Berkshire Engineering, inc.

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Lee, Massachusetts 01238
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TRANSMITTAL

ORGANIZATION: Massachusetts Department of Environmental Protection
Western Regional Office, Drinking Water Program
436 Dwight Street
Springfield, MA 01103

DATE: May 14, 2019

CORRESPONDENT: Simonne Natale

RE: Distribution Modifications – Swift River (PWS ID # 1069003)

MESSAGE:

Please see the attached documents for your review:

- Transmittal Form
- BRP WS 33 Application
- Distribution System Modification Narrative
- Distribution System Map
- Architectural Drawings of the new pharmacy wing

If you have any questions please do not hesitate to contact us.

Thank you,
Simonne Natale, EIT
Project Engineer
Berkshire Engineering, Inc.
d/b/a Housatonic Basin Sampling & Testing

Distribution System Modification Proposal
Swift River
151 South Street
Cummington, MA 01026

May 2019

Introduction:

Swift River seeks to obtain approval for proposed modifications to their public water supply distribution system from the Massachusetts Department of Environmental Protection, Western Region, Bureau of Resource Protection (MassDEP), Permit no. BRP WS 33*, Distribution Modifications for systems that serve 3,300 people or less*. The proposed source site is located at Swift River, 151 South Street, Cummington, MA 01026. The subject property owned by Addiction Campuses of Massachusetts, d/b/a Swift River, is approximately 339.58 AC total land area. The purpose of this request is to connect a new building wing, that is to be constructed on the Southwest corner of Swift River's main building, to the existing Public Water System (PWS). The new wing will hold a nurse's station, waiting area, four exam rooms and a pharmacy.

Swift River is in the process of permitting a new PWS source that will supplement the existing PWS source (Wells 01G) in meeting the water demands of the entire facility. A BRP WS 13, Approval to Site a Source and Conduct a Pumping Test has been approved by MassDEP but the well has not yet been drilled. It is anticipated that the new source will not be active prior to connecting the new "pharmacy" wing to the existing distribution system. Due to this, the applicant proposes to tie the new wing into the existing distribution system which is served by the existing groundwater source (Well 01G). Once the new source is activated it will supplement Well 01G in serving the distribution system, including the new "pharmacy" wing.

Existing Distribution:

Currently one source serves Swift River. Well 01G is a 6-inch diameter, 280-foot deep bedrock well, located southwest of the main administration building. In a letter dated October 20, 1989, MassDEP approved a yield of 37,800 GPD (26.25 GPM). However, in 2005 when Swift River was a school, the water use was significantly less than the approved withdrawal rate and MassDEP reduced the approved rate to 10,000 GPD to allow for the construction of a new building outside of the 250-foot Zone I associated with the reduced withdrawal volume.

From Well 01G, water flows through a dual check valve, 1-inch master water meter, flow switch, chemical injection port, and five baffled storage tanks in series before entering a 10,350-gallon hydropneumatic storage tank. From the tank, water flows through 4-inch PVC transmission mains that supply the seven buildings on campus. A peristaltic chemical feed pump feeds sodium

hypochlorite solution from a 30-gallon solution tank into the chemical injection port. The five baffled storage tanks allow the system to attain the necessary contact time to achieve 4-log disinfection. All of the water system equipment, including the well, is located in a pump house located southwest of the main facility on the site. The entire complex uses a separate surface water fire sprinkler system for fire protection.

Current Water Usage:

Water usage data as recorded on Swift River's Chemical Addition Report Form and Annual Statistical Reports since the facility reopened in 2016 was reviewed. From October 2016 to now the maximum allowable withdrawal rate of 10,000 GPD has not been exceeded. On average, Well 01G produces 4,594 GPD for the facility, with a maximum withdrawal of 7,859 GPD occurring in August 2018.

Swift River employs approximately 120 staff members and offers in-patient care only, with a bed count of 112. The bed count increased from 48 to 112 in the Fall of 2017. The facility has an average daily demand of 23 GPD per person, with a maximum demand of 31 GPD per person occurring in July of 2017.

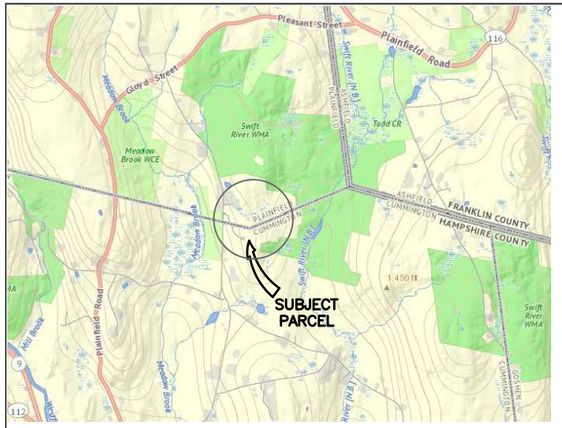
As a preemptive measure, Swift River submitted a BRP WS 13 in order to establish a conforming public water supply source that will assist the existing Well 01G in meeting any future water demands that may result from facility expansion. At this time Swift River does not have any further plans to expand apart from the new "pharmacy" wing. Since Swift River currently uses approximately half of the maximum approved yield, on average, the existing well is expected to feed the new wing without exceeding the maximum yield.

