APPENDIX E. SUPPORTING DOCUMENTATION

PWS_ID	System Name	County	Existing Generator?	# of Generators	Generator Facility	Generator Location	Gen. KVA	Gen. KW	Amp Load	Amp Load Basis	Volts	Phases	Fuel Type	Fuel Tank	Fuel Tank Size	Generator Connection Point	Generator Cable Size	Generator Cable Note	Generator Cable Length	Cable Length Note	Other Information	District
WV3303301	CITY OF BERKELEY SPRINGS	MORGAN	YES	1	TREATMENT PLANT	TREATMENT PLANT AT BERKELEY SPRINGS (PERMANENT INSTALLATION)	300	240	361	GENERATOR FULL LOAD RATING	240 / 480	3 PHASE DELTA	DIESEL	ATTACHED	400 GAL	GENERATOR WIRED THROUGH THE TRANSFER SWITCH	350 MCM	ONE CONDUCTOR PER PHASE (3) AND GROUND AND NEUTRAL (2)	100 FEET	5 CONDUCTORS AT 20 FEET EACH EQUALS 100 FEET	(A) SYSTEM HAS EXISTING TRANSFER SWITCH (B) PERMANENT INSTALLATION (C) 80% POWER FACTOR USED IN GENERATOR SIZING CALCULATIONS.	DIST4

MONTHLY OPERATING REPORT DATA

Berkeley Springs Water Works

October 2014				*November 2014*				*December 2014*				*January 2015*				*February 2015*			
Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)
1	16	340,600	9,920	1	18	334,000	10,165	1	17	331,600	9,890	1	16	303,500	9,965	1	16	306,600	9,905
2	17	328,000	9,945	2	18	343,800	9,825	2	17	331,100	9,895	2	15	284,200	9,800	2	16	303,400	9,865
3	22	427,900	9,900	3	19	324,000	10,285	3	19	356,200	9,825	3	15	288,400	9,965	3	17	313,000	10,800
4	21	394,900	11,580	4	18	343,500	9,950	4	17	326,100	9,885	4	15	288,800	10,625	4	17	323,300	9,865
5	17	326,900	9,980	5	17	334,300	10,190	5	18	343,500	9,825	5	17	314,500	9,885	5	17	312,900	10,940
6	19	353,300	10,090	6	18	342,500	9,915	6	17	333,000	9,935	6	15	277,700	10,445	6	17	327,800	9,975
7	19	359,200	9,830	7	19	353,200	9,935	7	18	345,300	13,415	7	18	331,100	9,875	7	17	316,000	9,840
8	19	362,100	10,880	8	16	305,000	9,945	8	17	333,700	9,885	8	16	300,100	9,975	8	16	291,700	9,935
9	19	363,000	9,995	9	17	330,900	9,815	9	19	365,200	10,620	9	17	325,400	9,985	9	16	290,400	9,765
10	18	339,600	10,480	10	19	360,000	9,805	10	18	336,200	9,845	10	17	330,700	9,870	10	17	318,600	9,865
11	19	359,300	9,855	11	18	338,200	10,000	11	19	353,700	9,765	11	18	342,900	9,810	11	16	306,800	10,435
12	19	355,500	11,125	12	17	330,300	9,910	12	17	316,500	9,835	12	17	328,200	10,135	12	17	328,500	9,945
13	19	361,200	9,925	13	19	368,400	11,085	13	13	254,300	10,285	13	19	356,800	9,835	13	16	287,700	11,255
14	17	328,800	9,945	14	17	319,500	9,865	14	15	287,900	9,995	14	15	292,300	9,885	14	17	323,000	9,825
15	19	361,200	10,020	15	17	319,700	9,965	15	14	269,600	11,165	15	17	326,700	9,875	15	17	313,000	11,355
16	18	342,500	10,220	16	18	335,300	9,820	16	15	292,000	9,990	16	17	327,000	10,165	16	17	325,200	9,815
17	19	357,100	9,955	17	19	367,000	9,860	17	15	292,600	10,205	17	16	308,400	9,895	17	17	322,800	10,685
18	18	334,500	10,030	18	17	323,200	9,865	18	16	290,300	9,890	18	18	322,500	10,785	18	16	305,500	9,885
19	18	343,200	9,830	19	19	352,000	9,960	19	15	287,200	9,815	19	16	306,300	9,840	19	19	356,100	9,950
20	18	343,800	10,185	20	19	362,600	9,875	20	15	279,500	9,885	20	17	318,900	10,550	20	18	332,700	9,870
21	18	336,500	9,980	21	18	343,100	10,165	21	14	269,400	9,895	21	17	310,900	9,880	21	17	312,100	13,510
22	19	364,200	10,085	22	17	319,500	9,925	22	17	327,800	9,980	22	16	298,900	10,850	22	19	361,500	9,955
23	18	346,400	9,865	23	18	335,800	10,265	23	13	268,900	9,865	23	16	306,400	9,870	23	19	360,700	9,870
24	18	334,000	10,115	24	19	361,300	9,835	24	15	268,900	9,865	24	15	289,800	9,780	24	20	378,300	9,840
25	18	328,700	9,935	25	17	325,500	10,685	25	15	274,400	9,825	25	16	294,800	9,845	25	20	370,800	9,895
26	19	357,200	9,920	26	17	317,600	9,895	26	17	324,900	9,990	26	15	280,800	10,650	26	18	336,600	9,880
27	19	351,900	9,920	27	18	338,100	9,960	27	15	273,600	11,410	27	16	296,100	10,015	27	18	361,400	9,815
28	17	331,600	10,780	28	18	333,100	9,875	28	15	274,200	9,980	28	16	312,000	10,545	28	19	357,100	9,995
29	19	357,500	9,855	29	18	342,100	9,770	29	17	316,400	9,955	29	16	301,300	9,835	29			
30	19	353,400	9,910	30	18	340,100	9,815	30	16	305,600	9,925	30	16	296,600	10,900	30			
31	17	317,700	9,875	31				31	15	289,000	9,825	31	16	308,900	9,915	31			
TOTAL	572	10,861,700	313,930	TOTAL	537	10,143,600	300,225	TOTAL	500	9,518,600	314,365	TOTAL	506	9,570,900	313,250	TOTAL	486	9,143,500	286,535
AVG	18	350,377	10,127	AVG	18	338,120	10,008	AVG	16	307,052	10,141	AVG	16	308,739	10,105	AVG	17	326,554	10,233
MAX	22	427,900	11,580	MAX	19	368,400	11,085	MAX	19	365,200	13,415	MAX	19	356,800	10,900	MAX	20	378,300	13,510
MIN	16	317,700	9,830	MIN	16	305,000	9,770	MIN	13	254,300	9,765	MIN	15	277,700	9,780	MIN	16	287,700	9,765

	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	
Total Wash Water =	313,930	300,225	314,365	313,250	286,535	315,139	305,865	306,055	322,085	338,060	351,045	333,845	***3,800,399***
Average Filtered Water =	350,377	338,120	307,052	308,739	326,554	339,194	317,277	323,716	319,140	314,358	286,700	270,463	***316,807***
Max Produced =	427,900	368,400	365,200	356,800	378,300	521,400	395,200	350,200	357,000	348,100	324,000	451,100	***521,400***
Min Produced =	317,700	305,000	254,300	277,700	287,700	290,700	279,900	296,000	286,000	278,800	243,400	199,700	***199,700***
Average Hours Pumped =	18	18	16	16	17	18	17	16	16	16	14	13	***16***
Max Hours Pumped =	22	19	19	19	20	21	20	18	18	17	17	20	***22***
Min Hours Pumped =	16	16	13	15	16	16	14	14	14	14	12	10	***10***

