

**Bighorn Desert View Water Agency
Water Capacity Fee Analysis
Demographic Data and Projections**

EXHIBIT 1

TABLE 1 - METER EQUIVALENT UNITS

Meter Size	Existing Water Meters ¹	Meter Equivalence		1-inch Meter Equivalent Units
		Maximum Flow (gpm) ²	Equivalency to 1 inch meter	
3/4 inch	1,660	30	1.00	1,660
1 inch	1,019	50	1.00	1,019
1.5 inch	0	100	2.00	0
2 inch	26	160	3.20	83
3 inch	0	320	6.40	0
Total	2,705			2,762

1. Number of meters by size and customer class for July-August 2020. Includes 121 Bulk meters.

Source file for meters and consumption: CUSTOMER BILLING DATA 10.13.2020_v2.xlsx

2. Source: AWWA M1, Table B-2. Assumes displacement meters for 5/8" through 2", Compound Class I for 3".

TABLE 2 - EXISTING AND PROJECTED SERVICE NUMBERS

Demographic Statistics	Existing Total	Projected Service Total ¹ (thru FY2037/38)	% Allocation Factors		Cumulative Change	
			Existing Customers	New Customers	Number of Units	% Increase
Equivalent 1-inch meters	2,762	3,525	72.4%	27.6%	763	27.6%

1. Customer growth estimated in 2007 Urban Water Master Plan. Assumes 40 new connections per year.

Source file: Water Master Plan 2007.pdf, page 16.

**Bighorn Desert View Water Agency
Water Capacity Fee Analysis
Existing Capital Facilities and Equipment for Consideration (System Buy-In)**

EXHIBIT 2

TABLE 3 - EXISTING ASSETS, ORIGINAL AND REPLICATION VALUE

Asset Category ¹	Original Values ¹	Replication Value ²	System Buy-In Cost Basis ³
	Asset Cost	Asset Cost	
Water Fund			
Infrastructure	\$ 582,157	\$ 1,416,064	\$ 1,416,064
Land	38,690	38,690	38,690
Large Machinery	595,257	914,242	914,242
Mains and Piping	1,845,242	4,762,862	4,762,862
Meters and Hydrants	257,851	318,347	318,347
Office Equipment	576,474	719,186	719,186
Pumps, Tanks & Wells	3,443,496	8,175,586	8,175,586
Treatment Plant	4,003,823	16,369,245	16,369,245
Vehicle	253,208	265,048	265,048
Total Capital Facilities & Equipment	\$ 11,596,198	\$ 32,979,269	\$ 32,979,269

1. Source file for Bighorn Desert View Water Agency current assets as of August 2020: 2020.09.02-58227744-FA-Asset Listing.xlsx

Fully depreciated assets have been excluded from this analysis.

2. Takes into account estimated cost inflation, noted in Footnote 3.

3. System Buy-In Cost Basis values are calculated by escalating the book values (from Agency's fixed asset report) from service date to current year values using historical cost inflation factors from the Handy-Whitman Index of Public Utility Construction Costs for Water Utility Construction in the Pacific Region.

The percentage change in the asset cost is shown in column M of the Existing Assets Detail tab, labeled "Adjusted % of Original Value".