Proposed Distribution:

Swift River in the process of designing a new "pharmacy" wing that is to be constructed on the Southwest corner of the main building on the site (See attached architectural drawings). The new wing will hold a nurse's station, waiting area, four exam rooms and a pharmacy that will be used by patients and staff that are already inhabiting the facility. Since the new wing will not generate an additional flow of people to the facility, the public water system will not encounter any addition water demands from the new wing. Swift River proposes to tie the new building wing into the existing Well 01G distribution system. A distribution map of the proposed distribution system can be found attached.

Conclusion:

The new "pharmacy" wing is not expected to generate additional flows at Swift River. The new wing will implement new high efficiency, low flow fixtures to minimize the water usage. Although the modifications are not expected to result in the exceedance of the maximum withdrawal rate for Well 01G (10,000 GPD) prior to the activation of the new well, any threat of overdrawing from Well 01G should be eliminated with the added water supply once the new source is on line.



LOCUS MAP

LEGEND

- APPROXIMATE PROPERTY LINE
- P.W.S. WELL SETBACK
- BORDERING VEGETATED WETLAND
- W — WATER LINE
- (W) P.W.S. WELL LOCATION

SITE PLAN

150 0 150 300

SCALE: 1" = 150'

PROPOSED P.W.S. WELL 02G
(9.0 GPM, 12,960 GPD)
OWNER: SWIFT RIVER

N

CUMMINGTON
PLAINFIELD

MASSDEP REGULATED ZONE I
RADIUS TO NEW P.W.S.
WELL 02G = 266.9'

PROPOSED 2" PVC WATER
SUPPLY LINE FROM
PROPOSED WELL TO
EXISTING DISTRIBUTION
SYSTEM. MIN 5' COVER.

POND

MASSDEP REGULATED IWPA
RADIUS TO NEW P.W.S.
WELL 02G = 688.0'

N/F LAND OF
AC REAL ESTATE GROUP, LLC
151 SOUTH STREET, PLAINFIELD
(MAP 35, LOT 4)
A PORTION OF
HAMPSHIRE COUNTY
REGISTRY OF DEEDS
BOOK 12297, PAGE 86

LODGE

PAVED PARKING LOT

APPROXIMATE
LOCATION OF
EXISTING WATER
MAIN TO LODGE

COLIFORM SAMPLING LOCATIONS:
RW1–RAW WATER TAP
POE–PUMP ROOM POE TAP

REGISTERED P.W.S.
WELL 01G
PWS ID #1069003–01G
(7 GPM, 10,080 GPD)
OWNER: SWIFT RIVER

EXISTING WATER
TREATMENT BUILDING

PAVED ROADWAY

PLAINFIELD
CUMMINGTON

COLIFORM SAMPLING LOCATIONS:
RS 001–KITCHEN HAND WASH SINK
UR 1A–HALLWAY RESTROOM
DR 1B–OFFICE RESTROOM

DORM BUILDING

DORM BUILDING

MASSDEP REGULATED
IWPA RADIUS TO P.W.S.
WELL 01G = 1240.0'

APPROXIMATE
LOCATION OF
EXISTING WATER
MAIN TO MAIN
BUILDINGS

MAIN BUILDING

TENNIS COURTS

MASSDEP REGULATED
ZONE I RADIUS TO
PWS WELL 01G=250'

WETLAND

PROPOSED
"PHARMACY"
WING

POND

PAVED PARKING LOT

PAVED ROADWAY

N/F LAND OF
AC REAL ESTATE GROUP, LLC
174 NASH ROAD, CUMMINGTON
(MAP 9, LOT 15)
A PORTION OF
HAMPSHIRE COUNTY
REGISTRY OF DEEDS
BOOK 12297, PAGE 86

MAINTENANCE BUILDING

PAVED ROADWAY

SOUTH STREET (PLAINFIELD)

NASH ROAD (CUMMINGTON)

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LEE, MASSACHUSETTS 01238
PHONE (413) 243–4122
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CIVIL & ENVIRONMENTAL ENGINEERS
LAND CONSULTANTS

PREPARED FOR: SWIFT RIVER
PWS ID #106003

DRAWING TITLE

PWS DISTRIBUTION SYSTEM MAP

FOR PROPERTY LOCATED AT
151 SOUTH STREET
CUMMINGTON, MASSACHUSETTS 01026

DRAWN BY	SHN
DATE DRAWN	04/02/2019
SCALE	1"=150'
APV'D BY	--
REVISION NO.	
REVISION DATE	

PROJECT DESCRIPTION:

PWS DISTRIBUTION SYSTEM MAP
FOR
SWIFT RIVER
151 SOUTH STREET
CUMMINGTON, MA 01026
PWS ID# 1069003

DRAWING NUMBER	REV
17–09–08 SWIFT RIVER	