

*Source Water Assessment* for  
St. Elizabeth Ann Seton Church  
Anchorage, Alaska

A Hydrogeologic Susceptibility and Vulnerability Analysis

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DRINKING WATER PROTECTION PROGRAM REPORT 403  
PWSID 214099.001

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Anchorage, Alaska

By HEATHER A. HAMMOND

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# Source Water Assessment for St. Elizabeth Ann Seton Church’s Source of Public Drinking Water, Anchorage, Alaska

## A Hydrogeologic Susceptibility and Vulnerability Analysis

By Heather A. Hammond

### Drinking Water Protection Program Alaska Department of Environmental Conservation

#### EXECUTIVE SUMMARY

The primary water source for St. Elizabeth Ann Seton Church is a Class A (non-transient/non-community) water systems consisting of one well in the Anchorage area. Identified potential and current sources of contaminants for St. Elizabeth Ann Seton Church includes: approximately 165 acres of residential area, residential septic systems, sewer lines, dirt and paved roads, parks and recreation trails, a livestock stable/corral area, a hardware store, heavy equipment rental/storage areas, two underground gasoline storage tanks, and an orchard or nursery. These identified potential and existing sources of contamination are considered sources of bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, heavy metals, synthetic organic chemicals, and other organic chemicals. Overall, the public water source for St. Elizabeth Ann Seton Church received a vulnerability rating of **Low** for synthetic organic chemicals, **Medium** for bacteria and viruses, heavy metals, and other organic chemicals; and **High** for nitrates and/or nitrites, and volatile organic chemicals.

#### INTRODUCTION

The purpose of this environmental assessment is to provide public water system owners and/or operators, communities, and local governments with information they can use to preserve the quality of Alaska’s public drinking water supplies. This assessment was completed for the source of drinking water serving St Elizabeth Ann Seton Church. This water system consists of one well in the Anchorage area (see Figure 1). This assessment, known under the Alaska Drinking Water Protection Program as the *Source Water Assessment*, has combined a review of the natural hydrogeologic sensitivity with potential and existing contaminant risks to arrive at an overall vulnerability of the drinking water source to contamination. This assessment has been completed as a basis for local voluntary protection efforts and to assist agencies in their efforts to reduce risk to this public drinking water supply.

#### DESCRIPTION OF THE ANCHORAGE AREA, ALASKA

##### Location

Anchorage, located in southcentral Alaska, encompasses 1,698 square miles of land and 264 square miles of water. The area containing a majority of the urban development, commonly referred to as the Anchorage Bowl, encompasses approximately 180 square miles [Partick, Brabets, and Glass, 1989] and envelopes the low lands of the area. This area is bounded on the east by the Chugach Mountains and the north, west, and south by the Knik and Turnagain Arms of Cook Inlet (Figure 1). In recent times, urban development has extended eastward along the flanks of the Chugach Mountains. This area, known locally as the Anchorage Hillside, contains development at elevations exceeding 3,700 feet in elevation above sea level.



Figure 1. Index map showing the location of Anchorage, Alaska

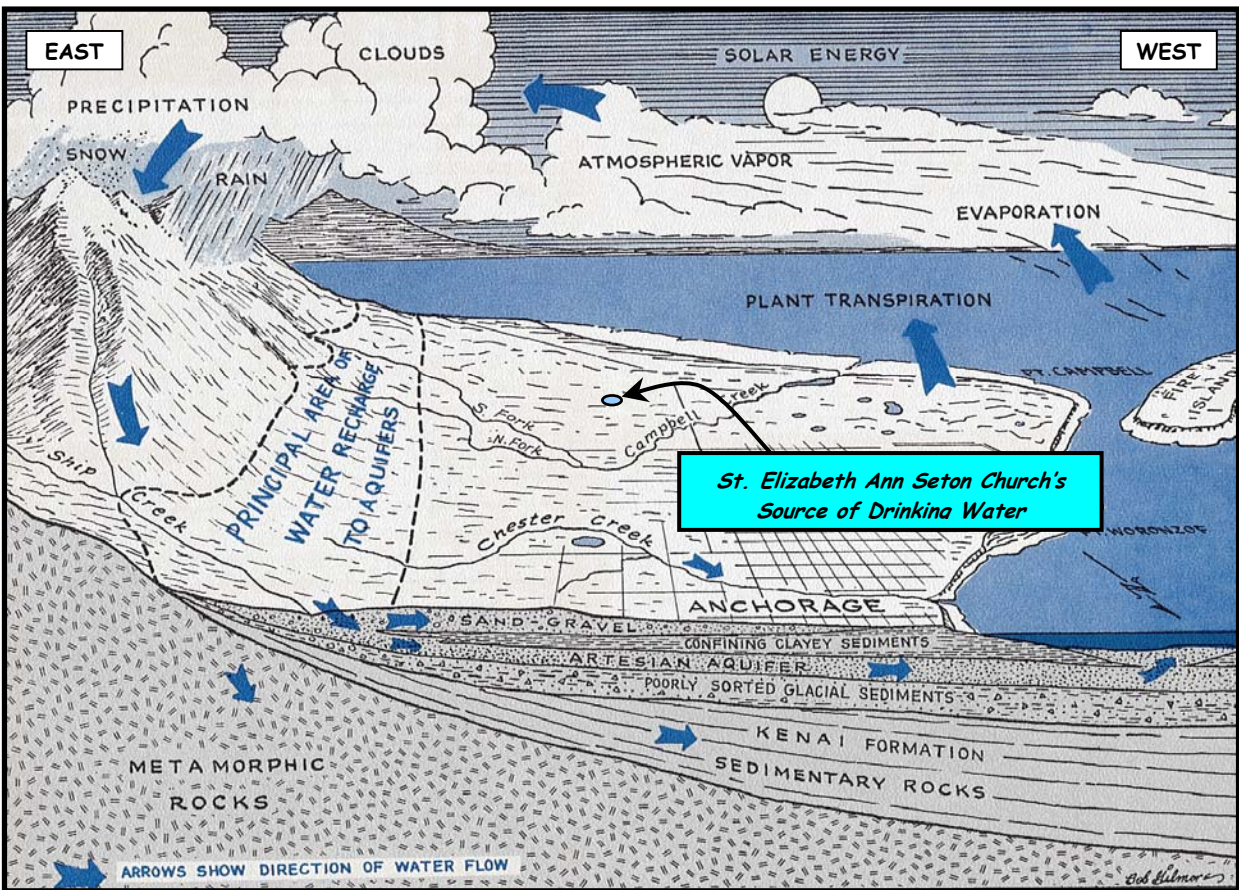


Figure 2. Generalized hydrologic cycle in the Anchorage area [Barnwell, George, Dearborn, Weeks, and Zenone, 1972].

### Climate

The Anchorage area climate is somewhat transitional in that it does not experience large daily and annual temperature fluctuations like those experienced in the interior of Alaska nor does it experience high amounts of precipitation typified by gulf coast regions. Mean annual precipitation at the Anchorage International Airport is approximately 16 inches per year. On average, Anchorage receives a total snow accumulation of 69 inches per year. Precipitation generally increases inland toward the Chugach Mountains where annual precipitation may exceed 160 inches per year [Barnwell, George, Dearborn, Weeks, and Zenone, 1972]. Mean daily temperature ranges from 65° F during July to 8° F in January [Western Regional Climate Center, 2000].

### Physiography and Groundwater Conditions

Surface elevations in the Anchorage area range from sea level at Knik and Turnagain Arms to well over 5,000 feet in the peaks that bound the area. Glacial moraine and outwash deposits primarily mantle the surface of the Anchorage Bowl.

The backbone of the Chugach Mountains is composed primarily of metamorphic marine and volcanic rocks

(bedrock). These high peaks that bound Anchorage's east side are flanked with colluvium or slope deposits. These slope deposits eventually grade into the glacial and stream deposits at lower elevations in the Anchorage Bowl.

In the Anchorage area, two principal groundwater flow systems or aquifers exist (see Figure 2). The upper unconfined aquifer or water-table aquifer is separated from a lower confined aquifer system by layers of silty, clayey glacially derived sediments (confining layer) [Ulery and Updike, 1983]. The lower confined aquifer system consists of a series of hydrologically interconnected layers and lenses of gravel, sand and silt that, collectively, form the confined aquifer. The confining layer ranges from 0 to 270 feet thick throughout the Anchorage area and generally thins with increasing distance from Cook Inlet, thus pinching out at the mountain front [Patrick, Brabets, and Glass, 1989].

Water enters or recharges these two aquifer systems in several different ways. Along the front of the Chugach Mountains, groundwater seeps from fractures in bedrock into the sediments. At these higher elevations, rain and snowmelt also enter the sediments. This area along the mountain front is considered the principal recharge area

for wells in the Anchorage area. Precipitation in the low lands may also percolate directly into the ground. Lastly, aquifers may also be recharged by streams where surface water percolates into surrounding permeable sediments (losing reaches of streams). Groundwater flow in the confined aquifer is generally east to west from the mountain front toward Cook Inlet and Turnagain Arm, except in areas where the direction of flow is influenced by large municipal or industrial production wells. The direction of groundwater flow in the upper unconfined aquifer is more variable due to the influence from surficial topography as well as its close connection with surface water bodies.

### ST. ELIZABETH ANN SETON CHURCH- PRIMARY SOURCE OF PUBLIC DRINKING WATER

The source of drinking water serving St. Elizabeth Ann Seton Church is a Class A (non-transient/non-community) water source, which is owned and operated by the Corporation of St. Elizabeth Ann Seton Parish.

The system consists of one well, which is located off of Huffman Road, in the church parking lot (T12N, R3W, Section 21), at an elevation of approximately 300 feet above sea level (see Figure 3).

According to the most recent Sanitary Survey (05/22/97) the area surrounding the well is sloped so that foreign matter and surface water are diverted from entering the well along the casing. Installation of the well occurred November 5, 1998 to a total depth of 78 feet below ground surface. The well was completed in a 6" well casing and has a static water level of 3 feet below ground surface. The driller's log indicates that the well was dry grouted with 4 sacks of number 8 bentonite at the time of drilling. However, the vertical extent of grouting is not indicated. Proper grouting provides added protection against contaminants travelling along the well casing and into source waters.

This system operates year round and serves 340 non-residents through 2 service connections.

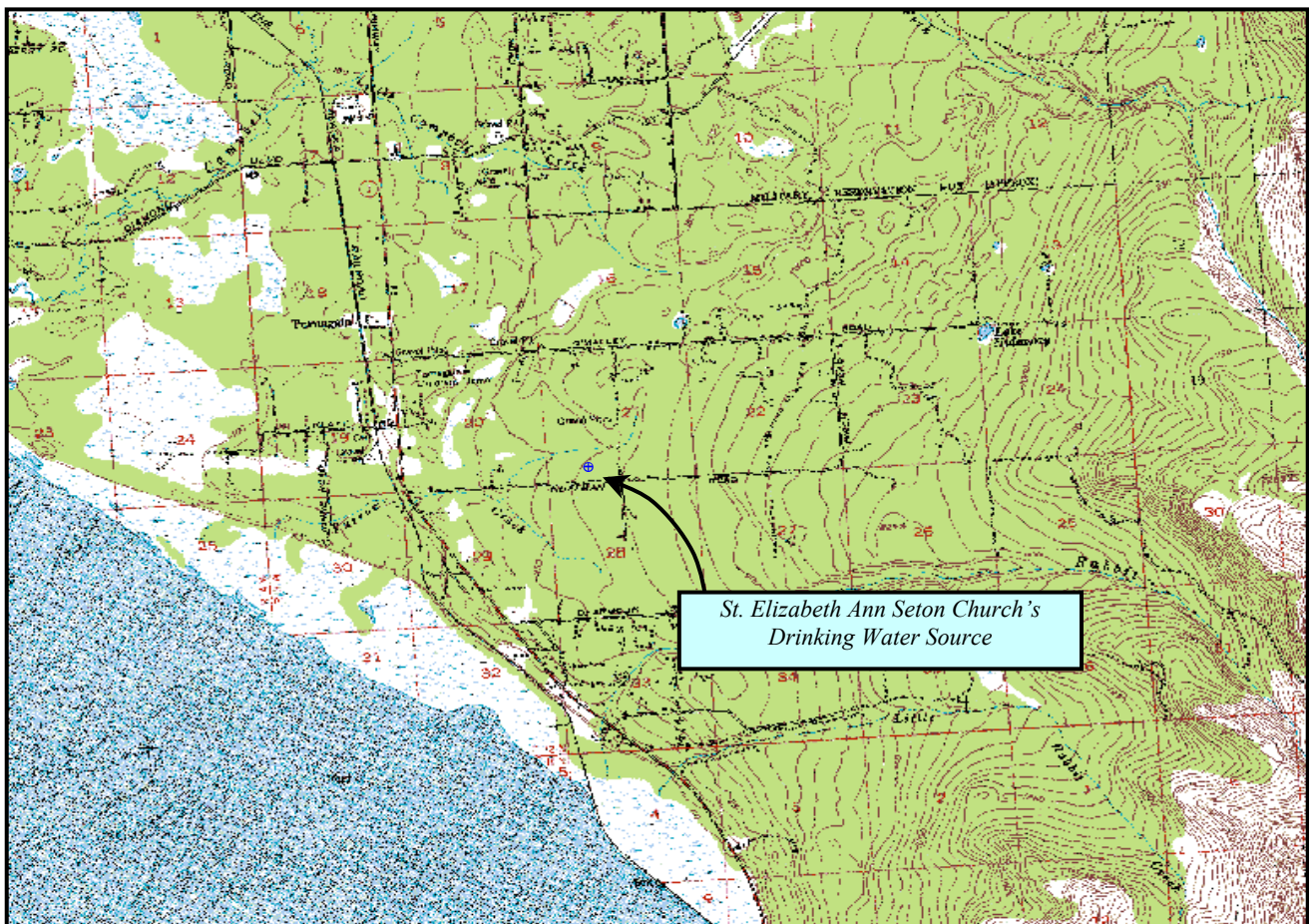


Figure 3. Map showing the location of the drinking water sources for St. Elizabeth Ann Seton Church [Base: USGS Anchorage A8].

## **ASSESSMENT AND PROTECTION AREA FOR ST. ELIZABETH ANN SETON CHURCH'S SOURCE OF PUBLIC DRINKING WATER**

The Drinking Water Protection and Assessment Area that has been established for the primary source of public drinking water serving St. Elizabeth Ann Seton Church is the area that is most sensitive to contamination. This area serves as a basis for assessing the risk of the drinking water source to contamination. The zones around the drinking water source outline the most critical area for the preservation of the quality of the drinking water for this system. For simplicity, this area will be known as your Drinking Water Protection Area and will serve as the focus for voluntary protection efforts.

Conceptually, groundwater enters the aquifer systems along the front range of the Chugach Mountains (Figure 2) and flows toward Cook Inlet. An analytical calculation was used to determine the size and shape of the area that contributes water to the well. The input parameters describing the attributes of the aquifer in this calculation were adopted from the U.S. Geological Survey [*Patrick, Brabets, and Glass, 1989*]. This analytical calculation was used as a guide as the first step in establishing the protection area for each public drinking water source in Anchorage. Additional methods were further employed to take into account any uncertainties in groundwater flow and aquifer characteristics to arrive at meaningful and conservative protection areas with respect to public health (Please refer to the Guidance Manual for Class A Public Water Systems for additional information).

The Drinking Water Protection Areas established for wells by the Alaska Department of Environmental Conservation are separated into zones. These zones correspond to a time-of-travel. Time-of-travel is the time required for water to move in the saturated zone of the ground from a specific point to the well. The Drinking Water Protection Area for St. Elizabeth Ann Seton Church contains four zones, Zone A through Zone D (See Map 1 in Appendix A). Zone A corresponds to the area between the wells and the distance equal to  $\frac{1}{4}$  of the distance of the 2-year time-of-travel. Depending on where a contaminant source is located within Zone A, travel time for a contaminant to the wells may be on the order of several days to several hours. Zone A also extends downgradient from the wells to take into account the area of the aquifer that is influenced by pumping of the wells. Zone B corresponds to a time-of-travel of less than two years. Zones C and D correspond to those areas between 5 years and 10 years time-of-travel, respectively.

## **INVENTORY OF POTENTIAL AND EXISTING CONTAMINANT SOURCES**

The Drinking Water Protection Program has completed an inventory of potential and existing sources of contamination within the Drinking Water Protection Area for the source of public drinking water serving St. Elizabeth Ann Seton Church. This survey was completed through a search of agency records and other publicly available information. Potential sources of contamination to drinking water supplies cover a wide range of categories and types. Potential drinking water contaminants are found within agricultural, residential, commercial, and industrial areas, but can also occur within areas that have little or no development.

For the basis of this assessment and all Class A public water system assessments, six categories of drinking water contaminants were inventoried. They include:

- Bacteria and viruses
- Nitrates and/or nitrites
- Volatile organic chemicals
- Heavy metals, cyanide, and other inorganic chemicals
- Synthetic organic chemicals
- Other organic chemicals

Maps 2 through 4 in Appendix C depict the Contaminant Source Inventory for the source of public drinking water serving St. Elizabeth Ann Seton Church. Table 1 in Appendix B lists the inventoried potential sources of contamination within Zones A through D. Below is a summary of the contaminant sources inventoried within the Drinking Water Protection Area:

- Approximately 165 acres of residential area;
- residential septic systems;
- sewer lines;
- dirt and paved roads;
- parks and recreation trails;
- a livestock stable/corral area;
- a hardware store;
- heavy equipment rental/storage area;
- two underground gasoline storage tanks;
- and an orchard or nursery.

These potential and existing contaminant sources present risk for all six categories of drinking water contaminants.

**RANKING OF CONTAMINANT RISKS**

Potential and existing sources of contamination have been identified, sorted, and ranked according to what type and level of risk they represent. Ranking of contaminant risks for a “potential” or “existing” source of contamination is a function of toxicity and volumes of specific contaminants associated with that source. Contaminant risks are further a function of the number and density of those types of contaminant sources as well as the proximity of those sources to the public drinking water well.

**VULNERABILITY OF ST. ELIZABETH ANN SETON CHURCH’S PUBLIC DRINKING WATER SOURCE**

Vulnerability of a drinking water source to contamination is a combination of two factors:

- natural susceptibility; and
- contaminant risks.

Each of the six categories of drinking water contaminants have been analyzed and an overall vulnerability score of 0 to 100 ultimately assigned:

$$\begin{array}{r}
 \text{Natural Susceptibility (0 – 50 points)} \\
 + \\
 \text{Contaminant Risks (0 – 50 points)} \\
 = \\
 \text{Vulnerability of the} \\
 \text{Drinking Water Source to Contamination (0 – 100).}
 \end{array}$$

A score for the Natural Susceptibility is achieved by analyzing the properties of the well and the aquifer.

$$\begin{array}{r}
 \text{Susceptibility of the Wellhead (0 – 25 Points)} \\
 + \\
 \text{Susceptibility of the Aquifer (0 – 25 Points)} \\
 = \text{Natural Susceptibility (Susceptibility of the Well)} \\
 \text{(0 – 50 Points)}
 \end{array}$$

According to the well log the well was completed in a confined aquifer. The confining unit consists of a layer of gray silty clay from 17 to 37 feet below ground surface. Groundwater was encountered at approximately 71 feet below ground surface. Static water level in St. Elizabeth Ann Seton Church’s well was recorded at 3 feet below land surface. This is an indication that the aquifer is confined. This confining layer may provide a protective

barrier against the movement of contaminants in the subsurface. However, near the base of the Chugach Mountains, these clay layers tend to be discontinuous and thin toward the mountains. Therefore, contaminants that enter the subsurface near the base of the mountains may enter the confined aquifer uninhibited by the absence of any protective layer.

Combining the susceptibility of the wellhead and the aquifer to contamination leads to a score (0 – 50 points) and rating of overall Susceptibility of the well to contamination (See Appendix D). Table 1 depicts the overall Susceptibility score and rating for the primary source of public drinking water serving Sky Ranch Estates.

**Table 1. Natural Susceptibility - Susceptibility of the Wellhead and Aquifer to Contamination**

	Score	Rating
Susceptibility of the Wellhead	0	Low
Susceptibility of the Aquifer	19	High
Natural Susceptibility	19	Low

Contaminant risks to a drinking water source depend on the type, number or density, and distribution of contaminant sources. A score (0 – 50 points) and rating of Contaminant Risks (See Appendix D) is assigned based on the findings of the Contaminant Source Inventory (See Appendix B - Table 1 – Table 7). This portion of the analysis examines any existing or historical contamination that has been detected at the drinking water source through routine sampling. It also reviews contamination that has or may have occurred but has not arrived or been detected at the either well. Table 2 summarizes the Contaminant Risks for each category of drinking water contaminants.



**Table 2. Contaminant Risks to St. Elizabeth Ann Seton Church’s Public Drinking Water Source**

Contaminant Risks	Score	Rating
Bacteria and Viruses	25	Medium
Nitrates and/or Nitrites	50	Very High
Volatile Organic Chemicals	42	Very High
Heavy Metals, Cyanide, And Other Inorganic Chemicals	22	Medium
Synthetic Organic Chemicals	12	Low
Other Organic Chemicals	32	High

Appendix D contains fourteen charts, which together form the ‘Vulnerability Analysis’ for a Class A public drinking water system. Chart 1 analyzes the ‘Susceptibility of the Wellhead’ to contamination by looking at the construction of the well and its surrounding area. Chart 2 analyzes the ‘Susceptibility of the Aquifer’ to contamination by looking at the naturally occurring attributes of the water source and influences on the groundwater system that might lead to contamination. Chart 3 analyzes ‘Contaminant Risks’ for the drinking water source with respect to bacteria and viruses. The ‘Contaminant Risks’ portion of the analysis considers potential sources of contaminants as well as a review of contamination that has or may have occurred but has not arrived or been detected at the well. Lastly, Chart 4 contains the ‘Vulnerability Analysis for Bacteria and Viruses’. Charts 5 through 14 contain the Contaminant Risks and Vulnerability Analysis for nitrates and nitrites, volatile organic chemicals, heavy metals, synthetic organic chemicals, and other organic chemicals, respectively.

