

Source Water Assessment for
Sky Ranch Estates – Secondary Source
Anchorage, Alaska

A Hydrogeologic Susceptibility and Vulnerability Analysis

DRINKING WATER PROTECTION PROGRAM REPORT 176
PWSID 212916.001

March 2002

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Anchorage, Alaska

By HEATHER A. HAMMOND

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Source Water Assessment for Sky Ranch Estates - Secondary 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 secondary water source for Sky Ranch Estates is a Class A (community) water source consisting of one well in the Anchorage area. Identified potential and current sources of contaminants for Sky Ranch Estates - secondary source of public drinking water includes: approximately 157 acres of residential area, residential septic systems, paved roads, parks and recreation trails, a motor vehicle repair shop, and a construction trade area. 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 secondary public water source for Sky Ranch Estates received a vulnerability rating of **Low** for synthetic organic chemicals; and **Medium** for bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, heavy metals, and other 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 secondary source of drinking water serving Sky Ranch Estates. 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

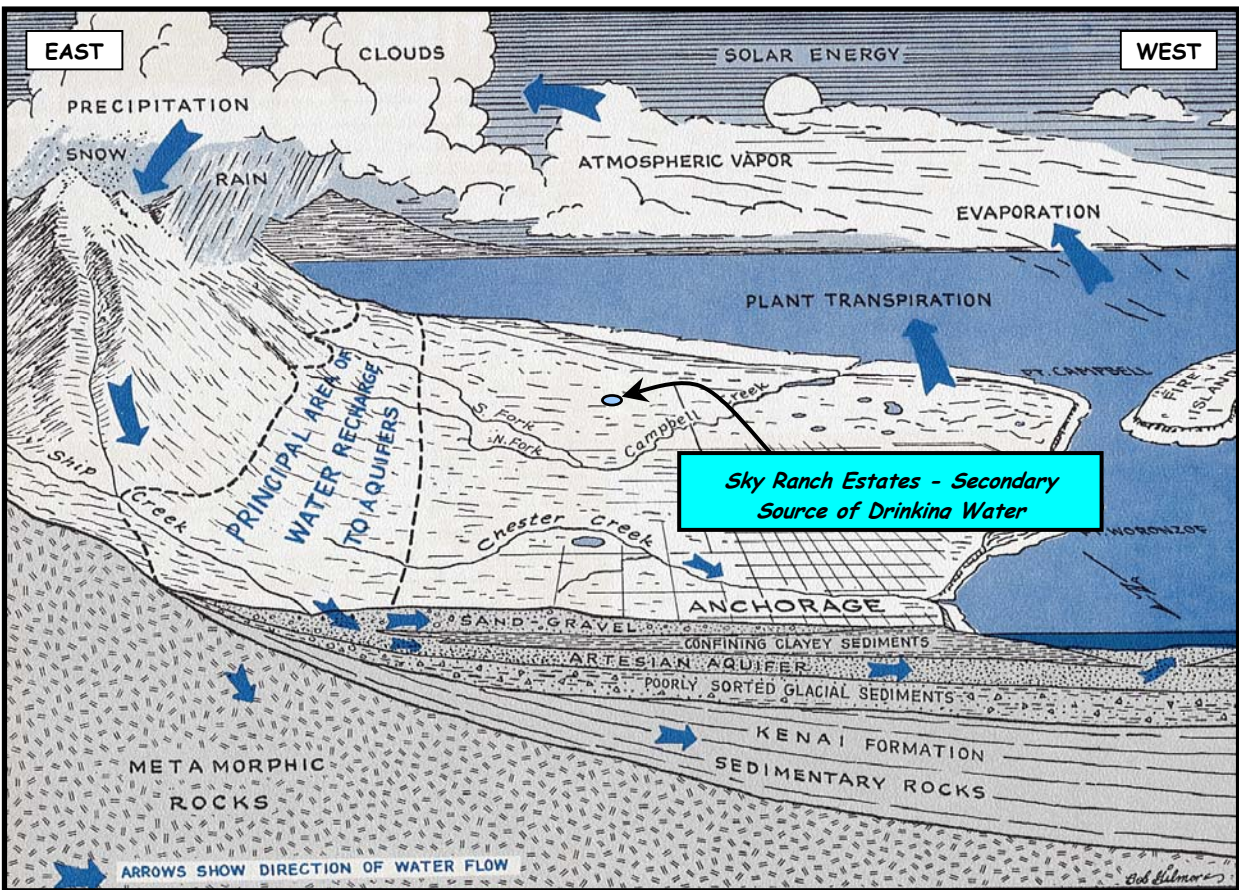


Figure 2. Generalized hydrologic cycle in the Anchorage area [Barnwell, George, Dearborn, Weeks, and Zenone, 1972].

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.

SKY RANCH ESTATES - SECONDARY SOURCE OF PUBLIC DRINKING WATER

The secondary source of drinking water serving Sky Ranch Estates is a Class A (community) water source, which is owned and operated by the Sky Ranch Homeowners Association.

The system consists of one well, which is located off of Whispering Spruce, in the Sky Ranch Subdivision (T12N, R3W, Section 22), at an elevation of approximately 500 feet above sea level (see Figure 3).

According to the most recent Sanitary Survey (01/25/97) the well pad area is not protected against foreign matter or surface water from entering the well along the casing. Installation of the well occurred August 3, 1972 to a total depth of 181 feet below ground surface. The well was completed in a 6" well casing and has a static water level of 70 feet below ground surface. According to the well log the well was not grouted at the time of drilling. Proper grouting provides added protection against contaminants travelling along the well casing and into source waters.

This system is interconnected with the primary source serving Sky Ranch Estates. However, the distribution from the secondary source is only used when there is a call for water from a residence. This system has the potential to operate year round and serves 72 residents

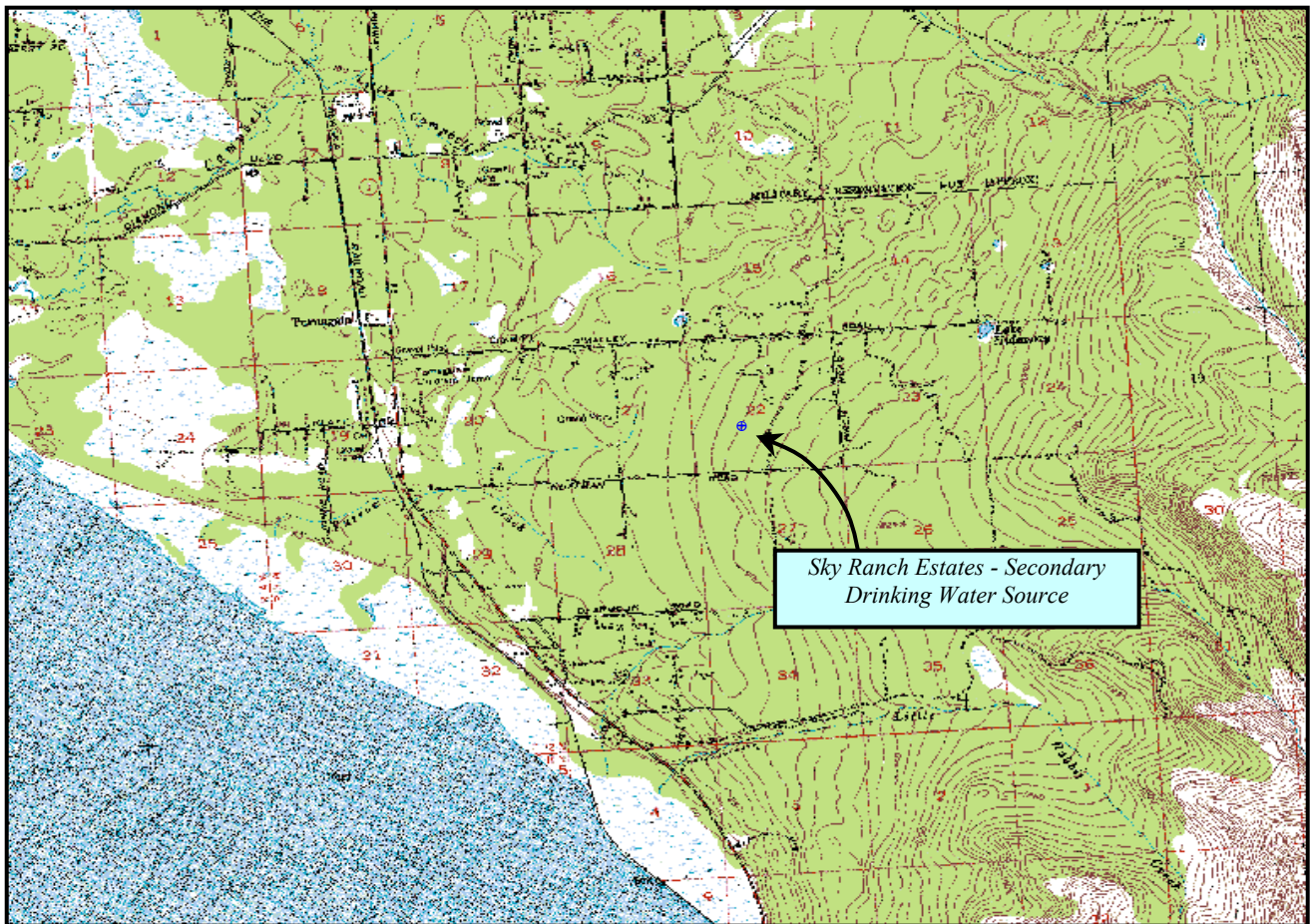


Figure 3. Map showing the location of the drinking water sources for Sky Ranch Estates [Base: USGS Anchorage A8].

through 24 service connections when in use as a backup for the primary source.

ASSESSMENT AND PROTECTION AREA FOR SKY RANCH ESTATES - SECONDARY SOURCE OF PUBLIC DRINKING WATER

The Drinking Water Protection and Assessment Area that has been established for the secondary source of public drinking water serving Sky Ranch Estates 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 Sky Ranch Estates 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 secondary source of public drinking water serving Sky Ranch Estates. 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 5 in Appendix C depict the Contaminant Source Inventory for the secondary source of public drinking water serving Sky Ranch Estates. 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 157 acres of residential area;
- residential septic systems;
- paved roads;
- parks and recreation trails;
- a motor vehicle repair shop;
- and a construction trade area.

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 wells.

VULNERABILITY OF SKY RANCH ESTATES - SECONDARY 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. There is a strata of clay from 121 to 148 feet below ground surface. Groundwater isn’t encountered in the area until approximately 100 feet below land surface. Static water level in Sky Ranch Estates secondary well was recorded at 70 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 secondary source of public drinking water serving Sky Ranch Estates.

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

	Score	Rating
Susceptibility of the Wellhead	10	Medium
Susceptibility of the Aquifer	16	High
Natural Susceptibility	26	Medium

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 Sky Ranch Estates – Secondary Public Drinking Water Source

Contaminant Risks	Score	Rating
Bacteria and Viruses	33	Medium
Nitrates and/or Nitrites	35	Medium
Volatile Organic Chemicals	27	Medium
Heavy Metals, Cyanide, And Other Inorganic Chemicals	27	Medium
Synthetic Organic Chemicals	12	Low
Other Organic Chemicals	22	Medium

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 Sky Ranch Estates - Secondary Public Drinking Water Source to Contamination by Category

Category	Score	Rating
Bacteria and Viruses	55	Medium
Nitrates and Nitrites	55	Medium
Volatile Organic Chemicals	50	Medium
Heavy Metals, Cyanide, and Other Inorganic Chemicals	50	Medium
Synthetic Organic Chemicals	35	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.

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), or 20% of the Maximum Contaminant Level (MCL) and are derived primarily from the decomposition of organic matter in soils [Wang, Strelakos, Jokela, 2000].

Sampling history for Sky Ranch Estates indicates that low concentrations of nitrates have been detected (See Chart 5 – Contaminant Risks for Nitrates and/or Nitrites in Appendix D). Existing nitrate concentration is approximately 2% of the 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. Though existing nitrate contamination was detected at the site, concentrations remain at very safe levels with respect to human health.

It is unknown how much of the existing nitrate concentration can be attributed to natural or human-made sources. A high density of septic systems in the Sky Ranch Subdivision are located within the Zone A Protection area and are less than 200 feet from the well. Residential septic systems, because of their effluent discharge, pose the greatest potential contaminant risk to the secondary source of public drinking water serving Sky

Ranch Estates for bacteria and viruses and nitrates and/or nitrites. Review of the historical sampling data indicate that bacteria and viruses have not been detected at the source waters serving Sky Ranch Estates. The sampling data suggests that the surrounding septic systems have not impacted the groundwater source.

Paved roads within the protection area are the most significant source of potential volatile organic chemical contamination to Sky Ranch Estates drinking water source. Because paved roads do pose a potential for fuel spills to occur, major routes were ranked as low for volatile organic chemicals.

The motor vehicle repair shop located off Samuel Court ranked as a medium risk for volatile organic chemicals and other organic chemicals. However, the overall potential risk to contamination from the motor vehicle repair shop is low for both contaminant categories, due to it's proximity to the well.

Residential areas and municipal parks within the protection area present the most significant source of potential contamination, from heavy metals and synthetic organic chemicals to the well. Activities associated with maintaining residential areas are driving the potential risk to the groundwater source.

SUMMARY

A *Source Water Assessment* has been completed for the secondary source of public drinking water serving Sky Ranch Estates. The overall vulnerability of this source to contamination is **Low** for synthetic organic chemicals; and **Medium** for bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, heavy metals, and other 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 Sky Ranch Estates 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 Sky Ranch Estates secondary source of public drinking water.

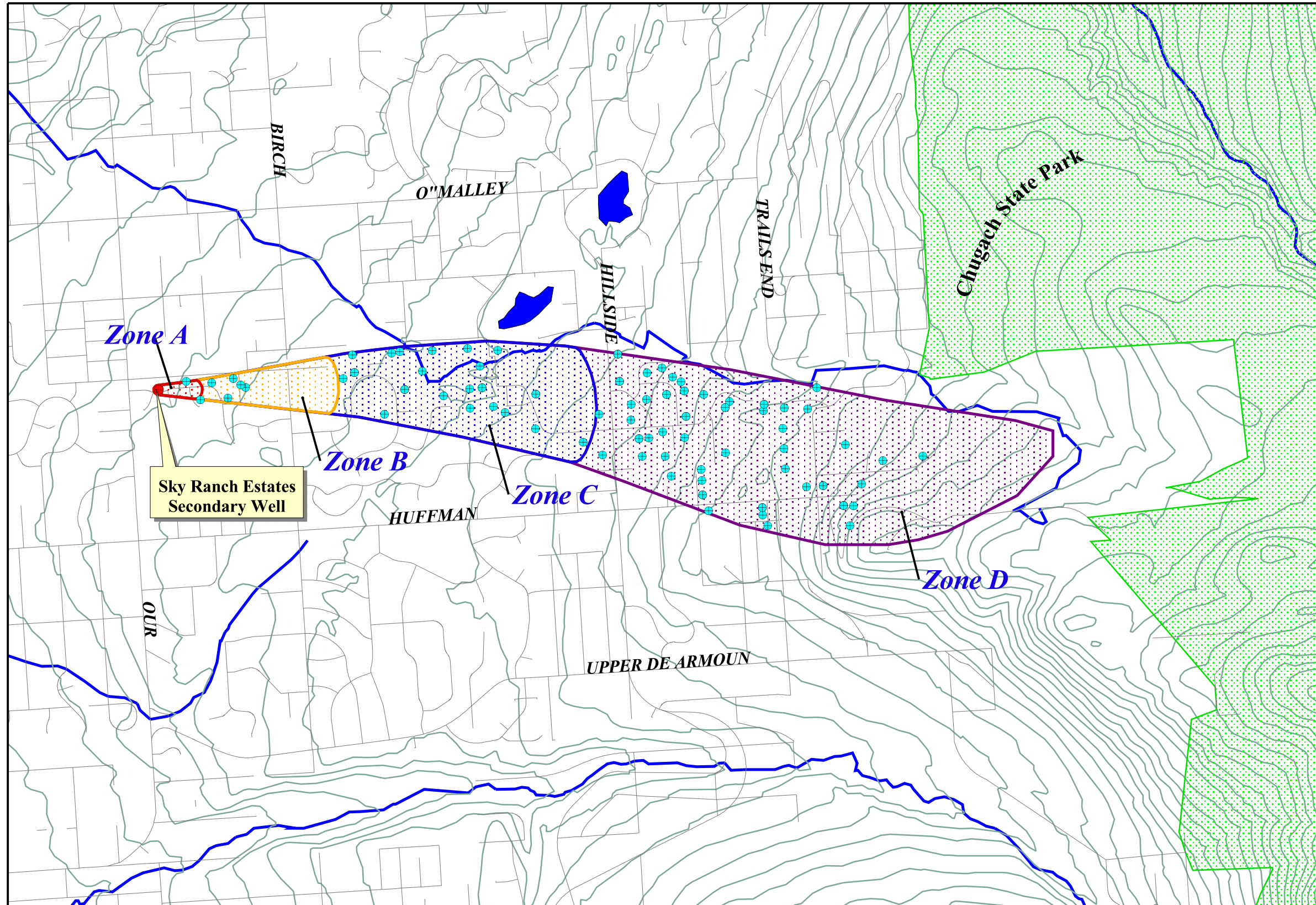
REFERENCES CITED

- Barnwell, W.W., George, R.S., Dearborn, L.L., Weeks, J.B., and Zenone, C., 1972, Water for Anchorage: an atlas of the water resources of the Anchorage area, Alaska: U.S. Geological Survey Open-File Report, 76 p.
- Patrick, L.D., Brabets, T.P., and Glass, R.L., 1989, Simulation of ground-water flow at Anchorage, Alaska: U.S. Geological Survey Water-Resources Investigations Report 88-4139, 41p.
- Ulery, C.A. and Updike, R.G, 1983, Subsurface structure of the cohesive facies of the Bootlegger Cove Formation, Southwest Anchorage, Alaska: Alaska Division of Geological and Geophysical Surveys Professional Report 84, 5 p.
- Wang, B., Strelakos, P.M., and Jokela, B., 2000, Nitrate Source Indicators In Groundwater of the Scimitar Subdivision, Peters Creek Area, Anchorage Alaska: U.S. Geological Survey Water-Resources Investigations Report 00-4137, 25p.
- Western Regional Climate Center, 2000, August 24, Web extension to the *Western Regional Climate Center* [WWW document]. URL <http://www.wrcc.dri.edu/index.html>

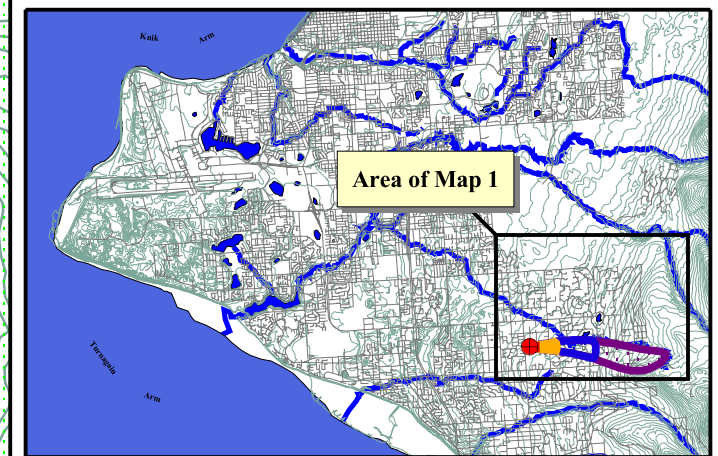
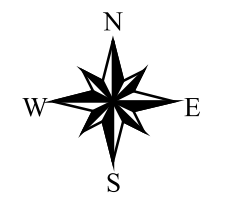
APPENDIX A