March 2015				*April 2015*				*May 2015*				*June 2015*				*July 2015*			
Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)
1	18	337,900	10,965	1	19	356,400	9,875	1	17	322,000	9,845	1	16	331,000	9,940	1	16	308,900	9,850
2	19	366,700	9,915	2	17	310,200	10,025	2	16	303,000	11,305	2	17	357,000	11,290	2	17	329,600	12,215
3	19	364,600	10,310	3	18	330,800	9,870	3	16	305,800	9,980	3	15	294,900	9,855	3	17	340,700	9945
4	19	359,600	9,875	4	15	279,900	10,245	4	18	326,000	10,320	4	15	305,300	9,925	4	15	294,600	10075
5	18	336,800	10,495	5	17	307,100	9,840	5	17	316,500	9,910	5	15	297,300	9,980	5	16	312,000	9,885
6	20	369,800	9,815	6	16	298,700	9,955	6	17	319,700	10,320	6	15	309,100	12,765	6	16	303,600	12670
7	17	329,000	10,000	7	17	322,500	9,865	7	17	318,900	9,980	7	15	299,100	9,935	7	17	348,100	9,965
8	21	521,400	9,885	8	18	335,400	9,930	8	18	342,200	9,750	8	17	334,800	11,455	8	16	329,800	18085
9	18	339,800	10,180	9	16	295,000	9,965	9	17	322,500	9,955	9	16	319,500	9,815	9	17	331,900	9,915
10	17	321,100	9,915	10	16	305,800	9,965	10	16	296,000	9,925	10	17	355,800	10,080	10	16	334,100	10430
11	19	353,100	10,435	11	18	334,700	9,855	11	17	315,500	9,925	11	17	339,400	9,905	11	16	316,200	9935
12	18	332,300	9,950	12	16	299,500	10,725	12	18	339,100	11,565	12	17	332,100	9,940	12	15	305,000	12,365
13	17	323,300	10,585	13	17	320,900	9,840	13	18	341,700	9,925	13	14	291,200	9,965	13	16	327,300	9,840
14	18	357,700	9,895	14	16	302,800	9,945	14	17	321,100		14	16	320,100	17,280	14	16	323,000	11250
15	16	290,700	9,885	15	17	323,300	9,925	15	18	336,900	9,895	15	17	351,500	9,840	15	17	332,700	9,855
16	18	340,700	9,870	16	17	321,700	10,990	16	18	331,500	9,950	16	17	331,200	12,045	16	15	292,500	9,855
17	18	340,300	10,530	17	17	314,500	10,060	17	18	329,100	9,730	17	15	303,600	9,840	17	15	303,600	9845
18	18	332,200	9,855	18	17	311,800	9,950	18	15	311,600	9,820	18	16	317,800	9,925	18	15	299,500	10515
19	17	318,200	10,270	19	16	299,000	9,910	19	16	334,600	9,735	19	16	303,100	9,975	19	15	305,300	9,785
20	17	312,700	9,945	20	16	306,200	9,785	20	16	336,200	9,905	20	15	294,900	10,795	20	15	292,500	10,450
21	17	323,200	12,610	21	17	323,800	9,945	21	15	314,900	11,375	21	16	323,600	9,935	21	17	343,400	9785
22	17	314,600	10,004	22	18	325,500	9,770	22	15	315,400	9,870	22	18	341,700	14,770	22	14	282,600	9,865
23	18	333,800	10,250	23	15	293,300	9,930	23	16	334,800	9,765	23	15	309,300	9,960	23	15	312,300	9945
24	17	315,400	9,960	24	17	322,800	11,365	24	14	303,300	9,875	24	15	302,900	11,515	24	17	339,900	9,830
25	17	310,000	9,975	25	17	310,000	9,945	25	15	324,300	9,845	25	17	344,800	9,890	25	14	278,800	9975
26	17	315,000	9,840	26	17	318,800	11,575	26	16	344,900	9,870	26	14	286,000	9,900	26	17	329,100	9,985
27	17	321,300	10,135	27	20	395,200	9,845	27	15	325,900	9,930	27	16	324,500	9,945	27	14	283,100	9805
28	18	350,700	9,870	28	17	332,300	12,410	28	16	330,400	9,845	28	14	298,400	11,840	28	16	313,100	18,035
29	17	318,600	9,780	29	17	337,000	9,960	29	17	350,200	14,375	29	17	328,800	9,895	29	16	315,400	9785
30	17	314,800	9,855	30	14	283,400	10,600	30	14	304,000	9,805	30	16	325,500	9,885	30	15	302,000	14425
31	19	349,700	10,285	31				31	15	317,200	9,760	31				31	16	314,500	9,895
TOTAL	553	10,515,000	315,139	TOTAL	505	9,518,300	305,865	TOTAL	508	10,035,200	306,055	TOTAL	476	9,574,200	322,085	TOTAL	489	9,745,100	338,060
AVG	18	339,194	10,166	AVG	17	317,277	10,196	AVG	16	323,716	10,202	AVG	16	319,140	10,736	AVG	16	314,358	10,905
MAX	21	521,400	12,610	MAX	20	395,200	12,410	MAX	18	350,200	14,375	MAX	18	357,000	17,280	MAX	17	348,100	18,085
MIN	16	290,700	9,780	MIN	14	279,900	9,770	MIN	14	296,000	9,730	MIN	14	286,000	9,815	MIN	14	278,800	9,785

August 2015				*September 2015*			
Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)	Day of Month	Plant Op. Time (hrs)	Filtered Water (gal)	Filter Wash Water (gal)
1	17.0	324,000	10,675	1	18	350,000	9,875
2	16.0	316,100	9,915	2	14	298,700	11,485
3	16.0	317,800	11,800	3	13	259,900	9,955
4	16.0	311,200	9,960	4	13	199,700	11,450
5	14.0	292,200	16,150	5	17	335,000	9,915
6	16.0	322,100	9,990	6	13	270,600	14,205
7	16.0	314,400	14,360	7	13	262,400	9,910
8	15.0	297,500	9,930	8	14	287,700	11,825
9	16.0	315,600	12,380	9	14	282,200	9,995
10	15.0	300,500	9,900	10	14	281,400	12,495
11	14.0	296,600	11,705	11	13	272,800	9,815
12	15.0	304,900	9,880	12	20	451,100	9,955
13	12.0	246,800	11,595	13	13	254,700	9,855
14	13.0	271,800	9,995	14	13	277,600	20,175
15	13.0	257,400	9,955	15	13	289,000	9,790
16	15.0	295,900	9,885	16	13	246,000	11,280
17	14.0	287,200	11,790	17	13	260,300	9,955
18	13.0	261,600	9,895	18	15	292,400	11,425
19	15.0	290,700	17,095	19	10	216,500	9,975
20	15.0	297,400	9,895	20	13	271,800	9,765
21	13.0	252,500	18,030	21	11	220,100	9,870
22	14.0	270,500	9,990	22	12	245,800	10,535
23	12.0	243,400	10,005	23	12	260,200	9,895
24	14.0	278,000	9,935	24	13	244,400	9,895
25	14.0	269,100	9,785	25	14	356,800	9,875
26	13.0	257,100	9,895	26	11	207,300	10,805
27	15.0	318,900	14,910	27	12	222,400	9,865
28	13.0	258,000	9,840	28	13	239,500	20,115
29	13.0	253,500	9,970	29	13	240,600	9,895
30	13.0	264,900	9,915	30	11	217,000	9,995
31	15.0	300,100	12,020	31			
TOTAL	445	8,887,700	351,045	TOTAL	401	8,113,900	333,845
AVG	14	286,700	11,324	AVG	13	270,463	11,128
MAX	17	324,000	18,030	MAX	20	451,100	20,175
MIN	12	243,400	9,785	MIN	10	199,700	9,765

