BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

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In the Matter of: Application of Great Basin Water Co., Cold Springs, Pahrump, Spanish Springs and Spring Creek Divisions for approval of its 2018 Integrated Resource Plan and to designate certain system improvement projects as eligible projects for which a system improvement rate may be established, and for relief properly related thereto.	Docket No. 18-_____

PREPARED DIRECT TESTIMONY OF

WENDOLYN S.W. BARNETT

ON BEHALF OF GREAT BASIN WATER CO.

February 28, 2018

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Q.1 PLEASE STATE YOUR NAME, PRESENT POSITION AND BUSINESS ADDRESS.

A.1 My name is Wendolyn Barnett and I am the President for the Great Basin Water Co. ("GBWC" or the "Company" or the "Utility"). My business address is 1240 E. State Street, Suite 115, Pahrump, Nevada 89048.

Q.2 WHAT ARE YOUR DUTIES IN YOUR CURRENT POSITION?

A.2 Please see attachment WSWB-1 to Exhibit ___, *President Job Description*.

Q.3 WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A.3 I graduated from Friends University in May of 1991 with a Bachelor of Science in Human Resources. I have been employed by Water Service Corporation and providing services to Utilities, Inc. ("UI") since June 6, 2006.

I have been involved in the water and sewer utility industry since 2006 managing ten water systems. On the wastewater side, I manage four wastewater treatment plants and collection systems. I am responsible for overseeing a staff of about 42, operating in two states through UI's two regulated utility affiliates which serve a total of approximately 25,000 customers.

My employment with UI began as Business Manager for the Western Region. As Business Manager, I was responsible for the evaluation of capital project proposals, ensuring that alternatives had been explored to find the best resolution, evaluation of expenses and coordinating with corporate accounting to maintain records. I became Regional Director in January of 2008. I became President in 2014.

Q.4 HAVE YOU TESTIFIED BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA (THE "COMMISSION" OR "PUCN")?

A.4 Yes, I have testified in 29 dockets before the Commission. A complete list of those prior dockets is attached to this testimony. (Please see attachment WSWB-2 to Exhibit__, *Barnett Testimony Docket List*.)

Q.5 HAVE YOU TESTIFIED BEFORE ANY OTHER PUBLIC UTILITY COMMISSION?

A.5 Yes, I have submitted prepared direct testimony in two Bermuda Water Company General Rate Cases ("GRC") before the Arizona Commerce Commission, Docket No. W-01812A-10-0521 and Docket No. W-01812A-15-0421.

Q.6 WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS DOCKET?

A.6 The purpose of my testimony is to provide information supporting GBWC's Application for approval of the GBWC 2018 Integrated Resource Plan ("IRP"). In particular, the purpose of the filing is focused on the most prudent capital projects needed over the next three years for continued reliable operation of the GBWC divisions and the reduction of Pahrump Hydrographic Basin ("Pahrump Basin" or "Basin 162") pumpage, in particular, through the ability to more readily (and affordably) provide utility connection to residents within our service territory. The need to protect the basin is described more fully throughout my testimony, but is critical to our continued provision of reliable service to our customers in the Pahrump Division and something we have been working on with other stakeholders, including the Nevada State Engineer for the Division of Water Resources for some time.

The filing asks the Commission to consider the true cost of providing safe reliable drinking water, including preservation of the resource in an over-appropriated basin. This is an issue GBWC seeks to actively address, in the interest of its continued reliable service and in the

interest of customers and as a part of a community, to be a part of the solutions necessary for the long-term basin health and overall water protection in the State of Nevada.

The filing asks the Commission to consider the true cost of providing reliable sanitary sewer service. Wastewater treatment (and collection) can be an extensive project with multiple permitting agencies. It takes time to properly conceptualize, design, permit, construct and have the necessary licensed staff to operate, which means we must be ahead of the needs.

Specifically, components of my testimony include:

- A description the Company's management organization;
- The background of water in Hydrographic Basin 162 ("Basin 162" or "Pahrump Basin");
- A history of the development of the utility which is now known as the Pahrump Division of the Great Basin Water Co.;
- Descriptions of the proposed changes in tariffs to support the encouragement of utility connections to preserve the basin's water resource and mitigate the proliferation of new wells which could threaten continuous and reliable service in the basin;
- Support for specific recommended Action Plan for improvements;
- Regulatory Asset Treatment for Water Conservation Rebates;
- Other – Fats, Oils and Grease ("FOG") Plan
- Support the System Improvement Rate ("SIR") request;
- Compliance with Order Docket No. 16-12006 at 13.
- Request approval of the GBWC 2018 IRP.

Q.7 WHY IS GBWC CHOOSING TO FILE A CONSOLIDATED IRP AT THIS TIME?

A.7 GBWC's filing complies with the triennial requirement outlined in NRS 704.661(1). GBWC – Spring Creek Division ("GBWC-SCD") filed last filed an IRP on March 2, 2015 (Docket No. 15-03004). GBWC submits this filing on February 28, 2017, meeting the statutory deadline for its Spring Creek Division (based on the last filing for Spring Creek Utilities Co. ("SCUC") which covered the service area of the Company's Spring Creek Division).

GBWC restructured in December of 2016 from four companies to one company to glean multiple benefits as described below. A consolidated IRP provides some of these benefits associated with the overall restructuring of Utilities, Inc. ("UI") Nevada companies into one legal entity, GBWC. Advantages of restructuring include:

- To be more locally aligned with the communities we serve:
  - Each former UI entity will operate as a division within GBWC under their community name (Utilities, Inc. of Nevada – Cold Springs, Utilities, Inc. of Central Nevada – Pahrump, Sky Ranch Water Service – Spanish Springs, Spring Creek Utilities Co. – Spring Creek);
  - We live, work, volunteer, and contribute economically in our local community;
  - We are a business with local decision-making, accountability, and responsibility;
  - We effectively operate within the state and local regulatory environment to mitigate risk, maximize service reliability, and minimize cost;
- Allows for better brand identity and operational accountability;
- Increased efficiency for our vendors who often work with multiple companies;
- More efficient State required filings:
  - Annual Filings
    - Tax Returns
    - Gross Receipts Returns

        - Water Pumped
    - Compliance Filings
        - Fats, Oils and Grease Control Plan
        - Cross Connection Control Plan
        - Water Conservation Plan
        - Integrated Resource Plan
- This means more efficient rates for our customers;
- We continue to seek efficiencies for our customers.

Other benefits exist as well; and, I am confident will continue to emerge over the course of time. This consolidated IRP provides a window to future benefits to ratepayers from consolidation.

A component of this IRP has a specific focus. It is to support the State Engineer and his efforts to limit the proliferation of new domestic wells in over-appropriated basins, such as the Pahrump Basin. To this end, GBWC is in a unique position to seek permission from the Commission to incentivize connection to a utility rather than drilling new wells in the basin. These issues of preservation and conservation of the resource in the basin are critical to continuous provision of reliable water service.

Q.8 DID GBWC MEET WITH THE REGULATORY OPERATIONS STAFF ("STAFF") AND THE BUREAU OF CONSUMER PROTECTION ("BCP") PRIOR TO FILING THIS IRP?

A.8 Yes. In compliance with NAC 704.566, the parties met October 19, 2017 to discuss the GBWC 2018 IRP.

As noted in Testimony of Cynthia, P.E., Water Engineer, Staff, in Docket No. 17-02048, the GBWC-PD 2017 IRP, Recommendation No. 5, at Q&A 41, Staff, as directed by the

Procedural Order issued April 18, 2017 (at Paragraph 8 (C)), made recommendations regarding the structure of this IRP. Ms. Turiczek noted the desire to "maintain separation between each of its four divisions within the integrated IRP, except for the Water Conservation Plan pursuant to NAC 704.567 to 704.5672; General Requirements pursuant to NAC 704.5662(1), (2), and (3); and Technical Appendix pursuant to NAC 704.5666." The Company agrees, not only must individual division needs must be assessed, but also at times, individual systems.

The Company also agrees that General Requirements pursuant NAC 704.5662(1), (2), and (3); and Technical Appendix pursuant to NAC 704.5666 would be unnecessary repetitiveness in the plan and has tried to minimize this throughout the document. This makes economic sense as well as minimizing repetition to make the WCP (and IRP) more user-friendly for all. GBWC also believes that there are other areas to minimize the costs of preparing an IRP and readability to understand (and vet) an IRP and has worked to achieve these economies. As stated above, a major driver of the restructuring to GBWC is to glean economies for our ratepayers. GBWC has created five volumes for the IRP: one for information which pertains to all the GBWC divisions (Volume I) one for each of the four divisions (Volumes II – Pahrump, Volume III – Spring Creek, Volume IV- Cold Springs, and Volume V – Spanish Springs). In addition, Volumes II – V may refer to previous volumes when the information is repetitive. This type of structure of this IRP was discussed; and I believe we this filing meets the parties' (including not only those involved in the filing, but also those impacted by the filing) interests in this matter.

Q.9 ARE ANY TARIFF CHANGES REQUIRED AS A PART OF THIS FILING?

A.9 Yes. Should the Commission determine that ideas proposed in this filing are prudent, updates will be necessary to *GBWC's Tariff 1-W (Water)* and *GBWC's Tariff 1-S (Sewer).* Additionally, the proposed WCP will also require tariff changes, and GBWC takes this

opportunity to consolidate Rule No. 23 for all divisions at this time, as discussed later in this testimony. The proposed tariff changes are discussed in this testimony.

GBWC'S MANAGEMENT ORGANIZATION

Q.10 PLEASE DESCRIBE THE RESTRUCTURING OF THE UTILITIES, INC. ("UI") NEVADA COMPANIES.

A.10 The Nevada UI companies restructured into one company as approved by the Commission in Docket No. 16-07031. The four regulated UI companies were Sky Ranch Water Service ("SRWS") (Spanish Springs, NV), Spring Creek Utilities Co. ("SCUC") (Spring Creek, NV), Utilities, Inc. of Central Nevada ("UICN") (Pahrump, NV) and Utilities, Inc. of Nevada ("UIN") (Cold Springs, NV). Now, there is one operating entity, Great Basin Water Co., operating under CPC 2692 Sub 7. The four former companies are now divisions of Great Basin Water Co. identified simply by their community name: Cold Springs Division, Pahrump Division, Spanish Springs Division and Spring Creek Division. The restructuring into GBWC aligns with our efforts to show our customers that we recognize that water is local and we are their local service provider.

Q.11 WHAT IS THE MANAGEMENT ORGANIZATION FOR GBWC?

A.11 I am the President and an officer of GBWC and Bermuda Water Company in Arizona. The Arizona/Nevada Business Unit is responsible for operations, including safety and compliance, capital planning, budgeting responsibilities, and rate cases. (The AZ_NV Organizational Chart is provided in Volume I of the GBWC 2018 IRP.) The headquarters of this business unit are located in Pahrump, Nevada, which provides administrative and customer service support for GBWC. The President and the Water Conservation Coordinator reside in Pahrump. The Vice President of Operations, also an officer of the company, is based out of Reno, NV. Finance staff are located in Pahrump, Reno, and Northbrook, IL. Additionally, Water Service Corporation ("WSC") provides corporate support services. WSC, among other departments, includes customer service, billing and

collections, accounting, human resources, and information technology. GBWC is one of the six companies (three in Nevada and three in Arizona)[1] located in the Arizona/Nevada Business Unit.

In Southern Nevada, GBWC Pahrump Division ("GBWC-PD") operates its central water and wastewater systems with twelve operations employees, four of whom are almost entirely dedicated to the wastewater portion of GBWC Pahrump Division's operations, and an Area Manager and Operations Support. The remainder of the operations personnel provide support primarily to the water operations.

In Northern Nevada, there are three GBWC divisions: the Cold Springs Division ("GBWC-CSD"), the Spanish Springs Division ("GBWC-SSD"), and the Spring Creek Division ("GBWC-SCD"). For Northern Nevada, there is a shared Project Manager (located in Spring Creek), and Area Manager (located in Reno), and Operations Support (located in Spring Creek). GBWC-SCD has five field personnel. GBWC-CSD and GBWC-SSD have four shared field personnel.

PAHRUMP BASIN 162 BACKGROUND

Q.12 PLEASE DESCRIBE THE HYDROGRAPHIC BASIN 162 ("BASIN 162" OR "PAHRUMP BASIN") BACKGROUND.

A.12 Basin 162, also known as the Pahrump Basin, is one of the most over-appropriated basins in Nevada meaning more groundwater is allocated for use than is available: the perennial yield established is 20,000 acre-feet annual ("AFA") by the State Engineer's Office versus the 70,166 AFA of potential pumping under water rights currently issued.[2] The Nye

[1] In Arizona: Bermuda Water Company, Perkins Mountain Water Company, Perkins Mountain Utility Company. In Nevada: Great Basin Water Co., American Resources Development Company ("ARDCO"), and a real estate holding company, UICN Real Estate Holdings, Inc.

[2] The Utility has discussed the issue of the over-appropriation of Basin 162 in previous filings with the Commission

County Water District Pahrump Groundwater Evaluation in Regards to Identifying Projects for Preliminary Engineering Reports, dated June 2, 2017, ("Shaw Engineering Report") goes into more detail: "The sustainable pumping rate based on the present well configuration is on the order of 10,000 to 12,000 AFA, while depletion in the storage in the basin fill aquifer is currently estimated at 5,000 AFA. Uncaptured deep carbonate outflow is estimated to be 6,000 AFA to 8,000 AFA."[3]

We are working to protect the basin not just for today, but also for the future; we work to bring the basin back into balance to ensure preservation of the resource. GBWC has worked with the State Engineer's office, other utilities in Pahrump, the Nye County Water District Governing Board ("NCWD") and the community to find common ground. Through this docket, GBWC hopes to achieve implementation of small steps it can take toward achieving the goal by incentivizing future connections to a utility to avoid proliferation of new wells in the basin, meeting specific customer needs within our service territory and capital improvements for the long-term health of the basin. GBWC is not proposing to force existing wells to connect but instead is looking to provide incentives in areas so that development can more readily connect to the system instead of drilling new individual wells in the basin.

Q.13 WHAT IS A GROUNDWATER MANAGEMENT PLAN?

A.13 In 2011, the Nevada Legislature passed AB 419, providing for a process by which a community can come together, in an area designated (or soon to be designated) by the State Engineer for critical management, and prepare a groundwater management plan for the local basin and submit it to the State Engineer for approval.[4] It is a way for the communities

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in Docket No. 15-01029, The First Amendment to the UICN 2014 IRP, where additional information can be found on the background of Basin 162.

[3] Shaw Engineering Report, at p. 1-1. Please see Attachment WSWB-3 __ to Exhibit__.

[4] AB 419 can be found in Appendix B of this GBWC 2018 IRP, the Pahrump GWMP, Appendix O, Vol. 6 at 44-69.

which have critical water issues, such as severe over-appropriation and failing wells, like in Pahrump, NV, to work together, each doing their part to find solutions rather than through mandates.

I participated as a voting member of the Pahrump Basin 162 Groundwater Management Plan ("GWMP") Advisory Committee for twenty months. A draft was prepared for a Phase I plan to start to bring the basin back into balance. The GWMP Advisory Committee was appointed by the Nye County Board of County Commissioners ("BOCC") and included seven voting members including management from each of the three Pahrump-based utilities. Of the seven members, one received service from a Pahrump based utility. (Please See Appendix B, *Pahrump Basin 162 Groundwater Management Plan* – Vol. 5 at 126, Vol. 6 at 129.) The GWMP set priorities for the basin health (in no particular order):

- Aggressive water education
- Adopt a water conservation plan
- Water importation
- Require meters on new domestic wells
- Limit new Domestic wells to 0.5 AFA
- Educate domestic well owners regarding the option to supplement their water usage with permitted water rights
- Construct rapid infiltration basins and/or recharge basins
- Aquifer Storage and Recovery
- Allow utilities to put in backbone infrastructure with PUC approval to reach more lots
- Create incentives to voluntarily connect to public water systems
- Conservation Credit Program for water rights
- Investigate existing and future development agreements and implement changes with the goal to require water mitigation.

- Growth Control[5]

According to Mr. Oscar ("Oz") Wichman, the General Manager of the Nye County Water District Governing Board ("NCWD"), the plan has now been adopted by the NCWD.

Q.14 HAS GBWC-PD TAKEN ANY ACTION ON THESE PRIORITIES AND OVERALL WATER CONSERVATION?

A.14 GBWC, and the other private utilities in Pahrump, NV, all:

- Have Water Conservation Plans approved by the State;
- Have Cross Connection Control plans approved by the State;
- Meter all water connections;
- Have implemented water conservation rates (inclining block rates, or tiered rates);
- Require over dedication of water rights at the State Engineer's Request;[6]
- Recycle Water;
- Have participated in the GWMP Advisory Committee
- Have participated the Shaw Engineering Report.

In addition, GBWC-PD (and other utilities may as well) use technologies to support the basin.

- Supervisory Control and Data Acquisition ("SCADA")

  SCADA helps to monitor, report and alarm conditions in the water systems to prevent real water loss such as tank overflows.
- Geographic Information System ("GIS")

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[5] Appendix B of the GBWC 2018 IRP, Pahrump Basin 162 Groundwater Management Plan, Stage One, Version Oct. 16, 2015, p. 5, Vol. 5 at 130.

[6] "…due to over dedications by utilities the actual achievable pumping would be less." Nye County Water District Pahrump Groundwater Evaluation in Regards to Identifying Projects for Preliminary Engineering Reports, June 2nd, 2017, ("Shaw Engineering Report"), p. 2-1. Please see Attachment WSWB-3 to Exhibit__.

GIS supports information in the water systems, and GBWC's is designed to support tracking water rights allocations for management purposes and water consumption. In addition, a discussion and demonstration of GIS occurred on January 16, 2018 with the State Engineer, along with members of his staff, Oscar ("Oz") Wichman, NCWD, Resource Concepts, Inc. ("RCI"), GBWC-PD's third-party water rights experts, and GBWC. All agreed that the information which could be available through this tool to be extremely helpful in evaluating opportunities to bring the basin into balance over time.

- Partial Installation of Automatic Meter Reading ("AMR")
  AMR provides increased accuracy in meter reading and minimizes data handling errors which contribute to apparent water loss.

Innovative to the private water utility industry is Discovery Park, which GBWC has enabled. Discovery Park serves a dual purpose: while it provides a necessary site for discharge of reuse water from GBWC's Waste Water Treatment Plant ("WWTP") No. 3, it also serves as an education park created in partnership with the community to the benefit of GBWC's ratepayers and the community. A major focus of the educational park is water conservation. GBWC has a Water Conservation Coordinator whose focus is water education (conservation, protecting the water quality, how water works, to be water wise). It is critical for GBWC's customers who rely on the water resource for the continued service (and long-term rate impacts) the Company provides. It is also critical that the entire community focus on conservation efforts, and Discovery Park is an important educational tool to further those efforts as well as the support the operations of GBWC's Wastewater Treatment Plant 3. Proposed in this IRP is a project for a building at Discovery Park which would house a water education center for additional outreach.

There are many more things that GBWC does to support the water resource as a part of daily operations. But, there also are many more things we can do. Many of these will be

addressed in future IRP proceedings. In this IRP, GBWC focuses on Basin 162 protection and another focus of the State Engineer's: to stop the proliferation of new wells in the basin through incentivizing utility connection. (Please See WSWB-24 to Exhibit, *Jason King Declaration*.)

The intent is not to take away the great freedom of choice from the residents of Pahrump. Pahrump allows residents to live in a planned community with a golf course, club house, swimming pool, and gym; while others can live more rurally with a garden and domestic animals. The intent is to protect these freedoms by protecting our water source: Hydrographic Basin 162 – the preservation of which is absolutely critical to GBWC and its ratepayers for future reliability of safe drinking water and future rate stabilization.

Q.15 PLEASE SUMMARIZE THE STATE ENGINEER'S ORDER 1293.

A.15 Order 1293 requires new domestic wells in the Pahrump Basin to provide 2.0 Acre-Feet Annual ("AFA") on parcels without water rights allocations to be granted a permit to drill. (Please See Appendix B of the *GBWC 2018 IRP*, Order 1293 – Vol. 5 at 95-100.) This order came about after the failure of AB347, which would have required new domestic wells to be limited to 0.5 AFA and to have a meter (also known as a Water Conservation Well) in the 2017 legislative session. (Current domestic wells are assumed to use an average of 0.5 AFA annual by the State Engineer. This will be discussed further in this testimony.) It is estimated that there are 8,500 parcels eligible for a new domestic well.

Curtailing new domestic wells must be a goal if we are ever to bring the basin into balance, even at 0.50 AFA.

> Domestic Wells: Domestic wells total more than 11,000 drilled to date in Basin 162. Using an estimated average use of 0.5 acre feet each accounts for approximately 28% of the pumpage in the basin at this time. Adding 8500 new domestic wells by the year 2065 increases potential pumpage to 49% of the total perennial yield [8500 additional domestic wells equates to

> 4,500 acre feet of pumpage]. **Should the State Engineer allow new domestic wells to be drilled without relinquishment of water rights [in perpetuity] a water balance cannot be achieved for the basin.** When considering that Nevada is a priority doctrine state and taken together with the implications of NRS 534.080 and under a potential curtailment order; propagation of domestic wells in perpetuity places your offices in the position to limit withdrawals of not only new domestic wells but the majority of those currently in use.[7]

The estimate of 8,500 additional lots which could be served by domestic well was estimated based on lots being at least an acre and a quarter and not being designated for central water service. However, I believe this number to be a minimum. Lots are combined to have more square footage; lots can be designated for central water service and still be granted a domestic well (as exemplified in this testimony); an acre and a quarter is what is required for well and septic, not just a well.

HISTORY OF PAHRUMP DIVISION OF THE GBWC

Q.16 DOES GBWC FACE UNIQUE CHALLENGES BASED ON THE HISTORICAL DEVELOPMENT OF THE PAHRUMP SERVICE TERRITORY?

A.16 Yes. The Pahrump Division has approximately 5,936 total water connections, and about 4,253 total sewer connections (most of which are also water customers) as of December 2016. This represents a small percentage of the overall number of units that might request future service: During the 1970's, the original developer had identified some 37,878 lots that were to receive service from the utility. Over the following 30 years, subsequent developers identified approximately 4,000 additional lots that they intend to develop. Potentially, then, there are more than 40,000 lots that are designated for future central water service. Responsible and reasonably planned installation of utility infrastructure is necessary to serve a number of these lots and mitigate the proliferation of new individual wells.

[7] NCWD Minutes, December 11, 2017, Item 11, p. 10. Please See Attachment WSWB-4 __ to Exhibit __.

Q.17 PLEASE PROVIDE THE DEVELOPMENT HISTORY OF THE PAHRUMP DIVISION.

A.17 In late 1970, Preferred Equities Corporation ("PEC") began recording subdivision plats throughout the Pahrump Valley. The first units platted were Calvada Valley, Units 1, 2, and 3. Most of the lots created by these subdivisions were designated to be served by a Central Water System. PEC established and owned Central Nevada Utilities Company ("CNUC") to provide water and sewer service for those parcels approved based on a central water and sewer service. From 1970 to 1997, PEC platted in excess of 28,000 residential units which were approved for service by central water system. The number includes single-family residences, mobile homes, commercial, and multi-family residential lots.

Although, the majority of the lots were designated to be served by the Utility, other lots were designated to have a domestic well and septic system, or a combination of two of the four available means to obtain water and sewer service. The lot designations for utility service have created a "checkerboard" in many subdivisions.[8] Many lots which were designated to have service from the Utility had no infrastructure available. Additionally, certain lots with available infrastructure are designated well and/or septic. These lots with different service designations are sometimes neighbors.

PEC developed much of this property in the Pahrump Division territory as homes were built. Two-inch mains would be installed for thousands of feet to serve one home and then simply end. If other homes were built along the route of the main, they were allowed to connect to the undersized main. Because mains were installed to serve single premise needs, the service territory is full of undersized and dead-end mains (an issue which GBWC has worked to correct since its acquisition of the assets of the utility).

> ... the majority of the expansion of the central infrastructure occurred on a piecemeal basis as individual lots were developed. PEC even 'traded' lots

[8] Please See Attachment WSWB-5 to Exhibit ___, *Calvada Unit 2 Lot Designations*.

> with land holders to whom they hold sold property to move the owners closer to utility infrastructure, rather than extend the necessary infrastructure to serve all the lots. Their practices resulted in water systems with numerous undersized and dead end mains which create challenges for UICN to meet pressure and fire flow requirements for current system users. In addition, fragmented system expansions by developers and even simple line extensions have resulted in additional needs for dead end looping.

