the Utilities Division Compliance Section (Compliance Section Email dated August 8, 2006), the Company has no outstanding compliance issues.

Summary

Conclusions

- A. Staff concludes that Beaver Dam's existing systems, Systems #1 and #2, have adequate source and storage capacity to serve the existing and proposed CC&N extension area.
- B. System #1, PWS ID No. 08-311, and System #2, PWS ID No. 08-006, have no deficiencies and ADEQ has determined that these Systems are currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. 4.
- C. Beaver Dam indicated the arsenic levels for its source supplies for System #1 was not detected, and System #2 at $6\mu\text{g}/\text{l}$. Based on this arsenic concentration, the System #1 and System #2 are in compliance with the new arsenic MCL.
- D. Beaver Dam is not located in any Active Management Area and not subject to AMA reporting and conservation requirements.

- E. According to the Utilities Division Compliance Section (Compliance Section Email dated August 8, 2006), the Company has no outstanding compliance issue with the ACC.

Recommendations

1. Staff recommends that Beaver Dam be required to file with Docket Control, as a compliance item in this docket, a copy of the ATC for the water facilities needed to service the area within two years of the effective date of the order in this proceeding.
2. Staff recommends that the Company docket, as a compliance item in this docket, within two years of the effective date of an order in this proceeding, a copy the developer's Letter of Adequate Water Supply for the requested area.

MEMORANDUM

TO: Linda Jaress
Executive Consultant III
Utilities Division

FROM: Barb Wells *bw*
Information Technology Specialist
Utilities Division

THRU: Del Smith *DS*
Engineering Supervisor
Utilities Division

DATE: March 21, 2006

RE: **BEAVER DAM WATER COMPANY (DOCKET NO. W-03067A-06-0177)**

The area requested by Beaver Dam for an extension has been plotted with no complications using the legal description provided with the application (a copy of which is attached). NOTE: A portion of the requested area is already certificated to Beaver Dam.

Also attached is a copy of the map for your files.