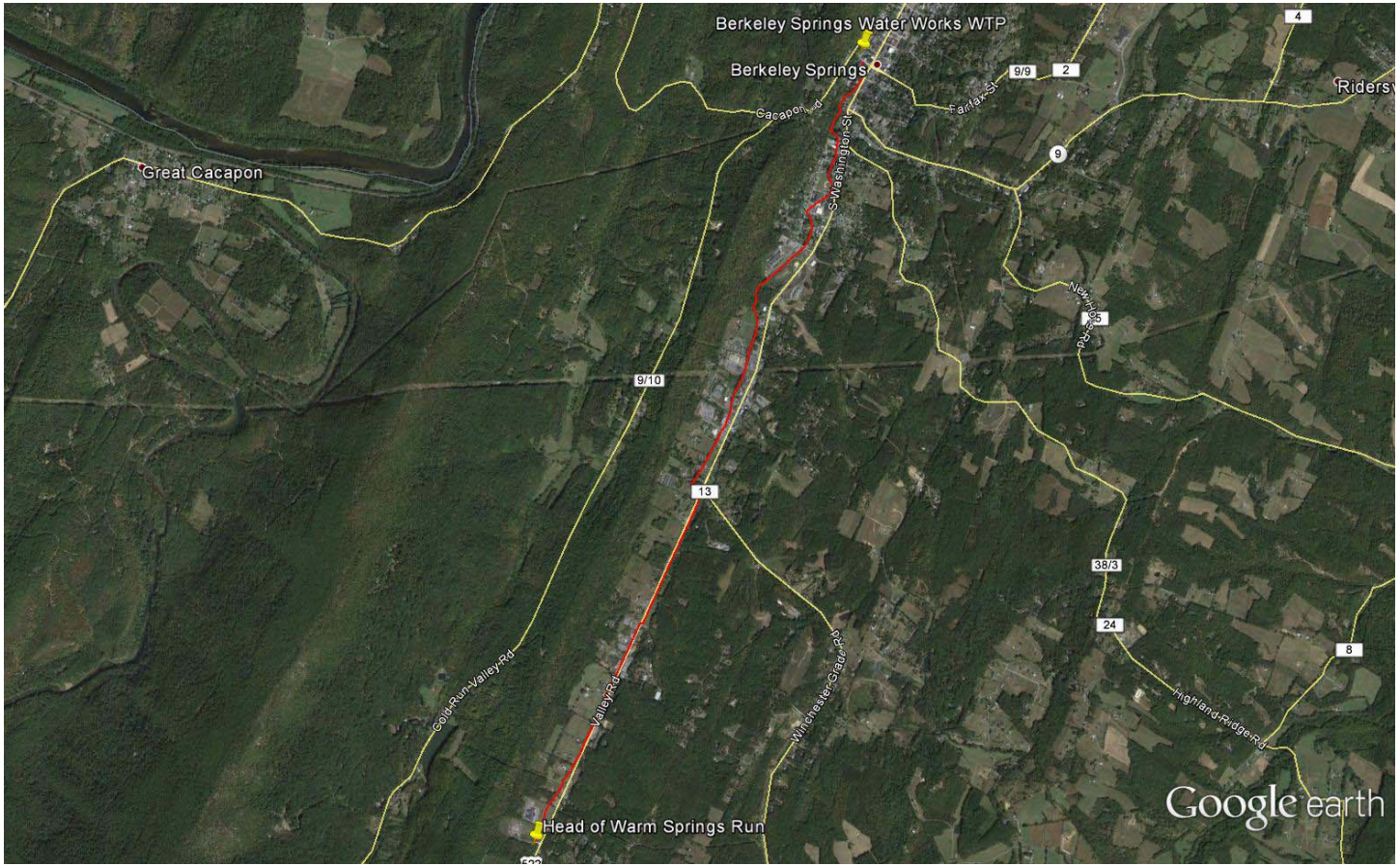
EARLY WARNING MONITORING COST ESTIMATE

Description	Qty.	Unit Price	Total Cost
Back Panel / Trough / Level (required)	1 EA	$4,350.00	$4,350.00
Probe Module SC1000 (6 sensors)	1 EA	$ 1,344.00	$ 1,344.00
Internal Card SC1000 (4 mA inputs)	1 EA	$ 879.00	$ 879.00
Display Module SC1000	1 EA	$ 2,770.00	$ 2,770.00
Conductivity Sensor	1 EA	$ 860.00	$ 860.00
FP360 SC Sensor, 500 ppb, SS, 1.5 m Cable	1 EA	$ 17,480.00	$ 17,480.00
ORP Sensor	1 EA	$ 880.00	$ 880.00
pH Sensor, Ryton	1 EA	$ 800.00	$ 800.00
Installation	1 LS	$ 20,637.00	$ 20,637.00
TOTAL			$50,000.00

OPERATION & MAINTENANCE COST ESTIMATE

Description	Qty.	Unit Price	Total Cost
Annual O&M Cost	1 LS	$750.00	$ 750.00
TOTAL			$ 750.00

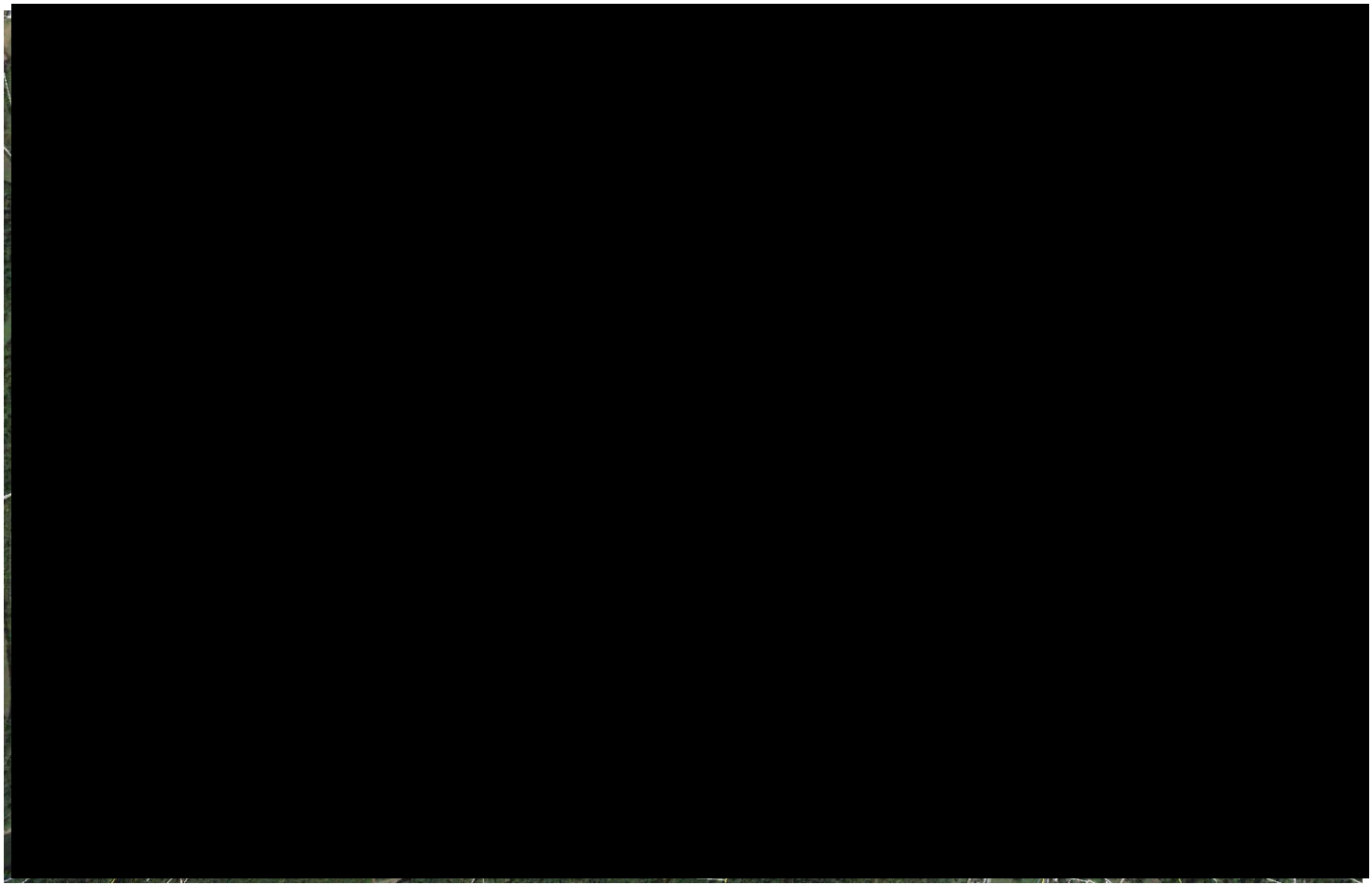
In addition to the early warning system, Berkeley Springs should establish a baseline water quality for their sources.