(Docket No. 14-02043 Ex. 4 at 20.)

Furthermore, the specifications required for installation of mains at the time are substandard to today's requirements. While GBWC has made many improvements to address these fire flow, pressure, and dead-end mains, there are still many areas of concern.

Additionally, sewer mains were undersized and built too shallow to allow for gravity flow if extended. The installed materials and installation practices for both water and sewer infrastructure are substandard for today's requirements.

Q.18 WHAT HAS GBWC DONE TO ADDRESS THESE DEFICIENCIES?

A.18 Year after year, GBWC has made consistent progress over the years in mitigating these deficiencies while trying to balance impacts on rates. Since 2006,[9] GBWC has invested almost $25,000,000 in capital improvements for the Pahrump Division water systems (and the same in the sewer systems). Water infrastructure projects include (but, are not limited to): the installation of backbone main, enlarging undersized main, looping dead-ends and installing line extensions. A 1.6 MG tank was installed with 1 MG of capacity reserved for current customers. In addition, there were repairs to various parts of the system, replacement of Well 8, a booster station upgrade and an update to the Water Rights Report. Developers have also contributed to the Pahrump Division water infrastructure. These

[9] In December of 2006, UI implemented a new software system, JD Edwards ("JDE"). The $25,000,000 represents the Pahrump capital improvements recorded since that time.

developers include, but are not limited to: Pahrump 2.2, Celebrate Homes, Corrections Corporation of America, Boar, Inc., Panorama Won, Tractor Supply, and Carl's Junior.

Q.19 HAS GBWC INSTALLED ALL THE COMMISSION APPROVED BACKBONE INFRASTRUCTURE PROJECTS?

A.19 No, GBWC has not installed all the Commission approved backbone infrastructure projects. Specifically, GBWC has not yet constructed three projects from the UICN 2014 IRP (Docket No. 14-02043) which received a prudency determination from the Commission:

- Mountain View Estates ("MVE") / Calvada Valley Interconnect
- Wilson Road to Ishani Ridge Loop
- Fire Bird Circle Loop

These projects are still important, prudent projects to be installed for all the reasons the Commission previously cited in the Order (and Commission-approved Stipulation) from Docket No. 14-02043, and GBWC still intends on constructing these projects. These projects are included in this IRP with updated information.

Q.20 IF GBWC AND THE COMMISSION AGREE THAT THESE PROJECTS ARE PRUDENT, WHY HAVEN'T THEY BEEN CONSTRUCTED TO DATE?

A.20 GBWC has faced several challenges in getting plant in the ground according to schedule since the approval of the UICN 2014 IRP. The design and construction cost estimates for projects approved in the action plan have been impacted by changes to the local government construction process, practices, and requirements. Changes have been implemented by Nye County that have added to increased project costs and construction delays. GBWC has encountered multiple issues or problems during the various phases of design, permitting, and the construction of projects in Nye County. These issues include receiving timely reviews and approvals of projects, adding additional construction requirements prior, during, and after construction and timely approval for the closeout of

projects. One example of a regulation or policy change by Nye County is the new Geo-Technical requirements for any projects which will have ground disturbance. When constructing a project, which requires the installation of new distribution lines or the replacement of existing distribution lines in the Nye County Right of Way ("ROW") or Public Utility Entry ("PUE"), Nye County now requires a Geo-Technical report specific to the project, which may or may not recommend the following requirements: the importation of certified type II backfill material for the trench, the over excavation of the trench below the pipe zone, and/or the exportation of native material from the trench. In addition to the Geo-Technical report prior to construction, soils testing is now required during the construction of the project. The results of soils test must be reviewed by Nye County prior to any final sign- off on the project.

The Nye County Public Works Director of many years has retired and a new Public Works Director has been employed. With possible changes at the Nye County Public Works Department, I am hopeful that changes will be made to return to the industry standard practice of being able to use Geo-Technically approved and suitable native backfill which is properly installed per the Geo-Technical report. However, should these additional demands to import Type 2 material and export native material be required, additional costs would be incurred.

In addition, GBWC has incurred two separate emergency projects which have had a critical impact to our system: The water main at Hacienda & Homestead had to be replaced due to three breaks in the 12" main; Well #8 needed to be replaced from failing capacity and pumping dirt. These are two feeds to the 1,350 customers. These two projects totaled about $1,500,000. Between the delays from 2015 projects and the emergency projects in 2016, the timing of capital spending needed to be adjusted for both budgetary and rate impact purposes.

These projects from the UICN 2014 IRP are further addressed in the Action Plan portion of this testimony.

ENCOURAGING UTILITY CONNECTION POLICIES

Q.21 WHY SHOULD THE COMMISSION SUPPORT THE ENCOURAGEMENT OF UTILITY CONNECTION?

A.21 As is commonly known, water is a precious resource which is endangered in many places in Nevada. According to the Nevada Division of Water Resources' website approximately 45 basins in Nevada are over-appropriated. Regardless of over-appropriation, Nevada is the driest state in the nation and the natural resource must be protected. One of the ways which the utility can support preservation of the water resource in Nevada is through encouraging utility connection. I believe this is consistent with recent Commission decisions in the UICN 2014 IRP.

As noted by the Commission in the Order in Docket No. 14-02043 issued August 13, 2014, encouraging utility connection will "curb the over-appropriation" and outlines the multiple benefits to this project.

> 53. The Commission finds that the MVE/Calvada Interconnect Project **maximizes the utility's water supply for the benefit of UICN's customers** and that the Project does not affect the utility's wastewater treatment capacities. Specifically, the proposed project will install infrastructure that will curb the over-appropriation of the utility's main water supply source, the Pahrump basin, by discouraging the proliferation of wells that, if left unencumbered and based on the record provided by this Docket, would undoubtedly deplete the utility's water supply by further reducing the amount of available water in the Pahrump basin.
> 54. The Commission further finds that UICN has demonstrated that the Action Plan, specifically the portion of the Action Plan addressing the MVE/Calvada Interconnect Project, balances the objective of minimizing cost, mitigating risk, and maximizing reliability of service or the term of the Action Plan.
> 55. The Commission finds that UICN has demonstrated that the proposed MVE/Calvada Interconnect Project **balances the objective of minimizing cost, mitigating risk, and maximizing reliability of**

service to the extent that the Project achieves its primary purposes, which is to provide fire protection and service reliability to its customers that live in MVE. The Commission acknowledges that both BCP and Staff view the Project as being cost prohibitive, with the cost of the Project not outweighing the potential benefit. However, the Commission is persuaded by Staffs testimony acknowledging that that the MVE standalone water system would likely not meet fire flow standards given its current single production well and small hydropneumatic tank configurations[13] and by BCP's testimony acknowledging quantifiable benefits to the customers of MVE, including fire protection and more reliable service.[14] The Commission supports UICN' s proposal to satisfy fire protection and reliability concerns within the MVE service territory, currently being served by a single, on-site well, drilled in 1975, by connecting the new main to the Calvada main system, which has numerous wells and tanks. Therefore, the Commission finds that the proposed Project is the **most economically feasible way to address an issue that both BCP and Staff acknowledge exists** because, while the Project is expensive, the benefits are quantifiable and largely undisputed given that both BCP and Staff acknowledge an inadequacy in the MVE's system regarding fire flow protection.

56. The Commission further finds that additional legal authority regarding its decision in this matter rests with the Commission's plenary power in protecting the public interest. The Legislature has conferred upon the Commission the power to provide for the safe, economic, efficient, prudent, and reliable operation and service of public utilities. UICN presents a secondary benefit that is offered by the Project, which is that the Project would provide some backbone infrastructure for the Pahrump valley that may spur both residential and commercial growth, a public policy consideration that the Commission finds is required to be addressed in this Docket given the overwhelming testimony of both UICN and Nye County, the relevant parts of which are transcribed herein, regarding the background and history of Pahrump's development.
57. The Commission finds especially persuasive Nye County's testimony regarding its troubles with the subdivision planning process, specifically its testimony relating to lots being sold in a manner inconsistent with the subdivision process. Moreover, the Commission believes that UICN's recollection of **the issues faced by its predecessor, CNUC, appears to be driving the issues UICN faces today with a "checkerboard" service territory, even some thirty years later. The Commission believes that these circumstances cannot be ignored, and a decision in this matter cannot be made without giving due consideration to these issues that so greatly affect the public interest of Pahrump residents.**
58. The facts and circumstances faced by this utility are that, much like its predecessor thirty years ago, the utility here is operating within a service territory that lacks contiguity, that is characterized as a checkerboard,

that requires more infrastructure to promote both economic development and overall system reliability, and that, at times, due to the nature of its service territory, serves both its customers and those who are not its customers, alike. Moreover, it appears that this utility would not be in a position of requesting a Project like the one in question had the subdivision planning process been uniformly applied throughout the Pahrump valley. Nye County's testimony that people were able to sell and obtain lots that were in violation of the subdivision process indicates that **the policy of growth paying for growth has been circumvented by allowing the drilling of wells rather than requiring payment for the necessary infrastructure. The Commission finds that this deviation from the subdivision planning process, a deviation that appears to have had broad implications that include the over appropriation of the Pahrump basin, requires correction to not only limit the proliferation of wells, but to provide Pahrump with a starting point to cure the defects it faces in its central utility system**.

59. The Commission further finds that it is in the public interest to assist Nye County, UICN, and the State Engineer in their attempts to limit the waste of the water resource and provide a working policy that will ensure that an adequate supply of water is maintained in the Pahrump basin. The Commission finds that the Project, which may assist in limiting the proliferation of wells, will in tum assist Pahrump and the State in addressing declining water resources. **The Commission finds that these considerations specifically help provide for the efficient, prudent, and reliable operation and service of UICN by ensuring an adequate water supply for fire protection and general water service.**
60. **The Commission finds that it is in the public interest to assist both UICN and Nye County in addressing the inadequacies of its utility infrastructure** that may prevent Pahrump's successful economic development. Nye County's testimony to the Commission that it is undertaking a master planning process that would result in high-density residential, multi-family, commercial, or industrial-type activities, activities which require central utilities to provide fire protection pursuant to fire codes, is especially persuasive, not to mention that Nye County further testifies that medical marijuana facilities, facilities that would include cultivation, have been permitted for the Pahrump area. The Commission finds that the Project would, at the very least, have a secondary affect of assisting Nye County in its economic development endeavors.

(Order at 53. – 60.)

NAC 704.5682 prescribes that an Action Plan in an IRP "maximizes the utility's water supply and wastewater treatment capacities" for the benefit of customers and balances the

objectives of "minimizing cost, mitigating risk and maximizing reliability of service." The issues of water in Hydrographic Basin 162 are complex (as are most water issues). These issues are simplified in two slides from a presentation given Mr. Rick Felling, Deputy Administrator, DWR, to the Legislative Subcommittee to Study Water: less domestic well density, pump on the fan.[10] The components of this filing are serious efforts to meet these ends, including maximizing our supply source. The proposals in this filing were not done in a silo; they were done with community feedback and communication in many ways on many levels. They are with consideration to the feedback we have received from those we serve. It is in consideration of what we can do better to jointly cooperate with government and quasi-government entities, customers, communities, and sub-communities. These proposals have been years in the making and GBWC has made efforts to conduct this process in the public view.

Incentivizing utility connection is supported by the GWMP and the Shaw Engineering Report. Section 2, Introduction, of the Shaw Engineering Report, provides bullet points of the foci for the report. One of these bullet points states:

> Create incentives to voluntarily connect to public water systems is described in Chapter 5, paragraph I of the GWMP. In this report, this topic is limited to referencing proposed tariff changes being submitted to the PUCN by GBWC in their 2017 Integrated Resource Plan.

Shaw Engineering Report, at p. 2-2.

As noted in the GWMP, encouraging utility connection is a priority for the basin health.[11] The plan notes that the average gallons per day per person ("gpdpc") for a single family

[10] Please See Appendix B, Rick Felling Presentation to the Legislative Subcommittee to Study Water, July 11, 2016, Vol. 5 at 120-121.
[11] Pahrump Basin 162 Groundwater Management Plan, Stage One, Version Oct. 16, 2015, p. 5, Please See Appendix B – Vol. 5 at 130.

residence ("SRF") with a utility connection is 124 gpdpc; while the average gpdpc for a SRF on a domestic well in 184 gpdpc.[12] [13]

The domestic well average gpdpc is estimated as of the over 11,000 domestic wells, again the most domestic wells in any Nevada hydrographic basin, only seven have meters and participate in the Nye County Water District voluntary metering program. According to Teddy Osborne, a former employee of the Water District, the voluntary submission of data from those seven meters was spotty at best. The GWMP acknowledges that the limited number of meters does "not provide an adequate sample size and therefore the metering program does not support a defendable conclusion at this time."[14] Additionally, I think it is fair to say that people who volunteer for the voluntary domestic well metering program aren't concerned that they are using too much water for their allotment. Of the seven metered wells, the average consumption was 0.52AFA[15] (463.9 gpd).

Additionally, I can personally tell you as a resident of Pahrump, who drives through Pahrump regularly, that the green properties are on a well, while utility customers are much more conservative in their landscaping. Planned communities on utility service often have Home Owners 'Associations with Covenants and Restrictions requiring landscaping with water conservation measures (Mountain Falls – GBWC, Desert Greens – DUI, Artesia – PUCI, Desert Trails HOA - DUI). (Please see Attachment WSWB-6 to Exhibit ___, *Photos*

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[12] Pahrump Basin 162 Groundwater Management Plan, Stage One, Version Oct. 16, 2015, p. 4, Appendix B – Vol. 5 at 129.

[13] Volume 2 – GBWC-PD, Section 2.4.3 states the average daily consumption per connection is 272 gallons; divided by the average population per household of 2.37 (Section 2.1.6) yields an average of 115 gpdpc for the GBWC-PD as opposed to the average in the GWMP of 124 gpdpc.

[14] Pahrump Basin 162 Groundwater Management Plan, Stage One, Version Oct. 16, 2015, p. 7, Please See Appendix B – Vol. 5 at 132.

[15] Pahrump Basin 162 Groundwater Management Plan, Stage One, Version Oct. 16, 2015, p. 7, Please See Appendix B – Vol. 5 at 132.

Domestic Well Landscaping and Utility Service Landscaping.) While not every domestic well owner chooses to have large green spaces (and even ponds!), many do.

Through this filing, GBWC proposes cost-effective measures rather than seeking approval for multi-million dollar projects as solutions to basin balance.

- Highway 160 Corridor Well Construction Cost Opinion for $46 million does not include permitting lands, easements and water rights that would be need to be obtained prior [to] proceeding with design. [16]
- Carbonate Deep Wellfield 8,000 AFA – Facility Cost Opinion- $66.5 million,[17] and again does not include permitting land/easement and water rights costs are not included.[18]
- Proposed Storm Water Detention Basins - $133 million with additional $40 million incremental costs to add infiltration and $5 million in annual maintenance costs.[19]
- Water Importation - $173 million[20]

The Shaw Engineering Report provided options for basin balance that are much more cost-extensive than those which GBWC proposes. GBWC asks to be a part of the solution, which at a minimum could delay these expensive alternatives. GBWC is quite sensitive to rate impacts, not just in the next General Rate Case ("GRC"), but for the years to come. GBWC proposes steps towards basin balance with minimal potential rate impact. If

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[16] Nye County Water District Pahrump Groundwater Evaluation in Regards to Identifying Projects for Preliminary Engineering Reports, June 2nd, 2017, ("Shaw Engineering Report"), p. 6-9. Attachment WSWB-3 __ to Exhibit__.

[17] Nye County Water District Pahrump Groundwater Evaluation in Regards to Identifying Projects for Preliminary Engineering Reports, June 2nd, 2017, ("Shaw Engineering Report"), p. 6-12, Table 6-3. Attachment WSWB-3 __ to Exhibit__.

[18] Nye County Water District Pahrump Groundwater Evaluation in Regards to Identifying Projects for Preliminary Engineering Reports, June 2nd, 2017, ("Shaw Engineering Report"), p. 6-10. Attachment WSWB-3 __ to Exhibit__.

[19] Nye County Water District Pahrump Groundwater Evaluation in Regards to Identifying Projects for Preliminary Engineering Reports, June 2nd, 2017, ("Shaw Engineering Report"), p. 7-4, Table 7-1. Attachment WSWB-3 __ to Exhibit__.

[20] Pahrump Basin 162 Groundwater Management Plan, Stage One, Version Oct. 16, 2015, p. 24, Please See Appendix B – Vol. 5 at 149.

projects like the aforementioned become a reality, they will have personal financial impact on my customers; it just may be through taxes rather than rates.

All customer classes benefit from increased fire protection and the corresponding potential for a better ISO rating resulting in lower insurance rates. All customer classes benefit from economic development that builds a stronger community and mitigates rates. All customer classes benefit from using water wisely and, thus, avoiding proliferation of multi-million dollar projects to have reliable safe drinking water. All customer classes benefit from the mitigation of new self-serving wells where service is reasonably available.

Q.22 WHY DO YOU THINK AN IRP IS THE APPROPRIATE VENUE FOR DISCUSSING THE ENCOURAGEMENT OF UTILITY CONNECTION?

A.22 As with many things in life, there are associated costs to most beneficial strategies. The proposed tariff changes, while neither conceptualized nor proposed to increase revenues, but rather, to stabilize rates and ensure service reliability, do have the potential to impact rates through capital expenditures. The GBWC divisions have many needs. Overall, the GBWC utility systems were built in the 1970s, before today's standards, which results in capital needs. Many infrastructure components are reaching (or have reached) their end of life. I believe that presenting these needs as a whole (source reliability, aging infrastructure, technologies, etc.) to the Commission in an IRP provides a complete picture of what it takes to mitigate risk, maximize service reliability, and minimize cost. An IRP proceeding is transparent. Our customers, communities we serve and other regulators have a good window into the capital planning we are presenting. Any person may who claims to have a direct and substantial interest in the proceeding and desires to participate in it as an intervener may seek permission to intervene from the Commission. NAC 703.580. An IRP proceeding provides the complete picture for Commission consideration through a transparent pane for all.

Tariff changes have been previously approved in an IRP docket (Docket No. 11-03002, the UICN 2011 IRP) and then filed by Advice Letter (Docket No. 11-10005) as proposed in the instant filing.

Q.23 HAVE YOU DISCUSSED INCENTIVIZING UTILITY CONNECTION WITH ANY OF THE PAHRUMP-BASED UTILITY COMPANIES?

A.23 Yes. Multiple times. As stated above, all three Pahrump based utility companies were voting members of the GWMP Advisory Committee which recommended as a priority to encourage utility connection as a part of the GWMP, which has subsequently been adopted by the NCWD.

Most recently, I spoke with Gregory Hafen II, General Manager of PUCI, and former Chairman of the GWMP Advisory Committee on February 15, 2018 regarding incentivizing utility connection to mitigate the proliferation of new domestic wells. Previously, I had shared with him my ideas to incentivize utility connection as proposed in this filing before the Commission. He stated that he believed that what I am proposing to the Commission is in line with the goal set forth by the committee. He further stated that he supports utility connection, particularly in GBWC's service territory with so much potential for domestic wells. Additionally, I spoke with Mr. Hafen regarding whether he felt that if the Commission granted these (or some of these) ideas regarding incentivizing utility connection would provide a competitive advantage over the other Pahrump-based utilities. He stated that he did not think it would provide any advantage to or over PUCI, adding that they have set service territories. He also found the waiving of sewer connection fees appealing with the concerns the multitude of septic systems in Pahrump being a major contributor to nitrate concerns impacting groundwater quality.

Q.24 WHAT IS GBWC'S POSITION ON THE STATE POLICY THAT GROWTH PAYS FOR ITSELF?

A.24 It generally is a good policy. However, it is a policy, not a law. As such, GBWC takes the position that the policy should be adhered to, but not without reasonable consideration and regard for what is happening around us and appropriate deviation where the circumstances warrant. Also, there are instances when new development and associated infrastructure or costs will benefit all ratepayers and in those instances, it may not be appropriate to force all costs to be borne by the new connections but instead find an appropriate cost sharing or cost allocation approach. I have been consistent in taking reasonable, yet not extreme, measures towards balancing state policy with the needs of those whom I serve locally (who rely on the resource we are trying to protect). In my Prepared Direct Testimony in Docket No. 14-02043 (the UICN 2014 IRP) at Q&A 54 (p. 31, Lines 24-3and p. 32, Lines 1-3), I state:

> **Q.54 DOES UICN SUPPORT THIS POLICY?**
> A.54 Yes, and, in recent years, has added language to the UICN tariffs to support this policy, including but not limited to: plan review fees, updated connection and capacity fees to reflect actual costs, adding a water supply fee, etc. UICN believes that new customers should pay their pro rata share for existing infrastructure and development. However, although UICN agrees that this is a fair policy under most conditions; it is my opinion that individual situations should be reviewed with a more liberal interpretation of the policy to allow for reasonable accommodation for distinctive circumstances.

I believe we definitely have distinctive circumstances. Studies done by the experts hired by Nye County say something needs to be done to address the over-appropriation of water in the basin and ensure preservation of the scarce resource, water, for our community. Nye County has predicted the possibility of the potential need for future actions in big expensive ways – like water importation projects. GBWC provides smaller measures. We will keep thinking (in and outside of the box) of methods to support water in Nevada and our customers. Proposing changes to protect the basin and conserve the resource upon which GBWC relies to provide all customers continuing reasonable and adequate service is necessary. The objective is to protect the resource to ensure it is there to serve existing

customers without the need for extraordinary and expensive measures such as those discussed in the Shaw Engineering Report.

I expound upon the need to balance the policy that growth pays for itself with the needs of the communities I serve in my Prepared Direct Testimony in Docket No. 14-02043, the UICN 2014 IRP. In Q&A 55 of that testimony, I provide examples of distinctive circumstances:

> **Q.55 WHY DO YOU BELIEVE THAT THE POLICY SHOULD TAKE INTO CONSIDERATION CERTAIN CIRCUMSTANCES?**
>
> A.55 There are numerous circumstances in the UICN Service Territory and in the community for which the policy is problematic. For instance, Calvada Meadows is considered as having "unbuildable" lots because there is no infrastructure to support growth. An Inquiry for new service can easily be upwards of $400,000 for the infrastructure necessary to serve growth. (Please See Attachment WSWB-6 to Exhibit __, CM Inquiry Examples).[21] According to the *2009 Water Allocations Report* included in the Technical Appendix, there are 4,280 lots in Calvada Meadows. Of these, 4,168 lots are designated to be single family residences. The majority of these lots are individually owned. Today, of the 4,280 lots, 32 have water service.
>
> Without backbone infrastructure in place, growth is stagnated. Without backbone infrastructure, the cost to connect is prohibitive. Without backbone infrastructure, new wells will continue to be drilled in an over-appropriated basin. Every new domestic well increases the over-appropriation by 2 acre-feet annually. A public water system includes water conservation measures which are not afforded by a domestic well: water conservation rates, a utility sponsored water conservation plan, local oversight of water waste in periods of drought.
>
> As described above, dead ends and areas without any infrastructure were inherited by UICN from its predecessor. With such a large area without backbone infrastructure, Rule No. 9 in the Tariffs creates additional dead ends. A line extension under Rule No. 9 stops at the far side of the property line, not when it is connected to another portion of the system. Each line extension is done autonomously creating fragmented system expansion creating

[21] Please see Attachment WSWB-7 to Exhibit __, Attachment WSWB-6, Docket 14-12043, CM Inquiry Examples.

additional dead ends. As previously discussed, dead ends cause issues in the system: stagnant water, increased maintenance, fire flow restrictions and water outages.

Q.25 WHAT POLICIES ARE BEING ADDRESSED THROUGH PROPOSED TARIFF CHANGES?

A.25 There are numerous ways a utility can encourage utility connection. GBWC proposes to the Commission in this filing what I believe to be the best alternatives to take reasonable small steps to protect the basin for a sustainable water source for my customers, balancing the goals of maximizing service reliability, mitigating risk and minimizing cost. These alternatives are well-thought out well thought-out and developed in collaboration with other stakeholders and in coordination with other expert opinions.