Drinking Water Protection Area for Sky Ranch Estates - Secondary Source

Drinking Water Protection Area for Sky Ranch Estates - Secondary Source



- Sky Ranch Estates Well #2
- Public & Private DW Wells
- Zone A Protection Area**
- Several Months 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 (X20)
- Chugach State Park
- ▬ Elevation Contours
- ▬ Anchorage Streams
- Anchorage Lakes



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Map 1

APPENDIX B

Contaminant Source Inventory and Risk Ranking for Sky Ranch Estates – Secondary Source

Table 1

**Contaminant Source Inventory for
Sky Ranch Estates #2**

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Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Location	Map Number	Comments
Residential Areas	R01	R1-1	A	Residential areas within Zone A	3	
Septic systems (serves one single-family home)	R02	R2-1	A	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-2	A	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-3	A	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-4	A	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-5	A	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-6	A	Off of Whispering Spruce Drive	4	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Whispering Spruce Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Pinto Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Shetland Heights Circle	2	
Residential Areas	R01	R1-2	B	Residential areas within Zone B	3	
Septic systems (serves one single-family home)	R02	R2-10	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-11	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-12	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-13	B	Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-14	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-15	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-16	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-17	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-18	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-19	B	Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-20	B	Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-21	B	Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-22	B	Off of Paddock Lane	4	

<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	R2-23	B	Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-24	B	Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-25	B	Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-26	B	Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-27	B	Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-28	B	Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-29	B	Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-7	B	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-8	B	Off of Shetland Heights Circle	4	
Septic systems (serves one single-family home)	R02	R2-9	B	Off of Whispering Spruce Drive	4	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Paddock Lane	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Klatt Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Birch Road	2	
Municipal or city parks (with green areas)	X04	X4-1	B	Zone B	3	
Dog walking areas/foot trails	X46	X46-1	B	Trail along east side of Birch Road	2	
Dog walking areas/foot trails	X46	X46-1	B	Trail along west side of Birch Road	2	
Motor /motor vehicle repair shops	C31	C31-1	C	Located off of Samuel Court	3	
Construction trade areas and materials	C09	C9-1	C	Located off of Moose Road	3	
Residential Areas	R01	R1-3	C	Residential areas within Zone C	3	
Septic systems (serves one single-family home)	R02	R2-30 - 10	C	All septic located within Zone C	4	
Highways and roads, paved (cement or asphalt)	X20	X20-7 - 16	C	All roads located within Zone C	2	
Dog walking areas/foot trails	X46	X46-3	C	Trail along Little Campbell Creek	2	

Table 2

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Bacteria and Viruses*

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<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	R2-1	A	Low	1	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-2	A	Low	2	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-3	A	Low	3	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-4	A	Low	4	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-5	A	Low	5	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-6	A	Low	6	Off of Whispering Spruce Drive	4	
Residential Areas	R01	R1-1	A	Low	7	Residential areas within Zone A	3	
Septic systems (serves one single-family home)	R02	R2-7	B	Low	8	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-8	B	Low	9	Off of Shetland Heights Circle	4	
Residential Areas	R01	R1-2	B	Low	10	Residential areas within Zone B	3	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low		Whispering Spruce Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low		Pinto Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Shetland Heights Circle	2	
Septic systems (serves one single-family home)	R02	R2-10	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-11	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-12	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-13	B	Low		Off of Paddock Lane	4	

Table 2 (continued)

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Bacteria and Viruses*

PWSID 212916.001

<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	R2-14	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-15	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-16	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-17	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-18	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-19	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-20	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-21	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-22	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-23	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-24	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-25	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-26	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-27	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-28	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-29	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-9	B	Low		Off of Whispering Spruce Drive	4	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low		Paddock Lane	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low		Klatt Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low		Birch Road	2	
Municipal or city parks (with green areas)	X04	X4-1	B	Medium		Zone B	3	

Table 2 (continued)

Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Bacteria and Viruses

PWSID 212916.001

<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>
Dog walking areas/foot trails	X46	X46-1	B	Low		Trail along east side of Birch Road	2	
Dog walking areas/foot trails	X46	X46-1	B	Low		Trail along west side of Birch Road	2	
Residential Areas	R01	R1-3	C	Low		Residential areas within Zone C	3	
Septic systems (serves one single-family home)	R02	R2-30 - 10	C	Low		All septic systems located within Zone C	4	
Highways and roads, paved (cement or asphalt)	X20	X20-7 - 16	C	Low		All roads located within Zone C	2	
Dog walking areas/foot trails	X46	X46-3	C	Low		Trail along Little Campbell Creek	2	

Table 3

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Nitrates/Nitrites*

PWSID 212916.001

<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	R2-1	A	Low	1	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-2	A	Low	2	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-3	A	Low	3	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-4	A	Low	4	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-5	A	Low	5	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-6	A	Low	6	Off of Whispering Spruce Drive	4	
Residential Areas	R01	R1-1	A	Low	7	Residential areas within Zone A	3	
Septic systems (serves one single-family home)	R02	R2-7	B	Low	8	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-8	B	Low	9	Off of Shetland Heights Circle	4	
Residential Areas	R01	R1-2	B	Low	10	Residential areas within Zone B	3	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low		Whispering Spruce Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low		Pinto Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low		Shetland Heights Circle	2	
Septic systems (serves one single-family home)	R02	R2-10	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-11	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-12	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-13	B	Low		Off of Paddock Lane	4	

Table 3 (continued)

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Nitrates/Nitrites*

PWSID 212916.001

<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	R2-14	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-15	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-16	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-17	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-18	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-19	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-20	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-21	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-22	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-23	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-24	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-25	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-26	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-27	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-28	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-29	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-9	B	Low		Off of Whispering Spruce Drive	4	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low		Paddock Lane	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low		Klatt Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low		Birch Road	2	
Municipal or city parks (with green areas)	X04	X4-1	B	Medium		Zone B	3	

Table 3 (continued)

Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Nitrates/Nitrites

PWSID 212916.001

<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>
Dog walking areas/foot trails	X46	X46-1	B	Low		Trail along west side of Birch Road	2	
Dog walking areas/foot trails	X46	X46-1	B	Low		Trail along east side of Birch Road	2	
Residential Areas	R01	R1-3	C	Low		Residential areas within Zone C	3	
Septic systems (serves one single-family home)	R02	R2-30 - 10	C	Low		All septic systems located within Zone C	4	
Highways and roads, paved (cement or asphalt)	X20	X20-7 - 16	C	Low		All roads located within Zone C	2	
Dog walking areas/foot trails	X46	X46-3	C	Low		Trail along Little Campbell Creek	2	

Table 4

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Volatile Organic Chemicals*

PWSID 212916.001

<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	1	Whispering Spruce Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	2	Pinto Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	3	Shetland Heights Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low	4	Paddock Lane	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	5	Klatt Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	6	Birch Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7 - 16	C	Low	7	All roads located within Zone C	2	
Residential Areas	R01	R1-1	A	Low	8	Residential areas within Zone A	3	
Residential Areas	R01	R1-2	B	Low	9	Residential areas within Zone B	3	
Motor /motor vehicle repair shops	C31	C31-1	C	Medium	10	Located off of Samuel Court	3	
Septic systems (serves one single-family home)	R02	R2-1	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-2	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-3	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-4	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-5	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-6	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-10	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-11	B	Low		Off of Whispering Spruce Drive	4	

Table 4 (continued)

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Volatile Organic Chemicals*

PWSID 212916.001

<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	R2-12	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-13	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-14	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-15	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-16	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-17	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-18	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-19	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-20	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-21	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-22	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-23	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-24	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-25	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-26	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-27	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-28	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-29	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-7	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-8	B	Low		Off of Shetland Heights Circle	4	

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Volatile Organic Chemicals

PWSID 212916.001

<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	R2-9	B	Low		Off of Whispering Spruce Drive	4	
Construction trade areas and materials	C09	C9-1	C	Low		Located off of Moose Road	3	
Residential Areas	R01	R1-3	C	Low		Residential areas within Zone C	3	
Septic systems (serves one single-family home)	R02	R2-30 - 10	C	Low		All septic located within Zone C	4	

Table 5

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 212916.001

<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 within Zone A	3	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	Whispering Spruce Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	3	Pinto Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	4	Shetland Heights Circle	2	
Septic systems (serves one single-family home)	R02	R2-1	A	Low	5	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-2	A	Low	6	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-3	A	Low	7	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-4	A	Low	8	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-5	A	Low	9	Off of Whispering Spruce Drive	4	
Residential Areas	R01	R1-2	B	Low	10	Residential areas within Zone B	3	
Septic systems (serves one single-family home)	R02	R2-6	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-10	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-11	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-12	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-13	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-14	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-15	B	Low		Off of Whispering Spruce Drive	4	

Table 5 (continued)

Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2

PWSID 212916.001

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

<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	R2-16	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-17	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-18	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-19	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-20	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-21	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-22	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-23	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-24	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-25	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-26	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-27	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-28	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-29	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-7	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-8	B	Low		Off of Shetland Heights Circle	4	
Septic systems (serves one single-family home)	R02	R2-9	B	Low		Off of Whispering Spruce Drive	4	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low		Paddock Lane	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low		Klatt Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low		Birch Road	2	

Table 5 (continued)

Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2

PWSID 212916.001

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

<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>
Motor /motor vehicle repair shops	C31	C31-1	C	Medium		Located off of Samuel Court	3	
Construction trade areas and materials	C09	C9-1	C	Low		Located off of Moose Road	3	
Residential Areas	R01	R1-3	C	Low		Residential areas within Zone C	3	
Septic systems (serves one single-family home)	R02	R2-30 - 10	C	Low		All septic systems located within Zone C	4	
Highways and roads, paved (cement or asphalt)	X20	X20-7 - 16	C	Low		All roads located within Zone C	2	

Table 6

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Synthetic Organic Chemicals*

PWSID 212916.001

<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 within Zone A	3	
Residential Areas	R01	R1-2	B	Low	2	Residential areas within Zone B	3	
Septic systems (serves one single-family home)	R02	R2-1	A	Low	3	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-2	A	Low	4	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-3	A	Low	5	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-4	A	Low	6	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-5	A	Low	7	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-6	A	Low	8	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-7	B	Low	9	Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-8	B	Low	10	Off of Shetland Heights Circle	4	
Septic systems (serves one single-family home)	R02	R2-10	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-11	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-12	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-13	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-14	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-15	B	Low		Off of Whispering Spruce Drive	4	

Table 6 (continued)

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Synthetic Organic Chemicals*

PWSID 212916.001

<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	R2-16	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-17	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-18	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-19	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-20	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-21	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-22	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-23	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-24	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-25	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-26	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-27	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-28	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-29	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-9	B	Low		Off of Whispering Spruce Drive	4	
Municipal or city parks (with green areas)	X04	X4-1	B	Low		Zone B	3	
Residential Areas	R01	R1-3	C	Low		Residential areas within Zone C	3	
Septic systems (serves one single-family home)	R02	R2-30 - 10	C	Low		All septic located within Zone C	4	

Table 7

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Other Organic Chemicals*

PWSID 212916.001

<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 within Zone A	3	
Residential Areas	R01	R1-2	B	Low	2	Residential areas within Zone B	3	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	3	Whispering Spruce Drive	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	Low	4	Pinto Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	5	Shetland Heights Circle	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	B	Low	6	Paddock Lane	2	
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	7	Klatt Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	8	Birch Road	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7 - 16	C	Low	9	All roads located within Zone C	2	
Motor /motor vehicle repair shops	C31	C31-1	C	Medium	10	Located off of Samuel Court	3	
Septic systems (serves one single-family home)	R02	R2-1	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-2	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-3	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-4	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-5	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-6	A	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-10	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-11	B	Low		Off of Whispering Spruce Drive	4	

Table 7 (continued)

*Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Other Organic Chemicals*

PWSID 212916.001

<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	R2-12	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-13	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-14	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-15	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-16	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-17	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-18	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-19	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-20	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-21	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-22	B	Low		Off of Paddock Lane	4	
Septic systems (serves one single-family home)	R02	R2-23	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-24	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-25	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-26	B	Low		Off of Birch Road	4	
Septic systems (serves one single-family home)	R02	R2-27	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-28	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-29	B	Low		Off of Klatt Road	4	
Septic systems (serves one single-family home)	R02	R2-7	B	Low		Off of Whispering Spruce Drive	4	
Septic systems (serves one single-family home)	R02	R2-8	B	Low		Off of Shetland Heights Circle	4	

Table 7 (continued)

Contaminant Source Inventory and Risk Ranking for
Sky Ranch Estates #2
Sources of Other Organic Chemicals

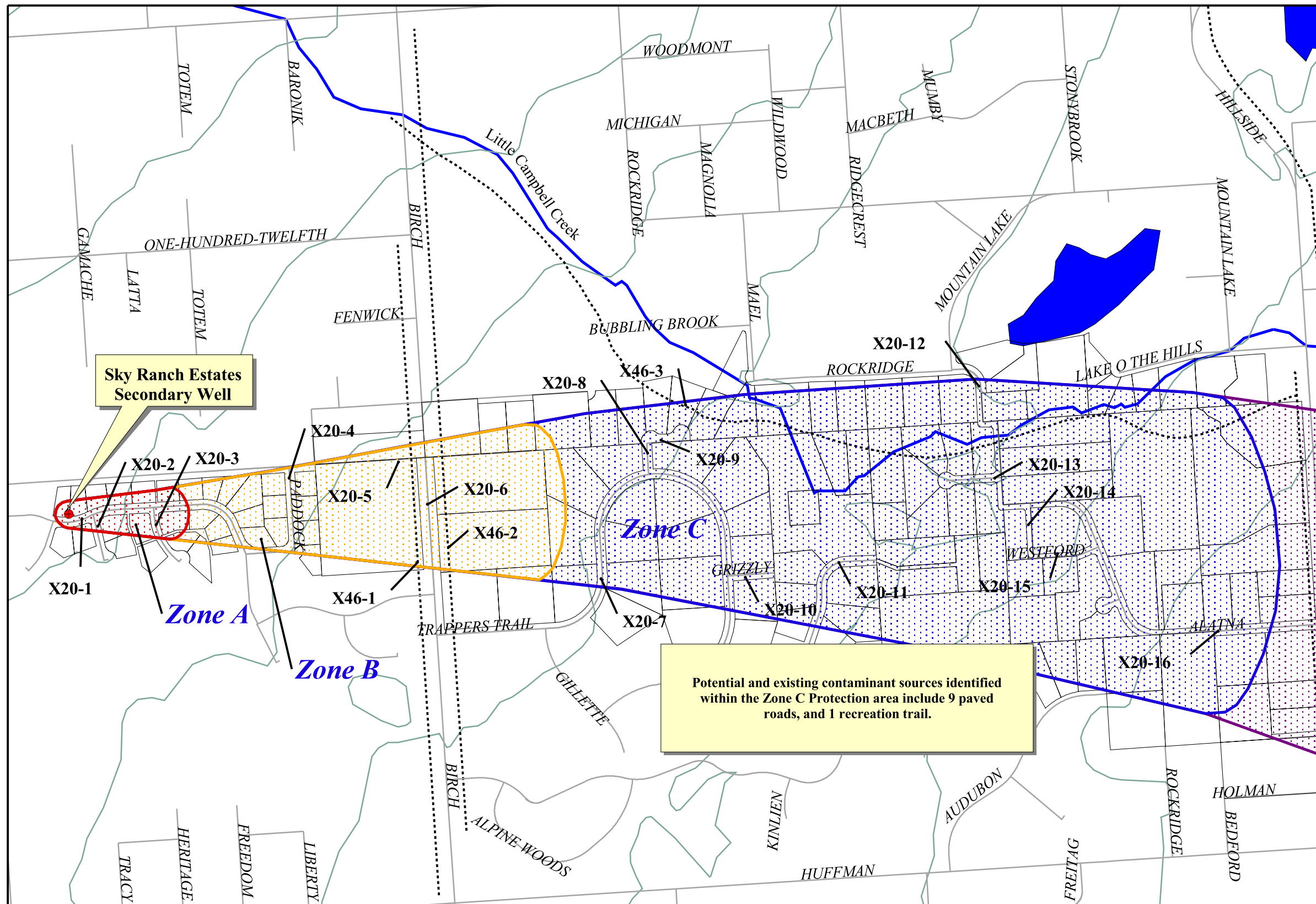
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<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Overall Rank after Analysis</i>	<i>Location</i>	<i>Map Number</i>	<i>Comments</i>
Septic systems (serves one single-family home)	R02	R2-9	B	Low		Off of Whispering Spruce Drive	4	
Construction trade areas and materials	C09	C9-1	C	Low		Located off of Moose Road	3	
Residential Areas	R01	R1-3	C	Low		Residential areas within Zone C	3	
Septic systems (serves one single-family home)	R02	R2-30 - 10	C	Low		All septic located within Zone C	4	

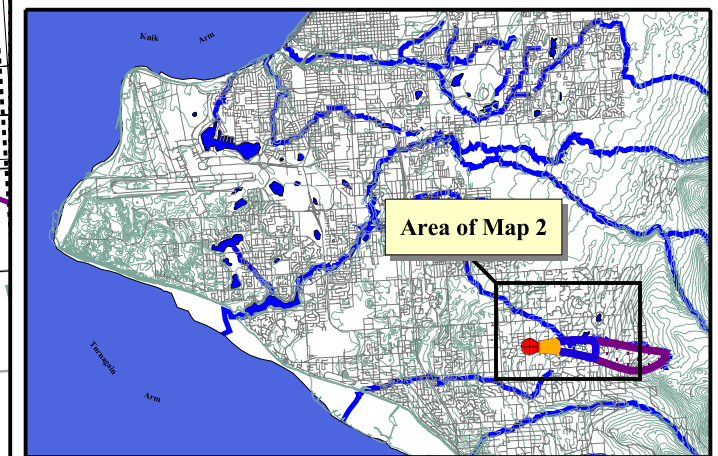
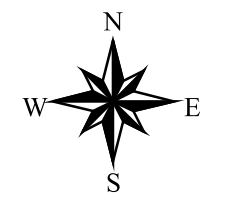
APPENDIX C

Drinking Water Protection Area and Potential & Existing Contaminant Sources for Sky Ranch Estates – Secondary Source

Drinking Water Protection Area for Sky Ranch Estates - Secondary Source and Potential & Existing Contaminant Sources



- Sky Ranch Estates Well #2
- Zone A Protection Area**
- ▨ Several Months 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
- MOA Land Parcels
- Roads (X20)
- - - Trails (X46)
- ~ Elevation Contours
- ∩ Anchorage Streams
- Anchorage Lakes