Google earth

miles 3

km 5



Google earth

miles 1
km 2

Click to hideNews Bulletins

- July 9, 2015 - The NWIS Mapper is back online
- Try our new Mobile-friendly water data site from your mobile device!
- Full News

Click to hide state-specific text

- Additional information:
  - Annual Water Data Reports: Water Years 2006-13
  - Historical instantaneous flow data for West Virginia: Instantaneous Data Archive - IDA
  - USGS Threatened and Endangered Stations: By State
  - National Weather Service Advanced Hydrologic Prediction Service: River forecasts

USGS 01613030 WARM SPRINGS RUN NEAR BERKELEY SPRINGS, WV

PROVISIONAL DATA SUBJECT TO REVISION

Available data for this site | Time-series: Current/Historical Observations | GO

Click to hidestation-specific text

This gaging station is maintained in cooperation with:
West Virginia Department of Environmental Protection,
Division of Water and Waste Management

Current shift adjusted stage-discharge rating table. These tab delimited tables are updated daily and can change frequently. If you use these ratings, it is important that you update often so that you have the most current version.
What is a shift adjusted stage-discharge rating?

This station managed by the Leetown Field Office.

Available Parameters	Available Period
☐ All 2 Available Parameters for this site	
☑ 00065 Gage height	2015-06-30 2015-10-28
☑ 00060 Discharge	2011-10-13 2015-10-28

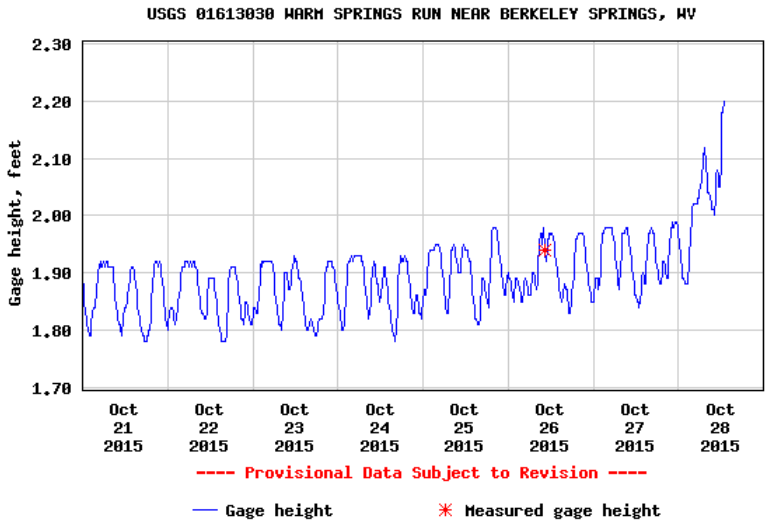
Output format
- ◉ Graph
- ○ Graph w/ stats
- ○ Graph w/o stats
- ○ Graph w/ (up to 3) parms
- ○ Table
- ○ Tab-separated

Days (7) **Summary of all available data for this site** GO
Instantaneous-data availability statement

-- or --

Begin date 2015-10-21
End date 2015-10-28

Gage height, feet
Most recent instantaneous value: 2.20 10-28-2015 12:45 EDT



Add up to 2 more sites and replot for "Gage height, feet"

?
Add site numbers
Note

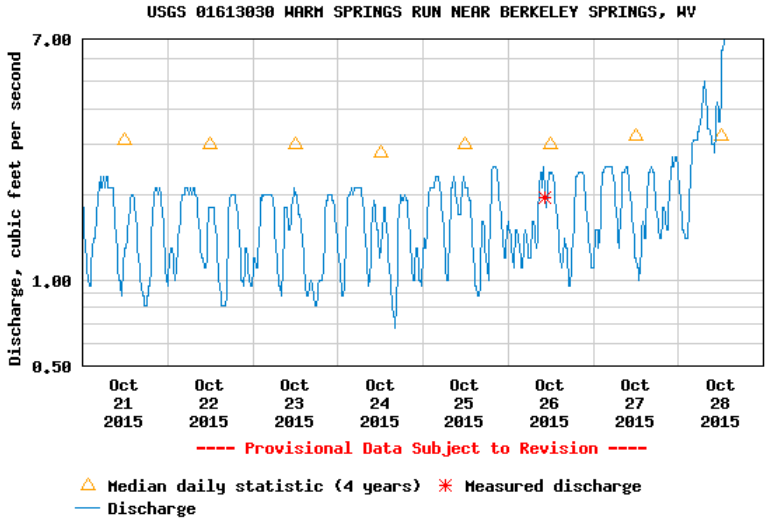
Enter up to 2 site numbers separated by a comma. A site number consists of 8 to 15 digits

GO

Create presentation-quality / stand-alone graph. Subscribe to
?
WaterAlert

Share this graph |

Discharge, cubic feet per second
Most recent instantaneous value: 6.9 10-28-2015 12:45 EDT



Add up to 2 more sites and replot for "Discharge, cubic feet per second"

?
Add site numbers
Note

Enter up to 2 site numbers separated by a comma. A site number consists of 8 to 15 digits

GO

Create presentation-quality / stand-alone graph. Subscribe to
?
WaterAlert

Share this graph |

Daily discharge, cubic feet per second -- statistics for Oct 28 based on 4 years of record more

Min (2015)	25th percen-tile	Mean	Median	75th percen-tile	Max (2012)	Most Recent Instantaneous Value Oct 28
2.0	2.1	3.0	3.2	3.9	3.9	6.9

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News

Caitlyn M. Preast

From: Phillips, David B <David.B.Phillips@wv.gov>
Sent: Thursday, October 29, 2015 4:29 PM
To: Caitlyn M. Preast
Subject: RE: Stream Flows

Hey Caitlyn,

7Q10 = 0.101 cfs
DA = 5.496 sq mi
@ -78.22837 39.62684

From: Caitlyn M. Preast [mailto:cpreast@thrashereng.com]
Sent: Wednesday, October 28, 2015 1:14 PM
To: Phillips, David B
Subject: RE: Stream Flows

Hey Dave,

Thanks for the last stream's flow. Could you please provide the values for Warm Springs Run in Berkeley Springs State Park?

Call me if you have any questions. Thanks!

Caitlyn M. Preast, E.I.
Staff Engineer
The Thrasher Group, Inc.
Charleston, WV 25311
O: (304) 343-7601
cpreast@thrashereng.com

Click to hideNews Bulletins

- July 9, 2015 - The NWIS Mapper is back online
- Try our new Mobile-friendly water data site from your mobile device!
- Full News

Click to hide state-specific text

All data collected by the USGS Water Science Center for MD-DE-DC are reported in Eastern Standard Time (EST).
To convert from EST to Eastern Daylight Time (EDT) add 1 hour.

USGS 01610000 POTOMAC RIVER AT PAW PAW, WV

PROVISIONAL DATA SUBJECT TO REVISION

Available data for this site Time-series: Daily data | GO

Click to hidestation-specific text

LOCATION.--Lat 39°32'20.1", long 78°27'23.0", Allegany County, Md., Hydrologic Unit 02070003,
on left bank 250 ft upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi downstream
from Little Cacapon River, and at mile 277.
DRAINAGE AREA.--3,129 mi^2.
PERIOD OF RECORD.--October 1938 to current year.
REVISED RECORDS.--WDR WV-97-1: Drainage area.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 487.21 ft above North American Vertical Datum of
Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft downstream at same gage datum.
REMARKS.--Low flow affected by Stony River Reservoir prior to July 1981, since December 1950 by
Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake.
U.S Army Corps of Engineers satellite data-collection platform at station.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft on Mar. 18, 1936, discharge,
240,000 ft^3/s, from rating curve extended above 85,000 ft^3/s on basis of slope-area measurement
of peak flow at site 5.0 mi upstream at Okonoko, WV.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 235,000 ft^3/s, Nov. 5, 1985,
gage height, 53.58 ft; minimum discharge, 164 ft^3/s, Sept. 10-11, 1966.
COOPERATION.--Funding for the operation of this station is provided by the U.S. Army Corps of Engineers,
and the U.S. Geological Survey.

Boating safety tips

This station managed by the MD-DE-DC Water Science Center, Frostburg office.