1. Connection Fee Forgiveness. The concept of connection fee forgiveness is complementary to the Domestic Well Credit Program already offered by the State of Nevada which forgives the requirement to dedicate water rights under certain circumstances. If you connect to the utility instead of drilling a well (or re-drilling or deepening a well), there could be a waiver of the usual connection fees and of the requirement to dedicate water rights incentivizing connection.[22]

2. Utility Participation in Line Extensions. Currently, Rule No. 9 of GBWC Pahrump Division's Tariffs (water and sewer) follows the general policy that growth pays for itself. For a single family residence, the cost to bring infrastructure to the property can be, and often is, prohibitive for a family. This leaves the State Engineer with the difficult decision to allow another straw in the basin or a cost-intensive connection. As discussed above, the State Engineer issued Order 1293 requiring water rights for new domestic wells, denoting the State Engineer's concern with new domestic wells. As

[22] Please See Appendix B of the GBWC 2018 IRP, *Pahrump Basin Groundwater Management plan, Appendix* I – Vol. 5 at 305-309, for more information on the Domestic Well Credit Program.

previously noted, there are benefits to the existing system and ratepayers of the utility's participation in such line extensions including preservation of the resource which is critical to the utility's ability to serve all of its customers. It also provides current customers with customer base growth potential to absorb the necessary revenue requirement to keep the Utility viable.

3. Annexation by Advice Letter. Annexations, in some circumstances, can incur unnecessary expense and a be a deterrent to utility connection encouraging developers to opt for a well over utility connection. This concept proposes annexation by advice letter in certain circumstances which would not jeopardize existing customers to encourage utility connection.

4. Community Participation in Infrastructure. Within the community of Pahrump (as in most communities), there are many sub-communities: Homeowners Associations ("HOA"), subdivisions, water systems, etc. If a section of the community benefits from additional infrastructure to serve, the utility infrastructure investment recovery could be supported by that sub-community (in whole or in part) with zonal rates to limit subsidization by the rest of the community.

Q.26 DO THESE IDEAS FOR ENCOURAGING UTILITY CONNECTION MEAN ADDITIONAL REVENUES THROUGH GROWTH AND RATE BASE?

A.26 I can confirm that these projects are not designed to increase revenues by connecting an improvement to a distribution system or wastewater system to new customers. The purpose is not to increase revenues through growth. Even the projects which support the encouragement of utility connection support current customers, not only by protecting the basin for continued service reliability, but also through any new connections which may occur using Commission-approved mechanisms to discourage the proliferation of domestic

wells. Growth revenues quickly return to my current customers.[23] In fact, the Company's as decoupling mechanism as approved in the GBWC-PD and growth in customers actually benefits existing customers in several ways. It provides additional revenues to pay for the Company's revenue requirement and with decoupling, can result in a credit back to existing customers where actual collected revenues exceed the authorized revenue requirement. In addition, in new rate filings, such customer growth helps to reduce the revenue requirement responsibility to each customer. And, I work quite diligently to stabilize rates (which is proven through my tenure since becoming Regional Director in 2008 and President in 2014[24]), and deeply care about my customers concerns about rates. Increased revenue is not the purpose of incentivizing utility connection. The purpose is to take small steps towards long-term solutions for secure water reliability for my customers.

Q.27 ARE ANY OF THE PROPOSED TARIFF CHANGES PROPOSED IN THIS PROCEEDING THAT ARE CHANGING RATES OR ANTICIPATED TO GENERATE ADDITIONAL REVENUE BY MORE THAN $15,000 ANNUALLY?

A.27 No, and as expressly allowed under AB 75 in the 2015 Legislative Session, a utility may make changes to its tariff through an advice letter filing if it is not changing a rate and the change does not increase gross annual operating revenue by more than $15,000. By making these proposals through an IRP the Company attempted to provide the vetting process and opportunity for participation by Staff, BCP and any other interested parties. If accepted in this docket, the actual tariff filing would be proposed through an advice letter. None of the recommendations for tariff changes to incentivize utility connection are driven to increase revenues; the driver is to protect the source and ability for long-term reliability

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[23] Rate cases are statutorily required for GBWC at least every three years. With the challenges the Company faces getting close to Commission-allowed ROE and vying for investment dollars for Nevada, the rate case schedule, at times, has been accelerated closer than three years of late.

[24] Water rate changes as a percentage approved by the Commission are as follows: Docket No. 06-12023, 86.61%; Docket No. 09-12017, 56.17%; Docket No.12-12033, 8.64%; Docket No. 15-06063, 7.09%; Docket No. 16-12037, 13.5%. Sewer rate changes as a percentage approved by the Commission are as follows: Docket No. 06-12023, 89.14%; Docket No. 09-12017, negative 21.39%; Docket No. 12-12033, 10.44%; Docket No. 15-06063, negative 0.42%; Docket No. 16-12037, 1.68%.

of service for my customers. (Please See the Prepared Direct Testimony of Mr. Redmon in this docket for the estimated revenue impacts.)

Connection Fee Forgiveness

Q.28 PLEASE EXPOUND UPON IDEAS FOR CONNECTION FEE FORGIVENESS.

A.28 Certainly, the idea is to make connecting to centralized utility service more affordable, particularly for those choosing between utility service and drilling a well or re-drilling or deepening a well which is failing. The idea of connection fee forgiveness compliments the concept of the Domestic Well Credit Program which does not require the dedication of water rights "provided: A single family dwelling which is presently utilizing a domestic well ... or any owner of a lot with the ability to drill a domestic well and utilize water from that well" voluntarily choses to connect to the central water system.[25]

For a single family residence, the current connection fees are as follows:

Table 1: Connection Fees

Description	Tariff Reference	Fee
Meter Installation	Schedule WSCONN-2, Sheet 251	$218
Service Line	Schedule WSCONN-2, Sheet 250	$2,510
Water Supply	Schedule WSUPP-1, Sheet 253	$650
Water Capacity	Schedule WSTOR-1, Sheet 252	$900

[25] *Order for Domestic Well Credit in the Pahrump Valley Hydrographic Basin (162), ORDER 1183*. Please See Appendix B of the GBWC 2018 IRP, *Pahrump Basin Groundwater Management Plan, Appendix N* – Vol. 6 at 33-34.

Sewer Lateral	Schedule SSC-1, Sheet 136	$2,140
Wastewater Capacity	Schedule SSC-1, Sheet 137	$1,925

This totals $8,343.00 just in connection fees, regardless if there is a line extension or not. In addition, with the enactment of the Tax Cuts and Jobs Act ("Tax Act") signed by President Trump on December 22, 2017, a tax gross up now applies per NAC 704.6532. I believe it would be an incentive to connect if some or all of these fees could be waived for those eligible for a domestic well per the State Engineer's Office.

Back in the UICN 2009 GRC (Docket No. 09-12017), an effort was made to better align connection fees with costs to connect. The purpose was to reduce subsidy and reduce the recovery time for the company between rate cases. Since that time, the State Engineer has raised awareness of the over appropriation of Basin 162 and the risks to our customers and the community associated with the over appropriation. (Please see Appendix B of the GBWC 2018 IRP, *Pahrump Basin Groundwater Management Plan – State Engineer's October 2012 Presentation* – Vol. 6 at 70-113.) Utility companies must be a part of the solution as stated in the GWMP adopted by the NCWD.[26] I believe incentivizing utility connection to mitigate the proliferation of new domestic wells to be extremely important to the protection of the basin.

Q.29 PLEASE PROVIDE A COMPARISON OF CONNECTION FEES WITH THE OTHER PAHRUMP-BASED UTILITIES.

A.29 Table 2 provides a comparison.

[26] "The GWMPC recommends: 1.) The utilities investigate the possibility of creating a monetary incentive for the domestic well owner to connect to the utility (possibly including … waiving connection fees, or other incentives." Please See Appendix B of the GBWC 2018 IRP, Groundwater Management Plan (I), Vol. 5 at 153.

Table 2: Pahrump-Based Utilities Connection Fees

Description	GBWC Fee	DUI Fee	PUCI Fee
Meter Installation	$218	N/A	Actual Cost
Service Line	$2,510	$300	$300
Water Supply	$650	N/A	N/A
Water Capacity	$900	N/A	$715
Sewer Lateral	$2,140	$300	$300
Wastewater Capacity	$1,925	$1,295	$2,106
Totals	**$8,343**	**$1,895**	**$3,421**

Q.30 PLEASE DESCRIBE THE ALTERNATIVES CONSIDERED FOR CONNECTION FEE FORGIVENESS.

A.30 Certainly.

1. Alternative 1 – Waive all Connection Fees Listed in Table 1 above.

   This would be for all applicants who have a well, are eligible for a domestic well per the State Engineer's Office, and/or have a lot designation for domestic well and/or septic system.

2. Alternative 2 – Waive only the Water Connection Fees above.

   This would be for all applicants who have or, are eligible for a domestic well per the State Engineer's Office, and/or have a lot designation for domestic well.

Q.31 WHY SHOULD WASTEWATER CONNECTION FEES BE CONSIDERED AT THIS TIME?

A.31 While the focus of this filing is about water and "curbing the over-appropriation" of the groundwater basin through incentivizing utility connection, I think it would be remiss to not discuss wastewater as an alternative for connection fee forgiveness. There are concerns

with nitrates in the Pahrump Basin. "Individual Sewage Disposal Systems ("ISDS") are common in Pahrump and have been estimated to number approximately 12,400 with an additional 8,500 ISDS projected in the future."[27] It is certainly well-known that septic systems contribute to nitrates in groundwater basins. (Please See Attachment WSWB-8 to Exhibit, *Letter to the Legislative Subcommittee UICN 080516 - Water Quality*.) While a domestic well and septic system owner may choose to connect one or the other, or at different times, to the central water or sewer system, I think that the alternative to waive wastewater connection fees should be before the Commission to also discourage proliferation of new individual septic systems to protect groundwater quality.

Q.32 WHAT IS YOUR RECOMMENDATION TO THE COMMISSION REGARDING CONNECTION FEE FORGIVENESS?

A.32 My recommendation to the Commission is Alternative 1. This would waive all connection fees listed in Table 1 above for those with current or who are eligible to have (per the State Engineer's Office) domestic wells[28], for those with current domestic wells who are going to stop using their domestic well, and/or who are eligible to have (per Nye County) septic systems. I believe this provides the best incentive for utility connection preserving the resource by discouraging proliferation of new individual wells and individual septic systems.

Q.33 IF THE COMMISSION ACCEPTS YOUR RECOMMENDATION, WHAT WOULD BE THE IMPACT ON RATES FOR CONNECTION FEE FORGIVENESS?

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[27] Please See Attachment WSWB-3 to Exhibit __, *Nye County Water District Pahrump Groundwater Evaluation in Regards to Identifying Projects for Preliminary Engineering Reports, June 2nd, 2017, ("Shaw Engineering Repor*t"), p. 12-3.

[28] And, as described below, connection fee forgiveness is recommended to also apply to small commercial developments.

A.33 Although it is uncertain how many connections there will actually be that would be eligible for connection fee forgiveness, it is possible to answer this question through educated assumptions based on history. As one can see from Table 3 below, 42% of new domestic wells in 2017 were drilled within the GBWC-PD service territory.

Table 3: Potential Connection Fee Forgiveness Based on New Domestic Wells

Year	No. of New Wells Basin 162	No. of New Wells in CPCN	Third	Fifth	Tenth	Third	Fifth	Tenth
			Number of Connections			Total Connection Fee Forgiveness		
2017	76	32	10.7	6.4	3.2	$88,992	$53,395	$26,698
2016	47	17	5.7	3.4	1.7	$47,277	$28,366	$14,183
2015	32	10	3.3	2.0	1.0	$27,810	$16,686	$8,343
2014	16	5	1.7	1.0	0.5	$13,905	$8,343	$4,172
2013	14	4	1.3	0.8	0.4	$11,124	$6,674	$3,337
2012	9	2	0.7	0.4	0.2	$5,562	$3,337	$1,669

There was a flourish of new well permits in 2017 because the concerns of property owners with future ability to drill wells. (I believe this to be true based on what I know in the community and because the number of new line extensions and number of Inquiries did not increase at the same rate as new wells.) And, with Order 1293, naturally it would be assumed that the number of new domestic wells would decrease sharply.

The first assumption is that the Commission approves my recommendation(s) for Connection Fee Forgiveness:

1. Alternative 1 – Waive all Connection Fees Listed in Table 1 above.

   This would be for all applicants who have, or are eligible for, a domestic well per the State Engineer's Office or have a lot designation for domestic well and/or septic system.

The next assumption would be in estimating the number of new connections eligible for connection fee forgiveness. In doing this, I not only took into consideration the historic number of new wells and the probable impact of Order 1293, I also took into account the projected growth rates from Volume II – GBWC-PD, Section 3.3, of a 20-year annual average growth rate of 0.10%. One also needs to make an assumption about how many people will voluntarily connect rather than drill a new domestic well. Some people simply prefer the personal choice of a well. Many lots are so far from infrastructure that even with the incentives proposed in this filing, many will choose to drill their own well from a financial perspective.

I certainly do not think that the onslaught of new wells we witnessed in 2017 will be repeated in the foreseeable future, particularly with the enactment of Order 1293. While growth is anticipated to be minimal in the 20-year projection (0.10%), it does occur. Conservatively, 2016 could be used as a proxy for future new domestic wells. Furthermore, the reasoning is exemplified based on the historic number of Inquiries.

Table 4: Historical Inquiry Counts

Year	Total	Residential
2012	77	57
2013	114	93
2014	146	121
2015	224	207
2016	328	300
2017	313	301

Again, conservatively as far as rate impact, I will assume that 1/5 of the new wells will choose to connect to the utility. The potential revenue impacts for Connection Fee Forgiveness are addressed in the Prepared Direct Testimony of Mr. Redmon in this docket.

Utility Participation in Line Extensions

Q.34 PLEASE DESCRIBE THE ALTERNATIVES CONSIDERED FOR UTILITY PARTICIPATION IN LINE EXTENSIONS.

A.34 This testimony describes the alternatives the Utility believes to be most helpful to incentivizing utility connection for the protection of the basin for service reliability while balancing rate impacts, and, provides the thought process behind the alternatives. All of these alternatives would apply to LINE EXTENSION FACILITIES as defined in GBWC Tariff 1-W (Water) (or 1-S (Sewer)), Rule No. 1 - Definitions, Sheet 9.

1. Alternative 1 – Apply for a waiver to Rule No. 9 as situations arise.

   Applying for a waiver to the tariff is always a possibility before a project is undertaken. This is a needed alternative as one cannot possibly conceive of every scenario which may arise in a line extension. GBWC understands that this already can be done at any time.

2. Alternative 2 – Apply for more expensive infrastructure (wells, tanks, booster stations, lift stations, etc.) through an IRP process.

   I believe that this is necessary to keep the appropriate PUCN checks and balances in place between the utility and customers and, of course, we can already do this.

3. Alternative 3 – Allow the utility to upsize line extensions without placing it in Plant Held for Future Use ("PHFU") based on the number of potential lots impacted by the line extension.

   As described above in the section on the *History of the Pahrump Division of GBWC*, the original utility infrastructure was installed without forethought of the future of Pahrump which has created numerous issues for the community and perhaps contributed to Pahrump having the highest density of domestic wells (over 11,000) in a basin in the State of Nevada. (Please See Appendix B

of the GBWC 2018 IRP, *Pahrump Basin 162 Groundwater Management Plan* – Vol. 5 at 136 to Vol. 6 at 120, for details on domestic well densities in the Pahrump Basin.) We must plan for the future of the basin.

An example of this would be a residential subdivision (in our service territory) which would require 1,500 gpm of fire flow protection as required by the Local Fire Marshall. To accommodate fire flow, water mains would be sized for the subdivision requirement rather than simply based on the length and size of the pipe to the first connection(s), as was historically done by our predecessor causing many of the problems we are trying to reasonably resolve today.

4. Alternative 4 – Allow the utility to pay for a portion of a line extension.

   a. Alternative 4.a. – After a line extension is longer than 180 linear feet (lf)[29], the utility would pay up to 1,500 lf.

      To truly promote connection to a utility and encourage the installation of much needed infrastructure, the financial incentive needs to be substantial enough to offset the applicants' thoughts of future monthly utility bills. Using linear footage as the measure provides a well-defined starting and stopping point for utility participation. The importance of this alternative is to avoid the time and cost of filing for a Rule No. 9 waiver anytime the Utility seeks to pay for a portion of a line extension and would allow the Utility to make it widely known that this is an option to hopefully encourage connections, offsetting the proliferation of new domestic wells.

[29] The 180 lf feet was selected based on the current policies and practices of the Nevada Division of Water Resources. In the current version of the Division of Water Resources Domestic Well Drilling Information Request, one of the four questions is whether the line extension is within 180 lf from existing water main. (Please See Attachment WSWB-9 to Exhibit __.) One hundred eighty lf is a delineating mark the State Engineer's Office uses in determining if a domestic well would be permitted rather than utility connection.

b. Alternative 4.b. – The utility would pay after the line extension reaches $11,500 up to $95,000.

Using a dollar amount provides a well-defined starting and stopping point for utility participation and takes away the cost of variables in laying pipe. (e.g. depth of main, size of main, appurtenances, permitting and traffic control variations, etc.) Similar to Alternative 4.b, this approach would avoid the time and cost of filing for a tariff waiver anytime the Utility seeks to pay for a portion of a line extension and would allow the utility to make it widely known that this is an option to hopefully encourage connections. Limiting Utility Participation in Line Extensions on dollar values, is more complicated and may have the opposite intent of encouraging connection by surprise costs being borne by the applicant causing dissatisfaction with the program.

c. Alternative 4.c. – Utility would match the developer's spending.

While there is an appealing public relations aspect to this alternative, there would need to be restrictions on dollar amounts and; therefore, alternatives 4.a. or 4.b is probably the better alternative. This type of cost sharing might better be considered on a case-by-case basis with a request for a waiver.

d. Alternative 4.d. – Utility would still pay for the first fire hydrant.

Retaining that the Utility would pay for the first fire hydrant as currently prescribed in the GBWC tariff keeps it simpler for the applicant to understand the rules behind line extensions.

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e. Alternative 4.e. – Utility would still pay for the first manhole.

Retaining that the Utility would pay for the first manhole as currently prescribed in the GBWC tariff keeps it simpler for the applicant to understand the rules behind line extensions.

f. Alternative 4.f. – Create a standard rooftop payment.

GBWC is seeking to incentivize utility connections for organic growth and believes that the more appropriate place for a rooftop payment is through subdivision development / annexation agreements.

g. Alternative 4.g. – Allow all developers to be eligible for Utility Participation in a Line Extension as outlined in this docket.

Again, GBWC is seeking to incentivize utility connections for organic growth and believes that other mechanisms for utility participation may be appropriate for other larger developments. *(LINE EXTENSION OR MODIFICATION, COMMERCIAL, INDUSTRIAL AND LARGE RESIDENTIAL extensions as defined in GBWC Tariff 1-W (Water) (and Tariff 1-S (Sewer) Rule No. 1- Definitions, Sheet No. 9.)*

h. Alternative 4.h. – Allow only small residential line extensions, as defined in *GBWC Tariff 1-W (Water) (and Tariff 1-S (Sewer)) Rule No. 1- Definitions, LINE EXTENSION OR MODIFICATION SMALL RESIDENTIAL, Sheet No. 9* to be eligible for Utility Participation in a Line Extension as outlined in this docket.

Again, GBWC is seeking to incentivize utility connections for organic growth and believes that it is appropriate to allow small residential line extensions to be eligible for Utility Participation in a Line extension.

Other incentives for large commercial developments would be more appropriate than Utility Participation as proposed in Alternative 4.

i. Alternative 4.i. – Define small commercial development to allow for smaller commercial projects to be eligible for Utility Participation in a Line Extension as outlined in this docket as well as Alternative 4.h. – small residential line extensions.

Mitigating new individual wells in an over-appropriated basin goes beyond domestic wells. With the ultimate goal being the protection of the Pahrump Basin, incentivizing connection for small commercial development also should be a part of the consideration. As a domestic well is statutorily permitted to use up to two AFA, I would propose a small commercial development be defined as "a commercial establishment engaged in selling, warehousing or distributing a commodity, in some business activity, or in a profession or in some form of economic or social activity (offices, stores, clubs, hotels, restaurants, etc.) and for the purposes that do not come directly under another Service Classification[30] whose water rights dedication requirement as established according to *GBWC Tariff No. 1-W (Water), Rule No. 21, WATER RIGHTS, C. 4. a., Sheet 213* would not exceed two AFA." A commercial development which meets this definition of a small commercial development would be eligible for utility participation in a line extension in the same way a developer of a *LINE EXTENSION OR MODIFICATION SMALL RESIDENTIAL*.

[30] *GBWC Tariff No. 1-W (Water), Rule No. 1, DEFINITIONS,* Sheet No. 13 and *GBWC Tariff No. 1-S (Sewer), Rule No.1, DEFINITIONS,* Sheet 10 and 11.

j. Alternative 4.j. – Utility Participation in a Line Extension as outlined in this docket only for water main extensions.

The focus of this filing is on supporting Basin 162 and incentivizing utility connection versus the proliferation of new domestic wells.

k. Alternative 4.k. – Utility Participation in a Line Extension as outlined in this docket for water and wastewater extensions.

While the focus of this filing is on incentivizing utility connection versus the proliferation of new domestic wells, it is also to protect the basin which includes water quality. I think it would be shortsighted to not include sewer connections in lieu of septic tanks while considering changes to the tariff for the protection of overall basin health.

5. Alternative 5 – Complete the line extension around the corner to cross all property fronts to limit dead end pipes.

In the current GBWC tariffs, there is no provision for a developer to take a line extension around the corner of a corner lot. This creates additional dead ends which are already an issue in the GBWC distribution system. As described in my Prepared Direct Testimony on the UICN 2014 IRP (Docket No. 14-02043), dead ends can create water quality challenges and are discouraged per NAC 445A.6712.[31] Additionally, requiring the pipe to go all the way across the property front increases backbone infrastructure.

Rule No. 9 in the tariffs should be amended to include taking the pipe across the entire property line of corner lots. If the applicant is not otherwise

[31] The Prepared Direct Testimony of Wendolyn S.W. Barnett, UICN 2014 IRP, Docket No. 14-02043, Q&A 33 – 36.

receiving the proposed Utility Participation in Line Extensions, the Utility should pay the cost to extend lf to have the line extension cross the property front "around the corner."

6. Alternative 6 – Allow Developers to disallow portions of Line Extension Facilities from reapportionment calculations.

The idea for this alternative is based on the fact that a developer contributed line extension could be very expensive, depending on the project. At the developer's written request, less than the total cost of the line extension could be eligible for reapportionment making connecting to the utility less expensive.

Q.35 WHAT IS YOUR RECOMMENDATION TO THE COMMISSION REGARDING UTILITY PARTICIPATION IN LINE EXTENSION FACILITIES?

A.35 I recommend that the Commission approve the following alternatives to be included in the GBWC tariffs (as applicable water / sewer) Rule No. 9 as Utility Participation in Line Extensions:

- Alternative 3 – Allow the utility to upsize line extensions without placing it in Plant Held for Future Use ("PHFU") based on the number of potential lots impacted by the line extension.
- Alternative 4.a. – After a line extension is longer than 180 lf, the utility would pay up to 1,500 lf.
- Alternative 4.i. – Define small commercial development to allow for smaller commercial projects to be eligible for Utility Participation in a Line Extension as outlined in this docket as well as Alternative 4.h. – small residential line extensions.
- Alternative 4.k. – Utility Participation in a Line Extension as outlined in this docket for water and wastewater extensions.

- Alternative 5 – Complete the line extension around the corner to cross all property fronts to limit dead end pipes.
- Alternative 6 – Allow Developers to disallow portions of Line Extension Facilities from reapportionment calculations.

(Alternative 1 – Apply for a waiver to Rule No. 9 as situations arise, and Alternative 2 – Apply for expensive infrastructure (wells, tanks, booster stations, lift stations, etc.) through an IRP process are already allowed without any necessary tariff changes.)

Q.36 PLEASE PROVIDE THE COMMISSION WITH A CURRENT EXAMPLE OF HOW UTILITY PARTICIPATION IN LINE EXTENSIONS COULD LIMIT THE PROLIFERATION OF NEW DOMESTIC WELLS?

A.36 As a part of the Nevada Division of Water Resources ("DWR") consideration for a new domestic well, a Domestic Well Drillers Request Form must be completed by the GBWC-PD.[32] The recently added GIS system not only streamlines these types of information requests, but also provides a dramatic picture to depict the obstacles new domestic wells create for the Utility's ability to install the necessary infrastructure to serve.

The first current example I will provide to the Commission is on Pechstein Rd. which ties into Blagg Rd., just south of the Celebrate Homes subdivision. Seven well driller information requests were received in the first part of January for this segment of Pechstein Rd. (Please See Attachment WSWB-10 to Exhibit __, *Pechstein Well Requests*.) The closest lot is at approximately 670 lf from existing water main; water main which is sufficient to serve, not only this lot, but more than all the lots on this road.