Vulnerability of drinking water sources to contamination is the combination of susceptibility of the aquifer and the well with contaminant risks. Table 3 contains the overall vulnerability scores (0 – 100) and ratings for each of the six categories of drinking water contaminants (See Appendix D). Note: scores are rounded off to the nearest five.

**Table 3. Overall Vulnerability of St. Elizabeth Ann Seton Church’s Public Drinking Water Source to Contamination by Category**

Category	Score	Rating
Bacteria and Viruses	45	Medium
Nitrates and Nitrites	70	High
Volatile Organic Chemicals	60	High
Heavy Metals, Cyanide, and Other Inorganic Chemicals	40	Medium
Synthetic Organic Chemicals	30	Low
Other Organic Chemicals	50	Medium

Tables 2 through 7 in Appendix B contain the ranking of potential and existing sources of contamination with respect to bacteria and viruses, nitrates and/or nitrites, heavy metals, synthetic organic chemicals, and other organic chemicals, respectively.

Review of the historical sampling data indicate that bacteria and virus contamination has not been detected at the source waters. The most significant sources of bacteria and viruses within the protection area include the livestock stable/corral area, sewer lines and residential septic systems, and residential areas.

Nitrates and/or nitrites are found in natural background concentration at this site, as elsewhere throughout Alaska. Nitrate concentrations in uncontaminated groundwater are typically less than 2 milligrams per liter (mg/L) and are derived primarily from the decomposition of organic matter in soils [Wang, Strelakos, Jokela, 2000].

Sampling history for St. Elizabeth Ann Seton Church indicates that nitrates have been detected (See Chart 5 – Contaminant Risks for Nitrates and/or Nitrites in Appendix D). Existing nitrate concentration is approximately 49% of the Maximum Contaminant Level or MCL. The MCL is the maximum level of contaminant that is allowed to exist in drinking water and still be consumed by humans without harmful health effects. Due to the high solubility and weak retention by soil, nitrates are very mobile, moving at approximately the same rate as water.

Throughout the past 5 years nitrate and/or nitrite concentrations at this site have remained relatively constant with levels near 50% of the MCL. It is unknown how much of the existing nitrate concentration can be attributed to natural or human-made sources. Livestock

stables and/or corral areas pose the greatest potential risk for bacteria nitrates and/or nitrites due to the potential for those contaminants to travel with surface runoff, toward the well and along the well casing into source waters. There is a livestock stable/corral area located within Zone A which presents the highest source of potential nitrate and/or nitrite contamination to the well. City sewer lines terminate in Zone A and each residence up-gradient of the well has a septic system. Residential septic systems, because of their effluent discharge, pose significant potential contaminant risk to the source of public drinking water for bacteria and viruses and nitrates and/or nitrites. The concentration of nitrates and/or nitrites detected in the source waters serving St. Elizabeth Ann Seton Church could be related to the density of residential septic systems and the livestock stable/corral area located within the protection area.

Historical sampling data for volatile organic chemicals indicate that none have been detected at the well within the past five years. However, according to the most recent Monitoring Waiver Application (8/21/98), volatile organic chemicals were detected at the well site in very low concentrations.

Dirt and paved roads as well as residential area within the protection area are the most significant sources of potential volatile organic chemical contamination to St. Elizabeth Ann Seton Church's drinking water source. Because roads do pose a potential for fuel spills to occur, major routes were ranked as low for volatile organic chemicals. There are two underground gasoline storage tanks located in Zone C that are associated with a heavy equipment rental storage site. This site ranks as a high potential source of volatile organic chemicals in the vulnerability analysis for the well. However, due to its proximity to the well the overall risk to contamination from this site is very low.

Residential areas, roads and sewer lines within the protection area present the most significant source of potential contamination, from heavy metals, synthetic organic chemicals, and other organic chemicals to the well. Historical sampling data for all three contaminant categories indicate that none have been detected at the well site.

## SUMMARY

A *Source Water Assessment* has been completed for the source of public drinking water serving St. Elizabeth Ann Seton Church. The overall vulnerability of this source to contamination is **Low** for synthetic organic chemicals, **Medium** for bacteria and viruses, heavy metals, and other organic chemicals; and **High** for nitrates and/or nitrites, and volatile organic chemicals. This assessment of

contaminant risks can be used as a foundation for local voluntary protection efforts as well as a basis for the continuous efforts on the part of St. Elizabeth Ann Seton Church to protect public health. It is anticipated that *Source Water Assessments* will be updated every five years to reflect any changes in the vulnerability and/or susceptibility of St. Elizabeth Ann Seton Church's source of public drinking water.

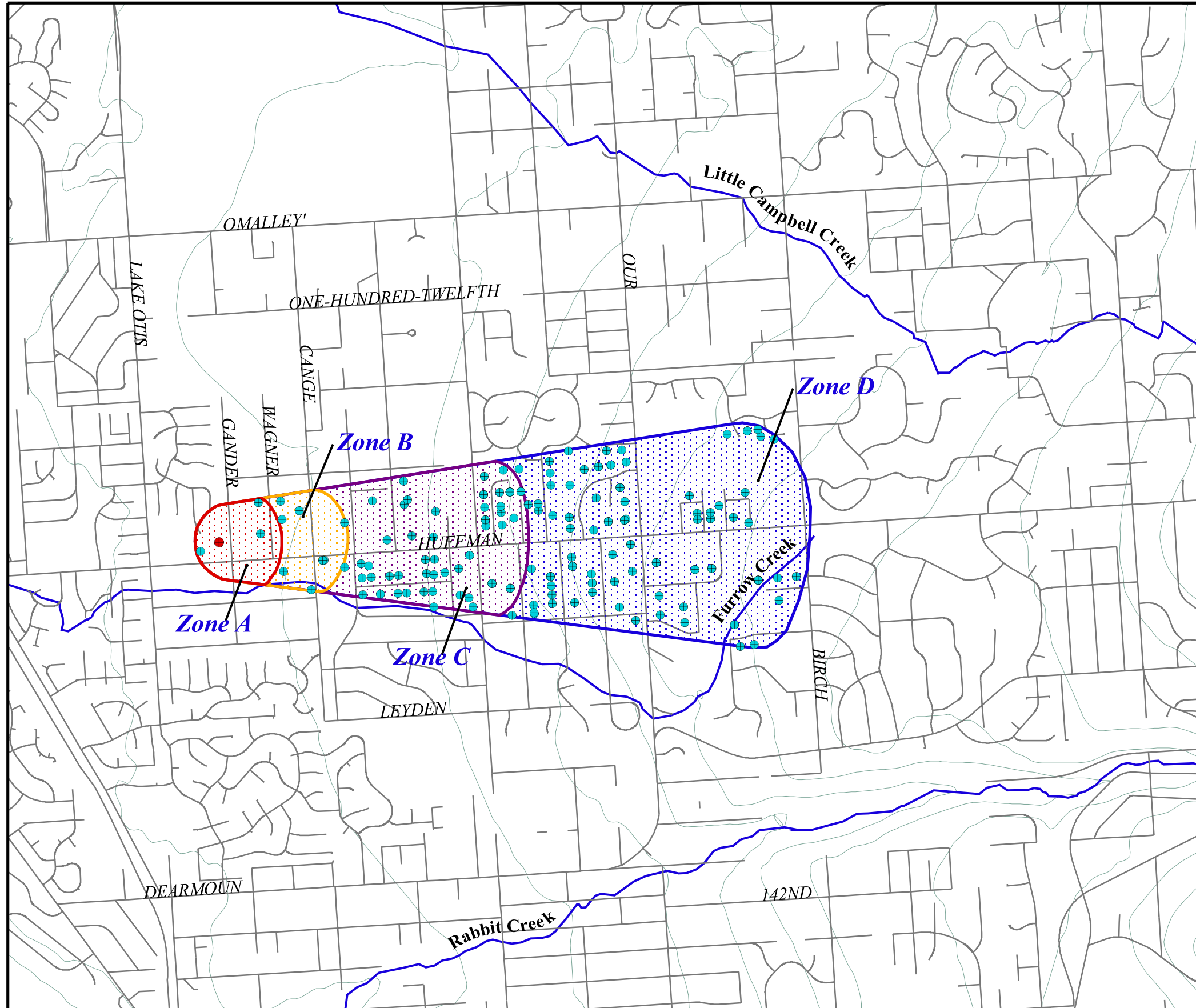
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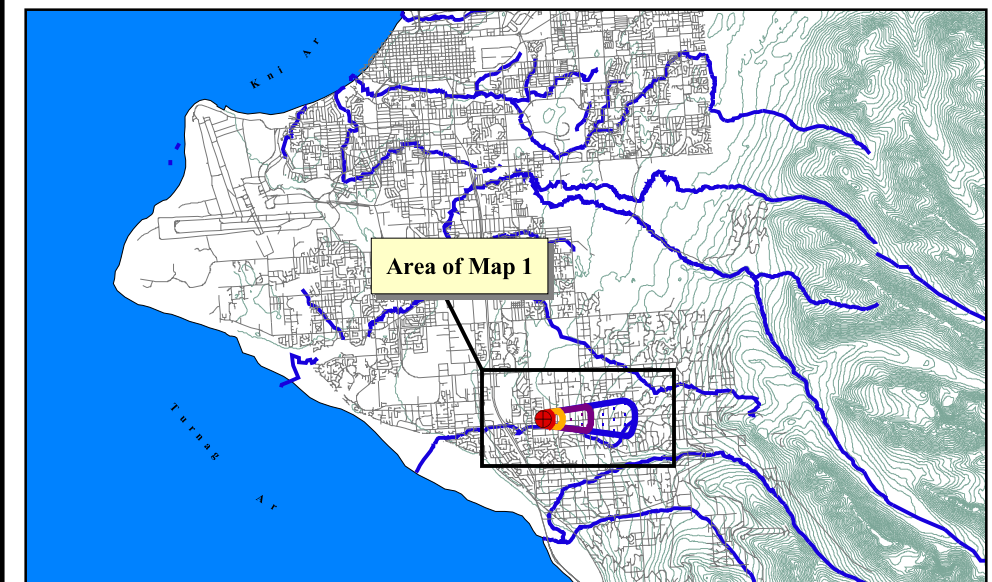
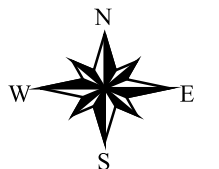
## **APPENDIX A**

### **St. Elizabeth Ann Seton Church's Drinking Water Protection Area**

# Drinking Water Protection Area for St. Elizabeth Ann Seton Church



- St. Elizabeth Ann Seton's DW Well
- Private and Public DW Wells
- Zone A Protection Area**  
 Less Than 2 Years Travel Time
- Zone B Protection Area**  
 Less Than 2 Years Travel Time
- Zone C Protection Area**  
 Less Than 5 Years Travel Time
- Zone D Protection Area**  
 Less Than 10 Years Travel Time
- Anchorage Roads
- Anchorage Streams
- Elevation Contours



3000      0      3000      6000 Feet

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*Map 1*

## **APPENDIX B**

### **Contaminant Source Inventory and Risk Ranking for St. Elizabeth Ann Seton Church**

**Table 1**

**Contaminant Source Inventory for  
St. Elizabeth Ann Seton Church**

**PWSID 214099.001**

<b>Contaminant Source Type</b>	<b>Contaminant Source ID</b>	<b>CS ID tag</b>	<b>Zone</b>	<b>Location</b>	<b>Map Number</b>	<b>Comments</b>
Livestock stables/corrals	A09	A9-1	A	Off of Huffman Road	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Off of Woodway Circle	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Off of Woodchase Drive	2	
Residential Areas	R01	R1-1	A	Residential areas located within Zone A	2	Approximately 35 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-1	A	Off of Huffman Road	2	
Septic systems (serves one or more single-family homes)	R02	R2-15	A	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-17	A	Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-18	A	Along Gander Street	2	
Septic systems (serves one single-family home)	R02	R2-19	A	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-20	A	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-21	A	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-22	A	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-23	A	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-24	A	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-25	A	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-26	A	Off of Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-27	A	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-28	A	Off of Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-29	A	Off of Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Woodway Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Woodchase Drive	2	

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Highways and roads, dirt/gravel	X24	X24-1	A	Gander Street	2	
Highways and roads, dirt/gravel	X24	X24-2	A	Wagner Street	2	
Dog walking areas/foot trails	X46	X46-1	A	Trail along the north side of Huffman Road	2	
Dog walking areas/foot trails	X46	X46-2	A	Trail along the south side of Huffman Road	2	
Residential Areas	R01	R1-2	B	Residential areas located within Zone B	2	Approximately 35 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-30	B	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-31	B	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-32	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-33	B	Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-34	B	Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-35	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-36	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-37	B	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-38	B	Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-39	B	Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-40	B	Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-41	B	Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-42	B	Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-43	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-44	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-45	B	Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-46	B	Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-47	B	Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-48	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-49	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-50	B	Off of Huffman Road	2	



<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-51	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-52	B	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-53	B	Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-54	B	Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-55	B	Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-56	B	Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-57	B	Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-58	B	Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-59	B	Along Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Pintail Street	2	
Hardware stores	C17	C17-1	C	Off of Emore Road	5	
Heavy equipment rental/storage	C18	C18-1	C	Off of Avion Street	5	
Residential Areas	R01	R1-3	C	Residential areas located within Zone C	3	Approximately 95 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-46-137	C	All septic located within Zone C	3	
Septic systems (serves one single-family home)	R02	T12-1	C	Off of Avion Street	5	
Tanks, gasoline (underground)	T12	T12-2	C	Off of Avion Street	5	
Highways and roads, paved (cement or asphalt)	X20	X20-6-13	C	Paved roads within Zone C	3	
Highways and roads, dirt/gravel	X24	X24-3-8	C	Dirt/gravel roads within Zone C	3	
Electric substation	X37	X37-1	C	Off of Huffman Drive	5	
Municipal or city parks (with green areas)	X04	X4-1	C	Along Elmore Road	5	
Public utility easements/corridors	X42	X42-1	C	Pipeline intersecting Zone C	3	Pipeline serves dual purpose. Currently transporting natural gas but has transported oil in the past.
Dog walking areas/foot trails	X46	X46-3	C	Trail along the west side of Elmore Road	3	
Dog walking areas/foot trails	X46	X46-4	C	Trail along the east side of Elmore Road	3	
Orchards or nurseries	A10	A10-1	D	Off of Huffman Road	4	

Table 2

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Bacteria and Viruses*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Medium	1	Off of Woodway Circle	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Medium	2	Off of Woodchase Drive	2	
Livestock stables/corrals	A09	A9-1	A	Medium	3	Off of Huffman Road	2	
Residential Areas	R01	R1-1	A	Low	4	Residential areas located within Zone A	2	Approximately 35 acres of residential area.
Residential Areas	R01	R1-2	B	Low	5	Residential areas located within Zone B	2	Approximately 35 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-1	A	Low	6	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-15	A	Low	7	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-18	A	Low	8	Along Gander Street	2	
Septic systems (serves one single-family home)	R02	R2-24	A	Low	9	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-23	A	Low	10	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-17	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-19	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-20	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-21	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-22	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-25	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-26	A	Low		Off of Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-27	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-28	A	Low		Off of Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-29	A	Low		Off of Huffman Road	2	

Table 2 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Bacteria and Viruses*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low		Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low		Woodway Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Woodchase Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Woodchase Drive	2	
Highways and roads, dirt/gravel	X24	X24-1	A	Low		Gander Street	2	
Highways and roads, dirt/gravel	X24	X24-2	A	Low		Wagner Street	2	
Dog walking areas/foot trails	X46	X46-1	A	Low		Trail along the north side of Huffman Road	2	
Dog walking areas/foot trails	X46	X46-2	A	Low		Trail along the south side of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-30	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-31	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-32	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-33	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-34	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-35	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-36	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-37	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-38	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-39	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-40	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-41	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-42	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-43	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-44	B	Low		Off of Huffman Road	2	

Table 2 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Bacteria and Viruses*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-45	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-46	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-47	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-48	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-49	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-50	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-51	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-52	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-53	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-54	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-55	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-56	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-57	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-58	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-59	B	Low		Along Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low		Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low		Pintail Street	2	
Residential Areas	R01	R1-3	C	Low		Residential areas located within Zone C	3	Approximately 95 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-46-137	C	Low		All septic located within Zone C	3	
Septic systems (serves one single-family home)	R02	T12-1	C	Low		Off of Avion Street	5	
Highways and roads, paved (cement or asphalt)	X20	X20-6-13	C	Low		Paved roads within Zone C	3	
Highways and roads, dirt/gravel	X24	X24-3-8	C	Low		Dirt/gravel roads within Zone C	3	

*Table 2 (continued)*

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Bacteria and Viruses*

*PWSID 214099.001*

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Municipal or city parks (with green areas)	X04	X4-1	C	Medium		Along Elmore Road	5	
Dog walking areas/foot trails	X46	X46-3	C	Low		Trail along the west side of Elmore Road	3	
Dog walking areas/foot trails	X46	X46-4	C	Low		Trail along the east side of Elmore Road	3	

Table 3

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Nitrates/Nitrites*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Medium	1	Off of Woodway Circle	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Medium	2	Off of Woodchase Drive	2	
Livestock stables/corrals	A09	A9-1	A	Medium	3	Off of Huffman Road	2	
Residential Areas	R01	R1-1	A	Low	4	Residential areas located within Zone A	2	Approximately 35 acres of residential area.
Residential Areas	R01	R1-2	B	Low	5	Residential areas located within Zone B	2	Approximately 35 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-1	A	Low	6	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-15	A	Low	7	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-18	A	Low	8	Along Gander Street	2	
Septic systems (serves one single-family home)	R02	R2-24	A	Low	9	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-23	A	Low	10	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-17	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-19	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-20	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-21	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-22	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-25	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-26	A	Low		Off of Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-27	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-28	A	Low		Off of Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-29	A	Low		Off of Huffman Road	2	

Table 3 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Nitrates/Nitrites*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low		Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low		Woodway Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Woodchase Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Woodchase Drive	2	
Highways and roads, dirt/gravel	X24	X24-1	A	Low		Gander Street	2	
Highways and roads, dirt/gravel	X24	X24-2	A	Low		Wagner Street	2	
Dog walking areas/foot trails	X46	X46-1	A	Low		Trail along the north side of Huffman Road	2	
Dog walking areas/foot trails	X46	X46-2	A	Low		Trail along the south side of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-30	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-31	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-32	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-33	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-34	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-35	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-36	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-37	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-38	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-39	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-40	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-41	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-42	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-43	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-44	B	Low		Off of Huffman Road	2	

Table 3 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Nitrates/Nitrites*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-45	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-46	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-47	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-48	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-49	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-50	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-51	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-52	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-53	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-54	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-55	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-56	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-57	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-58	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-59	B	Low		Along Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low		Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low		Pintail Street	2	
Hardware stores	C17	C17-1	C	Low		Off of Emore Road	5	
Residential Areas	R01	R1-3	C	Low		Residential areas located within Zone C	3	Approximately 95 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-46-137	C	Low		All septic located within Zone C	3	
Septic systems (serves one single-family home)	R02	T12-1	C	Low		Off of Avion Street	5	
Highways and roads, paved (cement or asphalt)	X20	X20-6-13	C	Low		Paved roads within Zone C	3	



Table 3 (continued)

Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Nitrates/Nitrites

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Highways and roads, dirt/gravel	X24	X24-3-8	C	Low		Dirt/gravel roads within Zone C	3	
Municipal or city parks (with green areas)	X04	X4-1	C	Medium		Along Elmore Road	5	
Dog walking areas/foot trails	X46	X46-3	C	Low		Trail along the west side of Elmore Road	3	
Dog walking areas/foot trails	X46	X46-4	C	Low		Trail along the east side of Elmore Road	3	

Table 4

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Volatile Organic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Residential Areas	R01	R1-1	A	Low	1	Residential areas located within Zone A	2	Approximately 35 acres of residential area.
Residential Areas	R01	R1-2	B	Low	2	Residential areas located within Zone B	2	Approximately 35 acres of residential area.
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	3	Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	4	Woodway Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	5	Woodchase Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low	6	Cange Street	2	
Highways and roads, dirt/gravel	X24	X24-1	A	Low	7	Gander Street	2	
Highways and roads, dirt/gravel	X24	X24-2	A	Low	8	Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-1	A	Low	9	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-15	A	Low	10	Off of Huffman Road	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low		Off of Woodway Circle	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low		Off of Woodchase Drive	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-17	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-18	A	Low		Along Gander Street	2	
Septic systems (serves one single-family home)	R02	R2-19	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-20	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-21	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-22	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-23	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-24	A	Low		Off of Huffman Road	2	

Table 4 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Volatile Organic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-25	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-26	A	Low		Off of Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-27	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-28	A	Low		Off of Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-29	A	Low		Off of Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Woodchase Drive	2	
Septic systems (serves one single-family home)	R02	R2-30	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-31	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-32	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-33	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-34	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-35	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-36	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-37	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-38	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-39	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-40	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-41	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-42	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-43	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-44	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-45	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-46	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-47	B	Low		Along Merganser Ave.	2	

Table 4 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Volatile Organic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-48	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-49	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-50	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-51	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-52	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-53	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-54	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-55	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-56	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-57	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-58	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-59	B	Low		Along Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low		Pintail Street	2	
Hardware stores	C17	C17-1	C	Low		Off of Emore Road	5	
Heavy equipment rental/storage	C18	C18-1	C	Medium		Off of Avion Street	5	
Residential Areas	R01	R1-3	C	Low		Residential areas located within Zone C	3	Approximately 95 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-46-137	C	Low		All septic located within Zone C	3	
Septic systems (serves one single-family home)	R02	T12-1	C	Low		Off of Avion Street	5	
Tanks, gasoline (underground)	T12	T12-2	C	High		Off of Avion Street	5	
Highways and roads, paved (cement or asphalt)	X20	X20-6-13	C	Low		Paved roads within Zone C	3	
Highways and roads, dirt/gravel	X24	X24-3-8	C	Low		Dirt/gravel roads within Zone C	3	
Electric substation	X37	X37-1	C	Low		Off of Huffman Drive	5	

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Volatile Organic Chemicals

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Public utility easements/corridors	X42	X42-1	C	Low		Pipeline intersecting Zone C	3	Pipeline serves dual purpose. Currently transporting natural gas but has transported oil in the past.

