

Snow Slip Inn Public Water Supply

Source Water Delineation and Assessment Report

Public Water Supply: Snow Slip Inn, PWSID# MT0000898

Report Date: January 23, 2003

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Introduction

This delineation and assessment report is intended to meet the technical requirements of the Montana Source Water Protection Program (DEQ, 1999) and the federal Safe Drinking Water Act (SDWA) Amendments of 1996 (P.L. 104-182). Gary Coen of Snow Slip Inn prepared the final report. Information on land use and potential contaminant sources comes from DEQ's Source Water Protection Program (SWPP) tool "Mapper" and an on-site inventory.

Purpose

The purpose of this delineation and assessment report is to assess threats to the Snow Slip Inn water supply using information obtained from the DEQ Source Water Protection Program (SWPP) tool "Mapper" and field observation. Delineation is a process whereby areas that contribute water to aquifers or surface water used for drinking water, called source water protection areas, are identified on a map. Assessment involves identifying locations or regions in source water protection areas where contamination may be generated, stored, or transported and then determining the potential for contamination of drinking water by these sources.

Public Water Supply Information

Snow Slip Inn is a restaurant and motel units located in Flathead County on U.S. Highway 2 about six miles west of Summit at Marias Pass. The water system serves four active service connections with a resident population of 4 and non-resident transient population of 50. The water system is classified as a transient, non-community public water supply because it will serve 25 or more persons per day for at least 60 days per year but does not regularly serve the same persons for at least six months a year. The existing water distribution system consists of small diameter galvanized and PVC lines. Water is currently being supplied from a spring box located in a marshy area to the west of the Inn. Although this source has been designated as a ground water source it is under direct influence of surface water and is being filtered and treated by an ultra-violet lamp. Sanitary wastes are handled by on-site septic tanks and drainfield. A well location on the south part of the property has been field reviewed by personnel of the Public Water Supply Section and appears to be the best place to develop a new ground water source.

Using Table 3 in EPA Manual of Small Public Water Supply Systems yields a calculated average daily water demand of approximately 1,000 gallons. Using a typical 12 hour daily operation

for the restaurant and a peaking factor of 7 yields a peak instantaneous demand of about 10 gallons per minute.

The expected high static water level, lack of a confining layer and high susceptibility to contamination from potential highway spills and septic systems will require that this source receive full time disinfection.

Delineation

A 100-foot radius control zone and one-mile radius inventory region were delineated for the well location as required for transient, non-community public water supplies under the Montana Source Water Protection Program (DEQ,1999). The control zone is the most critical area within which direct introduction of contaminants into the well or immediate area can occur. The Inventory Region encompasses the area that water or contaminants can flow to the proposed well over a period of months to years.

Inventory

The Montana Source Water Protection Program (DEQ,1999) requires that all potential sources of nitrate and microbial pathogens be identified within the control zone and inventory region of transient, non-community public water supplies.

A field review revealed sewer lines serving the motel units are within the 100-foot control zone. These sewer lines represent a potential source of pathogens and nitrates.

The following is a summary of information gathered from the DEQ Source Water Protection Program (SWPP) tool "Mapper", aerial photography, 7.5- minute topographic map, and field observation.

Snow Slip Inn is a commercial property consisting of a restaurant with bar and lounge and four motel units. Other development consists of private homes within the immediate area and are classified as Non-Sewered Residential (UR). Other land use within the Inventory Region is primarily Forest(F) with some non-agricultural Rangeland. Septic density in the inventory region is Low.

U.S. Highway 2 and the Burlington Northern Santa Fe railroad are within the one mile Inventory Region

There are no animal feeding operations within the region. The only apparent significant potential source of nitrates or pathogens are the sewer lines and sewer drainfields which are down gradient from the proposed well location.

Susceptibility Assessment

Source	Contaminants	Description	Hazard Rating	Barriers	Susceptibility
Septic Systems	Pathogens & Nitrates	Private Homes Low Density	Low	Distance from well	Low
Sanitary Sewer	Pathogens & Nitrates	Sewer lines within 100 feet	High	Distance and down gradient	High
U.S.Hwy 2	VOC, SOC	Spills	High	Emergency Response Planning	Very High
Railroad	VOC, SOC	Spills	High	Distance	Low

The proposed well is a candidate for mandatory disinfection due to the high susceptibility for pathogens and nitrates from the sanitary sewer lines as defined in the Montana Source Water Protection Program.

References

Montana DEQ, 1999. Montana Source Water Protection Program, Approved by EPA November 1999.

U.S.EPA, Office of Water, 1991, Manual of Small Public Water Supply Systems, EPA 570/9-91-003.

DEQ Source Water Protection Program (SWPP) tool "Mapper",

a contaminant is introduced. Fencing around the spring would help to decrease the possibility of the introduction of contaminants in this area.

References:

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