In fact, the main on Blagg was upsized by the Utility during a time of growth (2006) to accommodate anticipated growth. While the Commission "agrees that the UICN needs to plan and install backbone infrastructure for general growth," the Commission further stated that it "believes that the oversize of the Blagg Road water and sewer plant was not meant to address general growth but specific projects in the area. At the time UICN made the decision to oversize the Blagg Road facilities, it had agreements with both the El Diablo and Pechstein developments." The recovery for costs for upsizing Blagg Rd. were ordered to be placed in Plant Held for Future Use ("PHFU"). Order Docket 09-12017, Pages 37-38; at 100 and 101.

If the first lot is allowed a new domestic well at 670 lf, the likelihood of main ever going down Pechstein Rd. is greatly diminished. If the furthest lot, at 2030 lf, was incentivized to connect through Utility Participation in Line Extensions, then there would be main for the other six lots to connect and participate through Rule 9 Reapportionment. These lots do not have water rights allocated to them and the Domestic Well Credit Program would apply.

The second example I will share with the Commission is on Homestead Rd. (Please See Attachment WSWB-11 to Exhibit __, *Homestead Well Requests*.) The lot furthest north (in orange) is designated to have service from the Utility and GBWC-PD holds the water rights to serve and is only 450 lf from water main sufficient to serve. The other three lots are designated to be domestic well although the closest lot is only 800 lf from water main. Again, for the lots designated to be domestic well, the Domestic Well Credit Program would apply.

Scattered planning creating the checkerboard effect (Please see Attachment WSWB-5 to Exhibit __, *Calvada Unit 2 Lot Designations)* and fragmentation of planned subdivisions into individual ownership prior to full, or even moderately sufficient, infrastructure development has been a constant throughout the history of Pahrump development. It only began with PEC in the 1970's. When the recession occurred in 2007- 2008, it impelled further fragmentation and lack of ability for the Utility to provide service as promised by the developers. Ishani Ridge is a staggering case in point, where as a result of the developer's failure to complete the necessary infrastructure for the new development not only were individual lot owners abandoned to lack of service, but even ten homeowners, seven of which were occupied and had been illegally connected by the developer and did not have service! (Please reference Docket No. 10-09004, Riggs vs. UICN.)

All the lots in the Homestead and Pechstein examples lie within the GBWC-PD service territory, some designated to have service from the utility, some designated for domestic well, some not designated at all. Yet, they all need water. To incentivize utility connection through Utility Participation in Line Extensions helps put infrastructure in place not only serve the eleven lots in the examples, but multiple lots nearby. A small step towards limiting the proliferation of new domestic wells with the potential to have great impact.

Q.37 CAN YOU PROVIDE AN EXAMPLE OF A NEW DOMESTIC WELL WHICH COULD DETER FUTURE LINE EXTENSIONS?

A.37 Yes. One clear example is when DWR granted a new domestic well with an estimated distance from water main of 184 lf at 201 West Lupin Street. (The Utility does not take survey wheel to measure distance for a response to a Domestic Well Drilling Information Request, and GIS, although not as accurate as a field survey, was not fully operational at the time of this DWR Information Request response.) This lot is within the GBWC service

territory, designated to have service from the Utility, with water rights held by the utility.[33] (Please See Attachment WSWB-12 to Exhibit __, *201 W Lupin Well Request*.)

If the developer had not been permitted for a domestic well, the line would have gone to the corner because of the position of the lot. This alone would have made it more cost effective for the lot owner across the street to connect to centralized water service and certainly would have made it more cost effective for those farther west on Lupin St. with potential to West St. lots. The lack of pipe caused by the allowance of this single domestic well highly increases the likelihood of additional domestic wells being permitted on this street.

The domestic well at 201 W. Lupin St. is just one example of further fragmentation service. Fragmentation of service availability incentivizes more wells in the over-appropriated Pahrump Basin. The examples provide in this Q&A are new, but exemplify old ways of thinking which are not in the best interest of future service reliability for anyone served by Basin 162, including my customers.

Q.38 ARE THERE LIMITS OR OTHER REQUIREMENTS WHICH COULD BE IMPOSED FOR THE RECOVERY OF UTILITY PARTICIPATION IN LINE EXTENSION FACILITIES PROGRAM(S)?

A.38 Yes. The Company should be allowed to earn the PUCN determined allowed return on investing in incentivizing utility connections programs. Within this, there are several alternatives for managing and overseeing utility investment in these programs.

Alternative 1 – Limit the total annual dollar investment by the Utility.

Alternative 2 – Limit the total dollar amount between rate cases by the Utility.

[33] Note: This lot is not one of the 8,500 lots estimated to be eligible for a new domestic well by the State Engineer and used in subsequent reports. It is not an acre and a quarter and was designated to have central water service.

Alternative 3 – Limit the number of times the Utility can participate annually in Line Extensions.

Alternative 4 – Limit the number of times the Utility can participate in Line Extensions before their next rate case.

Alternative 5 – Require the Utility to collect Rule No. 9 Reapportionment as CIAC against the appropriate plant account.

Q.39 HAS THE COMMISSION PREVIOUSLY APPROVED UTILITY PARTICIPATION IN LINE EXTENSIONS?

A.39 Yes. These came about from a circumstance driven by the Pahrump Community. When I was first hired by Utilities, Inc, back in 2006, on my first day, my task was to read the UICN tariff. One of my next tasks was to help revise Rule No. 9 to give accommodation to developers at the request of a developer to Staff. It was a time of strong growth which Nye County very much wanted. (Commissioner Borasky even suggested that I waive all connection fees as he wanted the County to waive impact fees.) These tariff revisions were at the requests of Nye County people who might become customers. (The Nye County Reclaim Water Project and the Calvada Meadows Improvement Project are at the request of my current customers.) The Commission approved tariff considerations for the Company to pay for and recover the first fire hydrant and the deepest manhole (Docket No. 08-04034). A small step regarding balance between growth pays for itself and community desires and needs. Similarly, here, there is a distinction between paying for growth and paying reasonable costs to protect the resource.

Q.40 WHAT IS YOUR RECOMMENDATION TO THE COMMISSION REGARDING RECOVERY OF THE UTILITY INVESTMENT IN LINE EXTENSIONS?

A.40 I recommend the Commission approve allowing the Utility to recover their investment in rates for investment in line extensions under the Commission approved program with the following conditions:

Alternative 5 – Require the Utility to collect Rule No. 9 Reapportionment as CIAC against the appropriate plant account.

Using Rule No. 9 Reapportionment will offset impacts to rate payers. Limiting Utility participation in line extensions does not serve the purpose of encouraging utility connection.

Limiting the number of times the Utility can participate in line extensions, whether by dollar amount or count, limits the effectiveness of this proposal to encourage utility connection mitigating the proliferation of new domestic wells. The Utility is not seeking free reign in implementing these programs. The goals of all IRPs are applicable: to maximize service reliability while mitigating risk and minimizing cost. Prudent backbone infrastructure is necessary to maximize service reliability to "curb the over-appropriation" of the water supply. As the Commission knows, GBWC has no authority over domestic wells or septic systems. Incentivizing utility connection is how we can best support the State Engineer's goal to limit the proliferation of new domestic wells and protect the resource necessary for GBWC to continue to serve all its customers.

Q.41 SHOULD THE COMMISSION ACCEPT YOUR RECOMMENDATIONS FOR UTILITY PARTICIPATION IN LINE EXTENSIONS, WHAT WOULD BE THE POTENTIAL IMPACT ON RATES?

A.41 The Company has no way of knowing how many people will chose to voluntarily connect, how long a line extension might be to connect an applicant, the actual size of the main required for the new connection, nor whether it will require to be upsized for future connections or go around-the-corner. GBWC has made estimations based on assumptions using its experience and information available to it and the assumption that the preferred alternatives will be approved by the Commission. Again, the preferred alternatives are:

- Alternative 3 – Allow the utility to upsize line extensions without placing it in Plant Held for Future Use ("PHFU") based on the number of potential lots impacted by the line extension.
- Alternative 4.a. – After a line extension is longer than 180 lf, the utility would pay up to 1,500 lf.
- Alternative 4.i. – Define small commercial development to allow for smaller commercial projects to be eligible for Utility Participation in a Line Extension as outlined in this docket as well as Alternative 4.h. – small residential line extensions.
- Alternative 4.k. – Utility Participation in a Line Extension as outlined in this docket for water and wastewater extensions.
- Alternative 5 –Complete the line extension around the corner to cross all property fronts to limit dead end pipes.
- Alternative 6 – Allow Developers to disallow portions of Line Extension Facilities from reapportionment calculations.

Table 5 was created using historical data from MDR 120 for the last two Pahrump General Rate Cases ("GRC") which include five line extensions and adding the only additional line extension since that time, for a total of six line extensions.

Table 5: Historical Line Extensions

No.	USA Date	Description	LF	Pipe Size	Water Rights	Utility	Corner
1	4/15/2016	D&A Project	568	12"	5.52 AFA	Water	N/A
			114	8"		Sewer	
2	1/2/2014	Mtn Falls Villa Serena Subdivision	N/A	N/A	N/A	N/A	N/A
3	5/1/2016	WON Project	375	12"	1.55 AFA	Water	N/A
			375	8"		Sewer	
4	4/25/2014	HC Phase I	433	12"	N/A	N/A	
5	1/23/2014	CJM Project	500	8"	Residential	Rule 9	N/A
6	3/17/2017	Manzanita	83	8"	Residential	Water	No

Alternative 3 – Allow the utility to upsize line extensions without placing it in Plant Held for Future Use ("PHFU") based on the number of potential lots impacted by the line extension would not apply to any of these historical line extensions.

None of these line extensions would need upsizing. Each project was sized to meet fire flow requirements as established by Nye County. HC Phase I was done by a developer for the purpose of bringing the water system in the area of town up to the commercial fire flow standard of 2,500 gpm so that he could sell property to developers. I think that with today's fire flow requirements, the need to upsize pipe, as outlined in Alternative 3, wouldn't happen very often, and would not occur during the three year Action Plan. However, the lack of adequate infrastructure, not only adds to the lack of fire flows, but also discourages utility connection. Alternative 3 is proposed as a step to ensure that GBWC can install adequate infrastructure in the future. Again, this is a small step in the right direction.

Alternative 4.a. – After a line extension is longer than 180 lf, the utility would pay up to 1,500 lf.

Alternative 4.i. – Define small commercial development to allow for smaller commercial projects to be eligible for Utility Participation in a Line Extension as outlined in this docket as well as Alternative 4.h. – small residential line extensions.

Alternative 4.k. – Utility Participation in a Line Extension as outlined in this docket for water and wastewater extensions.

D&A would not be eligible for Utility Line Extension Participation as proposed in this docket as it is suggested that a Small Commercial Development be defined as a development which uses no more than 2 AFA and the engineer's wet stamped consumption estimate was 5.52 AFA.

The Mountain Falls subdivision, Villa Serena, would not be eligible for Utility Line Extension Participation as proposed in this docket as described in Alternative 4.h.

HC Phase would not be eligible as this was a developer's decision to upsize main so that he could move boundary lines on (and/or rezone) his property and sell to commercial businesses. There was not a specific small commercial or residential development directly involved with this line extension.

The CJM (residential) & WON (commercial) line extensions would have been eligible for Utility Participation in a Line Extension as proposed in this docket.

Manzanita would not have been eligible for Utility Participation in a Line Extension as it was not longer than 180 lf.

The table below shows the actual costs of the line extensions which would have been eligible for Utility Participation in a Line Extension under the proposed tariff revisions for such participation.

Table 6: Line Extension Actual Costs

Description	Service	Ave. Est. Length	Est. Cost per lf.	Total Cost	Utility Cost per Ave. Line Extension
CJM	Water	500	$60.75	$30,375.00	$19,440.00
WON	Water	375	$155.04	$58,139.35	$30,232.46
WON	Sewer	375	$109.20	$40,948.65	$21,293.30

The WON project required a water and sewer line extension. The amount for the dedicated water plant was $58,139.35 and the amount for the sewer plant was $40,948.65. Each line extension was 375 lf for water and sewer. Based on Alternative 4.a., 4.i., and 4.k., the Utility Participation in a line extension would be $30,232.46 ($58,139.35 / 375 lf x (375 lf

-180 lf)) for water and $21,293.30 ($40,948.65 / 375 lf x (375 lf -180 lf) for sewer. WON was a more expensive water line extension do to the need for additional traffic control, the addition of 46 lf 6" fire line and the pipe being 12" diameter.

Using an optimistic view of encouraging utility connection, one could simply use these line extensions which qualified for Utility Participation in a Line Extension under the proposed tariff revisions to estimate future costs. There are 829 days between the two line extensions eligible, as proposed in this filing, for Utility Participation in Line Extensions as listed in Table 5, as shown in Table 6. That would make the Utility Participation in Water Line Extensions $21,870.26 and Utility Participation in Sewer Line Extensions $9,375.22 annually based on actual costs and actual line extensions, if there were no reapportionment payments.

Table 7: Annual Cost of Future Utility Participation

Description	Annual Cost	Doubled	Tripled	Quadrupled
Water	$21,870.26	$43,740.53	$65,610.79	$87,481.05
Sewer	$9,375.22	$18,750.43	$28,125.65	$37,500.86

Again, optimistically, as we are trying to encourage utility connection as opposed to drilling another independent well, we could assume to double or even triple this number. The Prepared Direct Testimony of Mr. Redmon will provide the calculations for potential impact to rates based on tripling the historical eligibility of line extensions under the proposed tariff revisions.

Alternative 5 – Complete the line extension around the corner to cross all property fronts to limit dead end pipes.

Of the six line extensions listed above, only one has the potential for a corner. It is WON. Their property runs along an unnamed, unpaved, unaccepted road. The maps in Pahrump

show roads established by the original developers through Nye County but which were never developed and are in an undeveloped desert state and look just like part of a desert field. In Docket No. 14-02043, the UICN 2014 IRP, Nye County testified to road issues in Pahrump. "Nye County indicates that prior to approving a final map, when the developer actually sells the lot, the lot should have a road and infrastructure in place, but that a lot of the Pahrump area does not meet this standard. (Tr. At 103.) In this situation, I would not suggest taking the pipe around-the-corner (particularly sewer pipe with manholes), unless Nye County required road improvements at the time of development, which they did not in this case.

However, I provide an example of an average cost for taking a line extension around the corner if one happened in the three year Action Plan period. Lots are of varying sizes in Pahrump; but, I most frequently see lot lines between 80 lf – 100 lf. Using the average of actual costs for an additional 100 lf, this would amount to $10,789.00 annually for water. Sewer would equate to $10,920.00 over three years. The Prepared Direct Testimony of Mr. Redmon in this docket addresses potential rate impact based on these assumptions.

Table 8: Around the Corner Line Extension Estimated Cost

Description	Ave. Est. Length	Est. Cost per lf.	Utility Cost per Around-the-Corner
Water	100	$107.89	$10,789.00
Sewer	100	$109.20	$10,920.00

Alternative 6 – Allow Developers to disallow portions of Line Extension Facilities from reapportionment calculations.

Reapportionment disallowance at the Developer's Request would have no impact to current customers. The infrastructure is dedicated plant. Reapportionment payments are made by future customers and passed through to the developer. (Please see *GBWC Tariff 1-W and*

1-S, Rule No. 9 (Pahrump Division), Extension of Facilities, B. General Terms and Conditions, 10. Collection and Distribution of Re-apportionment Payments.)

The idea behind this request came specifically from the Corrections Corporation of American ("CCA") project. The estimated contributed plant was $11,000,000 dollars. With this type of investment, reapportionment payments could be very large to connect to the contributed plant. CCA requested that the more expensive plant (lift stations, tank, booster station) not be included in the reapportionment calculation. They believed that in the long run, they would actually receive more reapportionment money with the individual reapportionment payments being more affordable. This logic also supports incentivizing utility connection, thus a win.

Mr. Redmon addresses potential rate impacts of these recommended tariff provisions in his testimony.

Annexation by Advice Letter

Q.42 PLEASE EXPLAIN THE REASON FOR REQUESTING ANNEXATION BY ADVICE LETTER AND DESCRIBE THE ALTERNATIVES CONSIDERED FOR ANNEXATION BY ADVICE LETTER.

A.42 Some requests for annexation clearly do not have the potential to adversely impact current customers and, to the contrary, make sense for preservation of the resource in the basin to avoid proliferation of new wells. As established above, growth is a benefit to current customers, but not if it could jeopardize service reliability in the short-term. (The goal is long-term service reliability through sustainable water supply: maximizing service reliability, mitigating risk, minimizing cost.) For instance, subdivision annexations were not considered because of the obvious need for review of extensive information provided through the annexation process. However, some simple single connection requests (such as Tractor Supply) could be done more quickly and efficiently through an advice letter

filing similar to that which has been approved by the Commission for other utilities in Pahrump.

Alternative 1.a. – Allow a singular parcel which has or could have a domestic well to annex via Advice Letter to receive utility service to a single family residence (both water and sewer).

Alternative 1.b. - Allow a singular parcel which has or could have a domestic well to annex via Advice Letter to receive utility service to a single family residence (water only).

Alternative 2.a. – Allow a singular parcel adjacent to the service territory to annex via Advice Letter to receive utility service (both water and sewer).

Alternative 2.b. – Allow a singular parcel adjacent to the service territory to annex via Advice Letter to receive utility service (water only).

Alternative 3.a. – Allow a singular parcel adjacent to the service territory to annex via Advice Letter if it does not require more than a line extension and normal taps to provide service (both water and sewer).

Alternative 3.b. – Allow a singular parcel adjacent to the service territory to annex via Advice Letter if it does not require more than a line extension and normal taps to provide service (water only).

Alternative 3.c. - Allow a singular parcel with main available within 1,500 lf to annex via Advice Letter if it does not require more than a line extension and normal taps to provide service (both water and sewer).

Alternative 3.d. - Allow a singular parcel with main available within 1,500 lf to annex via Advice Letter if it does not require more than a line extension and normal taps to provide service (water only).

Alternative 3.e. - Allow a singular parcel with main available within 180 lf to annex via Advice Letter if it does not require more than a line extension and normal taps to provide service (both water and sewer).

Alternative 3.f. - Allow a singular parcel with main available within 180 lf to annex via Advice Letter if it does not require more than a line extension and normal taps to provide service (water only).

Q.43 HAS THE COMMISSION PREVIOUSLY APPROVED THIS CONCEPT OF ANNEXATION WITHOUT A DOCKET?

A.43 Yes. In Docket 08-06028, the Pahrump Utilities Company, Inc. ("PUCI") GRC, PUCI made several tariff changes. In speaking with the General Manager, Mr. Gregory Hafen II, he shared with me that he took concepts from both my tariffs and Desert Utilities, Inc. ("DUI") tariffs and then added some things." One of the things he added was to Rule No. 3, Application for Service:

> E. Connecting Domestic Wells
> In accordance to Nevada State Engineer Ruling 1183[34], a domestic well owner may connect to Utility and Utility will receive a water right credit for each customer connected. Any domestic well owner who relinquishes their domestic well and connects to Utilities water service facilities shall be responsible for all costs and fees associated with hooking up to Utilities facilities and annexation into the service area. The domestic well customer will be subject to all of Utilities tariffs and shall be annexed into the service area by the Commission upon providing the Commission with a legal description of the property, without any other requirements by the Commission. The customer will not be required to provide a water right to Utility but will be required to pay commodity fees, service fees, a connection fee and capacity charge as described in these tariffs. The customer shall be responsible to supply the legal description of the property to Utility and Utility shall notify the Commission of the connection to Utility's water service and provide the legal description of the property.

This foregoes an annexation docket and associated costs; it provides an incentive for utility connection; and, it has been approved previously by the Commission.

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[34] Please See *Order for Domestic Well Credit in the Pahrump Valley Hydrographic Basin (162) Order 1183* in Appendix B of the *GBWC 2018 IRP, Pahrump Basin Groundwater Management Plan, Appendix N*- Vol. 6 at 33-35.

Q.44 WHY IS THIS PARTICULARLY IMPORTANT FOR THE GBWC-PD SERVICE TERRITORY?

A.44 Above, I spoke of checkerboard designations for service (well, septic, central water, central sewer). The "checkboard" is true of our service territory as well. (Please see *GBWC Tariff 1-W, Rule 17, Sheet 154* for an example.) The infrastructure necessary to serve may be reasonably available, even across the lot; but, the parcel is outside of the service territory. Other Pahrump based utilities do not have this issue as they are much more planned community based. They did not inherit the checkerboard of lot designations and service territory lines.

Q.45 PLEASE PROVIDE A CURRENT EXAMPLE OF A REASON FOR THE COMMISSION TO ACCEPT ANNEXATIONS BY ADVICE LETTER.

A.45 Certainly. Most recently, it has come to my attention that a current customer is seeking to drill a well on an adjacent lot, outside the GBWC-PD territory. (Please see Attachment WSWB-13, to Exhibit __, *Adjacent Lot Map*.) When this customer first sought service from us in 2016, it was clear that it was to be a phased development with service from the Utility. (Please see Attachment WSWB-14, to Exhibit __, *Adjacent Lot Developer Email*.) In fact, the developer banked enough water with the Utility for service to the adjacent lot for his planned development. Why the developer is seeking to drill a well is unknown at the time of this writing; the application with DWR has not proceeded to a place which GBWC can protest the well. This same developer installed and dedicated to the Utility both water and sewer main to serve the development as well as water rights above the current consumption needs.[35] The adjacent parcel does not have egress and ingress for the installation of main; yet, it would be quite feasible to connect through yard piping. Annexation by Advice Letter would be attractive for this project to aid in discouraging another new well in the already over-appropriated basin.

[35] Please See Won Line Extension above.

Q.46 AS NOTED THROUGHOUT THIS TESTIMONY, THE PRIMARY FOCUS OF INCENTIVIZING UTILITY CONNECTION FOR THE GBWC-PD IS THE PRESERVATION OF THE BASIN; SO, WHY ARE SEWER SERVICE ANNEXATIONS CONSIDERED?

A.46 As noted above, as there is the potential for 8,500 new domestic wells, there is also the potential for 8,500 new ISDS (not to mention commercial and other use septic systems). The Pahrump Basin has already noted issues with nitrates; and again, it is well known that septic systems contribute to water quality `concerns, particularly through the introduction of nitrates. (Please see Attachment WSWB-8 to Exhibit ___, *Letter to Legislative Subcommittee UICN 080516 - Water Quality*.) I believe it prudent for the Commission to consider discouraging the proliferation of new septic systems in the interest of overall basin health.

Q.47 WHAT IS YOUR RECOMMENDATION TO THE COMMISSION REGARDING ALTERNATIVES FOR ANNEXATION BY ADVICE LETTER?

A.47 I recommend the Commission approve:

Alternative 1.a. – Allow a singular parcel which has or could have a domestic well to annex via Advice Letter to receive utility service to a single family residence (both water and sewer).

Allowing a parcel which has or could have a domestic well to annex via Advice Letter, avoiding unnecessary annexation docket costs, incentivizes utility connections. The tariff, as it currently stands or with additions proposed in this docket, coupled with NAC have the mechanisms to protect current customers while allowing for such an alternative.

Alternative 3.c. - Allow a singular parcel with main available within 1,500 lf to annex via Advice Letter if it does not require more than a line extension and normal taps to provide service (both water and sewer).

Alternative 3.c. is distinct from Alternative 1.a. in that in isn't limited to a single family residence. As commercial, multi-family and other classes of service have varying capacity needs, I think it appropriate for the Commission to want the information to vet the annexation through an annexation docket when it involves a multiple of variables. Alternative 3.c. limits potential impact to current customers and still would not be so restrictive as to overly minimize utility connection rather than drilling another well in an over appropriated basin.

This alternative also adds the benefit of the potential of installing badly needed pipe in the ground. It limits additional dead-end mains. As described above, fragmented line extensions have the consequence of creating dead-end mains which cause issues in the system: stagnant water (potentially impacted water quality), increased maintenance, fire flow restrictions and water outages.

Allow Utility Participation in Line Extensions and Connection Fee Forgiveness to apply to these annexed parcels as proposed to the Commission in this docket.

Q.48 SHOULD THE COMMISSION ACCEPT YOUR RECOMMENDATIONS FOR ANNEXATION BY ADVICE LETTER, WHAT WOULD BE THE POTENTIAL IMPACT ON RATES?

A.48 There would be no rate impact from the annexation(s), except for the fact that incentivizing utility connection has the potential to create additional load share for future revenue requirements as set by the Commission. The minimal rate impacts (especially compared to the multi-million dollar proposals in Nye County requisitioned reports) for Utility Participation in Line Extensions and Connection Fee Forgiveness are discussed earlier in this testimony.