Table 5

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Residential Areas	R01	R1-1	A	Low	1	Residential areas located within Zone A	2	Approximately 35 acres of residential area.
Highways and roads, dirt/gravel	X24	X24-1	A	Low	2	Gander Street	2	
Highways and roads, dirt/gravel	X24	X24-2	A	Low	3	Wagner Street	2	
Residential Areas	R01	R1-2	B	Low	4	Residential areas located within Zone B	2	Approximately 35 acres of residential area.
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	5	Off of Woodway Circle	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	6	Off of Woodchase Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	7	Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	8	Woodway Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	9	Woodchase Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low	10	Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-1	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-15	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-17	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-18	A	Low		Along Gander Street	2	
Septic systems (serves one single-family home)	R02	R2-19	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-20	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-21	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-22	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-23	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-24	A	Low		Off of Huffman Road	2	

Table 5 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-25	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-26	A	Low		Off of Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-27	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-28	A	Low		Off of Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-29	A	Low		Off of Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Woodchase Drive	2	
Septic systems (serves one single-family home)	R02	R2-30	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-31	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-32	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-33	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-34	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-35	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-36	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-37	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-38	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-39	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-40	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-41	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-42	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-43	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-44	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-45	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-46	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-47	B	Low		Along Merganser Ave.	2	

Table 5 (continued)

Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church

PWSID 214099.001

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map Number	Comments
Septic systems (serves one single-family home)	R02	R2-48	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-49	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-50	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-51	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-52	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-53	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-54	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-55	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-56	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-57	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-58	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-59	B	Low		Along Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low		Pintail Street	2	
Hardware stores	C17	C17-1	C	Low		Off of Emore Road	5	
Heavy equipment rental/storage	C18	C18-1	C	Low		Off of Avion Street	5	
Residential Areas	R01	R1-3	C	Low		Residential areas located within Zone C	3	Approximately 95 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-46-137	C	Low		All septic located within Zone C	3	
Septic systems (serves one single-family home)	R02	T12-1	C	Low		Off of Avion Street	5	
Tanks, gasoline (underground)	T12	T12-2	C	Medium		Off of Avion Street	5	
Highways and roads, paved (cement or asphalt)	X20	X20-6-13	C	Low		Paved roads within Zone C	3	
Highways and roads, dirt/gravel	X24	X24-3-8	C	Low		Dirt/gravel roads within Zone C	3	
Electric substation	X37	X37-1	C	Low		Off of Huffman Drive	5	



Table 5 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Municipal or city parks (with green areas)	X04	X4-1	C	Low		Along Elmore Road	5	

Table 6

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Synthetic Organic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Residential Areas	R01	R1-1	A	Low	1	Residential areas located within Zone A	2	Approximately 35 acres of residential area.
Residential Areas	R01	R1-2	B	Low	2	Residential areas located within Zone B	2	Approximately 35 acres of residential area.
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	3	Off of Woodway Circle	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	4	Off of Woodchase Drive	2	
Septic systems (serves one single-family home)	R02	R2-1	A	Low	5	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-15	A	Low	6	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-18	A	Low	7	Along Gander Street	2	
Septic systems (serves one single-family home)	R02	R2-24	A	Low	8	Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-23	A	Low	9	Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-22	A	Low	10	Along Wagner Street	2	
Livestock stables/corrals	A09	A9-1	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-17	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-19	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-20	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-21	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-25	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-26	A	Low		Off of Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-27	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-28	A	Low		Off of Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-29	A	Low		Off of Huffman Road	2	

Table 6 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Synthetic Organic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-30	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-31	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-32	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-33	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-34	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-35	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-36	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-37	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-38	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-39	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-40	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-41	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-42	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-43	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-44	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-45	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-46	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-47	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-48	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-49	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-50	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-51	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-52	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-53	B	Low		Along Cange Street	2	

Table 6 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Synthetic Organic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-54	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-55	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-56	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-57	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-58	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-59	B	Low		Along Cange Street	2	
Residential Areas	R01	R1-3	C	Low		Residential areas located within Zone C	3	Approximately 95 acres of residential area.
Septic systems (serves one single-family home)	R02	R2-46-137	C	Low		All septic located within Zone C	3	
Septic systems (serves one single-family home)	R02	T12-1	C	Low		Off of Avion Street	5	
Municipal or city parks (with green areas)	X04	X4-1	C	Low		Along Elmore Road	5	
Orchards or nurseries	A10	A10-1	D	High		Off of Huffman Road	4	

Table 7

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Other Organic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Residential Areas	R01	R1-1	A	Low	1	Residential areas located within Zone A	2	Approximately 35 acres of residential area.
Residential Areas	R01	R1-2	B	Low	2	Residential areas located within Zone B	2	Approximately 35 acres of residential area.
Residential Areas	R01	R1-3	C	Low	3	Residential areas located within Zone C	3	Approximately 95 acres of residential area.
Highways and roads, dirt/gravel	X24	X24-1	A	Low	4	Gander Street	2	
Highways and roads, dirt/gravel	X24	X24-2	A	Low	5	Wagner Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	6	Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	7	Woodway Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	8	Woodchase Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low	9	Cange Street	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	10	Pintail Street	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low		Off of Woodway Circle	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low		Off of Woodchase Drive	2	
Septic systems (serves one single-family home)	R02	R2-1	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-15	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-16	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-17	A	Low		Along Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-18	A	Low		Along Gander Street	2	
Septic systems (serves one single-family home)	R02	R2-19	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-20	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-21	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-22	A	Low		Along Wagner Street	2	

Table 7 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Other Organic Chemicals*

PWSID 214099.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-23	A	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-24	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-25	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-26	A	Low		Off of Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-27	A	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-28	A	Low		Off of Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-29	A	Low		Off of Huffman Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Woodchase Drive	2	
Septic systems (serves one single-family home)	R02	R2-30	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-31	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-32	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-33	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-34	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-35	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-36	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-37	B	Low		Along Wagner Street	2	
Septic systems (serves one single-family home)	R02	R2-38	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-39	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-40	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-41	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-42	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-43	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-44	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-45	B	Low		Along Merganser Ave.	2	

Table 7 (continued)

*Contaminant Source Inventory and Risk Ranking for  
St. Elizabeth Ann Seton Church  
Sources of Other Organic Chemicals*

PWSID 214099.001

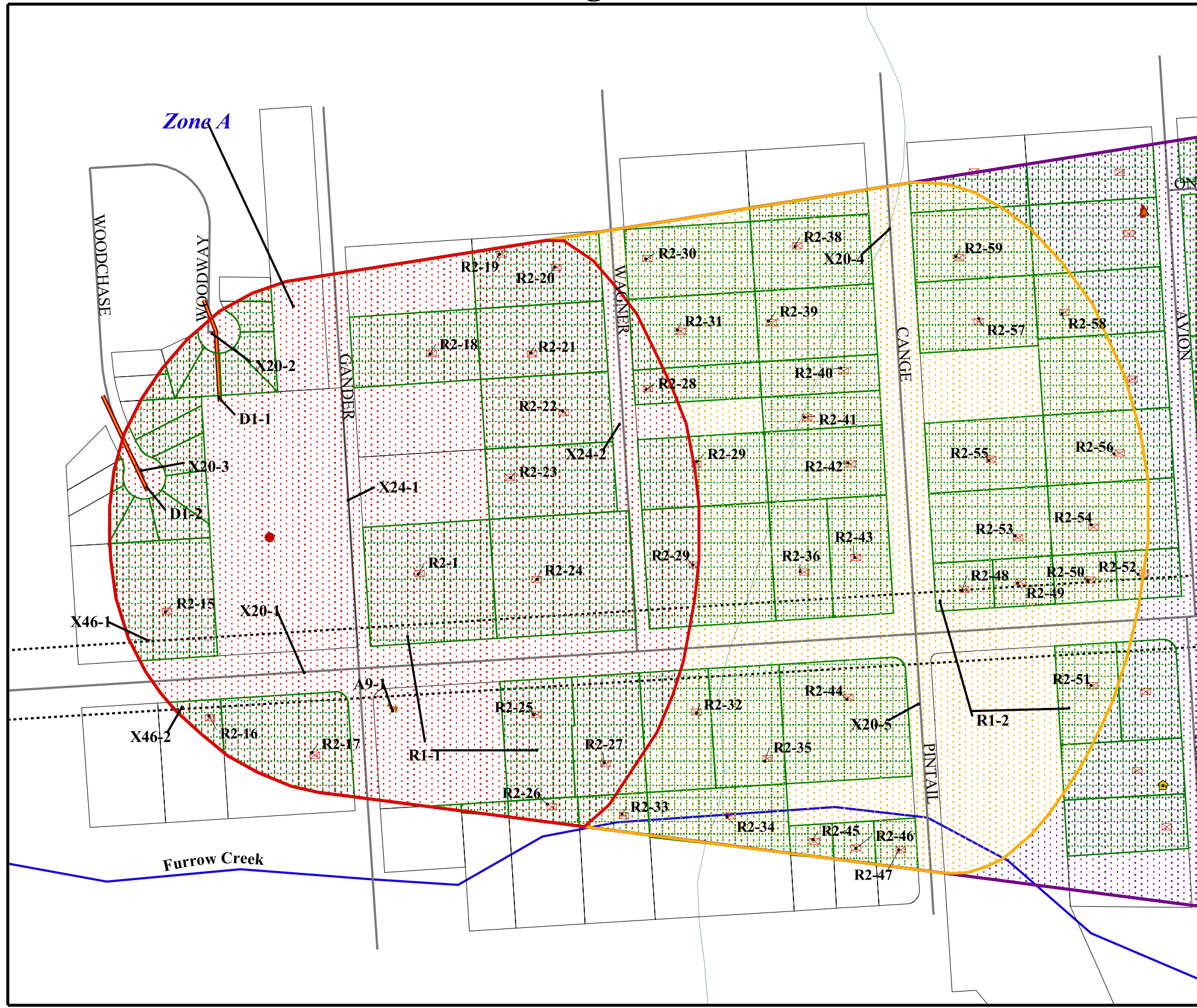
<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-46	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-47	B	Low		Along Merganser Ave.	2	
Septic systems (serves one single-family home)	R02	R2-48	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-49	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-50	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-51	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-52	B	Low		Off of Huffman Road	2	
Septic systems (serves one single-family home)	R02	R2-53	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-54	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-55	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-56	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-57	B	Low		Along Cange Street	2	
Septic systems (serves one single-family home)	R02	R2-58	B	Low		Along Avion Street	2	
Septic systems (serves one single-family home)	R02	R2-59	B	Low		Along Cange Street	2	
Hardware stores	C17	C17-1	C	Low		Off of Emore Road	5	
Heavy equipment rental/storage	C18	C18-1	C	Medium		Off of Avion Street	5	
Septic systems (serves one single-family home)	R02	R2-46-137	C	Low		All septic located within Zone C	3	
Septic systems (serves one single-family home)	R02	T12-1	C	Low		Off of Avion Street	5	
Highways and roads, paved (cement or asphalt)	X20	X20-6-13	C	Low		Paved roads within Zone C	3	
Highways and roads, dirt/gravel	X24	X24-3-8	C	Low		Dirt/gravel roads within Zone C	3	
Electric substation	X37	X37-1	C	High		Off of Huffman Drive	5	

## **APPENDIX C**

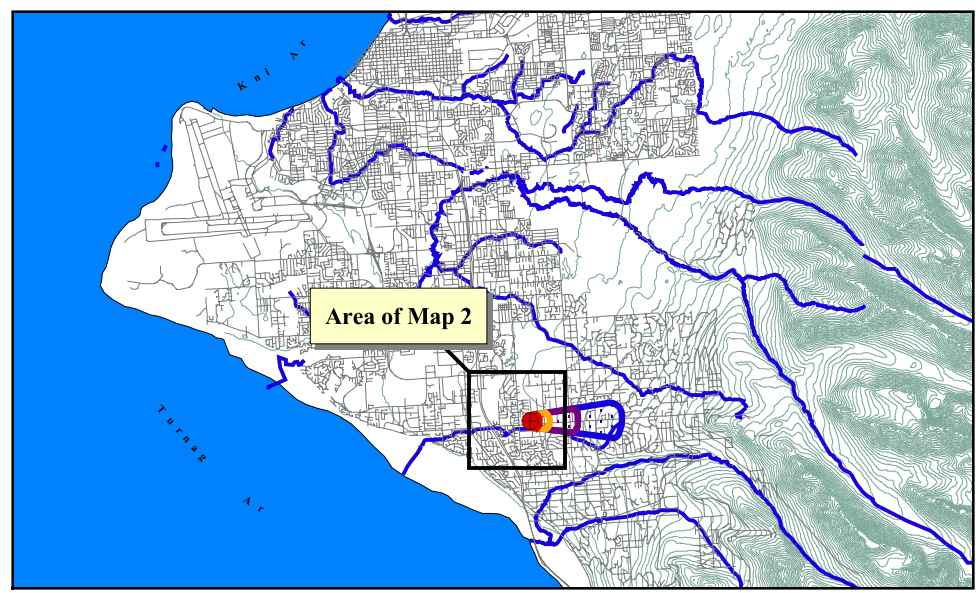
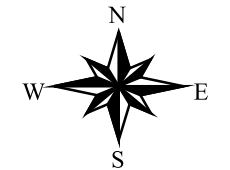
### **St. Elizabeth Ann Seton Church's Drinking Water Protection Area and Potential & Existing Contaminant Sources**



# Drinking Water Protection Area and Potential & Existing Contaminant Sources for St. Elizabeth Ann Seton Church



- St. Elizabeth Ann Setons DW Well
- Zone A Protection Area**
- Less Than 2 Years Travel Time
- Zone B Protection Area**
- Less Than 2 Years Travel Time
- Zone C Protection Area**
- Less Than 5 Years Travel Time
- Zone D Protection Area**
- Less Than 10 Years Travel Time
- Lawns and Gardens (R1)
- Anchorage Land Parcels
- Potential and Existing Contaminant Sources**
- 🐄 Livestock Stables/Corrals (A9)
- 🏠 Hardware Stores (C17)
- 🚧 Heavy Equipment Rental/Storage (C18)
- ⛛ Tanks - Gasoline, Underground (T12)
- 🚽 Septic Systems (R2)
- 📡 Sewer Lines (D1)
- 🛣 Anchorage Roads (X20)
- 👟 Trails (X46)
- 🌊 Anchorage Streams
- 🏞 Elevation Contours

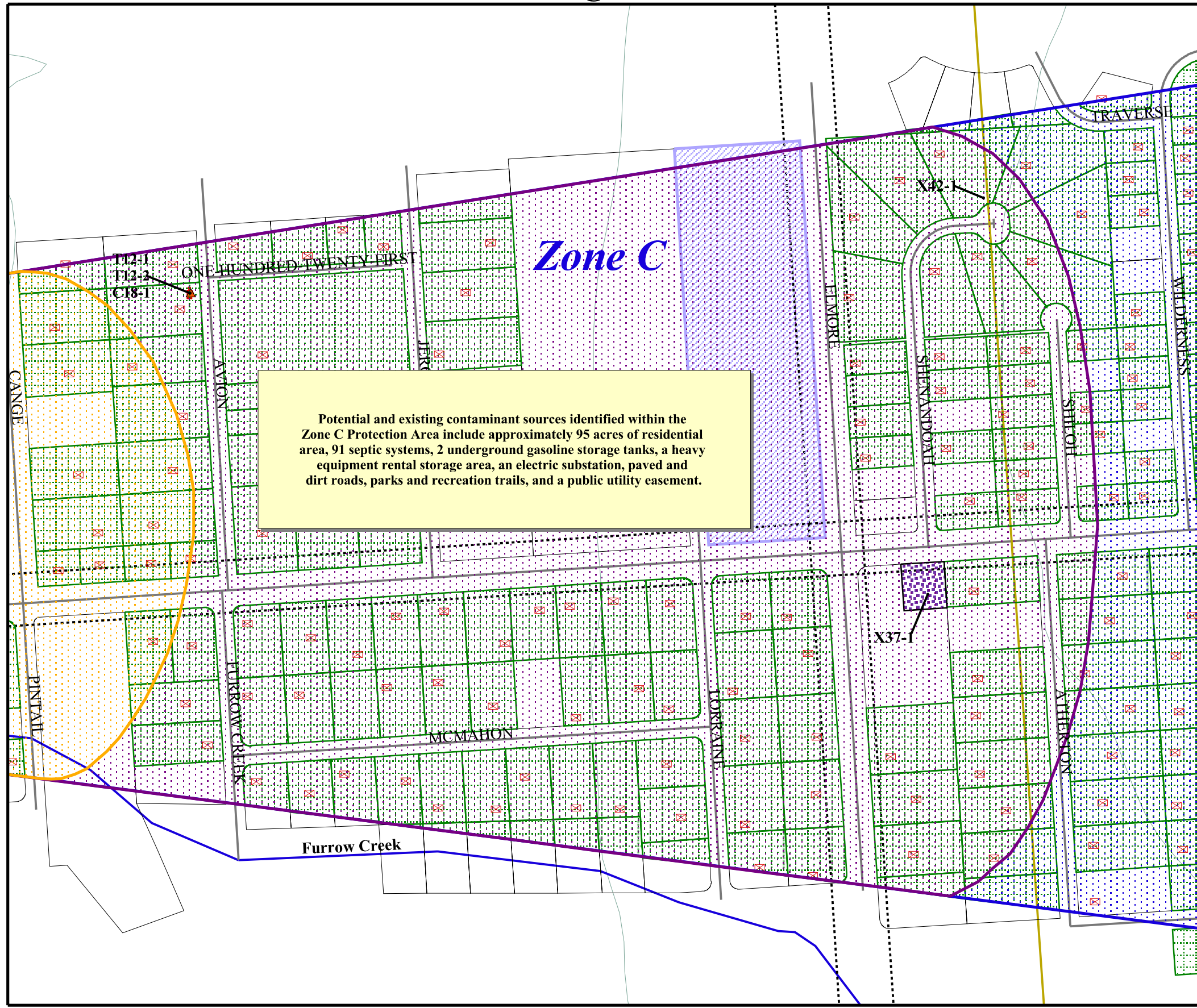


500 0 500 1000 Feet

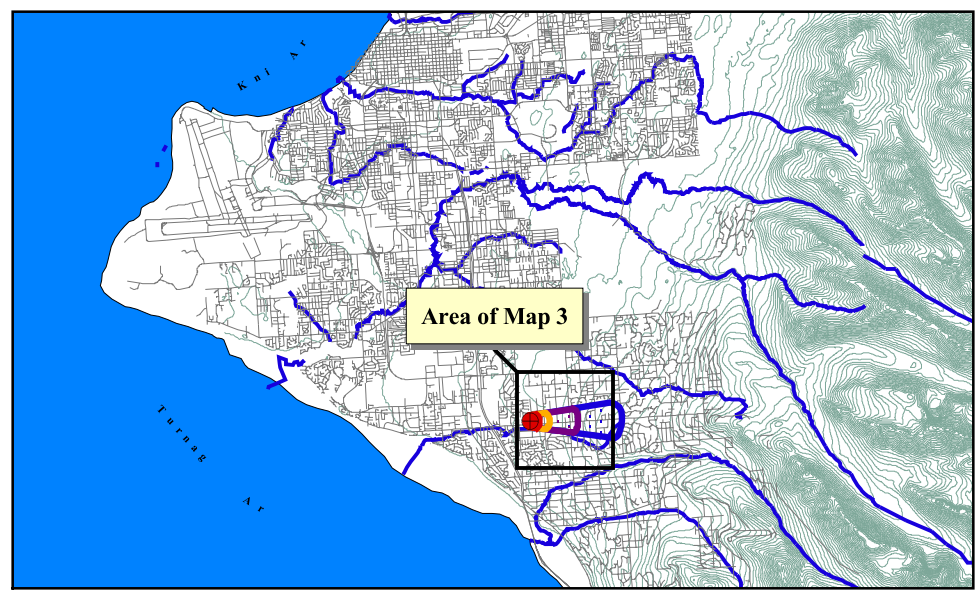
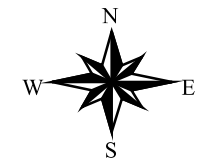
PWSID 214099.001

