



SUSQUEHANNA RIVER BASIN COMMISSION

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Groundwater Withdrawal Application Summary

Source Name: WTWA Zion Well - Well No. 2 - Test
Waiver Request

SRBC Pending No.: 2020-028

This summary is only a portion of the application materials and is meant to provide general information about the proposed project.

1.1 Project Sponsor

Company Name: Walker Township Water Association, Inc.

Mailing Address Line 1: P.O. Box 160

Mailing Address Line 2:

City: Mingoville

State: PA

ZIP Code: 16856

Contact Person:

First Name: Tina

Last Name: O'Hara

Title: Business Office Manager

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1.3 Existing and Projected Facility Water Use

The usage should be entered in million gallons per day (mgd) and rounded off to the nearest one thousand gallons (three decimal places).

Projected Design Year:

2035

Total Project Water Usage	Existing Usage (mgd)	Projected Usage For Design Year (mgd):
Maximum 30-day Average Water Demand :	0.666	1.129
Maximum Daily Water Demand :	0.92	1.275
System Capacity :	0.843	1.275

1.4 Requested Withdrawal Amount:

Estimated Daily Hours of Operation per Day (Ex. = 5): 21

Maximum Instantaneous Withdrawal Rate (gpm): 300

Maximum 24-Hour Day (mgd): 0.432

Maximum 30-Day Average (mgd): 0.432

PROJECT FACILITY DESCRIPTION
ZION WELL – SRBC RENEWAL APPLICATION
DOCKET NO. 19950906

The Walker Township Water Association (WTWA) owns the public water supply system that currently serves approximately 1,541 connections across Marion, Spring, and Walker Townships in Centre County, Pennsylvania.

System History

Construction of the water system began in 1957, and the system was placed into operation in 1958. At that time, Guy Shaffer was hired to operate the system, which consisted of a surface water reservoir fed by Little Fishing Creek and approximately 27 miles of water line, and served around 130 connections.

Population growth in the Walker Township area led the WTWA to develop its first groundwater source, known as the Hecla Well, in the early 1980s. As a result of the Surface Water Treatment Rule, the WTWA developed a second groundwater source, the Zion Well, in the mid-1990s, and then the surface water reservoir was abandoned. After continued growth and increasing water demand in the area, the WTWA developed a third groundwater source, known as the Snyderstown Well, which was placed into operation in 2009.

The water system now consists of approximately 53 miles of distribution piping and three finished water storage tanks which provide safe drinking water and fire protection to more than 4,500 people in the WTWA service area. Currently, the WTWA subcontracts operation and maintenance of the water system to Shaffer Electric Company, located in Zion, Pennsylvania. However, the Shaffer’s plan to retire from the position effective April 2020. In anticipation of this major transition, the WTWA has begun training new system operators and plans to retain a total of 1-3 full time staff members.

System Capacities

As mentioned above, the WTWA currently utilizes three groundwater sources to meet the current water demand, listed in the following table.

Table 2.1.A: Summary of Raw Water Sources

Water Source	SRBC Docket	Approved Withdrawal	PWS Permit	Permitted Capacity
Hecla Well	19910302	0.320 MGD	1484502	220 gpm
Zion Well	19950906	0.600 MGD	1495502	300 gpm
Snyderstown Well	20070905-1	0.523 MGD	1407503	475 gpm

A mechanical/electrical building is located adjacent to each of the groundwater wells. Liquid sodium hypochlorite is used for disinfection at the Hecla Well source, while gas chlorine is utilized

for both the Zion and Snyderstown Well sources. Nearby each of the wells and buildings is a finished water storage tank, listed in the following table.

Table 2.1.B: Summary of Finished Water Storage

Storage Tank	Volume	Year Constructed	Height	Construction Type
Hecla Tank	0.250 MG	1983	25 ft	Epoxy Coated Welded Steel
Zion Tank	0.500 MG	1983	25 ft	Epoxy Coated Welded Steel
Snyderstown Tank	0.256 MG	2006	33 ft	Glass Lined Bolted Steel

The distribution system also includes three pressure reducing valves (PRVs); the Forest Avenue PRV, the Deitrich Road PRV, and the Snyderstown PRV. The WTWA is broken down into four pressure zones in order to provide suitable water service. The separate pressure zones are known as:

- Hecla/Zion Pressure Zone
- Forest Avenue Pressure Zone
- Snyderstown Pressure Zone
- Hublersburg Pressure Zone

The Hecla/Zion Pressure Zone serves the majority of the distribution system in Walker and Spring Townships. Water is supplied to this pressure zone through use of the Hecla and Zion Wells in conjunction with the Hecla and Zion Storage Tanks.

The Forest Avenue Pressure Zone serves only a small number of customers, and is supplied through use of the Hecla and Zion Wells in conjunction with the Hecla and Zion Storage Tanks and the Forest Avenue PRV.

The Snyderstown Pressure Zone serves the portion of the distribution system in Marion Township as well as a portion in Walker Township. Water is supplied to this pressure zone through use of the Snyderstown Well and Snyderstown Storage Tank.

The Hublersburg Pressure Zone is located between the Deitrich Road PRV and the Snyderstown PRV, and generally serves the customers within and surrounding Hublersburg. Water can be supplied to this pressure zone through use of either the Hecla and Zion facilities or the Snyderstown facilities.

Zion Well

The WTWA’s existing groundwater approval for the Zion Well, SRBC Docket No. 19950906, expires September 14, 2020. Therefore, the WTWA is submitting an application for renewal of the groundwater approval, which is due by March 14, 2020.

The Zion Well was originally drilled in 1994 by Eriksen Brothers. Based on pumping-test results, the theoretical yield of the well was 1360 gpm. The WTWA began operation of the well in 1995 under PA DEP Public Water Supply (PWS) Permit No. 1495502, which restricted the pumping rate to a maximum of 600 gpm in order to ensure adequate chlorine contact time.

As a result of drought conditions, the WTWA performed a series of rehabilitation efforts in an attempt to maintain an acceptable yield. The first of these efforts, in May 2000, was the installation of an 8-inch casing and screen assembly. Then, in September 2002, a gravel (sand) pack around the 8-inch casing/screen was installed, for the purpose of minimizing the recurring (at the time) sand pumping problems in the well. Subsequently, a significant decrease in the yield of the Zion Well was observed. It was believed that the screen and casing assembly may have moved downward during surging activities or that the assembly may have settled over a period of time. As a result, the 8-inch casing was slotted in order to re-open the well to the water-bearing zone.

The PA DEP PWS Permit Minor Amendment restricted the pumping rate to a maximum of 300 gpm after the rehabilitation work was complete. Based on the maximum pumping rate as restricted by the PA DEP, the requested Maximum Instantaneous Withdrawal Rate from the Zion Well is 300 gpm and the requested Consecutive 30-Day Average Withdrawal is 0.432 MGD.