Community Participation in Infrastructure

Q.49 PLEASE EXPOUND UPON IDEAS FOR COMMUNITY PARTICIPATION IN INFRASTRUCTURE.

A.49 Community Participation in Infrastructure would be developed on a case-by-case basis for each project to be approved by the Commission. One such proposal for the Commission's consideration is discussed in the *Recommended Action Plan* section of my testimony for the Calvada Meadows Improvements.

Q.50 HAVE YOU HAD ANY DISCUSSIONS WITH THE STATE ENGINEER REGARDING THESE PROPOSED TARIFF CHANGES?

A.50 Yes, in fact, I have had numerous conversations with the State Engineer, Jason King, about many ideas to protect Basin 162 of the course of the last three years. However, I specifically had a conference[36] call with him on the 6th of October 2016 to discuss the ideas which are presented in this filing, as well as a recent meeting in February of 2017. Based on these discussions, some of the ideas and alternatives were refined. For instance, through Alternative 4a - Allow Utility Participation in a line extension after a line extension is longer than 180 lf, the utility would pay up to 1,500 lf was refined to start at 180 lf.

Overall, Mr. King was pleased with our efforts. Domestic wells, and particularly the proliferation of new domestic wells, are of great concern to him. (Please See Attachment WSWB-24 to Exhibit __, *Jason King Declaration*.)

RECOMMENDED ACTION PLAN

Q.51 WHAT ARE THE ACTION PLAN PROJECTS FOR WHICH YOU SEEK APPROVAL?

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[36] In attendance at the telephonic conference were: myself; Jason King, State Engineer; Bruce Scott, Resource Concepts, Inc.; and Laura Granier, Esq. (GBWC). At the February 2017 meeting, I met with Jason King, Rick Felling, and Laura Granier.

A.51 The following is a list of the proposed Action Plan Projects for which GBWC is seeking Commission Approval in the 2018 GBWC IRP.

Action Plan Projects from Volume II – GBWC-PD

1. Wastewater Treatment Plant 3 Dewatering Upgrades;
2. Nye County Reclaim Water Project;
3. Well Rehabilitation Program;
4. Pipeline Replacement and Looping Existing Dead-ends (Three Annual Projects);
5. Plant 3 Filter Upgrade Phase I;
6. Future Well Location Evaluation;
7. Cathodic Protection for Low Zone Tank 1;
8. Cathodic Protection for High Zone Tank;
9. Cathodic Protection for Mountain Falls Tank;
10. SCADA Upgrade Project;
11. Well 12 Backup Generator;
12. Mountain Falls Well 1 Backup Generator;
13. Mountain Falls Well 2 Backup Generator;
14. Mountain View Estates/Calvada Valley Interconnect;
15. Wilson Road to Ishani Ridge Loop;
16. Firebird Circle Loop;
17. Sagebrush Extension;
18. Future Looping Analysis Study;
19. Office and Water Education Center at Discovery Park;
20. Calvada Meadows Water System Improvements; and
21. Water Wagon.

Action Plan Projects from Volume III – GBWC-SCD:

1. Backup Generator for Well #1 (75 HP Motor) and Office building;

2. Backup Generator for Well #3 (125 HP Motor);
3. Rehabilitate/Clean Well #1 and Install VFD;
4. Replace High Tank;
5. Rehabilitate/Clean Well #3 and Install VFD;
6. Retaining Wall around Well #1 and Treatment Facility;
7. Replacement of Package WWTP (Total 100,000 gpd Package Plant);
8. Rehabilitate/Clean Well #4 and Install VFD;
9. Decommission and Replace Tank 106;
10. Rehabilitate/Clean Well #10 and Install VFD;
11. Liner in 12" Main Under Lamoille Highway;
12. Backup Generator for Well #7 (75 HP Motor);
13. Relocate Well #14 Instrumentation to Building with Backup Generator (40 HP Motor);
14. Rehabilitate/Clean Well #7;
15. Automated Valve and PRV at Scrub Oak Drive;
16. Well 8 Replacement;
17. Replacement of Very Poor and Poor Pipe Projects; (Three Annual Projects)
18. SCADA Upgrades (arsenic plants, backup generators, software upgrade); and
19. Water Wagon

Action Plan Projects from Volume IV – GBWC-CSD:

1. Cold Springs Drive Booster Station;
2. Re-pipe County Park on White Lake Dr. to Pressure Zone 2;
3. Install Flow Meters at all PRV's;
4. Replace Waxwing PRV;
5. Storage Tank 2 Replacement;
6. Reconditioning of Tank 3;
7. New Well House on Well 6;
8. New Well House on Well 7;

9. Preliminary Design Report on White Lake Pipeline Replacement; and
10. Pipeline and Meter Pit Replacement. (Three Annual Projects)

Action Projects from Volume V – GBWC-SSD:

1. Backup Generator for Suki Well (Well #2);
2. Backup Generator for Bridal Path Well (Well #1);
3. Backup Generator for Booster Station;
4. Cathodic Protection for Storage Tank 1A;
5. Cathodic Protection for Storage Tank 1B;
6. Cathodic Protection for Storage Tank 2;
7. Raise Booster Station above Ground; and
8. Test Well and New Production Well.

Additional support for the Action Plan projects in the 2018 GBWC IRP can be found in the Prepared Direct Testimonies of Mr. Michael Hardy, P.E., Ms. Teresa Valentine, P.E., Deborah D. Woodland, and Mr. James Eason in this docket.

For the Action Plan Projects in Volume II – GBWC-PD, I will provide additional support for:

2. Nye County Reclaim Water Project
3. Well Rehabilitation Program
4. Pipeline Replacement and Looping Existing Dead-ends
6. Future Well Location Evaluation
14. Mountain View Estates/Calvada Valley Interconnect
15. Wilson Road to Ishani Ridge Loop
16. Firebird Circle Loop
18. Future Looping Analysis Study
19. Office and Water Education Center Discovery Park

20. Calvada Meadows Water System Improvements

21. Water Wagon

2. Nye County Reclaim Water Project

Q.52 PLEASE DESCRIBE THE NYE COUNTY RECLAIM WATER PROJECT.

A.52 Treated recycled water (Category B reclaim water) from GBWC's Wastewater Treatment Plant ("WWTP" or "Plant") 3 gravity flows from the plant to a partitioned receiving pond located at the adjacent Discovery Park. From there it is distributed to irrigate the park and Lakeview Executive Golf Course ("Lakeview") via a pump station located next to the partitioned pond. To serve the school, the irrigation main will be tapped into for connection of a 4-inch irrigation line to be extended to the school property line. The extension line will be equipped with a pressure or flow regulating valve so that when the school is taking water, it does not cause a low pressure condition in the Discovery Park irrigation main. The school's yard piping and appurtenances will include any necessary storage and pumps for the irrigation on private property.

The Nye County Reclaim Water Project is in response to immediate needs voiced by our customers and how we support the Hydrographic Basin 162 in response. In fact, the PUCN's regulations governing IRPs require that a utility's conservation plan provide, to the extent practicable, information about reclaimed water and its potential for use as a water source in the service area of the utility.

Q.53 HOW DOES PROVIDING RECLAIM WATER TO THE NYE COUNTY SCHOOL DISTRICT SUPPORT BASIN 162?

A.53 As explained in my Prepared Direct Testimony in Docket No. 15-01029, the First Amendment to the UICN 2014 IRP, "The Nye County School District has approached GBWC about the options for drilling a private well on their property for irrigation. The proliferation of private wells is a concern in the over-appropriated Basin 162, which is the

sole source of water for the Pahrump Valley. Instead of the School District drilling this well, GBWC seeks to provide irrigation water to the school as a part of the long-term plan for Plant 3 and aquifer protection." (Q&A 20) The School District, similar to most school districts in Nevada, struggle financially and are looking at ways to minimize costs.

On July 28, 2015, the Nye County School District Board meeting had on their agenda to vote on whether they were going to drill an irrigation well for their property on Calvada. The Calvada School District property is across the street from Discovery Park. I attended that board meeting and proposed that GBWC work with the School District to explore the possibility of using recycled water from WWTP 3. Using recycled water protects the basin from additional draw and this provides an excellent opportunity to provide education on recycled water, water conservation and Basin 162, our local water source.

Q.54 WHAT DOES NEVADA DIVISION OF ENVIRONMENTAL PROTECTION ("NDEP"), BUREAU OF WATER POLLUTION CONTROL ("BWPC") THINK ABOUT USING RECLAIM WATER AT A SCHOOL FOR IRRIGATION?

A.54 I have had numerous discussions with the Chief of the BWPC regarding potential reclaim water uses including providing irrigation water to the nearby school complex. Both Alan Tinney (former chief) and Bruce Holmgren (current chief) have agreed that Category B water could be used for school lawn irrigation in accord within the permit requirements. I specifically discussed with Alan Tinney whether there was a need to raise the reclaim category to Category A. He said that there was no need and that he wouldn't go to Category A if it was his decision to make. He further stated that Plant 3 has an excellent compliance record and he had no concerns.

Q.55 IS RECLAIM WATER SAFE?

A.55 Yes. Each category of reclaim water provides certain restrictions for application. The restrictions for Category B limit human contact. The school district is well aware of these

restrictions and the Effluent Management Plan ("EMP") will designate how the school will manage the restrictions for Category B.

I further discussed with the school district, including the board, that public education about the safety and benefits of reclaim water should continue. They agreed, and agreed they are educators. I believe most concerns of the public have been alleviated through education and the exoneration of the Company through multiple lawsuits involving false allegations. In fact, a speaker at the Consumer Session on June 8, 2017, Richard Cantino, was a plaintiff to the class action[37] regarding the quality of reclaim water from our Plant 3. Currently, as stated at the Consumer Session[38], Mr. Cantino as an individual and through the Red Rock Audubon Society, raises funds and volunteers time to Discovery Park, a public park which is irrigated with Category B reuse water from WWTP 3. Certainly, a plaintiff in a class action whose property's backyard "is" Discovery Park understands the safety and benefit of recycling water. Furthermore, not one person at the Consumer Session raised concerns with this project or the use of reclaim water.

Q.56 DO GBWC-PD AND THE NYE COUNTY SCHOOL DISTRICT HAVE ALL THE NECESSARY PERMITS AND APPROVALS FOR THIS PROJECT?

A.56 No. Design engineering needs to be completed before applications are submitted (along with the engineered plans) to the necessary permitting agencies. These agencies typically will not accept a project for permit review until it is signed and sealed by a licensed engineer. Performing design engineering prior to Commission approval of the prudency of a project would add unnecessary cost of preparing an IRP filing. And, construction cannot start prior to receiving the majority of these approvals.

[37] Richard Cantino, an individual; Blair Childs, an individual; Ed Dodd, and individual and Does Plaintiffs 1-10, vs. Utilities, Inc. Of Central Nevada, Case No.: CV31294.
[38] Docket 17-02048, Consumer Session Transcript, p. 72, starting at line 6, through p. 74, ending at line 12.

One exception is the EMP. An EMP is required for an entity which will discharge reclaim water; therefore, the school district will need to have their own EMP approved by the Nevada Division of Environmental Protection ("NDEP"). NDEP does not require an EMP on file prior to construction and instead the NDEP EMP Guidance Document states that an EMP should just be approved and on file before the use of the reclaimed water. Should the Commission deem this project prudent, certainly we will begin pre-application filing meetings with the appropriate agencies.

Q.57 AS THE NYE COUNTY RECLAIM WATER PROJECT REQUIRES CONSTRUCTION BY GBWC-PD AND THE NYE COUNTY SCHOOL DISTRICT, HOW DOES GBWC PLAN TO ENSURE THE SCHOOL DISTRICT COMPLETES THEIR END OF THE PROJECT SO THAT IT MAY BE USED AND USEFUL?

A.57 I spoke with the school district about this very thing, as obviously, they would have an equal concern about the Utility completing the portion of the project on a schedule with the school. Should the Commission deem the project prudent, the school district's engineer and the Utility's engineer would meet to create the project schedule. The schedule would become a part of the contract between the parties. Both parties believe this is a prudent project and wish to see it completed. It has obviously been in the works for years and both parties continue to work together to that end.

Q.58 WHAT O&M COSTS ARE ASSOCIATED WITH THIS PROJECT?

A.58 The O&M costs for this project would lie on school property, such as the electric costs and maintenance of the school irrigation tank and pump. The O&M costs on school property would be the responsibility of the Nye County School District and would not be passed on to the Company's ratepayers. This project supports our customer's need, the school district, protects the basin, supports the Commission goal of recycling water, while protecting other customers from financial burden of ongoing O&M costs.

Q.59 HAS THE COMMISSION PREVIOUSLY APPROVED DISTRIBUTION OF THE RECLAIM WATER FROM PLANT 3 TO A THIRD PARTY?

A.59 Yes. In the stipulation for Docket 15-01029, the First Amendment to the UICN 2014 IRP, III 1., "The Parties agree that the Commission should find that the provision of recycled water to Lakeview under the terms of the Water Agreement would provide benefits to groundwater supply and UICN's customers by encouraging water recycling." The Commission approved the Stipulation as proposed. (Order at 1.)

Q.60 WOULD RULE 9 REAPPORTIONMENTS BE ASSOCIATED WITH THIS PROJECT?

A.60 No. No other potential customer would be able to connect. The new irrigation line does not run across anyone's property line. The project is designed with the most infrastructure being on Nye School District property as possible to be borne by the customer to limit GBWC-PD investment.

3. Well Rehabilitation Project

Q.61 PLEASE DESCRIBE THE WELL REHABILITATION PROJECT.

A.61 The Pahrump Division of the GBWC has 14 wells, 12 of which are potable. The earliest of these wells was drilled in 1944, the most recent well in 2017. The well rehabilitation work will generally consist of removing the well pump and motor and column pipe from the well casing, camera investigation of the well, cleaning the well through acid treatment, brushing, swabbing and bailing. Following cleaning a follow up camera investigation is performed to document the well cleaning success as well as the status of the casing and well screen. If after cleaning, the camera investigation reveals issues with the casing or well screening, further rehabilitation may be necessary.

Q.62 HOW DOES THE WELL REHABILITATION PROJECT SUPPORT BASIN 162 & HELP ENSURE GBWC CONTINUES TO MEET ITS SERVICE DEMANDS?

A.62 The Well Rehabilitation Project works into the Future Well Location Evaluation (described below) in identifying which wells may fail first and need to be replaced. This will help GBWC plan for well maintenance and new construction in a manner beneficial to GBWC customers and to preserve the resource in the basin. Well inspection and maintenance is an integral part of providing reliable drinking water to our customers. The proposed project is an enhancement to our current well inspection and maintenance program.

Also, the rehabilitation of wells can also identify sources of NRW. This was certainly true in the Spring Creek Division with the work done to the wells as part of the arsenic remediation project where two substantial leaks were found while performing work on the wells. Leaks often are not readily apparent flowing underground back into the basin.

Wells 10 and 21 are irrigation wells and are not a high priority for rehabilitation as we do not have any customers which rely on these wells for service at this time. The Mountain View Estates Well is also a lower priority well for rehabilitation and maintenance as the Mountain View Estates Interconnect is proposed (again) in this IRP; and, the Utility does not own the well.

4. Pipeline Replacement and Looping Existing Dead-ends

Q.63 PLEASE DESCRIBE THE PIPELINE REPLACEMENT AND LOOPING EXISTING DEAD-ENDS PROJECT.

A.63 The Pipeline Replacement and Looping Existing Dead-ends project is intended to be a collaborative process with the Nye County Public Works Department ("Nye PW") and other utilities serving Pahrump, NV. Currently, there is a Joint Cooperation Committee which meets monthly in which GBWC-PD participates. This committee is comprised of members from the other Pahrump based utilities: Pahrump Valley Disposal, AT&T, PUCI, DUI and Valley Electric Association, as well as members from Nye County Planning and Nye PW. A focus of the committee is to coordinate what they know about upcoming

projects and development. By being able to have the flexibility to work cooperatively through this group (and other entities), GBWC-PD can save costs by coordinating with road improvements and other utilities' improvements with our improvements and, improve the relationships with these entities, particularly Nye County. Additionally, GBWC-PD has performed a looping analysis about a decade ago to help us prioritize our needs with the projects going on around us. (Please see Volume II, Appendix M, *Dead End Looping Analysis*.)

Q.64 WHAT ARE THE BENEFITS OF PIPELINE REPLACEMENT AND LOOPING EXISTING DEAD-ENDS PROJECT?

A.64 This project provides the benefits of eliminating the water quality and maintenance issues which are associated with dead-end mains. This project has the potential to create a better working relationship with Nye County, which in itself reduces time and money from smoother implementation of projects. This project should reduce costs of looping being coordinated with other entities' projects. This project puts pipe in the ground to make utility connection more favorable in that specific area, limiting the proliferation of new domestic wells. This project (in conjunction with the Future Looping Analysis (Project 18) discussed below) will help identify older pipe, which likely positively correlates with older roads being repaired, which may have the added benefit of reducing leakage.

Additionally, I will add for the pipeline replacement projects in each of the GBWC divisions, this need for flexibility is paramount to our ability to work with the communities we serve to the benefit of our customers. What is approved by the Pahrump Capital Improvements Advisory Committee, BOCCs, the Spring Creek Association ("SCA"), Regional Planning Committees, roads departments, etc., don't always coincide with a three-year IRP cycle. Even IRP amendments take time (and money), which can cause enough delay to miss opportunities. What projects other regulated and non-regulated utilities are planned in the near future offer cost savings for our needed infrastructure

projects. I believe that the flexibility proposed in the pipeline replacement projects provides real opportunity for GBWC to work with our communities, to show them we are a part of the team, community, a neighbor, to make real strides in improving community relationships.

Community relationships are important to the value our customers receive whether we serve the better portion of a community (Spring Creek and Cold Springs) or serving just a part of a community (Spanish Springs and Pahrump). Being in tandem with other community capital projects planning reduces costs (for all – property taxes, phone bills, electric bills, water bills, sewer bills, etc.) and promotes improved relationships.

6. Future Well Location Evaluation

Q.65 PLEASE DESCRIBE THE FUTURE WELL LOCATION EVALUATION.

A.65 The Future Well Location Evaluation will be used: (1) to evaluate existing well locations and propose new targets, and (2) develop an improved understanding of Pahrump Basin hydrology for planning and resource development specific to our service territory and customer needs for sustainable water. Basin 162 is not a bathtub; it has confined aquifers; it has areas where water levels are diminishing (sections with high density domestic wells on the floor and areas where water levels are increasing (on the alluvial fan). (See Appendix B of the GBWC 2018 IRP. This fact is referenced throughout the Appendix B Volume II, Pahrump section, but a map of water levels can be found on Vol. 5 at 141 and Vol. 6 at 120.) When (not if) GBWC needs another well, where is the best place to drill? The study would include location (private property, BLM, etc.), the water level changes, the cost to connect the well to the distribution system, etc. With this information, GBWC can be prepared when a well is failing, or fails, to drill in the best location for the customers and the basin. This would allow for better planning ahead of time and on a broader scale rather than on an emergency, one at a time, basis when a well is failing.

The GWMP states,

> The concept of redistribution of production wells is to reduce groundwater withdrawals in areas with a high density of wells, or in areas where water levels are declining. Ideally, water supply wells would be placed in areas where water levels are increasing and the water distributed to users in the areas where levels are declining…[39]
>
> "DWR Order 1252 allows movement of water rights from the valley floor to the fan. Because water levels are rising on the fan, this Order may provide opportunity to ease pumpage on the valley floor (where water levels continue to decline)...[40]

Of course, the largest capacity wells belong to the utilities and relocation of those wells were a prime target for redistribution of pumping in the discussions.

Q.66 HAVE REDISTRIBUTION OF PUMPING STUDIES AND OTHER HYDROLOGY STUDIES ALREADY BEEN COMPLETED FOR BASIN 162?

A.66 The concern over water in the Pahrump Basin is not new. There have been several studies as evidenced in Appendix B of this GBWC 2018 IRP – Vol. 5 at 101 to Vol. 6 at 120, and in my Attachment WSWB-3 to Exhibit __, the *Shaw Engineering Report*. Pahrump Utilities Company, Inc. ("PUCI") also had work done specific to the portion of the groundwater basin from which they draw (the Manse Fan). All entities have shared their information gathered for their own purpose to the benefit of the of the basin. I would say there has been an extremely collaborative effort made towards basin information. Nye County plans another evaluation of the basin with a focus on deep carbonate potential. GBWC's approach is to continue in this collaboration through a Hydrology Study which uses these other aforementioned studies paid for by other parties to which GBWC financially has not contributed, and therefore, has sought no recovery.

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[39] Appendix B of the GBWC 2018 IRP, GWMP, p. 17 – Vol. 5 at 142.
[40] Appendix B of the GBWC 2018 IRP, GWMP, p. 18 – Vol. 5 at 143.

GBWC-PD is not seeking a duplicative study. Study after study conclude that we need to shift drilling on the floor to the alluvial fan.

Section 6.0 of the Shaw Engineering Report (Attachment WSWB-3), Re-Distribution of Production Wells, speaks to the:

> . . . transfer of existing (and future) municipal pumping to new wells / wellfield locations. . .
>
> The effectiveness of the redistribution concept will necessitate some water system interconnection, and can be improved by future connection of residences on domestic wells to municipal system, where infrastructure exists and there is a willingness to connect. (p. 6-1) …
>
> Agreements with Desert Utilities and Great Basin Water Utilit[ies Inc.] will need to be established to shift their existing pumping to new alluvial fan wells.

We are seeking a study specific to our water systems and customer needs. PUCI did the same with their study. The NCWD is doing the same with their studies. (The NCWD serves all of Nye County; I serve 42 square miles of the 18,199 square miles in Nye County. I serve approximately one fourth of the people in Nye County, while domestic well owners are still the voting majority.) The Future Well Location Evaluation will help ensure that future wells provide the best benefit for the least dollars for continued reliable service to my customers: wells that have high volume reliable supply strategically located for connection to the distribution system(s). There is the chance that with the information from previous studies that the utilities may not be able to re-drill on the floor. It is necessary that GBWC-PD perform this study to the benefit of their customers (and, of course, to benefit of the health of the basin, but with focus on our needs and costs) volunteering to share our data as others have done.

Many of our wells are at their end of life. GBWC-PD just experienced this with Well 8 failing and being re-drilled (Well 12). It was re-drilled on the floor. If there was better

information at the time, a more beneficial decision might have been made about the location of Well 12.

Q.67 HOW DOES THE FUTURE WELL LOCATION EVALUATION SUPPORT BASIN 162 AND GBWC'S ABILITY TO MEET SERVICE DEMANDS?

A.67 From what we know about the basin (mainly from well monitoring), we know that different areas of the basin have increasing water levels, while other areas of the basin have decreasing water levels. (Please See Appendix B to the IRP, Pr*esentation to the Legislative Commission's Subcommittee to Study Water by Mr. Rick Felling, Deputy Administrator of DWR*, on July 11, 2016, p. 21 – Vol. 5 at 101-125.) A simplistic way to think about it is that water on the fan (east of Highway 160) is increasing, while water on the floor (west of Highway 160) is decreasing. However, there are areas, particularly areas of dense domestic well populations, where water is decreasing rapidly. The water on the floor comes from the fan for the most part due to the soil conditions on the floor. The study will help determine whether there are areas, particularly within our service territory, where water levels are decreasing from over pumping. This is important information for GBWC to have in planning for well maintenance and replacement to meet service demands.

It might seem reasonable that when GBWC needs a new well, it would be drilled on the fan. However, water (and capital planning) are not that simple. If utility production wells gravitate to the fan over time, will that change the amount water received by the floor? Where on the fan would we drill? How far is that from the distribution system? Do we (or the Bureau of Land Management ("BLM") own the land? What will be the true cost of water for drilling on the fan?

In addition, Nye County proffered testimony in Docket No. 14-02043, the UICN 2014 IRP that:

> The Pahrump hydrographic basin is severely over-allocated and we currently are developing a groundwater management plan for submission to the State Engineer. Nye County is also developing a master plan update for the Pahrump Regional Planning District which will have a major component addressing future population growth and resulting water demand. This IRP should be developed in support of the master plan and ground water management plan. To help maximize our water resources this IRP should support projects to drill and pump from areas in the basin where the Nye County Water District has identified adequate resources.

Pre-filed Rebuttal Testimony of Lewis Darrel Lacy, Q&A 5.