## Map 2

# Drinking Water Protection Area and Potential & Existing Contaminant Sources for St. Elizabeth Ann Seton Church



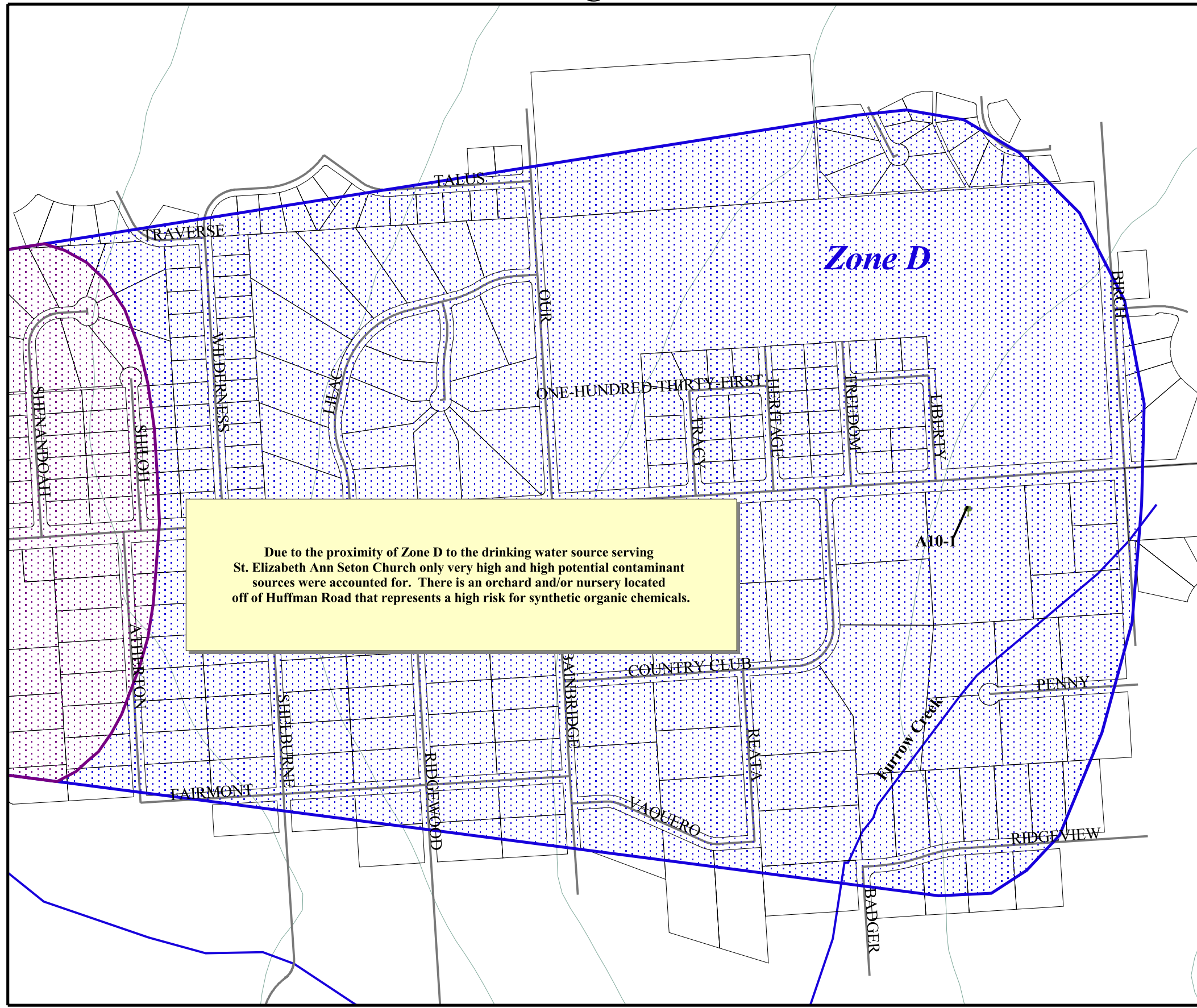
- St. Elizabeth Ann Setons DW Well
- Zone A Protection Area**
- Less Than 2 Years Travel Time
- Zone B Protection Area**
- Less Than 2 Years Travel Time
- Zone C Protection Area**
- Less Than 5 Years Travel Time
- Zone D Protection Area**
- Less Than 10 Years Travel Time
- ⊠ Septic Systems (R2)
- Electric Substations (X37)
- Anchorage Parks (X4)
- Lawns and Gardens (R1)
- Potential and Existing Contaminant Sources**
- Orchards and Nurseries (A10)
- Livestock Stables/Corrals (A9)
- ▲ Heavy Equipment Rental/Storage (C18)
- Tanks - Gasoline, Underground (T12)
- Anchorage Land Parcels
- ▬ Public Utility Easements/Corridors (X42)
- ▬ Anchorage Roads (X20)
- ▬ Trails (X46)
- ▬ Anchorage Streams
- ▬ Elevation Contours



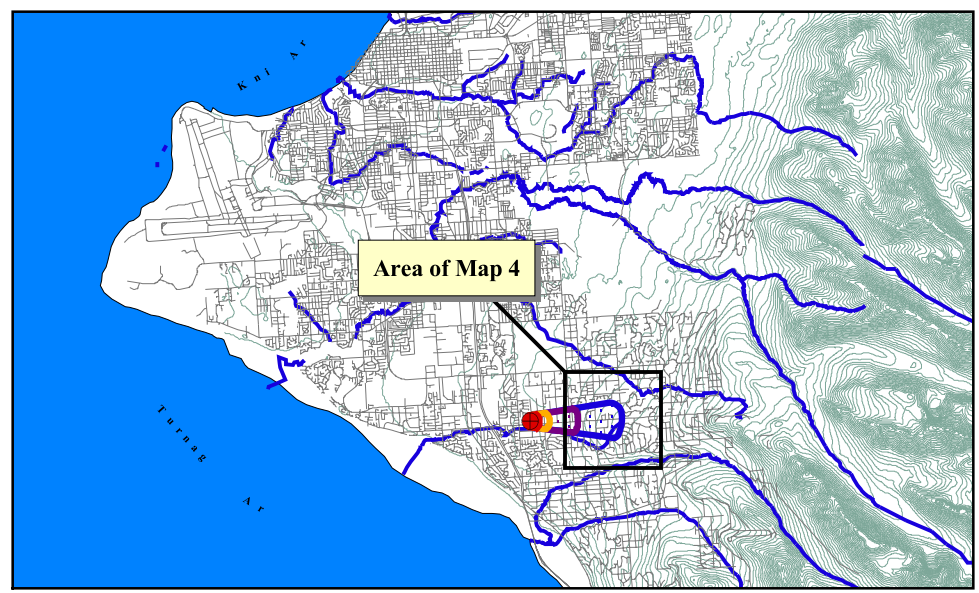
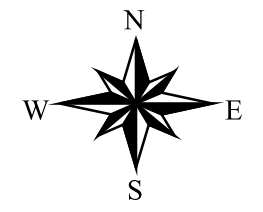
PWSID 214099.001

## Map 3

# Drinking Water Protection Area and Potential & Existing Contaminant Sources for St. Elizabeth Ann Seton Church



- St. Elizabeth Seton Church DW Well
- Zone A Protection Area**
- Less Than 2 Years Travel Time
- Zone B Protection Area**
- Less Than 2 Years Travel Time
- Zone C Protection Area**
- Less Than 5 Years Travel Time
- Zone D Protection Area**
- Less Than 10 Years Travel Time
- Potential and Existing Contaminant Sources**
- Orchards and Nurseries (A10)
- Anchorage Land Parcels
- Anchorage Roads (X20)
- Anchorage Streams
- Elevation Contours



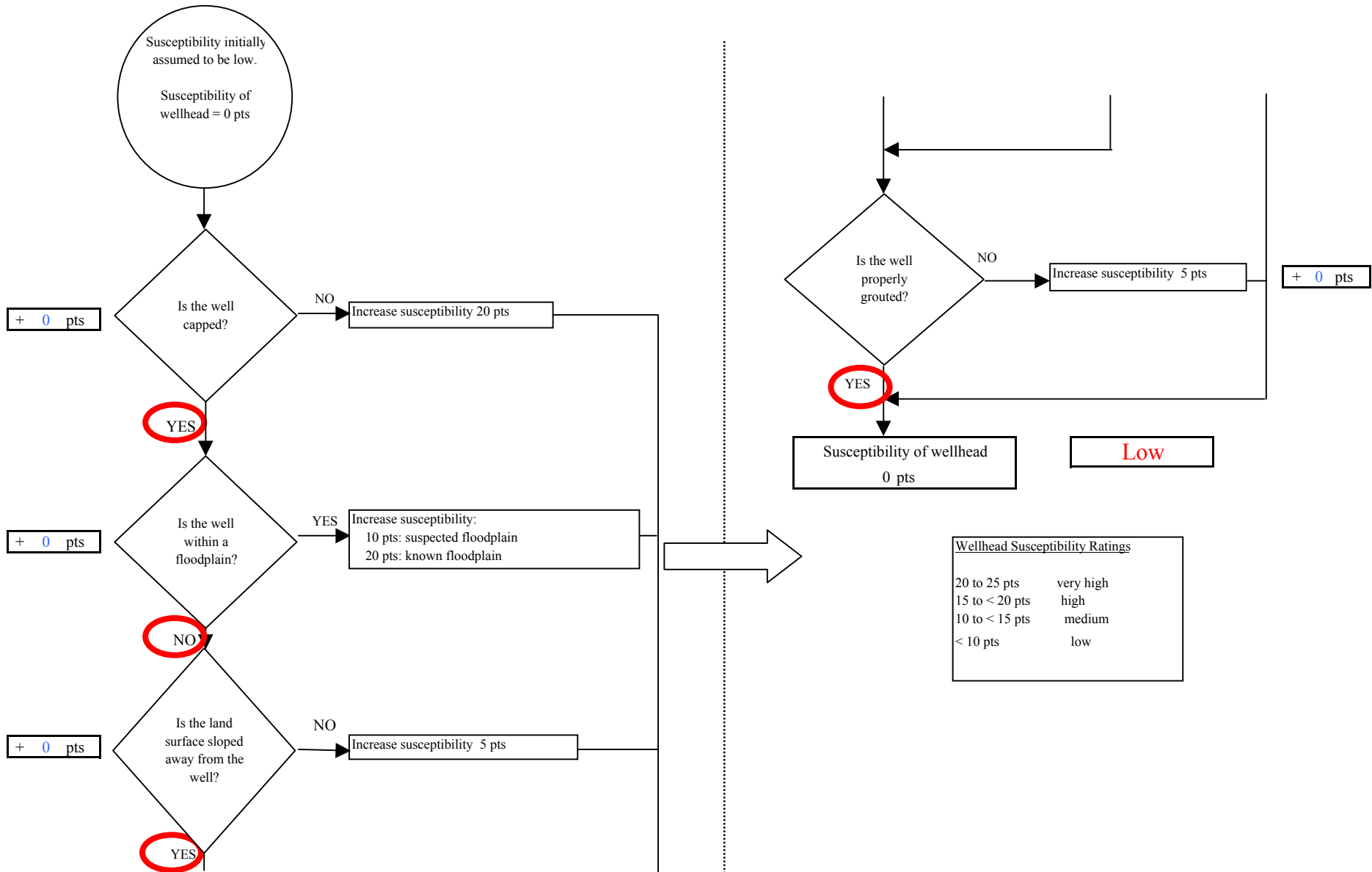
PWSID 214099.001

## Map 4

## **APPENDIX D**

### **Vulnerability Analysis for St. Elizabeth Ann Seton Church**

**Chart 1. Susceptibility of the wellhead - St. Elizabeth Ann Seton Church**



Wellhead Susceptibility Ratings	
20 to 25 pts	very high
15 to < 20 pts	high
10 to < 15 pts	medium
< 10 pts	low

**Chart 2. Susceptibility of the aquifer - St. Elizabeth Ann Seton Church**

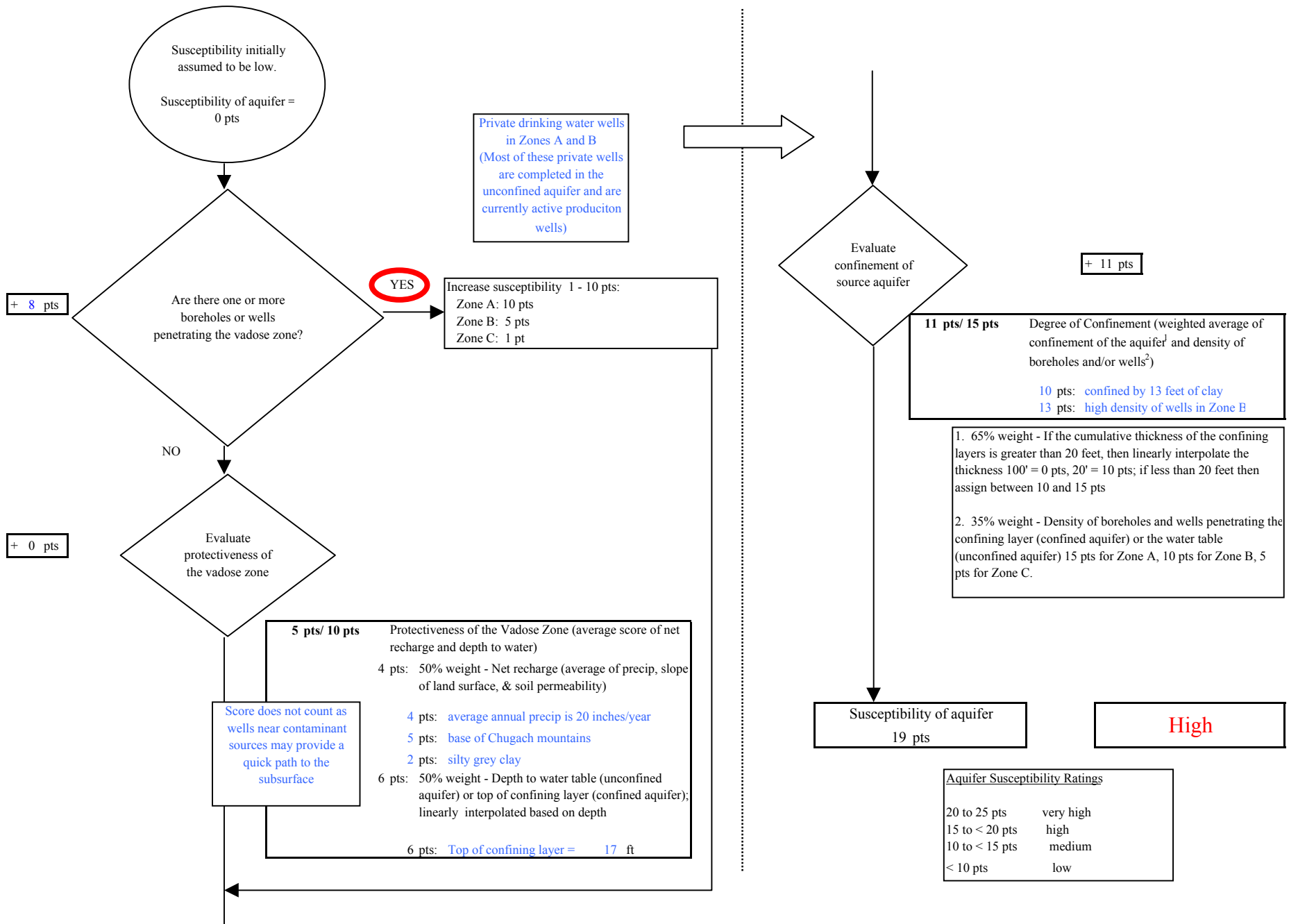
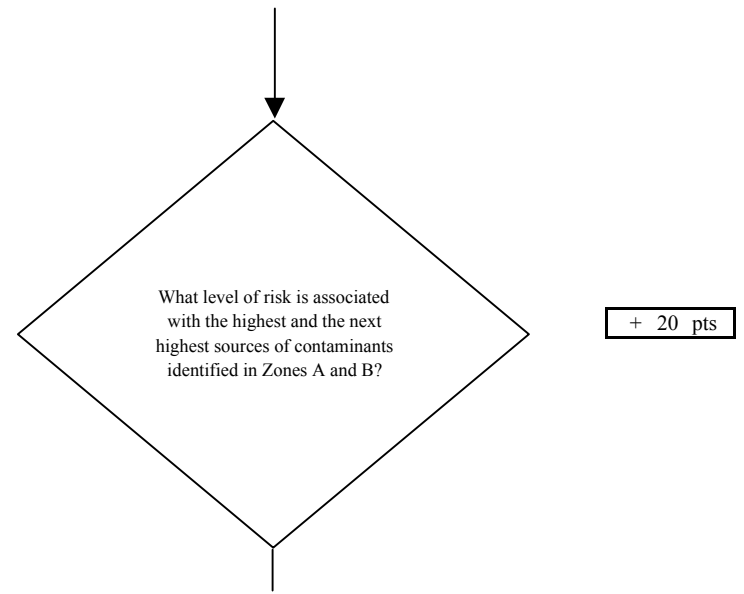
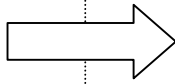
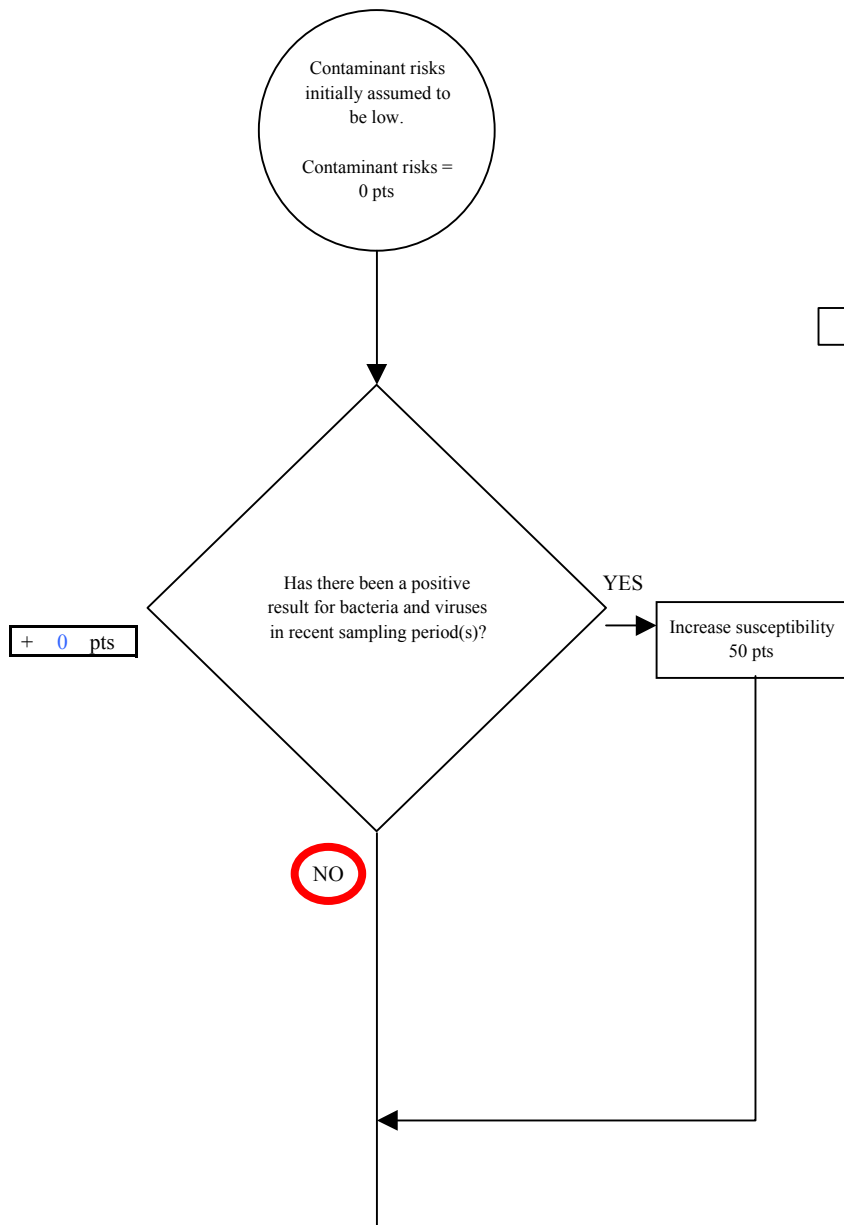


Chart 3. Contaminant risks for *St. Elizabeth Ann Seton Church - Bacteria & Viruses*