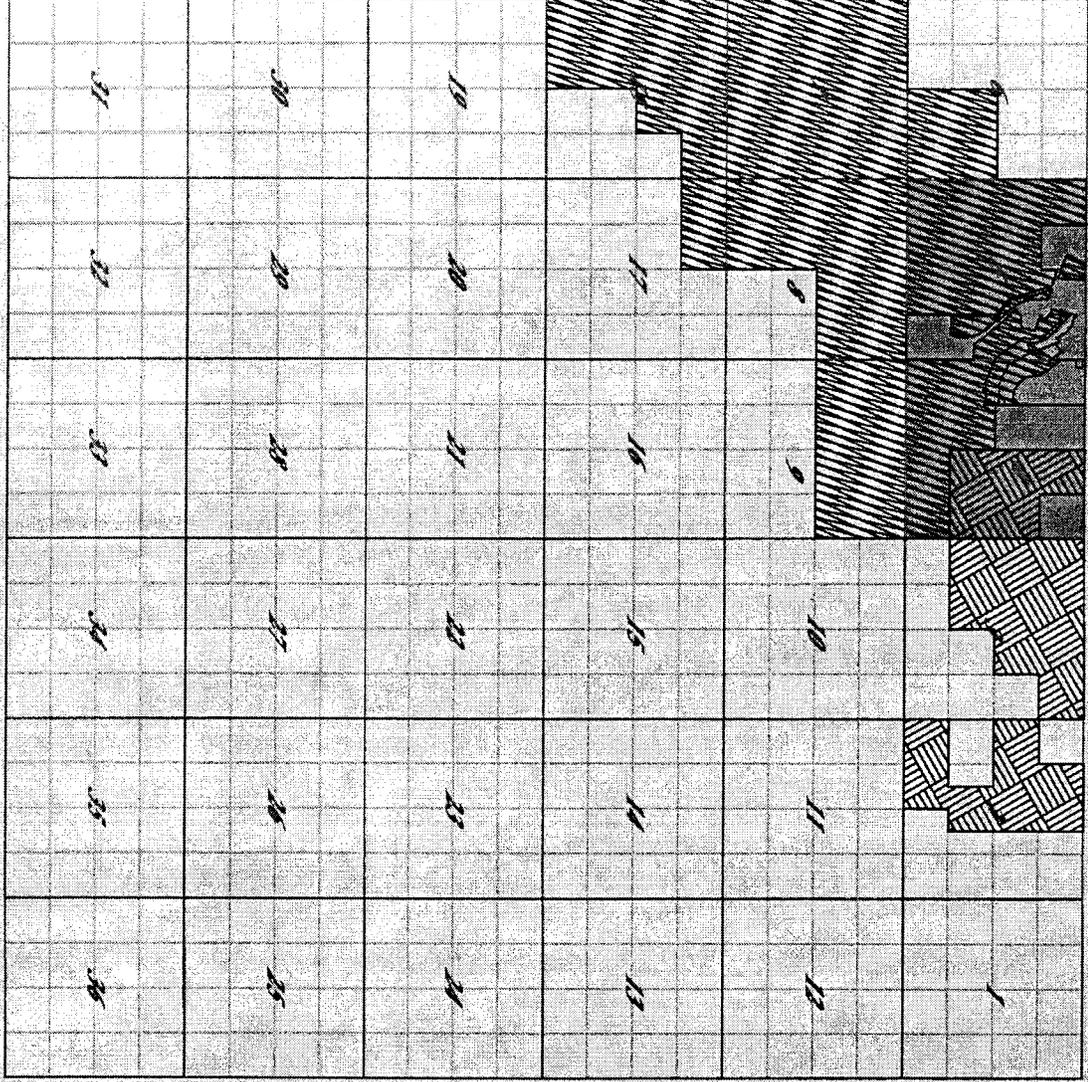
:bsw

Attachments

cc: Docket Control
Mr. Bob Frisby
Ms. Deb Person (Hand Carried)
File

COUNTY: Mohave

RANGE 15 West



TOWNSHIP 40 North

-  W-3067 (4)
Beaver Dam Water Company, Inc.
-  W-4049 (2)
DS Water Company
-  Sewer (2)
Virgin River Domestic Wastewater
Improvement District (Nonjurisdictional)
-  (1)
Beaver Dam Water Company
Docket No. W-03067A-06-0117
Application for Extension

**BOUNDARY DESCRIPTION
PARCEL "A"**

BEGINNING AT THE NORTHWEST CORNER OF SECTION 4, TOWNSHIP 40 NORTH, RANGE 15 WEST, GILA AND SALT RIVER MERIDIAN; THENCE NORTH $89^{\circ}59'16''$ EAST ALONG THE NORTH BOUNDARY LINE OF SAID SECTION 4 FOR A DISTANCE OF 1318.99 FEET TO THE WEST ONE SIXTEENTH CORNER; THENCE SOUTH $00^{\circ}10'12''$ EAST ALONG THE SIXTEENTH LINE OF SAID SECTION 4 FOR A DISTANCE OF 2203.56 FEET; THENCE LEAVING SAID ONE SIXTEENTH LINE SOUTH $89^{\circ}49'48''$ WEST 19.00 FEET; THENCE SOUTH $00^{\circ}10'12''$ EAST 19.00 FEET; THENCE NORTH $89^{\circ}49'48''$ EAST 19.00 FEET TO SAID ONE SIXTEENTH LINE; THENCE SOUTH $00^{\circ}10'12''$ EAST 169.41 FEET; THENCE LEAVING SAID ONE SIXTEENTH LINE NORTH $87^{\circ}05'44''$ WEST 209.17 FEET; THENCE SOUTH $00^{\circ}08'29''$ EAST 165.55 FEET; THENCE NORTH $87^{\circ}30'34''$ WEST 449.70 FEET; THENCE NORTH $64^{\circ}34'20''$ WEST 560.58 FEET; THENCE NORTH $29^{\circ}30'43''$ WEST 768.71 FEET; THENCE NORTH $19^{\circ}49'05''$ WEST 777.27 FEET TO THE NORTHERLY BOUNDARY LINE OF PARCEL "C" BEAVER DAM ESTATES, TRACT NUMBER 3034-A; THENCE ALONG THE NORTHERLY BOUNDARY LINE OF SAID PARCEL "C" NORTH $57^{\circ}20'53''$ EAST 269.59 FEET TO THE SOUTHWEST CORNER OF PARCEL "E" OF SAID BEAVER DAM ESTATES, TRACT NUMBER 3034-A; THENCE NORTH $34^{\circ}28'11''$ EAST 54.11 FEET TO THE NORTHWEST CORNER OF SAID PARCEL "E"; THENCE SOUTH $32^{\circ}38'53''$ EAST ALONG THE NORTH BOUNDARY LINE OF SAID PARCEL "E" FOR A DISTANCE OF 417.57 FEET TO THE WEST BOUNDARY LINE OF SAID SECTION 4; THENCE NORTH $00^{\circ}09'08''$ WEST ALONG SAID WEST BOUNDARY LINE 761.43 FEET; THENCE LEAVING SAID BOUNDARY LINE SOUTH $90^{\circ}00'00''$ EAST 230.53 FEET; THENCE NORTH $00^{\circ}00'00''$ EAST 188.70 FEET; THENCE NORTH $90^{\circ}00'00''$ WEST 231.03 FEET TO SAID WEST BOUNDARY LINE; THENCE NORTH $00^{\circ}09'08''$ WEST ALONG SAID WEST BOUNDARY LINE 97.58 FEET TO THE POINT OF BEGINNING. CONTAINING 79.696 ACRES.