Available Parameters	Period of Record
☐ All 1 Available Parameters for this site	
☑ 00060 Discharge(Mean)	1938-10-01 2015-10-27

Output format
○ Graph
○ Graph w/ stats
○ Graph w/ meas
○ Graph w/ (up to 3) parms

◉ Table
○ Tab-separated

Days (365) **Summary of all available data for this site**
Instantaneous-data availability statement

GO

-- or --

Begin date 2014-10-27

End date 2015-10-27

Daily Mean Discharge, cubic feet per second

DATE	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Oct 2015
1		702 A	910 A	1,510 A	1,710 A	1,070 A	2,330 A	5,070 A	1,460 P	6,310 P	926 P	508 P	1,710 P
2		689 A	1,420 A	1,450 A	1,690 A	1,070 A	2,170 A	6,580 A	1,530 P	4,740 P	862 P	515 P	1,590 P
3		671 A	2,140 A	1,410 A	1,870 A	1,050 A	2,070 A	6,300 A	1,750 P	3,720 P	796 P	617 P	1,680 P
4		662 A	2,350 A	1,520 A	2,390 A	1,730 A	2,060 A	4,980 A	1,740 P	3,430 P	774 P	551 P	4,440 P
5		619 A	2,670 A	1,770 A	2,440 A	7,990 A	2,160 A	4,440 A	1,580 P	3,190 P	795 P	560 P	5,340 P
6		661 A	2,710 A	2,540 A	2,130 A	14,000 A	2,650 A	3,980 A	1,510 P	3,010 P	735 P	590 P	3,900 P
7		702 A	4,610 A	2,650 A	2,000 A	9,790 A	2,490 A	3,620 A	1,650 P	3,490 P	695 P	561 P	2,670 P
8		703 A	5,530 A	2,230 A	1,940 A	8,670 A	2,530 A	3,300 A	1,860 P	3,850 P	705 P	563 P	2,000 P
9		752 A	4,590 A	1,860 A	1,970 A	9,120 A	3,060 A	2,910 A	1,580 P	3,500 P	710 P	542 P	1,610 P
10		884 A	3,940 A	1,760 e A	2,630 A	8,180 A	7,430 A	2,770 A	1,420 P	3,160 P	729 P	528 P	1,410 P
11		834 A	3,570 A	1,620 e A	3,510 A	12,100 A	9,190 A	2,500 A	1,280 P	3,470 P	726 P	608 P	1,320 P
12		802 A	3,200 A	1,710 e A	3,500 A	19,800 A	7,130 A	2,120 A	1,140 P	3,370 P	758 P	575 P	1,260 P
13		768 A	2,860 A	1,770 e A	3,090 A	14,600 A	5,700 A	1,940 A	1,060 P	3,230 P	799 P	632 P	1,160 P
14		742 A	2,600 A	1,670 e A	2,740 A	11,900 A	5,100 A	1,840 A	1,010 P	2,980 P	743 P	615 P	1,060 P
15		713 A	2,410 A	1,600 e A	2,230 e A	13,900 A	6,310 A	1,680 A	1,120 P	2,860 P	714 P	585 P	948 P
16		696 A	2,110 A	1,500 A	1,800 e A	12,500 A	8,720 A	1,590 A	1,280 P	2,510 P	665 P	561 P	886 P
17		701 A	1,890 A	1,450 A	1,700 e A	10,300 A	7,020 A	1,620 A	1,100 P	2,070 P	718 P	538 P	834 P
18		697 A	1,970 A	1,380 A	1,650 e A	7,270 A	6,060 A	1,620 A	1,060 P	1,810 P	832 P	522 P	797 P
19		695 A	2,020 A	1,370 A	1,570 e A	5,650 A	5,230 A	2,050 A	1,440 P	1,680 P	674 P	505 P	759 P
20		706 A	1,920 A	1,310 A	1,420 e A	4,860 A	11,400 A	2,460 A	1,870 P	1,560 P	928 P	769 P	737 P
21		730 A	1,810 A	1,290 A	1,320 e A	5,380 A	20,000 A	2,180 A	3,400 P	1,410 P	1,000 P	1,190 P	720 P
22		701 A	1,730 A	1,250 A	1,320 e A	6,730 A	14,600 A	1,850 A	4,210 P	1,280 P	858 P	591 P	704 P
23		708 A	1,650 A	1,200 A	1,320 e A	6,310 A	11,200 A	1,660 A	3,360 P	1,180 P	1,070 P	519 P	691 P
24		730 A	1,750 A	1,250 A	1,320 e A	5,390 A	8,980 e A	1,670 A	2,970 P	1,140 P	1,350 P	518 P	647 P
25		735 A	2,320 A	1,840 A	1,400 e A	4,800 A	7,200 e A	1,540 A	2,730 P	1,080 P	686 P	520 P	636 P
26		792 A	2,410 A	2,600 A	1,390 A	4,230 A	6,150 e A	1,240 A	2,650 P	1,020 P	602 P	538 P	627 P
27	801 A	900 A	2,260 A	2,700 A	1,260 A	3,770 A	5,880 e A	1,160 A	5,190 P	975 P	550 P	740 P	614 P
28	764 A	929 A	2,050 A	2,460 A	1,120 A	3,520 A	5,340 A	1,180 A	22,800 P	954 P	532 P	585 P	
29	749 A	920 A	1,980 A	2,120 A		3,210 A	4,610 A	1,110 P	16,400 P	909 P	522 P	575 P	
30	736 A	891 A	1,890 A	2,010 A		2,880 A	4,110 A	1,060 P	9,300 P	910 P	513 P	1,380 P	
31	708 A		1,740 A	1,740 A		2,570 A		1,300 P		933 P	512 P		
COUNT	5	30	31	31	28	31	30	31	30	31	31	30	27
MAX	801	929	5,530	2,700	3,510	19,800	20,000	6,580	22,800	6,310	1,350	1,380	5,340
MIN	708	619	910	1,200	1,120	1,050	2,060	1,060	1,010	909	512	505	614

Explanation

A	Approved for publication -- Processing and review completed.
P	Provisional data subject to revision.
e	Value has been estimated.

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: USGS Surface-Water Daily Data for Maryland
URL: http://waterdata.usgs.gov/md/nwis/dv?

WATER TANK COST

Gallons	Tank Dimension	Model Number	Cost	Cost Per Gallon
105,000	25.17‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 25 28 - SSWT	$ 155,000	$ 1.48
248,000	30.77‘dia. x 37.59’ sidewall height	AQUASTORE tank Model 31 38 - SSWT	$ 230,000	$ 0.93
297,000	33.56‘dia. x 37.59’ sidewall height	AQUASTORE tank Model 39 33 - SSWT	$ 285,000	$ 0.96
438,000	47.55‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 48 33 - SSWT	$ 345,000	$ 0.79
491,000	50.35‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 50 33 - SSWT	$ 365,000	$ 0.74
607,000	55.95‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 56 33 - SSWT	$ 425,000	$ 0.70
691,000	64.34‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 64 28 - SSWT	$ 470,000	$ 0.68
816,000	69.93‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 70 28 - SSWT	$ 510,000	$ 0.63
948,000	69.93‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 70 33 - SSWT	$ 555,000	$ 0.59
1,025,000	72.73‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 73 33 - SSWT	$ 595,000	$ 0.58
1,276,000	81.12‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 81 33 - SSWT	$ 695,000	$ 0.54
1,423,000	92.31‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 92 28 - SSWT	$ 790,000	$ 0.56
1,600,000	97.91‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 98 28 - SSWT	$ 870,000	$ 0.54
1,789,000	103.5‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 104 28 - SSWT	$ 945,000	$ 0.53
2,026,000	120.29‘dia. x 23.84’ sidewall height	AQUASTORE tank Model 120 24 - SSWT	$ 1,052,000	$ 0.52

COSTS OF ADDITIONAL ITEMS AND ASSUMPTIONS

Access Road and Site Preparation	$ 75,000
Yard Piping and Vault	13%
Bonds/Permits	$ 20,000
Fencings	$ 35,000
Engineering/Accounting/Legal Fees	25%
Level-Sensing and Measuring Equipment	$ 10,000
Rock Excavation of Foundation (if encountered)	5%

ASSUMPTIONS: *Cost are based on a standpipe glass lined tank. Price includes access roads and site preparation (assuming land would need to be purchased for the tank site), telemetry, excavation in rock (% of Tank Cost), valve vault and piping (% of tank Cost), fencing. Price does not include additional waterline from site to water system. Fees for engineering, legal and accounting services will be 25% of the overall project cost.*