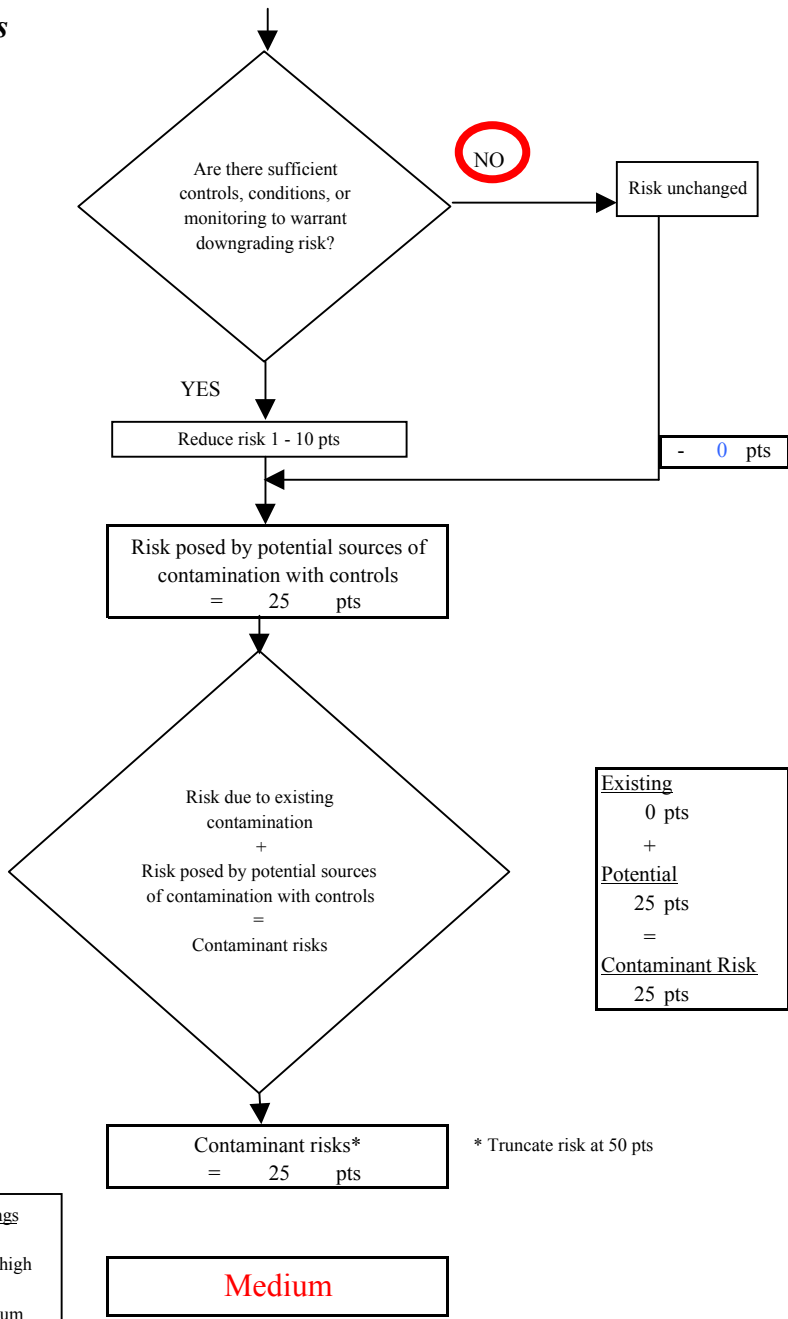
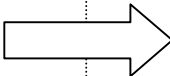
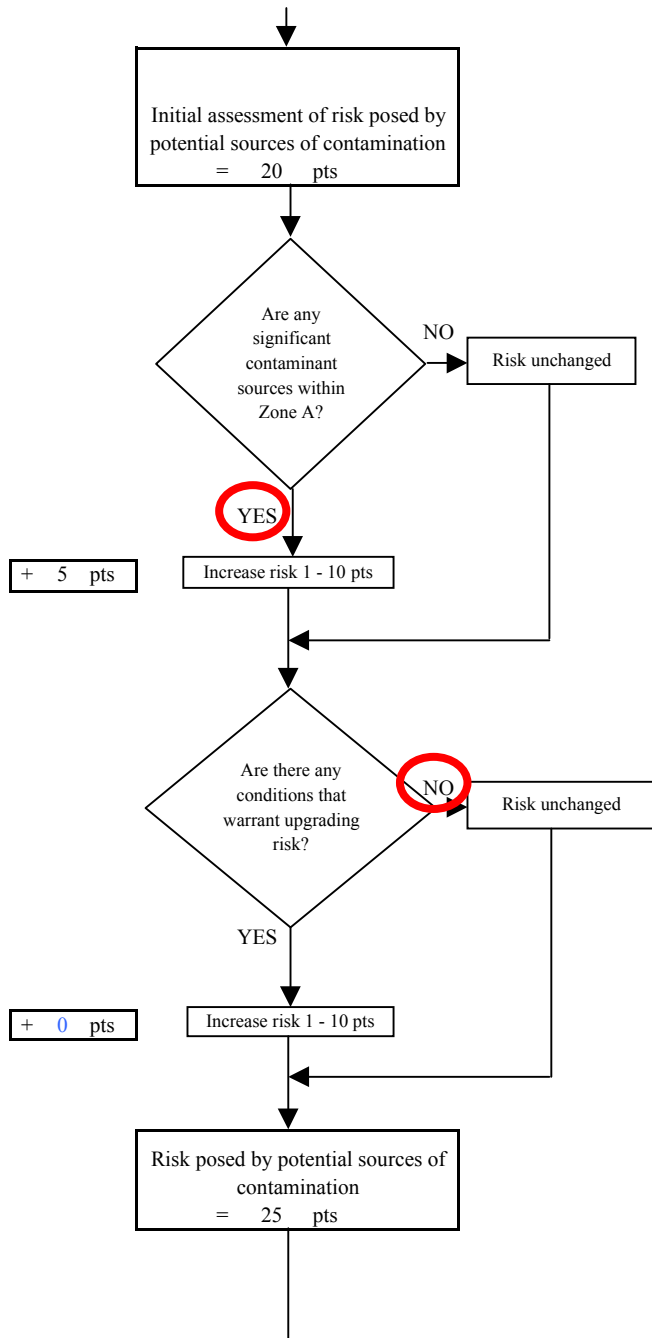
Risk Rankings for Contaminant Sources Identified in Zones A and B			
	Zone A	Zone B	Total
Very High(s)	0	0	0
High(s)	0	0	0
Medium(s)	2	0	2
Low(s)	20	4	24

	LOW 10 pts	<b>MEDIUM 20 pts</b>	HIGH 30 pts	VERY HIGH 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 20

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

**Chart 3. Contaminant risks for St. Elizabeth Ann Seton Church - Bacteria & Viruses**



Existing	0 pts
+	
Potential	25 pts
=	
Contaminant Risk	25 pts

Contaminant Risk Ratings	
40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20 pts	low

\* Truncate risk at 50 pts



**Chart 4. Vulnerability analysis for St. Elizabeth Ann Seton Church - Bacteria & Viruses**

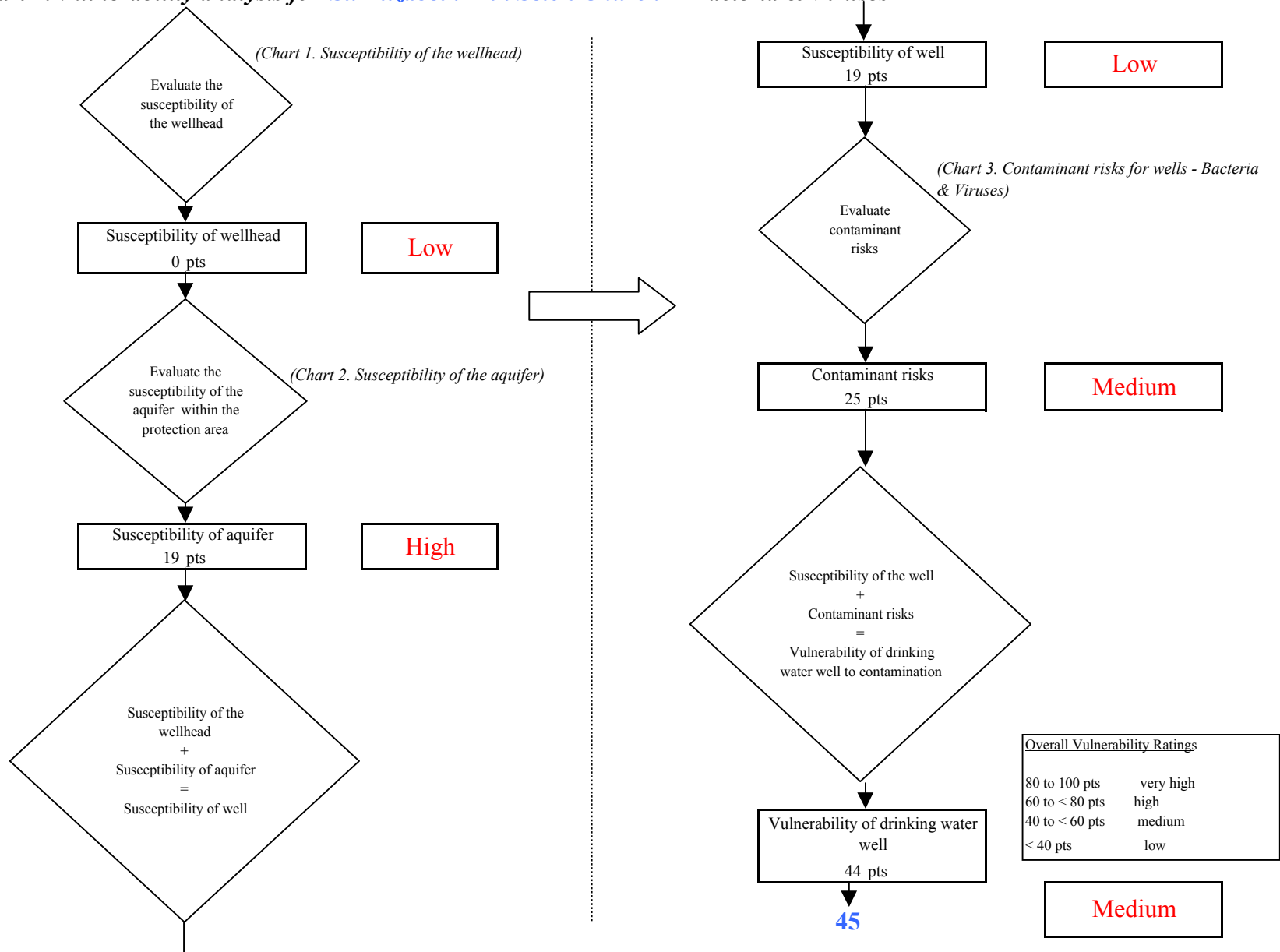


Chart 5. Contaminant risks for St. Elizabeth Ann Seton Church - Nitrates and Nitrites

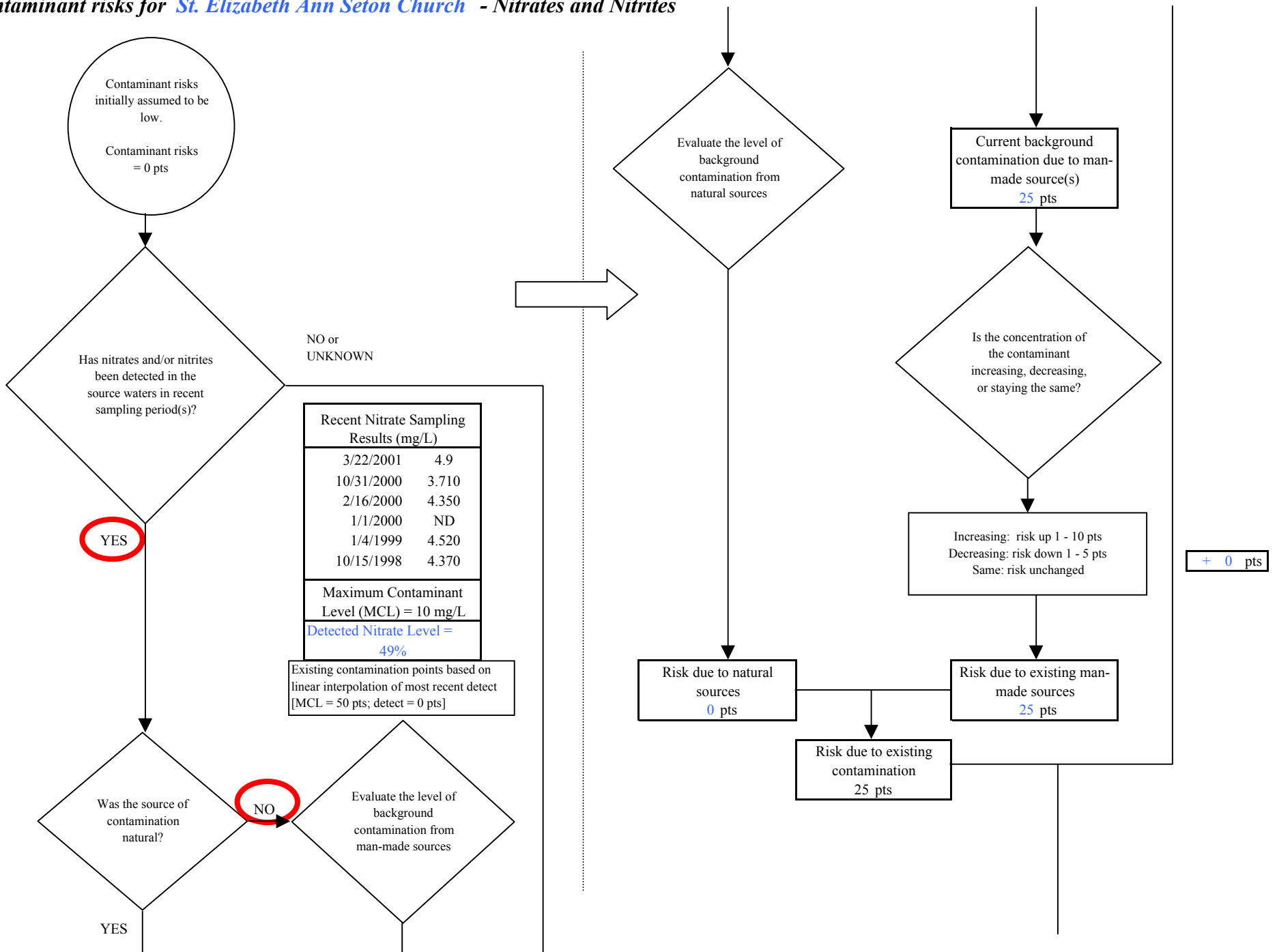
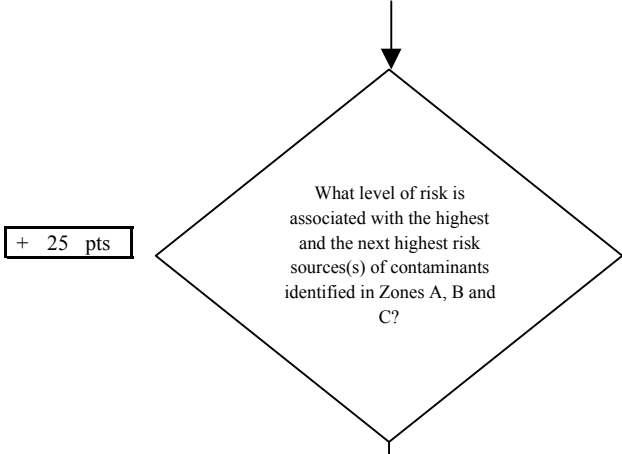


Chart 5. Contaminant risks for St. Elizabeth Ann Seton Church - Nitrates and Nitrites

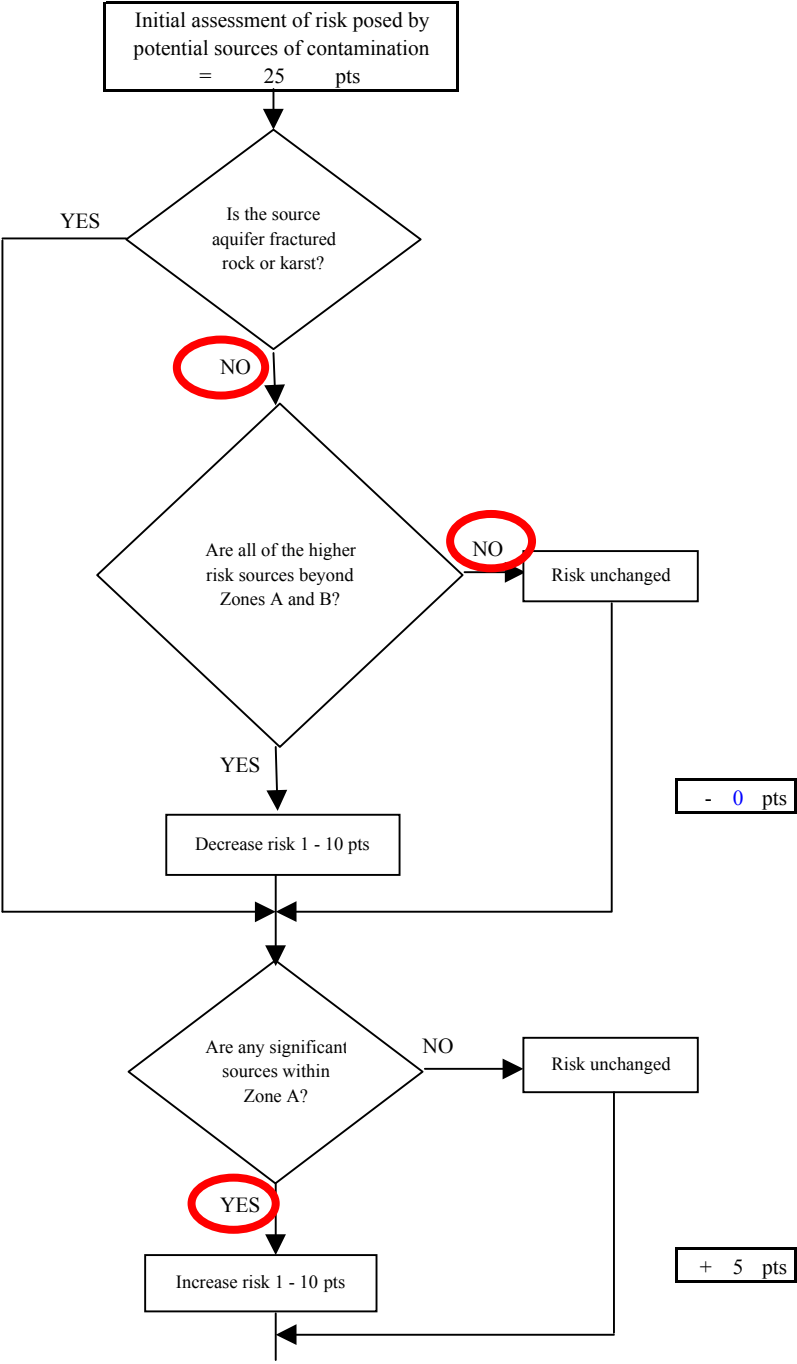
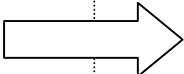


Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	2	1	3
Low(s)	20	17	37

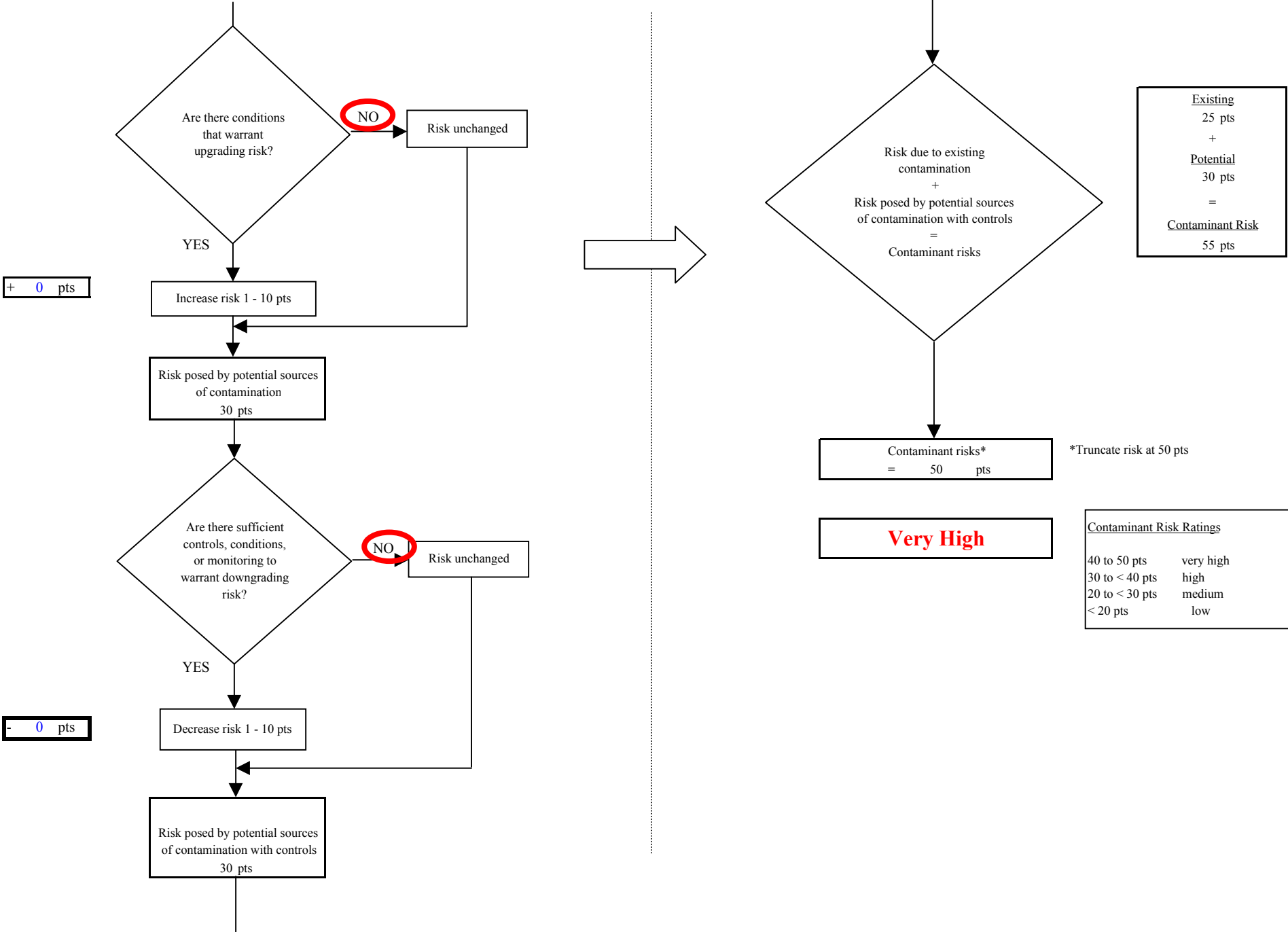
	LOW 10 pts	MEDIUM 20 pts	HIGH 30 pts	VERY HIGH 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	---
MEDIUM	---	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	---	---	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	---	---	---	≥ 1 source + 10 pts

Matrix Score 25

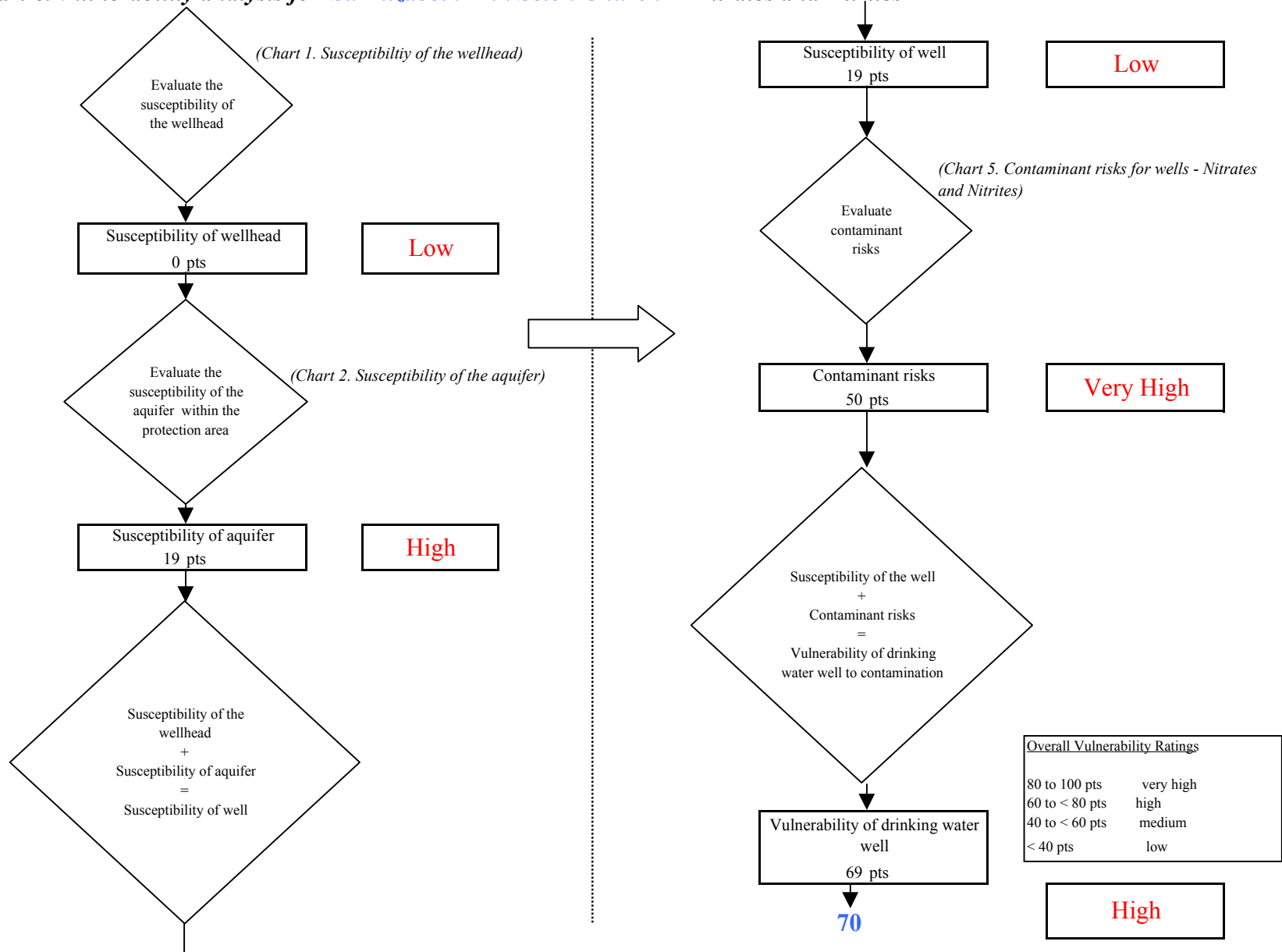
Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.



