



# Technical Environmental Survey

# The Technical Environmental Survey

## What is the Technical Environmental Survey?

The Technical Environmental Survey includes the topics on community information (getting to know your community's governing body, facilities, infrastructure, etc.), drinking water, waste water, solid waste, fuel storage, air, energy, climate change and emergency preparedness. The survey helps to identify environmental issues relevant to rural Alaskan communities. Most of the questions require a yes/no response and many ask for further information.

### Example:

26. Does the operator maintain a daily log of the water testing results?

Yes  No  ?

When was the last date it was filled?

Each time the operator tests the water for Chlorine, fluoride or turbidity, the results should be recorded on a daily log, or form, together with the date and time of the test. This record shows whether or not chemicals are properly added and whether water is properly treated in order to make it safe to drink...

Place to mark your answers

Survey Question

Unknown response

Further Information

Space to Answer Further Information

Explanation of survey question

The diagram shows a survey question with several callout boxes. A box labeled 'Place to mark your answers' points to the question text. A box labeled 'Survey Question' points to the question text. A box labeled 'Unknown response' points to the question mark option. A box labeled 'Further Information' points to the follow-up question 'When was the last date it was filled?'. A box labeled 'Space to Answer Further Information' points to the blank line below the follow-up question. A box labeled 'Explanation of survey question' points to the explanatory paragraph below the question.

## Why do you use the Technical Environmental Survey?

The Technical Environmental Survey is used to identify environmental issues in your community that may not be apparent at first glance. The survey will help to ensure that all issues are addressed in your comprehensive community environmental plan.

## Who fills out the Technical Environmental Survey?

Any interested person in the community can fill out the Technical Environmental Survey - it is designed to help you identify and better understand environmental issues in your community. Only one person needs to fill in this survey and is not expected to know all of the answers to the questions. They may need to ask others in the community that may know. There is an electronic fill-in the blank format available online: <http://www.anthc.org/chs/ces/hve/7-generations.cfm>

Each section on the survey has a box at the beginning that identifies who to ask for information. For example, in the “drinking water” section, the person to ask for information is the water treatment plant operator. You may need to set up appointments with the people you need to speak with in order to complete the survey.

### **How is the Technical Environmental Survey used in environmental planning?**

The Technical Environmental Survey is used in environmental planning to help identify environmental issues and needs in your community and to assess the current environmental conditions.

### **When do you use the Technical Environmental Survey?**

The Technical Environmental Survey is used in Step 3 of the environmental planning process described in the beginning of the manual: ‘Define your community’s needs using environmental assessment surveys.’

### **How do you fill in the answers on the Technical Environmental Survey?**

Most of the questions on the Technical Environmental Survey require a yes/no response. There is also a space to mark if the answer is unknown (?). However, the response ? Should only be used as a last resort. The person filling out the survey should make every effort to contact the right person in order to get a response for each question.

There is space available on the survey form to write in more information as needed for each question. This information should be filled in as completely as possible. Often, these added comments are the most valuable information.

**Pages 30-57 have a blank example of the Technical Environmental Survey. Beginning on page 58, you will be guided step-by-step through each section of the Technical Environmental Survey.**

# Technical Environmental Survey

Village \_\_\_\_\_ Date \_\_\_\_\_

Surveyor & Title \_\_\_\_\_

This survey is a list of questions about environmental issues that may be present in your village. To the best of your ability and knowledge, answer each question that applies to your village. Most of the questions can be answered with a YES, NO or ? (unknown) response. Many questions will ask for a specific answer that involves time or amounts. Some of the questions will require that you contact the village council or the person(s) or operator responsible for a particular facility, such as the water treatment plant.

## General Community Information

*Who to ask: city and/or IRA/Traditional Council, school principal*

1. Does your village have a <input type="checkbox"/> City Council <input type="checkbox"/> IRA/Traditional Council <input type="checkbox"/> Both Which council is responsible for the sanitation services in your village? <input type="checkbox"/> City Council <input type="checkbox"/> IRA/Traditional Council <input type="checkbox"/> Both
--

2. Does the village council(s) regularly collect fees for village services? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> ? If yes, which services? <input type="checkbox"/> Water <input type="checkbox"/> Sewer <input type="checkbox"/> Landfill If no, how does the village pay for the Services? _____
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3. Does your village council(s) receive technical help from environmental/ public health programs or agencies? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> ? If yes, whom? _____
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4. Are local pollution problems an issue with the village councils? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> ? If yes, what issues? _____
---

5. Does the village school have an environmental education curriculum?

Yes    No    ?