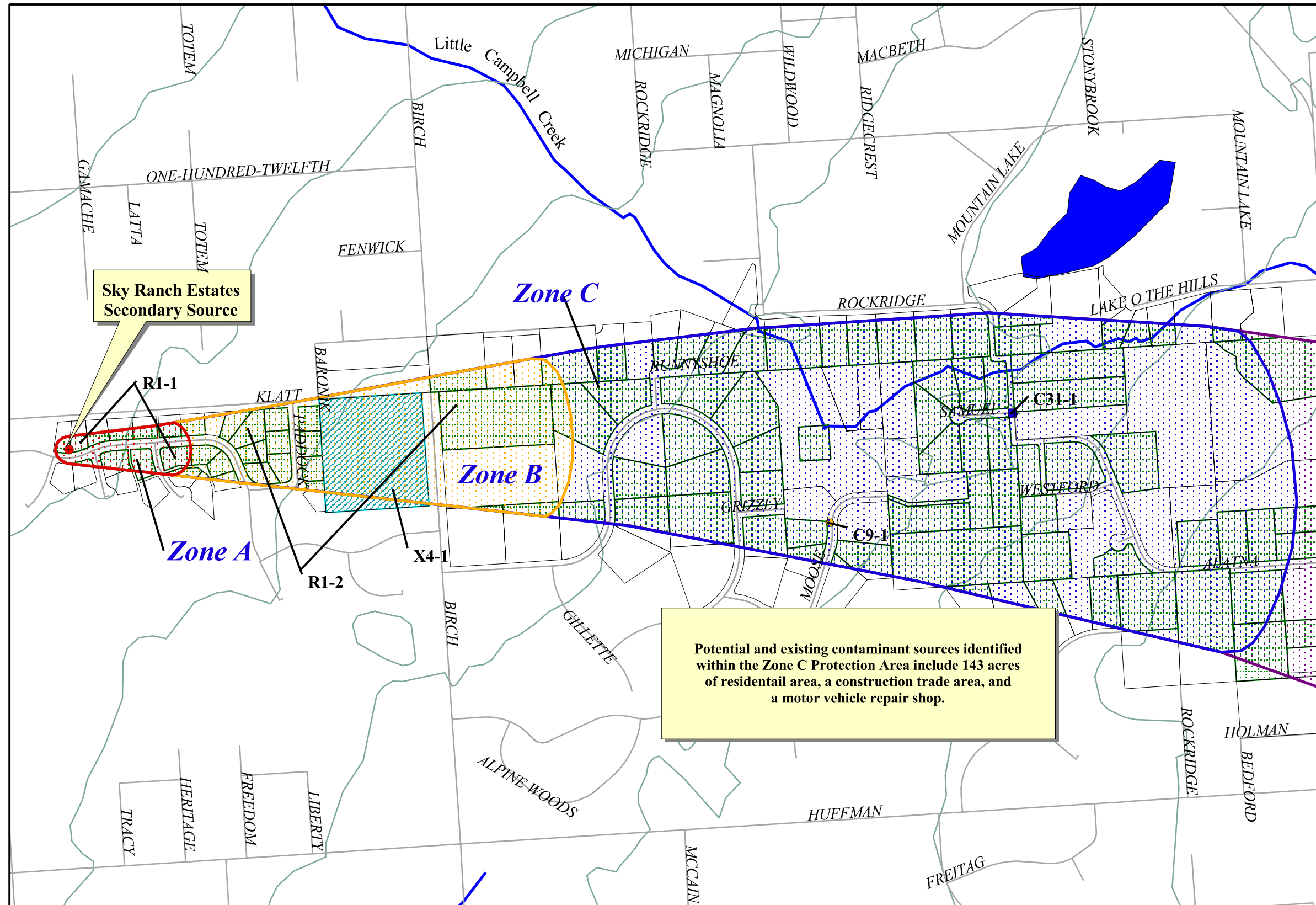


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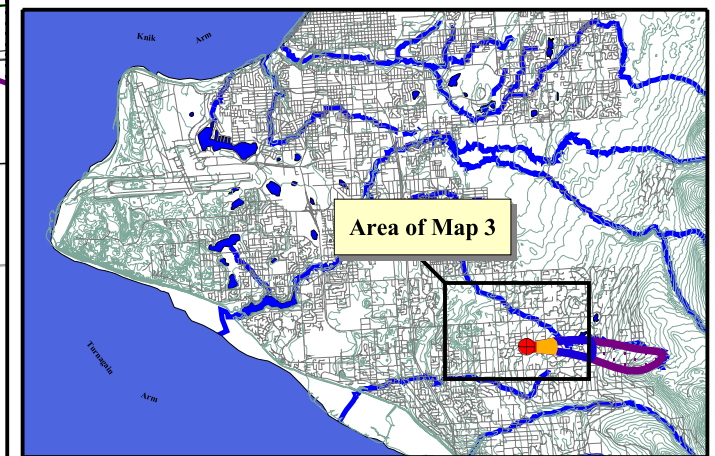
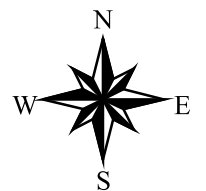
PWSID 212916.001

Map 2

Drinking Water Protection Area for Sky Ranch Estates - Secondary Source and Potential & Existing Contaminant Sources



- Sky Ranch Estates Well #2
- Zone A Protection Area
 - Several Months 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
- MOA Land Parcels
- Potential & Existing Sources of Contamination
 - Motor/motor vehicle repair shops (C31)
 - Construction trade areas and materials (C9)
 - Municipal or city parks with green areas (X4)
 - Lawns & gardens (R1)
 - Roads (X20)
 - Elevation Contours
 - Anchorage Streams
 - Anchorage Lakes

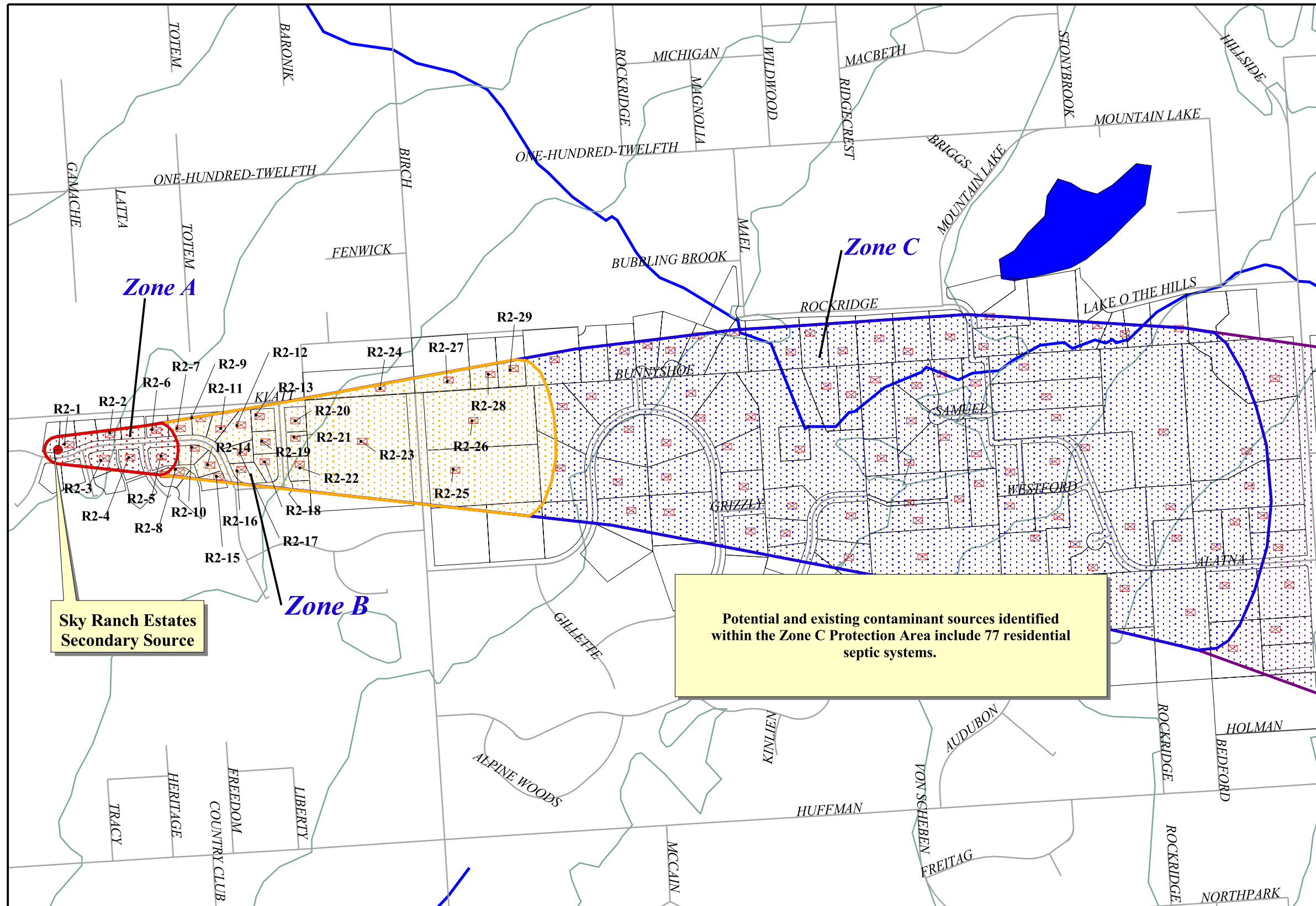


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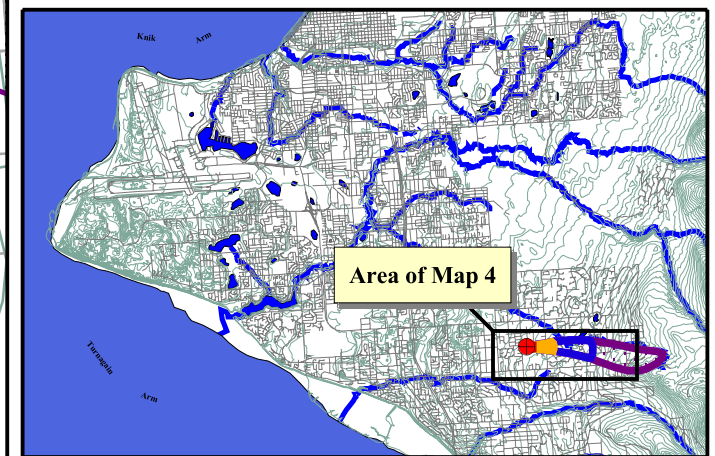
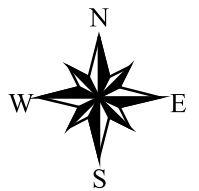
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Map 3

Drinking Water Protection Area for Sky Ranch Estates - Secondary Source and Potential & Existing Contaminant Sources



- Sky Ranch Estates Well #2
- Zone A Protection Area**
- ▣ Several Months 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
- MOA Land Parcels
- ⊠ Septics Systems (R2)
- Public utility easements/corridors (X42)
- Roads (X20)
- Elevation Contours
- Anchorage Streams
- Anchorage Lakes

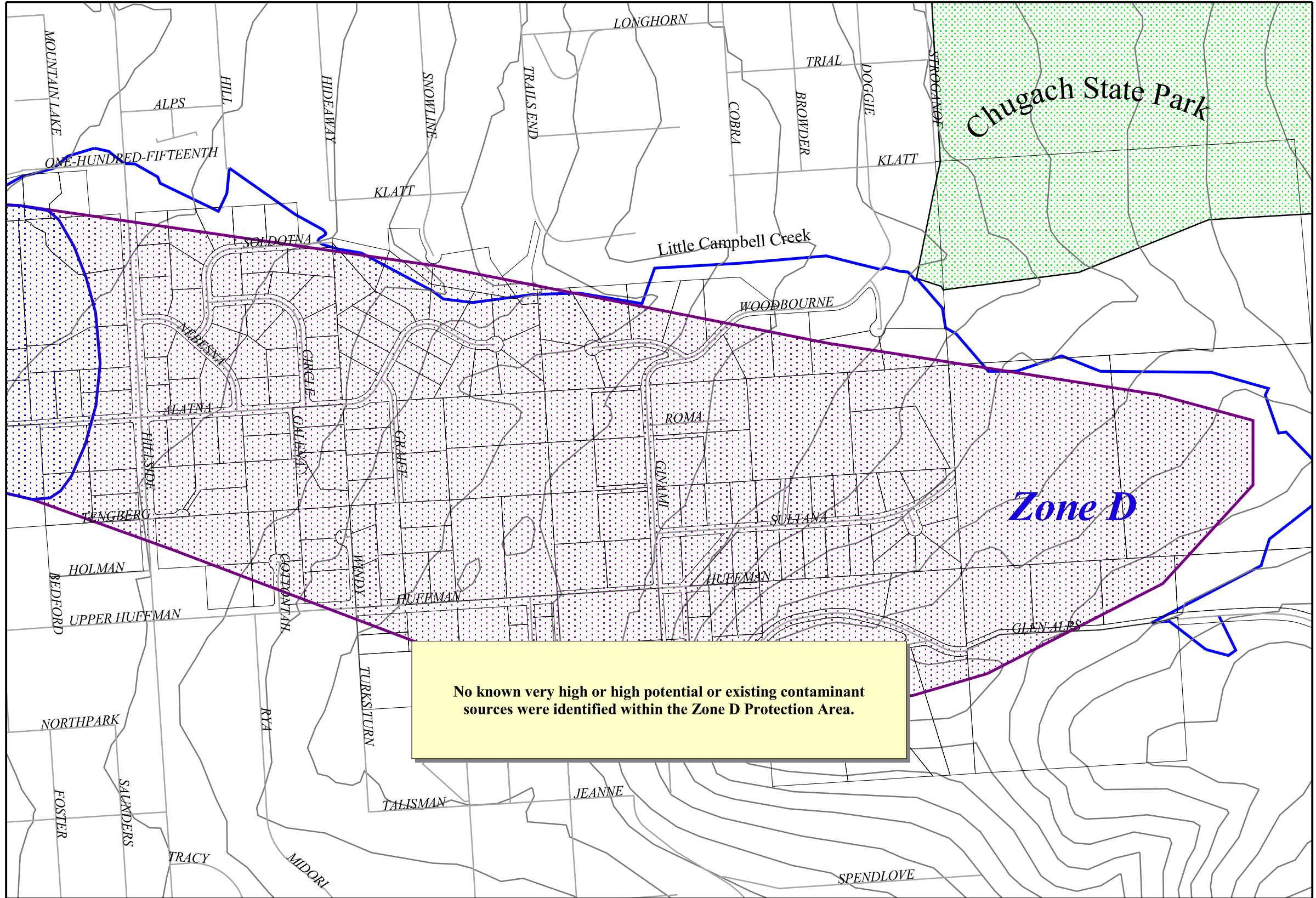


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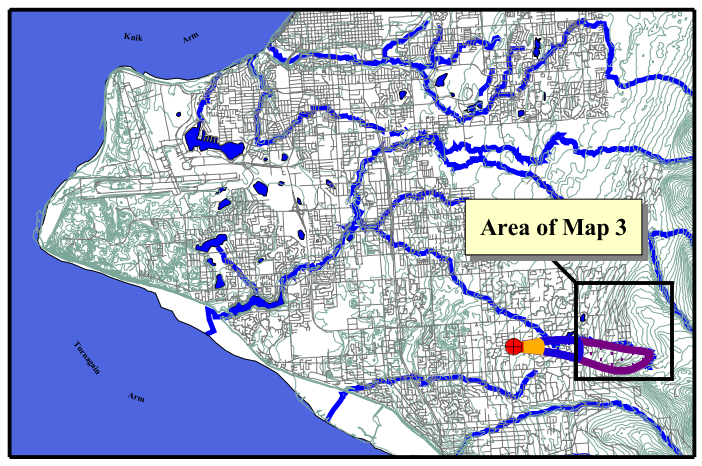
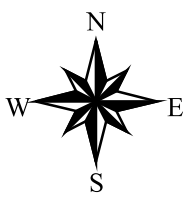
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Map 4

Drinking Water Protection Area for Sky Ranch Estates - Secondary Source and Potential & Existing Contaminant Sources



- Sky Ranch Estates Well #2
- Zone A Protection Area
- Several Months 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
- MOA Land Parcels
- Roads (X20)
- Elevation Contours
- Anchorage Streams
- MOA Lakes
- Chugach State Park



No known very high or high potential or existing contaminant sources were identified within the Zone D Protection Area.