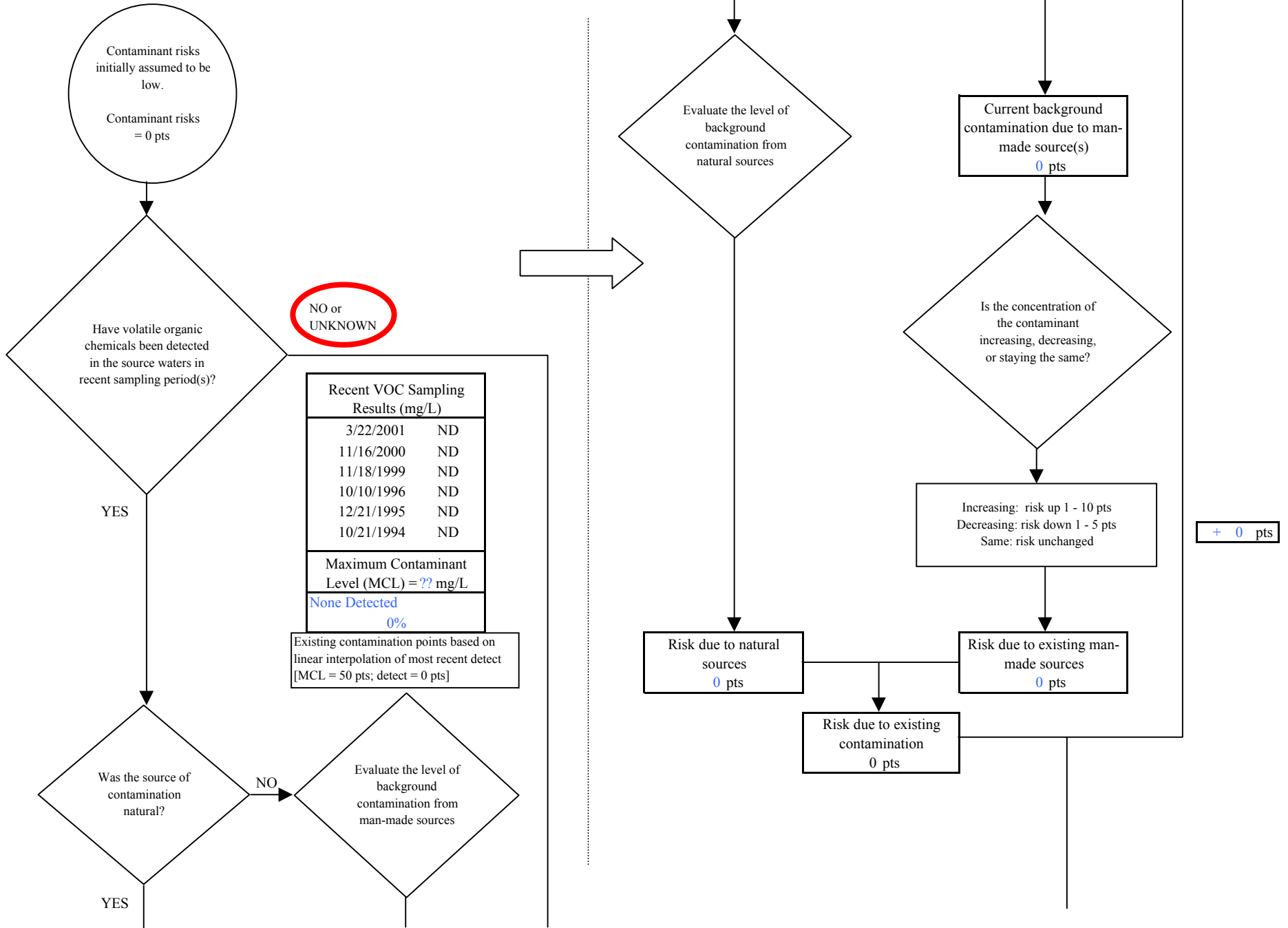
**Chart 5. Contaminant risks for St. Elizabeth Ann Seton Church - Nitrates and Nitrites**



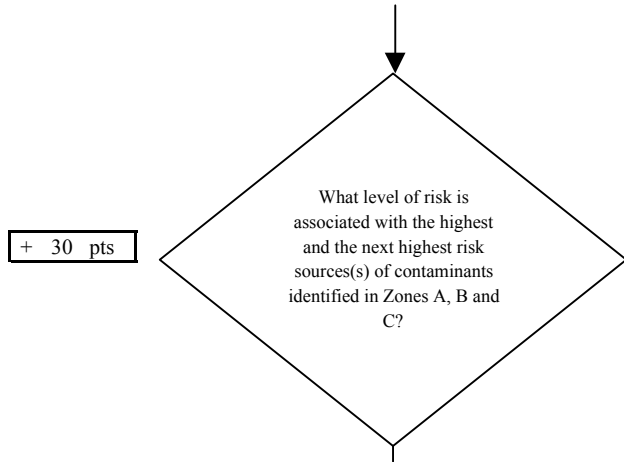
**Chart 6. Vulnerability analysis for St. Elizabeth Ann Seton Church - Nitrates and Nitrites**



**Chart 7. Contaminant risks for St. Elizabeth Ann Seton Church - Volatile Organic Chemicals**



**Chart 7. Contaminant risks for St. Elizabeth Ann Seton Church - Volatile Organic Chemicals**

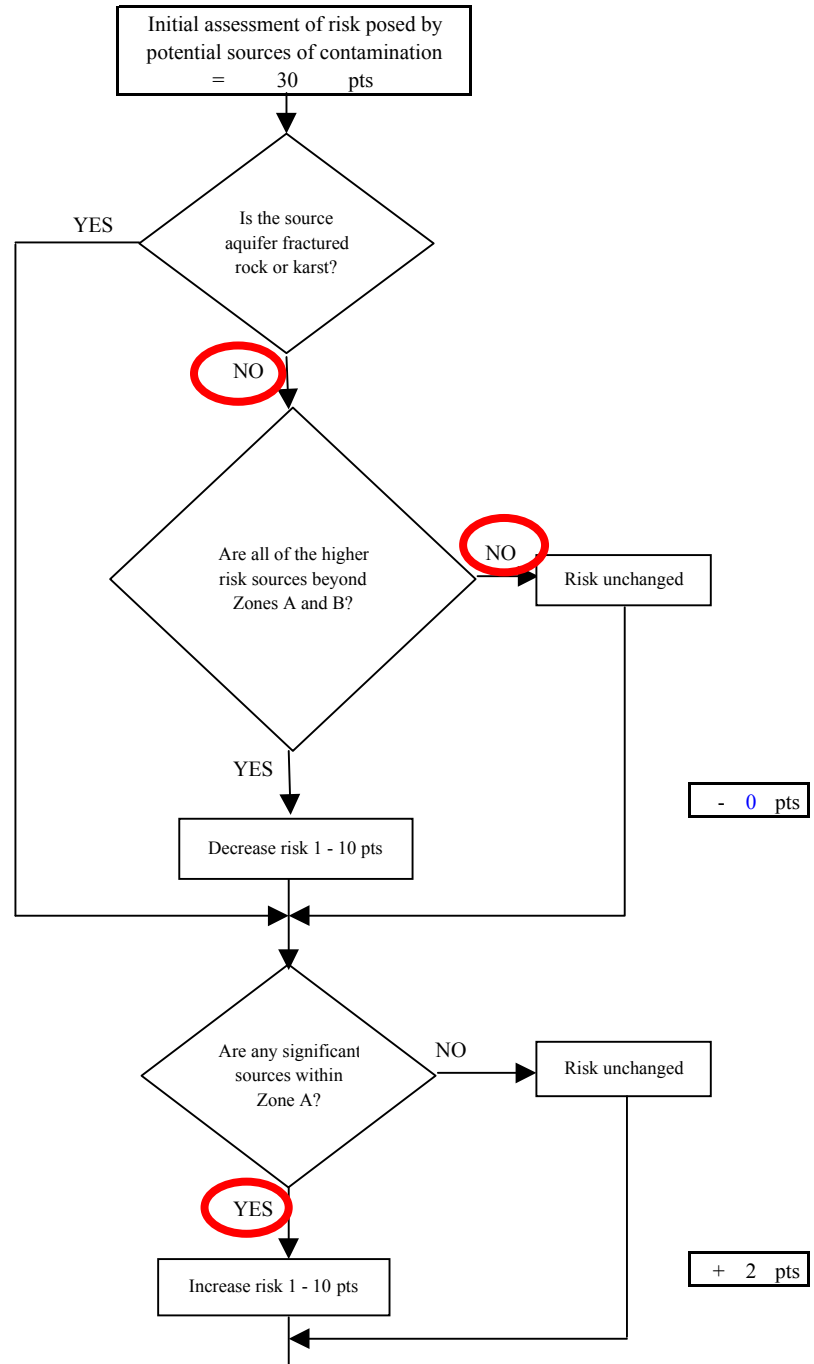
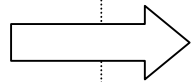


Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	1	1
Medium(s)	0	1	1
Low(s)	3	5	8

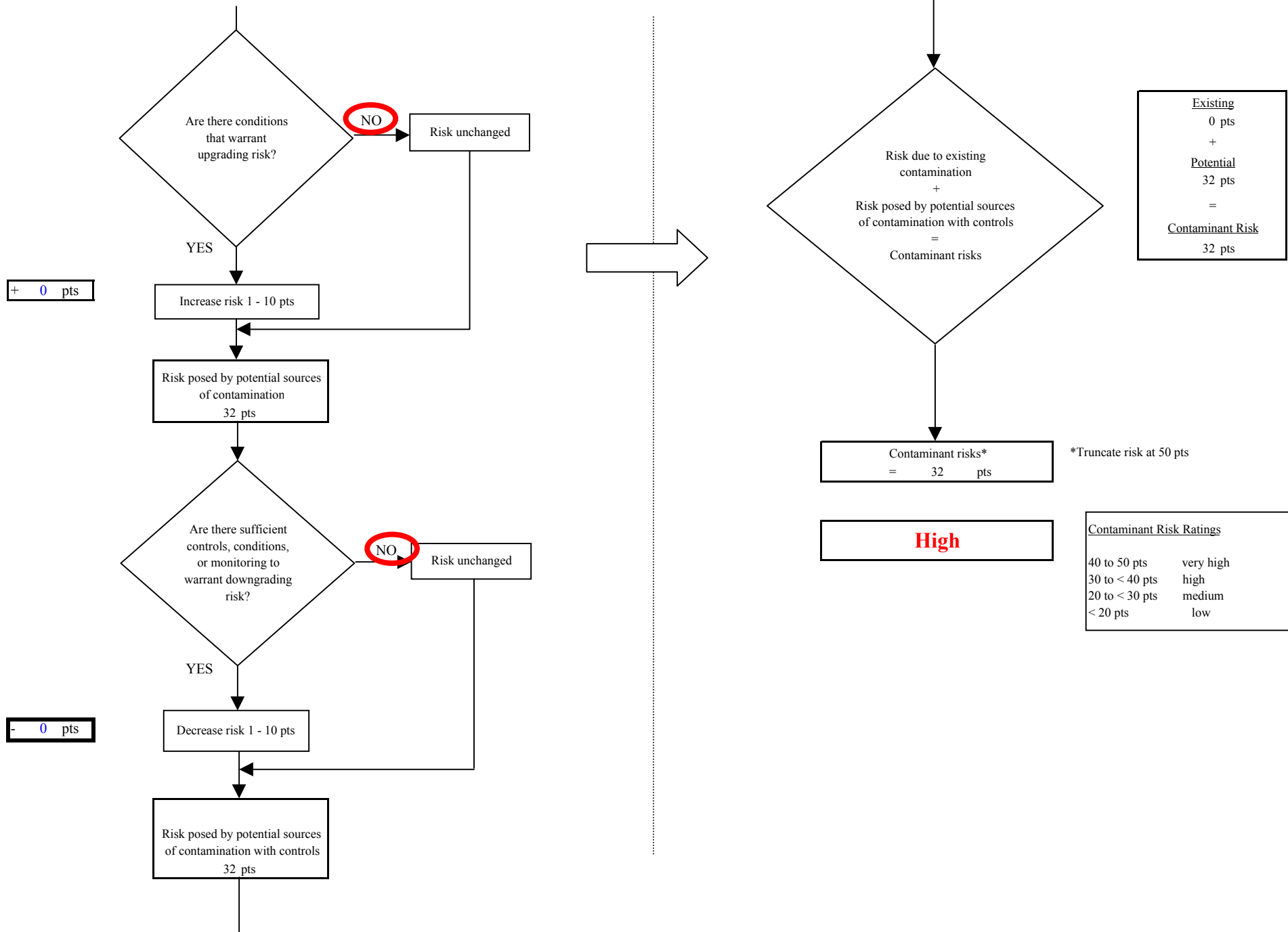
	LOW 10 pts	MEDIUM 20 pts	HIGH 30 pts	VERY HIGH 40 pts
<b>LOW</b>	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
<b>MEDIUM</b>	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
<b>HIGH</b>	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
<b>VERY HIGH</b>	----	----	----	≥ 1 source + 10 pts

Matrix Score      30

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.



**Chart 7. Contaminant risks for St. Elizabeth Ann Seton Church - Volatile Organic Chemicals**





**Chart 8. Vulnerability analysis for St. Elizabeth Ann Seton Church - Volatile Organic Chemicals**

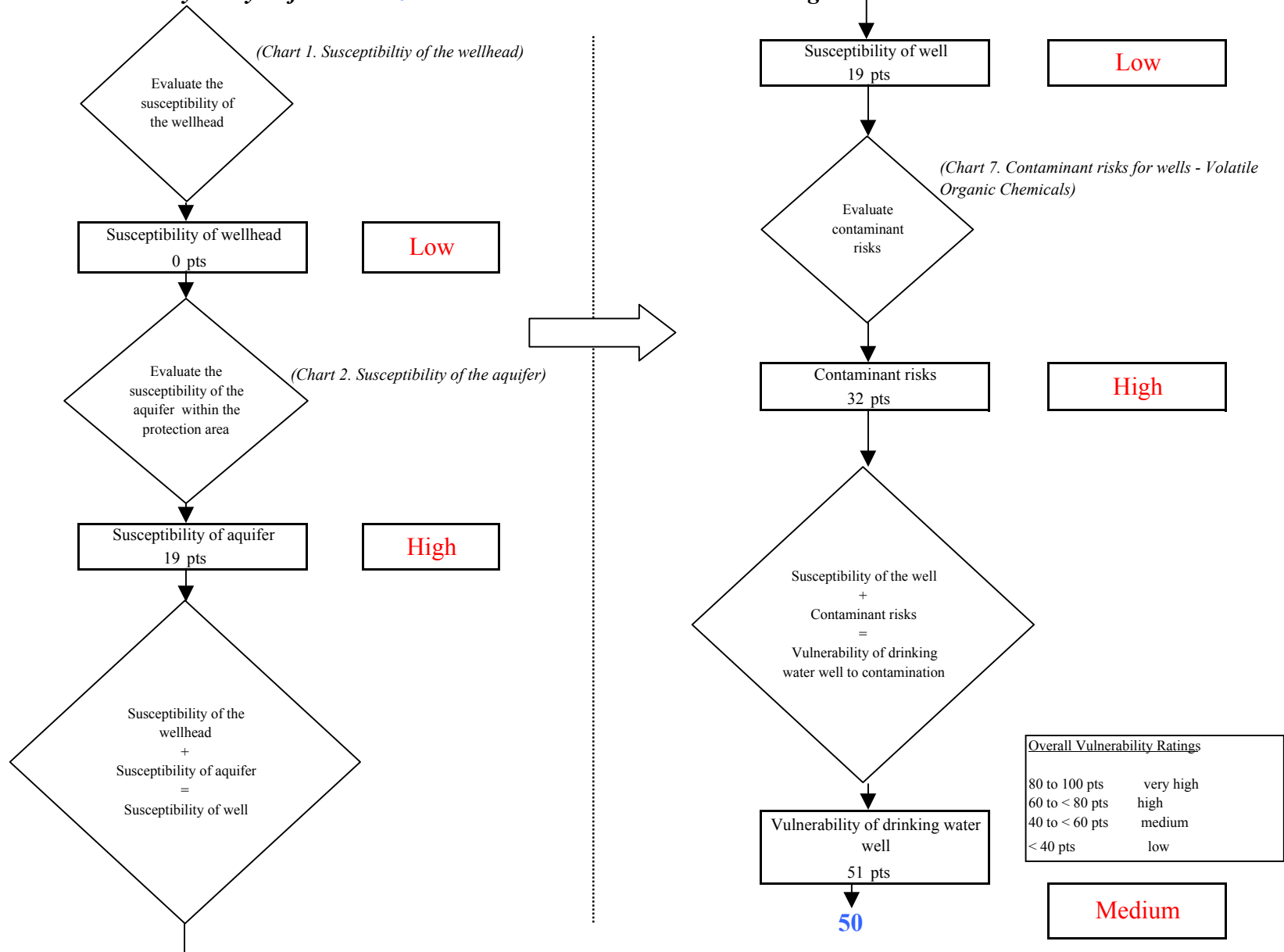
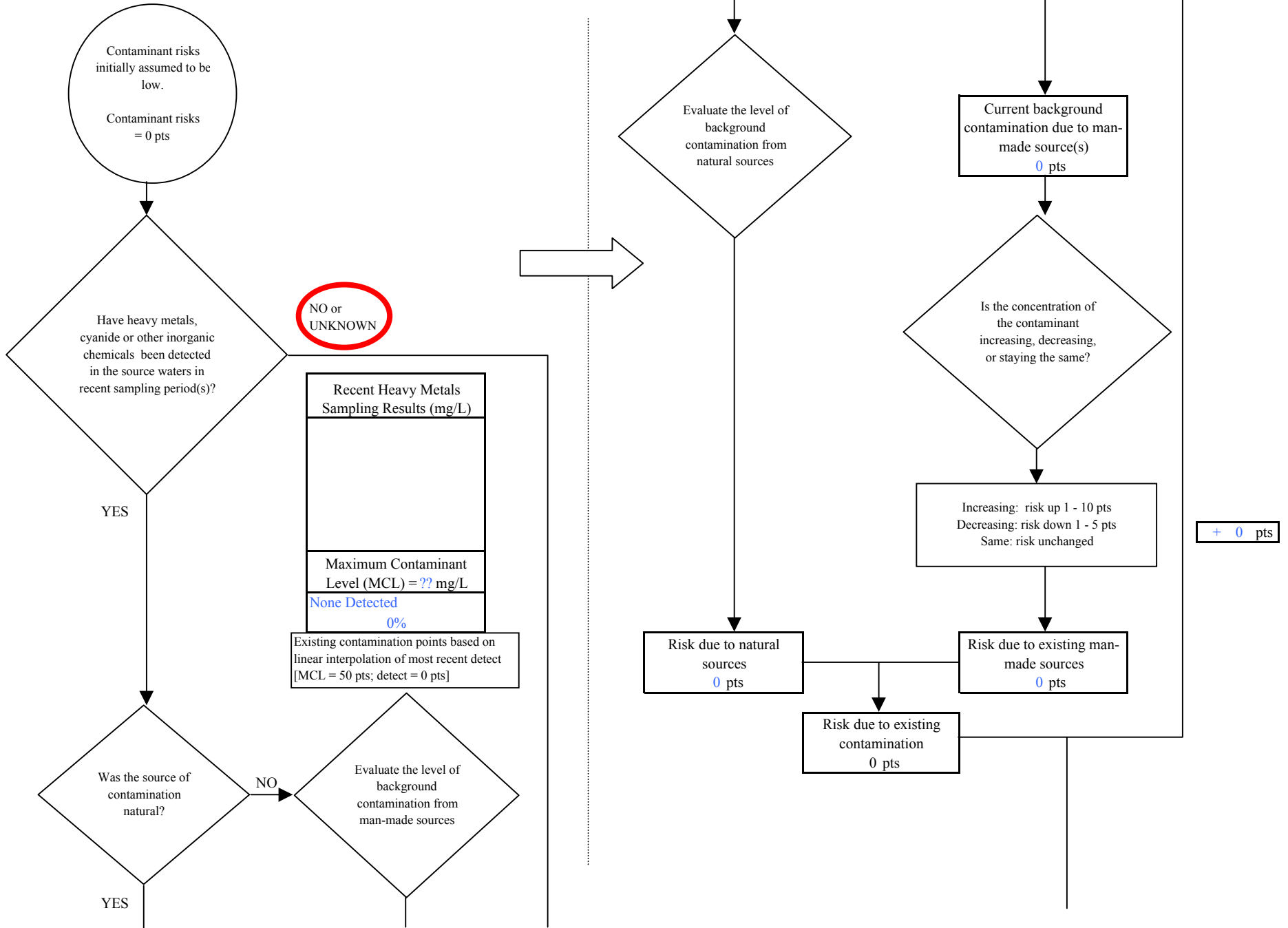
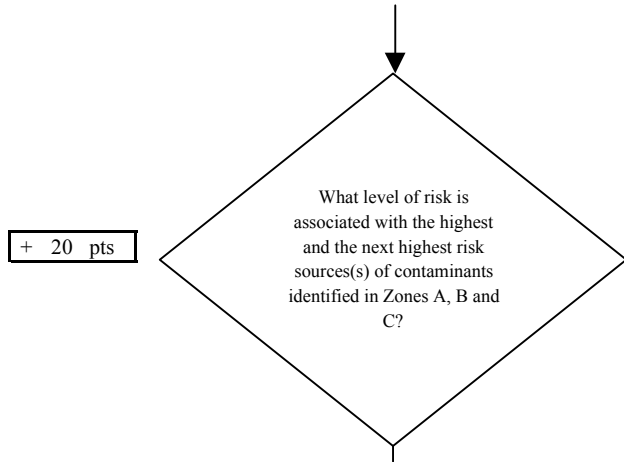