TABLE 4 - EXISTING ASSETS, ALLOCATION TO EXISTING AND FUTURE CUSTOMERS

Asset Category ¹	System Buy-In Cost Basis	Allocation Basis (%) ²			Distribution of Cost Basis (\$)		
		Exclude from Analysis ³	Existing Customers	Future Customers	Exclude from Analysis ³	Existing Customers	Future Customers
Water Fund							
Infrastructure	\$ 1,416,064	0.0%	72.4%	27.6%	\$ -	\$ 1,024,906	\$ 391,158
Land	38,690	0.0%	72.4%	27.6%	-	28,002	10,687
Large Machinery	914,242	0.0%	72.4%	27.6%	-	661,702	252,540
Mains and Piping	4,762,862	0.0%	72.4%	27.6%	-	3,447,221	1,315,641
Meters and Hydrants	318,347	0.0%	93.2%	6.8%	-	296,842	21,505
Office Equipment	719,186	0.0%	72.4%	27.6%	-	520,526	198,660
Pumps, Tanks & Wells	8,175,586	0.0%	72.4%	27.6%	-	5,917,251	2,258,335
Treatment Plant	16,369,245	0.0%	72.4%	27.6%	-	11,847,583	4,521,662
Vehicle	265,048	0.0%	72.4%	27.6%	-	191,834	73,214
Total Capital Facilities & Equipment	\$ 32,979,269	0.0%	72.6%	27.4%	\$ -	\$ 23,935,867	\$ 9,043,402

1. Source file for Bighorn Desert View Water Agency current assets as of August 2020: 2020.09.02-58227744-FA-Asset Listing.xlsx

2. Based on proportionate allocation between existing and future users. See Table 2 in Exhibit 1 for demographic expectations.

TABLE 5 - Asset Categories for Inflation

Category	Type of Asset
ENR-LA	Engineering News Record Average Construction Inflation - Los Angeles
ENR-SF	Engineering News Record Average Construction Inflation - San Francisco
	Source of Supply Plant
1	Collecting & Impounding Res.
	Pumping Plant
2	Structures & Improvements
3	Electric Pumping Equipment
	Water Treatment Plant
4	Structures & Improvements
5	Large Treatment Plant Equipment
6	Small Treatment Plant Equipment
	Transmission Plant
7	Steel Reservoirs
8	Elevated Steel Tanks
9	Concrete Reservoirs
10	Cast Iron Mains
11	Steel Mains
12	Concrete Cylinder Mains
	Distribution Plant
13	Mains-Average All Types
14	Cast Iron Mains
15	Cement Asbestos Mains
16	Steel Mains
17	PVC Mains
18	Services Installed
19	Meters
20	Meter Installations
21	Hydrants Installed
	Miscellaneous Items
22	Flocculating Equipment - Installed
23	Clarifier Equipment - Installed
24	Filter Gallery Piping - Installed

Water Capacity Fee Analysis

Allocation of Cash Reserves and Outstanding Debt to Existing and Future Services

TABLE 6 - ALLOCATION OF CASH RESERVES TO EXISTING AND FUTURE USERS

Cash Reserves	Beginning Cash ¹	% Allocation		\$ - Allocation	
		Existing Customers	Future Customers	Existing Customers	Future Customers
Un-restricted Reserves					
Operating Reserve Fund (Current Customer Deposits)					
Emergency Contingencies Reserve Fund	\$ 3,310,519	100.0%	0.0%	\$ 3,310,519	\$ -
Replacement & Refurbishment Reserve Fund					
Restricted Reserves					
Capacity Fee Reserve ²	\$ 12,780	100.0%	0.0%	\$ 12,780	\$ -
Total Beginning Cash	\$ 3,323,299	100.0%	0.0%	\$ 3,323,299	\$ -

1. Beginning balance for fiscal year 2020/21 is per client email September 7, 2020.

2. Capacity fee cash is excluded as to not double count asset values included in the fee calculation.

Bighorn Desert View Water Agency
 Water Capacity Fee Analysis
 Water Planned Capital Facilities and Equipment for Consideration (System Development)