I agree that we need to work cooperatively, but I do not think that Basin 162 has been sufficiently evaluated to know where the "adequate resources" truly exist in relationship to the GBWC-PD distribution system and customer needs. My conclusion is based on my experience with the GWMP Advisory Committee, the expert reports we received, my experience as a purveyor of water from Basin 162, and from my interactions with the residents of Pahrump on domestic wells. In addition, I have had multiple conversations with the current General Manager (Oscar "Oz" Wichman) of Nye County District Governing Water Board ("NCWD") and understand from those discussions that he, too, believes additional information on the basin sources and flows is essential. We believe that the NCWD and the Pahrump utility companies can have the greatest impact coordinating and accumulating information on the hydrology of the basin.

The purpose of the Future Well Location Evaluation is to answer these types of questions (along with Future Looping Analysis Study) so that in the future, GBWC can make informed decisions about where to drill in the future that supports the basin and protects our ratepayers. Without this information, GBWC has historically re-drilled in the same footprint when a well fails. All of our wells are currently on the floor, so this is not the best plan, but it is based on the information we have at the time. This project supports better information in support of sustainable water for the future. Proactive planning is

required today to ensure that the Company has identified the best place for replacement wells in the future.

14. Mountain View Estates/Calvada Valley Interconnect

Q.68 PLEASE DESCRIBE THE MOUNTAIN VIEW ESTATES ("MVE")/CALVADA VALLEY INTERCONNECT PROJECT.

A.68 This project is to interconnect the stand-alone MVE system with the Calvada Valley main system by adding approximately 7,000 lf of 12-inch water main along Highway 372 between Blagg Rd and Bunch St. An atlas page for the Mountain View Water Main Extension Project is provided as Attachment WSWB-15 to Exhibit __, *Confidential MVE/ Calvada Valley Interconnect Map.*

Q.69 PLEASE BRIEFLY DESCRIBE THE MOUNTAIN VIEW ESTATES SYSTEM?

A.69 MVE is a Mobile Home Community consisting of 27 units located at the southeast corner of the Highway 372 and Bunch Street intersection. GBWC-PD provides water service only, with one well and a hydropneumatic tank with no redundancy and no backup power. Additionally, the MVE currently does not have sufficient storage to meet NAC requirement for total system capacity. GBWC-PD operates this well and includes this well in all regulatory required reporting and sampling. However, GBWC-PD has become aware of issues with the ownership of the well and water rights.

Q.70 WHAT IS THE APPARENT OWNERSHIP ISSUES WITH THE MVE WELL?

A.70 It appears that neither the water rights nor the well site was ever transferred to CNUC. Resource Concepts, Inc. ("RCI") determined this conclusion through conducting research at GBWC-PD's request.

Q.71 WHAT IS THE HISTORY OF THE MVE WELL THAT RCI HAS BEEN ABLE TO DETERMINE?

A.71 **03/13/1975** Water Right Appropriation 29267 filed by Eugene Bunch (for 27 lot mobile home park)

07/20/1978 Parcel Map Doc. 68934 filed by Eugene Bunch (for Mountain View Trailer Estate)

03/02/1988 Well parcel (Nye Co. APN 36-411-14) sold by Eugene Bunch - Doc. 203930 to Meeks Family Trust dated 10/21/1980

3/29/1991 Water Right was Certificated #12695

02/12/1998 Mountain View Trailer Estates Water Association filed with State as Domestic Non-profit Entity

03/13/1998 Well parcel (Nye Co. APN 36-411-14) sold by Meeks Family Trust - Doc. 440026 to Mountain View Trailer Estates Water Association

1999 It appears the Mountain View Trailer Estates Water Association status was revoked

02/12/2000 Eugene Bunch died in Thermopolis, Wyoming.

In addition, according to the former General Manager of CNUC, Mike Johnson, the Health Department of the State of Nevada had CNUC to take over the well. He believes that there should be a docket on file at the Commission, probably in 1998, demanding this action. However, research at the Commission offices in Carson City by Kathy Sylvia of Resource Concepts, Inc. and conversations she had with Steve McGoff of NDEP, Judy Karrick of Lumos, and Leslie Tench and Shayla Hooker of the PUCN were not successful in recovering any such document.

Q.72 DOES GBWC HAVE A PLAN TO ADDRESS THIS OWNERSHIP ISSUES WITH THE MOUNTAIN VIEW ESTATES WELL?

A.72 Yes, a couple of different options have been explored. An obvious option would be to ask the homeowners association to complete the transfer of ownership to GBWC for the well and the heir of Eugene Bunch to dedicate the associated water rights. However, with the

revocation of the homeowners' association it would appear GBWC would be dealing with at least the 27 homeowners for the well and trying to find the appropriate Eugene Bunch heir for the water rights. GBWC could transfer water rights it already holds to the well, but would still leave negotiating with 27 entities for the ownership of the well. This could be an expensive and time consuming prospect. In addition, it neither would resolve the fire flow nor the lack of redundancy issues in this water system.

Q.73 AS A PART OF THE PREPARATION OF THE UICN 2014 IRP (DOCKET NO. 14-02043), DID YOU HAVE ANY CONVERSATIONS WITH THE PAHRUMP VALLEY VOLUNTEER FIRE AND RESCUE DEPARTMENT ("PVVFR)?

A.73 Yes, Chief Lewis met with the Utility several times regarding his priorities for UICN's capital planning. This project was on his priority list to provide fire protection along the Highway 372 corridor.

Currently Mountain View Estates Water System is a standalone system where fire protection is neither available nor even supported by the existing infrastructure. This system is fed by one well where the system has to be out of service temporarily while repairs take place to the well pump and motor. The repairs to the pump and motor take place approximately every two years. By extending water from the intersection of Blagg Road and Hwy 372 to the west on Hwy 372, to the end of Bunch Street this would eliminate the need of having a well feeding the system as this would be interconnected to the main Calvada Valley system. At the same time this would benefit the town as fire protection would be extended to the west of town and provide Chief Lewis with a closer point to access fire protection water. Currently, for the most part the GBWC-PD water system has limited fire protection to the West of Blagg Road as infrastructure is not available.

Q.74 DOES THIS PROJECT SUPPORT THE HEALTH AND RELIABILITY OF BASIN 162?

A.74 Yes. Highway 372 is primarily a commercial corridor in Pahrump with many vacant lots adjacent to the proposed interconnect and many more nearby. This project would provide backbone infrastructure to allow affordable connection to central water service avoiding needless new straws in the basin. (Please see Attachment WSWB-15, to Exhibit __, *Confidential MVE/ Calvada Valley Interconnect Map.)*

Q.75 ARE THERE OTHER BENEFITS TO THE MVE/CALVADA VALLEY INTERCONNECT?

A.75 This project would reduce the number of water systems in GBWC-PD from 5 to 4 (or 6 to 5 with Spring Mountain Motorsports Ranch soon to be added). This would reduce the regulatory reporting requirements for GBWC-PD. It also would remove a hydropneumatic tank from service which have safety concerns as they are under pressure. (This tank is also located in a residential area.) Additionally, if there is a main break or well failure, all customers downstream of the break would be without water until the break was repaired and a precautionary boil order for these connections would be necessary once service was restored.

Q.76 WHAT WOULD GBWC-PD DO WITH THE HYDROPNEUMATIC TANK IF REMOVED FROM SERVICE?

A.76 The hydropneumatic tank could be put to beneficial use at Wastewater Treatment Plant F for effluent holding without being under pressure. Moreover, due to the potential risks associated with these tanks rupturing, moving this tank to Wastewater Treatment Plant F and away from residential and commercial customers could also be beneficial for customers.

Q.77 PLEASE SUMMARIZE THE BENEFITS FROM THE IMPLEMENTATION OF THIS PROJECT?

A.77 Certainly.

- This project provides reliable service, both through ownership issues and redundancy, to the MVE customers.
- It would forego the need of backup power for this system.
- Takes a hydropneumatic tank out of pressurized service.
- This project eliminates the additional reporting requirements of a stand-alone system and the associated costs and labor.
- This project supports Basin 162 through providing backbone infrastructure near many lots which would be eligible for a new domestic (or commercial) well.
- This project increases fire protection for the MVE customers and along the Highway 160 corridor as prioritized by Chief Lewis (also adding potential ISO rating value.

15. Wilson Road to Ishani Ridge Loop

Q.78 PLEASE DESCRIBE THE WILSON ROAD TO ISHANI RIDGE LOOP PROJECT.

A.78 Installation of approximately 900 linear feet of 12- inch pipe to connect the existing 12-inch pipe at Wilson Rd. to the Hydrant at the Ishani Ridge entrance. Currently the area is served via water mains along Red Butte from Bourbon St. to Highway 372 to Bolling Rd and up through Ishani Ridge stopping at Wilson Rd. and has no secondary water source. Should there be a main break along this water main, there will be no domestic water or fire protection to the area which is approximately a mile of water main. This connection will also provide Ishani Ridge with a second connection to the main Calvada Valley water system. The modeling of the loop indicated that system pressures at the entrance to the Ishani Ridge community are within acceptable pressure ranges. It will provide the benefits of looping to a large portion of the Calvada Valley main system.

Q.79 WHAT ARE THE BENEFITS TO LOOPING WILSON ROAD?

A.79 The Ishani Ridge development provides an excellent opportunity for this project to increase redundancy and fire flow to a portion of the Calvada Valley Water System including a portion of the commercial district along the Highway 372 corridor. There are 70 existing meter connections to the water main from Pahrump Valley Blvd. and Hwy 372 down to Hwy 160 and E. Basin Rd including Firebird Cir. The classifications are 32 Residential connections and 38 Commercial connections which include Pahrump Valley Junction shopping area, Wal-Mart area, Southern Nye County School District Offices, Wells Fargo Bank, Bank of America, Walgreens Store, two Dental offices among others. (Please See Attachment WSWB-16 to Exhibit __, *Confidential Wilson Road Loop Map*.) This project supports Chief Lewis' priority for increased fire flow along the major highway corridors in Pahrump.

Looping Wilson Road to Ishani Ridge provides a redundant source of water should there be a main break. Currently if there is a main break, all customers in the area would be without water until the break was repaired. This would leave commercial and residential facilities without a reliable water source for domestic flow and fire protection. It would also necessitate a Precautionary Boil Order for these 70 connections once service was restored. By adding in the Wilson Rd. to Ishani Ridge Loop, there would also not be an increase in fire flow. However, in the event that a water main break did happen on Wilson Rd., there would be a secondary water source for domestic/commercial/fire flow to the 70 customers discussed above

Q.80 THIS PROJECT HAS BEEN PROPOSED AND DEEMED PRUDENT BY THE COMMISSION IN DOCKET NO. 15-12043. ARE THESE STILL VIABLE BENEFITS?

A.80 Yes. In fact, GBWC recently had an annexation for the new Tractor Supply Company store.[41] for a new store in Pahrump on the Highway 372 corridor. Had the project been complete, Nye County Fire Flow Requirements would not have been an issue. (The location of the Tractor Supply Company is noted on Attachment WSWB-16 to Exhibit __, *Confidential Wilson Road Loop Map.)*

Q.81 HOW DOES THIS LOOPING PROJECT SUPPORT THE BASIN?

A.81 While the primary purpose of this project is to provide redundancy and fire flow for current customers (and to support the PVVFR), it also provides backbone infrastructure to support new utility connection versus another new individual, independent wells. The vacant properties are shown in yellow on the aforementioned map.

16. Firebird Circle Loop

Q.82 PLEASE BRIEFLY DESCRIBE THE FIREBIRD CIRCLE LOOP.

A.82 Firebird Circle is in the Calvada Valley main water system tying to Highway 160. Firebird Circle Loop. Approximately 3,000 linear feet of 12-inch pipe to connect the existing 12-inch pipe at Well 11 to the 12-inch main just west of Dandelion St. on Firebird Circle. (Please See Attachment WSWB-17 to Exhibit __, *Confidential Firebird Circle Loop Map*.) In the event of a main break, isolating the affected piping will be more efficient. Currently, that portion of the system is required to shut down in the case of a main break to prevent causing further damage to the system. By extending the pipe from Well 11 to Dandelion, the west side of Highway 160 will now have fire protection that will not require a shutdown of the Highway for a pipe to be run across from the hydrants on the other side. This looping project would also provide fire protection for the commercial district on the west side of Highway 160 without having to cross the highway in the event of a fire, a stated priority of Chief Lewis'.

[41] Tractor Supply Company required annexation into the service territory. (Docket No, 17-08025)

Q.83 WHAT ARE THE BENEFITS OF LOOPING FIREBIRD CIRCLE?

A.83 There is a total of 15 residential customers that would benefit from the proposed Firebird Circle looping project. By completing the proposed loop to the system, one of the benefits would be to have the ability to provide reliable water service and fire protection to the (East) of Firebird Circle. At the same time the proposed loop would provide fire protection to the (West) corridor of Hwy 160. If a water main break was to take place along the current infrastructure of Well #11 going out to Hwy 372, the proposed loop would provide an additional route for the Well #11 flows to be pumped onto the low zone tank. There would be a tangible flow increase to the current customers (including Walgreens and a gas station) of 1,500 gallons per minute by adding in this loop. Currently if there is a main break or well failure, all customers downstream of the leak would be without water until the break was repaired. It would also necessitate a Precautionary Boil Order for these connections once service was restored.

The project would minimize risk by providing an increase in domestic/fire flow to the 15 customers discussed above. Additionally, in a fire event, the fire department would have to close Highway 160 to run the fire hose across the highway. This project was recommended and is supported by Chief Lewis as a priority for the Pahrump Valley fire protection.

Q.84 THIS PROJECT HAS BEEN PROPOSED AND DEEMED PRUDENT BY THE COMMISSION IN DOCKET NO. 15-12043. ARE THESE STILL VIABLE BENEFITS?

A.84 Yes. The same needs and benefits still exist today without the implementation of this project.

Q.85 HOW DOES THIS LOOPING PROJECT SUPPORT THE BASIN?

A.85 While the primary purpose of this project is to provide redundancy and fire flow for current customers, (and to support the PVVFR) it also provides backbone infrastructure to support new utility connection mitigating new domestic well consumption. The vacant properties are shown in yellow on the aforementioned map. There are 68 vacant lots directly adjacent to the proposed water main. There are hundreds more which could much more affordably connect (particularly should the Commission approve tariff revisions to encourage utility connection) with the implementation of this project.

18. Future Looping Analysis Study

Q.86 PLEASE DESCRIBE THE FUTURE LOOPING ANALYSIS STUDY.

A.86 The Future Looping Analysis Study is multi-faceted in the sense that there are multiple considerations which must be examined: where is infrastructure lacking, where are people wanting to develop, what plans for development does the Pahrump Regional Planning Commission ("PRPC") have for development, where can systems be tied together (if, feasible), where are the most critical looping needs to reduce maintenance for water quality assurance, what are the next priorities for fire protection, etc.?

This project builds off the *Dead Ends Looping Analysis of the Existing Water System* (March 2007) (See Appendix M of the GBWC 2018 IRP) to identify new priorities for looping to improve water quality, reliability and fire protection, as wells as provide opportunity to work with Nye County and the NCWD on their priorities for infrastructure, whether for basin health, road improvements, and/or Pahrump planning purposes. Updating the system helps GBWC-PD to take positive steps in compliance with NAC 445A.6712, which states that the water system should be designed to the extent possible to eliminate dead ends and form a grid system or system or arterial loops.

The Future Looping Analysis Study has stand-alone benefits, but also is integral to the benefits of the Future Well Location Evaluation project. And, the Well Rehabilitation

Project complements the Future Well Location Evaluation. While each project has its own benefits, I do want to take opportunity to say that this IRP is well thought out, taking into consideration both short-term and long-term needs for our customers and contemplates where other community members and experts feel the priorities lie for the community and basin health. There are immediate needs from aging infrastructure, redundancy and fire protection needs. There are long-term needs to meet the changes in a regulated industry. There are long-term needs for sustainability.

Planning for the future is much more than population projections, demand projections, and determining when a wastewater treatment plant will be at 85% capacity . . . It is multi-faceted planning with many considerations. While a large focus of my testimony is on the health and protection of the basin to ensure a sustainable water source that doesn't require treatment (as it does not today, which protects consumer rates), it also about supporting the communities which I serve (such as providing flexibility for pipeline replacement projects).

As development occurs in the area, if infrastructure is not put in place to avoid proliferation of new wells, the basin health will continue to worsen which will adversely affect our customers as it will become more and more difficult and costly to ensure adequate water supply to meet service demands. Accordingly, it is critical for us to work with the Nevada State Water Engineer and stakeholders in the area to understand the basin and ensure utility connections are available as much as possible to prevent proliferation of new wells.

Q.87 HOW DOES THE FUTURE LOOPING ANALYSIS STUDY SUPPORT BASIN 162 AND GBWC's ABILITY TO CONTINUE MEETING SERVICE DEMANDS?

A.87 The study would allow GBWC to evaluate where new backbone infrastructure would best support the basin, GBWC's continued provision of service to all of its customers and the goals of the community. The GWMP presented to the NCWD and the Nye BOCC recommended, ". . . Initiation of discussions between the utilities, PUCN, NCWD, DWR,

RPC and others as necessary regarding the development of prudent backbone infrastructure projects in support of future GWMP implementation strategies, including limiting the proliferation of new wells..."[42] Backbone infrastructure is essential to mitigating the proliferation of new domestic wells.

A purpose of the Future Looping Analysis Study positively correlates with Nye County's desire for future infrastructure to support of areas identified for growth – to avoid proliferation of wells that will further diminish the health of the basin. The Utility can provide service to their entire service territory designated to have central water (and sewer) service as preferred by the State Engineer. We have the financial means, water rights and expertise to do so but require management tools such as the Backbone Infrastructure Study to identify areas most likely to include most immediate service connections. And, the instant docket supports how to make it affordable to future customers limiting the proliferation of new domestic wells, which is in the interest of existing customers and GBWC's continuing ability to meet service demands in the most efficient manner. Further decline of the basin's health is likely to ultimately lead to more expensive service especially if decisions cannot be informed by studies such as those proposed here.

19. Office and Water Education Center at Discovery Park

Q.88 PLEASE DESCRIBE THE BUILDING AT DISCOVERY PARK PROJECT.

A.88 This project involves a new 5,000-square foot Discovery Park Office and Visitor's Information Center at Discovery Park.

Q.89 WHO OWNS THE WILLOW CREEK PROPERTY?

A.89 UICN Real Estate Holdings, Inc.

[42] Appendix B, GWMP p. 27 – Vol. 5 at 152.

Q.90 WHAT IS THE REASON FOR THIS OWNERSHIP OF THE PROPERTY?

A.90 A third party took the position that the Utility owning the property would make it part of the Utility's treatment works, which the third party then claimed would require additional regulatory approvals. Although the Utility did not agree with the jurisdictional issue raised, the Utility chose to have another entity take ownership rather than experience additional delays and expenses associated with resolving such a dispute. The Utility also believes that there may be greater flexibility for future development of the land with this ownership arrangement.

Q.91 WHAT SURETY IS THERE THAT GBWC-PD WILL BE ABLE TO USE THE PROPERTY FOR THE OPERATIONS OF PLANT 3 WITHOUT ADDITIONAL COSTS TO THE RATE PAYERS?

A.91 UICN entered into a lease with UICN Real Estate Holdings Inc. structured so that the costs would be the same to the ratepayers regardless of ownership of the property and providing the Utility has the legal right to use the property. (Subsequently, UICN changed its name to GBWC with Commission approval. (Docket No. 16-07031.)) Additionally, GBWC and UICN Real Estate Holdings have the same board of directors and officers providing additional assurance of cohesive goals. (Please see attachment WSWB-18 to Exhibit __, *UICN Real Estate Holdings, Inc. Lease.*)

Q.92 DID THE COMMISSION ALLOW RECOVERY OF THE PROPERTY IN UTILITY RATES?

A.92 Yes, The Commission approved recovery of the property in Docket No. 15-06063 (Order at 157). Additionally, the Commission validated the Utility's reasoning for taking ownership under UICN Real Estate Holdings. "Since no party has identified any negative impact on UICN' s customers as a result of this decision, there is no reason for the Commission to challenge it. [While] the Commission does not disagree with UICN's chosen ownership arrangement . . ." (Order at 157).

Q.93 HAS THE COMMISSION APPROVED ANYTHING ELSE FOR DISCOVERY PARK?

A.93 Along with the purchase and remediation of the property, the Commission approved a Master Plan for Discovery Park in Docket No. 14-02043, the *UICN 2014 IRP*. (Partial Stipulation, I. 1. H., accepted by the Commission Order in said docket.) As explained in the Prepared Direct Testimony of Deborah D. Woodland in the instant docket, the Master Plan is complete and the park is underway through donation and volunteerism. In the *First Amendment to the UICN 2014 IRP*, I describe the education park as a phased development. (Docket No. 15-01029, Barnett Direct Testimony, Q/A 29.) The Office and Water Education Center is a proposed component to enhance public outreach and customer interaction.

Q.94 IS THE PROPERTY CURRENTLY ZONED FOR AN OFFICE AND EDUCATION CENTER?

A.94 No. The property is currently zoned Open-Space. It is my understanding that should the Commission approve this project, the property will have to be rezoned. I have agreed to Nye County's request that some boundary adjustments will be made which could be done at this same time (particularly, if the RIBs could be implemented at that time). It has been a wish of mine for quite some time to be able to enter into a developer's agreement with Nye County for the development of Discovery Park.

Q.95 PLEASE DESCRIBE GBWC'S CURRENT PAHRUMP OFFICE LOCATION.

A.95 Currently, with 4,000 sq. ft., leased office space, which provides space for customer service representatives, operation staff, managers, and operators, and the Great Basin Water Co. It is comprised of 4 – 1,000 sq. ft. rental spaces in a strip mall. The floor plan does not provide adequate functionality for the Company's purposes. (Please See Attachment WSWB-19 to Exhibit __, *Pahrump Office Floor Plan*.) There are inconveniences such as the thermostats being zoned from east to west for each of the 1,000 sq. ft. rental spaces

which causes either those on the west side of the building or those on the east side of the building to be sometimes (unbearably) uncomfortable. The conference room can only be entered through someone else's office or the outside. There have been several small vehicle accidents damaging employee vehicles in the parking lot as GBWC leases in a commercial mall setting with a popular restaurant.

There is no space for another employee at the currently leased space. The open space in Customer Service / Collections is currently used for storage, which, even it was cleaned out somehow, would be an open space office without privacy or quiet to be able to focus on work. (There already exists an abundance of noise between copiers, conversations in the "hallways", Customer Service Representatives on the phone, etc., which is quite distracting.) When the operators are in from the field, typically in the morning, lunchtime, and at the end of the day, there are 21 staff members in the office. If there is training or other staff meetings, there can be 26 staff members staff in the office, without visitors (customers, developers, trainers, engineers, SCADA vendors, GBWC staff from out-of-town, etc.), much less for a water education event.

When the Utility first moved into the current location in 2006, we had approximately ten employees working out of three 1,000 sq. ft. suites separated by a carpet store. Not that it was ideal either, but it certainly provided more space (and my desk was in a hallway). We have managed over the years; but, it is time to have our own space and a positive identity in the community.

The outside of the of the current office is pavement. (There is one small un-decorative rock patch on the side of the building.) Indoors or outdoors, there is no space for public education and permanent demonstrations of water conservation. An Office and Water Education Center at Discovery Park provides the dual benefits of resolving current issues

with the office on State St., while providing permanent customer outreach educating on the benefits (and ease) of using water wisely.

Q.96 DOES OFFICE SPACE IMPACT EMPLOYEE MORALE AND PRODUCTIVITY?

A.96 In an international IPSOS survey, commissioned by office supplier Steelcase, 84% of workers reported that their work environment did not allow them to concentrate easily, express ideas freely, work in teams without interruption, or choose where to work based on the task at hand. They found a lack of privacy to be one of the most interfering office issues. Research has also shown that offices that provide great views tend to be more productive. When employees can look out their windows and see a peaceful view, such as a park, they can be more excited about showing up to work each day.

I have certainly witnessed employees seeking the outdoors, using a break to take a brief walk outdoors to clear their minds and then get back on track. The Office and Education Center envisioned at the park can offer this amenity to increase employee morale (satisfaction) at a minimum. It can also be designed to maximize productivity through logistics which currently do not exist now.

The proposed venue also offers another level of employee (and customer) satisfaction: the chance to interact without problem solving. So much of the time our customers reach out to us with problems. The Office and Water Education Center offers a venue to talk about water, what we do, what our customers want from us, as opposed to only interacting with customers when there is an immediate concern. It provides an opportunity for us to be seen as we are: a neighbor and integral piece of the community. Positive human interaction is a need we all have.