PWSID 212916.001

Map 5

APPENDIX D

Vulnerability Analysis for Sky Ranch Estates – Secondary Source

Chart 1. Susceptibility of the wellhead - Sky Ranch Estates Secondary Source

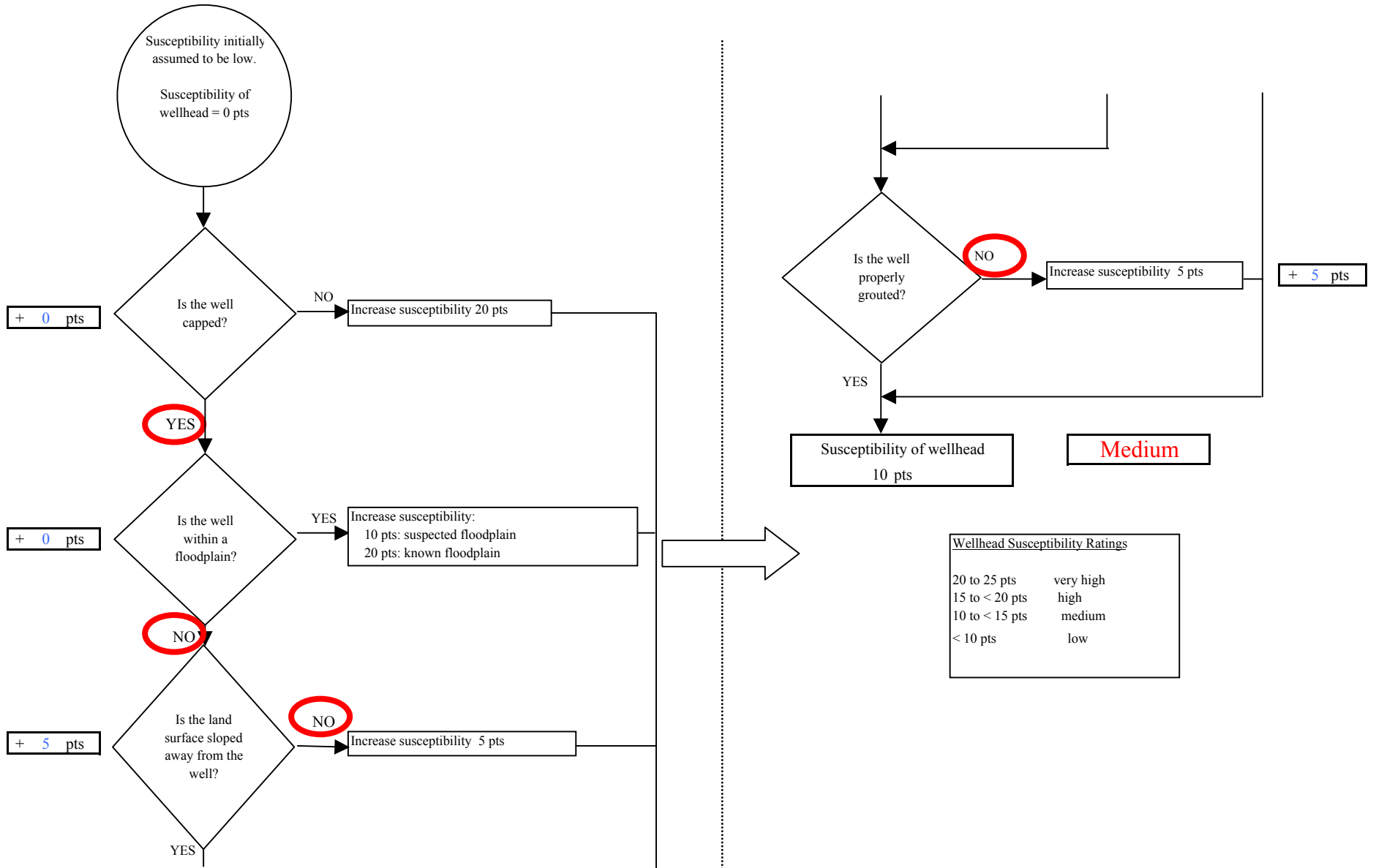


Chart 2. Susceptibility of the aquifer - Sky Ranch Estates Secondary Source

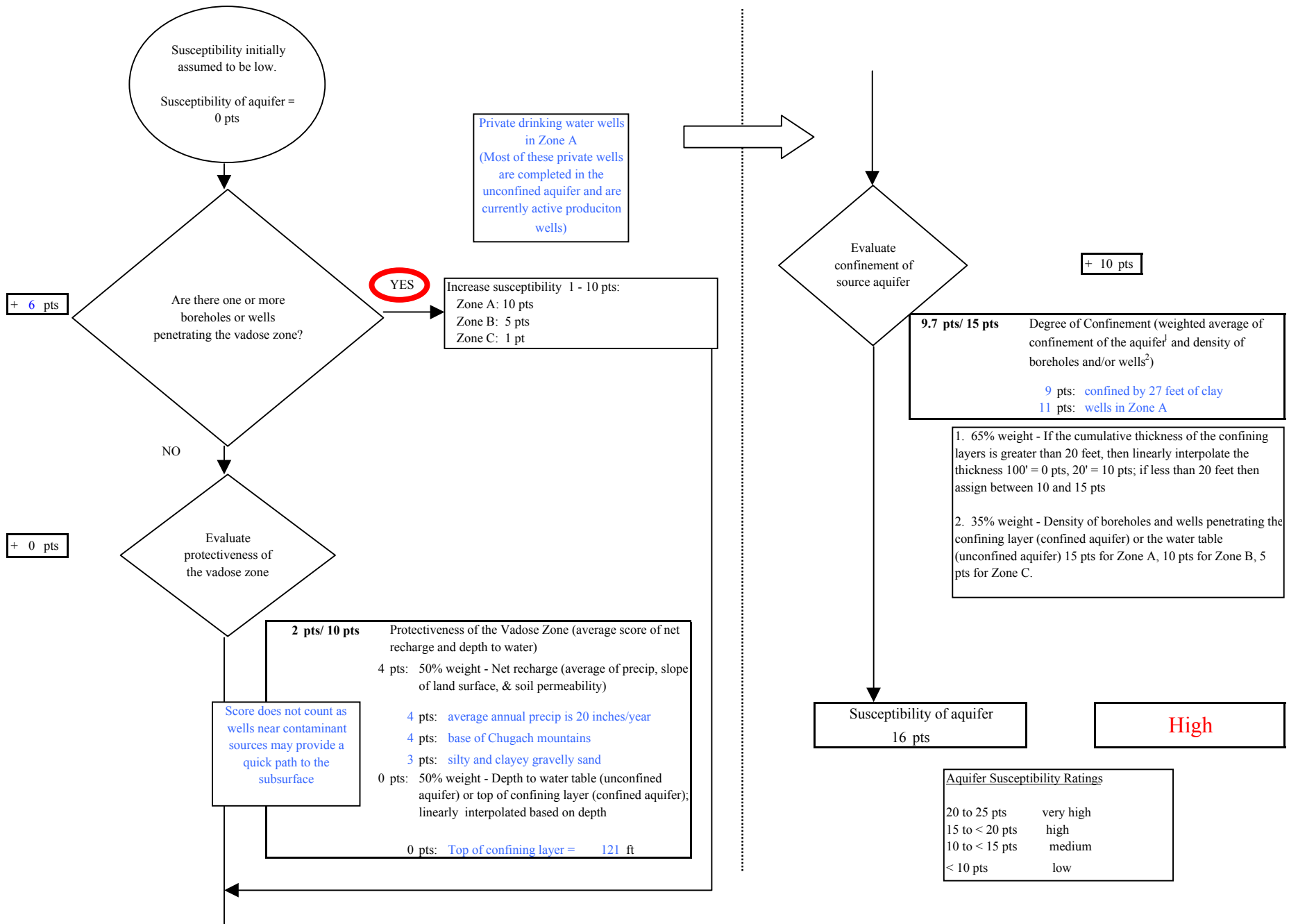


Chart 3. Contaminant risks for Sky Ranch Estates Secondary Source - Bacteria & Viruses

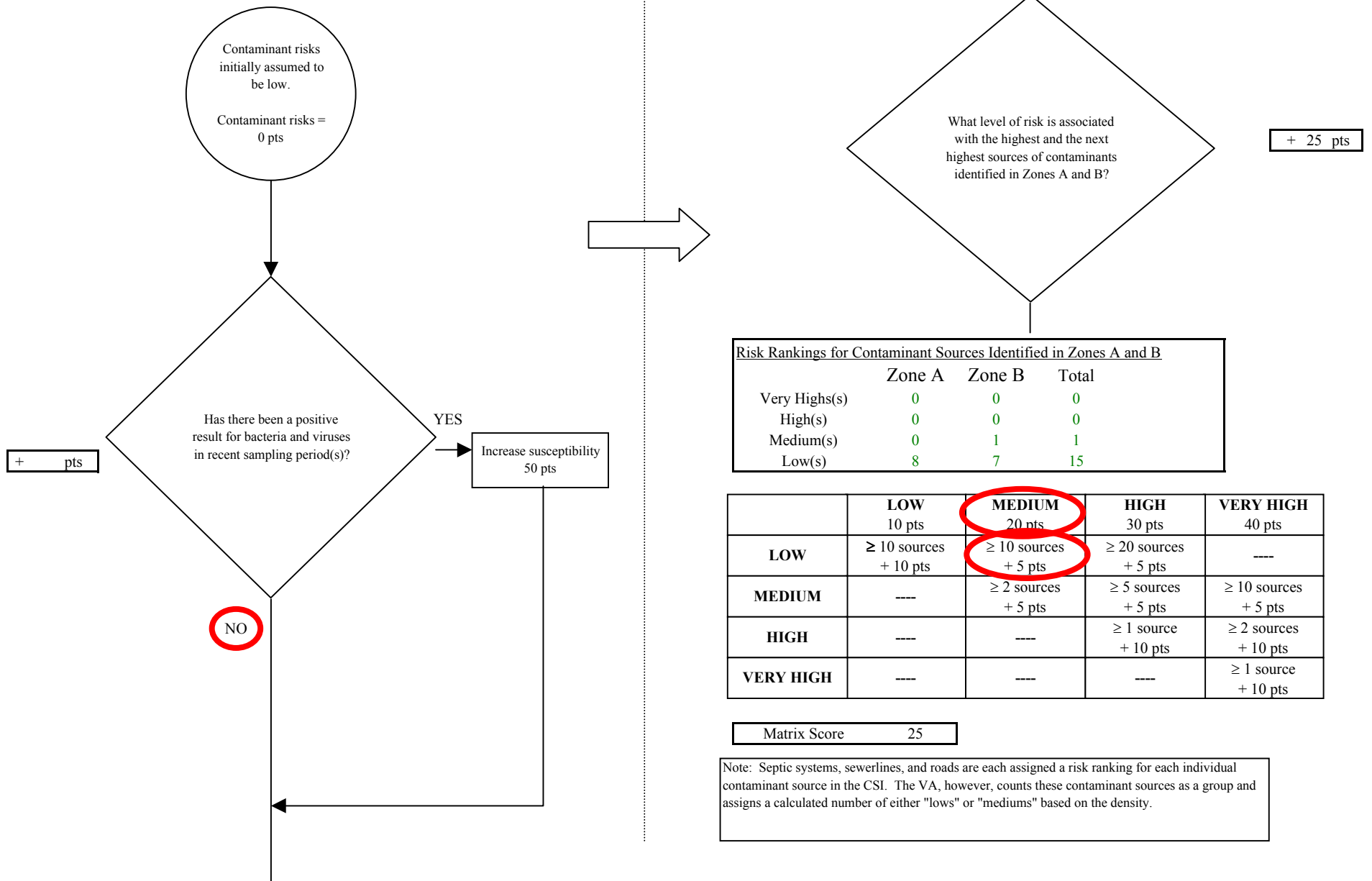
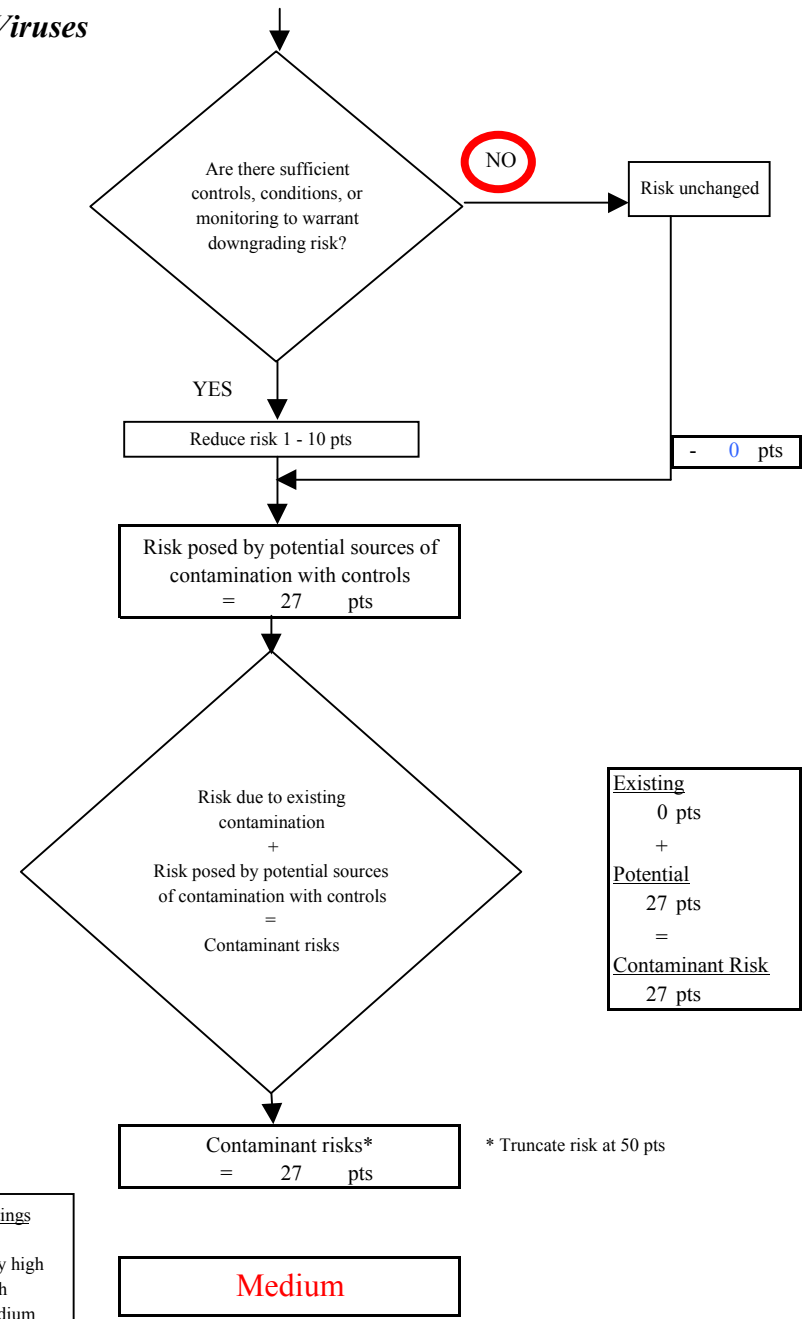
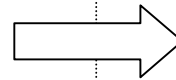
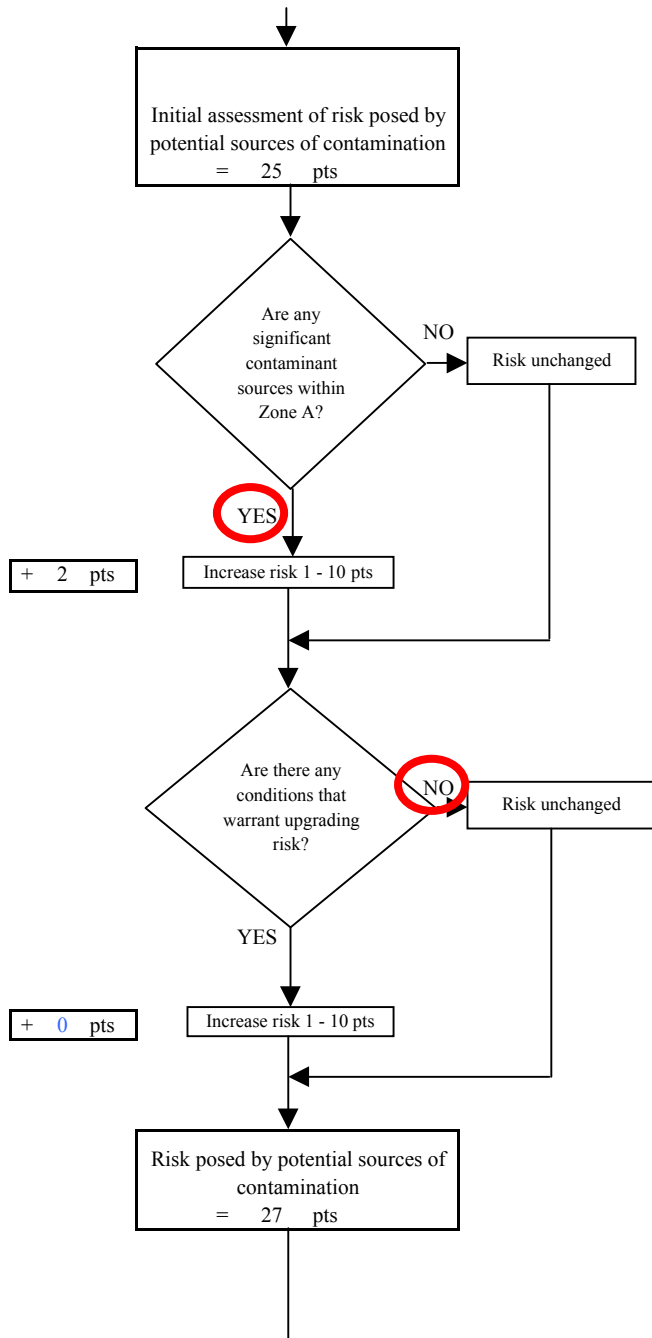


Chart 3. Contaminant risks for Sky Ranch Estates Secondary Source - Bacteria & Viruses



Existing	0 pts
+	
Potential	27 pts
=	
Contaminant Risk	27 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 Sky Ranch Estates Secondary Source - Bacteria & Viruses

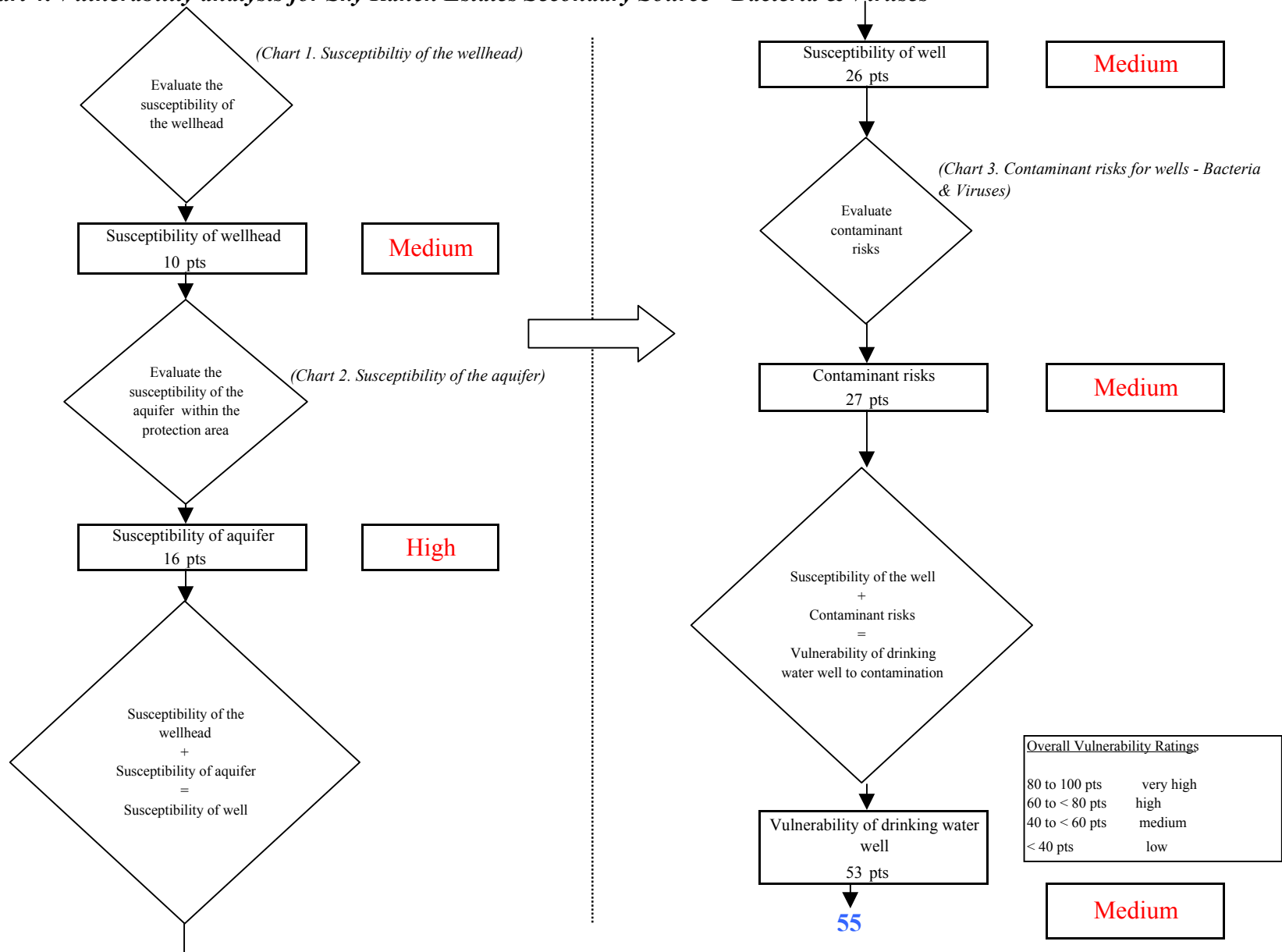


Chart 5. Contaminant risks for Sky Ranch Estates Secondary Source - Nitrates and Nitrites