TOTAL COST (INCLUDING ADDITIONAL ITEMS) OF WATER STORAGE

Gallons	Tank Dimension	Model Number	Cost	Cost Per Gallon
105,000	25.17‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 25 28 - SSWT	$ 403,625	$ 3.84
248,000	30.77‘dia. x 37.59’ sidewall height	AQUASTORE tank Model 31 38 - SSWT	$ 514,250	$ 2.07
297,000	33.56‘dia. x 37.59’ sidewall height	AQUASTORE tank Model 39 33 - SSWT	$ 595,375	$ 2.00
438,000	47.55‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 48 33 - SSWT	$ 683,875	$ 1.56
491,000	50.35‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 50 33 - SSWT	$ 713,375	$ 1.45
607,000	55.95‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 56 33 - SSWT	$ 801,875	$ 1.32
691,000	64.34‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 64 28 - SSWT	$ 868,250	$ 1.26
816,000	69.93‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 70 28 - SSWT	$ 927,250	$ 1.14
948,000	69.93‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 70 33 - SSWT	$ 993,625	$ 1.05
1,025,000	72.73‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 73 33 - SSWT	$ 1,052,625	$ 1.03
1,276,000	81.12‘dia. x 33.01’ sidewall height	AQUASTORE tank Model 81 33 - SSWT	$ 1,200,125	$ 0.94
1,423,000	92.31‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 92 28 - SSWT	$ 1,340,250	$ 0.94
1,600,000	97.91‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 98 28 - SSWT	$ 1,458,250	$ 0.91
1,789,000	103.5‘dia. x 28.43’ sidewall height	AQUASTORE tank Model 104 28 - SSWT	$ 1,568,875	$ 0.88
2,026,000	120.29‘dia. x 23.84’ sidewall height	AQUASTORE tank Model 120 24 - SSWT	$ 1,726,700	$ 0.85

APPENDIX F. LETTER TEMPLATES

[Contact name]
[Facility address]

Re: Protecting drinking water quality within the Berkeley Springs Water Works SWPA

Dear [Name of potential developer]:

As you may be aware, [the proposed activities] are located within the Source Water Protection Area (SWPA) for Berkeley Springs Water Works. The SWPA has been designated as an area that deserves special scrutiny regarding potential sources of contamination. The SWPA was established by the West Virginia Bureau for Public Health, as part of the Source Water Assessment and Protection Program to inventory the most likely potential sources of contamination.

Berkeley Springs Water Works has completed a Source Water Protection Plan (SWPP), as required by Senate Bill (SB) 373. SB 373 requires the SWPP to be a public, collaborative process. One of the requirements is for the utility to develop a management plan, which details actions to minimize potential threats to source water. Berkeley Springs Water Works' management plan includes contacting entities interested in development within the SWPA to educate them on source water protection and to gather information about the planned development.

Berkeley Springs Water Works encourages economic development within the community, but we want to see responsible development that protects our drinking water supply. We encourage all facilities to follow all applicable regulations and Best Management Practices (BMPs) in order to minimize the chance of impacting drinking water resources. We ask to be a stakeholder and to be involved in discussions as development moves forward. We also seek to be a source of information on actions that this facility can take to protect drinking water.

Knowledge of all chemicals stored within the SWPA will help our staff plan for and be prepared in the case of a chemical release. Therefore, we ask that you provide the following.

1. Please identify any and all chemicals stored at your site or property that, if released to the water in any manner, may impact human health or the environment.
2. For every chemical listed for #1, please identify the maximum amount that may be stored at your site.
3. Please provide the current Safety Data Sheet (SDS) for every chemical listed for #1.
4. Please provide the Spill Prevention and Response Plan for your facility.

This information is for our planning purposes only. Information that is not already public will not be disseminated by Berkeley Springs Water Works.

We hope that you will keep Berkeley Springs Water Works in the communication chain in the unfortunate instance of an accidental release. If an accidental release occurs, in addition to contacting the state Spill Response Hotline at 800-442-3974, please also immediately contact [relevant point of contact] at Berkeley Springs Water Works at [contact information].

If you have any questions regarding Berkeley Springs Water Works' Source Water Protection Program, please contact [name and contact information]. We thank you for your cooperation and look forward to continued collaboration to protect our drinking water.

Sincerely,

[Contact name, Berkeley Springs Water Works]

[Contact name]
[Facility address]

Re: Protecting drinking water quality within the Berkeley Springs Water Works SWPA

Dear [Name of specific facility (Berkeley Springs Schools bus garage, WV Division of Highways, etc.)],

Berkeley Springs Water Works is updating its Source Water Protection Plan (SWPP) as mandated by Senate Bill (SB) 373, and is reaching out to facilities to open communication about protecting public drinking water supplies. Because your facility is located within Berkeley Springs Water Works' Source Water Protection Area (SWPA), we are also requesting certain information. The SWPA has been designated as an area that deserves special scrutiny regarding potential sources of contamination. The SWPA was established by the West Virginia Bureau for Public Health, as part of the Source Water Assessment and Protection Program to inventory the most likely potential sources of contamination.

SB 373 requires the SWPP to be a public, collaborative process. One of the requirements is for the utility to develop a management plan, which details actions to minimize potential threats to source water. One strategy included in Berkeley Springs Water Works' management plan is communication with facilities within the SWPA to educate them on source water protection efforts and to gather information from the facilities.

We encourage all facilities to follow all applicable regulations and Best Management Practices (BMPs) to minimize the chance of impact on our drinking water resources.

Berkeley Springs Water Works is proud to have provided clean drinking water to the community that meets regulatory requirements. However, our past success should not prevent us from preparing for a future anomaly that may threaten the health and safety of our water customers. We are therefore requesting the following information from your facility.

1. Please identify any and all chemicals stored at your site or property that, if released to the water in any manner, may impact human health or the environment.
2. For every chemical listed for #1, please identify the maximum amount that may be stored at your site.
3. Please provide the current Safety Data Sheet (SDS) for every chemical listed for #1.
4. Please provide the Spill Prevention and Response Plan for your facility.

This information is for our planning purposes only. Information that is not already public will not be disseminated by Berkeley Springs Water Works.

We hope that you will keep Berkeley Springs Water Works in the communication chain in the unfortunate instance of an accidental release. If an accidental release occurs, in addition to contacting the state Spill Response Hotline at 800-442-3974, please also immediately contact [relevant point of contact] at Berkeley Springs Water Works at [contact information].

If you have any questions regarding Berkeley Springs Water Works' Source Water Protection Program, please contact [contact information]. We thank you for your cooperation and look forward to continued collaboration to protect our drinking water.

Sincerely,

[Contact name, Berkeley Springs Water Works]

Source water protection fact sheet

Romney Water Department is updating its Source Water Protection Plan based on the requirements in Senate Bill 373, which was passed in 2014 after the chemical spill on the Elk River that affected 300,000 people in and around Charleston. The new requirements include providing engineering information on the water treatment system, listing potential contaminant sources, creating a management plan which details actions to prevent contamination, and developing a contingency plan, which details actions in the event of an emergency.

While Romney Water Department is working diligently to protect source water, there are a number of actions that individuals can take to help minimize the chance of contamination.

Be informed.

- Read the annual Consumer Confidence Report provided by your public water system, sometimes referred to as a Water Quality Report.
- Use information from your state's Source Water Assessment to learn about potential threats to your water source.
- Find out about how the Clean Water Act's water quality standards for your drinking water source protect your tap water, in addition to aquatic life and swimmers.

Be observant.

- Look around your watershed and be alert to announcements in the local media for activities that may pollute your source water.
- If you see any suspicious activities in or around your water supply, please notify the local authorities or call 9-1-1 immediately and report the incident.

Be involved.

- Read local newspapers to stay informed.
- Attend public hearings on new construction, storm water permitting, and town planning.
- Keep your public officials accountable to drinking water protection.
- If a new development is planned, ask to see the environmental impact statement for the facility.
- Ask questions on any issue that may impact your water source. What specific plans have been made to prevent the contamination of your water source? Notices about hearings often appear in the newspaper or in government office buildings.
- Volunteer or help recruit volunteers. Participate in your community's contaminant monitoring activities, and encourage testing water upstream of your drinking water supply.
- Help ensure that local utilities that protect your water have adequate resources to do their job.

Don’t contaminate.

- **Reduce paved areas**. Use permeable surfaces such as wood, brick, and gravel that allow rain to soak in, not run off, for decks, patios, and walkways.