If yes, which grade levels?

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6. Does the community have any environmental programs or groups that meet regularly?

Yes    No    ?

If yes, what are they?

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### **Drinking Water**

*Who to ask: water treatment plant operator*

7. Is your water treatment plant attached to a washeteria, clinic or other facility?

Yes    No    ?

8. Does your water treatment plant get water from?

Well    Spring    Pond, river or stream

9. Do most village residents use the water from the water treatment plant?

Yes    No    ?

10. Do most village residents believe the water from the water treatment plant is safe to drink?

Yes    No    ?

If no, why not and where do they get their drinking water?

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11. Do the village residents feel that the sewage lagoon, landfill, old military site, or tank farm has an effect on the drinking water supply?

Yes    No    ?

If yes, how?

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12. Does your village's water treatment plant ever run out of water?

Yes     No     ?

If yes, how often and when?

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13. Does your village have piped water to the houses or other buildings?

Yes     No     ?

If yes, how many?

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14. Does your village have private wells?

Yes     No     ?

If yes, how many?

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15. Does your village have a flush-haul water system?

Yes     No     ?

If yes, to how many houses or other buildings?

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16. Does your village use dip buckets to store drinking water?

Yes     No     ?

If yes, to how many houses or other buildings?

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17. Does the water treatment plant have operators?

Yes     No     ?

If yes, how many and who?

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18. Do the water treatment operators get paid?

Yes     No     ?

If yes, how much and for how many hours per day?

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19. Are the water treatment plant operators certified by the State of Alaska?

Yes     No     ?

If yes, when do the certifications expire?

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20. Is the water treatment plant locked and secure when the operator is not there?

Yes     No     ?

21. If your water treatment center uses surface water, does your operator Measure turbidity?

Yes     No     ?

Is the turbidity meter operational?

Yes     No     ?

22. If chlorine and/or fluoride are added to the drinking water at the water Treatment plant, does the operator have the chlorine and /or fluoride test kits and chemicals to monitor the water quality?

Yes     No     ?

If yes, are there enough chemicals to last for several months?

Yes     No     ?

Are the chemicals still effective? (Check the expiration dates)

Yes     No     ?

23. Does the operator take a free chlorine residual test every day?

Yes     No     ?

If no, how often?

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What is the chlorine residual today?

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How many days\_\_\_\_, weeks \_\_\_\_\_, or months \_\_\_\_\_ of chlorine supply does the water operator have on hand for use?

24. Does the operator use HTH (chlorine powder) to disinfect the drinking water?

Yes     No     ?

If no, what type is used?

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If yes, Where is it stored?

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Is it secure?

Yes     No     ?

25. Is fluoride added to the drinking water?

Yes     No     ?

If yes, how often does the operator do a fluoride test?

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What is the fluoride level today?

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26. Does the operator maintain a daily log of the water testing results?

Yes     No     ?

When was the last date it was filled in?

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27. Are chlorine warning signs posted on the entrance doors to the water treatment plant?

Yes     No     ?

28. Is there a chlorine respirator available for the water treatment operator?

Yes     No     ?

Does he/she use the respirator when handling HTH? (chlorine)

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29. Are there any pieces of equipment in the washeteria and/or water treatment plant broken or not operating?

Yes     No     ?

If yes, what are they?

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30. Does the operator have a critical spare parts inventory?

Yes     No     ?

Are all the parts there?

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31. Is the washeteria and/or water treatment plant clean and orderly?

Yes     No     ?

If no, describe:

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32. Does the water treatment plant have a written Standard Operating Procedure (SOP)?

Yes     No     ?

33. Does the washeteria and/or water treatment plant have safety defects?

Yes     No     ?

If yes, what are they?

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34. What are your village's main complaints with the washeteria and/or water treatment plant?

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### Wastewater

*Who to ask: wastewater operator, health aides, public health nurse*

35. Have there ever been outbreaks of sewage related diseases in your village?

Yes     No     ?

If yes, what diseases and when?

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36. Does the village have a sewage lagoon?

Yes     No     ?

If yes, how far is it from the village?

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37. Does the sewage lagoon ever leak or overflow?

Yes     No     ?

If yes, why and when?

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38. Are Health Aides told where there is a sewage spill in the village?

Yes     No     ?

39. Does your village have a piped sewer?

Yes     No     ?

If yes, to how many houses or other buildings?