Q.97 WHAT IS THE CURRENT MONTHLY RENT FOR THE OFFICE ON STATE ST.?

A.97 The rent is $4,000 a month. It increased to this amount from $3,600 a month (an 11% increase) in 2016. Additionally, the landlord notified us in 2015 that he will no longer perform repairs or change light bulbs, etc. (Please See Attachment WSWB-20 to Exhibit __, *Copper Creek Lease and Repair Notice*.). This high cost and unworkable rental situation provide additional reasons behind GBWC's proposal.

Q.98 WHAT IS THE ANTICIPATED CHANGE IN O&M COSTS?

A.98 Although we would be moving from 4,000 sq. ft. to 5,000 sq. ft., I would not anticipate much if any change to O&M other than the reduction of the $48,000 annual rent expense. The only utility the landlord pays is water. We don't pay ourselves for water. To the best of my knowledge (through the Nye County's Assessor's website), the current building was erected in 2001, almost two decades ago. Since that time, major strides have been made in building fixture energy efficiencies (as well as water). There is even the chance that O&M in a new building could be cheaper (and certainly better climate control zoned). Staff wouldn't need to run personal heaters, fans, open doors with the air conditioner running all at the same time, etc. Additionally, we are currently paying for the repairs (other than HVAC filters) inside the walls on an older facility. On a new facility, the repairs (inside and outside) should be insignificant.

Q.99 HAS GBWC THOUGHT ABOUT LEASING OTHER OFFICE SPACE?

A.99 Yes. However, leasing other space would likely not reduce costs and doesn't have the benefits afforded by an office and education center at Discovery Park where indoor and outdoor learning experiences can be combined and to have local staff available to local customers regarding these local teachings and environments. Additionally, most of the office space in Pahrump is available in strip malls which still will have most of the unsuitable logistics and parking hazards, particularly when parking utility trucks, described above.

Q.100 PLEASE PROVIDE AN OVERVIEW OF THE BENEFITS OF THE OFFICE AND WATER EDUCATION CENTER AT DISCOVERY PARK.

A.100 The benefits include:

- Better office functionality, better designed interactive, community and privacy spaces
- More space for people, filing and storage
- Offers positive interaction opportunities between staff and customers
- Increased GBWC staff morale
- Indoor and Outdoor water conservation education opportunities (Please See the Prepared Direct Testimony of Deborah D. Woodland in this docket.)

And, all at a very minimal cost to ratepayers. (Please See Appendix L-1 to the GBWC 2018 IRP.)

20. Calvada Meadows Improvements

Q.101 PLEASE DESCRIBE CALVADA MEADOWS SYSTEM.

A.101 Calvada Meadows (or the "Meadows") was originally developed by Preferred Equities Corporation ("PEC"). Currently, there are 32 active connections in the Meadows. It has 4,282 lots, with every lot designated to have central water service. The subdivision is approximately 4 square miles. It is currently served by a 300 gallons per minute ("gpm") well, a 3,000 gallon hydro-pneumatic tank and approximately a mile of distribution main. There are issues with sand in the supply water. NRW is higher than desirable. (Please See Appendix M of the GBWC 2018 IRP, *Confidential Calvada Meadows Map*.)

Inquiries for service have estimated costs up to $800,000 to connect one single family residence.[43] While the lots in the Meadows were designated central water and sewer service in the subdivision approvals, the high cost to connect to the Utility puts the State

[43] Calvada Meadows is part of the original PEC subdivisions. PEC declared bankruptcy and, it appears, left some customers with less than expected. (Please See Attachment WSWB-7 to Exhibit __, *CM Inquiry*.)

Engineer in a challenging position if/when requests are made to drill new domestic wells in the area in lieu of connecting at such a high cost. In fact, several people have tried to combine lots in the Meadows so that they are large enough to accommodate well and septic and be allowed to drill a domestic well. One has succeeded to my knowledge.

Q.102 PLEASE DESCRIBE THE PREFERRED ALTERNATIVE FOR THE CALVADA MEADOWS IMPROVEMENTS.

A.102 The Calvada Meadows Infrastructure Improvements would provide backbone infrastructure for residential domestic demand to east of runway in Calvada Meadows Unit 2. This would include 6,760 lineal feet of 10-inch water line to east side of runway and north/south along Kittyhawk and a new 54,000 gallon storage tank and booster pump station with provisions for future fire pump. This would provide backbone infrastructure in Calvada Meadows Unit 2.

This preferred alternative for the Calvada Meadows Infrastructure Project does not meet commercial fire flow requirements. However, much of Pahrump's fire protection is dependent on pumper trucks because of the vast areas served by domestic and small commercial wells. Calvada Meadows is currently dependent on pumper trucks for fire protection. This project would be a beginning for increased central water service in the Meadows.

Q.103 HOW DOES THE CALVADA MEADOWS INFRASTRUCTURE PROJECT SUPPORT BASIN 162?

Q.103 This project is a starting point to mitigate the proliferation of new domestic wells in the Meadows. Resolving the issue with lack of infrastructure in the Meadows has long been on the State Engineer's radar. Line extensions from the new backbone infrastructure would now be more affordable and, certainly so, if Utility Participation in Line Extensions is found to be prudent by the Commission.

Q.104 PLEASE DESCRIBE HOW CALVADA MEADOWS INFRASTRUCTURE PROJECT WAS CONCEIVED BY GBWC.

A.104 GBWC has long thought about how to provide additional service in Calvada Meadows. This was discussed with the stakeholders' group in the creation of the UICN 2014 IRP. At that time, the group decided that the project was too much to take on with other priorities outweighing the problems in the Meadows. Recently, current customers within the Calvada Meadows subdivision approached GBWC seeking additional service availability. GBWC was approached by the Calvada Aeropark HOA (located in Calvada Meadows) about how they can get additional infrastructure. As described above, beneficial infrastructure is not simply a matter of additional pipe (as the HOA originally thought). GBWC has had several meetings with the HOA and even presented the project at the January 19, 2017 Board Meeting. Our customers were very pleased with the efforts we have made thus far in getting the project conceptually designed and before the Commission.

Q.105 PLEASE DESCRIBE IDEAS FOR COMMUNITY PARTICIPATION IN INFRASTRUCTURE FOR THIS CALVADA MEADOWS IMPROVEMENTS PROJECT.

A.105 The idea for this particular project is to address both the Operations and Maintenance costs ("O&M") component and the capital investment component. The engineer's estimate for the increase in O&M for this project is $595. There are 32 current customers currently served in the Meadows. Simple math provides an approximate $1.55 monthly increase for these customers to cover the projected increased O&M costs.

The Engineer's estimate for the Calvada Meadows Improvements project based on conceptual design is $2,347,500. There are 366 lots in The Calvada Aeropark HOA. With a projected cost of $2,347,500, and because the project is to provide backbone infrastructure to enable line extensions and doesn't really cross the lots which will benefit

from this project, typical Rule 9 Reapportionment is not practical. GBWC would ask a Rule No. 9 waiver for this project to simply be $6,594 per new connection to the current customers have already agreed to be reasonable., rather than the calculation provided in Tariff W-1 (Water) Rule No. 9 *Collection and Distribution of Re-apportionment Payments* for the lots in the Calvada Aeropark HOA.

Q.106 PLEASE DESCRIBE THE BENEFITS TO IMPLEMENTING THE CALVADA MEADOWS IMPROVEMENTS PROJECT.

A.106 The benefits to this project are numerous. First, the recommendation for this project is in response to a request by my current customers. As noted above, it provides service to more of the lots in the Meadows as a beginning step for a solution and mitigating the proliferation of new domestic wells. It takes a hydropneumatic tank out of service, which as described above, have safety concerns. It increases fire protection to this portion of the system. It has great potential to decrease NRW in this system.

21. Water Wagon

Q.107 PLEASE DESCRIBE THE PREFERRED ALTERNATIVE FOR THE WATER WAGON.

A.107 The water wagon is a mobile (trailer mounted) drinking water dispensing unit to be used primarily as a water education tool for varying events, including school events, in the communities GBWC serves.[44] The water wagon will be available for GBWC use and for others to use, particularly not-for-profit entities. The envisioned water wagon is double sided, eight station trailer with eight bottle fillers and eight fountains (including wheelchair accessible), 300-gallon stainless steel potable water tank. A 130-gallon galvanized grey

[44] The Water Wagon Project is contained in Volume II of the GBWC 2018 IRP as it well be housed in Pahrump. However, the water wagon will be available for events in all four divisions in Nevada.

water tank, two 110 V pumps to maintain pressure with solar available to run pumps, Trojan Carbon/UV filter system, 110 V electric chiller.

Q.108 WHY SHOULD THE COMMISSION DEEM THE WATER WAGON PROJECT PRUDENT?

A.108 The water wagon provides an excellent mechanism for GBWC to be out among our customers in a fun setting: promoting water conservation, answering questions about water and utility operations, hearing from our customers in a positive venue. The water wagon is a source of safe drinking water without the environmental hazards of PET (polyethylene terephthalate) plastic bottles.

- Bottles used to package water take over 1,000 years to bio-degrade and if incinerated, they produce toxic fumes. It is estimated that over 80% of all single-use water bottles used in the U.S. simply become "litter." Source: ValleyWater.org
- Recycling is only feasible in limited circumstances because only PET bottles can be recycled. All other bottles are discarded. Only 1 out of 5 bottles are sent to the recycle bin. Source: SunTimes
- U.S. landfills are overflowing with 2 million tons of discarded water bottles alone. Source: idswater.org
- It takes over 1.5 million barrels of oil to meet the demand of U.S. water bottle manufacturing. This amount of oil far exceeds the amount needed to power 100,000 for a year, which does not include fossil fuel and emissions costs of greenhouse gases needed to transport the final product to market. Source: SunTimes
- It is estimated that actually 3 liters of water is used to package 1 liter of bottled water. Source: ValleyWater.org

The Water Wagon also has the benefit of providing mobile drinking water in an emergency. This is particularly important for those with limited mobility.

Water Conservation Plan

Q.109 HAS GBWC PROVIDED AN UPDATED WATER CONSERVATION PLAN ("WCP") IN THIS FILING?

A.109 Yes. I am excited about the new ideas for water conservation proposed in the plan. Deborah Woodland, our Water Conservation Coordinator, is avid in her pursuit to *Be Water Smart* and has creative ideas, particularly regarding community outreach. As discussed above, the WCP is a consolidated plan for all GBWC divisions.

Water Conservation is, in many ways, about changing a culture regarding how we use water. When conservation is forced through curtailment because of drought, or other long-term water shortages, we see that people rarely go back to using the pre-curtailment volumes of water; the culture is changed. GBWC seeks to change the way people think about water conservation through education rather than through enforcement as a primary means. Ms. Woodland works collaboratively with the communities we serve to this end. By way of example, Ms. Woodland was able to work with the Nye County Water District Governing Board ("NCWD") on the Nye County Water Conservation Plan to make the plant list specific to the Pahrump area. (Please See Attachment WSWB-4 to Exhibit __, *NCWD Minutes, December 11, 2017, Item 11, p. 12, c.)*

In addition, the proposed WCP is comprehensive addressing drought, systems management on other specific conservation measures. Multiple projects have the potential to positively impact water conservation through systems management. To name some:

- Nye County Reclamation Project, Pahrump
- Calvada Meadows Improvements, Pahrump
- Well Rehabilitation, Pahrump
- Future Well Location Evaluation, Pahrump
- Backbone Infrastructure Study, Pahrump
- Water Wagon, GBWC

- SCADA Upgrade, Pahrump
- Building at Discovery Park, Pahrump
- Main Replacement, Pahrump, Spring Creek, Cold Springs

In addition, AMR is currently being installed in all GBWC divisions with an over-time approach to limit rate impact.

Other specific water conservation efforts are primarily focused on rebates to make it more financially affordable to do the "easy" conservation efforts retrofitting plumbing and landscaping through rebates. Additionally, GBWC has put a lot of thought into specific water conservation efforts for the Pahrump Basin (Hydrographic Basin 162). Although, not specifically addressed in the WCP, there is agreement from Nye County, the Nye County Water District Governing Board ("NCWD") the State Engineer, and the Pahrump Groundwater Management Plan Advisory Committee, that encouraging utility connection is vital to the health of the Pahrump Basin.

More detailed support of the WCP and water conservation systems management projects can be found in the prepared direct testimonies of Deborah Woodland, James Eason, Teresa Valentine, and Michael Hardy.

Q.110 IS GBWC PROPOSING ANY NEW WATER CONSERVATION REBATES?

A.110 Yes. As stated above, GBWC has a Water Conservation Coordinator who has many innovative ideas about water conservation as well as a passion for it. The Prepared Direct Testimony of Deborah D. Woodland in the instant docket provides the details on the Water Conservation Rebates proposed in this filing, which I support.

Q.111 DOES GBWC SEEK REGULATORY ASSET TREATMENT FOR THESE NEW WATER CONSERVATION REBATES?

A.111 Yes. GBWC requests from the Commission Regulatory Asset Treatment of the new water conservation rebates and continuation of the existing rebates:

- High Efficiency Toilets
- Water Efficient Washing Machines
- Water Efficient Bathroom Faucets
- Water Efficient Showerheads
- Weather-Based Irrigation Controller
- Salt Cedar Removal

More information on these rebate programs can be found in the Prepared Direct Testimony of Deborah D. Woodland in the instant docket.

Q.112 PLEASE PROVIDE THE COMMISSION WITH A THREE-YEAR SUMMARY OF THE WATER CONSERVATION REBATES ISSUED BY GBWC IN ALL DIVISIONS.

A.112 A three-year summary, **December 1, 2014 to December 1, 2017,** of the rebates issued by GBWC is found in Table 9:

Table 9: 3-Yr. Water Conservation Rebates Summary

Pahrump Division Water Conservation Rebate	Total Customers	Total Units	Total
High Efficiency Toilet Replacement	24	34	$1,700
High Efficiency Washing Machine Replacement	13	13	$975
Salt Cedar Removal	0	0	0
Total	**37**	**47**	**$2,675**

Spring Creek Division Water Conservation Rebate	Total Customers	Total Units	Total
High Efficiency Toilet Replacement	2	2	$100

High Efficiency Washing Machine Replacement	3	3	$225
Total	**5**	**5**	**$325**

Cold Springs Division Water Conservation Rebate	**Total Customers**	**Total Units**	**Total**
Total	**0**	**0**	**0**

Spanish Springs Division Water Conservation Rebate	**Total Customers**	**Total Units**	**Total**
Total	**0**	**0**	**0**

Total All Divisions	**42**	**52**	**$3,000**

Q.113 DOES THE WATER CONSERVATION PLAN ADDRESS THE CONSOLIDATION OF RULE NO. 23 – WATER CONSERVATION OF TARIFF W-1 (WATER)?

A.113 While GBWC anticipates that some of the conservation incentives proposed will be more effective than others in certain divisions, it causes no harm to make them all available in all divisions. This supports one of the goals of restructuring into one company by streamlining the processes and procedures. Streamlining the tariff will reduce administrative and legal work in maintaining the tariff (reducing costs) and make it more "user-friendly" for our customers. Additionally, coordinating the tariff, first between companies, and now between divisions as long been a goal of Staff and the Company that we have been working towards.

Q.114 ARE THERE NECESSARY CORRESPONDING TARIFF CHANGES ASSOCIATED WITH THE WATER CONSERVATION PLAN?

A.114 Yes, there are. Table 10 provides a summary, description and explanation of the proposed tariff changes.

Table 10: Tariff Changes Corresponding to Proposed WCP

Rule No.	Rule	Sheet #	Current Charge	Description	Comments
1	Definitions	2	N/A	T - combined all GBWC Divisions into one consolidated Rule	
23	Water Conservation	227- 233	N/A	Made all headers the same	RULE NO. 23 WATER CONSERVATION
23	Water Conservation	227	N/A	D - deleted text	or one half (1/2 of the cost of the toilet only (excluding, shipping, tax, delivery and/or other incidentals) whichever is less,
23	Water Conservation	228	N/A	D - deleted text	by the EPA with at least a 6.0 Water Factor installed
23	Water Conservation	228A	N/A	N - Proposed Rebate for High Efficiency Bathroom Faucets	
23	Water Conservation	228B	N/A	N - Proposed Rebate for High Efficiency Showerheads	
23	Water Conservation	228C	N/A	N - Proposed Rebate for Weather-based Irrigation Controller	
23	Water Conservation	229	N/A	D - deleted text	deleted Pahrump to offer this rebate to all divisions
23	Water Conservation	230	N/A	T - correct the listed rate schedules	WGEN-1 for Cold Springs; WRES-1, WCOMM-1, WIRR-1, WPUB-1 and WMH-1 for Pahrump; WGEN-2 for Spanish Springs; and WGEN-3 for Spring Creek.
23	Water Conservation	230	N/A	T - correct typo	changed from F to G
23	Water Conservation	230	N/A	T - correct typo	changed from F to G
23	Water Conservation	231	N/A	T - correct typo	changed G to H H. EXCEPTIONS AND APPLICATION PROCEDURE
23	Water Conservation	231	N/A	T - correct text	changed Regional Director to President
23	Water Conservation	231	N/A	T - correct typo	changed H to I I. ENFORCEMENT

23	Water Conservation	231	N/A	T - correct typo in 2 places	changed E through G to F through H Section E through G
23	Water Conservation	232	N/A	T - correct typo	changed K to J J. ENFORCEMENT DURING PERIODS OF DROUGHT
23	Water Conservation	232	N/A	T - correct typo	changed J to K K. NOTICE
23	Water Conservation	233	N/A	T - correct typo and delete Spring Creek Only	changed K to L L. RESTRICTIONS ON USE OF RECREATIONAL WATER
23	Water Conservation	233	N/A	T - correct typo	1. Recreational Water shall be exempt from Section F (was E) of this rule. . . . Recreational Water shall be governed by Sections F and H (was E and G) of this rule.
23	Water Conservation	233	N/A	T - correct typo	2. Violation of Section F (was E) shall be enforced in a manner consistent with Section I and J (was H and I) . . .
23	Water Conservation	233	N/A	D/N - deleted SCA and changed	changed to HOA or Governmental Entity
23	Water Conservation	234	N/A	L - location moved to incorporate Spanish Springs watering schedule in G	

The waiver for recreational water for Homeowners Associations ("HOA") (Rule No. 23, Sheet 233) was added to the tariff at the request of the Spring Creek Association ("SCA"), which we happily added in working with the "SCA". As I know of no other HOAs which have recreational water in the other GBWC divisions I serve, I added this for governmental agencies.

Please See Attachment WSWB-21 to Exhibit __, *GBWC Tariff No. 1-W, Sheets 2, and 227-234*, including new *Sheets 228B and 228C,* and *Sheet 3, Explanation of Symbols*. If

approved by the Commission, GBWC will file these changes by Advice Letter. Additionally, upon approval by the Commission of the GBWC WCP, the WCP will be submitted to NDEP, Bureau of Safe Drinking Water ("BSDW"), for approval.

Fats, Oils and Grease ("FOG") Plan

Q.115 DOES GBWC HAVE AN APPROVED FOG PLAN?

A.115 Yes. We have plan which has been approved by NDEP and the Commission for the two GBWC divisions which provide sewer service: GBWC-PD and GBWC-SCD. Consistent with the goal of streamlining reporting, processes and procedures, the *GBWC FOG Plan* has been updated to be a single document. (Please See Appendix M, *GBWC FOG Plan*.) Upon Commission approval, the document will be submitted to NDEP, BWPC.

Q.116 ARE ANY TARIFF CHANGES NECESSARY DUE TO THE CONSOLIDATED FOG PLAN?

A.116 No. The tariff already takes into consideration that there are two divisions which we require a FOG Plan and two which do not.

System Improvement Rate Request

Q.117 PLEASE EXPLAIN THE BASIS FOR THE SYSTEM IMPROVEMENT RATE REQUEST.

A.117 The request for a System Improvement Rate ("SIR") is based on NRS 704.663(3), and the implementing regulations adopted by the Commission, NAC 704.600, 704.605, 704.6339, 704.63395, 704.634, 704.6341, 704.63415, 704.63425, 704.6343, 704.63435, 704.605, 704.63385, 704.6339, 704.63395, 704.634, 704.6341, 704.63415, 704.63425, 704.6343, and 704.63435. The statute required the Commission to adopt regulations "specifying the information the Commission will consider:

> In reviewing a request included in a plan or amendment to a plan submitted pursuant to NRS 704.661 . . . to impose a surcharge for the purpose of funding and encouraging investment in infrastructure in the period between

> the filing of rate cases by the public utility. The imposition of any such surcharge approved by the Commission is not subject to the provisions of NRS 704.110.

NRS 704.663(3).

Accordingly, the Commission adopted NAC 704.6339 - 704.63435 for the purpose of "specifying the information" it will consider in "reviewing a request" for SIR included in "a plan or amendment to a plan submitted pursuant to NRS 704.661."

Q.118 FOR WHAT PROJECTS ARE YOU REQUESTING SIR ELIGIBILITY?

A.118 In this filing GBWC is requesting an SIR eligibility for the following action plan projects:

Action Plan Projects from Volume II – GBWC-PD:

1. Wastewater Treatment Plant 3 Dewatering Upgrades
2. Nye County Reclaim Water Project
3. Well Rehabilitation Program
4. Pipeline Replacement and Looping Existing Dead ends
5. Plant 3 Filter Upgrade Phase I
6. Future Well Location Evaluation
7. Cathodic Protection for Low Zone Tank 1
8. Cathodic Protection for High Zone Tank
9. Cathodic Protection for Mountain Falls Tank
10. SCADA Upgrade Project
11. Well 12 Backup Generator
12. Mountain Falls Well 1 Backup Generator
13. Mountain Falls Well 2 Backup Generator
14. Mountain View Estates/Calvada Valley Interconnect
15. Wilson Road to Ishani Ridge Loop
16. Firebird Circle Loop

17. Sagebrush Extension
18. Future Looping Analysis Study (Backbone Infrastructure Study)
19. Office and Water Education Center at Discovery Park
20. Water Wagon

Action Plan Projects from Volume III – GBWC-SCD:

1. Backup Generator for Well #1 (75 HP Motor)
2. Backup Generator at the Office building
3. Backup Generator for Well #3 (125 HP Motor)
4. Rehabilitate/Clean Well #1 and Install VFD
5. Replace High Tank
6. Rehabilitate/Clean Well #3 and Install VFD
7. Retaining Wall around Well #1 and Treatment Facility
8. Replacement of Package WWTP (Total 100,000 gpd Package Plant)
9. Rehabilitate/Clean Well #4 and Install VFD
10. Decommission and Replace Tank 106
11. Rehabilitate/Clean Well #10 and Install VFD
12. Liner in 12" Main Under Lamoille Highway
13. Backup Generator for Well #7 (75 HP Motor)
14. Relocate Well #14 Instrumentation to Building with Backup Generator (40 HP Motor)
15. Rehabilitate/Clean Well #7
16. Automated Valve and PRV at Scrub Oak Drive
17. Well 8 Replacement
18. Replacement of Very Poor and Poor Pipe Projects
19. SCADA Upgrades (arsenic plants, backup generators, software upgrade)

Action Plan Projects from Volume IV – GBWC-CSD:

1. Cold Springs Drive Booster Station;

2. Re-pipe County Park on White Lake Dr. to Pressure Zone 2;
3. Install Flow Meters at all PRV's;
4. Replace Waxwing PRV;
5. Storage Tank 2 Replacement;
6. Reconditioning of Tank 3;
7. New Well House on Well 6;
8. New Well House on Well 7;
9. Preliminary Design Report on White Lake Pipeline Replacement; and
10. Pipeline and Meter Pit Replacement. (Three Annual Phases)

Action Plan Projects from Volume V – GBWC-SSD:

1. Backup Generator for Suki Well (Well #2)
2. Backup Generator for Bridal Path Well (Well #1)
3. Backup Generator for Booster Station
4. Cathodic Protection for Storage Tank 1A
5. Cathodic Protection for Storage Tank 1B
6. Cathodic Protection for Storage Tank 2
7. Raise Booster Station above Ground
8. Test Well and New Production Well

Q.119 WHY SHOULD THE COMMISSION FIND IT PRUDENT TO GRANT SIR ELIGIBILITY FOR ALMOST ALL OF THE ACTION PLAN PROJECTS IN THIS DOCKET?