- **Reduce or eliminate pesticide application**. Test your soil before applying chemicals, and design your lawn and garden with hardy plants that require little or no watering, fertilizers, or pesticides.
- **Reduce the amount of trash you create.** Reuse containers, recycle plastics, aluminum, and glass.
- **Recycle used oil.** A single quart of motor oil can contaminate up to 2 million gallons of drinking water; take used oil or antifreeze to a service station or recycling center.
- **Be careful of what you put into your septic system**. Harmful chemicals may end up in your drinking water.

DRINKING WATER PROTECTION

A Citizen's Guide to Getting Involved

SAFE WATER
FOR WEST VIRGINIA

WEST VIRGINIA RIVERS COALITION

WHERE DOES YOUR DRINKING WATER COME FROM?

SOURCE WATER

Source water—water that, after treatment, provides drinking water to your tap—can be from:

- large rivers,
- small streams,
- reservoirs,
- springs, or
- wells.

DRINKING WATER

- Drinking water is typically supplied by a water utility that collects, treats, and distributes treated drinking water to its customers.
- Drinking water systems are considered pubic systems if they serve more than 25 individuals.
- In more remote areas, private drinking water can be managed by individual landowners, who typically use groundwater from wells or springs.

VULNERABILITY AND PREVENTION

Source water is susceptible to contamination from a variety of activities and land uses. Efforts to protect source water that is used for drinking water occur at the federal, state, local, and individual levels.

This toolkit describes source water protection efforts at the federal and state levels and provides citizens with recommendations for ways to participate in protecting their drinking water.

TYPES OF CONTAMINATION THREATS TO DRINKING WATER SUPPLIES

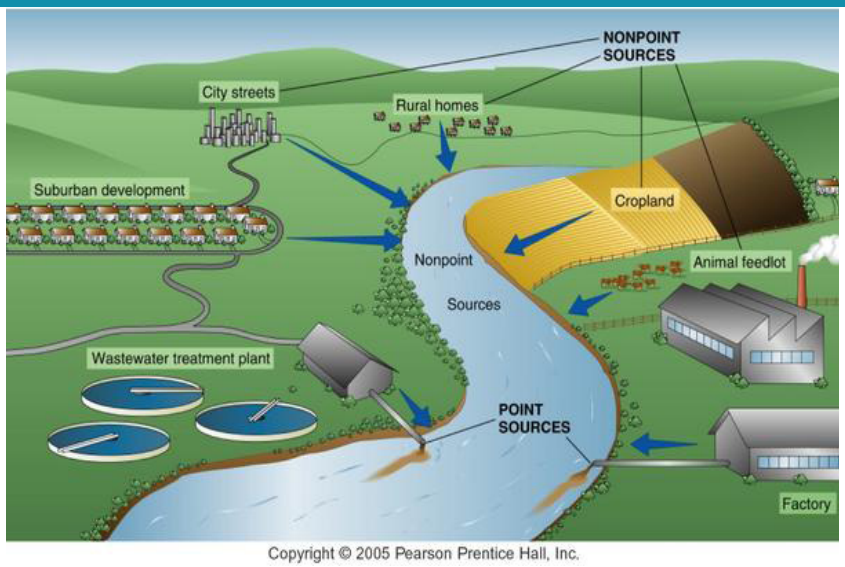
NONPOINT SOURCES

Nonpoint sources are usually diffuse. It is sometimes difficult to determine the cause of pollution from these sources. **Nonpoint sources are generally from:**

- runoff;
- precipitation;
- seepage; or
- stream alteration.

Examples include:

- biological contamination from animal waste;
- fertilizer;
- herbicides or insecticides from excess application;
- oil, grease, or chemicals from energy production;
- acid mine drainage; or
- sedimentation from poorly managed construction sites.



POINT SOURCES

Point source pollution refers to anything that comes from a discrete pipe, ditch, channel, or concentrated animal feeding operation.

These sources require National Pollutant Discharge Elimination System (NPDES) permits issued by the West Virginia Department of Environmental Protection (WVDEP). These discharges are regulated so as not to cause violations of water quality standards, but they could still potentially contaminate local water supplies during an accident or if site management is not conducted properly.

SOURCE WATER PROTECTION HISTORY AND DEVELOPMENT

Federal laws, such as the Safe Drinking Water Act (SDWA), were enacted to protect source water from contamination and regulate drinking water standards.

SDWA amendments in 1996 required states to create Source Water Protection Programs to carry out assessments for drinking water sources.

Source Water Assessment Reports (SWARs) define land areas contributing to the water supply, identify sources of potential contamination, and determine susceptibility, or likelihood, of contamination.

In West Virginia, the initial SWARs were completed by the West Virginia Bureau for Public Heatlh (WVBPH), mostly in the early 2000s. Some public drinking water utilities developed Source Water Protection Plans (SWPPs) voluntarily after the SWARs were released.

In January 2014, a chemical leak from an aboveground storage tank contaminated the drinking water for approximately 300,000 citizens in Charleston, West Virginia and in parts of nine counties.

The legislature responded by enacting Senate Bill (SB) 373, which requires most public water utilities to create SWPPs or update no later than July 1, 2016.

West Virginia Rivers Coalition has launched a Drinking Water Community Engagement project to strengthen public participation in local source water planning efforts throughout the state.

ALPHABET SOUP OF DRINKING WATER PROTECTION

BMP: Best Management Practice

CCR: Consumer Confidence Report

MCL: Maximum Contaminant Level

PSSC: Potential Source of Significant Contamination

SDWA: Safe Drinking Water Act

SWAR: Source Water Assessment Report

SWPA: Source Water Protection Area

SWPP: Source Water Protection Plan

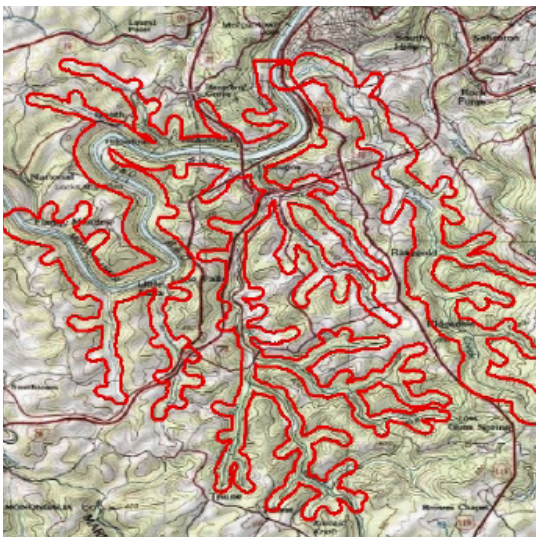
WVBPH: West Virginia Bureau for Public Health

WVDEP: West Virginia Department of Environmental Protection

ZCC: Zone of Critical Concern

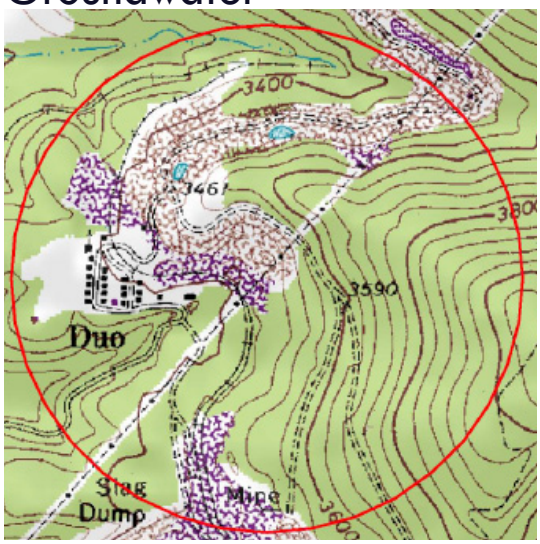
SWARs define source water protection areas to focus protection activities, and these areas differ based on whether intakes draw water from surface water or groundwater.

Surface Water



For surface water drawn from rivers and streams, protection activities focus on the Zone of Critical Concern (ZCC). This is the area that is within a five-hour travel time for a contaminant to flow downstream and reach a drinking water intake.

Groundwater



For groundwater drawn from wells or springs, protection activities focus on the Source Water Protection Area (SWPA). This is a set radius around a well or spring, or a complex area defined by the WVBPH that depends on local geologic and topographic conditions.

While these areas help to focus protection efforts, it is important to also look beyond these areas for potentially important sources of pollution that can contaminate source water.