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40. Does your village have septic tank systems?

Yes     No     ?

If yes, to how many homes or buildings?

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41. Does your village have sewage holding tanks (flush-haul systems)?

Yes     No     ?

If yes, to how many homes or other buildings?

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42. Does your village use privies or outhouses?

Yes     No     ?

If yes, how many houses or other buildings?

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43. Does your village use honey buckets?

Yes     No     ?

If yes, how many houses or other buildings?

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44. Does your village have an operating honey bucket haul or flush-haul system?

Yes     No     ?

45. Is any of the equipment for the honey bucket haul or flush-haul system broken?

Yes     No     ?

If yes, for how long?

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46. Is the honey bucket haul or flush-haul system operated safely so that no sewage is spilled on the ground in the village?

Yes     No     ?

If a spill occurs do people know how to clean it up? How?

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47. Do all village residents properly dispose of their honey buckets?

Yes     No     ?

If no, explain?

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48. Do the honey bucket haul or flush-haul operators get paid?

Yes     No     ?

If yes, how much and for how many hours per day?

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49. Do the honey bucket haul or flush-haul operators have a place to clean up and change out of their work clothes before going home?

Yes     No     ?

If yes, where

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What is their cleaning routine?

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50. Does the village school actively promote safe sanitation methods and/or have a sanitation curriculum?

Yes     No     ?

If yes, what grades?

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51. Do the Health Aides assist the village school with sanitation presentations?

Yes     No     ?

52. Do Environmental Health Specialists from your regional health organization assist in educating residents about sanitation issues?

Yes     No     ?

**Solid Waste**

*Who to ask: landfill operator, village store owner, village school principal, power plant operator*

53. How far is the landfill from the airstrip?

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54. How far is the landfill from the village?

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55. Is there anything located downstream or downwind from the landfill?  
If so, what?

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56. Does the village have a written solid waste management plan or guidelines?

Yes     No     ?

If yes, is it being followed?

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57. Does the village landfill have an operator?

Yes     No     ?

If yes, who?

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How much is the operator paid and for how many hours each day?

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58. Who owns the landfill and who maintains it?

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59. Are the residents charged a fee for solid waste services?

Yes     No     ?

If yes, how much?

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60. Is there a trash collection service in the village?

Yes     No     ?

If yes, was gets collected and how often?

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61. Is the landfill accessible all year round?

Yes     No     ?

If no, when is it accessible and what are the access hours?

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62. Does the village landfill have a fence around it?

Yes     No     ?

If yes, is it in good condition?

Yes     No     ?

63. Does the landfill have any heavy equipment to compact or cover the solid waste?

Yes     No     ?

If yes, what kind and does it work?

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64. Is the trash being covered or buried?

Yes     No     ?

If yes, how often?

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What is the material used to cover trash?

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65. Is uncontrolled burning allowed at the landfill?

Yes     No     ?

If yes, how often?

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Who lights the fire?

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66. Is there a burn unit at the landfill?

Yes     No     ?

If yes, was it purchased elsewhere or built by the community?

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Who operates it?

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67. Are there other burn boxes in the community (at the school or store)?

Yes     No     ?

If yes, how many?

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Who operates them?

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68. Where are health clinic medical wastes and/or veterinarian wastes disposed of?

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69. Is windblown litter a problem in the community?

Yes     No     ?

If yes, how much?

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70. Does the school lunch program throw uncrushed tin cans into the landfill?

Yes     No     ?

71. Does the landfill have a lot of aluminum cans in it?

Yes     No     ?

72. Are aluminum cans being recycled?

Yes     No     ?

If yes, by whom?

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73. Does the landfill have cardboard or other paper wastes from the community Store?

Yes     No     ?

If yes, about how much?

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74. Is there a "No Dumping of Hazardous Materials" warning sign at the landfill?

Yes     No     ?

75. During the inspection of the landfill, were paint cans, used oil containers, lead-acid batteries, or other hazardous materials observed?

Yes     No     ?

If yes, what and how much?

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76. Is there a specific place to put lead-acid batteries at the landfill?

Yes     No     ?

If yes, where and how are the batteries contained?

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77. Where are lead-acid batteries being stored for backhaul in the community and who manages them?

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78. Is there a place at the landfill or in the community for residents to put used oil?

Yes     No     ?

If yes, where?

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79. Is used oil being recycled?

Yes     No     ?

If yes, where?

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80. Is the local power plant operator correctly disposing of the used oil produced by the electrical generators?