EXHIBIT 6

TABLE 7 - PLANNED CAPITAL IMPROVEMENT COSTS, ALLOCATED TO EXISTING AND FUTURE CUSTOMERS

Capital Project Description ¹	Future Cost Estimate (2020-2034) ¹	System Development Cost Basis ³	% Allocation		Distribution of Cost Basis (\$)	
			Existing Customers	Future Customers	Existing Customers	Future Customers
Refurbish and Replacement Projects						
Well 4 Rehab	\$ 78,850	\$ 78,850	100.0%	0.0%	\$ 78,850	\$ -
Well 6 Rehab	\$ -	\$ -	100.0%	0.0%	\$ -	\$ -
Well 7 Rehab	\$ 68,060	\$ 68,060	100.0%	0.0%	\$ 68,060	\$ -
Well 8 Rehab	\$ 130,310	\$ 130,310	100.0%	0.0%	\$ 130,310	\$ -
Well 9 Rehab	\$ 81,340	\$ 81,340	100.0%	0.0%	\$ 81,340	\$ -
Well 10 Rehab	\$ 69,720	\$ 69,720	100.0%	0.0%	\$ 69,720	\$ -
Well GMW1	\$ 24,900	\$ 24,900	100.0%	0.0%	\$ 24,900	\$ -
Well GMW2	\$ -	\$ -	100.0%	0.0%	\$ -	\$ -
Well GMW3	\$ 29,299	\$ 29,299	100.0%	0.0%	\$ 29,299	\$ -
Well 13	\$ -	\$ -	100.0%	0.0%	\$ -	\$ -
Pump Well 3	\$ 60,575	\$ 60,575	100.0%	0.0%	\$ 60,575	\$ -
Pump Well 4	\$ 200,000	\$ 200,000	100.0%	0.0%	\$ 200,000	\$ -
Pump Well 6	\$ -	\$ -	100.0%	0.0%	\$ -	\$ -
Pump Well 7	\$ 65,120	\$ 65,120	100.0%	0.0%	\$ 65,120	\$ -
Pump Well 8	\$ 129,880	\$ 129,880	100.0%	0.0%	\$ 129,880	\$ -
Pump Well 9	\$ 99,840	\$ 99,840	100.0%	0.0%	\$ 99,840	\$ -
Pump Well 10	\$ 44,000	\$ 44,000	100.0%	0.0%	\$ 44,000	\$ -
Pump Well GMW1	\$ 82,880	\$ 82,880	100.0%	0.0%	\$ 82,880	\$ -
Pump Well GMW2	\$ -	\$ -	100.0%	0.0%	\$ -	\$ -
Pump Well GMW3	\$ 82,880	\$ 82,880	100.0%	0.0%	\$ 82,880	\$ -
Pump Well 13	\$ 100,000	\$ 100,000	100.0%	0.0%	\$ 100,000	\$ -
New Replacement Well for BH or DV	\$ 500,000	\$ 500,000	0.0%	100.0%	\$ -	\$ 500,000
JV Booster Station Upgrade - VFD's/Pressure Vessels	\$ 15,000	\$ 15,000	100.0%	0.0%	\$ 15,000	\$ -
New Storage Tank	\$ 500,000	\$ 500,000	0.0%	100.0%	\$ -	\$ 500,000
Customer Meter w/ Box & Shutoff, Complete	\$ -	\$ -	100.0%	0.0%	\$ -	\$ -
Utility Billing Software Replacement	\$ 200,000	\$ 200,000	100.0%	0.0%	\$ 200,000	\$ -
Loop Kickapoo Trail	\$ 702,240	\$ 702,240	0.0%	100.0%	\$ -	\$ 702,240
Shop Building Upgrades - storage and work space	\$ 50,000	\$ 50,000	100.0%	0.0%	\$ 50,000	\$ -
Replace Generator - 90 KW mobile	\$ 50,000	\$ 50,000	100.0%	0.0%	\$ 50,000	\$ -
Dump truck	\$ 85,000	\$ 85,000	100.0%	0.0%	\$ 85,000	\$ -
Replace Tractor	\$ 175,000	\$ 175,000	100.0%	0.0%	\$ 175,000	\$ -
Replace Fleet Vehicles (avg life)	\$ 430,000	\$ 430,000	100.0%	0.0%	\$ 430,000	\$ -