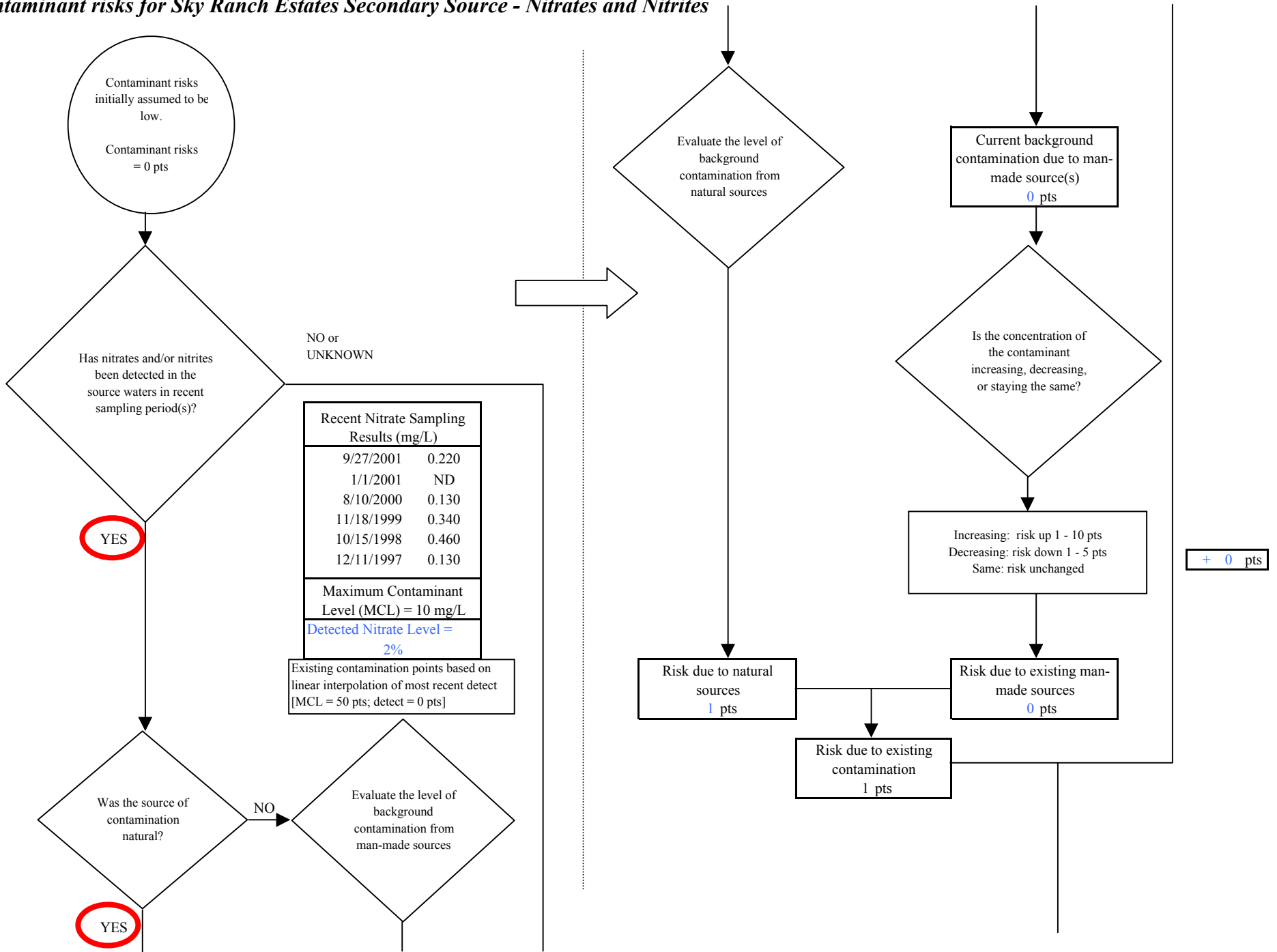
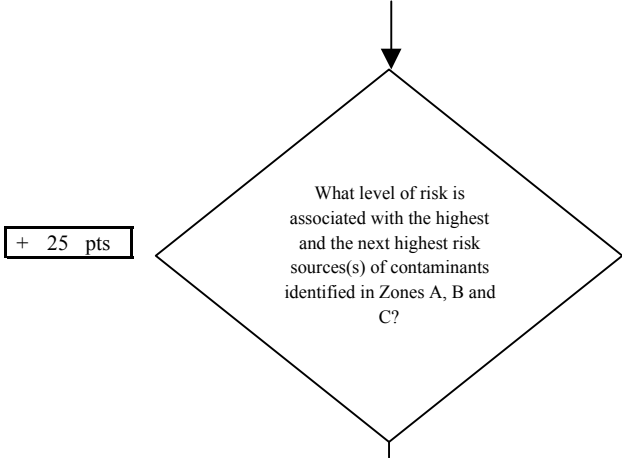


Chart 5. Contaminant risks for Sky Ranch Estates Secondary Source - Nitrates and Nitrites



+ 25 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)	2	18	20

	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.

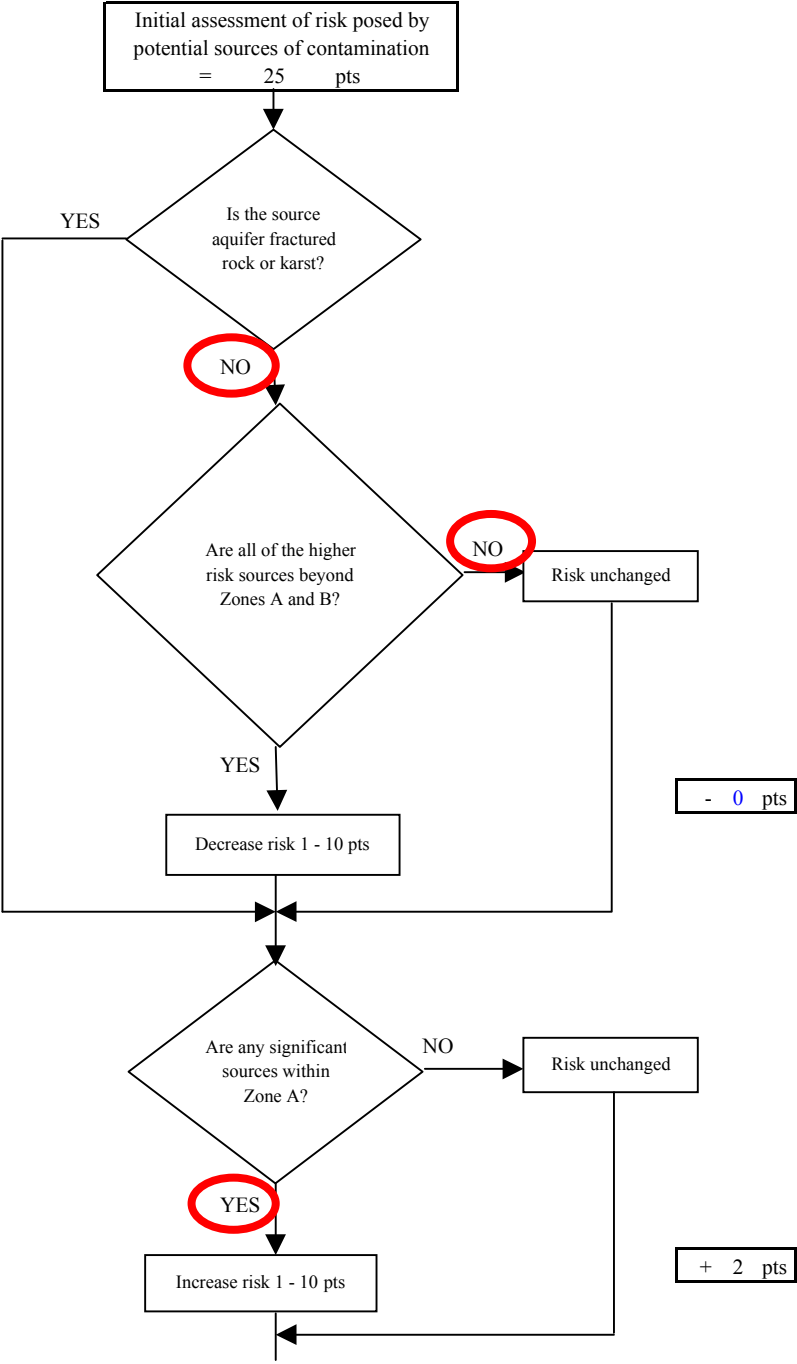
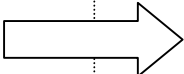


Chart 5. Contaminant risks for Sky Ranch Estates Secondary Source - Nitrates and Nitrites

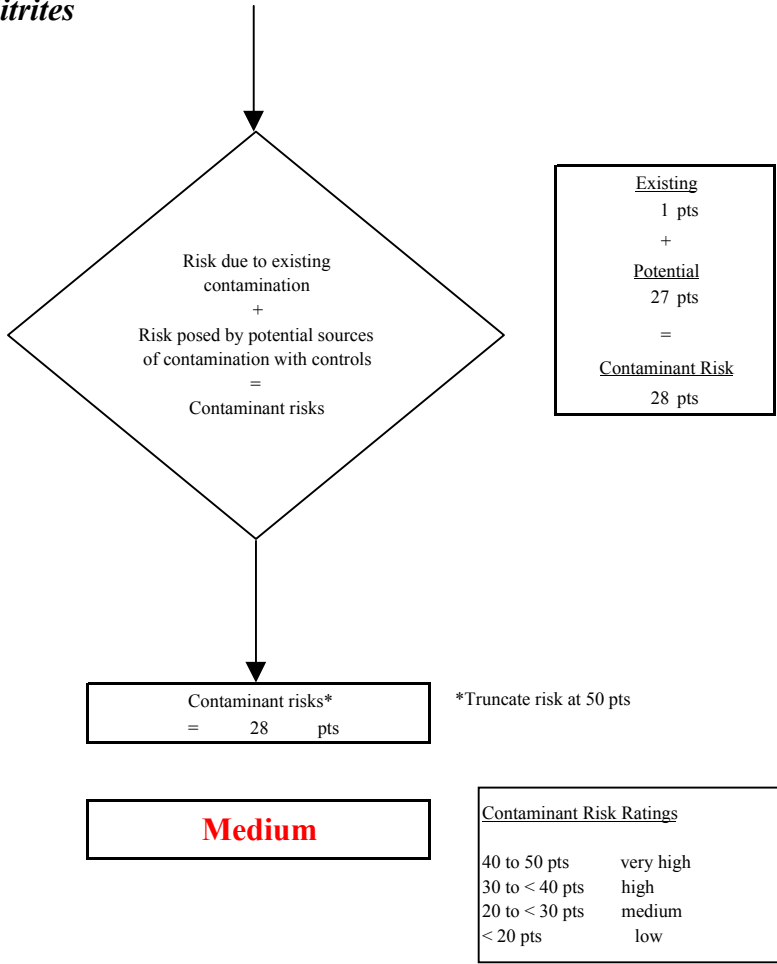
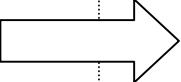
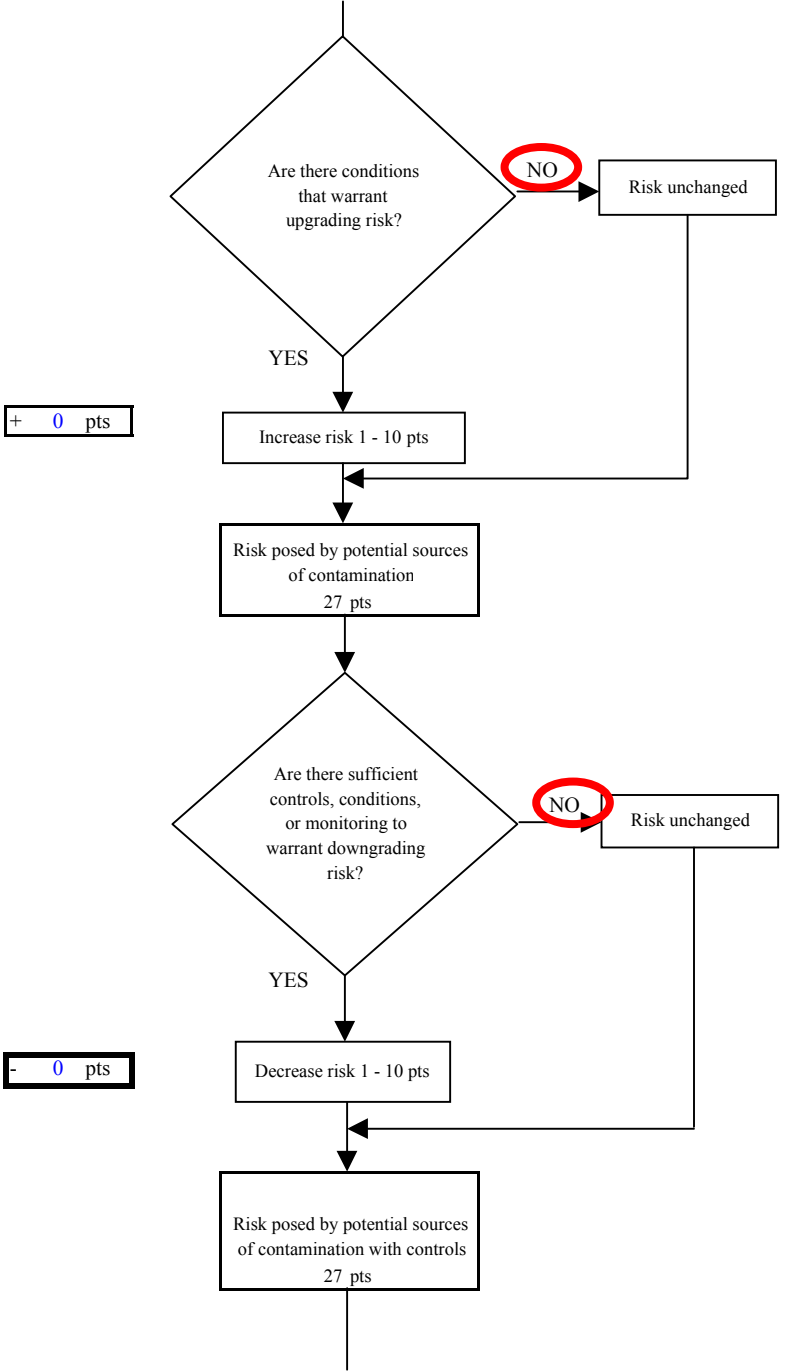


Chart 6. Vulnerability analysis for Sky Ranch Estates Secondary Source - Nitrates and Nitrites

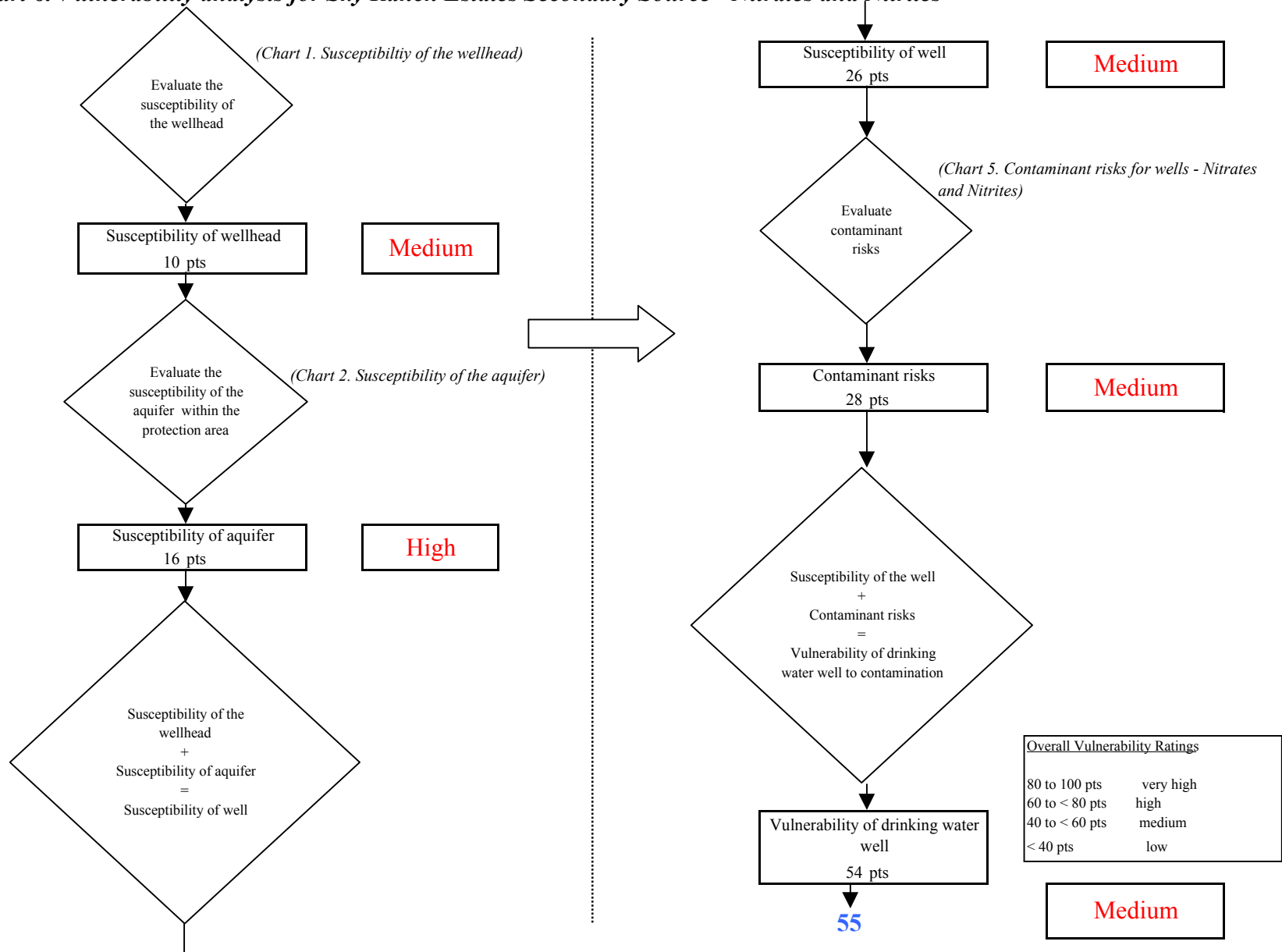


Chart 7. Contaminant risks for Sky Ranch Estates Secondary Source - Volatile Organic Chemicals

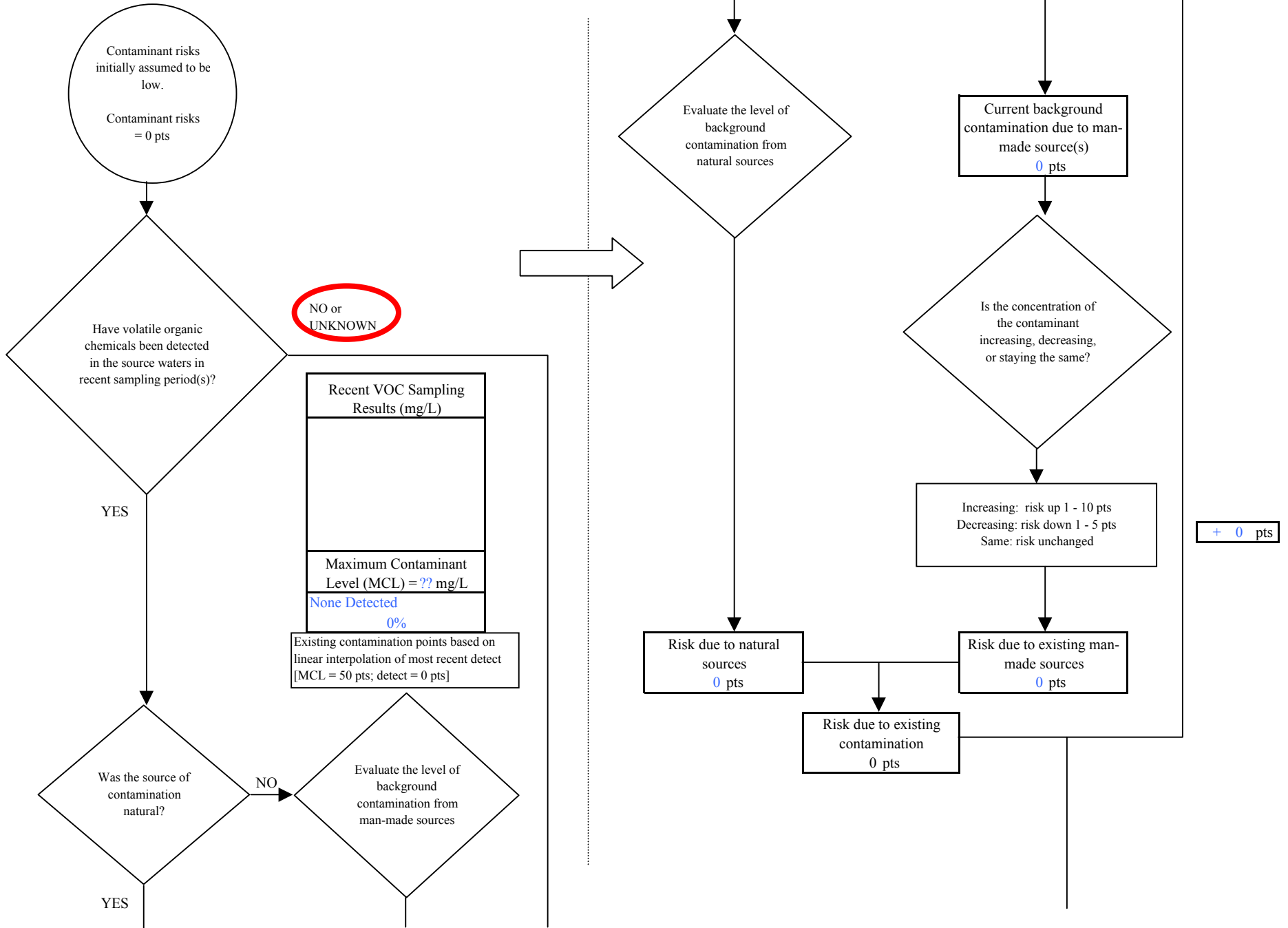
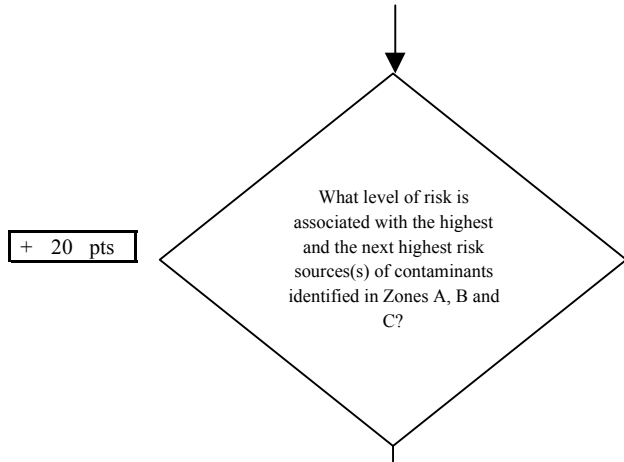


Chart 7. Contaminant risks for Sky Ranch Estates Secondary Source - Volatile Organic Chemicals



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	0	0
Medium(s)	0	1	1
Low(s)	3	6	9

	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 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.