Yes     No     ?

If no, what is happening to it?

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81. Is the community aware of the importance of preventing fuel oil spills at home?

Yes     No     ?

If so, what type of education is provided?

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82. Do the village "gas stations" have something to put gas cans on while they are being filled?

Yes     No     ?

83. Is there a community salvage area at the landfill or other location in the community?

Yes     No     ?

If so, where?

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84. Is there water in the landfill most of the time or is the landfill in a tundra pond?

Yes     No     ?

85. Is the landfill producing leachate or runoff that stains the ground downstream from the landfill?

Yes     No     ?

If so, is it tested?

Yes     No     ?

86. Do animals eat garbage at the landfill or transfer station?

Yes     No     ?

If so, what kind of animals?

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87. Are there other landfills (including old ones) in and/or around the village?

Yes     No     ?

If yes, who operates them and where are they?

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88. Does the village have an annual clean-up program?

Yes     No     ?

If yes, are recyclables separated from other trash?

Yes     No     ?

### **Fuel Storage**

*Who to ask: tank farm owners / operators*

89. How many tank farms are there in the village and who owns them?

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90. Do any of the tank farm owners have a written plan to follow in case there is a fuel spill?

Yes     No     ?

Who does and does not?

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91. Do all the tank farms have labels on them identifying what is inside?

Yes     No     ?

92. Do any of the tank farms have active or ongoing leaks of any size?

Yes     No     ?

If yes, which ones?

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Are the leaks from a tank or a pipe?

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93. Do all tank farms have secondary containment?

Yes     No     ?

If no, which ones?

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94. Do all the tank farms have fuel spill clean-up materials on hand?

Yes     No     ?

If yes, which ones, what do they have and approximately how much?

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95. Where there any tank farm fuel spills of more than 55 gallons in the last five years?

Yes     No     ?

If yes, which one and what was the cause of the spill?

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96. Have the pipelines(s) used to fill the tank farm from the barge or aircraft been tested for leaks?

Yes     No     ?

If yes, when?

---

97. Do all the tank farms have signs on them with the telephone numbers of people to contact in case of a spill?

Yes     No     ?

If no, which tanks need signs?

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98. Have there been fuel spills in the past that have not been cleaned up that are of concern to the village residents?

Yes     No     ?

If yes, where?

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### Air

*Who to ask: village residents*

99. Do community residents consider cigarette smoke and woodstove smoke a source of indoor air pollution?

Yes     No     ?

100. Is heating with wood stoves common in the community?

Yes     No     ?

If yes, estimate the percent of homes that primarily burn wood for heating

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101. Are the woodstoves EPA certified?

Yes     No     ?

102. Are there visible signs or odor from mold or mildew inside the homes, school or other buildings?

Yes     No     ?

If yes, has it ever been tested? When?

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103. Have there been any mold surveys performed in the community?

Yes     No     ?

If so, by whom and when? How many homes were surveyed?

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104. Do people store gas cans, auto mobile fluids, or hazardous materials in their homes or entryways?

Yes     No     ?

105. Do people idle vehicles near doorways or air vents?

Yes     No     ?

106. Is dust an issue in the community?

Yes     No     ?

Does dust get on food such as fish, meat, berries and plants that people collect from around the roadways?

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107. Can smoke from burning garbage at the landfill be smelled in the village?

Yes     No     ?

108. Is asthma common in the village?

Yes     No     ?

If yes, please describe?

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109. Is burning plastic the main odor smelled when garbage is burning?

Yes     No     ?

110. Do village residents use burn barrels?

Yes     No     ?

Approximately how many are in use?

111. Are residents aware of natural hazards and their potential impact on health?

Yes     No     ?

112. Are there industrial activities that occur in or near the community?

Yes     No     ?

If so, please identify all that apply

Mining

Logging

Oil & Gas Drilling

Manufacturing

Seafood Processing

Other: \_\_\_\_\_

113. Are residents aware of the health and environmental risks associated with industrial activities?

Yes     No     ?

## Energy

*Who to ask: village residents*

114. How much does electricity cost in your community per KWH?

\_\_\_\_\_

How much does it cost for a gallon of heating fuel in your community?

\_\_\_\_\_

115. Is the local utility using any renewable energy sources?

Yes     No     ?

If yes, what type?

Wind

Solar

Thermal

Hydro

Other \_\_\_\_\_

If not, what is the primary source of electricity and heat in the community?