TABLE 8 - PLANNED CAPITAL IMPROVEMENT COSTS, ALLOCATED TO EXISTING AND FUTURE CUSTOMERS

Capital Project Description ¹	Future Cost Estimate (2020-2038) ¹	System Development Cost Basis ³	% Allocation		Distribution of Cost Basis (\$)	
			Existing Customers	Future Customers	Existing Customers	Future Customers
Distribution System Projects						
Distribution Valve, 6" avg, both water systems 50%	\$ -	\$ -	72.4%	27.6%	\$ -	\$ -
Fire Hydrants, both water systems 50%	\$ -	\$ -	72.4%	27.6%	\$ -	\$ -
Pipe w/sand bedding, 6" avg. ID Goat Mtn	\$ -	\$ -	72.4%	27.6%	\$ -	\$ -
Pipe w/sand bedding, 6" avg. BDVWA	\$ -	\$ -	72.4%	27.6%	\$ -	\$ -
Operations Capital Projects						
Water Storage Tank Recoating (B1, B2), May 26, 2020	\$ 81,000	\$ 81,000	72.4%	27.6%	\$ 58,625	\$ 22,375
Water Storage Tank Recoating (B1, B2), Feb. 2020	\$ 80,000	\$ 80,000	72.4%	27.6%	\$ 57,902	\$ 22,098
C-Booster Station Upgrades	\$ 35,000	\$ 35,000	72.4%	27.6%	\$ 25,332	\$ 9,668
Total	\$ 4,250,894	\$ 4,250,894	58.7%	41.3%	\$ 2,494,513	\$ 1,756,381

- Estimated capital improvement project costs found in source files: *BDVWA Replacement Refurbishment CIP and Min Rate Gen 5 1 2017.xlsx*
 Cindy and Marina confirmed updated costs in source file: *CIP Estimates through 2035-36 V2.xlsx*
 Certain projects being built in order to allocate new growth are 100% allocated to future customers.
- Operation Capital projects are per page 14 of the District's 2020/21 budget (file: *FY2020.21 Budget adopted 5 26 2020 20R-14.pdf*).

Bighorn Desert View Water Agency
Water Capacity Fee Analysis
Unit Cost Calculation

EXHIBIT 7

TABLE 9 - DEVELOPMENT OF THE COST BASIS FOR NEW CUSTOMERS

System Asset Values Allocated to Future Development	Replacement Cost
<i>Costs Included in Existing System Buy-In:</i>	
Existing Assets	\$ 9,043,402
Planned, Future Capital Projects	1,756,381
Total Cost Basis for New Development	\$ 10,799,783

TABLE 10 - DEVELOPMENT OF THE MAXIMUM CAPACITY FEE PER METER EQUIVALENT

Summary of Capacity Fee Calculation	Adjusted System Cost Basis	Planned Additional Meter Equivalents (thru FY2037/38)	Base Capacity Fee
Proposed Fee -Replacement Cost	\$ 10,799,783	763	\$14,154

1. Refer to Exhibits 2 and 4 for detail of existing assets.
2. Refer to Exhibit 6 for detail related to planned assets.
3. Refer to Exhibit 5 for detail related to cash reserves and outstanding debt.
4. Refer to Exhibit 1 (Demographics) for growth projections.

Bighorn Desert View Water Agency
Water Capacity Fee Analysis
Water Fee Classification and Calculation of Maximum Fee

EXHIBIT 8

TABLE 11 - WATER CAPACITY FEE BASED ON METER SIZE

Meter Size	Equivalency Factor		Capacity Fee Per Meter Size
	Maximum Continuous Flow (gpm) ¹	Equivalency to 1 inch meter	
3/4 inch	30	1.00	\$14,154
1 inch	50	1.00	\$14,154
1.5 inch	100	2.00	\$28,309
2 inch	160	3.20	\$45,294
3 inch	320	6.40	\$90,588
4 inch	500	10.00	\$141,544
6 inch	1,000	20.00	\$283,087
8 inch	2,800	56.00	\$792,645
10 inch	4,200	84.00	\$1,188,967

1. Source: AWWA M1, Table B-2. Assumes displacement meters for 3/4" through 2", Compound Class I for 3" through 6", and Turbine Class II for 8" through 10".