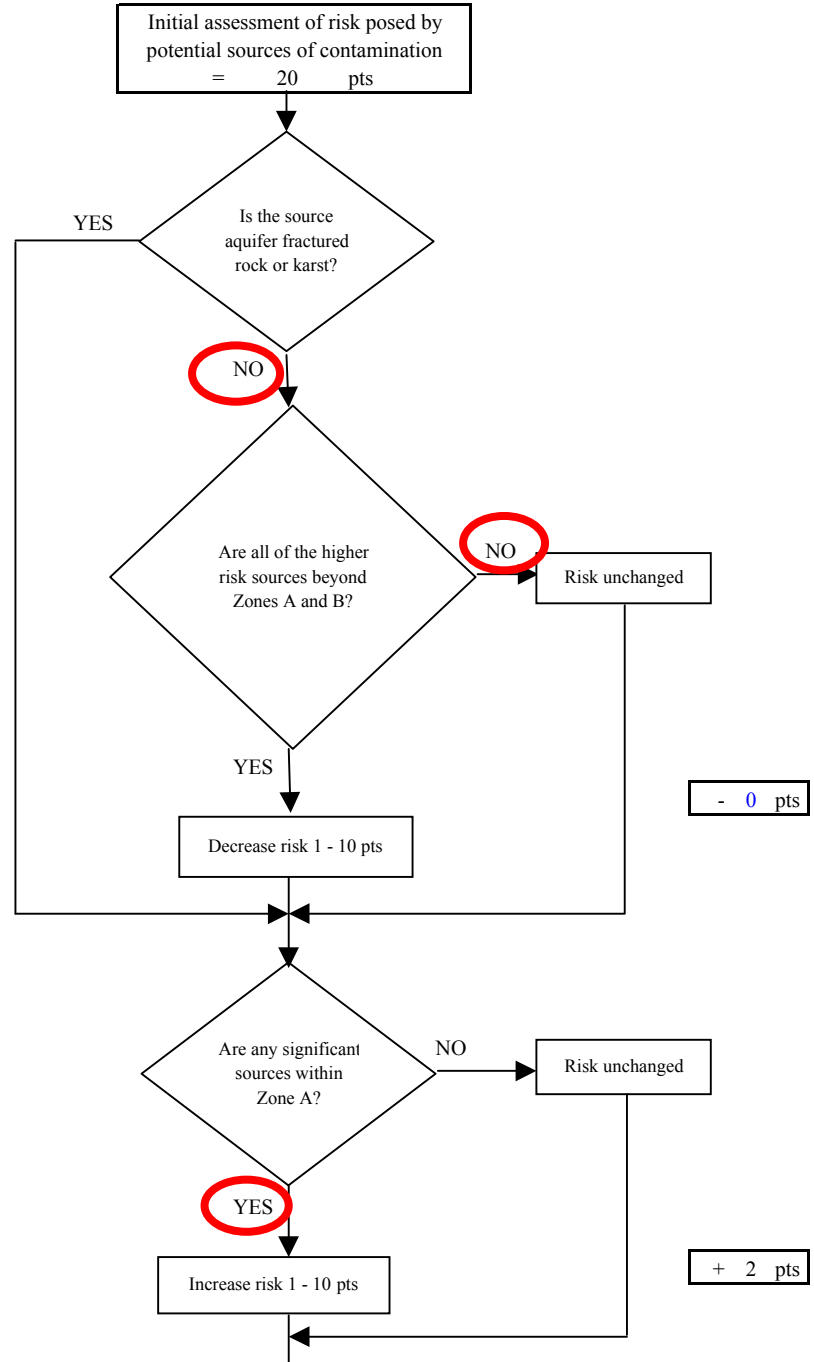
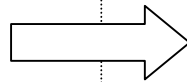


Chart 7. Contaminant risks for Sky Ranch Estates Secondary Source - Volatile Organic Chemicals

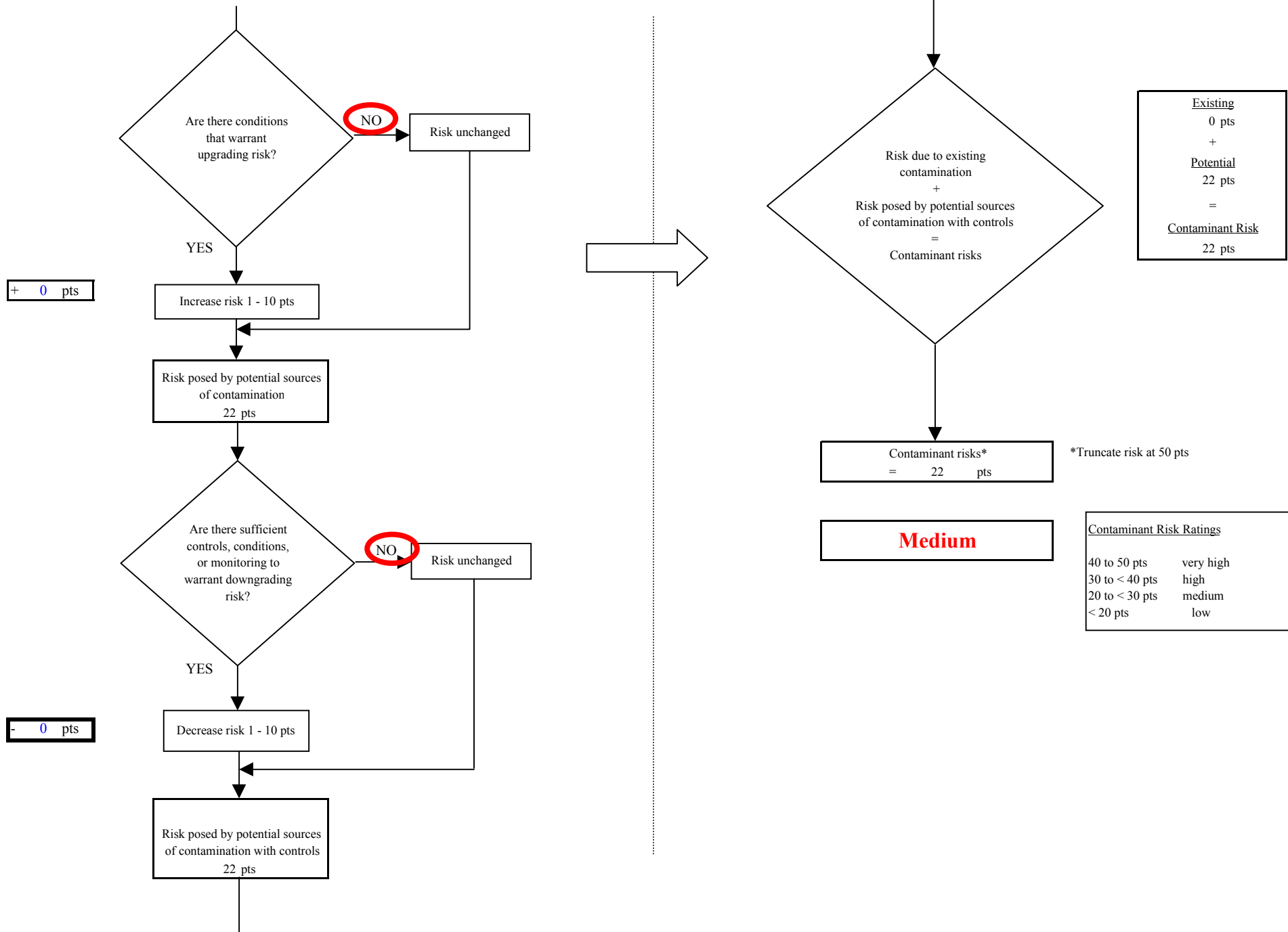


Chart 8. Vulnerability analysis for Sky Ranch Estates Secondary Source - Volatile Organic Chemicals

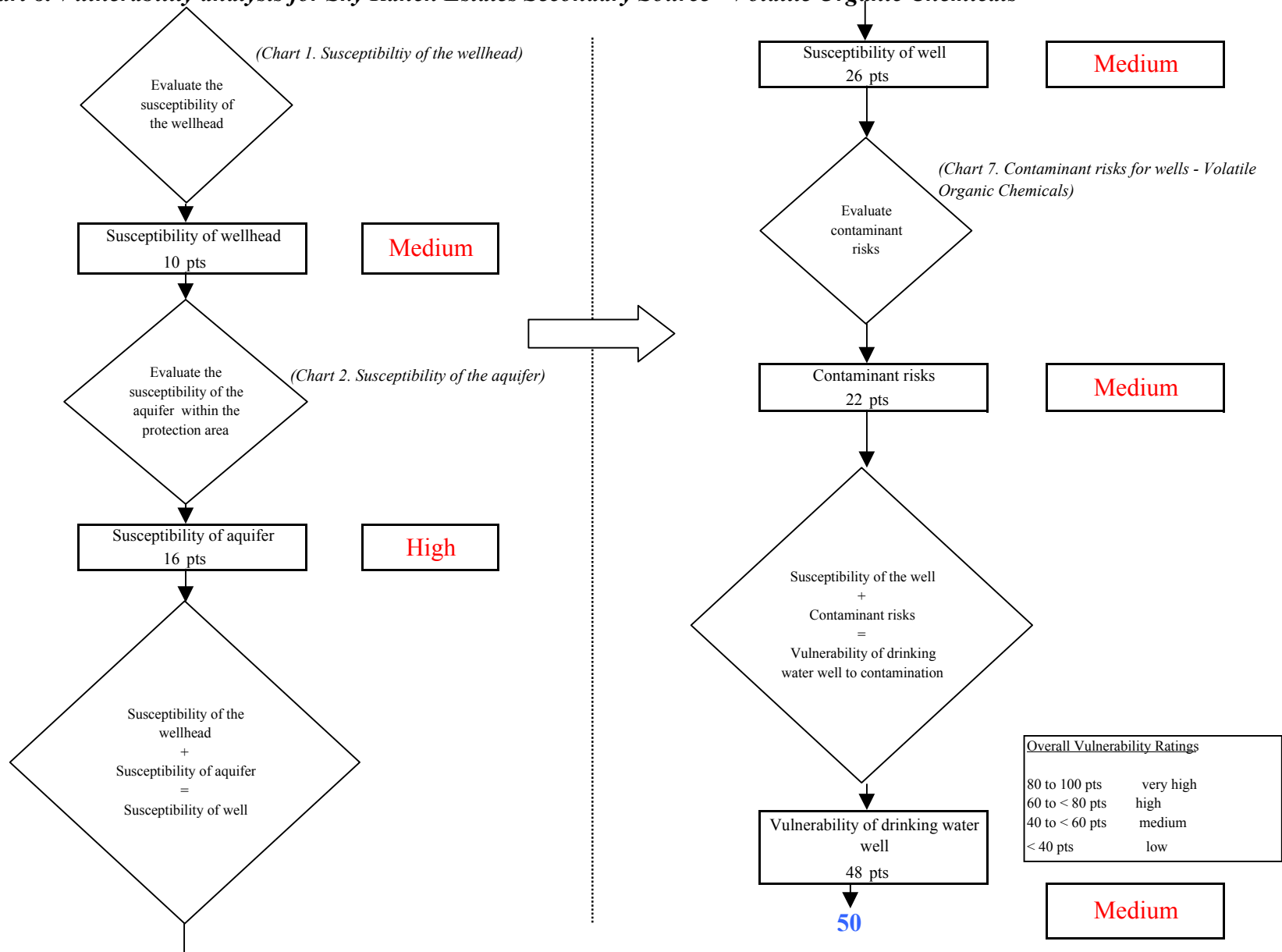


Chart 9. Contaminant risks for Sky Ranch Estates Secondary Source - Heavy Metals, Cyanide and Other Inorganic Chemicals

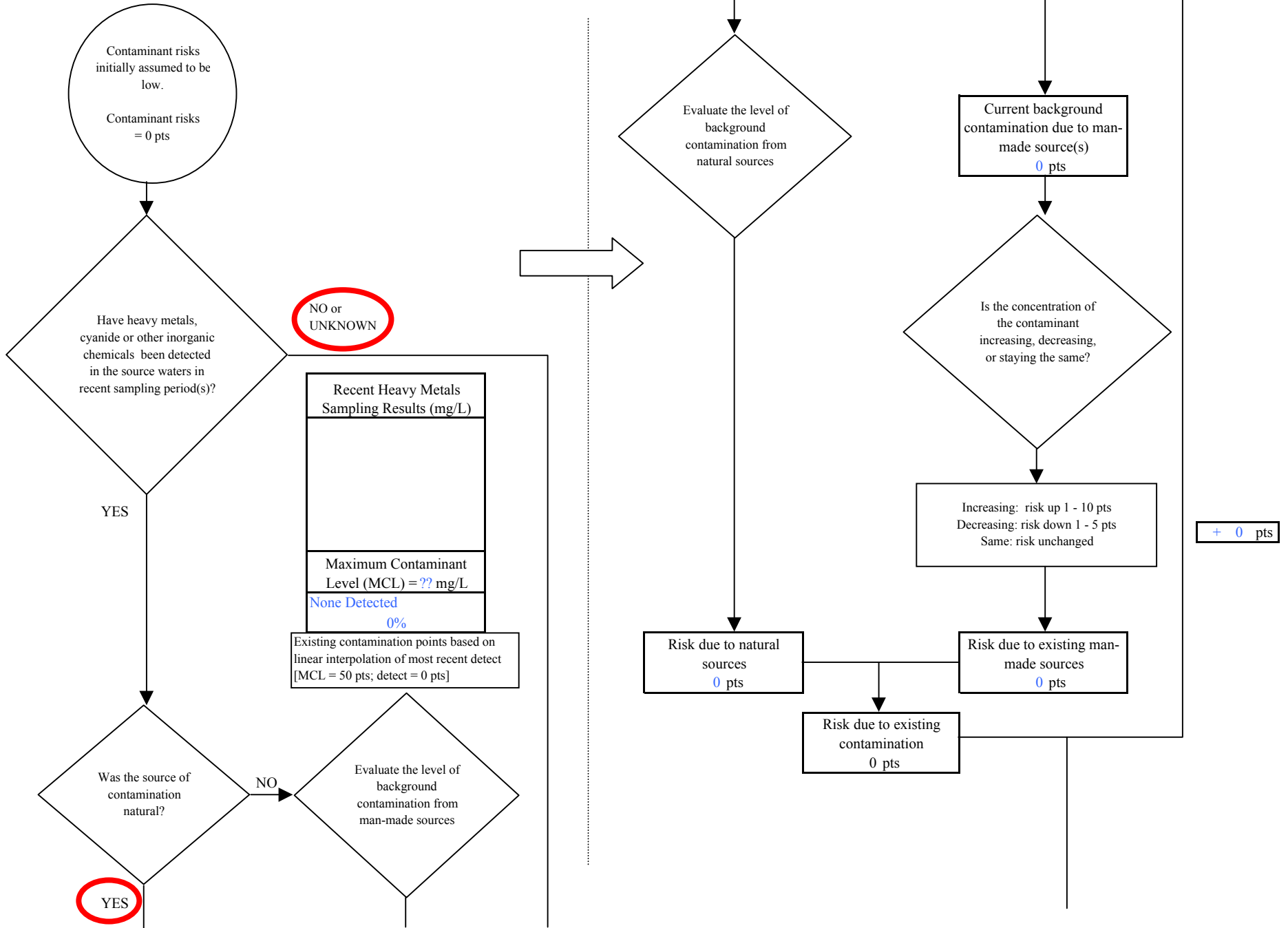
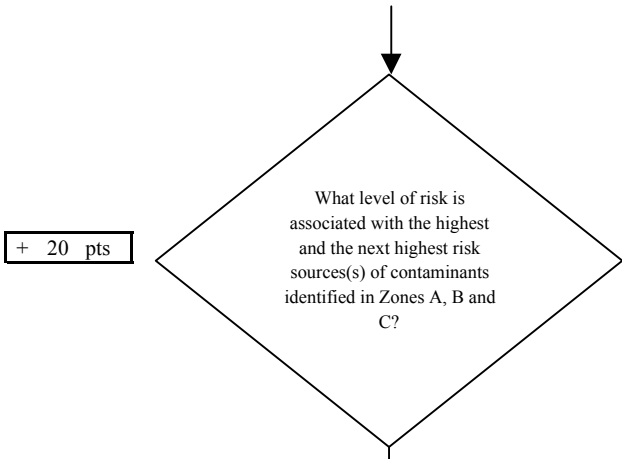


Chart 9. Contaminant risks for Sky Ranch Estates Secondary Source - Heavy Metals, Cyanide and Other Inorganic Chemicals



+ 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	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 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.