Diesel

Coal

Wood

Other \_\_\_\_\_

116. Has there been any renewable energy feasibility studies done in the community?

Yes     No     ?

If yes, what type and when?

\_\_\_\_\_

117. Are there any small-scale wind turbines or solar panels being used in the community?

Yes     No     ?

If yes, by whom?

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118. Has there been any energy audits or weatherization assessments performed in homes or businesses in the community?

Yes     No     ?

If yes, by whom and to how many homes or businesses?

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119. Has there been any home weatherization work done in the community?

Yes     No     ?

If yes, how many home were weatherized and by who?

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### **Climate**

*Who to ask: village residents*

120. Do you know what weather data is recorded in your community?

Yes     No     ?

If yes, what is collected? Can you get information about the data?

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121. Do you think summers are warmer then they used to be?

Yes     No     ?

Do you think winters are warmer then they used to be?

Yes     No     ?

122. Do you think climate change is effecting air quality in your community?

Yes     No     ?

If so, how?

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123. Is smoke or dust increasing in your community?

Yes     No     ?

124. Are you noticing change in the timing of the seasons?

Yes     No     ?

125. How many seasons do you have in your community?

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126. Is your community located in a permafrost zone?

Yes     No     ?

If yes, have you noticed any impact from thawing?

Yes     No     ?

127. Do you think Climate change is effecting the community's water source?

Yes     No     ?

If yes, Why?

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128. Do you think Climate change is effecting the village's food safety and security?

Yes     No     ?

If so, how?

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129. Is there permafrost temperature monitoring in the community?

Yes     No     ?

130. Is the community vulnerable to flooding?

Yes     No     ?

131. Has climate change affected your subsistence resources?

Yes     No     ?

If yes, how?

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132. Are you concerned about food security in your community?

Yes     No     ?

133. Is there any infrastructure in your community that is being impacted by climate change?

Yes     No     ?

If yes, how?

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134. Are there any other health concerns related to climate change?

Yes     No     ?

If yes, explain?

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## Emergency Preparedness

*Who to ask: Community Councils, residents, school staff, clinic staff*

135. What are the possible hazards in and around your community?

- Flood
- Erosion
- Extreme Weather
- Extreme Temperatures
- Earthquakes
- Volcanic Eruptions
- Tsunamis
- Fires / Wildfires
- Avalanches
- Epidemic / Pandemic
- Biological Threats
- Chemical Threats
- Hazardous Material Incidents
- Oil / Fuel Spills
- Community Power / Utility Failure
- Food Security
- Water Security

136. Does your community have an Emergency Plan?

Yes     No     ?

If so, when was it created?

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Has it ever been updated?

Yes     No     ?

If so, when?

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137. Who are the key contact people and alternates listed in your community if there is an emergency - who is your Incident Management Team?

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138. Who in your community is medically trained?

Health Aides:

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CPR:

---

ETT:

---

EMT:

---

139. Does your community plan include public education?

Yes     No     ?

If yes, who is responsible and when do activities take place?

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140. What does your emergency plan include?

Disaster Threats

Disaster Response

Damage Assessment

Requesting Assistance

Evacuation

Recovery / Coping

Other: \_\_\_\_\_

Other: \_\_\_\_\_

141. Does your emergency plan provide check off lists for Disaster Threats?

Yes     No     ?

142. Does your emergency plan provide training information for all responders?

Yes     No     ?

143. Do you know who to provide initial damage assessments to and their contact information?

Yes     No     ?

Who?

\_\_\_\_\_

144. Do you know who to contact for a preliminary damage assessment?

Yes     No     ?

Who?

\_\_\_\_\_

145. Do you know who to contact for a technical assessment?

Yes     No     ?

Who?

\_\_\_\_\_

146. Do you have agreements with surrounding communities for help in an emergency?

Yes     No     ?

If yes, which communities?

\_\_\_\_\_

147. Does your emergency plan include an Evacuation Plan?

Yes     No     ?

If yes, has the plan been practiced?

\_\_\_\_\_

148. Does your emergency plan include recovery information?

Yes     No     ?

149. Do the Clinic, School, Store and other workplaces have their own Emergency Plans?

Yes     No     ?

If yes, are they current? When were they updated?

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150. Are Emergency Drills practiced?

Yes     No     ?

If yes, When? Are they documented?

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151. Do homes in the community have their own emergency plans?

Yes     No     ?

If yes, how many?

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152. Do homes in the community have their own emergency kits?

Yes     No     ?

If yes, how many?

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