WEST VIRGINIA SOURCE WATER PROTECTION PLAN REQUIREMENTS

West Virginia law outlines specific requirements for inclusion in the SWPPs. The requirements, described in detail in this document, include:

- Management Plans to minimize the risk of contamination,
- inventories of Potential Sources of Significant Contamination (PSSCs),
- Contingency Plans in the event of contamination,
- Communication Plans in the event of contamination,
- specific engineering details, and
- feasibility studies for the installation of a real time early warning monitoring system.

The updated SWPPs are to be submitted to the WVBPH by ***July 1, 2016.*** After the plans have been submitted, the WVBPH will hold public hearings on the SWPPs. SWPPs must then be updated every 3 years.

GET INFORMED ABOUT SOURCE WATER PROTECTION PLANNING

READ THE CCR

The SDWA requires public drinking water providers to provide Consumer Confidence Reports (CCRs) each year. The CCR describes the source water for the system, the levels of contaminants in the source water and finished drinking water, the EPA maximum contaminant level (MCL) in finished drinking water, and information about bacteria contamination. The CCR should be readily available to consumers. It is often mailed to customers, but it may also be found on the water utility's website or obtained by request.

READ THE SWAR AND SWPP

Learn about source water protection efforts that have already been completed. The SWAR defines the SWPA or ZCC, and it provides information about soure water susceptibility to contamination. Existing SWARs can be found online at: https://www.wvdhhr.org/oehs/eed/swap/search.cfm.

PUBLIC INPUT

When writing its SWPP, each utility must solicit public input from drinking water customers and members of the community. Also, utilities are required to engage the public during plan preparation. However, certain information must be kept confidential by law.

ELEMENTS OF SWPP

MANAGEMENT PLAN

The Management Plan provides specific actions that can be taken to minimize the risk of a water contamination event. These actions include a range of activities, such as:

- installing fencing around a well head,
- creating informational documents about source water protection for customers,
- buying property to protect forested landscapes within the ZCC, and
- maintaining communication with PSSCs.

Some of these actions can only be taken by the water utility, but some can be taken by local governments, businesses, or the general public.

GET INVOLVED!

PARTICIPATE IN PROTECTION STRATEGIES

Examples that are relatively easy for citizens to get involved with include:

- managing household chemicals,
- participating in take-back programs that properly dispose of medication,
- properly maintaining septic systems, and
- watching and reporting activities that may impact drinking water.

PLACE A CONSERVATION EASEMENT ON YOUR PROPERTY

If you own property, a conservation easement can be placed on it that stipulates the land will always be protected, no matter who the owner is. For more information about conservation easements, contact the West Virginia Land Trust: www.wvlandtrust.org.

SUPPORT ORDINANCES OR REGULATIONS THAT PROTECT SOURCE WATER

Rules and regulations can also help protect drinking water by requiring Best Management Practices (BMPs) or limiting certain types of development within the source water protection areas.

POTENTIAL SOURCES OF SIGNIFICANT CONTAMINATION

This map shows an example of several types of PSSCs. The gray area circled in red shows the ZCC for this area.

Most of the information used to identify PSSCs is located in publicly accessible databases. Information on permitted discharges, coal mines, and underground storage tanks, can all be obtained from WVBPH or the WVDEP. Public utilities that collect this information can share it with those involved in the SWPP process and the general public.

However, some information is confidential and is not available to citizens. Information about the exact location of aboveground storage tanks and the chemicals they contain cannot be made public. Information about where, how much, and how often hazardous materials are shipped via rail is also proprietary information.

PSSCs are facilities or sites that use, produce, or store contaminants that, if managed improperly, could find their way into source water and threaten public health.

Inventories of PSSCs were compiled in the SWARs in the early 2000s, and they may have been updated in the SWPPs completed since then. The new SWPP must update this inventory again.

The WVBPH is providing utilities with lists of PSSCs within the SWPA or ZCC based on databases and the previous SWARs; however, it is up to each utility to review, revise, and prioritize sites on this list.

TABLE OF RANKINGS OF PSSCs

WVBPH recently provided recommendations for determining which PSSCs present the highest risk to drinking water. The new inventory provides a numeric coding for 178 types of facilities or land uses. These scores combine the probability of occurrence and the likely severity of a contamination event. Scores are provided for groundwater and surface water separately.

For example, railroad tracks and yards, highway transportation, and chemical threats are high risks to both groundwater and surface water. Leaking underground storage tanks are higher risk to groundwater, and permitted discharges are a higher risk to surface water.

These scores can be used directly by a utility to prioritize PSSCs; or utilities, with public input, could adjust these scores based on local conditions and priorities.

POTENTIAL THREATS WITH HIGHER RANKING

- Railroad tracks and yards;
- highways;
- combined sewer overflows;
- chemical spills;
- aboveground storage tanks;
- chemical manufacturing facilities;
- illegal or clandestine dumps;
- sewer lines;
- industrial pipelines; and
- landfills.

For more information, visit the WVBPH Source Water Assessment and Wellhead Protection Program page at: http://www.wvdhhr.org/oehs/eed/swap/

GET INVOLVED!

ACCESSING THE DATA

Most of the databases used to create the PSSC list within the ZCC or SWPA are publicly accessible through the West Virginia Water Resources Management Plan Mapping Tool located at http://tagis.dep.wv.gov/WVWaterPlan/

OTHER WAYS TO FIND PSSCs

The WVDEP databases will provide information on permitted facilities and activities, but other PSSCs can be found by:

- assessment of updated aerial imagery;
- field review or windshield survey of the SWPA or ZCC; and
- communication with community members.

GET INVOLVED! Share any information you may have on PSSCs that may not be recognized by the utility during public meetings or directly to the utility. Provide feedback on the threat categories.

CONTINGENCY PLAN

The Contingency Plan refers to actions that would be necessary to respond to a contamination event. This plan provides detailed steps to take during a water contamination event. It defines roles for all involved and identifies who would serve in those roles.

Contingency Plans should be developed with input and collaboration with local emergency response personnel, local health departments, and elected officials. During a water emergency, all of these entities—along with the public water utility—will play a role in keeping the public informed and safe.

COMMUNICATIONS PLAN

The Communication Plan is linked with the Contingency Plan. It provides contact information for people who would be called during a water contamination event. In addition, it can include pre-written public statements to make it easier for the utility to efficiently communicate with the public in an emergency.

As with the Contingency Plan, collaboration with local emergency response personnel, local health departments, and elected officials is important.

ENGINEERING DETAILS

West Virginia law requires specific information related to engineering and operation of the drinking water plant:

- ability to isolate or divert contaminated waters;
- ability to switch to an alternative intake;
- ability to close its water intake;
- certain operational information;
- available storage capacity;
- unaccounted for water; and
- options to provide service if the primary intake is detrimentally affected.

EARLY WARNING MONITORING

An early warning monitoring system is an automated system that would detect a change in raw water quality before it reaches the drinking water intake. These systems continuously detect key contaminants that indicate that there is a change in water quality that requires a follow-up investigation to identify the cause.

GET INVOLVED!

- Get informed about your source water and source water protection efforts by reading the CCR and the SWAR for your drinking water utility.
- Participate in source water protection efforts by reviewing SWPPs and providing input.
- Take actions to protect your source water, such as properly managing household chemicals and reporting any activities that may be detrimental to source water.
- If your property is within a SWPA, place a conservation easement on your property to minimize development into the future.
- Support ordinances or regulations that protect source water.
- Review publicly accessible data or aerial imagery for PSSCs, and share information with yor water utility.
- Get involved with your local emergency planning committee.
- Report a spill or accidental discharge to the WVDEP at 1-800-642-3074.

ABOUT

This toolkit is a project of the West Virginia Rivers Coalition (WV Rivers) to provide citizens with information on how to get involved in protecting their drinking water. WV Rivers is a statewide organization dedicated to conserving and restoring West Virginia's exceptional rivers and streams that feed our public drinking water supplies.

www.wvrivers.org

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SAFE WATER FOR WEST VIRGINIA

WEST VIRGINIA RIVERS COALITION

Downstream Strategies
building capacity for sustainability


KIDS ARE
BODIES OF WATER.
LET'S PROTECT THEM.
Safe Water Depends on Us.
Learn What You Can Do.
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RIVERS COALITION

Source Water Protection Hearing
Berkeley Springs Water Works and Town of Paw Paw

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