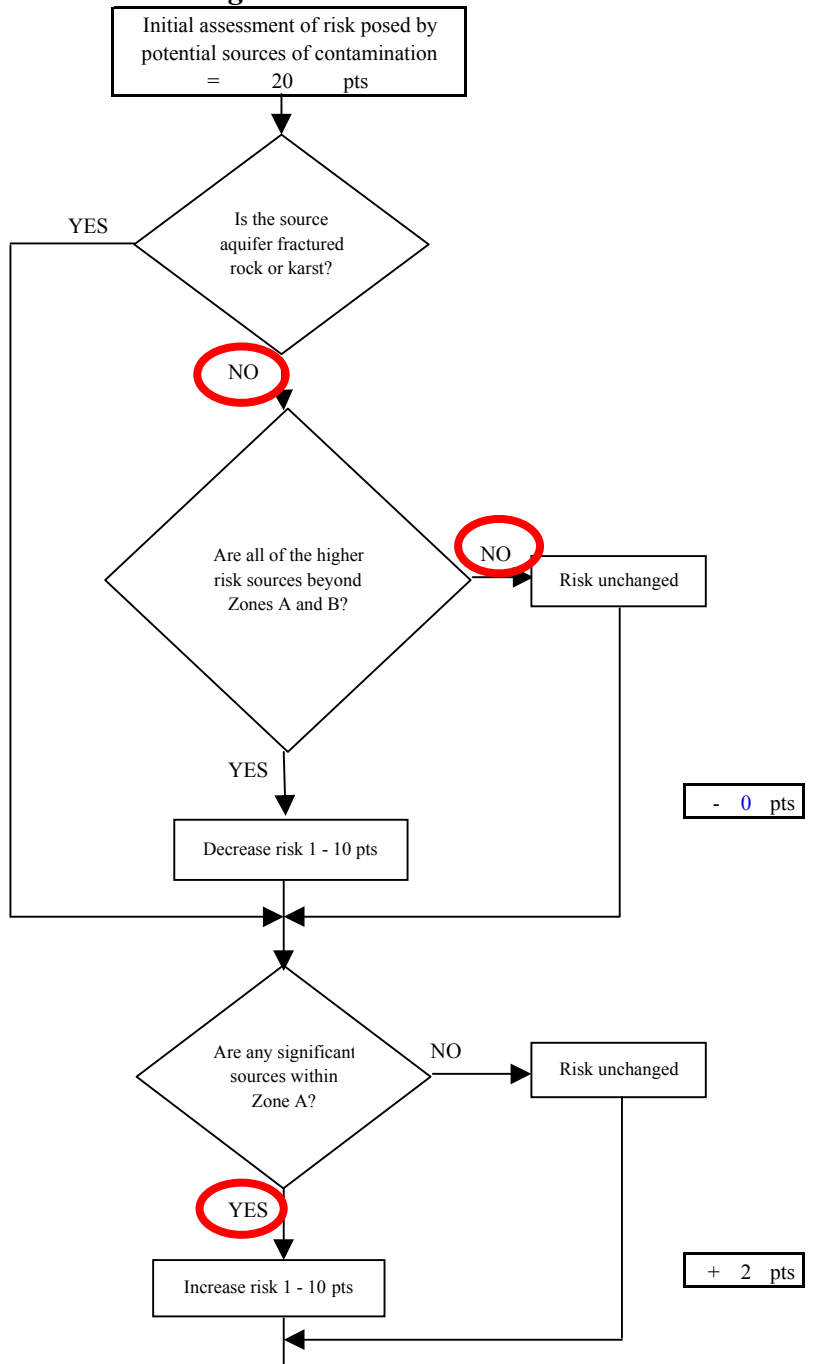
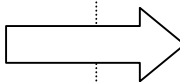


Chart 9. Contaminant risks for Sky Ranch Estates Secondary Source - Heavy Metals, Cyanide and Other Inorganic Chemicals

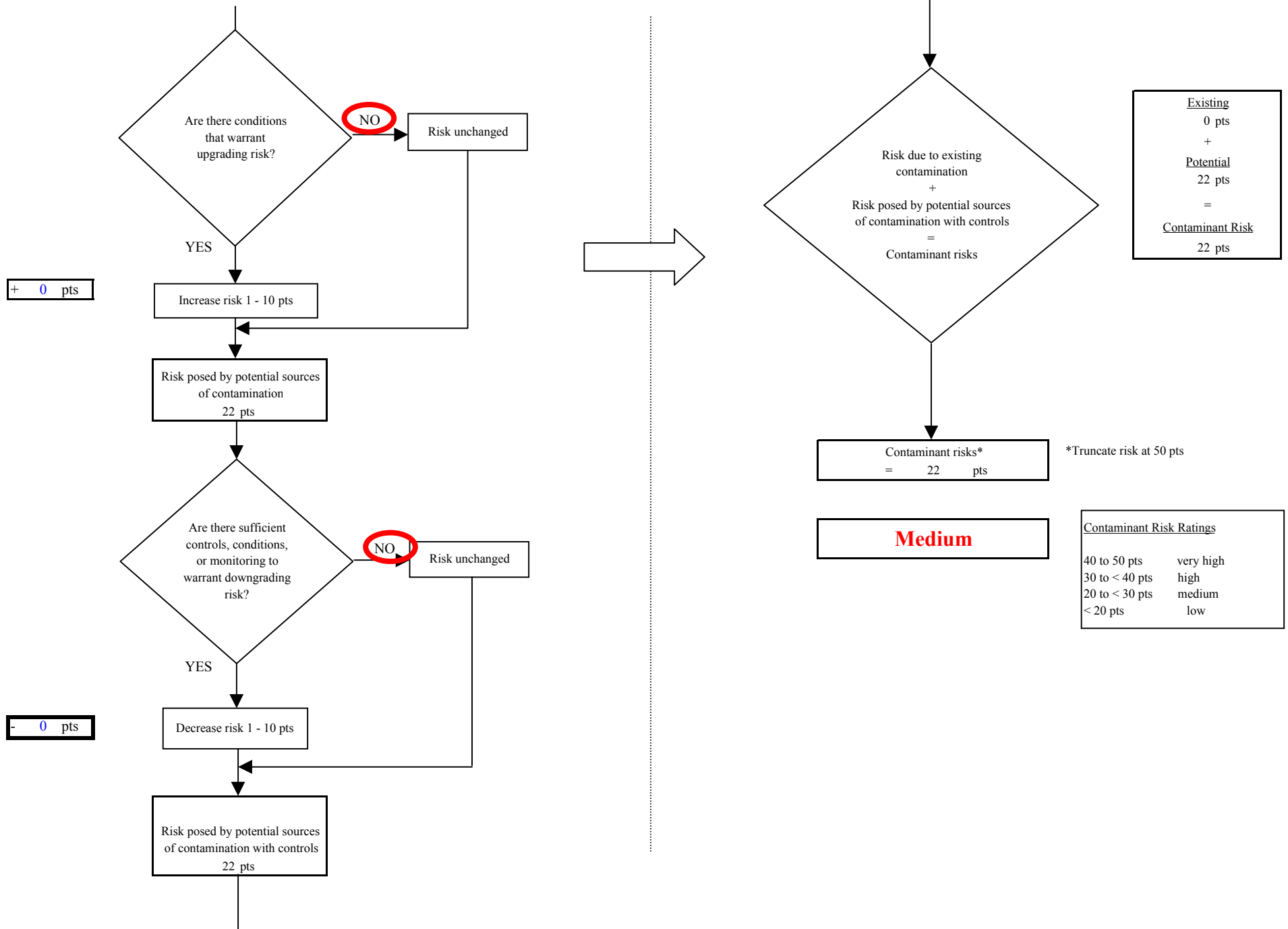


Chart 10. Vulnerability analysis for Sky Ranch Estates Secondary Source - Heavy Metals, Cyanide and Other Inorganic Chemicals

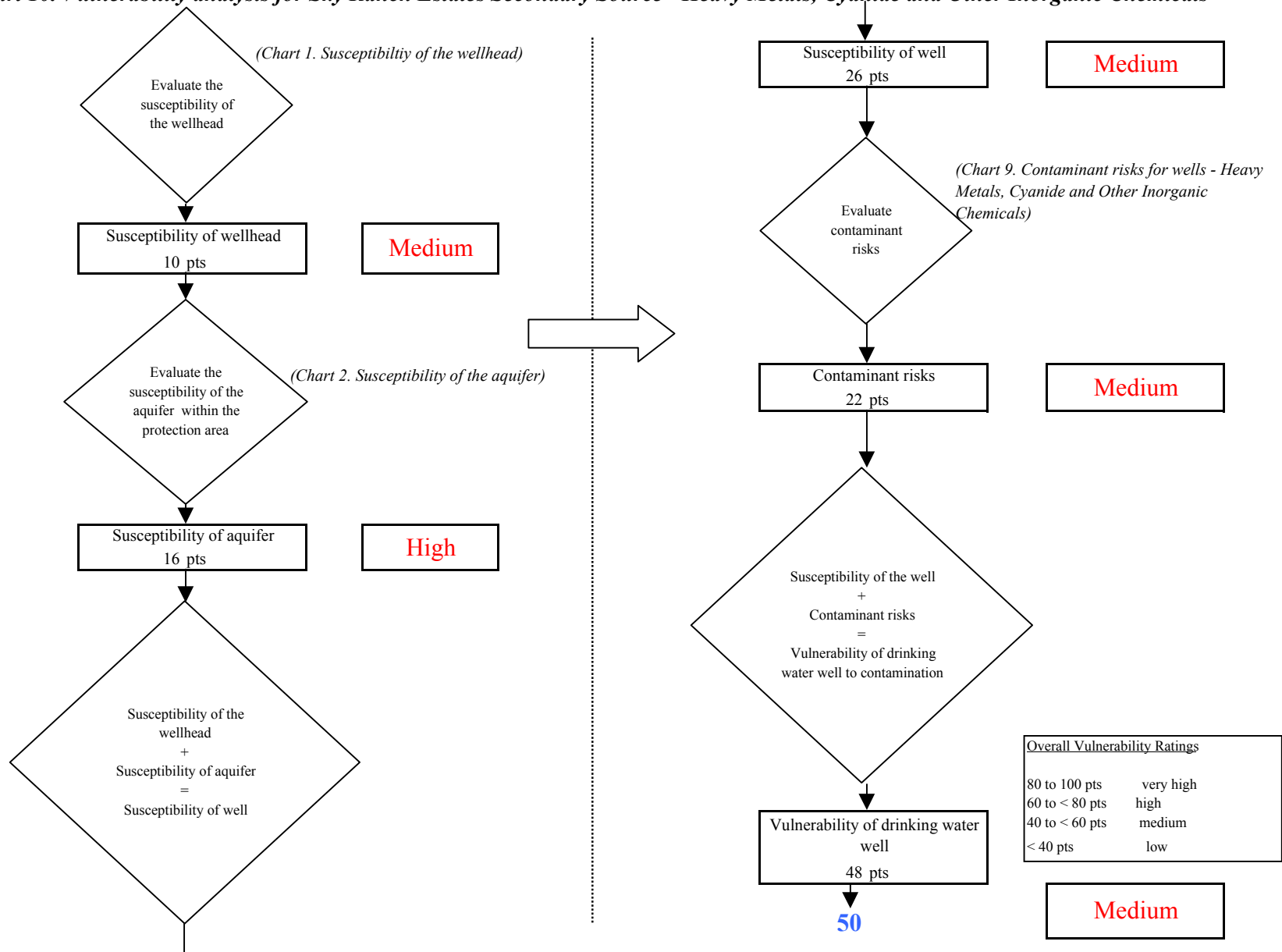


Chart 11. Contaminant risks for Sky Ranch Estates Secondary Source - Synthetic Organic Chemicals

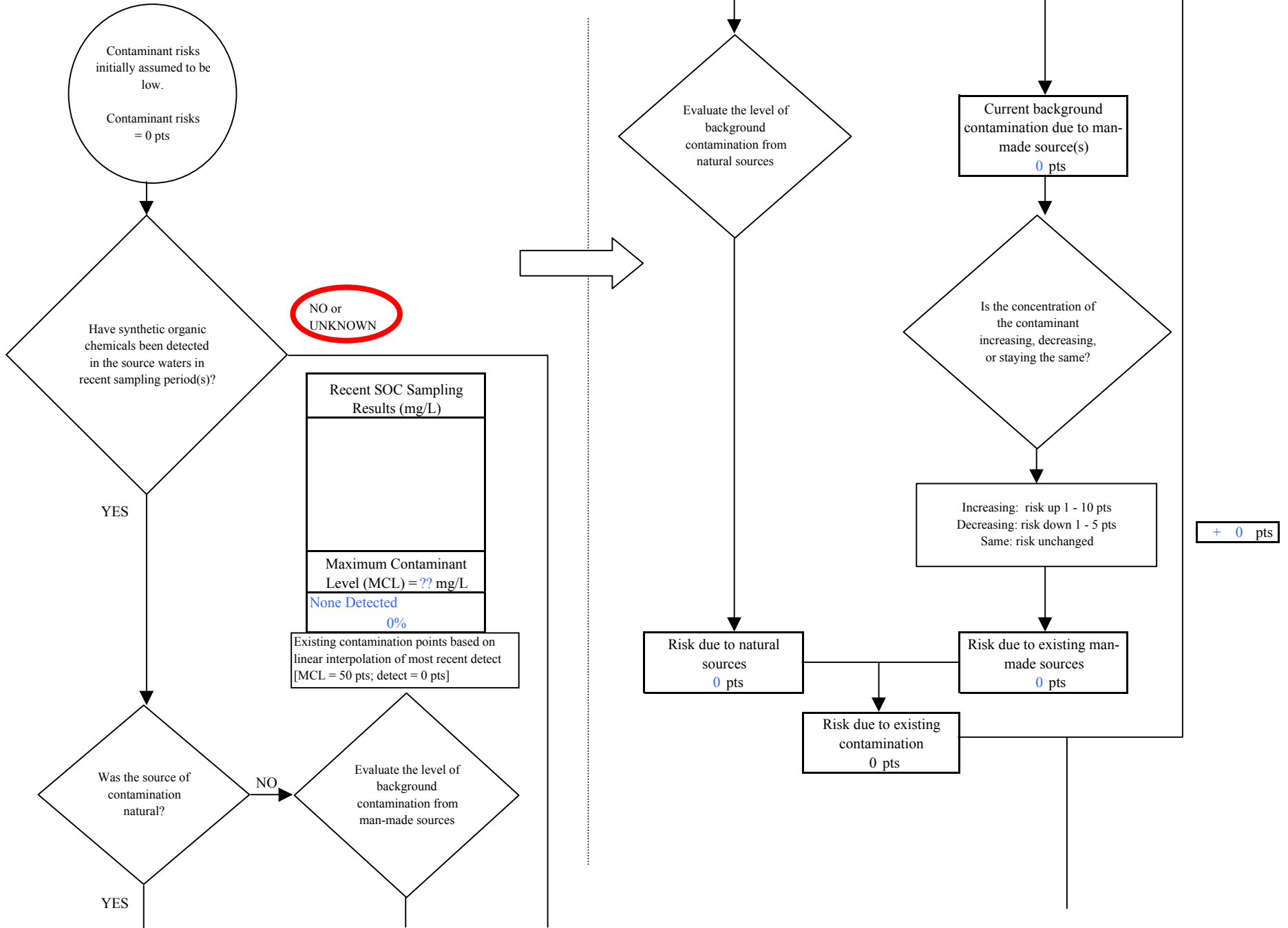
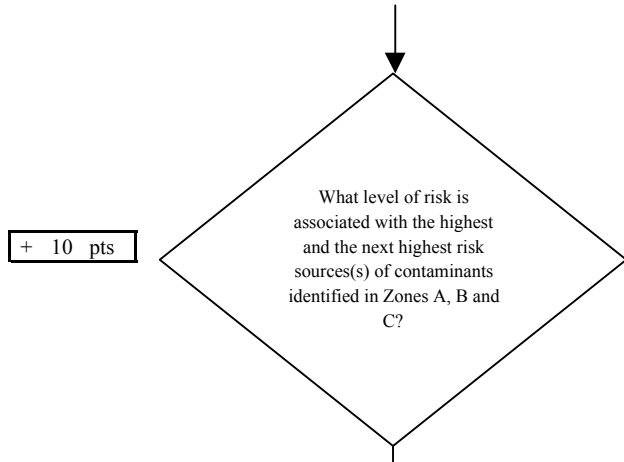


Chart 11. Contaminant risks for Sky Ranch Estates Secondary Source - Synthetic Organic Chemicals



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)	2	4	6

	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 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.

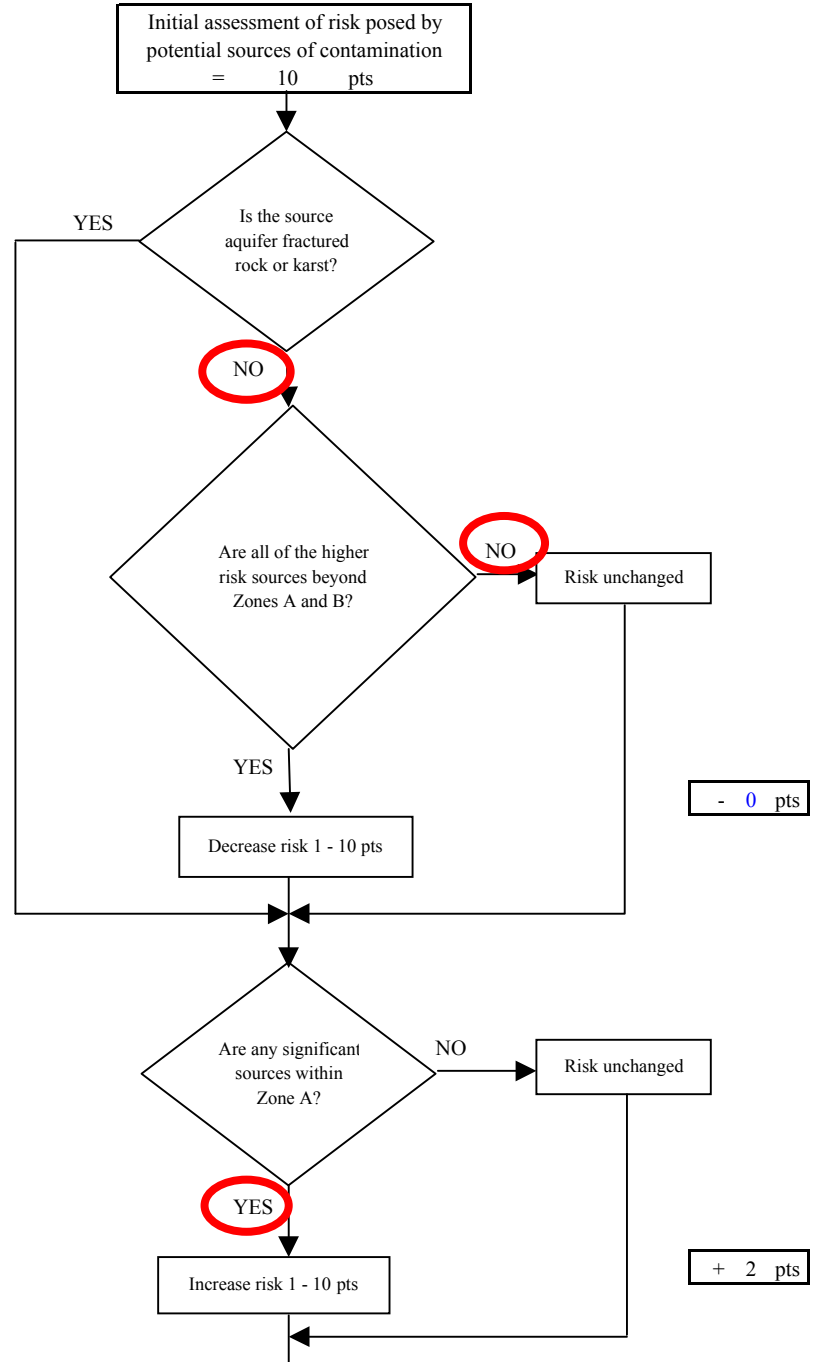
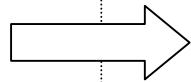


Chart 11. Contaminant risks for Sky Ranch Estates Secondary Source - Synthetic Organic Chemicals