BOUNDARY DESCRIPTION, PARCEL "B"

BEGINNING AT A POINT WHICH IS EAST 1117.65 FEET AND SOUTH 2546.63 FEET FROM THE NORTHWEST CORNER OF SECTION 4, TOWNSHIP 40 NORTH, RANGE 15 WEST, GILA AND SALT RIVER MERIDIAN; THENCE SOUTH 87°30'34" EAST 209.15 FEET TO THE ONE SIXTEENTH LINE OF SAID SECTION 4; THENCE SOUTH 00°10'12" EAST ALONG SAID ONE SIXTEENTH LINE 418.64 FEET; THENCE LEAVING SAID ONE SIXTEENTH LINE NORTH 70°16'10" WEST 130.59 FEET; THENCE NORTH 84°33'48" WEST 138.29 FEET; THENCE SOUTH 79°36'18" WEST 104.82 FEET; THENCE SOUTH 58°30'40" WEST 97.22 FEET; THENCE NORTH 00°00'00" EAST 82.26 FEET; THENCE SOUTH 73°02'46" WEST 154.82 FEET; THENCE NORTH 69°41'39" WEST 824.86 FEET; THENCE NORTH 35°01'15" WEST 1040.85 FEET; THENCE NORTH 11°18'18" EAST 181.54 FEET; THENCE NORTH 15°58'46" WEST 428.20 FEET; THENCE NORTH 41°09'18" WEST 659.04 FEET; THENCE SOUTH 82°39'17" WEST 319.71 FEET TO THE EASTERLY RIGHT-OF-WAY LINE OF HIGHWAY 91; THENCE NORTH 19°13'04" EAST ALONG SAID RIGHT-OF-WAY LINE 503.82 FEET; THENCE LEAVING SAID RIGHT-OF-WAY LINE SOUTH 70°46'56" EAST 50.00 FEET TO THE SOUTHERLY BOUNDARY OF BEAVER DAM ESTATES, TRACT NUMBER 3510; THENCE SOUTH 12°51'05" EAST ALONG SAID SOUTHERLY BOUNDARY 40.00 FEET TO THE NORTHERLY BOUNDARY OF PARCEL "K" OF SAID BEAVER DAM ESTATES, TRACT NUMBER 3510; THENCE ALONG SAID NORTHERLY BOUNDARY SOUTH 74°33'15" EAST 98.23 FEET TO A POINT ON A 50.00 FOOT RADIUS CURVE WHOSE CENTER BEARS NORTH 48°02'00" EAST; THENCE EASTERLY ALONG THE ARC OF SAID CURVE TO THE LEFT 36.67 FEET THROUGH A CENTRAL ANGLE OF 42°01'30" TO THE POINT OF TANGENCY; THENCE SOUTH 83°59'30" EAST 81.38 FEET TO THE POINT OF CURVATURE OF A 90.00 FOOT RADIUS CURVE; THENCE ALONG THE ARC OF SAID CURVE TO THE RIGHT 73.21 FEET THROUGH A CENTRAL ANGLE OF 46°36'31" TO THE POINT OF TANGENCY; THENCE SOUTH 37°22'59" EAST 15.32 FEET TO THE POINT OF CURVATURE OF A 160.00 FOOT RADIUS CURVE; THENCE ALONG THE ARC OF SAID CURVE TO THE LEFT 64.75 FEET THROUGH A CENTRAL ANGLE OF 23°11'16" TO THE POINT OF TANGENCY; THENCE SOUTH 60°34'14" EAST 65.68 FEET; THENCE SOUTH 44°15'23" EAST 86.93 FEET; THENCE SOUTH 30°30'42" EAST 80.81 FEET; THENCE SOUTH 09°36'44" EAST 58.07 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL "K"; THENCE SOUTH 60°34'13" EAST 19.86 FEET TO THE SOUTHWEST CORNER OF LOT 15, BEAVER DAM ESTATES, TRACT NUMBER 3034-A; THENCE SOUTH 42°41'33" EAST ALONG THE NORTHERLY BOUNDARY LINE OF PARCEL "C", BEAVER DAM ESTATES, TRACT NUMBER 3034-A FOR A DISTANCE OF 48.50 FEET; THENCE SOUTH 32°06'50" EAST 57.30 FEET; THENCE SOUTH 30°56'57" EAST 80.00 FEET TO THE SOUTHWEST CORNER OF LOT 18 OF SAID BEAVER DAM ESTATES, TRACT NUMBER 3034-A; THENCE NORTH 38°40'32" EAST ALONG THE WEST BOUNDARY LINE OF SAID LOT 18 FOR A DISTANCE OF 100.49 FEET TO A POINT ON A 40.00 FOOT RADIUS CURVE WHOSE CENTER BEARS NORTH 38°40'32" EAST; THENCE EASTERLY

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ALONG THE ARC OF SAID CURVE TO THE LEFT 60.99 FEET THROUGH A CENTRAL ANGLE OF $87^{\circ}21'25''$ TO THE NORTHWEST CORNER OF LOT 19 OF SAID BEAVER DAM ESTATES, TRACT NUMBER 3034-A; THENCE SOUTH $18^{\circ}24'31''$ EAST ALONG THE WEST BOUNDARY LINE OF SAID LOT 19 FOR A DISTANCE OF 104.77 FEET; THENCE SOUTH $19^{\circ}49'05''$ EAST 777.27 FEET; THENCE SOUTH $29^{\circ}30'43''$ EAST 768.71 FEET; THENCE SOUTH $64^{\circ}34'20''$ EAST 560.58 FEET; THENCE SOUTH $87^{\circ}30'34''$ EAST 449.70 FEET TO THE POINT OF BEGINNING. CONTAINING 34.620 ACRES.