A.119 First, the regulations relating to SIR do not restrict the number of projects which receive SIR eligibility, nor does the language appear to contemplate a limitation. I am not aware of a discussion surrounding limiting the number of projects in any of the regulation workshops or comments. It is my understanding (as a participant in the legislation and

regulation) that the purpose of SIR is to reduce regulatory lag in order to encourage investment in utility infrastructure in the State of Nevada.

Second, while the timing of projects is planned as outlined in this filing, numerous unplanned events can change that timing. As described above, emergency projects sometimes take precedence over a planned project. Permitting timing is another variable (particularly in Nye County). And then there are just the unknowns in any projects, design drawings often vary from as-built drawings. The timing of a project is critical to recovery timing and the availability of funding for future capital projects.

Although GBWC has been granted SIR eligibility for several capital projects, we have yet to exercise that option before the Commission. However, the flexibility to be able to do so is ensures that we can keep Commission-approved capital projects moving to used and useful projects even when the unexpected occurs.

A prime example is the RIBs project in Pahrump. The RIBs were granted prudency and SIR eligibility in Docket No. 15-01029, the First Amendment to the 2014 UICN IRP. Although approved by both the Commission and NDEP (as well as the Pahrump Regional Planning Commission), they were stalled in the Nye County BOCC approval system and remain in the Fifth District Judicial Court at the time of this writing, where it has been since May of 2016. As the Commission is aware, the RIBs are a needed component of the Plant 3 operations and I will endeavor to install them as quickly as possible once I am able to do so. SIR, as I believe it was intended, allows this to happen without consideration of recovery timing, reducing regulatory lag.

Q.120 FOR WHAT PROJECTS HAS GBWC NOT SOUGHT SIR ELIGIBILITY AND WHY?

A.120 GBWC has not asked the Commission for SIR eligibility for the MVE/Calvada Valley interconnect as it is the intention to at least partially recover this project through funding other than an investment by the company, meaning the project doesn't meet the requirements SIR eligibility. NAC 704.6339 3(f).

Q.121 DOES THE REGULATION SPECIFY THE INFORMATION THAT THE COMMISSION WILL REVIEW UNDER ITS AUTHORITY IN NRS 704.663(3)?

A.121 Yes, NAC 704.6339 specifies that for purposes of "reviewing a request included in a plan or amendment to a plan submitted pursuant to NRS 704.661," as authorized in NRS 704.663(3), the Commission will consider the following information provided by the utility:

(a) A description of the project.

(b) A statement explaining the necessity of the project.

(c) The resulting benefits of the project to the utility and the customers of the utility upon the completion of the project.

(d) A statement supported by written testimony that the project is not designed to increase revenues by connecting an improvement to a distribution system or wastewater system to new customers.

(e) A statement that the project was not included in the rate base of the utility in its most recent general rate case.

(f) A statement that the project costs for which recovery will be sought represent an investment to be made by the utility and which will not be paid by another funding source, including, without limitation, a grant, developer contribution or other form of reimbursement.

(g) If submittal to the Commission is not otherwise required by law or regulation, the utility's plan for construction and the proposed schedule for construction. A plan for construction and a proposed schedule for construction submitted pursuant to this paragraph must comply with the provisions of paragraph (a) of subsection 4 of NAC 704.568.

(h) If submittal to the Commission is not otherwise required by law or regulation, a budget of planned expenditures which complies with the provisions of NAC 704.5681.

NAC 704.6339 further states that this information is "in addition to any information otherwise required to be submitted in support of an element of an action plan pursuant to NAC 704.565 to 704.5688, inclusive."

While items (g) and (h) are not required given the nature of this filing, I provide support for these items for each SIR project request in this filing for the Commission's ease of locating the required information. I will address items (a)-(d) and (f)-(h). Mr. Redmon addresses item (e) in his prepared direct testimony. In addition, supporting information for the SIR eligibility requests are contained throughout this filing.

Q.122 DOES THIS FILING INCLUDE A "DESCRIPTION OF THE PROJECT" AS REQUIRED BY ITEM (A) ABOVE?

A.122 **Descriptions of the projects in Volume II – GBWC-PD:**

The descriptions of all the projects for which GBWC seeks SIR eligibility for the Pahrump Division can be found in Volume II – Section 10.1.

Descriptions of the projects in Volume III – GBWC-SCD:

The descriptions of all the projects for which GBWC seeks SIR eligibility for the Spring Creek Division can be found in Volume III – Section 10.1.

Descriptions of the projects in Volume IV – GBWC-CSD:

The descriptions of all the projects for which GBWC seeks SIR eligibility for the Cold Springs Division can be found in Volume IV – Section 10.1.

Descriptions of the projects in Volume V – GBWC-SSD:

The descriptions of all the projects for which GBWC seeks SIR eligibility for the Spanish Springs Division can be found in Volume V – Section 10.1.

Q.123 DOES THIS FILING EXPLAIN THE "NECESSITY OF THE PROJECT" AS REQUIRED BY ITEM (B) ABOVE?

A.123 **Descriptions of the projects in Volume II – GBWC-PD:**

The need for all the projects for which GBWC seeks SIR eligibility for the Pahrump Division can be found in Volume II – Section 10.1.

Need for the projects in Volume III – GBWC-SCD:

The need for all the projects for which GBWC seeks SIR eligibility in the Spring Creek Division can be found in Volume III – Section 10.2.

Need for the projects in Volume IV – GBWC-CSD:

The need for all the projects for which GBWC seeks SIR eligibility in the Cold Springs Division can be found in Volume IV – Section 10.2.

Need for the projects in Volume V – GBWC-SSD:

The need for all the projects for which GBWC seeks SIR eligibility in the Spanish Springs Division can be found in Volume V – Section 10.2.

Q.124 DOES THIS FILING EXPLAIN THE "BENEFITS OF THE PROJECT" AS REQUIRED BY ITEM (C) ABOVE?

A.124 Yes, the filing presents the "resulting benefits of the projects to the utility and the customers of the utility upon the completion of the project."

Benefits of the projects in Volume II – GBWC-PD:

The benefits of the projects for which GBWC seeks SIR eligibility in the Pahrump Division can be found in Volume II – Section 10.3.

Benefits of the projects in Volume III – GBWC-SCD:

The benefits of the projects for which GBWC seeks SIR eligibility in the Spring Creek Division can be found in Volume III – Section 10.3.

Benefits of the projects in Volume IV – GBWC-CSD:

The benefits of the projects for which GBWC seeks SIR eligibility in the Cold Springs Division can be found in Volume IV – Section 10.3.

Benefits of the projects in Volume V – GBWC-SSD:

The benefits of the projects for which GBWC seeks SIR eligibility in the Spanish Springs Division can be found in Volume V – Section 10.3.

Q.125 CAN YOU CONFIRM THAT THE PROPOSED PROJECTS ARE NOT DESIGNED TO INCREASE REVENUES AS REQUIRED BY ITEM (D) ABOVE?

A.125 Yes. I confirm that the proposed projects for which GBWC seeks SIR eligibility are designed to increase revenues. None of the projects in this GBWC 2018 IRP are designed to increase revenues. Rather, every project is designed to meet the needs of our customers, including water sustainability.

How the projects support current customers in Volume II – GBWC-PD:

How the projects for which GBWC seeks SIR eligibility support current in the Pahrump Division can be found in Volume II – Section 10.4. In addition, I will specifically address certain SIR projects in this section.

2. <u>Nye County Reclaim Water Project</u>

The Nye County Reclaim Water Project is to support the basin and current customers. This project will supply irrigation water to the financially struggling school district and

mitigate another well in the over-appropriated Basin 162. The project is not designed to generate new revenue.

3. Well Rehabilitation Project

The Well Rehabilitation Project is to support the basin and current customers. The wells are currently in place to serve current customers. The project is not designed to generate new revenue.

4. Pipeline Replacement and Looping Existing Dead-ends Project

This project involves working with Nye County to determine roadways that will be worked on in the upcoming three years (and beyond) to determine if roadway work will be conducted on roadways corresponding with piping alignments that may require replacement or would help loop existing dead ends. GBWC-PD will also work with other entities, such as other utilities and developers, to coordinate pipeline projects. Coordinating needed pipeline replacements and looping projects for our current customers should result in reduced construction costs and increased positive community relations. The project is not designed to generate new revenue.

6. Future Well Location Evaluation Study

The Future Well Location Evaluation Study is to support the basin and current customers. Being informed so that we can wisely site new production wells will have a direct positive impact on our source water needed to serve our current customers. The project is not designed to generate new revenue.

14. Mountain View Estates / Calvada Valley Interconnect Project

The MVE/Calvada Valley interconnect Project is to provide redundancy and fire protection to the current customers in the MVE system at their request. There are the added benefits of providing fire protection along the Highway 372 corridor, taking a

hydropneumatic tank out of service in a residential neighborhood, and providing backbone infrastructure mitigating new individual wells protecting the sustainability of the groundwater source for all GBWC-PD customers. The project is not designed to generate new revenue.

15. Wilson Road to Ishani Ridge Project

Looping Wilson Road to Ishani Ridge provides a redundant source of water should there be a main break. Currently if there is a main break, all 70 customers in the area would be without water until the break was repaired. This would leave commercial and residential facilities without a reliable water source for domestic flow and fire protection. It would also necessitate a Precautionary Boil Order for these 70 connections once service was restored. By adding in the Wilson Rd. to Ishani Ridge Loop, there would also not be an increase in fire flow. However, in the event that a water main break did happen on Wilson Rd., there would be a secondary water source for domestic/commercial/fire flow with this project. The project is not designed to generate new revenue.

16. Firebird Circle Loop Project

There is a total of 15 residential customers that would benefit from the proposed Firebird Circle looping project. By completing the proposed loop to the system, one of the benefits would be to have the ability to provide reliable water service and fire protection to the (East) of Firebird Circle. At the same time the proposed loop would provide fire protection to the (West) corridor of Hwy 160. If a water main break was to take place along the current infrastructure of Well # 11 going out to Hwy 372, the proposed loop would provide an additional route for the Well # 11 flows to be pumped onto the low zone tank. There would be a tangible flow increase to the current customers (including Walgreens and a gas station) of 1,500 gallons per minute by adding in this loop. Currently if there is a main break or well failure, all customers

downstream of the leak would be without water until the break was repaired. It would also necessitate a Precautionary Boil Order for these connections once service was restored. The project is not designed to generate new revenue.

18. Future Looping Analysis Study

The Future Looping Analysis Study is to support the basin and our current customers. The purpose of the Future Looping Analysis Study is to determine areas of high potential growth in areas where there is a lack of infrastructure. It is known that in areas of the basin with a high density of domestic wells that water levels are dropping from being over-pumped. Over-pumping is a threat to our water source both in quantitatively and qualitatively. While growth may occur from future backbone infrastructure projects, the intent is not for additional revenue, but to protect the source water. Additionally, this project request is for a study only. The prudency of any future backbone infrastructure project would be vetted through an IRP process by the Commission. Without this type of study for prudent planning to protect the resource, proliferation of new domestic wells will continue and compromise the basin health and availability of water which will adversely affect all GBWC customers in the Pahrump division. The project is not designed to generate new revenue.

11. Office and Water Education Center at Discovery Park

The Office and Water Education Center at Discovery Park is to support our customers through more positive interactions with the GBWC staff, to create a positive environment of our staff reducing turnover and the associated expense and operational challenges, and to promote water conservation public outreach (NRS 540.141, and NAC 704.567 1(a)(7)). It is also conveniently located near three schools: an elementary school, the high school, and a community college to support NAC 704.567 1(a)(8), Educational programs in schools. The project is not designed to generate new

revenue; rather, it is designed to positively interact with our customers through positive education opportunities.

12. Water Wagon

The Water Wagon project supports our current customers in multiple ways. Outreach "to increase public awareness of the limited supply of water in this State and the need to conserve water" is required under NRS 540.141, and NAC 704.567 1(a)(7), "Programs of public information" and (8), "Educational programs in schools.' The Water Wagon provides opportunities to provide the awareness and education of water in our State and in coordination of events in our communities. As a water utility we must be good stewards of our natural resources and have the added obligation of protecting the reliability (and quality) of the supply source. The project is not designed to generate new revenue; rather, it is designed to positively interact with our customers supporting the creation of a water conservation ethic.

How the projects support current customers in Volume III – GBWC-SCD:

None of the Action Plan Projects from Volume III – SCD have been designed to increase revenues, but rather, to meet the needs and benefits of each project described in this filing for current customers. How the projects for which GBWC seeks SIR eligibility support current customers in the Spring Creek Division can be found in Volume III – Section 10.4.

How the projects support current customers in Volume IV – GBWC-CSD:

None of the Action Plan Projects from Volume IV – CSD have been designed to increase revenues, but rather, to meet the needs and benefits of each project described in this filing for current customers. How the projects for which GBWC seeks SIR eligibility support current customers in the Cold Springs Division can be found in Volume IV – Section 10.4.

How the projects support current customers in Volume V – GBWC-SSD:

None of the Action Plan Projects from Volume V – SSD have been designed to increase revenues, but rather, to meet the needs and benefits of each project described in this filing for current customers. How the projects for which GBWC seeks SIR eligibility support current customers in the Spanish Springs Division can be found in Volume V – Section 10.4.

Q.126 CAN YOU CONFIRM THAT THE PROJECT COSTS FOR WHICH RECOVERY WILL BE SOUGHT REPRESENT AN INVESTMENT TO BE MADE BY THE UTILITY AND WHICH WILL NOT BE PAID BY ANOTHER FUNDING SOURCE, INCLUDING, WITHOUT LIMITATION, A GRANT, DEVELOPER CONTRIBUTION OR OTHER FORM OF REIMBURSEMENT AS REQUIRED BY ITEM (F) ABOVE?

A.126 Yes. I confirm that none of the projects for which GBWC seeks SIR eligibility will be funded other than by an investment to be made by the Utility in compliance with NAC 704.6339(3)(f).

Q.127 DOES THIS FILING INCLUDE A CONSTRUCTION PLAN AND SCHEDULE THAT COMPLIES WITH NAC 704.568(4)(a) AS REQUIRED BY ITEM (G) ABOVE?

A.127 Yes, NAC 704.568(4)(a) provides that an action plan must include:

> (a) For each facility for which construction will be performed during that term:
> (1) The utility's plans for construction; and
> (2) The utility's proposed schedule for construction, including, without limitation, the proposed dates for:
> (I) The preparation of any environmental impact statements, if required;
> (II) The application for and receipt of each significant permit;
> (III) Entering into a commitment for each substantial expenditure; and

(IV) Placing the facility in commercial operation.

This filing includes such a plan for construction and a proposed schedule for construction for each project.

Plan for Construction and Proposed Schedule for the projects in Volume II – GBWC-PD:

The plan for construction and proposed schedule for the projects for which GBWC seeks SIR eligibility in the Pahrump Division can be found in Volume II – Section 10.7.

Plan for Construction and Proposed Schedule for the projects in Volume III – FBWC-SCD:

The plan for construction and proposed schedule for the projects for which GBWC seeks SIR eligibility in the Spring Creek Division can be found in Volume III – Section 10.7.

Plan for Construction and Proposed Schedule for the projects in Volume IV – GBWC-CSD:

The plan for construction and proposed schedule for the projects for which GBWC seeks SIR eligibility in the Cold Springs Division can be found in Volume II – Section 10.7.

Plan for Construction and Proposed Schedule for the projects in Volume V – GBWC-SSD:

The plan for construction and proposed schedule for the projects for which GBWC seeks SIR eligibility in the Spanish Springs Division can be found in Volume II – Section 10.7.

Q.128 DOES THIS FILING INCLUDE A BUDGET OF PLANNED EXPENDITURES THAT COMPLIES WITH NAC 704.5681 AS REQUIRED BY ITEM (H) ABOVE?

A.128 Yes, this filing includes a budget of planned expenditures which complies with the provisions of NAC 704.5681 for the proposed SIR eligible projects.

Budget of planned expenditures for the projects in Volume II – GBWC-PD:

The budgets for the planned expenditures for projects for which GBWC seeks SIR eligibility in the Pahrump Division can be found in Volume II – Section 10.8.

Budget of planned expenditures for the projects in Volume III – GBWC-SCD:

The budgets for the planned expenditures for projects for which GBWC seeks SIR eligibility in the Spring Creek Division can be found in Volume III – Section 10.8.

Budget of planned expenditures for the projects in Volume IV – GBWC-CCD:

The budgets for the planned expenditures for projects for which GBWC seeks SIR eligibility in the Cold Springs Division can be found in Volume IV – Section 10.8.

Budget of planned expenditures for the projects in Volume V – GBWC-SSD:

The budgets for the planned expenditures for projects for which GBWC seeks SIR eligibility in the Spanish Springs Division can be found in Volume V – Section 10.8.

Compliance with the Directive in Order Docket No. 16-12006 at 13

Q.129 WHAT DOES THE DIRECTIVE FROM THE ORDER IN DOCKET NO. 16-12006 REQUIRE GBWC-SCD TO DO IN THIS IRP?

A.129 GBWC has been directed by the Commission to provide in this filing, "options for accelerating installation of automatic meter reading / advanced metering infrastructure ("AMR/AMI") while minimizing ratepayer impact of this installations, including, but not limited to, proposals that only include cost recovery for of debt." While GBWC provides

in this IRP options for accelerating installation of AMR/AMI, including a proposal that only includes cost recovery for cost of debt, in compliance with the Commission's Order from docket 16-12006, it is inconsistent with Nevada law to order GBWC to make capital investments and not allow GBWC to earn a reasonable return on those investments. *See* NRS 704.001(4).

Q.130 HAS GBWC PREVIOUSLY EXPLORED AN ACCELERATED PLAN FOR THE INSTALLATION OF AMR/AMI?

A.130 GBWC-SD has investigated a plan to installation of AMR/AMI for all customers in Spring Creek many times. In the 2012 SCUC IRP (Docket No. 12-03003), SCUC presented an Action Plan which included various options for a proposed meter replacement program. Typically, meters tend to fail with age as the mechanical parts wear down. Based on that underlying assumption, the Commission directed the Company to undertake the meter replacement plan it had designated as "Option 6," which involved replacing only those meters that are 20-years of age or older at a cost of approximately $28,152.49. If these older meters were running slower, the Company and the Commission believed that replacing them could reduce some of the apparent water losses in the SCUC systems.

One of the more thorough reviews was a plan to propose to the Commission via an IRP amendment, just such a project for the accelerated implementation of AMR/AMI. The study for the project was proposed to the Capital Review Project Team ("CPRT") and approved for us to proceed. (Please See Attachment WSWB-22, *First Amendment to the SCUC 2012 IRP Add/Change Form*.) With CPRT approval, SCUC contracted with City Water to do a study on accelerated Manual Read/AMR/AMI meter replacement options for Spring Creek. (Please See Attachment WSWB-23, *City Water Executed Agreement*.)

With City Watch, SCUC held workshops, completed questionnaires, tested meters, etc. to gather the necessary information to create a plan for an accelerated meter replacement project. At first, as proposed in the in the 2012 IRP, it was assumed that older meters would be replaced first as typically meters run slower with age. After testing 100 random meters, SCUC learned that the age of a meter was not the determinative factor in whether a meter ran slow. Rather, meters of certain sizes and/or from certain tracts tended to fail at higher rates. Thus, these test results questioned whether apparent losses would be significantly impacted by replacing meters older than 20 years.

Table 11: Meter Testing Results

Tract	Average Weighted Accuracy	Count
1"	**67.8%**	**40**
100	59.8%	19
200	27.8%	4
300	80.9%	6
400	88.9%	11
3/4"	**91.3%**	**59**
100	79.7%	19
200	97.3%	18
300	98.5%	9
400	95.0%	13
Grand Total	**81.8%**	**99**

Although, AMI offers benefits above AMR such as real-time data, SCUC did not believe (and does not believe) that this more expensive option is the right balance for our customers concerns with rate stabilization.

Q.131 WHY DIDN'T THE UTILITY PROPOSE AN ACCELERATED METER REPLACEMENT PROJECT AS AN IRP AMENDMENT TO THE COMMISSION?

A.131 The capital costs for the three options: Manual Read / AMR / AMI meter replacement program were estimated to be substantial by City Water.

Table 12: Meter Replacement Program Costs

Alternative	Capital Cost
Manual Read Full Change-out	$1,007,200
AMR Full Change-out	$1,575,500
AMI Full Change-out	$1,805,500

As the Commission is aware, and as is exemplified in this filing, the Spring Creek systems are in need of very capital-intensive improvements. The Utility is sensitive to rate stabilization issues and chose other capital priorities, such as complying with the new Arsenic Rule, to ensure safe reliable drinking water to our customers.

Q.132 WOULD THE CAPITAL EXPENDITURES BE OFF-SET BY O&M SAVINGS?

A.132 No. The major cost of reading meters is manhours. (With AMR, the routes will still need to be driven, and in fact, we drive them twice as often to gather the data.) While manual meter reading is a labor-intensive task that increases significantly during the winter months in Spring Creek, the labor spent on manual meter reading detracts the field personnel from completing other key tasks in the system. For instance, in the past couple years the Nevada Division of Forestry has stopped maintaining our fire hydrants in the system pursuant to NAC 704.569 *General requirements; adoption by reference of certain publications*. (NRS 703.025, 704.210, 704.660). The responsibility for fire protection now resides with the Elko County Fire Department and they are struggling to keep up with the fire hydrant maintenance pursuant to NAC. Ultimately, the responsibility falls to the public utility. GBWC-SCD is currently pursuing bids for this work. As AMR is installed, manhours will be freed to perform such operational tasks as fire hydrant testing and maintenance.

Q.133 WHY HASN'T GBWC-SCD PROPOSED A CAPITAL PROJECT FOR ACCELERATED AMR/AMI INSTALLATION?

A.133 The directive is specific in providing options for accelerated AMR/AMI installation while minimizing ratepayer impact of this installations. Those options are provided in the Prepared Direct Testimony of James T. Eason. The directive also specifies that the Company provide a proposal that only includes cost recovery for cost of debt in compliance. This is included in the Prepared Direct Testimony of Terry Redmon. The companies preferred option is to install AMR over the next three years using in-house labor without opening a project and accruing IDC.

This option has been selected as the preferred option to reduce costs over other options in three ways: 1) implementation over-time to reduce rate impact (but, not so retarded as to overly delay the benefits), 2) avoid expensive contract labor which would increase the overall cost of the accelerated meter replacement, and 3) without accruing IDC – meters are placed-in-service as they are installed.

Requests for Approvals

Q.134 FOR WHAT DOES GBWC SEEK COMMISSION APPROVAL?

A.134 GBWC seeks from the Commission for the following:

- Approval of the Action Plan projects recommended in this filing;
- Approval of the Funding Plan provided in this filing;
- Approval of the Water Conservation Plan including new conservation rebates and approval of the associated tariff changes;
- Approval of the updated FOG Plan;
- Approval of recommended alternatives for tariff changes to support Basin 162 through the mitigation of new domestic wells;
- Approval of the GBWC 2018 IRP; and
- Find that GBWC has complied with the Directive in Order Docket No. 16-12006, at 13.

Conclusion

Q.135 DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A.135 Apparent in this filing is the reality that GBWC's four divisions have serious needs, which have substantial potential impacts to our customer's rates. The relatively small size of the GBWC divisions make it disproportionately difficult for our customers to bear the cost of projects that the Company requires to effectively serve them. The Company recognizes this and is looking into alternatives which can help mitigate the impact particularly to its smaller divisions (or customer classes), taking into account the engineers' analysis of needs in this filing. For example, the rate impact to Spanish Springs contained in this filing could be mitigated while maintaining the same high standard of service to Spanish Springs in more cost-effective manner. Cold Springs and Spanish Springs are served by the same operators in the Reno area. Cold Springs has approximately 3,650 customers with growth potential. Spanish Springs has about 583 customers and is almost completely built out. Consolidating rates for these two GBWC divisions stabilizes rates for all the customers in both divisions. GBWC provides in Appendix L-1, a comparison of rates if consolidated into one rate structure for GBWC-SSD and GBWC-CSD. GBWC is willing to provide supplemental testimony regarding the options the Company is evaluating as a result of the rate impact contained in this filing, which include rate consolidation among divisions, which, based on my understanding, has been implemented in other states to promote rate stabilization, as there is concern for more than Cold Spring and Spanish Springs rate impacts. The American Society of Civil Engineer's ("ASCE") Nevada Infrastructure Report Card (2014) states, Nevada will need $5.6 billion over the next 20 years to maintain its drinking water systems." Fortunately, GBWC has the resources to bring needed dollars to Nevada; and, we must think how to do so in a most cost-effective manner for our customers.

This concludes my testimony, though I reserve the right to supplement or make corrections to this testimony at the time of the hearing in this proceeding.