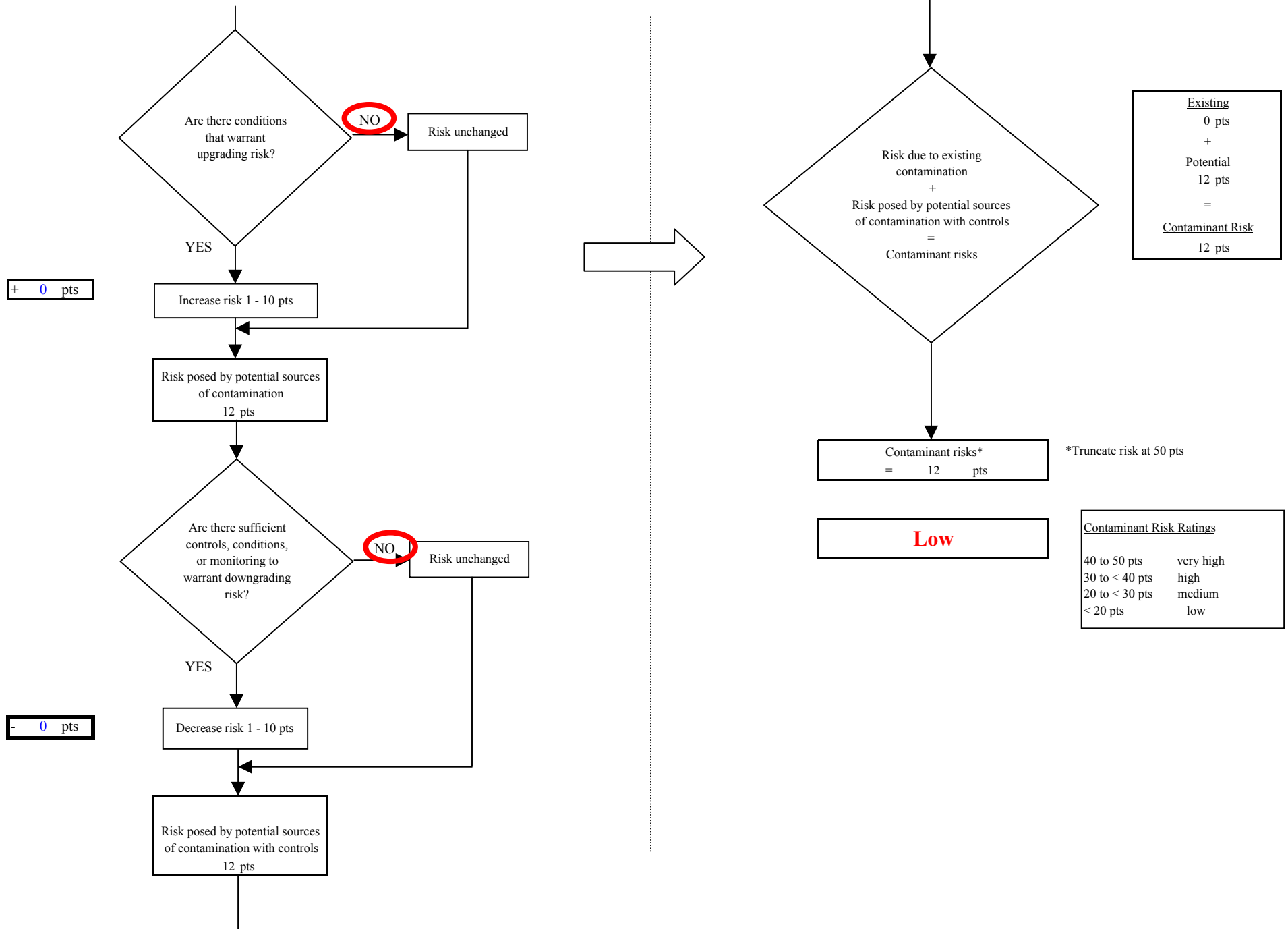


Chart 12. Vulnerability analysis for Sky Ranch Estates Secondary Source - Synthetic Organic Chemicals

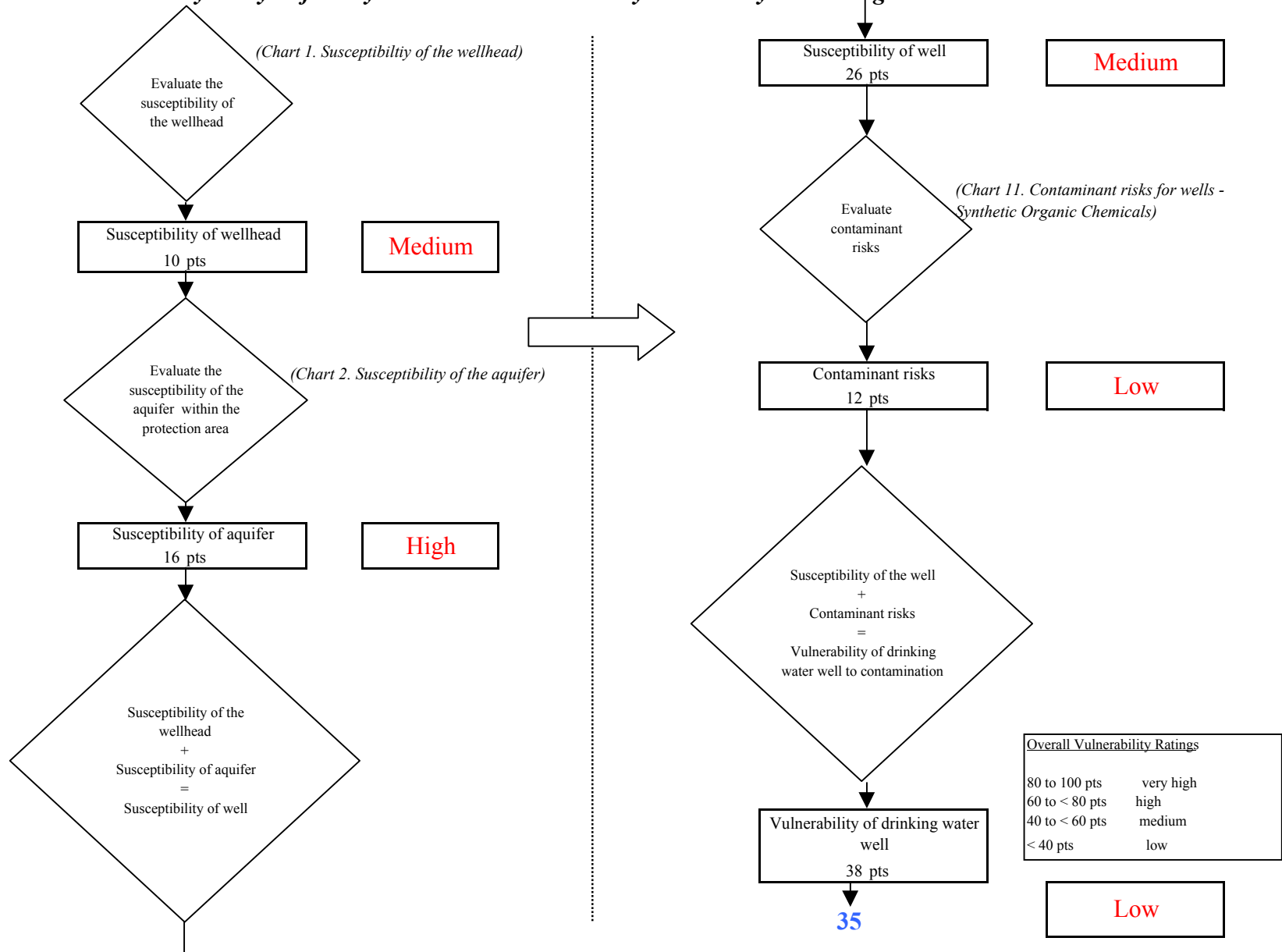


Chart 13. Contaminant risks for Sky Ranch Estates Secondary Source - Other Organic Chemicals

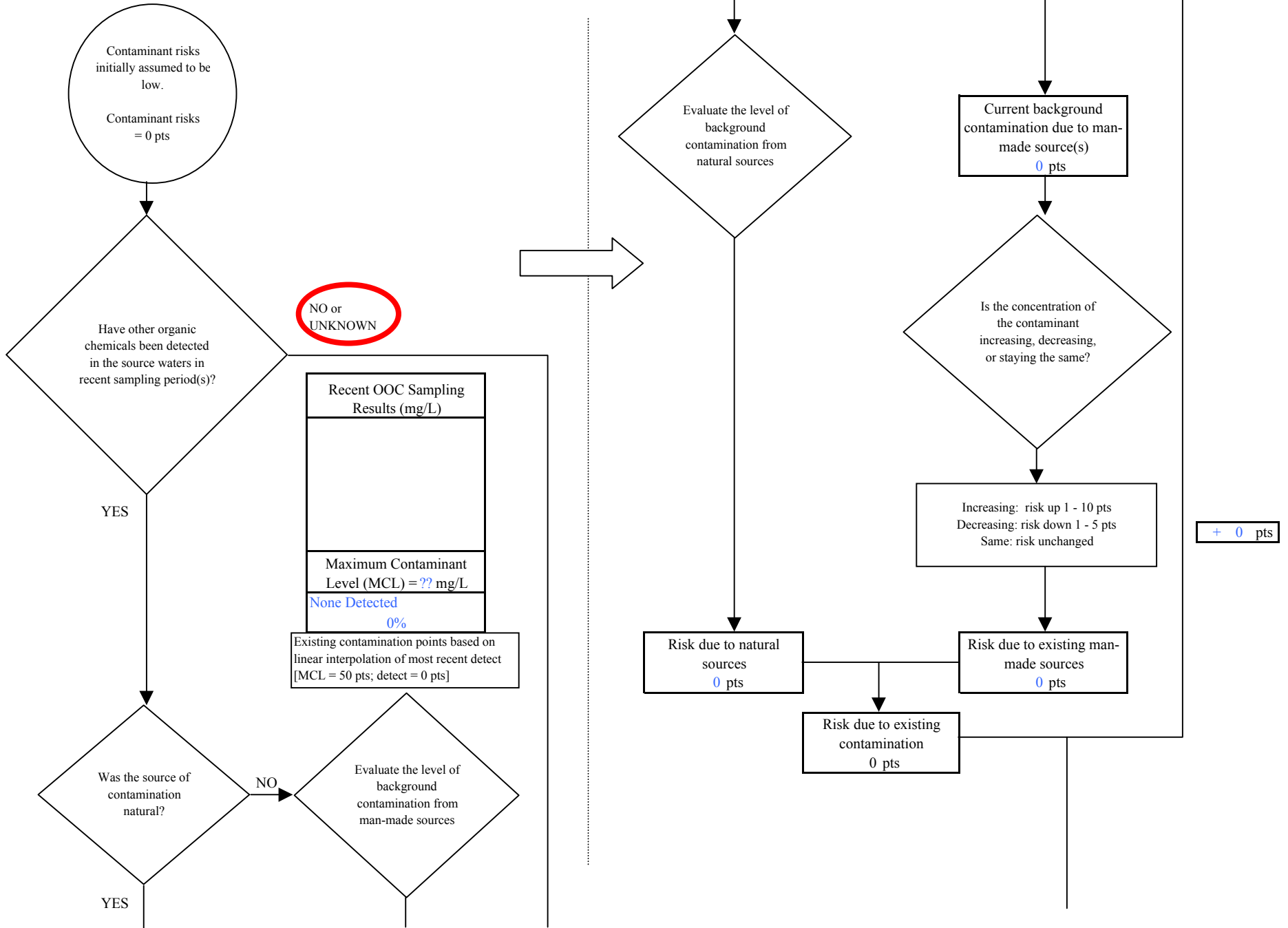
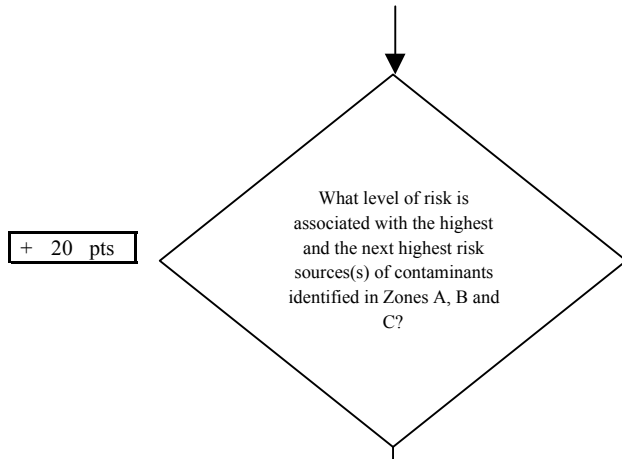


Chart 13. Contaminant risks for Sky Ranch Estates Secondary Source - Other Organic Chemicals



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	1	1
Low(s)	3	5	8

	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 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.

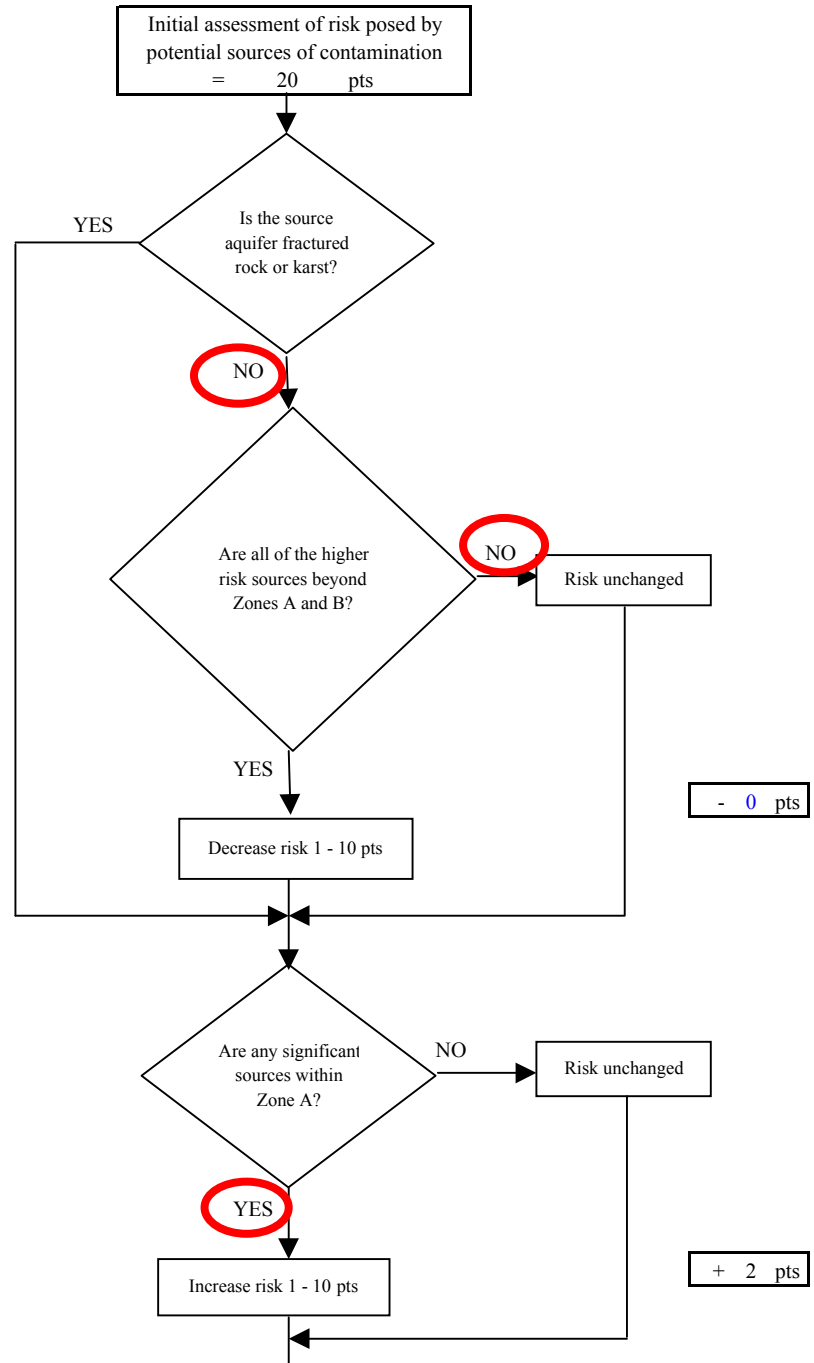
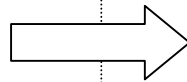


Chart 13. Contaminant risks for Sky Ranch Estates Secondary Source - Other Organic Chemicals

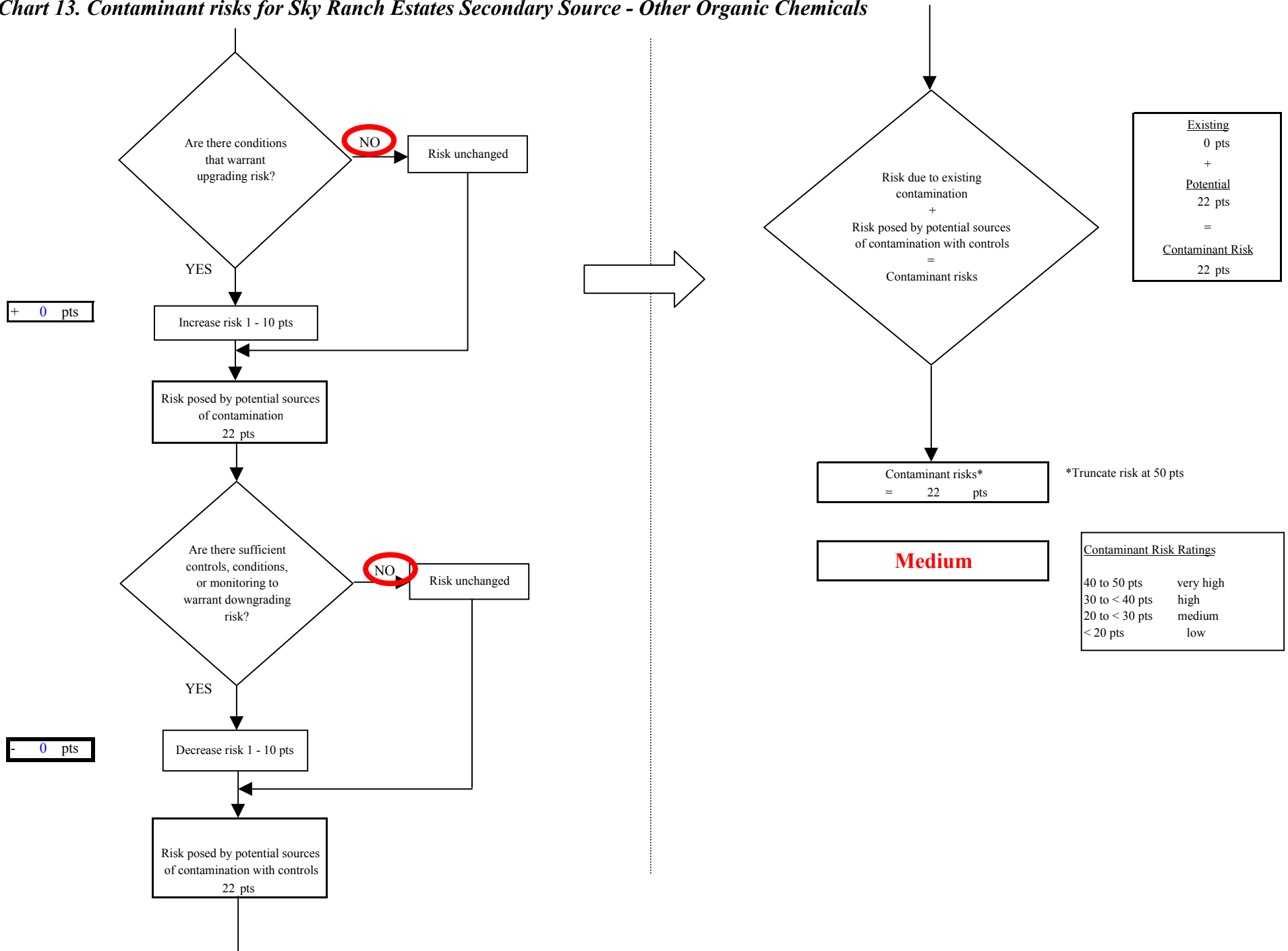


Chart 14. Vulnerability analysis for Sky Ranch Estates Secondary Source - Other Organic Chemicals