Chart 9. Contaminant risks for *St. Elizabeth Ann Seton Church* - Heavy Metals, Cyanide and Other Inorganic Chemicals



**Chart 9. Contaminant risks for St. Elizabeth Ann Seton Church - Heavy Metals, Cyanide and Other Inorganic Chemicals**



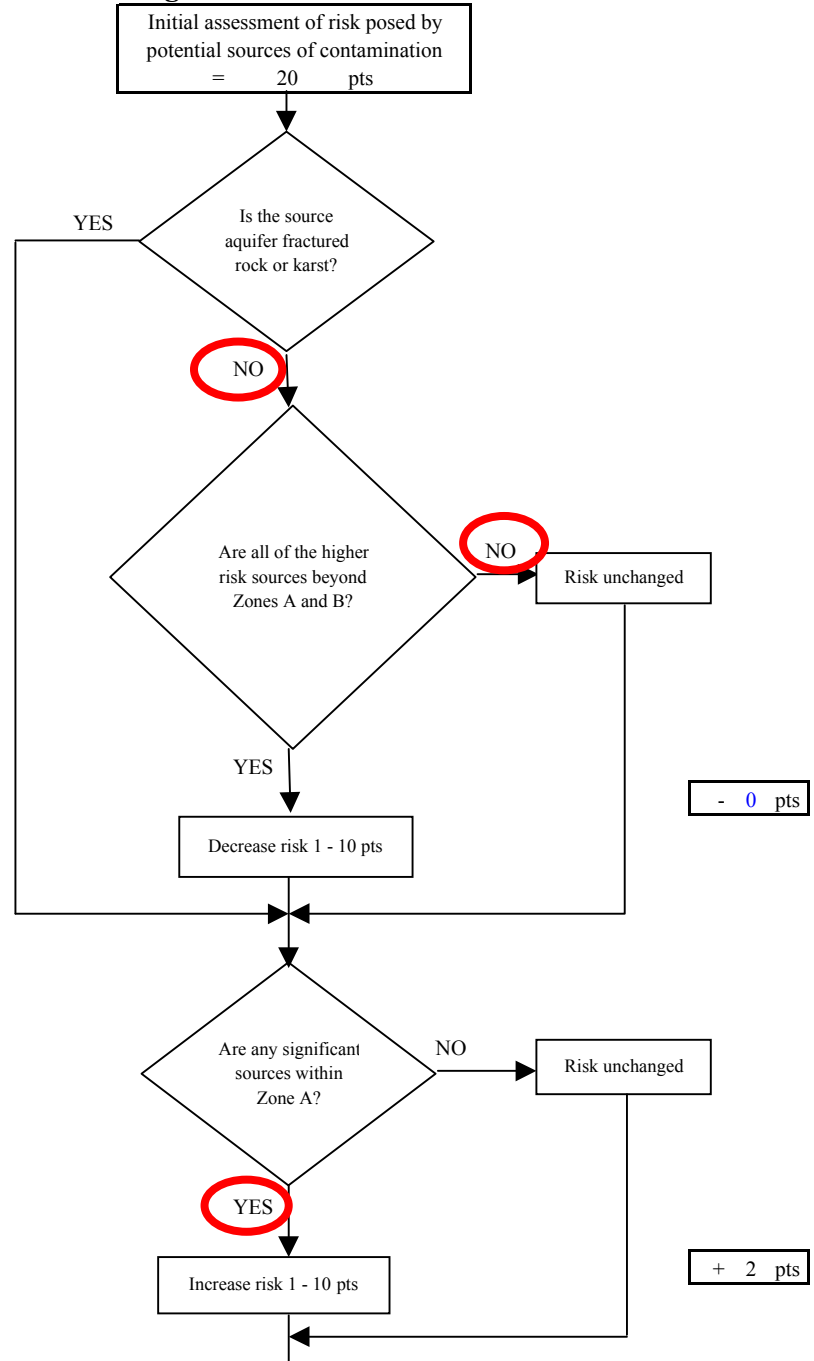
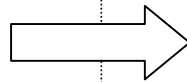
+ 20 pts

Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	0	1	1
Low(s)	3	5	8

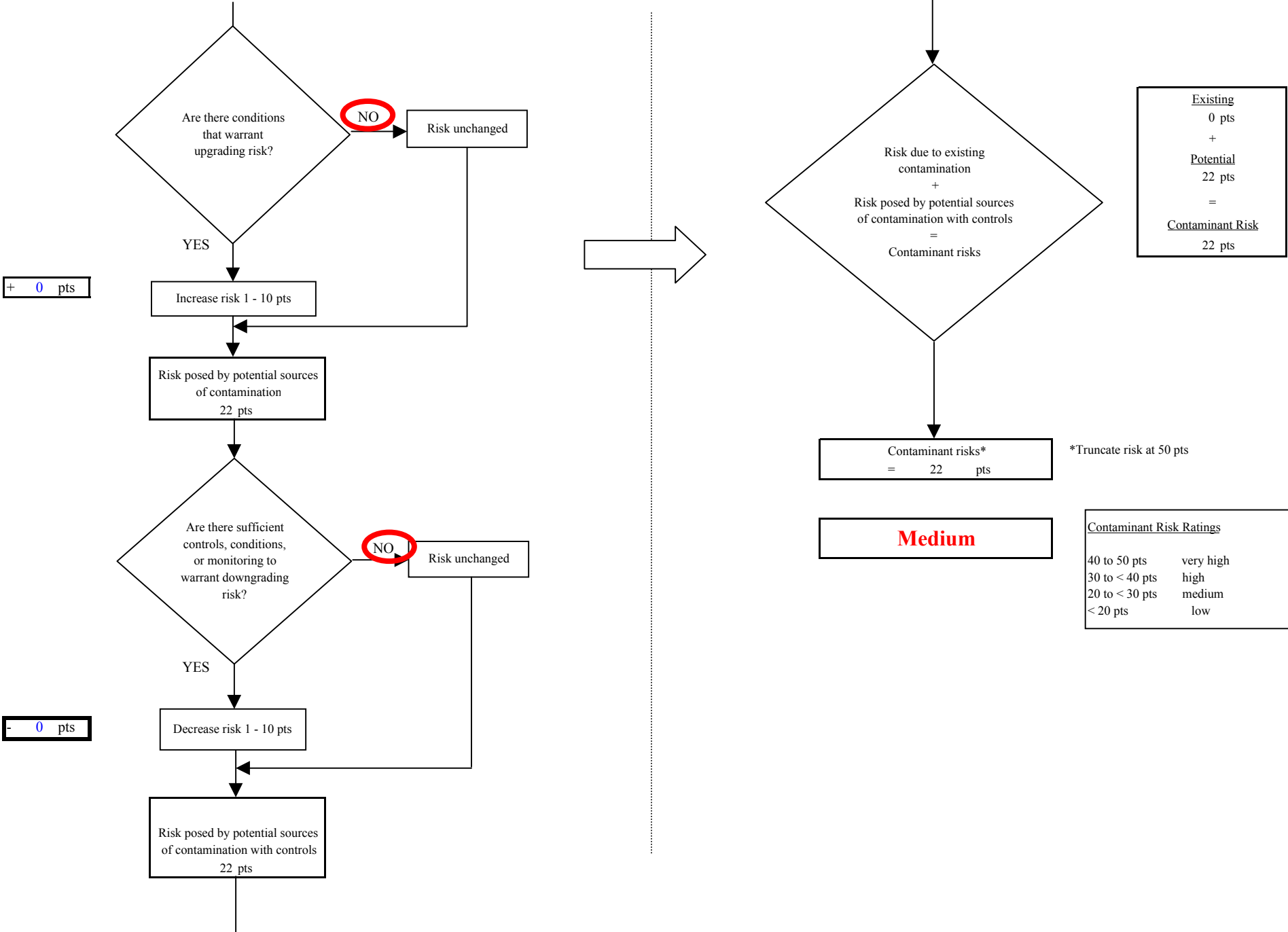
	LOW 10 pts	<b>MEDIUM 20 pts</b>	HIGH 30 pts	VERY HIGH 40 pts
<b>LOW</b>	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
<b>MEDIUM</b>	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
<b>HIGH</b>	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
<b>VERY HIGH</b>	----	----	----	≥ 1 source + 10 pts

Matrix Score 20

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.



**Chart 9. Contaminant risks for St. Elizabeth Ann Seton Church - Heavy Metals, Cyanide and Other Inorganic Chemicals**



**Chart 10. Vulnerability analysis for St. Elizabeth Ann Seton Church - Heavy Metals, Cyanide and Other Inorganic Chemicals**

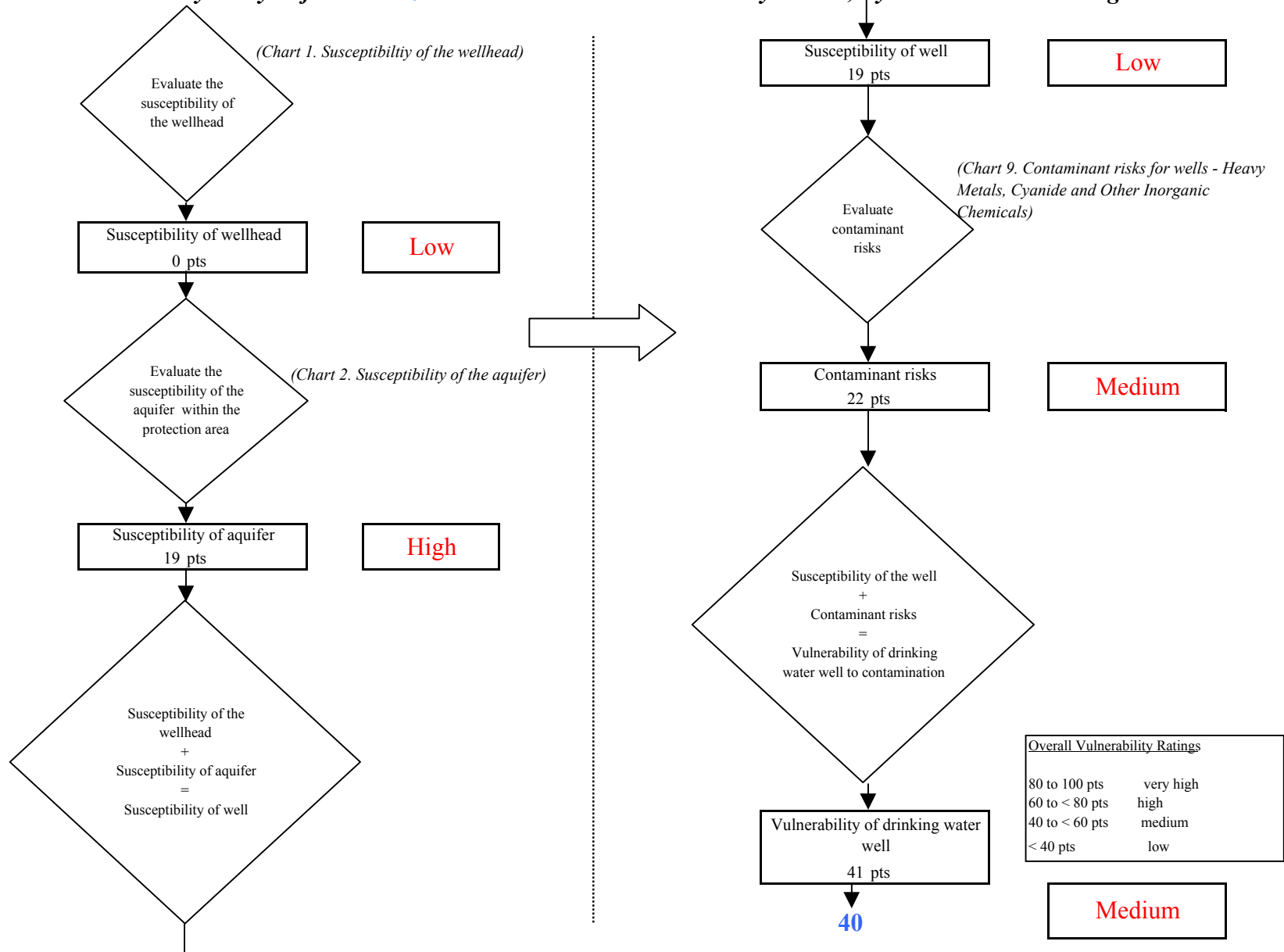
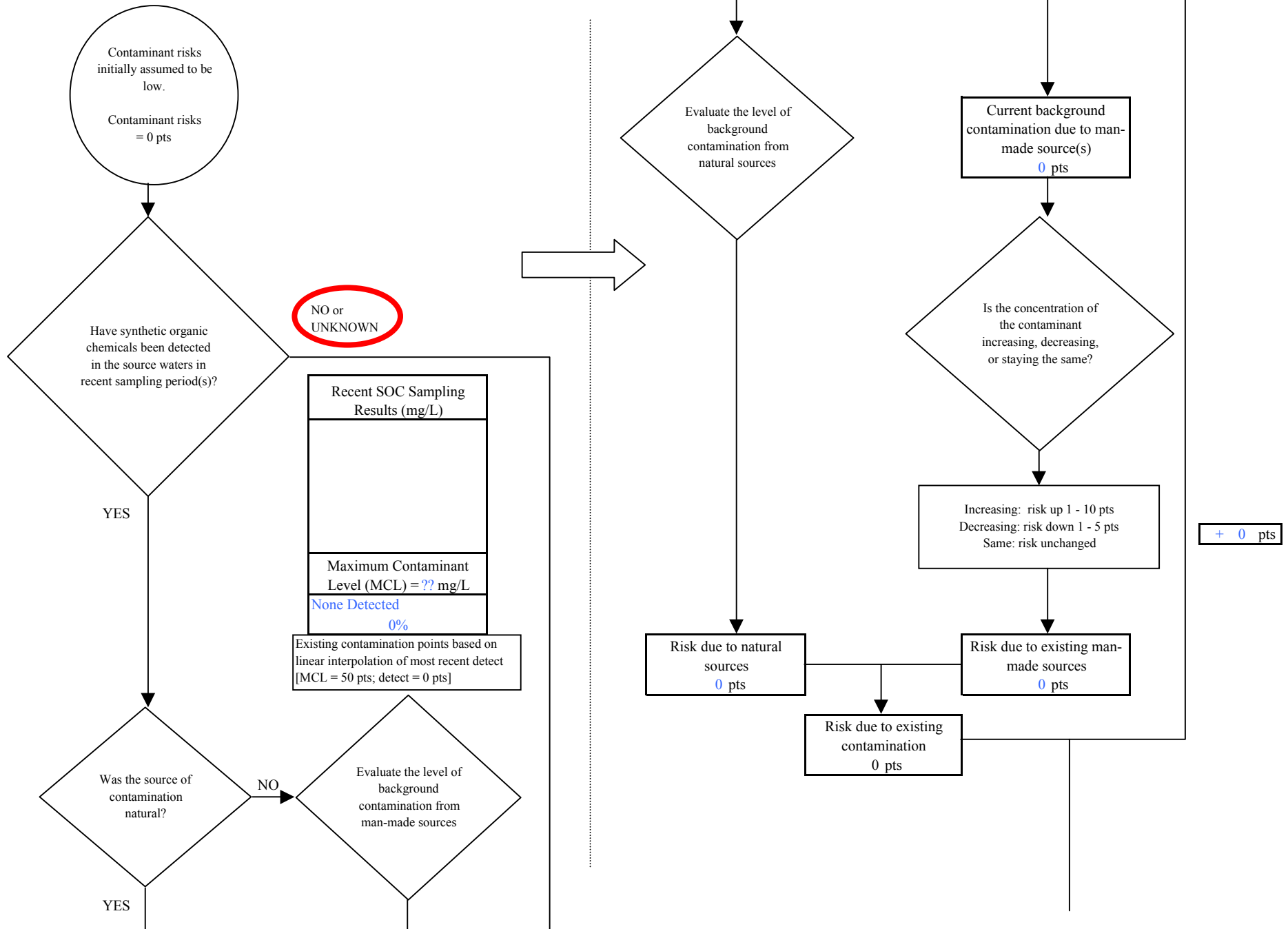
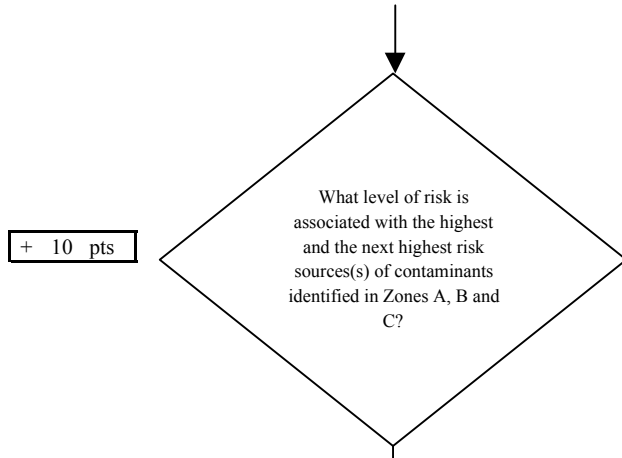


Chart 11. Contaminant risks for *St. Elizabeth Ann Seton Church* - Synthetic Organic Chemicals



**Chart 11. Contaminant risks for St. Elizabeth Ann Seton Church - Synthetic Organic Chemicals**

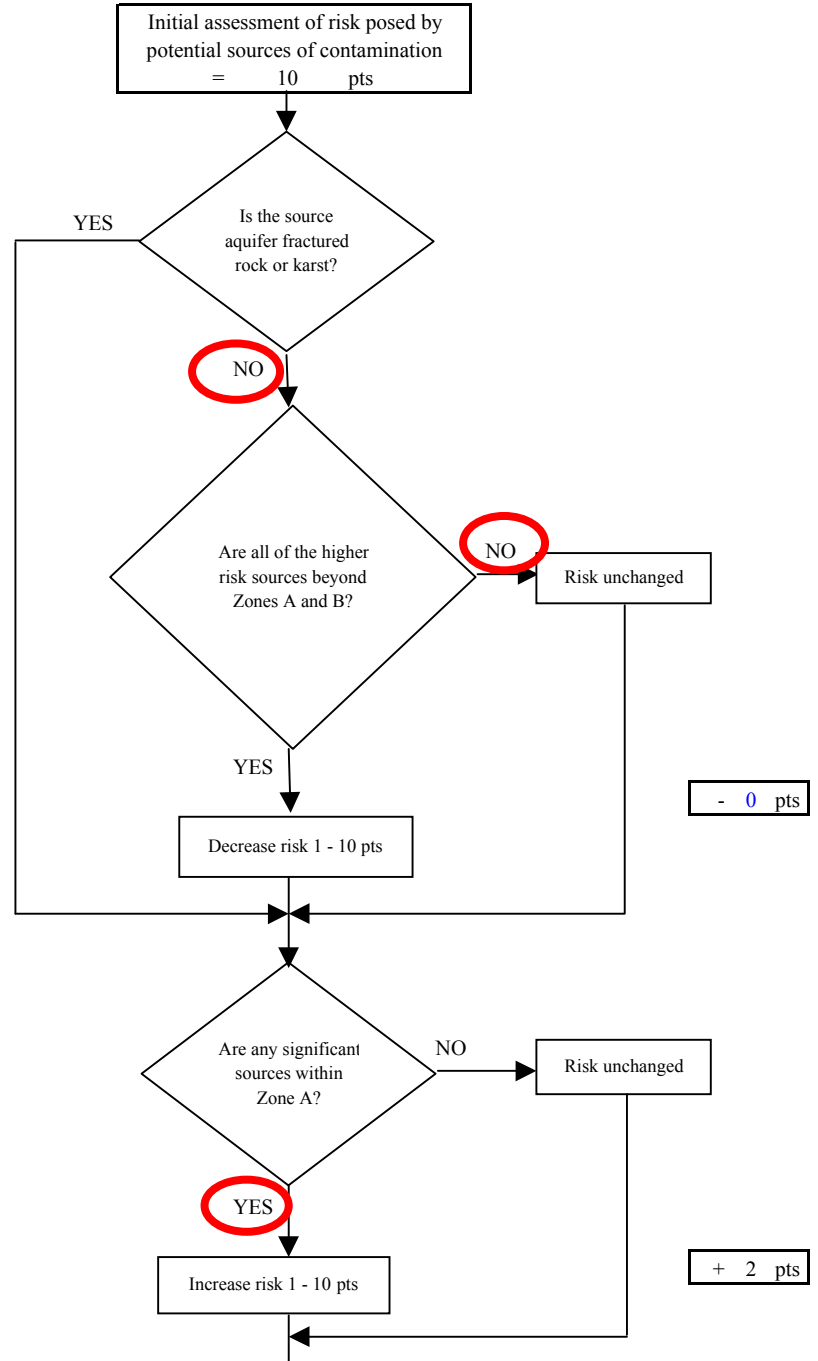
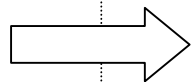


Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	0	0	0
Low(s)	3	1	4

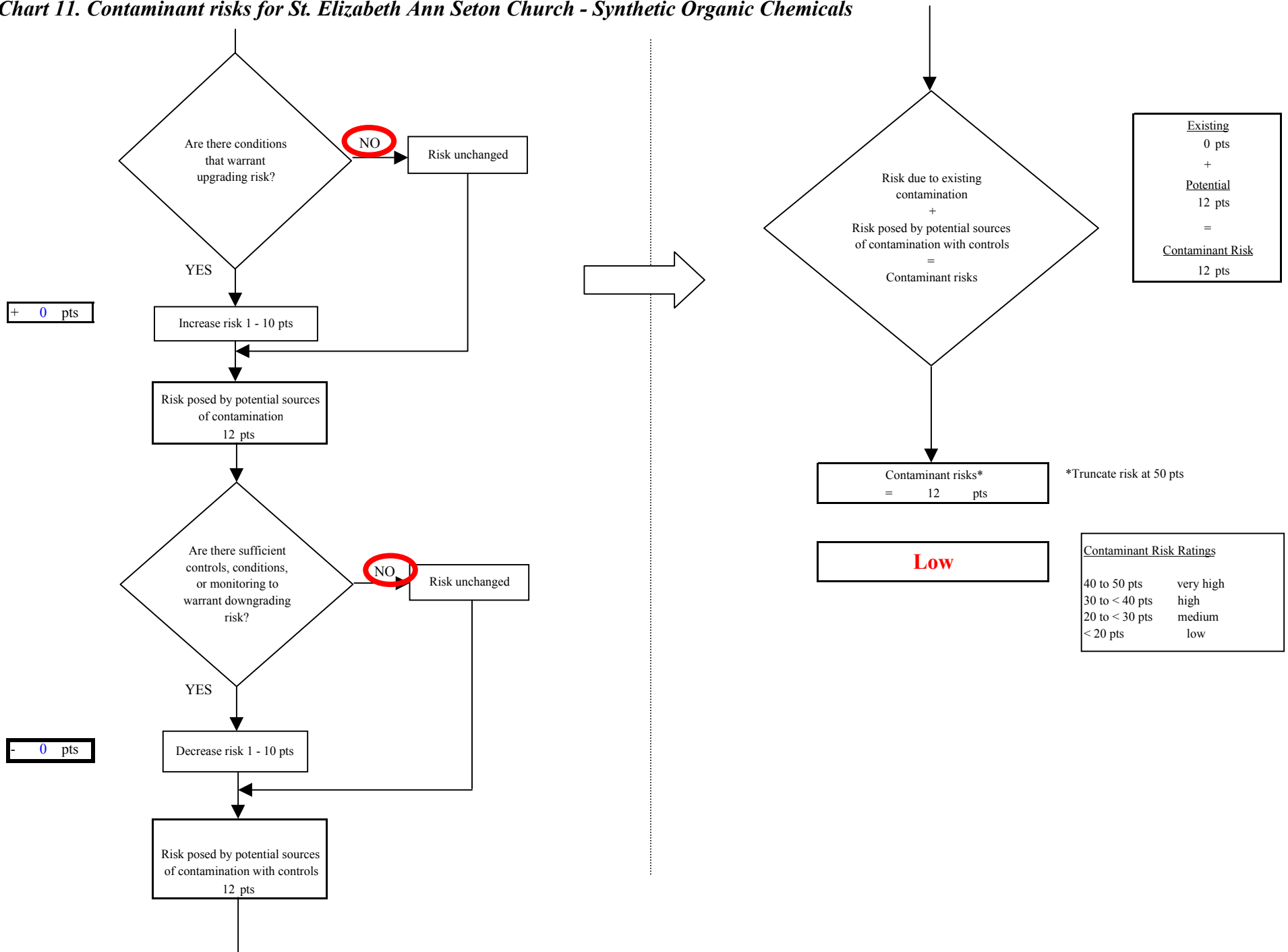
	<b>LOW</b> 10 pts	<b>MEDIUM</b> 20 pts	<b>HIGH</b> 30 pts	<b>VERY HIGH</b> 40 pts
<b>LOW</b>	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
<b>MEDIUM</b>	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
<b>HIGH</b>	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
<b>VERY HIGH</b>	----	----	----	≥ 1 source + 10 pts

Matrix Score      10

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.



**Chart 11. Contaminant risks for St. Elizabeth Ann Seton Church - Synthetic Organic Chemicals**





**Chart 12. Vulnerability analysis for St. Elizabeth Ann Seton Church - Synthetic Organic Chemicals**

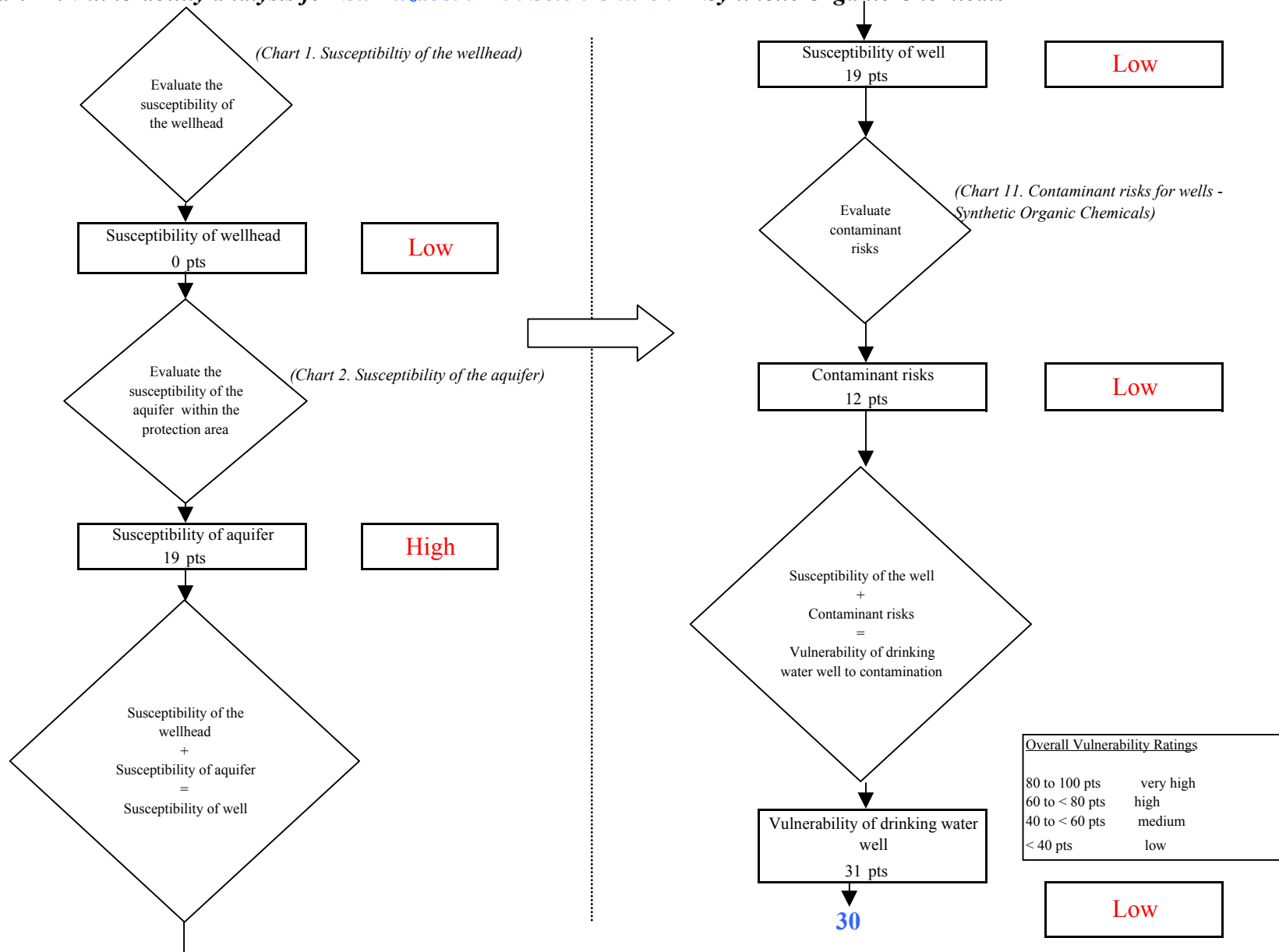


Chart 13. Contaminant risks for *St. Elizabeth Ann Seton Church* - Other Organic Chemicals

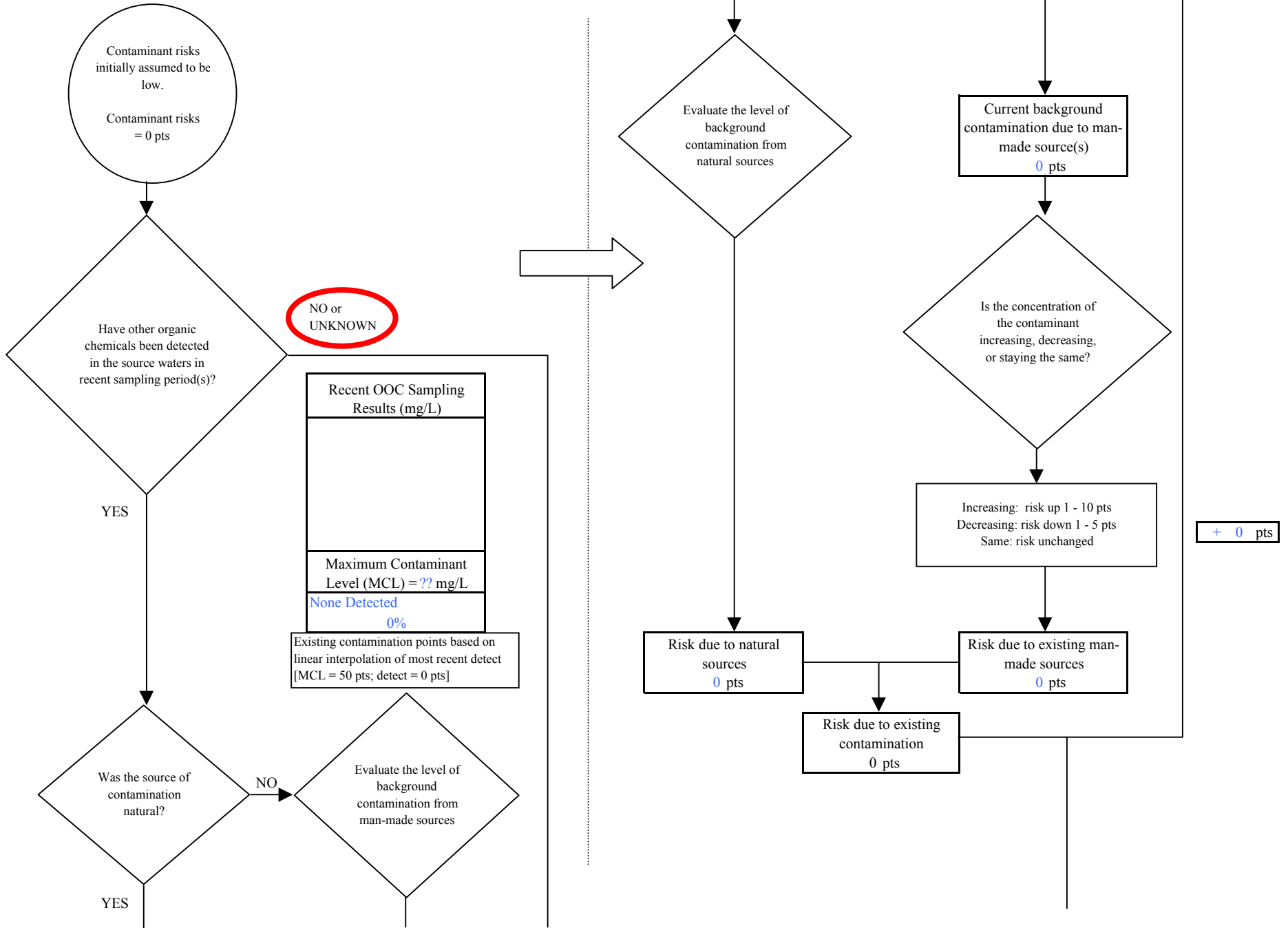
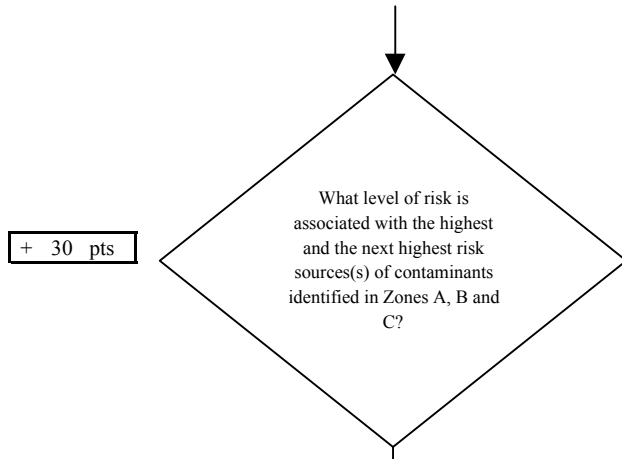


Chart 13. Contaminant risks for St. Elizabeth Ann Seton Church - Other Organic Chemicals



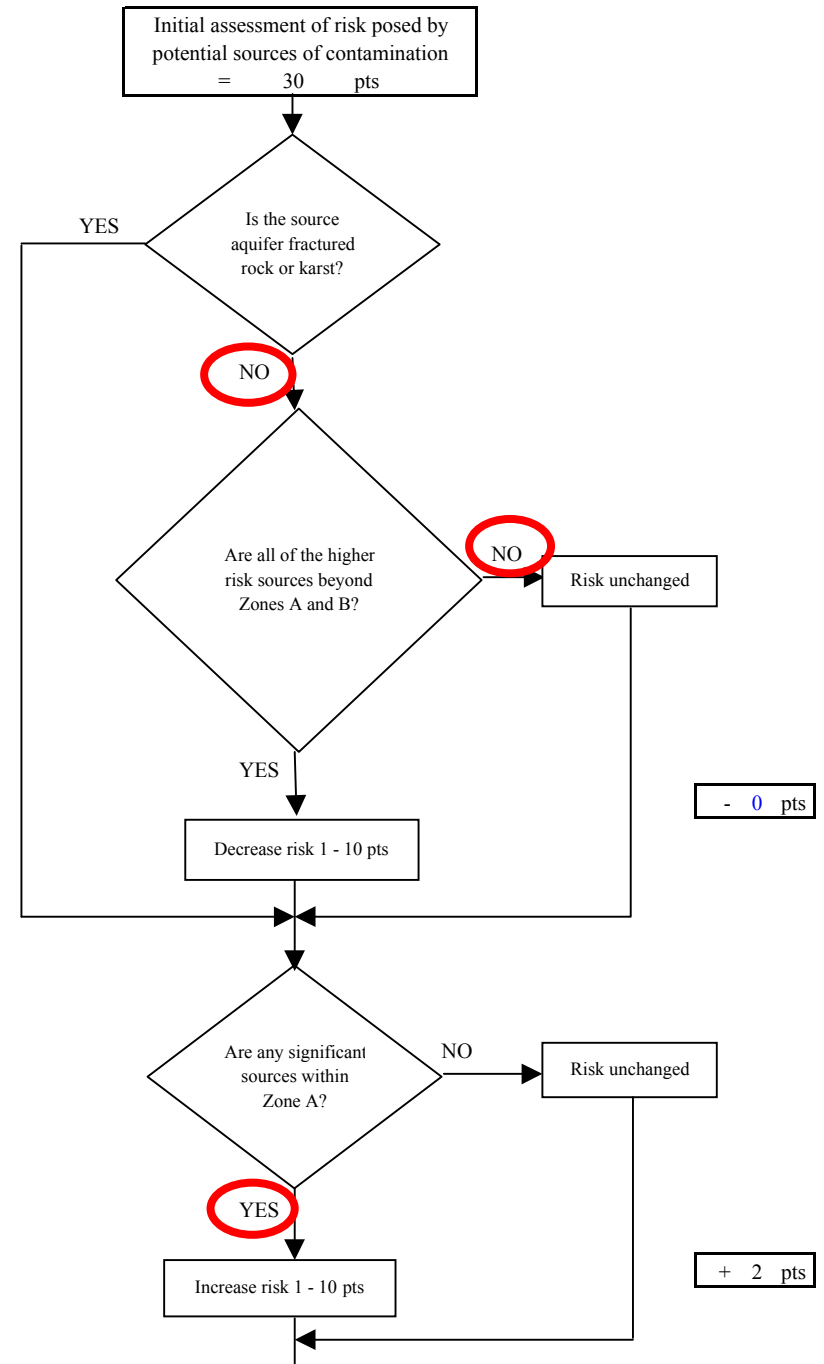
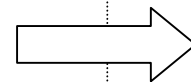
+ 30 pts

Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	1	1
Medium(s)	0	1	1
Low(s)	3	2	5

	LOW 10 pts	MEDIUM 20 pts	HIGH 30 pts	VERY HIGH 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 30

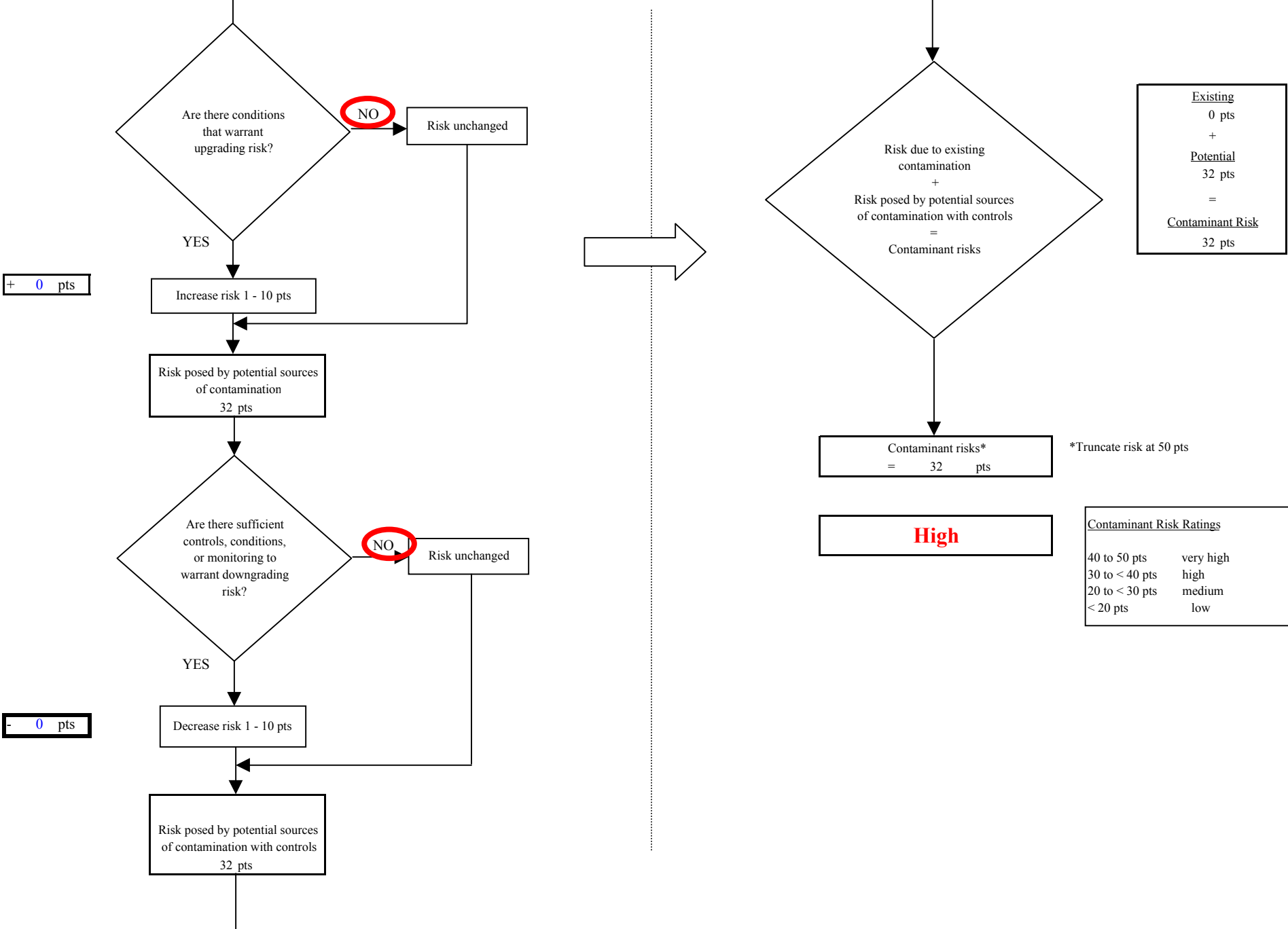
Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.



- 0 pts

+ 2 pts

Chart 13. Contaminant risks for St. Elizabeth Ann Seton Church - Other Organic Chemicals



**Chart 14. Vulnerability analysis for St. Elizabeth Ann Seton Church - Other Organic Chemicals**

